The Senate

Rural and Regional Affairs and Transport References Committee

Australia's rail industry

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5.10 The committee recommends that the Australian Government establish a National Rail Manufacturing Industry Plan to maximise the benefits of the $46 billion in investment expected over the next decade.

Recommendation 2

5.11 The committee recommends that a National Rail Manufacturing Industry Plan develop a mechanism for the Commonwealth to smooth out the peaks and troughs in market demand and create more certainty and predictability for manufacturers servicing the rail industry.

Recommendation 3

5.12 The committee recommends that, following the Australian Government's establishment of a National Rail Manufacturing Industry Plan, state and territory governments endorse the plan and agree on methods to adequately support, resource and progress the plan.

Recommendation 4

5.18 The committee recommends the development of a National Rail Procurement Strategy by the Commonwealth in coordination with all states and territories. As signatories to the strategy, states and territories should include procurement contract measures – consistent with international trade obligations – which allow for the development of industrial capabilities for small and medium sized enterprises (SMEs). As part of these contract measures, consideration should also be given to:

- **(a) maximising local content for the manufacture of passenger, freight and light rail rolling stock in procurement;**
- **(b) the relevant financial and non-financial costs and benefits of each project including, but not limited to:**
  - **(i) the quality of goods and services**
  - **(ii) fitness for purpose of the proposal**
  - **(iii) the potential supplier's relevant experience and performance history**
  - **(iv) flexibility of the proposal (including innovation and adaptability over the lifecycle of the procurement)**
  - **(v) environmental sustainability of the proposed goods and services (such as energy efficiency and environmental impact)**

(vi) whole of life costs

(c) requirements for contractors to undertake training strategies to educate and engage local apprentices, trainees and engineering cadets;

(d) commitments to local industry development and supply chain engagement; and

(e) harmonisation of safety standards.

Recommendation 5

5.19 The committee recommends that a National Rail Procurement Strategy be used to work with all states and territories to maximise investment in local research and development, as well as engagement with universities and research agencies.

Recommendation 6

5.23 The committee recommends the establishment of a Commonwealth coordinating body – to be headed by a tripartite council – to drive and coordinate a National Rail Manufacturing Industry Plan, a National Rail Procurement Strategy and industry consultation.

Recommendation 7

5.24 The committee recommends the re-establishment of a Rail Supplier Advocate to promote the rail industry in dealing with Commonwealth, state and territory governments and industry bodies.

Recommendation 8

5.25 The committee recommends that a Commonwealth coordinating body be given direct terms of reference to work directly with the rail manufacturing supply chain in developing and expanding industry capability networks.

Recommendation 9

5.30 The committee recommends that the Australian Government work with state and territory governments, and the rail industry, to develop Rail Industry Skills Centres at local TAFEs and colleges.

Abbreviations

ACOP	Australian Code of Practice
AMWU	Australian Manufacturing Workers' Union
ANRP	Australian Network Rules and Procedures
ARA	Australasian Railway Association
ARTBIU	Australian Rail Tram and Bus Industry Union
ARTC	Australian Rail Track Corporation
ATMS	Advanced Train Management System
BITRE	Bureau of Infrastructure, Transport and Regional Economics
CBH	Cooperative Bulk Handling Group
CEDA	Centre for Economic Development of Australia
CFW	Centre for Future Work
COAG	Council of Australian Governments
DIRD	Department of Transport and Regional Development
FORG	Freight on Rail Group
ISC	(NSW) Infrastructure Skills Centre

ONRSR	Office of the National Rail Safety Regulator
RMCRC	Rail Manufacturing CRC
RISSB	Rail Industry Safety and Standards Board
SMEs	Small and medium sized enterprises
TIC	Transport and Infrastructure Council

Chapter 1

Introduction and background

1.1 On 16 March 2016, the following matters were referred to the Senate Rural and Regional Affairs and Transport References Committee (the committee) for inquiry and report by 25 August 2016:

> State of Australia's rail industry and how government procurement, including through the Australian Rail Track Corporation, and other policy levers can improve the value for money, competitiveness, stability of work and capability of the rail manufacturing industry with specific reference to:
>
> a) the importance of the national rail industry as a regional employer and activity generator, and the potential costs of further decline of rail manufacturing on the national and relevant regional economies;
>
> b) the state of the rail industry, barriers to growth and improved productivity, and the potential of Australia's rail industry as a skills and technology incubator, supplier of domestic rail needs as well as potential exports;
>
> c) the potential for Australia to benefit from a nationally-coordinated approach to rail manufacturing standards and rail procurement projects given the size of the Australian rail industry; and
>
> d) any other related matters.

1.2 On 9 May 2016, the inquiry lapsed with the dissolution of the Senate and House of Representatives for a general election on 2 July 2016.[1]

1.3 On 15 September 2016, the Senate agreed to re-refer the inquiry with a reporting date of 18 October 2017.[2]

Conduct of the inquiry

1.4 The inquiry was advertised in *The Australian* and on the committee's webpage. The committee also wrote to Commonwealth and state government departments, industry stakeholder groups and individuals to invite submissions. Details regarding the inquiry, and associated documents are available on the committee's webpage at www.aph.gov.au/Parliamentary_Business/Committees/Senate/Rural_and_Regional_Affairs_and_Transport/Railindustry45.

1.5 The committee received 20 public submissions. A list of submissions is included at Appendix 1. Public submissions to the inquiry are also published on the committee's webpage.

1.6 The committee held three public hearings in relation to its inquiry. They were held in Newcastle on 1 May 2017, Melbourne on 16 June 2017, and Canberra on 30

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1 *Journals of the Senate* No. 147, 9 May 2016, p. 3964.

2 *Journals of the Senate* No. 7, 15 September 2016, p. 225.

August 2017. A list of witnesses who appeared at the hearings is included at Appendix 2.

1.7 On 1 May 2017, the committee visited engineering company Downer Rail's workshop site in Cardiff, NSW. The site visit provided the committee with a first-hand overview of the workshop's provision of technical support, as well as refurbishment, maintenance, technical and process innovation services to NSW's rail industry. The committee was also provided with an overview of the type of work undertaken by the company's skilled workforce, including its structural engineers, spray painters, tradesmen and trade assistants.

Early development of rail infrastructure

1.8 The history of Australia is clearly reflected in its current rail infrastructure system. Australia's geography, its sparse population, political system and the historical role and past decisions of governments have all had an influence on the development of Australia's rail industry. Government regulation, investment decisions affecting the performance of different modes of transport, changes in technology, and private enterprise, have also contributed to the nation's current land transport system, including its railways.

1.9 Prior to the federation of the states in 1901, the development of rail networks in each of the states occurred independently of each other. During the boom years of railway expansion – between 1860 and 1890[3] – each colony developed its own railway network. Very little consideration was given, at the time, to how these various networks could operate together as part of a single network, and connect across interstate borders.

1.10 Most of the impetus for the early development of rail was driven by immediate commercial imperatives – to connect rural areas to their nearest capital cities and local ports for the transportation of materials – primarily for trade. As a result, the first railway networks in the colonies were built and operated by private companies. Most of these private operations proved unsustainable, however, and government guarantees and financial capital were required to complete the lines.[4]

1.11 In much the same way as today's states make decisions to protect their own interests, individual colonies pre-Federation acted for the benefit of their own constituents. As colonies viewed each other as competition for trade and export, there was very little incentive to work together to coordinate a railway network that crossed each other's territory. This situation continued past Federation, with land transport remaining largely a state responsibility and the fledgling states continuing to control

3 Productivity Commission, 'Progress in rail reform', Appendix C: *History of railways in Australia*, p. 1.

4 Productivity Commission, 'Progress in rail reform', Appendix C: *History of railways in Australia*, p. 1.

the country's land transport networks via their regulatory structures.[5] Consequently, most of the rail construction efforts stopped at state boundaries.

1.12 The impact of the competing colonies' short-sighted decision-making was underlined by the Secretary of the Department of Infrastructure and Regional Development (DIRD) Mr Mike Mrdak, who observed:

> What linked the colonies through the Federation at the time was rail, apart from Western Australia initially. It was interesting that one of the things that they left out of the powers of the Commonwealth was rail. Even though it was very much the lifeblood of the transport system of the late 19th century, it was expressly excluded from a Commonwealth responsibility by the constitutional founders because it was seen as potentially the national government shouldn't be interfering in the powers of the states and their ability to still compete with each other. It's a problem that still haunts us because, not only have we had to deal with the spectre of three rail gauges, which is a unique phenomenon globally that we've done that, but for much of the last 116 years, we've also dealt with something even more difficult, which is state-based regulation of transport operations.
>
> ....viewed from the perspective of a newly-formed Federation, the short-sightedness of individual decisions of that time for the colonies was glaring. What we've discovered over the last century is that it makes the need for a government that takes responsibilities for the nation, for matters affecting the nation as a whole, really important.[6]

1.13 It was in the late 20th century, as Australia's economy became more open to trade in other markets, when state regulations were identified as a barrier to interstate trade and the growth of the economy. The disjointed network across several jurisdictions also became an obvious impediment to the benefits of federalism – the security of a national defence force, removal of trade tariffs and increased access to trade and commerce in a single national market.

1.14 There have been attempts made to establish a more coordinated rail transport system, but change has been very gradual and it continues to be a work in progress. Some of the 'legacy' challenges, and the entrenched problems which arose as a result of states adopting different rail gauges and regulatory structures, are outlined later in this chapter.

1.15 Notwithstanding the efforts made by federal and state jurisdictions in working toward a coordinated interstate network, the lack of harmonisation across the various

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5 Mr Mike Mrdak AO, Secretary of Department of Infrastructure and Regional Development, "Secretary Series with Mike Mrdak AO", 23 August 2017, speech delivered at the Institute of Public Administration Australia ACT Division, p. 8, Transcript available https://vs286790.blob.core.windows.net/docs/Event-Documents/IPAA%202017%20-%20Transcript%20-%20Secretary%20Series%20with%20Mike%20Mrdak%20-%2023%20August%202017.pdf. (Accessed 18 September 2017).

6 Mr Mike Mrdak AO, Secretary of Department of Infrastructure and Regional Development, "Secretary Series with Mike Mrdak AO", 23 August 2017, speech delivered at the Institute of Public Administration Australia ACT Division, p. 5.

railway networks remains a hindrance to the country's connectivity. Each state and territory continues to manage its own distinct railway network and rail manufacturing economy.

1.16 The lack of systemic coordination across Australia's rail industry was identified as a significant issue by a number of submitters and witnesses.[7]

A history of differences

1.17 The following section outlines some of the differences across rail networks. It considers the impact of the lack of interstate rail harmonisation, including rail gauges (the distance between the rails) and regulatory structures on the costs to safety and the economy.

Rail gauge

1.18 Australia's railway networks operate on different gauges. As a consequence of the separate development of rail networks under the auspices of different state governments, the railway networks also operate according to different standards and practices. Rail lines, equipment and operating practices across networks are not compatible, and efforts to standardise have proved difficult and not always practical. One such example is the use of different rail gauges. This particular difference has proved a major obstacle to standardising the states and territories' railway networks.

1.19 Historically, travel between cities and states required that passengers and freight be transferred between trains (operating on different rail gauges) at the border or at rail junctions. Given the construction of railways was intended to link each capital city with its outer towns and regions – rather than connect the interstate capital cities – the use of different rail gauge systems, at least initially, was not cause for concern among the colonial governments. The problem did, however, become acute when it was recognised that the rapid passage of supplies and troops across the states (particularly during the two World Wars) was impeded by the absence of a standardised rail gauge network.[8]

1.20 Currently, the most common rail gauges in Australia are the standard, narrow and broad gauges. When railway construction began in Australia in the 1850s, however, different rail gauges were adopted depending on the individual preference of those constructing them. The standard gauge (1435mm), which was used in England and Europe, was adopted in NSW, while the broad gauge (1600mm) which was more widely used in Ireland, was adopted in Victoria and parts of South Australia. Queensland, Tasmania and Western Australia adopted the narrow gauge system

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7 Department of Infrastructure and Regional Development, available at https://infrastructure.gov.au/rail/trains/history.aspx. (Accessed 19 September 2017). See, also Mr John Austen, *Submission 1*, Mr Shaun Goss, *Submission 3*, Rail Industry Safety and Standards Board, *Submission 6*, Rail Manufacturing CRC, *Submission 9*, Centre for Future Work, *Submission 10*, Australian Manufacturing Workers' Union, *Submission 11*, and Queensland Department of Transport and Main Roads, *Submission 15*.

8 Productivity Commission, 'Progress in rail reform', Appendix C: *History of railways in Australia*, p. 2.

(1067mm) as this was cheaper to build in more remote places. The narrow gauge system, which required less land clearance, was particularly useful for industries such as timber and mining.[9]

1.21 While the process of converting Australia's interstate rail network to a standard gauge track finally began in the 1930s, the complete harmonisation of the various rail gauges has yet to be completed. A national standard gauge network which connects the capital cities does exist. It is, however, not practical or feasible to standardise all rail gauges across Australia. By using the state of Queensland as an example, the difficulties associated with standardising rail gauges can be clearly illustrated:

> Queensland has around 9000 km of narrow gauge track. Around 2500 km of this track in Central Queensland (CQ) caters for in excess of 200 million tonnes of coal freight annually and that transport is from mines in CQ to adjacent ports. The cost of changing gauge for this network would be in the many 10s of billions of dollars with negligible change in rail productivity arising from any reconstruction to standard gauge.[10]

1.22 The rail connection between capital cities on the eastern seaboard was only completed in 1995, between Melbourne and Adelaide. It took another ten years before a standard gauge network connected Alice Springs to Darwin in January 2004.[11]

State and territory development of rail infrastructure

New South Wales

- NSW's first rail link was constructed between Sydney and Parramatta, for the primary purpose of transporting the valuable wool clip to Sydney by train. The project was initially backed by wealthy pastoralists, but ultimately Sydney investors provided the funds and the Sydney Railway Company (incorporated in 1849) commenced the work in 1850. During construction, the project ran into financial problems and was taken over by the colonial government. The line eventually opened on 26 September 1855.[12]

Victoria

- The country's first railway line opened between Melbourne's Flinders Street Station and Port Melbourne on 12 September 1854 (and has since been incorporated into Melbourne's electric light railway (tram) system).[13]

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9 Productivity Commission, 'Progress in rail reform', Appendix C: *History of railways in Australia*, p. 2.

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

11 Department of Infrastructure and Regional Development, https://infrastructure.gov.au/rail/trains/history.aspx (Accessed 21 September 2017).

12 Website: NSW Museum of Applied Arts and Sciences, https://maas.museum/inside-the-collection/2015/09/26/happy-160th-birthday-sydney-trains/ (Accessed 3 October 2017).

13 Department of Infrastructure and Regional Development, https://infrastructure.gov.au/rail/trains/history.aspx (Accessed 15 September 2017).

South Australia

- In 1856, the first steam powered trains built by the South Australian colonial government operated between Adelaide and Port Adelaide. Prior to this in 1854, the state had a horse-drawn railway operating at the mouth of the Murray River.[14]

Queensland

- The first railway in Queensland ran from Ipswich inland to Grandchester using the narrow 1067 mm gauge. The system was extended further to the Darling Downs before being connected with Brisbane in 1875.[15]

Western Australia

- The first railway in Western Australia began operating in 1871, and was run by a private railway company which transported timber from Lockville to Yoganup, south of Perth. The first government railway opened in 1879 between Geraldton and Northampton. In the 19th century the network in south-western Western Australia was built as 1067 mm gauge lines, but in the 20th century the eastern states were connected to Perth and Esperance with standard 1435 mm gauge lines.[16]

Tasmania

- A railway line 72 km long opened between the Northern Tasmanian towns of Launceston and Deloraine in 1868. It was built to the 1800 mm gauge by operator Launceston and Western Railway Company. Subsequently, the Tasmanian government passed an act of Parliament incorporating the Tasmanian Mainline Railway Company. This company built the main line between Launceston and the state capital, Hobart.[17]

Northern Territory

- On 1 October 1889, a railway between Darwin and Pine Creek (253 km) became operational. The line was never profitable, and Pine Creek was taken over by the Australian Government in 1911. The line was subsequently incorporated into the North Australia Railway's operations (linking Darwin with Birdum) until its closure in 1929. The completion of the Alice Springs to

14 Department of Infrastructure and Regional Development, https://infrastructure.gov.au/rail/trains/history.aspx (Accessed 15 September 2017).

15 Department of Infrastructure and Regional Development, https://infrastructure.gov.au/rail/trains/history.aspx (Accessed 15 September 2017).

16 Department of Infrastructure and Regional Development, https://infrastructure.gov.au/rail/trains/history.aspx (Accessed 15 September 2017).

