



# **The Strategic Economic and Fiscal Importance of Railway Equipment Manufacturing in Australia**

**Submission to the Rural and Regional Affairs and Transport  
References Committee of the Senate of Australia**

**Inquiry into Australia's Rail Industry**

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## About the Centre for Future Work

The Centre for Future Work is a new initiative, housed within the Australia Institute, to conduct and publish progressive economic research on work, employment, and labour markets.

It serves as a unique centre of excellence on the economic issues facing working people: including the future of jobs, wages and income distribution, skills and training, sector and industry policies, globalisation, the role of government, public services, and more.

The Centre also develops timely and practical policy proposals to help make the world of work better for working people and their families. The Centre is independent and non-partisan.

The Centre is grateful for the opportunity to present our views on the future of Australia's railway equipment manufacturing industry, and the impact of relevant government procurement policies, to this Inquiry. This submission draws in part on material contained in our recent longer research report, our recent report, *Penny Wise and Pound Foolish: The Economic and Fiscal Costs of Offshoring Public Procurement* (August 2016, [www.futurework.org.au](http://www.futurework.org.au)).

## **Introduction**

Australia possesses an important railway manufacturing industry, which directly employs 5,000 workers, indirectly supports thousands of other jobs (in maintenance, supply, input, and downstream consumer industries), and generates \$3.7 billion in annual sales. This submission reviews the current economic footprint of the railway equipment manufacturing industry in Australia, documenting the high-value jobs that exist directly in the sector, in a wide variety of firms which supply the sector, and in consumer goods and service sectors which also ultimately depend on the industry's existence.

The submission also considers the broader economic and fiscal consequences of public procurement decisions affecting the sector. In particular, it shows 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.

Finally, the submission concludes with several recommendations which would allow governments in Australia (at all levels) to maximize the potential economic benefits associated with coming major purchases of passenger rail equipment.

## A Profile of Australian Railway Rolling Stock Manufacturing

Australia possesses a significant railway equipment manufacturing sector, which has made a unique and long-standing contribution to the country’s industrial fabric. Several indicators of the current state of the industry are summarized in Table 1. In the 2013-14 financial year (most recent complete data available), the industry generated total sales on domestic production of about \$3.7 billion. After deducting the cost of purchased inputs, the industry generated gross value-added of just over \$900 million.<sup>1</sup> The industry ordered about \$2 billion worth of parts, inputs, supplies, and services from other industries in Australia (more than twice as much as the value added within the sector itself). The sector also purchased slightly under \$800 million in inputs and supplies from foreign suppliers; those imported inputs directly make up around 20 percent of the industry’s gross output measured by sales.<sup>2</sup>

<b>Table 1: Australian Railway Rolling Stock Manufacturing Key Parameters (2013-14)</b>	
<b>Total Sales</b>	\$3.686 billion
<b>Value-Added</b>	\$0.908 billion <sup>1</sup>
<b>Ratio of Value-Added to Sales</b>	24.7 percent
<b>Purchases of Australian-Made Inputs</b>	\$1.993 billion
<b>Purchases of Imported Inputs</b>	\$784 million
<b>Direct Employment<sup>2</sup></b>	4,974
<b>Labour Compensation Paid</b>	\$396 million
<b>Average Compensation per Employee</b>	\$79,600
<b>Purchases of Imported Railway Rolling Stock</b>	\$1.501 billion
<b>Imports as Proportion Domestic Production</b>	40.7 percent
<i>Source: Author’s compilation from Australian Bureau of Statistics Catalogue 5209.0.55.001, Tables 2 and 5.</i>	
<i>1. Includes indirect taxes less subsidies. 2. ABS Catalogue 8155.0.</i>	