17 Department of Infrastructure and Regional Development, https://infrastructure.gov.au/rail/trains/history.aspx (Accessed 15 September 2017).

Darwin standard gauge rail link in January 2004 resulted in a national rail network linking all mainland state and territory capital cities.[18]

Australian Capital Territory

- The first railway infrastructure was constructed in the ACT when a 10 km standard gauge branch line opened between Queanbeyan, NSW, and Canberra in 1914. Passenger operations commenced in 1923.[19]

Regulatory structures

1.23 The committee received a number of submissions which pointed to inefficiencies within the rail manufacturing industry. It was noted that regulatory structures, in relation to matters such as safety, training and recognition of qualifications can differ considerably under different regulatory structures and across different jurisdictions. Submitters were consistent in their view that "greater harmonisation of standards, regulations and procurement practices across all rail sectors is required" and that "best practice in tendering will reduce the cost burden."[20] It was acknowledged, however, that the process required to reach this end has remained a wicked problem.

1.24 In June 2003, the Rail Industry Safety and Standards Board (RISSB), was established by the Australasian Railway Association (ARA). RISSB is a not-for-profit company which is owned, and largely funded, by its industry members. It does, however, receive some funding from both the Commonwealth and state governments.[21]

1.25 RISSB has as its primary responsibility the development and management of rail industry standards, rules, codes of practice and guidelines – all of which have national application.[22] It has been charged with harmonising standards and practices to generate interoperability, and to improve safety and efficiency across the railway sector. RISSB is the single body accredited by Standards Australia to develop national rail standards.

1.26 Stakeholders noted that the benefits of harmonising the different systems are obvious – including increased efficiencies from not having to deal with a myriad of different standards across the industry. It was also acknowledged, however, that the mandatory adoption of new standards and codes of practice across the industry is not always economically feasible and could, at times, be counterproductive.[23]

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18 Department of Infrastructure and Regional Development, https://infrastructure.gov.au/rail/trains/history.aspx (Accessed 15 September 2017).

19 Department of Infrastructure and Regional Development, https://infrastructure.gov.au/rail/trains/history.aspx (Accessed 15 September 2017).

20 Australasian Railway Association, *Submission 7*, p. 2.

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

22 Members include companies and organisations involved in rail freight and passenger operations, track management, suppliers and contractors.

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

1.27 The industry has therefore, largely supported a progressive, voluntary adoption approach to harmonising standards and practices – an approach that takes an individual company's situation into consideration. The current approach also allows a company to consider whether there is a business case for change within its operations, and takes account of both the cost and benefits of any change.[24] It was noted, however, that there are some areas where mandatory harmonisation is required – particularly around matters of safety, such as rolling stock lighting where the standard specifies the visibility and layout of this lighting.[25]

1.28 RISSB's role in working toward regulatory consistency is discussed further in Chapter 2.

Legacy issues

1.29 Given the history of rail, and the differences adopted by states and territories there are a number of 'legacy' issues which continue to create problems across the sector. While the different rail gauges and individual regulatory structures have already been referred to, differences in relation to standards and codes of practice are also 'legacy' issues, which can have an impact on safety performance, economic productivity and efficiency.

Safety standards

1.30 The 2012 Taig Review[26] noted that safety standards and the measurement of safety performance are not measured or monitored well at the national level. It was noted that information on accidents is recorded differently by individual state regulators and that available data is presented in formats that are not comparable. As a result, often the data – which is collated and published by the Australian Transport Safety Bureau (ATSB) – is not useful or meaningful. The Taig Review noted, for example, that the information provided in relation to serious incidents and fatalities was not disaggregated to separate those people (passengers, staff, and members of the public) injured from accidents and those suspected of suicide.[27]

Fragmented markets and issues of scale

1.31 Rather than Australia being represented by one central, national market, Australia has historically been made up of a number of smaller, fragmented rail markets. This fact continues to act as a deterrent to investment in larger scale manufacture and innovation. Issues of scale also act as a barrier to expansion, and these problems are compounded by the inefficiencies associated with manufacturing railway products to different standards and specifications.

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

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

26 In 2012, as part of its funding agreement with the Rail Industry Safety and Standards Board, the Australian Government arranged for a review of RISSB's processes and activity to be conducted. The review was undertaken by specialist international consultant, Mr Tony Taig.

27 The Taig Review: TTAC Limited, *Review of the Rail Industry Safety and Standards Board and its MOU with the Governments*, June 2012, pp 11-12.

Continuity of production

1.32 The lack of a strong pipeline of investment in rolling stock has resulted in a lack of continuity in rail manufacturing. If Australia's rail industry is to be sustainable, this situation needs to change. The current ad hoc approach to rolling stock orders continues to create uncertainty for manufacturers and is a disincentive for businesses to invest in expensive capital and research and development. The Rail Manufacturing CRC (RMCRC) refers to this lack of investment certainty and 'stop-start' cycle of production as the 'valley of death', a term used in defence manufacturing.[28]

Lack of innovation

1.33 As the Australian economy transitions towards knowledge-based industries, the low level of innovation being implemented across the industry continues to be both a concern and a key challenge for the rail manufacturing sector.

1.34 A lack of certainty about future contracts, a lack of continuity and a lack of technical expertise have contributed to an understandable lack of confidence around investing in innovation and technology. In the long term, however, the Australian rail manufacturing industry will not be able to maintain its viability without increased export offerings and competitiveness – the path to which is innovation.[29]

Procurement

1.35 The various state jurisdictions are not required to coordinate or benchmark their procurement efforts. This factor continues to have an impact on procurement efficiencies and has led to clashes in timing of tendering obligations, complexities in design and build, the low volume of orders (impacting a longer-term, national pipeline for wagon builds) and the ability to maintain a standing workforce and tooling lines. These inefficiencies continue to have an impact on value for money, for both consumers and taxpayers.[30]

The need for harmonisation

1.36 The legacy issues arising from the separate development of railways and a lack of harmonisation continue to prove costly. Stakeholders, including the Australian Manufacturing Workers' Union (AMWU) stressed the seriousness of the situation:

> Unfortunately, across Australia, each State still ‘does its own thing’ in designing and ordering its public transport rolling stock. This lack of national consistency in procurement, design and standards is creating vast inefficiencies for local manufacturers. This undermines local jobs. Without action, this fragmented approach could see the loss of our local industry altogether before long.[31]

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

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

30 Australian Manufacturing Workers' Union, *Submission 11*, p. 9.

31 Australian Manufacturing Workers' Union, *Submission 11*, Attachment 1, p. 3.

1.37 The Taig Review indicated that although state and federal governments are investing heavily in rail, what remains absent is a strong focus on the outcomes at the national level. The review argued that this is borne out by the absence of an overview of public spending on railways, at both state and federal levels, and lack of uniformity in the reporting of safety performance across the different jurisdictions.[32]

Role of the Commonwealth

1.38 The Commonwealth government has long recognised the problems presented by Australia's diverse rail operating environment and has played a major role in breaking down barriers to harmonisation, and in encouraging states to work toward the development of common standards, practices and interoperability, wherever practicable.

1.39 The Australian Government, through DIRD, has played a central role in developing a national rail policy and supporting cross-jurisdictional regulatory bodies such as the RISSB to push for national standards. DIRD also provides financial support to the Australian Rail Track Corporation (ARTC) and provides funding to states and territories for rail projects.[33]

1.40 The ARTC, which was established in 1998 by the Australian Government (with support from the mainland state governments), manages and develops Australia's interstate track infrastructure as a single entity. The entity, which is wholly owned by the Australian Government, manages over 8500 km of standard gauge track. Most of this is through direct ownership and long term leases of state owned track between Kalgoorlie in Western Australia and Acacia Ridge in southern Brisbane.[34]

1.41 Through the ARTC's ownership and lease of the interstate line, the six separate state-based arrangements (which historically governed mainland interstate rail operations) have gradually been replaced with a single set of common rules, operating standards and access regulations. This represents a significant efficiency achievement – particularly for rail freight in Australia.[35]

1.42 DIRD has continued to work with state governments to coordinate change. With support from DIRD, and in consultation with other jurisdictions, the Victorian Government has been taking a lead role (on behalf of all jurisdictions) in the area of developing national rolling stock standards and a national rolling stock procurement approach.[36]

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32 The Taig Review: TTAC Limited, *Review of the Rail Industry Safety and Standards Board and its MOU with the Governments*, June 2012, p. 16.

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

34 Department of Infrastructure and Regional Development, available at https://infrastructure.gov.au/rail/trains/history.aspx. (Accessed 19 September 2017.)

35 Department of Infrastructure and Regional Development, available at https://infrastructure.gov.au/rail/trains/history.aspx. (Accessed 19 September 2017.)

36 Department of Infrastructure and Regional Development, *Submission 14*, p. 21.

1.43 The Australian Government also has a role to play to encourage innovation in the rail manufacturing industry. Through the RMCRC, it has been able to facilitate collaborative research projects between industry and research institutions. The RMCRC provides the nationally coordinated approach to research – beyond policy initiatives that are being pursued by state governments – that is required from the Australian Government.

1.44 Infrastructure Australia has also had a role in coordinating the country's rail infrastructure. Infrastructure Australia's 2016 Infrastructure Plan and Priority List contain 93 specific projects targeted for completion over the next 15 years. More than half of these projects and initiatives (48) involve passenger and freight rail.[37]

Key issues

1.45 In undertaking its inquiry into the state of Australia's rail industry, the committee undertook to investigate how government procurement, through the ARTC and other policy levers, can be used to achieve value for money and improve competitiveness, continuity of work, and the capability of the rail manufacturing industry.

1.46 The history of Australia's rail networks, coupled with the fact that they span large areas and operate across state boundaries, has, over the years led to a number of difficulties for the sector. The committee received evidence about the issues currently facing the sector, including the current barriers to competition and productivity – the solutions to which are complicated.

1.47 As part of its inquiry, the committee examined the regulatory environment under which the rail industry operates, and received evidence regarding the need for a national approach to standards. The report outlines the progress that has been made toward the harmonisation of the national rail network and stakeholders' views regarding ways to increase cooperation across the sector and increase Commonwealth and state commitment to harmonisation.

1.48 Overwhelmingly, evidence to the inquiry stressed the importance of the rail industry – both as a regional employer and an activity generator. The report examines the potential impact a further decline of rail manufacturing could have on both the national and regional economies and Australia's transport infrastructure.

1.49 Evidence to the inquiry indicated that Australia's need for additional transport infrastructure has led to an increase in Commonwealth and state investment across the sector. It was also observed that over the coming years, the growing Asia-Pacific markets will be looking for suppliers. The report outlines stakeholders' views in relation to how the industry – including manufacturers and suppliers – can take advantage of the growing markets (and the additional funding) to shape a world class industry which incorporates world class research and development, standards and technology.

37 Australasian Railway Association, *Submission 7*, p. 10.

Structure of the report

1.50 The following chapter (Chapter 2) provides an overview of the current state of Australia's rail industry, including the regulatory environment and current procurement and local content guidelines. Chapter 2 provides an overview of the roles currently undertaken by the ARTC and the RISSB and outlines the progress that has been made in relation to the standardisation and harmonisation of Australia's rail network. The chapter also identifies some of the issues which currently act as barriers to productivity and restrict competitiveness and growth in the rail sector.

1.51 Chapter 3 expands on the importance of Australia's rail industry and the contribution it makes to Australia's economy. The chapter also outlines the consequences should there be a decline in the Australian rail manufacturing sector, and the impact any loss of capability could potentially have in relation to issues of transport infrastructure, access, regional employment and the Australian economy.

1.52 Chapter 4 reviews some of the barriers to growth and productivity which were identified by stakeholders, including the regulatory environment and the need for further investment in rail infrastructure. The chapter also examines the positive impact technology, national coordination, national procurement guidelines and cooperation between the Commonwealth and states could have on the sector. The chapter outlines some of the strategies proposed by stakeholders, and suggestions ways in which governments can support these strategies, to the benefit of the industry, at a national level.

1.53 Chapter 5 outlines the committee's view and includes a series of recommendations. The committee's recommendations are made with the aim of supporting the rail sector as it develops strategies to increase its productivity, competitiveness and capability through the implementation of workforce training, national standards, research and development and technology.

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.

Chapter 3

Importance of Australia's rail industry

3.1 An efficient, modern rail system, which is central to Australia's transport infrastructure future, requires a competitive, innovative and viable rail industry. This chapter considers the importance of Australia's rail industry to the national transport system and the nation's economy.

3.2 Australia's rail system is critical to the nation's economy.[1] Without rail, the country would face significant logistic and congestion challenges which would affect our national competiveness. A growing resurgence in rail in Australia, supported by considerable investment in rail infrastructure, provides both a challenge and an opportunity for the nation's rail industry. This chapter explores these challenges.

A world class industry

3.3 In 2014, the ARA observed that Australia's geography and geology requires a world class rail capability. It noted that the:

> Australian rail industry can demonstrate world's best practice in terms of design, innovative technologies, signalling, and the infrastructure that underpins it.[2]

3.4 Increasing globalisation, and the rise of manufacturing capabilities outside of Australia, has provided a number of challenges to the Australian rail sector including competition from cheaper imported products.[3] Yet, in terms of quality, many such imports have proven to be inferior in design, reliability and safety when compared to Australia's standards or have proved unsuitable to Australia's conditions. At the same time, evidence to the committee confirmed that Australian rail design, project management and IT systems, which also contribute to the performance of a train, are world class.

3.5 As detailed in Chapter 2, Australian manufacturers, unable to compete with overseas competitors on price, have been forced to modify, repair and maintain imported products and address what is often a myriad of defects, safety and operational problems. As Mr Amedeo D'Aprano, Industrial Officer of the ARTBIU observed:

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

2 Australasian Railway Association, *Rail: Growing the Australian Economy. Six platforms to stimulate growth in the Australian rail industry*, November 2014, Executive Summary, https://ara.net.au/sites/default/files/pdf/6-Platforms-full-report-WEB.pdf (accessed 22 September 2017).

3 As an example, since 2000, 986 passenger rail power cars and carriages have been manufactured in Australia compared to 1482 manufactured overseas for Australia. Department of Infrastructure and Regional Development, *Submission 14*, p. 13.

> 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.[4]

Growing importance of rail in Australia

3.6 Historically, increased demand for transport services in Australia was met by road rather than rail. However, there is growing recognition that rail has a clear cost advantage in high volume passenger markets, such as densely populated areas, in transporting bulk materials, and in relation to long hauls of freight.[5] The point was also made that Australia has the least energy efficient road passenger transport amongst members of the International Energy Association.[6]

Passenger transport

3.7 Evidence to the committee suggested that rail transport has been growing steadily in Australia and at a higher rate than other forms of transport over the last ten years.[7]

3.8 Demand for passenger transport services has grown considerably, driven in part by population growth and density. With almost 66 per cent of the Australian population living in an area equivalent to only 1 per cent of Australia's land mass, and 74 per cent of Australia's population expected to live in capital cities by 2061, rail is increasingly recognised as an efficient means of passenger transport.[8]

3.9 Annually, almost "one billion passenger journeys transport Australians on heavy and light rail networks" in both capital cities and regional areas.[9] In 2014-15, there were approximately 849 million urban passenger journeys in Australia, of which 646 million were urban heavy rail journeys across the country's largest cities.[10]

3.10 Victoria alone has witnessed a 50 per cent increase in public transport use over the last ten years. In that state, there are now 76 million more trips per year on the metropolitan rail network compared to ten years ago while there are 2.5 times as many passengers on the regional rail network across country Victoria compared to ten

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

5 Australasian Railway Association, *Submission 7;* Deloitte Access Economics, *The true value of rail*, October 2011, pp 21–22.

6 Australasian Railway Association, *Submission 7;* Deloitte Access Economics, *The true value of rail*, October 2011, p. i.

7 Australasian Railway Association, *Submission 7;* Deloitte Access Economics, *The true value of rail*, October 2011, pp 21–22.

8 Australasian Railway Association, *Submission 7*, p. 7.

9 Australasian Railway Association, *A National Rail Industry Plan for the Benefit of Australia*, September 2017, p. 6.

10 Department of Infrastructure and Regional Development, *Submission 14*, p. 5.

years ago. Over the past two years, there has been a 24 per cent increase in the number of people travelling on the regional Victorian rail network.[11]

3.11 The fundamental benefits of rail as a method of passenger transport reach well beyond that of immediate cost, as it has a positive impact on:

- road congestion – one passenger train takes 525 cars off the road and one freight train takes 110 long haul trucks off the roads;
- economic and social costs – less congestion, fewer accidents and reduced road maintenance;[12]
- emissions – by producing lower carbon emissions compared to road transport;
- commuting times and liveability in growth corridors and in our regions; as well as
- social inclusion, health and amenity.[13]

3.12 As total passenger travel in Australian cities has grown almost ten-fold over the last 70 years, road vehicles still account for 87 per cent of the aggregate urban passenger task. The associated costs of congestion are staggering as the Bureau of Infrastructure, Transport and Regional Economics (BITRE) explained:

> BITRE estimates of the 'avoidable' social costs of congestion (where the benefits to road users of some travel in congested conditions are less than the costs imposed on other road users and the wider community) for the 8 Australian capitals (using an aggregate modelling approach) total approximately $16.5 billion for the 2015 financial year, having grown from about $12.8 billion for the 2010 financial year.
>
> This 2015 metropolitan total is comprised of approximately $6 billion in private time costs, $8 billion in business time costs, $1.5 billion in extra vehicle operating costs and $1 billion in extra air pollution costs.[14]

3.13 As a method of relieving city congestion in a safe and cost-effective way, while also addressing environmental concerns, rail in Australia is coming to the fore. Estimates suggest that if rail achieves a 40 per cent market share, by 2030, the savings from accidents and carbon pollution could reach over $500 million a year.[15]

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11 Mr Jeroen Weimar, Public Transport Victoria, *Committee Hansard*, 16 June 2017, p. 19.

12 Australasian Railway Association, *Submission 7;* Deloitte Access Economics, *The true value of rail*, October 2011, p. iii.

13 Australasian Railway Association, *A National Rail Industry Plan for the Benefit of Australia*, September 2017, p. 7.

14 Bureau of Infrastructure, Transport and Regional Economics, *Traffic and congestion cost trends for Australian capital cities*, Department of Infrastructure and Regional Development, Information Sheet 74, November 2015, p. 1, https://bitre.gov.au/publications/2015/files/is_074.pdf (accessed 27 September 2017).

15 Australasian Railway Association, *Submission 7;* Deloitte Access Economics, *The true value of rail*, October 2011, p. iii.

Freight transport

3.14 Rail provides an important means of transporting freight between cities, towns and rural communities. Freight rail is significant to the domestic economy, as well as providing an enabler to major export supply chains. Its benefits include that of safety, efficiency and reduced congestion.[16]

3.15 The share of interstate, non-bulk freight met by road transport rose from 22 per cent in 1970 to approximately 70 per cent in 2011. Over the same period, the share met by rail fell from 45 per cent to less than 30 per cent. Today, Australia is the most intensive user of road freight in the world.[17]

3.16 However, the volume of freight moved by rail, as measured in billion tonne kilometres has been growing at an average rate of 5.8 per cent each year. It rose from approximately 136.9 billion tonne kilometres in 2000-01 to around 198.7 billion tonne kilometres in 2006-7, thereby accounting for around 39 per cent of total freight transported.[18]

3.17 The committee was informed that in 2013-14, Australian railways carried almost 1.3 billion tonnes of freight, which was a 25 per cent increase from the previous year. The task, which is dominated by bulk movements (primarily iron ore and coal), accounted for 98 per cent of the overall freight task.[19] The freight task is expected to double by 2030.[20]

3.18 The Freight on Rail Group (FORG) provided evidence that the rail freight industry added $13.2 billion to the Australian economy and made up 0.7 per cent of the total national economy in 2013. Further, it noted that the sector employs almost 15 000 people across the country, many of whom are based in regional areas, and pays over $1.2 billion in wages.[21] Given the strong presence of rail freight in rural and regional Australia, any job losses in the sector are acutely felt in regional areas and are compounded by flow-on effects within local communities and along the supply chain.[22]

3.19 Freight transport is critical to Australian industries, including agriculture. The transportation of agricultural products from rural areas to ports, predominantly for export, is a significant component of the railway industry. DIRD noted that rail has traditionally dominated grain transport over long distances. In September 2016, an

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16 Australasian Railway Association, *Submission 7*, p. 5.

17 Australasian Railway Association, *Submission 7;* Deloitte Access Economics, *The true value of rail*, October 2011, p. i.

18 Australasian Railway Association, *Submission 7;* Deloitte Access Economics, *The true value of rail*, October 2011, p. 20.

19 Australasian Railway Association, *Submission 7*, p. 4; Department of Infrastructure and Regional Development, *Submission 14*, p. 5.

20 Australasian Railway Association, *Submission 7*, p. 7.

21 Freight on Rail Group, *Submission 17*, p. 5.

22 Freight on Rail Group, *Submission 17*, pp 5–6.

estimated 5100 route-km of operational railway track was predominantly used for grain haulage.[23]

3.20 CBH, a cooperative of 4200 grain growers, informed the committee that approximately 70 per cent of its freight task is transported by rail.[24] As noted in the previous chapter, in 2010-11, it invested $175 million in new rolling stock (locomotives and wagons) to be operated by a new 'above rail' operator, Watco WA Rail, for a dedicated service of grain haulage.

3.21 DIRD noted that improvements in rail freight productivity have the potential to lower the cost of moving freight and contribute to increased national economic output. It was also noted that increasing the use of freight rail at ports can reduce costs and increase the competitiveness of export supply chains. At the same time, however, it was acknowledged that there are a still a number of challenges to strengthening the rail sector. While this is discussed further in the following chapter, it is worth noting that access, pricing and interoperability, as well as funding and investment are some of the primary challenges.[25]

Employment and income generation

> I am the fifth generation. My grandfather, great grandfather and great-great grandfather all worked on the railways. It was a job for life, because the work would steadily come through.[26]

3.22 According to the ARA, close to 200 000 people work in the rail industry which has close to $45 billion in committed investment over the next five years.[27]

3.23 Underpinning Australia's rail sector, the rail manufacturing industry directly employs 5000 workers. According to the CFW, the 5000 Australians employed in the manufacturing industry attract superior incomes (just under $80,000 per employee including wages, salaries and benefits). The CFW argued that this reflects the "relatively high productivity of the sector (over $180,000 of value-added per worker per year), and specialized skills required".[28]

3.24 The sector also indirectly supports an estimated 15 000 additional jobs in over 330 companies working in areas including maintenance, supply, input and downstream consumer industries, and thereby generates an overall annual turnover of nearly $4 billion.[29]

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23 Department of Infrastructure and Regional Development, *Submission 14*, p. 5.

24 CBH, *Submission 8*, p. 1.

25 Department of Infrastructure and Regional Development, *Submission 14*, p. 17.

26 Mr Paul Candy, Australian Manufacturing Workers' Union, *Committee Hansard*, 16 June 2017, p. 11.

27 Australasian Railway Association, *Submission 7*, p. 2.

28 Centre for Future Works, *Submission 10*, pp 4–5.

29 The Australia Institute, Centre for Future Works, *Submission 10*, p. 3 and Australasian Railway Association, *Submission 7*, p. 2.

3.25 In terms of income generation more broadly, in the 2013-14 financial year, the sector ordered approximately $2 billion worth of parts, inputs, supplies, and services from other industries in Australia. At the same time, it purchased just under $800 million in inputs and supplies from foreign suppliers with the imported inputs directly making "around 20 per cent of the industry's gross output measured by sales".[30]

3.26 Of the $2 billion in total purchases of Australian-made inputs, the five largest suppliers to railway rolling stock manufacturing (in order) were:

- fabricated metal products industries;
- professional, scientific and computer services;
- wholesale and retail services;
- finance, insurance, and leasing; and
- primary metals.[31]

3.27 The CFW made the point that the importance of the professional, scientific and computer services, which is the second largest supply sector, attests to the "innovation-intensity of the industry, which is constantly incorporating new product and process technologies into its activity".[32] Furthermore, the CFW noted that there are about 7000 jobs across those first-order or Tier 1 suppliers depending on their sales to railway equipment manufacturing. The CFW continued:

> This does not include the subsequent higher-order supply jobs which, in turn, depend on goods and services sold to those Tier 1 supply sectors (the “suppliers to the suppliers”). So we can already see that the employment benefits arising from rolling stock production in Australia extend well beyond the boundaries of the sector itself: in fact, there are more jobs outside of the sector that depend on this work, than direct jobs in the sector itself.[33]

3.28 According to the CFW, for every direct job in the railway rolling stock sector alone, there are an average 1.4 additional jobs in first-order suppliers dependent on the business generated by rolling stock manufacturing. The CFW noted that there were even more jobs 'upstream' in the companies and industries that supply the suppliers. It estimated that a total of 17 410 jobs were created in this way.[34] The CFW provided the following information regarding employment:

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30 The Australia Institute, Centre for Future Works, *Submission 10*, p. 4.

31 The Australia Institute, Centre for Future Works, *Submission 10*, p. 6.

32 The Australia Institute, Centre for Future Works, *Submission 10*, p. 6.

33 The Australia Institute, Centre for Future Works, *Submission 10*, p. 6.

34 Centre for Future Works, *Submission 10*, p. 8.

Table 3.1 Railway Rolling Stock Manufacturing [35]

Key Australian Inputs Purchased (2013–14)		
Supply Industry	**Purchases ($m)**	**Derived Employment**[36]
Primary Metals	144	114
Fabricated Metal Products	398	1,708
Transportation Equipment[37]	103	n.a.
Electrical & Electronic Equipment	55	127
Other Equipment	111	102
Wood, Paper & Glass Products	51	166
Petroleum, Coal, Chemical & Rubber Products	84	112
Other Goods	29	82
Construction	17	51
Energy & Utilities	46	72
Wholesale & Retail Trade Services	208	1,350
Transportation Services	85	294
Communication & Telecom Services	98	206
Finance, Insurance & Leasing	151	130
Professional, Scientific & Computer Services	263	1,175
Other Services	148	1,307
Total Australian-Made Inputs	**1,993**	**6,997**

35 The Australia Institute, Centre for Future Works, *Submission 10*, p. 7. The table is derived from the CFW calculations from the Australian Bureau of Statistics Catalogues.

36 Includes direct Tier 1 input suppliers only (not counting employment associated with indirect inputs or "suppliers to suppliers"). Centre for Future Works, *Submission 10*, p. 7.

37 Mostly consisting of purchases from other railroad rolling stock manufacturers, hence derived employment is not calculated. The Australia Institute, Centre for Future Works, *Submission 10*, p. 7.

Imported Inputs	784	
Value Added in Rolling Stock Sector[38]	908	4,974
Total Australian Production	**3,686**	

Industry decline and consequences

3.29 Despite a growing awareness of the importance of rail to Australia, the local rail industry faces a series of challenges and threats. This is evidenced by a decline in the number of jobs in the sector. The CFW noted that industry employment had declined by 3000 jobs since the mid-2000s. It attributed the decline to a "dramatic and sustained rise in imports of finished railway equipment". The CFW explained that until the mid-2000s, most of the rail equipment purchased by the industry was manufactured in Australia while imports were modest. However:

> Several developments at that time – including the implementation of several free trade agreements, the dramatic appreciation of the Australian currency (during the mining boom), the liberalization of public procurement decisions, and the broader decline of Australian manufacturing – all contributed to a rapid increase in import penetration.[39]

3.30 Railway rolling stock imports reached a peak in 2013-14 at around $1.5 billion or five times higher than the import levels a decade earlier. In 2013-14, the total value of imports equalled nearly 40 per cent of the value of domestic production. At the same time, exports of railway equipment from Australia remained small, averaging less than $100 million per year over the past decade.[40] According to the Rail Manufacturing CRC this trend is set to continue.[41]

3.31 The point was also made to the committee that the lack of national consistency in procurement, design and standards had created vast inefficiencies for local manufacturers, which directly undermined jobs.[42] Indeed, considerable evidence to the committee focused on the decline of employment in the rail industry. The committee was informed that over the past decade, a growing preference for imported equipment has reduced employment in Australian railway equipment manufacturing by 40 per cent.[43]

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38 This includes indirect taxes less subsidies. The Australia Institute, Centre for Future Works, *Submission 10*, p. 7.

39 The Australia Institute, Centre for Future Works, *Submission 10*, p. 5.

40 The Australia Institute, Centre for Future Works, *Submission 10*, p. 5.

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

42 Australian Council of Trade Unions, *Submission 13*, p. 2.

43 The Australia Institute, Centre for Future Works, *Submission 10*, p. 14.

3.32 Mr Shaun Goss, an electrician in the rail industry informed the committee that the two big companies in Newcastle – Downer EDI and UGL – employ around 200 staff between them. Yet five years ago, they employed approximately 1000 staff. For the Hunter region of NSW, as a case in point, the decline in rail jobs, coupled with uncertainty with regard to other industries, has created a youth unemployment rate of around 22 per cent.[44]

3.33 Mr Phillip Walters of the AMWU explained that in NSW, the rail build industry is "evaporating", leaving workers on short-term contracts and facing the real prospect of retrenchment. He detailed the consequences at the Newcastle-based Downer EDI company:

> We have constantly downsized since 2012—since the end of the OSCar contract. It drops off 20 or 30 people at a time. We had our last retrenchments last year. It is a slow spiral down. Blokes say to me, 'How bad can it get?' And one way or another it seems to get a little bit worse. There is no job security.[45]

Lovells Springs

3.34 The experience of local manufacturing company, Lovells Springs, is representative of the state of the entire sector.

3.35 Lovells Springs produces new springs for new built locomotives, freight wagons and passenger trains and provides a refurbishment and replacement service for maintenance purposes to keep existing fleets on the rails. It is the only company left in Australia with the capacity to manufacture the entire range of components required for the Australian rail industry.[46]

3.36 While the rail sector represented 60 per cent of the company's business five years ago, it has now declined to 30 per cent. According to the company, the substantial fall in rail business resulted from the near total cessation of new-build rolling stock manufacturing in Australia coupled with sourcing of spare parts for large scale refurbishment locomotive projects from overseas.[47] In terms of the impact on the company, Mr Simon Crane, Managing Director, explained that:

> …my family has been involved in manufacturing for 150 years without a break, and I am the last man standing that dynasty. Our great family company ceased to exist as of five years ago; it employed 9,000 people. So I am just one tiny echo of a great dynasty that has gone.[48]

3.37 Lovells Springs argued that its rolling stock suspension components which are manufactured with locally produced steel are "equal or superior to any sourced

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44 Mr Shaun Goss, *Submission 3*.

45 Mr Phillip Walters, Australian Manufacturing Workers Union', *Committee Hansard*, 1 May 2017, p. 11.

46 Lovells Springs, *Submission 20*, p. 2.

47 Lovells Springs, *Submission 20*, p. 1.

48 Mr Simon Crane, Lovells Springs, *Committee Hansard*, 1 May 2017, p. 25.

internationally". However, it made the point that if the local market dries up in favour of lower quality and cost alternatives, the company would be forced to "reduce its work force by 15 full time employees" and this would have a significant flow-on effect for its suppliers.[49]

3.38 While a number of regional rolling stock manufacturers have closed over recent years, a number of small to medium businesses such as Lovells Springs have focused on component manufacture, installation and fit-out, and maintenance. According to DIRD, this rail equipment manufacturing work is likely to stay in Australia, whereas the "import of lower value-added products such as rolling stock shells is likely to increase". It further noted that:

> Several export opportunities will exist over the next five years with rail manufacturing consulting having the highest potential for significant growth due to valuable intellectual property developed by Australian firms. These firms should be able to generate revenue by providing specialist advice on foreign projects and, in some cases, taking part in component manufacturing.[50]

3.39 However, the development of intellectual property and specialist advice are premised on the basis of a skills-based industry. The committee heard that it was vital that rolling stock maintenance, as well as manufacturing, remain in Australia.

3.40 According to the AMWU, the impact of a total shutdown of rail equipment manufacturing in Australia would be nothing short of "disastrous". It noted that the total loss of production in the sector, along with indirect job losses experienced in supply industries and downstream consumer industries would result in:

> …the elimination of nearly 20,000 jobs in total, the loss of $1.5 billion in national GDP, and a decline in national incomes totalling $1.75 billion.[51]

3.41 DIRD recognised manufacturing as integral to Australia's economic performance, through its contribution to national output, employment, research and development, performance and export income.[52]

Apprenticeships, training and skills

3.42 A key component of the rail industry is that of apprenticeships and training. The decline in jobs in the rail industry has witnessed with it the decline of apprenticeships, which in some companies, have completely dried up.

3.43 Mr Darren Mitchell worked on the Millennium and Waratah train projects at Downer Rail. He noted that while both projects required specific skills, some of the workers were able to learn and develop their skills over the term of the contract.

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49 Lovells Springs, *Submission 20*, p. 2.