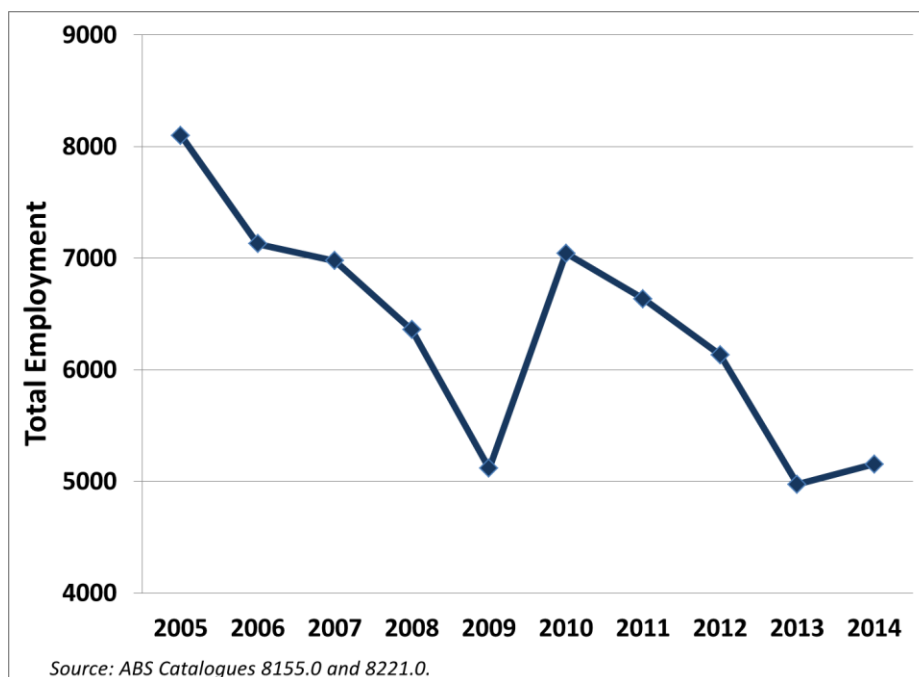
The industry directly employs about 5000 Australians. They are relatively good jobs: average compensation in the sector (including wages, salaries, and benefits) was just under \$80,000 per employee, higher than average for the national labour market. These superior incomes reflect the relatively high productivity in the sector (over \$180,000 of

<sup>1</sup> Value-added, also known as industry GDP, represents the sum of labour incomes, profit and operating margins, and indirect taxes received by government (less subsidies).

<sup>2</sup> There is additional indirect imported content represented in the Australian-made inputs, which typically contain varying levels of imported content in their own right.

value-added per worker per year), and specialized skills required. Unfortunately employment has declined by 3000 jobs since the mid-2000s (as illustrated in Figure 1).

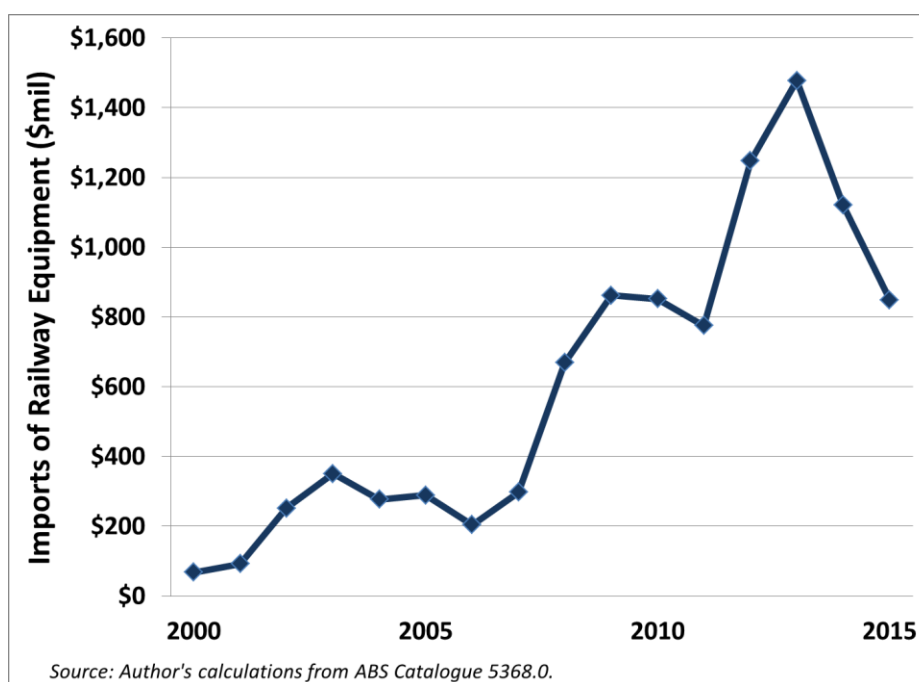
**Figure 1 Employment, Railway Rolling Stock Manufacturing, 2005-2014**