50 Department of Infrastructure and Regional Development, *Submission 14*, p. 9.

51 Australian Manufacturing Workers' Union, *Submission 11*, p. 10.

52 Department of Infrastructure and Regional Development, *Submission 14*, p. 11.

However, as the company is no longer under contract, all employees have had to search for work elsewhere.[53]

3.44 The point was repeatedly made to the committee that procurement policy alone can have a direct and significant impact on the industry, particularly as government decisions to purchase from overseas has an impact on jobs and apprenticeships in Australia. Mr Glenn Thompson, Assistant National Secretary of the AMWU argued that when the NSW Government decided to spend $2.3 billion to build 500 train carriages, it created thousands of jobs in Korea rather than in regional NSW, where there are unemployed skilled workers. In direct contrast, the Victorian Government's $2 billion spend on 65 seven-car trains created with it 1100 jobs in Victoria and more than 100 apprentices, while also growing the local supply chain and giving local industry a chance to compete in a global market.[54]

3.45 One good example of the use of apprenticeships was that of the Oscar project.

Case Study: Outer Suburban Rail Car (OSCAR) project

An Oscar is an outer-suburban electric passenger railcar which runs between various cities in NSW. From 2006 to 2012, UGL built 220 Oscar railcars, employing 260 people at its Broadmeadow site, supporting 200 jobs in the Newcastle area, over 50 jobs in Taree and additional employment of local subcontractors and suppliers.[55]

Each car took approximately 5000 hours involving more than 250 Australian suppliers. At its peak in 2010, the project engaged 37 apprentices. Throughout the six-year build there were always approximately 30 apprentices employed at any one time.[56]

Oscar is currently the only passenger rail vehicle in NSW that has "demonstrated that it meets NSW Trains' stringent 55km/hr crashworthiness test standards".[57]

Lovells Technology, which employed 26 people, made the electrical systems for the Oscar trains. However, after two years of operation, a change of government in NSW ended the contract and Mr Crane, Managing Director of Lovells Technology, closed

53 Mr Darren Mitchell, *Submission 4*, p. 1.

54 Mr Glenn Thompson, Australian Manufacturing Workers' Union, *Committee Hansard*, 16 June 2017, p. 9.

55 UGL, Case Study: Oscar Stage 3 Electric Multiple Units for RailCorp, p. 2, https://uglcdn.ugllimited.com/Asset/cms/Case_Study/Rail/Passenger/Oscar_PassRail_CaseStudy_V2_WEB.pdf,(accessed 22 September 2017).

56 Mr Phillip Walters, Australian Manufacturing Workers' Union, *Committee Hansard*, 1 May 2017, p. 10.

57 UGL, Outer Suburban Rail Car (OSCAR), https://www.ugllimited.com/double-deck-electric-multiple-unit (accessed 22 September 2017).

the facility.[58] Mr Crane, observed that under current policy settings, the Oscar may be the "last passenger train ever to be produced in NSW after 120 years of production".[59]

3.46 The AMWU argued that procurement policy and the overall procurement culture in Australia has to change from one based on 'cheapest up front price' to one grounded in a national rail industry plan with a centralised wage process at its heart.[60]

Critical skills training and development

3.47 In 2015, the Victorian Government took the opportunity to invest in local suppliers and local jobs by way of a Victorian Industry Participation Policy (VIPP). All Victorian Government procurement activities are underpinned by the VIPP, whereby local content requirements are set for projects valued over $50 million and commitments to local industry development and supply chain engagement are considered in the tender process. Under Victoria's policy, projects valued over $20 million are required to use local apprentices, trainees or engineering cadets for at least 10 per cent of the total estimated labour hours under the Major Projects Skills Guarantee.[61]

3.48 A focus on local content, including jobs, coupled with a focus on training and development – by way of collaborative initiatives – provides greater opportunities for skill development. One such example is Victoria's High Capacity Metro Trains (HCMT) Project.

High Capacity Metro Trains Project

3.49 Delivered by way of a public private partnership with Evolution Rail, as part of the HCMT Project, the Victorian Government is investing in 65 next-generation high capacity trains for Melbourne.

3.50 The trains will be built in Victoria using at least 60 per cent local content. The HCMT contract requires that 15 per cent of the 1100 workforce comprise apprentices, trainees or cadets and that a further seven per cent comprise workers from disadvantaged backgrounds including the long-term unemployed.[62] A range of training and education opportunities will accompany the project including the following:

- a partnership with Chisholm TAFE to offer industry specific training for workers, to provide career pathways for people currently working in the rail industry and the broader manufacturing sector;

58 Mr Simon Crane, Lovells Springs, *Committee Hansard*, 1 May 2017, p. 24.

59 Lovells Springs, *Submission 20*, p. 3.

60 Mr Glenn Thompson, Australian Manufacturing Workers' Union, *Committee Hansard*, 16 June 2017, p. 18.

61 Victorian Government, *Submission 19*, p. 4.

62 Ms Wendy McMillan, Transport for Victoria, *Committee Hansard*, 16 June 2017, p. 25.

- a partnership with Swinburne University of Technology to deliver 30 engineering rolling stock cadetships over five years, with the first cadets commencing in July 2017;
- opportunities to assist workers transition from the automotive industry to the Victorian rolling stock industry;
- dedicated training facilities at the Newport manufacturing facility and Pakenham East depot; and
- apprentices to be seconded to the China Railway (CRRC) to gain experience with the world's largest rolling stock manufacturer. [63]

3.51 Another key aspect of training and development recognised in evidence was the need for industry and research institutions to work more closely together.[64] As Mr Daniel Broad, CEO of the ARA noted, there is need for greater collaboration between industry and government to "attract a young, diverse and talented workforce to the industry".[65] Furthermore, there must be investment in the skills for the future as Mr Broad explained:

> The industry employs around 200,000 people in a wide range of occupations, disciplines and professions, but when one looks at the extraordinary amount of investment planned in the rail industry, the critical question that needs to be addressed is where the extra resources are coming from. Furthermore, a skills gap is already apparent, as well as changing skills needs, for meeting emergent technologies. This challenge needs a national solution. Between the federal and state governments, investment in both passenger and freight rail projects is likely to exceed $100 billion over the next 15 to 20 years. A well-skilled local industry is critical to maximising the benefits of this investment and to delivering efficient outcomes for industry, governments and the community.[66]

3.52 The decline in the rail industry over a 20 year period has discouraged university graduates from entering the industry. Dr Stuart Thomson, CEO of the RMCRC, noted in this regard that there was a need to move beyond the boom and bust cycle to create a pipeline whereby companies were willing to invest in people, capital and innovation on the one hand, while graduates were encouraged to enter the industry with career prosects on the other.[67]

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63 Department of Economic Development, Jobs, Transport and Resources, *Bigger trains for a better Melbourne. Jobs and Investment Fact Sheet*, Victorian Government, May 2017, http://economicdevelopment.vic.gov.au/__data/assets/pdf_file/0004/1479136/HCMT-Project-jobs-and-investment-fact-sheet.pdf (accessed 26 September 2017).

64 Dr Stuart Thomson, Rail Manufacturing CRC, *Committee Hansard*, 16 June 2017, p. 7.

65 Mr Daniel Broad, Australasian Railway Association, *Committee Hansard*, 30 August 2017, p. 8.

66 Mr Daniel Broad, Australasian Railway Association, *Committee Hansard*, 30 August 2017, p. 8.

67 Dr Stuart Thomson, Rail Manufacturing CRC, *Committee Hansard*, 16 June 2017, p. 7.

3.53 The ARA recognises critical skills training and development as one of the six platforms directed at stimulating growth in the rail industry.[68] To this end, the ARA recommended that:

> Scholarships, exchange programs and related incentives will help build expertise and the potential for innovative ideas in design, manufacturing and maintenance. With an ever-changing market, a 'whole-of-life' approach to skills development will address both the provision and maintenance of leading edge technologies and infrastructure irrespective of origin.[69]

Research, development and innovation

3.54 The lack of certainty with regard to employment and contracts in the Australian rail industry has also impacted investment in research and development.

3.55 The RMCRC noted that a lack of certainty about future contracts has negatively impacted industry investment in new technology. While acknowledging a range of grant programs to support collaboration between industry and research organisations, it noted that there is "reluctance in rail manufacturing businesses to seize the opportunity to invest in innovation".[70]

3.56 Submitters to the inquiry recognised that Australia's rail industry has the opportunity to contribute to the growing demand for rail products in the Asia-Pacific region, while also leveraging Australian skills, expertise and experience in these new and emerging markets. However the RMCRC warned that "without increased application of innovation, the Australian rail industry will not keep pace with the application of new technology to global platforms".[71]

3.57 The RMCRC suggested that tenderers for rolling stock should "mandate a level of innovation in the procurement sought", in exchange for supportive government procurement policies and local content requirements, as well as significant investments through grant programs. It argued that such an approach sought an 'innovation dividend' from government procurements which should encourage industry to collaborate on new technology in rail manufacturing and thereby become more globally competitive.[72] To this end, it recommended that the Commonwealth "seek an 'innovation dividend' from all rail procurement contracts".[73]

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68 Australasian Railway Association, *Rail: Growing the Australian Economy. Six platforms to stimulate growth in the Australian rail industry*, November 2014, Executive Summary, https://ara.net.au/sites/default/files/pdf/6-Platforms-full-report-WEB.pdf (accessed 22 September 2017).

69 Australasian Railway Association, *Rail: Growing the Australian Economy. Six platforms to stimulate growth in the Australian rail industry*, November 2014, p. 3.

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

71 Rail Manufacturing CRC, *Submission 9*, p. 4.

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

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

Government / industry collaboration – Infrastructure Skills Centre

3.58 The NSW Infrastructure Skills Centre (ISC) was cited as an example of a collaborative partnership directed at providing infrastructure-focused training and skill development with integrated employment services. The centre is a response to a $73 billion infrastructure investment committed over a four year period by the NSW Government, to deliver major infrastructure, including rail; in addition to a $6 billion Commonwealth Government commitment over ten years to construct Sydney's second airport.

3.59 Designed as a collaboration between TAFE NSW, the Commonwealth Department of Employment, and Australia's largest public transport project – Sydney Metro – the purpose of the centre is to address gaps in infrastructure skills training and apprentice and trainee mentoring, as well as to provide direct access to jobs.[74]

3.60 As part of the program, many of the workers employed by Sydney Metro and its contract partners will undertake accredited pre-commencement training at the ISC. With more than 60 courses, workers can learn and earn on the job. In addition to skilling workers for Sydney Metro:

> It is anticipated the NSW ISC will address skills and jobs requirements across other major infrastructure programs such as the Western Sydney Airport and large construction projects such as Barangaroo, Darling Harbour, WestConnex, NorthConnex Parramatta Square and the Western Sydney Stadium.
>
> The delivery of the Sydney Metro Workforce Development program is part of a demonstration pilot with the NSW Department of Industry's Infrastructure Legacy Program. The NSW Infrastructure Skills Centre will support new industry entrants, existing workforces, apprentices and local communities well into the future.[75]

Investing in innovation

3.61 The committee was informed that there is a lack of in-house R&D expertise in rail manufacturing businesses that are receptive to the innovation imperative. It was noted, for example, that a 2011 ACIL Tasman report had found that less than one per cent of employees in the rail industry are scientists or researchers.[76] At a time when the high speed rail and inland rail projects are getting off the ground, and there are growing opportunities in the Asia-Pacific region, it is fundamentally important that Australian rail manufacturers invest in innovation. To this end, the RMCRC recommended the creation of a national Rail Innovation Hub which would be responsible to:

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74 TAFE NSW, Infrastructure Skills Centre, https://www.tafensw.edu.au/industry/infrastructure-skills-centres (accessed 27 September 2017).

75 TAFE NSW, Infrastructure Skills Centre, https://www.tafensw.edu.au/industry/infrastructure-skills-centres (accessed 27 September 2017).

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

> …coordinate the adoption of new technology and innovation, to assist the industry with strategic growth opportunities and to facilitate enhanced supply chain operation to benefit niche manufacturing businesses.[77]

Local innovation – MRX Technologies

3.62 Siemens Ltd recently acquired Perth-based MRX Technologies, a high tech company focused on visual inspection and condition monitoring of rail vehicles and rail infrastructure. Comprising an innovative team of scientists and engineers – with 100 employees in Perth and 40 in the UK – the company developed technology in Australia for export which predicts the moment when maintenance or repair is required.

> MRX Technologies has a comprehensive portfolio for digitalized condition monitoring of rolling stock components and rail infrastructure. It delivers extensive measurement data used to optimize the maintenance of rail systems and make them more cost-efficient.[78]

3.63 According to Siemens, the technology enables the minimisation of unplanned disturbances, and at the same time, operators and customers can benefit from predicable schedules.[79]

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

78 Siemens Acquires Perth Based MRX Technologies, *Press Release*, 26 June 2017, http://corporate.siemens.com.au/en/home/news-centre/press-releases/siemens-acquires-perth-based-mrx-technologies.html (accessed 26 September 2017).

79 Siemens Ltd, Additional Information provided on 12 September 2017, pp 2–3.

Chapter 4

Future of the industry

Barriers to growth and productivity

4.1 The following chapter reviews some of the barriers to the future growth and increased productivity of Australia's rail industry, which were identified by stakeholders. These issues include the current regulatory environment and the current progress of standardisation, and the need for further investment in technology and innovation. The chapter also examines the need for a national approach to infrastructure development, investment, procurement, research and development and workforce training.

Regulatory environment

4.2 As previously noted in this report, the fact that Australia's rail network operates across a large area – and frequently across multiple state access regimes – was identified by a number of stakeholders as a major barrier to growth and productivity.[1]

4.3 Chapter 2 outlined some of the key challenges to productivity in the rail industry and for rail users. It considered evidence from CBH regarding its attempts to secure a long term 'below rail' access agreement, which had a negative impact this process had had on the company's productivity and competitiveness. As a result of its experience, CBH argued that if Australian industry and consumers are to benefit from rail's natural efficiencies, a consistent regulatory framework – which would ensure more efficient price setting and performance monitoring – is required.

4.4 CBH submitted that this would permit the movement of goods across Australia (and for export) to be as cost-efficient as possible. CBH also expressed the view that an opportunity exists for the rail industry to support national rail access reform along the lines of a national rail access regime, modelled on the key principles provided in the current ARTC access undertaking.[2] Further CBH argued that:

> Not only would this provide fairer and more consistent regulation across Australia for users and operators, it would also lower regulatory imposts on above and below rail operators across Australia, improving Australia's competitiveness where rail is a link in export supply chains. By extension, this would increase opportunities for productivity and growth for Australia's rail manufacturing industry.[3]

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1 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.*

2 Cooperative Bulk Handling Group, *Submission 8,* [p. 4].

3 Cooperative Bulk Handling Group, *Submission 8,* [p. 4].

Investment in rail versus road

4.5 As noted in previous chapters, over the past fifty years population growth has had a major influence on the way Australia approaches the planning of cities, land use and transport. As the demand for passenger and freight transport services – both within and between urban centres – has continued to grow steadily, the pressure on transport infrastructure will also continue to increase over the coming years.

4.6 It is in this environment that decisions will be made about how much (and where) to invest in transport infrastructure. A key part of ensuring that decision-makers take rail into consideration – and recognise rail as a viable investment option – is for the 'true value of rail' to be identified and understood.

4.7 As previously noted, historically, much of the increased demand for transport services has been met by road. The committee was informed that for Australia's freight systems to operate efficiently (and to prevent passenger networks becoming overburdened by congestion) this trend cannot be allowed to continue – particularly as populations continue to grow.[4]

4.8 Despite Australia's historic preference for road transport, however, it was argued that rail is already price competitive with road in some areas of the transport network – particularly freight – and with improved infrastructure and/or suitable pricing signals – it could become even more competitive.

4.9 As the name suggests, the ARA's 2011 *The True Value of Rail* report provided a detailed analysis of the value of rail in Australia. The report's authors – Deloitte Access Economics – considered the level and type of investments required for rail to achieve its potential, and identified the benefits that could flow from increased rail use. Specifically, the report identified the type of benefits (that are not typically captured in prices) and which accrue to the community at large. Some of these benefits include the following:[5]

Passenger transport

- Road travel produces more than 40 per cent more carbon pollution than rail travel per passenger kilometre.
- Road transport generates almost eight times the amount of accident costs that rail transport does.
- In the longer term, high speed rail provides the potential to alleviate the pressures that will emerge in moving people between major cities and along east coast corridors, particularly as Australia's population grows.

Urban passenger transport

- An additional commuter journey by rail, reduces congestion costs alone by between around $2 and $7.

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4 Australasian Railway Association, *The true value of rail*, 31 August 2011, p. i.

5 The following section is based on information contained in Australasian Railway Association, *The true value of rail*, 31 August 2011, pp ii-iii.

- For every passenger journey made on rail rather than road in Australia's four largest cities, between $3 and $8.50 can be saved in congestion, safety and carbon emission costs.
- In Sydney, for example, if rail absorbed 30 per cent of the forecast increase in urban travel, then congestion, safety and carbon emission costs could be reduced by around $1 billion a year by 2025.