One reason for this decline has been a dramatic and sustained rise in imports of finished railway equipment. Figure 2 illustrates this trend: until the mid-2000s, most of Australia's purchases of railway equipment were manufactured here, and imports were modest. 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.

Railway rolling stock imports peaked in 2013-14 at around \$1.5 billion: over 5 times higher than their levels a decade earlier. In that year, the total value of imports was equal to roughly 40 percent of the value of domestic production. Both domestic production and imports tend to fluctuate considerably from year to year, because of the irregular nature of major purchases by governments and railways. Exports of railway equipment from Australia are small, averaging less than \$100 million per year over the past decade.

**Figure 2 Imports of Railway Equipment, 2005-2015**



The industry’s significant purchases of Australian-made parts, inputs, supplies, and services can be described in greater detail with the help of the input-output database compiled by the Australian Bureau of Statistics. This breakdown is reported in Table 2. Of the \$2 billion in total purchases of Australian-made inputs, over 60 percent (or almost two-thirds) consists of various services; the remainder (over one-third) consists of purchases of various materials, parts, and machinery. The five largest suppliers to railway rolling stock manufacturing, in order, are: fabricated metal products industries; professional, scientific, and computer services; wholesale and retail services; finance, insurance, and leasing; and primary metals. The importance of professional, scientific, and computer services (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

Table 2 also estimates the number of jobs in each of those various input sectors that depends on those sales to the railway equipment sector, on the basis of average employment intensity of each supply industry. In total, about 7000 jobs across those first-order or “Tier 1” suppliers depends on their respective sales to railway equipment manufacturing. 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.

**Table 2: Railway Rolling Stock Manufacturing  
Key Australian Inputs Purchased (2013-14)**

<b>Supply Industry</b>	<b>Purchases (\$m)</b>	<b>Derived Employment<sup>1</sup></b>
Primary Metals	144	114
Fabricated Metal Products	398	1,708
Transportation Equipment <sup>2</sup>	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
<b>Total Australian-Made Inputs</b>	<b>1,993</b>	<b>6,997</b>
Imported Inputs	784	
Value Added in Rolling Stock Sector <sup>3</sup>	908	4,974
<b>Total Australian Production</b>	<b>3,686</b>	
<i>Source: Author's calculations from Australian Bureau of Statistics Catalogues 5209.0.55.001, Table 5, and 8155.0, Table "Manufacturing Industries."</i>		
<i>1. Includes direct Tier 1 input suppliers only (not counting employment associated with indirect inputs or "suppliers to suppliers").</i>		
<i>2. Mostly consisting of purchases from other railroad rolling stock manufacturers, hence derived employment is not calculated.</i>		
<i>3. Includes indirect taxes less subsidies.</i>		

## Broader Economic Benefits from Railway Manufacturing

The preceding discussion has quantified one particular spillover effect of the industry: the stimulus provided to the various goods- and service-producing firms which constitute the supply chain to railway manufacturing – a supply chain that extends far and wide throughout the national economy. Let us now consider the potential magnitude of some of the other economic feedbacks associated with rolling stock manufacturing.

We can consider two broad categories of linkages between the railway equipment industry and the rest of Australia's economy. We have already described what could be called "upstream" linkages: the business generated up through the sector's supply chain by the required purchases of all sorts of inputs. For each direct job in the railway rolling stock sector, there are (on average) an additional 1.4 jobs in first-order suppliers dependent on the business generated by rolling stock manufacturing. There are even more jobs located further "upstream," in the companies and industries which supply the suppliers.

<b>Table 3: Upstream and Downstream Linkages Railway Rolling Stock Manufacturing</b>	
<b>A. Direct Employment</b> <i>(initial job)</i>	<b>4,974</b> <i>(1.0)</i>
<b>B. Employment in First-Tier Suppliers</b> <i>(ratio to A)</i>	<b>6,997</b> <i>(1.407)</i>
<b>Downstream Expenditure Ratios:</b>	
Personal consumption ( <i>c</i> , %GDP)	57.8%
Import penetration ( <i>m</i> , %GDP)	21.4%
Personal spending on domestic content ( <i>c<sub>A</sub></i> , %GDP) $= c * (1 - m)$	45.4%
<b>C. Employment in First-Round Consumer Spending</b> $= (A + B) * c_A$ <i>(ratio to A)</i>	<b>5,439</b> <i>(1.093)</i>
<b>D. Total Employment (A + B + C)</b> <i>(ratio to A)</i>	<b>17,410</b> <i>(3.5)</i>
<i>Source: Author's calculations as described in text from ABS Catalogues 5209.0.55.001, Table 5; 8155.0, Table "Manufacturing Industries"; and 5206.0.</i>	



As indicated in Table 3, there is a second broad category of economic spillover from the railway equipment sector that must also be considered in any comprehensive economic decisions regarding railway equipment procurement. Individuals employed in rolling stock manufacturing, as well as those working in the firms and industries which supply rolling stock manufacturing, in turn spend their own incomes on the complete range of consumer goods and services. That income corresponds to additional demand, output, and employment in those industries: everything from home builders, to restaurants, to retail outlets, to personal services.<sup>3</sup>

An estimate of this downstream activity supported by railway equipment manufacturers and their suppliers can be generated as follows: on average, private consumer spending in Australia accounts for just under 60 percent of national GDP. On the assumption that incremental income is allocated to consumption in the same proportion, new output and income will translate into new consumer spending according to that ratio. Some consumer spending, however, is ultimately directed to imports (such as spending on imported consumer products); on average, spending on imports equals slightly over 20 percent of each dollar in GDP.<sup>4</sup> Applying that ratio to incremental assumed consumer spending, generates a propensity to spend out of new income on Australian-made goods and services of 0.45.<sup>5</sup> In other words, for each dollar in new value added generated in the railway rolling stock industry and its immediate suppliers, about 45 cents of it, on average, is likely to be allocated toward expenditure on Australian-produced consumer goods and services. Applying this ratio to the employment that has been generated in railway equipment manufacturing (the initial job) and its first-order suppliers (another 1.4 jobs), generates an estimate of more than 5000 additional supported jobs in consumer industries: a little bit more than the initial employment in railway rolling stock production that started the entire chain reaction.<sup>6</sup>

In total, then, this analysis suggests that there are a total of 17,400 jobs in Australia associated with the activities of the railway equipment manufacturing industry. That is 3.5 times as many as the level of direct employment within the sector itself. These strong indirect effects – both “upstream” through the industry’s supply chain, and

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<sup>3</sup> We could even include public services (such as education and health care) within those supported “downstream” activities, since they are financed by the taxes paid by employed workers; the simulation below, however, includes only the downstream impacts of private consumer spending.

<sup>4</sup> On the basis of a visit to a typical department store, it may seem as if “most” consumer goods are imported. However, total consumer spending includes many large expenses (including housing, some goods, and almost all consumer services) that are necessarily produced in Australia.

<sup>5</sup> The precise mathematics of this calculation are described in Table 3.

<sup>6</sup> This estimate of the downstream employment effect is very conservative, in that it assumes an average employment stimulus in consumer industries equivalent to its share of total expenditure; in reality, consumer industries (especially services) tend to be more labour-intensive than manufacturing and business supply industries, and hence a given proportion of incremental expenditure would likely translate into even more job-creation.