Interstate freight transport

- Heavy vehicle road freight users do not face the full maintenance costs that they cause. Under-recovery of these costs has been estimated at between $7,000 and $10,500 per truck each year.[6]
- Freight moved between Melbourne and Brisbane by rail instead of road reduces carbon costs by around $32 per container and reduces accident costs by around $92 per container.
- If rail was to achieve a 40 per cent share of the north-south freight corridor market, then savings, in terms of carbon pollution and accidents, would be around $250 million a year or $530 million a year by 2030.

Freight transport within urban centres

- A greater use of rail for freight within urban centres, especially, Sydney and Melbourne, will be needed to alleviate the increasing congestion on road networks. Environmental and safety benefits would also accrue.
- The NSW and Victorian Governments have recognised the need to develop more effective rail freight services within their cities and have set targets accordingly. These goals aim to ease congestion on arterial roads and improve use of existing rail infrastructure and port land.

4.10 It was submitted that the costs associated with congestion, carbon emissions and safety (as outlined above) will increase over coming years. Further, it was argued that:

> Increases in congestion costs are set to outpace the increase in either the size of the economy, the size of our cities or the size of our population. Policy makers are, therefore, faced with difficult decisions. Investment which recognises the value of rail could lead to significant benefits for Australia but these investments are large and can be administratively difficult.[7]

4.11 The ARTC acknowledged the historic and constant competition between rail and road transport. It noted that in addition to the barriers to entry into the freight rail industry being particularly high, new entrants face a number of additional challenges.

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6 According to the Productivity Commission, *Road and Rail Freight Infrastructure Pricing*, 2006 and the National Transport Commission Review Steering Committee, *Review of the National Transport Commission*, 2009.

7 Australasian Railway Association, *The true value of rail*, 31 August 2011, p. iii.

These challenges include the operation of a high fixed-cost business, the need for considerable capital outlay, the difficulty of attracting a skilled workforce, and a lack of capacity (terminal) as well as the task of becoming an accredited rail operator, which has:

> …traditionally been compounded by complex regulatory requirements that differ across jurisdictions and legislative compliance and access conditions, including route accreditation and audits. If new competitors establish they must maximise services to remain sustainable and given the fragmented end market in non-bulk sectors this can be a lengthy and costly process to achieve.[8]

4.12 Further, the ARTC indicated that both individually – and as a member of the FORG – it has lobbied for governments to prioritise measures to encourage efficiencies in the rail sector and create a level playing field between rail and road. The ARTC also argued that consideration should be given to opportunities for infrastructure investment with a view to improving rail productivity – particularly for short-haul rail transport – in addition to a review of environmental legislation, which differs across jurisdictions.[9]

4.13 The ARTC also expressed its strong support for the FORG's position that there is an urgent need for heavy vehicle road pricing reform as well as land preservation and terminal development.[10]

Research and development, technology and innovation

4.14 A number of stakeholders told the committee that it is vital the Australian rail manufacturing sector finds ways to increase its export offerings, and argued that the key to increasing Australia's competitiveness and expanding export opportunities is innovation.[11]

4.15 Governments, it was argued, also have a role to play in supporting innovation. As the industry transitions to a new, more modern manufacturing model, governments can ensure that:

> …tenders for rolling stock mandate a level of innovation in the procurements sought, in exchange for supportive government procurement policies and local content requirements, as well as significant investments through grant programs.[12]

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

9 Australian Rail Track Corporation , *Submission 18,* p. 5.

10 Australian Rail Track Corporation , *Submission 18,* p. 5.

11 See for example, Rail Manufacturing CRC, *Submission 9,* p. 5, Australasian Railway Association, *Submission 7,* The Australia Institute, Centre for Future Work, *Submission 10* and Australian Workers' Union, *Submission 12.*

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

4.16 Australian rolling stock manufacture continues to move toward building products that comply with global standards.[13]

4.17 RMCRC argued that this approach – which seeks an 'innovation dividend' from government procurements – will:

> …help drive industry to greater collaboration on the development of new technology in rail manufacture, thereby increasing those businesses' capacity to compete on the global stage.[14]

4.18 It was noted that governments have made a "strong suite of programs available to support collaboration between industry and research organisations", which has been bolstered by the Commonwealth's $1.1 billion *Innovation and Science Agenda* and other Commonwealth and state programs (including Cooperative Research Centres). Despite these programs however, RMCRC observed that "there remains a reluctance in rail manufacturing businesses to seize the opportunity to invest in innovation".[15]

4.19 Stakeholders acknowledged that the rail industry will need to face a number of critical challenges if it is to modernise and innovate.[16] The committee heard that in the rail manufacturing industry, there is a connection between the lack of investment in rolling stock and a lack of commitment to innovation. The uncoordinated nature of rolling stock orders and the 'stop-start' cycle of production present a disincentive to investment and R&D.

4.20 A lack of in-house R&D expertise in manufacturing businesses has, in itself, created barriers to innovation. Over the coming years, this will present a significant challenge to government attempts to encourage and support innovation.

4.21 It was noted that the 'innovation challenge' within public policy – particularly for traditional manufacturing sectors such as rail – has not been given sufficient attention. Further, it was argued that while traditional businesses do not necessarily have the cache of a start-up, they often have a proven track record, and strong prospects for the future. What may be required, however, to achieve optimum innovation outcomes are different 'drivers'.[17]

4.22 The RMCRC told the committee that it would be a "tragedy for the Australian rail manufacturing industry" if, by the time the High Speed Rail and Inland Rail projects are realised, the required rolling stock could not largely be produced by Australian rail manufacturers.[18]

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

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

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

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

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

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

4.23 The role of the RMCRC is to "foster innovation in the rail manufacturing industry by facilitating collaborative research projects" between industry and research participants.[19] The committee was informed that, as part of the RMCRC's brief, a number of co-funded projects are being undertaken in the areas of passenger information systems, energy efficiency and automation. These projects are consistent with the RMCRC's three research themes:

- Power and Propulsion;
- Materials and Manufacturing; and
- Design, Modelling and Simulation.

4.24 The RMCRC reported that these projects involve collaboration between rail manufacturing companies and a number of Australia's public research institutions, including the CSIRO, University of Technology Sydney, Central Queensland University, University of Wollongong, Queensland University of Technology, Monash University, Deakin University and RMIT. The RMCRC indicated that it had also approached manufacturers who were not necessarily part of the rail supply chain to engage with its 'Rail Innovation Gateway Program' and offered to facilitate co-funded projects with a broader range of manufacturing businesses.[20]

4.25 The committee was told that these co-funded projects, which have been set up to benefit the rail sector and increase innovation in Australian rail products, are a positive beginning. The RMCRC argued however, that despite these positive beginnings, it:

> …believes that the imperative of bringing more innovation to rail manufacturing extends beyond the mandate and capacity of the Centre's and state government policy initiatives, requiring a nationally coordinated approach from the Australian Government.[21]

4.26 Further, it was argued that it is critical that the rail manufacturing sector be supported now by way of minimum requirements for local content of manufacture – including materials, skills and innovation. With this type of support across all states and territories, Australian rail manufacturing could transform to become a strong and sustainable domestic industry. By taking advantage of the growing markets in the Asia-Pacific region, the Australian industry could also become an export success story.[22]

Technology

4.27 The committee received evidence regarding the positive impact that technology will continue to have on Australia's rail industry.

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

20 Rail Manufacturing CRC, *Submission 9*, p. 8.

21 Rail Manufacturing CRC, *Submission 9*, p. 8

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

4.28 The ARTC argued that governments should be focussing on ways to lower the unit cost of rail freight transport and improve efficiency and productivity across the sector. It made the point that "technology will continue to play a key role in improving freight rail efficiencies". Further, it was argued that:

> In recognising the reliance and future dependence on technology in the industry, particularly in a globalised market, the Australian Government should consider ways to better understand the challenges this era will bring and opportunities that can be exploited now to bring forth meaningful change in the future.[23]

4.29 Stakeholders told the committee that technology can also play a role in terms of improving workforce productivity.

4.30 The ARTC for example, argued that "strategies to improve and lift workplace productivity are a priority for the industry and should be supported by government incentives". Further, it was suggested that improvements in this area could be made through schemes that encourage the development and use of innovative processes and systems, and in the take-up of new technology, including the trial of emerging technologies.[24]

4.31 The ARTC also argued that the technology around driverless vehicles is improving rapidly and it is conceivable that rail will be competing with driverless trucks in the foreseeable future. The ARTC recognised a need for additional focus and resources to be placed on supporting investments in automated rail technology.

4.32 With this in mind, the ARTC indicated that, to remain competitive, it has been developing a new communications based safe-working system – the Advanced Train Management System (ATMS) – which should be ready for roll out within the next few years. The ARTC pointed to the ATMS as an example where government has provided seed funding for a project that has the potential to revolutionise the freight rail industry across the interstate network. The project has also been listed as a priority initiative by Infrastructure Australia on its National Infrastructure Priority List. [25]

4.33 DIRD also stressed the importance of technological developments, knowledge and expertise to the sustainability of Australia's rail manufacturing sector. The department submitted that:

> Small to medium businesses have remained viable by targeting the production of technically sophisticated and high quality products. Component manufacture, installation and fit-out and maintenance are the main activities in the market. This work is likely to stay in Australia whereas the import of lower value-added products such as rolling stock shells is likely to increase. Several export opportunities will exist over the next five years with rail manufacturing consulting having the highest potential for significant growth due to valuable intellectual property

23 Australian Rail Track Corporation, *Submission 18,* p. 5.

24 Australian Rail Track Corporation, *Submission 18,* p. 5.

25 Australian Rail Track Corporation, *Submission 18,* p. 5.

> developed by Australian firms. These firms should be able to generate revenue by providing specialist advice on foreign projects and, in some cases, take part in component manufacturing.[26]

Rail Innovation Hub

4.34 A number of stakeholders addressed the issue of government procurement, and the ways it can be used to overcome some of the barriers to growth and productivity.[27] It was argued that increased integration of advanced manufacturing principles and the application of new technology would provide part of the solution.

4.35 The RMCRC emphasised that national coordination and leadership are also key, and made a number of recommendations in this regard, including the creation of a national Rail Innovation Hub. It was argued that a Rail Innovation Hub could be tasked with coordinating the adoption of new technology and innovation, assisting the industry with strategic growth opportunities and facilitating enhanced supply chain operation to benefit niche manufacturing businesses.[28]

National coordination

4.36 In undertaking this inquiry, the committee examined the ways in which greater national coordination across the industry could provide benefits to both the rail industry and the Australian economy.

4.37 Stakeholders, such as the RMCRC, emphasised the need for national coordination and leadership, to assist rail businesses to take advantage of the increased demand for rolling stock "by re-capitalising, moving towards global manufacturing standards and investing in R&D through the suite of government co-funding programs on offer".[29]

4.38 The economic benefits of a nationally coordinated approach to rail manufacturing standards and rail procurement projects were identified by the Taig Review. In addition to the impact a lack of harmonisation has on Australia's rail network, however, there are also consequences for the railway supply industry – particularly in relation to issues of scale. The Taig Review argued that:

> A major driver for the establishment of European Technical Standards for Interoperability has been to increase the scale of the markets available into which European manufacturers can supply. In many ways, Australia almost seems to "out-Europe Europe" in terms of how different the railways are from those in adjoining territories. While there may be short-term pain in

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26 Department of Infrastructure and Regional Development, *Submission 14*, p. 9.

27 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.*

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

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

> adapting to more harmonised standards, the long-term benefit for the supply industry would be considerable.[30]

4.39 The Taig Review also found that, at the time, governments were not as committed to achieving the level of harmonisation the RISSB (and others) were seeking to attain. Taig submitted that there were substantial barriers to harmonisation; including the high levels of autonomy within individual states and railway organisations, and the significant amount of investment already made in the existing systems.[31]

4.40 The review concluded that governments have a critical part to play in breaking down these barriers:

> The introduction of a national rail safety regulator (due to commence operation from January 2013) should provide a good focus for addressing some of these issues, particularly in relation to providing a clearer picture of national safety performance. It should provide a clear, strong focal point for providing safety regulatory input into the standards development process, and into prioritising the safety outcomes and standards that RISSB should be helping to achieve.[32]

4.41 As the rail industry looks for ways to increase employment opportunities, improve efficiencies, increase productivity and innovation and identify market opportunities, Australia continues to take a more integrated approach to transportation.

4.42 Recently, the ARA argued that Australia's rail industry currently "stands at the nexus between the opportunities presented by the significant and ongoing investment in systems and infrastructure". It was noted that the challenges posed include ageing infrastructure, an ageing workforce and the historical separation of rail into discrete state-oriented networks.[33] At the same time the ARA issued a warning that:

> The way in which these challenges are addressed will determine the value derived from the current and future investment.[34]

Standardisation and harmonisation

4.43 As noted throughout the inquiry, the lack of standardisation (or harmonisation) is an historic legacy which is problematic in and of itself. What has made this situation even more problematic, however, is the fact that Australia does not

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30 The Taig Review: TTAC Limited, *Review of the Rail Industry Safety and Standards Board and its MOU with the Governments*, June 2012, p. 15.

31 The Taig Review: TTAC Limited, *Review of the Rail Industry Safety and Standards Board and its MOU with the Governments*, June 2012, p. 16.

32 The Taig Review: TTAC Limited, *Review of the Rail Industry Safety and Standards Board and its MOU with the Governments*, June 2012, p. 16.

33 Australasian Railway Association, *A National Rail Industry Plan for the Benefit of Australia*, September 2017, p. 8.

34 Australasian Railway Association, *A National Rail Industry Plan for the Benefit of Australia*, September 2017, p. 8.

have a single market for rolling stock, but rather one which consists of six states and two territories.

4.44 Stakeholders, including the RMCRC, told the committee that resolving this issue for industry would be a vital step toward greater international competitiveness. It was noted that progress has been incremental, limiting the capacity (and capability) of Australia's rail manufacturing industry, to move from a low volume, high labour, niche production model to a more modern, global production model.

4.45 The RMCRC submitted that a Rail Industry Advisor position should be established to drive innovation and global competitiveness in the Australian rail industry. It further recommended that the Rail Industry Advisor (or equivalent function) be tasked with progressing national rail standards for rolling stock in the Australian market.[35]

4.46 The AMWU made the point that the current approach to harmonisation has failed to deliver, and argued that reform of the rail manufacturing sector is vital – particularly if the industry is to have any chance of achieving the 19 per cent market gains which were predicted by the Taig Review.

4.47 Further, the AMWU argued that if the primary structural "deficiencies are tackled 'head-on' the gains appear large",[36] and suggested that a more ambitious (and likely productive) approach could:

> …come from a move to fully standardise PT [public transport] rail procurement, manufacturing and maintenance through a national model of cooperative management and ownership, probably with multiple State and Commonwealth shareholders, as per national freight reform in Australia in the early 1990's; this would also align the sector with the national standards that govern civil aviation, or maritime safety. This would also better align with the UK and French national models, for example.[37]

Procurement guidelines

4.48 Stakeholders argued that there were various ways government procurement can be used to break down some of the barriers to growth and productivity in the rail industry. These included the increased integration of advanced manufacturing principles and the application of new technology. A significant number of stakeholders also cited the development of a nationally consistent set of procurement guidelines as one of the ways in which the Commonwealth could improve efficiencies across the Australian rail network – particularly in relation to Australia's procurement and manufacture of rolling stock.[38]

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

36 Australian Manufacturing Workers' Union, *Submission 11*, p. 20.

37 Australian Manufacturing Workers' Union, *Submission 11*, p. 20.

38 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*.

4.49 The RMCRC argued that unlike many other industries, procurement of rail products and the bulk of freight transport is, on the whole, dominated by "public procurement principles". The market for rail products is dominated by passenger rail, tram and freight operators – mainly governments – with "their accompanying public policy objectives".[39] In addition to reiterating that the rail sector would benefit from an increased focus on R&D and innovation, the RMCRC told the committee that:

> Governments can offer incentives to adopt innovation, such as the co-funding of projects through CRC's but for public policy levers to all be focused in the same direction, the Rail Manufacturing CRC believes that public procurement policy is necessary to reinforce this objective by including criteria that give weighting for the adoption of innovation to assess tenders for future rail-related procurement.
>
> As the Australian economy transitions towards knowledge-based industries, the low level of innovation in rail is a key challenge for the rail manufacturing sector that needs to be addressed by both rail businesses and in government procurement policies.[40]

4.50 The CFW reflected on the broader economic and financial consequences of public procurement and the impact these decisions have on the rail sector. Specifically, the CFW argued that awarding railway equipment contracts to Australian-based suppliers "generates significant direct and indirect economic benefits, including a significant fiscal return to government itself". It was stressed that the indirect, second-order impacts should be taken into consideration when awarding procurement contracts, in order "to best maximise the comprehensive net benefits to Australians of those decisions".[41]

4.51 The CFW argued that a process of joint decision making by the two levels of government would help to ensure that procurement decisions take into consideration the full net benefits of infrastructure investments. Alternatively, it was suggested that the Commonwealth could impose domestic content provisions on procurement purchases made with Commonwealth support. It was argued that this would further influence state decision-making to ensure that the positive outcomes of domestic sourcing (some of which are received by jurisdictions other than the state making the actual decision) are maximised.[42]

4.52 The CFW articulated the strong view that domestic sourcing of railway equipment procurement generates significant direct and indirect benefits to multiple Australian stakeholders – including the government sector itself. Further, it argued that with active coordination and leadership – as opposed to the passive issuing of multi-billion dollar contracts solely on the basis of lowest price – Australia has the capacity to convert future important investments in passenger rail transportation into

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39 Rail Manufacturing CRC, *Submission 9*, p. 8.

40 Rail Manufacturing CRC, *Submission 9*, p. 8.

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

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

substantial economic benefits.[43] With this in mind, the CFW made the following three recommendations regarding procurement:

- the Commonwealth and state governments in Australia should develop a broader framework for future rolling stock procurement, in order to realise maximum efficiencies from economies of scale and coordinate future public transport procurement;
- the Commonwealth Government should assist state governments to make appropriately inclusive procurement decisions by establishing reasonable domestic content guidelines for public transit purchases; and
- direct procurement decisions for railway equipment should be made on the basis of a cost-benefit analysis of the full economic and fiscal implications of alternative sourcing options, including: direct and indirect spill-overs of sourcing decisions on Australian employment; output; incomes; and tax revenues in the railway manufacturing sector, its supply chain; and downstream consumer goods and services industries.[44]

4.53 The RISSB's Chief Executive Officer, Mr Paul Daly, agreed that all governments – not just the Commonwealth – have a role to play in this area and argued that procurement is probably the largest 'lever' that governments have at their disposal. Mr Daly suggested that the Commonwealth could certainly look at both its procurement strategies and the standards under which rolling stock is purchased and manufactured, and added that:

> …the vast majority of the suite of products that we are piloting right now but could produce—as I said, there are 40 to 50 different parts within that—are provided by smaller manufacturing companies here in Australia. In the past, the large shells have generally been built in India or China and then brought across to Australia for fit-out. A lot of that can be done through having a procurement program that is going to run for more than a five-year roll. Having a 30-year roll also allows manufacturers to set themselves up to say: 'Okay, we know there's going to be a run of 30 years. We can establish economies of scale in our manufacturing. We don't have to set up a run that's only going to last for three years and then break it all down and start again in five years' time for another one.' So having that strategy in place that says industry needs 100, 200 or 300 vehicles over the next 20 years will be one of them.[45]

4.54 The RISSB CEO acknowledged that the purchase of rolling stock is generally a state responsibility, but at the same time suggested that the Commonwealth and the states may be able to find some common ground through forums such as the Transport

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43 The Australia Institute, Centre for Future Work, *Submission 10*, p. 16.

44 The Australia Institute, Centre for Future Work, *Submission 10*, p. 16.

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

and Infrastructure Council (TIC) meetings. Mr Daly submitted that agreeing on the standards by which rolling stock would be built would also assist industry (at the supplier level) and to some degree the rail operators.[46]

4.55 The matter of government-imposed conditions on funding was also explored. When asked whether it would be reasonable for governments to place conditions for funding around procurement, and a requirement for specific standards, Mr Daly indicated that:

> Many governments have always used the funding lever to do that. Commonwealth governments and state governments have done it with construction for 20 or 30 years; there must be a certain amount of Australian input and the like. I see no barrier to governments having requirements to their specifications, as a precursor to tendering and then winning the project. Others who speak after me may have other views in that space, but from the harmonisation of the industry area, working within RISSB's remit, we see no obvious barrier to industry working with governments going down a path that says these rolling stocks or this infrastructure will be at a certain level and using certain standards, in the same way as they do their operations today.[47]

4.56 The question of whether industry – particularly the manufacturing sector – would be prepared to support this type of approach was more difficult for Mr Daly to respond to. Mr Daly did, however, indicate that the RISSB had generally received a positive response from those manufacturers with whom this issue had been discussed. Further, Mr Daly told the committee that:

> Some of them are on our development groups for the pilots of the harmonisation guidelines. In that respect, industry in the supply section is welcoming the guidelines we are putting forward. But I haven't spoken to all of industry across all of the suppliers, so I'm not able to sit here with hand on heart and give you an absolute yes, no, or maybe. But the support we've had for the development of the pilots has been encouraging so far.[48]

The Asia-Pacific market

4.57 A number of stakeholders reflected positively on Australia's ability to supply export markets, and argued that despite the current low level of exports in the rail manufacturing sector, Australia is, in fact, in a sound position to become part of the global supply chain.[49]

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

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

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

49 See, for example Rail Manufacturing CRC, *Submission 9*, p. 5, and Department of Industry, Innovation and Science, *On Track to 2040: Preparing the Australian rail supply sector for challenges and growth*, 2012.

4.58 The RMCRC was particularly positive about Australia's capacity to export expertise and equipment, and argued that given its close proximity to expanding Asia-Pacific markets, Australia is well placed to tap into the global supply chain that will service these markets. The RMCRC submitted that:

> The location of global rail manufacturing companies including Bombardier Transportation, UGL, Downer, and Faiveley Transport in Australia creates a strong foundation for developing greater export opportunities into the Asia-Pacific region as these companies leverage Australian manufacturing expertise into growing markets.[50]

Smoothing out the peaks and troughs – continuity of work

4.59 As noted previously, stakeholders identified the 'peaks and troughs' of demand experienced across the rail manufacturing sector, as a significant problem across all states. A number of stakeholders made it clear that if Australia is to have a thriving, efficient and sustainable rail manufacturing sector into the future, solutions will need to be found to the 'lumpy', 'peak and trough' nature of demand.[51]

4.60 It was argued that the benefits of consistent work cannot be overstated, and that in addition to supporting Australian jobs, regional development and higher productivity, it would "result in a more functional and well-coordinated supply chain and increased innovation for the industry".[52]

4.61 Rail manufacturing worker, Mr Phillip Walters, described the NSW State Government's procurement policy as 'ad hoc' and 'feast or famine'. Mr Walters pointed to the negative impact the policy currently has on manufacturers, workers and their families, local parts suppliers and the regional community. He explained that:

> Newcastle currently has two rolling stock manufacturers which have both retrenched hundreds of highly skilled workers in the past couple of years. These manufacturers are now tendering to supply passenger rail cars fully built overseas due to a state government procurement policy that demands a large amount of rail cars be built and delivered in a relatively short period of time.[53]

4.62 Mr Walters argued that this type of procurement policy leads local manufacturers to source rail cars from overseas. In turn, this means that local manufacturers become nothing more than middle men and service and warranty agents, resulting in the direct loss of hundreds of jobs.[54]

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

51 See for example, Australian Manufacturing Workers' Union, *Submission 11*, Victorian Department of Economic Development, Jobs, Transport and Resources, *Submission 19*, The Australia Institute, Centre for Future Work, *Submission 10* and Queensland Department of Transport and Main Roads, *Submission 15*.

52 Australasian Railway Association, *Opportunities for Greater Passenger Rolling Stock Procurement Efficiency*, September 2013, p. 3.

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

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

4.63 The uneven distribution of manufacturing work concentrates risks, expertise and innovation rather than allowing for even dispersal across the supply chain. The RMCRC stressed, therefore, that creating a more even distribution of work, through and integrated supply chain, would:

> …be of great benefit to the efficiency of rail manufacturing by spreading risk and building expertise in niche industry suppliers. The key to delivering this more balanced distribution throughout the rail industry supply chain is through an increased pipeline of rolling stock orders combined with a more integrated supply chain that results in a more even demand curve.[55]

4.64 This issue was considered by a 2013 report commissioned by ARA. The report argued that failing to address inefficiencies in the rail manufacturing sector will, ultimately, have a negative impact on the Australian rolling stock manufacturing base. Further, it was submitted that there is increasing pressure on domestic rolling stock manufacturing, and a risk that all production could be sourced internationally. The authors suggested, however that based on their consultation with industry:

> …smoother demand could assist in relieving some of this pressure and in turn, assist in retaining some production domestically. If domestic production could be maintained at 30% of the value of future rolling stock orders, this would equate to approximately $15.5 billion in economic activity that could be retained over the next 30 years.[56]

4.65 It was noted that this economic activity would be concentrated in specific areas, including regional towns such as Newcastle and Maryborough and in metropolitan areas such as Auburn and Dandenong.[57]

The need for a national plan

4.66 Historically, the rail industry has been a vital part of Australia's manufacturing sector. Evidence to the inquiry, however, clearly indicates that the rail manufacturing sector is "facing a crossroad".[58] Estimates suggest that over the next three decades, state governments could spend approximately $30 billion on procuring rolling stock.[59] This represents a significant opportunity, and one which the rail industry needs to be prepared to take advantage of.

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

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

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

58 Australasian Railway Association, *Opportunities for Greater Passenger Rolling Stock Procurement Efficiency*, September 2013, p. 3. See also, Rail Manufacturing CRC, *Submission 9*, p. 2.

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

4.67 The RMCRC is just one of many stakeholders to argue that the Australian rail manufacturing sector is at a critical juncture. Many stakeholders also agreed with the RMCRC that:

> …given the right policy settings, backed by government investment and business willingness to take advantage of these, Australia could have a strong and sustainable rail industry that will serve its population well regarding job creation and economic development. This scenario hinges on rail businesses seizing the opportunity afforded by a strong pipeline of investment to modernise and increase their competitiveness during this period of likely rail transport expansion.[60]

4.68 It is clear that there is a need for improved coordination and planning across governments. Providing the rail industry with the opportunity to identify efficiencies would also allow governments to realise direct procurement savings over the next 30 years. It is also clear that by avoiding small orders, increasing the commonality across rolling stock platforms and componentry, and by providing rail businesses with more consistent work, significant savings can be accrued.

4.69 The ARA submitted that rail's contribution to Australia is no less than that of shipbuilding, particularly as Commonwealth, state and territory governments all have a stake in developing an efficient rail system. It argued, therefore, that an appropriate plan to coordinate the efforts of governments is essential.[61]

4.70 With these issues in mind, the ARA made the case for the development of a National Rail Industry Plan. The ARA pointed to a proposed investment in rail (by Australian governments) of $100 billion through to 2030.[62] It was noted that, by comparison, the Commonwealth is proposing to invest $89 billion in naval shipbuilding through to 2055 and this investment will be supported by a Naval Shipbuilding Plan. [63]

4.71 It was acknowledged that specific requirements may differ depending on the type of activity being undertaken. For example, passenger and freight operators will each have their own agendas and suppliers and contractors will have their own distinct requirements and diverse measures of success. Stakeholders made it clear, however, that the focus of any national plan for the rail industry should strive to achieve best practice, and be relevant to all sectors of the Australian rail industry.[64]

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

61 Australasian Railway Association, *A National Rail Industry Plan for the Benefit of Australia*, September 2017.

62 Australasian Railway Association, *A National Rail Industry Plan for the Benefit of Australia*, September 2017.

63 Australasian Railway Association, *A National Rail Industry Plan for the Benefit of Australia*, September 2017.

64 Australasian Railway Association, *A National Rail Industry Plan for the Benefit of Australia*, September 2017. See also, Australasian Railway Association, *Submission 7,* Australian Manufacturing Workers' Union, *Submission 11* and Australian Workers' Union, *Submission 12.*

4.72 It was also argued that, regardless of any differences, rail should remain at the centre of planning and rail should be a priority in the areas of town planning; including precincts for education, health, administration and community. As a central part of the national transport system, rail has an impact on both urban and regional development. As such, rail needs to match population movements – in cities, growth corridors and regional centres.

Australian best practice – Victoria

4.73 The committee received a large number of submissions which provided positive commentary on the Victorian Government's approach to its rail industry.[65]

4.74 The Victorian Government's submission acknowledged that historically, the market for new rolling stock procurement has been characterised by small, short term, one-off orders, with no national coordination. Further, it was argued that this approach has been incurring a 30 per cent premium across all rolling stock procurement.[66]

Victorian policy

4.75 Over the past ten years, Victoria has seen a significant rise in the use of public transport – particularly on its metropolitan rail network. In 2015, the Victorian Government released its *Trains, Trams and Jobs*: *Victorian Rolling Stock Strategy: 2015-2025*. The strategy outlined the Victorian Government's "intention to grow jobs, provide certainty, develop capacity and increase investment" by using its capabilities in the building of rail rolling stock. In 2016, the Victorian Government followed up with its *Victoria's Future Industries: Transport Technologies Sector Strategy*, the aim of which is to "accelerate industry growth through government procurement".[67]

4.76 The Victorian Government's 2016 policy aims to ensure:

- a minimum 50 per cent local manufacturing content requirement will be applied to the procurement of transport-related products and services; and
- an examination of ways to design government contracts to accelerate the uptake of new technologies and adopt leading environmental and safety standards.[68]

4.77 As noted in the previous chapter, all Victorian Government procurement activities are also underpinned by the VIPP under which:

- local content requirements are now set for projects valued over $50 million;

65 See, for example, Mr Andrew Peach, *Submission 1* [p. 1] and Mr Shaun Goss, *Submission 3* [p. 1].

66 2011 Deloitte Access report, cited in Victorian Government, *Submission 19*, p. 3.

67 Victorian Government, *Submission 19*, pp 3-4.

68 Victorian Government, *Submission 19*, p. 4.

- commitments to local industry development and supply chain engagement are considered in the tender process; and
- projects valued over $20 million are required to use local apprentices, trainees or engineering cadets for at least ten per cent of the total estimated labour hours (under the Major Projects Skills Guarantee).[69]

4.78 The Victorian Government argued that since 2015, the state has added hundreds of jobs, billions in procurement and millions more in investment. It was also noted that in early 2017, Victoria passed legislation which established Transport for Victoria as the agency which would be responsible for the integration and coordination of the planning, management and delivery of all transportation services across the state. Since March 2017, the rolling stock industry in Victoria received an additional $500 million through the budget process, which represents:

- 39 new VLocity carriages for the regional network;
- diesel multiple units made by Bombardier in Dandenong;
- 10 new E-class trams and associated infrastructure (made by Bombardier in Dandenong); and
- safety, amenity and structural upgrades to the V/Line classic fleet.[70]

4.79 Ms Wendy McMillan, Chief Executive Officer, Transport for Victoria, submitted that whilst new procurements are an important element of what the Victorian Government has budgeted for – 'maintenance uplift' or what you are actually doing to your existing fleets – represents a very important component of the Government's strategy. Ms McMillan told the committee that:

> The budget also provided over $300 million for high priority major periodic maintenance works on the regional rail network. This is critical [to] below rail conditions that we need to run our rolling stock on. Furthermore, the government has developed the Regional Rail Revival package comprising projects to address frequency and reliability on the regional network.[71]

4.80 The Victorian Government argued that investment in the rail industry requires procurement certainty, which comes from the delivery of a long term pipeline of projects. Further, it was noted that the Victorian Government is now working to attract global investment into its rail sector by targeting investment opportunities that "introduce new technologies and capabilities into the local market" and capitalise on the skills held by the local manufacturing industry.[72]

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69 Victorian Government, *Submission 19*, p. 4.

70 Ms Wendy McMillan, Transport for Victoria, Department of Economic Development, Jobs, Transport and Resources, *Committee Hansard*, 16 June 2017, p. 20.

71 Ms Wendy McMillan, Transport for Victoria, Department of Economic Development, Jobs, Transport and Resources, *Committee Hansard*, 16 June 2017, p. 20.

72 Victorian Government, *Submission 19*, p. 7.

4.81 It was submitted that a recent example of a successful investment opportunity is the China Railway (CRRC) Australian headquarters, being established in Melbourne in 2017. It was argued that this is a direct consequence of the successful High Capacity Metro Trains tender process, where the Evolution Rail consortium was appointed. The membership of Evolution rail includes the world's largest rail manufacturer, CRRC and Australian rail contractor Downer Rail.[73]

4.82 In addition to developing rail rolling stock procurement strategies, the Victorian Government continues to advocate for the creation of a national market for transport-related products and services. The Victorian Government has also been working with COAG's Ministerial Transport and Infrastructure Council to deliver a 'smoothed', long-term order pipeline across Australian jurisdictions.[74]

Training for the Future – skills initiative

4.83 Training for the Future is a Victorian Government skills initiative which aims to address skills shortages in the rail sector and ensure that there are sufficient trained workers to meet the needs of the industry into the future. Training for the Future is a joint initiative of the Level Crossing Removal Authority and the Melbourne Metro Rail Authority; with support from Metro Trains Melbourne, Public Transport Victoria and other industry partners.[75]

4.84 It was noted that the Level Crossing Removal Authority and the Melbourne Metro Rail Projects provide significant training opportunities for workers from disadvantaged backgrounds and are reskilling workers from industries that are currently in decline. The Training for the Future initiative is currently being undertaken at the Rail Academy Newport (located in Newport, Victoria) which was established in 2007. The training provided at the facility includes:

- graduate programs in design, electrical engineering, signalling and other industry-specific disciplines;
- signal technician apprenticeships, railways signalling engineer cadet program;
- track safe working programs;
- train driver training;
- overhead train and tram training;
- rail tack vehicle training; and
- linesman training.[76]

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73 Victorian Government, *Submission 19*, p. 7.