“downstream” through the consumer industries which rely on a population of employed workers as their initial market – attest to the importance of conducting a comprehensive analysis of the economic effects of any major procurement decision. In fact, the relationships highlighted in Table 3 almost certainly understate the ultimate spillover impacts of a given level of rolling stock manufacturing: we have considered only the first-round linkages within both the supply chain, and consumer industries. Incorporating higher-order effects (including new business created for firms which supply the suppliers, and new business within consumer industries generated by the expenditure of those initially employed in incremental downstream activity), those ratios would be even larger.

The foregoing analysis does not imply that those 17,400 jobs exist solely because of the activity of the railway rolling stock sector, and it is important to be cautious in how the linkages are understood. It is possible that in the absence of railway equipment manufacturing, those other workers (both upstream and downstream) would eventually find alternative sources of employment. In that case, the spillover effects from rolling stock production are not permanent, lasting only as long as it takes workers to find alternative vocations. Some economists assert that in the long-run the level of employment and output in the national economy is limited only by the number and productivity of workers (that is, the economy is “supply-constrained”), rather than being limited by the availability of jobs. Hence laid-off workers from railroad equipment manufacturing will always find alternative, productive employment. In reality, however, output and employment do tend to be constrained, even in the long-run, by the level of aggregate spending power in the economy, and by a resulting scarcity of employment opportunities. In economic parlance, this interpretation implies that the economy is “demand-constrained,” a condition which can prevail even in the long-run.

Australia’s present economic juncture would certainly seem more consistent with the latter approach, than the former. High and chronic levels of unemployment and underemployment; record-low wage increases; dramatic declines in business capital spending; and record deficits in international trade and payments all suggest that output and employment are indeed held back by an ongoing absence of purchasing power – not by a shortage of workers. In this relatively depressed context (and there is no indication that conditions are changing for the better), it is certainly reasonable to conclude that jobs lost in one sector will not automatically or quickly be replaced by new opportunities in another. In that case, the incremental loss of national purchasing power associated with the offshoring of a major public procurement project could indeed result in long-lasting impacts, both direct and indirect, on overall employment and income.

## Simulating the Economic and Fiscal Effects of Procurement Decisions

We have described the approximate magnitude of the upstream and downstream linkages associated with railway equipment manufacturing in Australia, and argued that in conditions of chronic weakness in spending power and employment conditions (such as prevail at present) it is likely that growth or contraction in those linkages would translate into corresponding changes in overall employment and income that are more than just transitory adjustments. Ongoing strengthening or weakening of employment, income, and expenditure conditions can therefore be reasonably expected to result from decisions which add to or subtract from the demand for Australian-made products and services.

In this context, we can extend our analysis of the sector's economic linkages, to perform a simple simulation of the potential economic and fiscal consequences arising from a decision to procure new railway equipment from Australian manufacturers (rather than from offshore suppliers). We will use a benchmark sample contract of \$1 billion in manufactured equipment.<sup>7</sup> This approach provides a convenient metric which can then be scaled up or down to approximate to the dimensions of a real-world procurement opportunity. The results are summarized in Table 4.

We assume that direct jobs are created or supported by a domestic procurement decision in accordance with the same ratio of employment to gross sales as is evident in the analysis above (summarized in Table 1). A \$1 billion contract therefore represents an estimated 1350 direct jobs, including production, technical, and management positions.<sup>8</sup>

We also assume that those direct employees earn the same average compensation as is paid in the railway equipment sector as a whole (an average of just under \$80,000 per worker), generating a total of over \$100 million in new direct labour incomes. Upstream and downstream linkages will support additional job-creation in supply chain and consumer industries in line with the ratios described in Table 4. That implies a total of around 4700 jobs generated by the contract: 1350 in direct production, 1900 in the supply chain, and close to 1500 in downstream consumer goods and services industries.