74 Victorian Government, *Submission 19*, p. 7.

75 Website: https://www.railskillscentre.com.au/index.php?page=Abt-Us, accessed 9 October 2017.

76 Website: https://www.railskillscentre.com.au/index.php?page=Abt-Us, accessed 9 October 2017.

4.85 The RMCRC indicated that it has made a number of submissions to the Victorian Government on issues relating to innovation and industry policy in rail manufacturing. The RMCRC noted that the discussion papers it has provided to the Victorian Government have been particularly relevant, given the Victorian Government's commitment to the domestic rail industry – particularly through its Industry Participation Policy – which mandates a policy of 50 per cent local content in rolling stock purchases as well as a pipeline of investment in rolling stock.[77]

4.86 New South Wales rail industry worker, and AMWU Delegate – Mr Darren Mitchell – submitted that:

> The Victorian Government has done the right thing for the people of their state by having a 50% minimum local content on all of their rolling stock projects. With the more local content the more likely the bidding companies are to win this work. Well done to the Victorians.[78]

4.87 Another New South Wales rail industry worker, and AMWU delegate – Mr Shaun Goss – echoed those comments and noted that in addition to the 50 per cent minimum local content rule, the Victorian Government had developed a 10 year build plan, which he argued was a "great result for rail workers and their families".[79]

The ARA's proposed National Rail Industry Plan[80]

4.88 In outlining its National Rail Industry Plan, the ARA explained that its primary objective would be to "obtain maximum economic growth, efficiency, productivity and social benefits from the substantial investments currently being made".[81] Other issues taken into consideration by the plan would be:

- the areas of growth and employment;
- individual and company capabilities;
- productivity and innovation;
- integration of transport modes;
- local and export market opportunities;
- housing options; and
- ways to provide the rail industry with greater certainty into the future.[82]

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

78 Mr Darren Mitchell, *Submission 4*, [p. 1].

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

80 The following section is based on information contained in Australasian Railway Association, *A National Rail Industry Plan for the Benefit of Australia*, September 2017, pp 10-16.

81 Australasian Railway Association, *A National Rail Industry Plan for the Benefit of Australia*, September 2017, p. 7.

82 Australasian Railway Association, *A National Rail Industry Plan for the Benefit of Australia*, September 2017, p. 7.

4.89 The ARA pointed to a recently-commissioned report by Deloitte Access Economics and argued that the *Value of Rail Report* not only details the contribution rail makes to Australia, but is "most compelling in laying plans for the future". Further, it was argued that a collaborative approach – which engages Commonwealth, state and territory governments – "can build on these attributes and serve to overcome the inefficiencies inherent in our current state-based systems". It was noted that there would also be opportunities for key government agencies – including Infrastructure Australia – to feed into this type of collaborative process.[83]

4.90 On a practical level, the ARA acknowledged that coordinating Commonwealth, state and territory governments – all with differing priorities and political aspirations – into one national endeavour will be a challenge. Further, the ARA argued that the Council of Australian Governments (COAG) should not be the body to oversee this undertaking. Rather, the ARA suggested that the TIC – which brings Commonwealth, state and territory transport minister's together – would be the most appropriate body to endorse the National Rail Industry Plan concept and undertake the oversight role.[84]

4.91 The ARA submitted that not only is there a degree of urgency around developing a national plan, but that an agenda for developing the plan would need to be wide-ranging and would require specialist input from a range of stakeholders. The ARA argued that while there may be various options to achieve traction for a national plan, a declared commitment and goodwill among stakeholders will be fundamental to achieving this goal, the options for which include:

- establishing a specific rail industry 'coordinating' or 'implementing' body to work cooperatively for the purposes of the plan; or
- establishing an 'authority' with appropriate legislative support.[85]

A national approach – UK example

4.92 The ARA suggested that in developing a national rail plan, stakeholders should consider the approach that is being pursued successfully in the United Kingdom (UK).

4.93 Currently in the UK, the rail industry and the Government have jointly pledged to make the UK a global railway leader. To assist in achieving this goal, a Rail Supply Group – co-chaired by an industry leader, the Secretary of State for Transport and the Secretary of State of Business Innovation and Skills – has been formed. The UK Government and the rail industry worked together to produce *Fast Track to the Future – a strategy for productivity and growth in the UK rail supply*

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83 Australasian Railway Association, *A National Rail Industry Plan for the Benefit of Australia*, September 2017, p. 7.

84 Australasian Railway Association, *A National Rail Industry Plan for the Benefit of Australia*, September 2017, p. 8.

85 Australasian Railway Association, *A National Rail Industry Plan for the Benefit of Australia*, September 2017, p. 9.

industry. The strategy, which has become the UK's Rail Industry Plan, documents the UK Government and industries' pledge, contains productivity building blocks, sector strategy initiatives, and an across-the-board list of action plans, which are refreshed annually and tracked out to 2020. The ARA noted that not only is the UK's plan comprehensive, it also has a number of parallels with the Australian rail environment (and what can be done to enhance rail's contribution to the Australian economy).[86]

4.94 In addition to the focus of a national plan being relevant to the rail industry as a whole, the ARA asserted that for tangible progress to be made, the agenda must also be manageable. Accordingly, the focus proposed for the plan includes the following five key requirements:

- recognising the importance of rail for Australia's infrastructure development, urban planning and freight movements;
- harmonising standards, minimising regulations and maximising economies of scale;
- growing capabilities of individuals and companies;
- maximising opportunities for rail companies; and
- fostering innovation, research and development.[87]

4.95 The ARA pointed out that these are complex issues which all stakeholders should have the opportunity to examine and discuss, with a view to determining the best way forward for the whole industry. With that in mind, the ARA's paper *A National Rail Industry Plan for the Benefit of Australia* clearly sets out the types of issues all stakeholders should take into consideration before reaching agreement on the actions required and who will take responsibility for them – whether it is industry, government departments, government agencies, or research bodies. These issues – described by the ARA as 'enablers' – are included at Appendix 3.

4.96 It is intended that the National Rail Industry Plan will be presented to stakeholders for review and ultimately their endorsement. Prior to the endorsement of rail industry stakeholders, however, the ARA indicated that the proposed steps are:

- a Commonwealth Ministerial Roundtable to develop/adopt the plan;
- discussion with state and territory governments;
- discussion with key bureaucrats from the departments of transport, industry, infrastructure, education and training at the federal level to refine an action plan, timelines and budget parameters;
- provide an outline of the plan to the Senate inquiry into the State of Australia's Rail Industry;

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86 Australasian Railway Association, *A National Rail Industry Plan for the Benefit of Australia*, September 2017, p. 9.

87 Australasian Railway Association, *A National Rail Industry Plan for the Benefit of Australia*, September 2017, pp 11-15.

- engage with opposition parliamentarians;
- gain consensus with state and territory governments for their support for the plan;
- finalise the coordinating and implementation process;
- launch the National Rail Industry Plan for the Benefit of Australia;
- wide distribution of the plan; and
- plan and resource the implementation of the plan.[88]

4.97 The ARA advised that the objective of a National Rail Industry Plan is to obtain maximum economic growth, efficiencies, productivity and social benefits from the substantial investments currently being made. It is intended that this will include benefits in the areas of growth and employment; individual and company capabilities; productivity and innovation; integration of transport modes; local and export market opportunities and housing options. It is also anticipated that the plan will provide the rail industry with greater certainty into the future.[89]

88 Australasian Railway Association, *A National Rail Industry Plan for the Benefit of Australia*, September 2017, p. 16.

89 Australasian Railway Association, *A National Rail Industry Plan for the Benefit of Australia*, September 2017, p. 7.

Chapter 5

Committee view and recommendations

5.1 The committee's inquiry has highlighted the contradiction that has emerged in relation to Australia's rail industry. Evidence to the committee has demonstrated the continuing rise in, and growing demand for, passenger, freight, tram and light rail in Australia. Yet despite this resurgence, including the development and expansion of Australia's rail networks, the inquiry has highlighted a number of challenges and threats to the Australian rail industry. These challenges have led to a decline in locally available work as well as a decline in local companies, local investment, local jobs and apprenticeships.

5.2 The committee is of the view that rail has a central role to play in meeting Australia's transport infrastructure challenge. Traditionally, state government involvement in the rail industry has centred primarily on metropolitan rail. The committee recognises that state governments, through their metropolitan plans, can ensure that investments in rail infrastructure keep pace with growing cities. State investment in transport, and all state transport plans should include rail. Plans should also be drafted to take advantage of the full range of benefits rail has to offer, including reduced congestion, social inclusion and a reduction in road accidents and pollution.

5.3 The committee acknowledges the views of stakeholders, and agrees that if Australia's rail network and its manufacturing sector are to modernise, innovate and take advantage of technological advances, a number of the challenges identified in this report will need to be met head-on. The committee is also of the view that the emergence of a modern, technologically advanced, and competitive rail manufacturing industry will depend to a significant degree on the Commonwealth, state and territory governments working together with industry to develop and implement a national strategy.

5.4 Achieving the necessary investment will require a combination of public, private and public/private partnership funding. More importantly, however, investment needs to be made in a coordinated and planned way. It should also take into consideration the full costs of various modes of transport, as well as longer term transportation goals.

5.5 As governments across the country plan to spend over $46 billion on rail public transport projects within a decade, the Australian rail industry stands at a crossroad. For such investment to achieve maximum benefit for Australia and Australians, the committee cannot overemphasise the importance of embedding a local content component in government procurement contracts. As the committee has already noted, economies of scale and procurement strategies which set standards in relation to local content and build, have the potential to provide benefits to the industry and the Australian population over the long term.

A National Rail Manufacturing Industry Plan

5.6 The committee acknowledges the work the ARA has done in developing their proposal for a National Rail Industry Plan. The areas of priority identified by the plan cover a wide range of complex issues and include: a greater recognition of the importance of rail for Australia's infrastructure development; harmonization of standards and maximising economies of scale; growing the capabilities of individuals and companies; maximising opportunities for industry and fostering innovation, research and development.

5.7 The ARA proposal for a National Rail Industry Plan, provides a starting point to focus and coordinate the efforts of the rail industry to maximise the benefits of future Commonwealth and state government investment. These benefits include economic growth, increased efficiencies and increased productivity. The plan will also deliver a range of social benefits including: regional development, workforce participation, training and development, and transport infrastructure. The committee congratulates the ARA on its efforts – and notes the extensive consultation undertaken with a range of stakeholders, including Commonwealth and state governments and industry – to produce a truly national plan.

5.8 The committee therefore recommends that the Australian Government develop a National Rail Manufacturing Industry Plan through the Department of Industry.

5.9 The committee also recommends that Commonwealth, state and territory governments provide adequate funding and resourcing to allow a National Rail Manufacturing Industry Plan to be implemented efficiently and effectively for the benefit of Australia's rail industry and Australian manufacturing as a whole.

Recommendation 1

5.10 The committee recommends that the Australian Government establish a National Rail Manufacturing Industry Plan to maximise the benefits of the $46 billion in investment expected over the next decade.

Recommendation 2

5.11 The committee recommends that a National Rail Manufacturing Industry Plan develop a mechanism for the Commonwealth to smooth out the peaks and troughs in market demand and create more certainty and predictability for manufacturers servicing the rail industry.

Recommendation 3

5.12 The committee recommends that, following the Australian Government's establishment of a National Rail Manufacturing Industry Plan, state and territory governments endorse the plan and agree on methods to adequately support, resource and progress the plan.

Towards a new procurement culture: National Rail Procurement Strategy

5.13 The committee recognises the need for a change in procurement culture. The industry needs to move away from a culture based on 'cheapest upfront price', to one

which takes into account the wider implications and benefits of such procurement decisions. These include workforce improvement, consistency of employment, benefits to regional communities, as well as state and national economies, while also recognising whole-of-life costs.

5.14 Noting that Australia's manufacturing standards are frequently higher than those of their competitors, the committee is confident that a shift in procurement culture would ultimately benefit the Australian economy and Australian consumers. Australian trains, made by Australians, to meet Australian conditions.

5.15 In addition to establishing a National Rail Manufacturing Industry Plan, the committee recommends the development of a National Rail Procurement Strategy. Noting the success of the Victorian model, the committee recommends that a national policy in relation to procurement draw on this initiative. Requirements such as: a 50 per cent local content requirement for building rolling stock and the use of local apprentices, trainees and engineering cadets for at least ten per cent of the total labour hours are central to this policy and should be replicated nation-wide. In addition to the inclusion of a minimum 50 per cent local manufacturing requirement, the Victorian Government's procurement contracts encourage the uptake of new technologies and the adoption of best practice environmental and safety standards.

5.16 The committee is of the view that the introduction of a National Rail Manufacturing Industry Plan, supported by a National Rail Procurement Strategy will result in increased productivity and innovation and greater uptake of technology, which will in turn provide greater opportunities for the export of Australian manufactured equipment, knowledge and expertise to the Asia-Pacific region.

5.17 A National Rail Manufacturing Industry Plan and a National Rail Procurement Strategy will help overcome the existing lack of a strong pipeline of investment in rolling stock and a lack of continuity in rail manufacturing work. These absences have led to a disincentive for business to invest in research and development. Any National Rail Procurement Strategy must have a specific focus on maximising investment in local research and development as well as industry engagement with universities and research agencies.

Recommendation 4

5.18 The committee recommends the development of a National Rail Procurement Strategy by the Commonwealth in coordination with all states and territories. As signatories to the strategy, states and territories should include procurement contract measures – consistent with international trade obligations – which allow for the development of industrial capabilities for small and medium sized enterprises (SMEs). As part of these contract measures, consideration should also be given to:

- **(a) maximising local content for the manufacture of passenger, freight and light rail rolling stock in procurement;**
- **(b) the relevant financial and non-financial costs and benefits of each project including, but not limited to:**
  - **(i) the quality of goods and services**

(ii) fitness for purpose of the proposal

(iii) the potential supplier's relevant experience and performance history

(iv) flexibility of the proposal (including innovation and adaptability over the lifecycle of the procurement)

(v) environmental sustainability of the proposed goods and services (such as energy efficiency and environmental impact)

(vi) whole of life costs

(c) requirements for contractors to undertake training strategies to educate and engage local apprentices, trainees and engineering cadets;

(d) commitments to local industry development and supply chain engagement; and

(e) harmonisation of safety standards.

Recommendation 5

5.19 The committee recommends that a National Rail Procurement Strategy be used to work with all states and territories to maximise investment in local research and development, as well as engagement with universities and research agencies.

A Rail Advocate

5.20 The committee notes that the meeting of the Transport and Infrastructure Council (TIC), held in Brisbane on Friday, 19 May 2017, included a "strategic discussion regarding rail infrastructure and operations, recent pressures and developments and the future of rail investment in Australia". The committee also notes that a number of rail industry representatives and stakeholders attended the meeting as observers.

5.21 The committee is of the view that this type of advocacy should continue on a more formal basis. The committee therefore recommends the establishment of a Commonwealth coordinating body to drive and coordinate a National Rail Manufacturing Industry Plan and a National Rail Procurement Strategy. The committee also recommends that a Rail Advocate be appointed to support the rail industry in dealings with Commonwealth, state and territory governments and industry bodies.

5.22 The committee is also of the view that there needs to be further engagement undertaken with the rail manufacturing supply chains as a more even demand curve is produced. The Commonwealth coordinating body should be given direct terms of reference to work with supply chains in expanding and developing industry capability networks.

Recommendation 6

5.23 The committee recommends the establishment of a Commonwealth coordinating body – to be headed by a tripartite council – to drive and coordinate a National Rail Manufacturing Industry Plan, a National Rail Procurement Strategy and industry consultation.

Recommendation 7

5.24 The committee recommends the re-establishment of a Rail Supplier Advocate to promote the rail industry in dealing with Commonwealth, state and territory governments and industry bodies.

Recommendation 8

5.25 The committee recommends that a Commonwealth coordinating body be given direct terms of reference to work directly with the rail manufacturing supply chain in developing and expanding industry capability networks.

Rail Industry Skills Centre

5.26 In addition to focused investment in local manufacturing, efforts should also be directed to skills development, training and innovation. To this end, the committee notes the inclusion of 'technology transfer' (including that of innovation) as part of the selection criteria under the revised Victorian VIPP Strategic Projects policy. This is an important initiative, and one which strongly encourages the inclusion of innovation as a criterion in the consideration of local content tenders.

5.27 The government plays an important role in facilitating investment through its procurement policy decisions. The local rolling stock and rail manufacturing industry makes a significant contribution to the Australian economy, and has the potential to contribute more if the right policies are in place. The committee strongly supports the development of a coherent skills and training plan, as a means of attracting the best talent, and increasing productivity while maximising high-quality, sustainable rail manufacturing jobs. By upskilling workers and providing an apprenticeship scheme, the training plan will complement a National Rail Manufacturing Industry Plan and a National Rail Procurement Strategy.

5.28 To accompany these training initiatives, the committee recommends that training and skills development be embedded in tender and procurement processes, to invigorate apprenticeship schemes, provide opportunities to people from disadvantaged backgrounds, and provide appropriate support to upskill the rail workforce.

5.29 The continuity of critical skills development and training in the rail sector are fundamental to Australia's transport future. Estimates suggest that Australia will need 11,000 railcars in the next 30 years, given projected patronage growth.[1] It is critical, therefore, that Australia maintain a local capacity to maintain rail infrastructure –

1 Australasian Railway Association, *Submission 7*, p. 7.

including rolling stock – while also investing in local manufacturing. This second aspect is critical, as recognised by Mr Crane, Managing Director of Lovells Springs:

> Whilst maintenance of rolling stock over its life cycle is an important function that will always be needed, only the design and construction of complex systems like locomotive and passenger trains results in the accumulation of real Intellectual Property and expertise in this country.[2]

Recommendation 9

5.30 The committee recommends that the Australian Government work with state and territory governments, and the rail industry, to develop Rail Industry Skills Centres at local TAFEs and colleges.

Senator Glenn Sterle

Chair

2 Lovells Springs, *Submission 20*, p. 2.

Appendix 1

Submissions received

Submission Number	Submitter
1	Mr J Austen
2	Mr Andrew Peach
3	Mr Shaun Goss
4	Mr Darren Mitchell
5	Mr Phillip Walters
6	Rail Industry Safety and Standards Board
7	Australasian Railway Association
8	CBH Group
9	Rail Manufacturing CRC
10	Centre for Future Work
11	Australian Manufacturing Workers' Union
12	Australian Workers' Union
13	Australian Council of Trade Unions (ACTU)
14	Department of Infrastructure and Regional Development
15	Queensland Department of Transport and Main Roads
16	Pacific National
17	Freight on Rail Group
18	Australian Rail Track Corporation
19	Victorian Government
20	Lovells Springs Pty. Ltd

Additional information received

- Received on 2 June 2017, from the Australian Manufacturing Workers' Union. Answers to questions taken on notice at a public hearing on 2 June 2017.
- Received on 26 June 2017, from the Australian Rail Track Corporation. Answers to written questions taken on notice on 22 June 2017.
- Received on 12 September 2017, from Siemens. Additional information, overview of Siemens' involvement in Australia's rail industry.
- Received on 14 September 2017, from the Australasian Railway Association. Answers to questions taken on notice at a public hearing on 30 August 2017.

Tabled documents

Monday, 1 May 2017, Newcastle, NSW

- Tabled by Senator Kim Carr. Document produced by the Parliamentary Library titled *State rail procurement*, dated 20 January 2017.

Wednesday, 30 August 2017, Canberra, ACT

- Tabled by Mr Danny Broad, Chief Executive Officer, Australasian Railway Association. Rail Platforms for the Future.

Appendix 2

Public hearings and witnesses

Monday, 1 May 2017, Newcastle, NSW

- BELL, Mr Trent, Manufacturing and Industrial Sales Manager, Lovells Springs
- CRANE, Mr Simon, Managing Director, Lovells Springs
- GOSS, Mr Shaun, Delegate, Australian Manufacturing Workers' Union
- STANFORD, Dr Jim, Economist and Director, Centre for Future Work
- THOMPSON, Mr Glenn, Assistant National Secretary, Australian Manufacturing Workers' Union
- WALTERS, Mr Phillip, Delegate, Australian Manufacturing Workers' Union
- ZELINSKY, Mr Michael (Misha), Assistant National Secretary, Australian Workers Union

Friday, 16 June 2017, Melbourne, VIC

- ARMSTRONG, Mr David John, Delegate, Victorian Rail Committee, Australian Manufacturing Workers Union
- CANDY, Mr Paul, Delegate, Australian Manufacturing Workers Union
- D'APRANO, Mr Amedeo, Industrial Officer, Australian Rail Tram and Bus Industry Union
- GREEN, Dr Michael, Acting Deputy Secretary, Sector Development Division, Department of Economic Development, Jobs, Transport and Resources
- McMILLAN, Ms Wendy, Chief Executive Officer, Rolling Stock Development Division,
  Transport for Victoria
- SEVENTIS, Mr Basil (Bill), Equipment Examiner and AMWU Delegate, Australian Manufacturing Workers Union
- THOMPSON, Mr Glenn, Assistant National Secretary, Australian Manufacturing Workers Union
- THOMSON, Dr Stuart James, Chief Executive Officer, Rail Manufacturing Cooperative Research Centre Limited
- WEIMAR, Mr Jeroen, Chief Executive Officer, Public Transport Victoria

Wednesday, 30 August 2017, Canberra, ACT

- BROAD, Mr Daniel James, Chief Executive Officer, Australasian Railway Association
- COLLETT, Mr James Benjamin, General Manager Rail Policy and Planning, Department of Infrastructure and Regional Development
- DALY, Mr Paul Lenard, Chief Executive Officer, Rail Industry Safety and Standards Board

Appendix 3

The ARA's Enablers

Extract from the Australasian Railway Association, *A National Rail Industry Plan for the Benefit of Australia*, September 2017, pp 11-15

THE FIVE KEY AREAS OF FOCUS:

1. Recognising the importance of rail for Australia's infrastructure development, urban planning and freight movements

Enablers to achieve this include:

1.Establishing and maintaining a complete catalogue of all rail industry projects/investments (commissioned and proposed) – the 'Rail Industry Investment Pipeline':

- This should reflect time lines
- Reflect costs of projects and employment potential
- Assess funding and resource issues
- Consider and rank priorities.

2. Draw on the study ARA has commissioned from Deloitte Access Economics reflecting the contribution rail makes to Australia:

- Spell out the impact rail has on the major economic drivers, both GDP and employment
- Reflect the impact rail has on externalities, such as congestion, commuting times, safety, emissions and social cohesion
- Present the 'true value' of rail findings in graphical format to aid wide distribution and understanding.

3. Removing any policy bias between transport modes:

- Road/rail pricing
- Corridor preservation for passenger, freight and high speed rail
- Salary sacrificing for public transport tickets
- Recognising the importance of integrated transport in city planning
- Supporting the development of intermodal freight hubs and rail to ports.

4. Promoting the advantages that flow from rail:

- Generating an improved mindset among policy makers about the benefits of rail
- Promoting the advantages of major rail projects such as Inland Rail and Sydney/Melbourne metros
- Educating patrons to see how rail fits into Australia's overall transport offering as a viable, alternative transport mode
- Cooperating with tourism promoters, such as cruise liners, airlines, hotel chains to include rail as part of the tourism offering
- Promoting rail as a worthy option for young career aspirants
- Generating improved diversity outcomes.

2. Harmonising standards, minimising regulations and maximising economies of scale

Enablers to achieve this include:

1.Progressing work being led by Victoria (through RISSB) in harmonising standards relating to bogies and glazing:

- Extending the harmonisation efforts to homologation and system specifications
- Removing conflicting requirements in emission standards.

2. Working with the Office of the National Rail Safety Regulator (ONRSR) to achieve harmonisation in all areas of safety, particularly:

- Completing the full engagement of all states with ONRSR
- Addressing the safety issues relating to the movement of vehicles in rail facilities
- Harmonising the requirements of drug, alcohol and fatigue management.

3. Reviewing the approach to tendering and procuring to achieve a greater consistency of approach and reducing costs:

- Drawing on ARA's analysis of recommendations from the Productivity Commission
- Developing education programs on 'best practice' tendering practices relevant to both procurers and suppliers.

3. Growing the capabilities of individuals and companies

Enablers to achieve this include:

1. Identifing the labour skills required for a high performing rail system that is abreast of emerging technologies:

- Commission a labour market analysis to identify gaps in required skills (Bis Oxford Economics has prepared a comprehensive proposal to undertake this analysis)
- Drawing on the skills analysis being undertaken by training academies in Victoria and New South Wales. Exchange best practices to avoid duplication of effort. In particular, extend interstate the progress being made by the Rail Academy Newport particularly in the area of signals engineering. Similarly, the approach of Sydney Metro to achieve groundings in demolition, tunnelling, civil construction, rail and heavy haul should be mirrored in other states
- Improving the linkages between government, industry and training institutions, including TAFE and universities.

2. Ensure training methodologies are leading edge and keep abreast of future skill needs and training requirements:

- The use of simulators and virtual reality should be pursued with some urgency noting Deakin University is renowned for its VR expertise and the wide spread use of simulators in NSW
- Engage with training institutions to share best practice
- Explore international approaches to training methodologies, noting that InnoTrans 2018 may provide this opportunity.

3. Don't assume current approaches to traineeships and apprenticeships best meet rail industry purposes:

- A need to engage with rail companies, including operators, suppliers and contractors to explore how traineeships and apprenticeships can be fit-for-purpose
- The old statement that rail provides a 'job for life' is no longer appropriate. Rather, developing an approach to training that builds 'skills for life' particularly in science, technology, engineering and mathematics (STEM)
- Encouraging the mobility of skilled labour to rail, especially those with STEM skills
- Considering the provision of incentives for companies undertaking training in areas of particular need.

4. Training at certificate, degree and post-graduate levels is to be encouraged:

- Companies should consider offering cadetships to attract talented people to careers in rail
- Work experience for individuals across a variety of functions within the rail industry should be on offer
- Scholarships that offer international experience should be explored.

5.Promoting a bold and exciting image of rail to attract talented people:

- Considering whether rail companies could combine to undertake a program similar to the Australian Defence Force offering of a Gap Year described as a "fulfilling year of adventure, experiences, mateship, learning, leadership, and travel…it is a unique opportunity to get a feel for a career in the Services, without committing to a longer period"
- Retaining talent is as important as attracting talent
- Flexibility in working arrangements is required to appeal to a wider cross section of employees
- Maximising the benefits of gender balance in the workforce by supporting initiatives that focus on attraction, profiling, retention and networking
- Mentoring should become regular practice.

6. Programs for local companies to improve their capabilities to international standards should be on offer:

- Recognising the adverse impact on Australian rail if our capability to manufacture, refurbish and maintain our rolling stock and rail systems is lost to international competitors
- Ensuring Australia's rail industry maintenance capability is not diminished should local manufacturing of rolling stock move offshore
- Recognising the export potential of high tech, high value skills, particularly those in design. This includes Australia's training capability in all areas of rail
- Understanding that optimising the useful life of current rail assets, including infrastructure provides opportunities for capable local suppliers
- Examining the Supplier Continuous Improvement Plan (SCIP) implemented in the automotive component sector as an option
- Encouraging companies in other industry sectors, with relevant capabilities, to engage with the rail industry
- With an increasing tendency for suppliers to be required to demonstrate their capabilities to meet the standards prescribed through procurement processes (eg. the AVETTA process), developing training programs to assist suppliers understand these processes and to meet the standards required.

4. Maximising opportunities for rail companies

The enablers to achieve this are:

1. Amending the Australian Industry Procurement (AIP) thresholds to better reflect rail industry project values:

- Major projects require procurers to examine the capability of local companies to supply
- Coordinate procurement policies across government jurisdictions to achieve greater consistency and to facilitate competent local companies into the supply chain
- Tie local content provisions to outcome based measures such as economic activity, employment, capability, skills development, innovation, investment and long term reliability.

2. Governments and industry procurers should work with and encourage local industry to increase its capability to qualify in the supply chain on a commercially and technologically sound basis:

- Procurers should provide fair and reasonable opportunity to local industry to pre-qualify, tender and participate in rail related projects
- Buying practices, procedures and specifications should not disadvantage local industry
- State jurisdictions to ensure regulations, tendering processes and project specifications do not impede local suppliers.

3. Long term planning for government procurement of rolling stock taking into account whole of life costs:

- The number of trains per order and their timing should be optimised to achieve economies of scale
- Variations in train standards should be avoided to reduce the need for one-off designs, removing significant design costs
- Ensuring funding requirements are based on need rather than when funding is available.

4. The Productivity Commission and the House of Representatives Standing Committee on Infrastructure and Communications has proposed reforms to infrastructure procurement. These reforms should be pursued:

- More streamlined information for bidders, with only the preferred tenderer being required to provide detailed, non-design management plans
- A greater investment by government in the initial concept design of specifications (even to the point of ownership) which will assist in reducing bid costs
- Building Information Modelling (BIM) should be used to provide concept designs to reduce costs
- The issue of risk and its mitigation requires effective identification, management and allocation in the early stages of procurement ideally before final strategies are decided
- Generally, there should be no more than three shortlisted proponents for design and construct or manage and construct tenders and no more than two for early contractor involvement processes
- Education programs and guidelines on best practice tendering for both project procurers and proponents should be developed.

5. The Australian rail industry should seek to maximise its engagement in international supply chains:

- Austrade should engage with the Australian rail industry to foster international trade opportunities
- The trade opportunities should extend beyond products and services to technologies and know-how and into the education and training market, particularly in Asia and the middle east
- Austrade, in conjunction with the Commonwealth, State and Territory Governments and the ARA should take a delegation of Australian rail companies to Innotrans 2018 in Berlin.

5. Fostering innovation, research and development

Enablers to achieve this include:

1. Consider the establishment of a Centre for Rail Industry Capability (CRIC) modelled on the Centre for Defence Industry Capability (CDIC):

- CRIC would be an industry led organisation with the primary goal to drive innovation, productivity, excellence and competitiveness in the national rail industry, maximising its contribution to the Australian economy
- CRIC would provide a national coordinated approach to research and development, maximising the contributions to innovation by the CRCs for manufacturing and for innovation, the CSIRO and Australian universities with rail research activities
- CRIC would aim to generate commercial outcomes from its activities
- CRIC would focus on areas of competitive strength and strategic priority for the Australian rail industry identified throughout this Plan
- CRIC would have the option to pursue a solution-driven or problem-driven approach to innovation
- CRIC would investigate existing adjacent industry technology applicable to the rail industry.

2. The role of the Australian Centre for Rail Innovation (ACRI) should be reviewed:

- Examine whether ACRI could be restructured and its role widened with a financial model to support the role
- Barriers to accessing ACRI's research outcomes, when not IP/commercially protected, should be removed.

3. The role of Australian universities in rail related research and development should be better coordinated to provide a strong academic base for innovation:

- Examine the UK model, managed by the Rail Research UK (RRUK) Association. RRUK is a partnership between rail and UK research institutions undertaking relevant R&D. It is funded by the Rail Safety and Standards Board and Network Rail. The advantage is that duplication of research by various institutions is minimised through identifying the research specialisation of each research institute
- Set about creating a culture of innovation by introducing incentives for innovative projects
- Collaboration enables sustained good performance through sharing information, clarity over standards and the understanding of needs.

4. Refresh the collaborative study undertaken in 2012/13 by the Commonwealth's Rail Industry Advocate on behalf of the Commonwealth Government and the rail industry 'On Track to 2040 –preparing the Australian Rail Supply Industry for Challenges and Growth':

- This study provides an important roadmap for rail. Its findings and recommendations remain relevant and its implementation could be led by CRIC. The document can be viewed here https://industry.gov.au/industry/IndustryInitiatives/AustralianIndustryParticipation/SupplierAdv ocates/Documents/OnTrackTo2040-Roadmap.pdf

5. Technology opportunities were identified as follows:

- Materials and manufacturing, including advanced design, low cost manufacturing systems, high performance materials for heavy haul, advanced manufacturing, advanced materials for light-weighting, simulation for materials and manufacturing
- Monitoring and management, including automated health monitoring for smarter infrastructure, automated control and operations, advanced asset management systems, safety threat detection and intervention, advanced data analysis and information systems, advanced operations management
- Power and propulsion, including energy regeneration, advanced braking systems, energy use management tools, electric motors and systems, emission reduction technologies, gaseous fuels.