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<sup>7</sup> This \$1 billion benchmark can be defined as either a one-time contract or as an ongoing flow of work. In the former case, a *one-time* incremental \$1 billion contract will generate a certain number of cumulative person-years of employment and cumulative dollars of revenue. In the latter case, an ongoing incremental *flow* of new procurement work (\$1 billion per year) would support the permanent creation of incremental jobs and ongoing revenue flows.

<sup>8</sup> As explained in the previous footnote, if the incremental \$1 billion contract is one-time, then it will support 1350 person-years of new direct employment; if it represents a flow of new orders (\$1 billion per year), then the 1350 new jobs would be permanent.

New value added is assumed to be generated for the Australian industry according to the same ratio of GDP to gross shipments as prevails in the industry today (reported in Table 1). This results in an assumed increase in cumulative value-added arising directly in the industry of close to \$250 million (spread over the entire time period required for completion of the work<sup>9</sup>). Indirect value-added is then assumed to be produced in upstream suppliers, and in downstream consumer industries, in the same proportion as the ratios described in Table 3 above. This generates a cumulative total of \$859 million in new Australian GDP, divided between rolling stock manufacturing, the supply chain, and consumer industries.

<b>Table 4: Macroeconomic and Fiscal Benefits of Australian Project Sourcing</b>	
Sample Contract Cost	\$1.0 billion
Estimated Value Added:	
Direct (1.0)	\$246 million
Suppliers (1.407)	\$345 million
Downstream (1.093)	\$269 million
<b>TOTAL</b>	<b>\$859 million</b>
Direct Employment	1349
Direct Labour Compensation	\$107 million/yr.
Estimated Total Employment	4,723
Government Revenue Return:	
Commonwealth	\$204 million
State Own-Source	\$77 million
<b>TOTAL</b>	<b>\$281 million</b>
<i>Source: Author's calculations as explained in text.</i>	

Any significant change in overall economic activity has an immediate impact on government fiscal balances, as a result of the normal collection of the full portfolio of taxes, fees, and premiums through existing government programs. All these forms of government revenue together take in almost one-third of GDP. This includes 23.7 percent received by the Commonwealth, and 9 percent collected directly by state governments.<sup>10</sup> Keep in mind that Commonwealth current transfers to the states then shift about 6 cents of every dollar in GDP from Commonwealth coffers to the states' (helping to fund, among other items, infrastructure purchases like passenger rail

<sup>9</sup> We do not know for how many years the work in Australia would be spread out, and it does not affect the results of this simulation – which are conducted using the cumulative differential in GDP, not changes in the annual flow of GDP.

<sup>10</sup> Author's calculations from ABS Catalogue 5206.0.

investments).<sup>11</sup> It is conservative to assume that an incremental expansion of GDP resulting from domestic sourcing of new railway equipment would supplement government revenues by a similar proportion.<sup>12</sup>

On this basis, the ultimate expansion in domestic GDP resulting, directly and indirectly, from the allocation of a major procurement project to a domestic supplier, would increase the cumulative end revenue of the government sector of the economy by some \$281 million – equal to just under one-third of the resulting boost to GDP, and well over one-quarter of the initial contract cost. This new revenue is divided between the two levels of government, with the Commonwealth initially receiving the larger portion (over \$200 million), but the states also ending up with significant new funds (especially when considering transfers from the Commonwealth).<sup>13</sup> The combined government sector ends up with a stronger fiscal balance as a result of domestic sourcing of the \$1 billion contract; when we consider the strong spillover effects generated by a major stimulus to domestic manufacturing, along with the fact that government takes in almost one-third of the resulting incremental GDP, this result should not be surprising.

## **A Need for National Coordination**

One important insight of the forgoing analysis is to note that the net increase in government-sector revenue associated with domestic sourcing is shared between the two levels of government – but most decisions over procurement sourcing is only made by one of them (the state). This creates a potential irrationality in decision-making: a decision by a state government whether to offshore new procurement or source it domestically has major fiscal implications for the Commonwealth government, which supports the procurement in the first place (with both current fiscal transfers and targeted capital subsidies) but does not control sourcing decisions. 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.

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<sup>11</sup> The Commonwealth also supports major state capital projects with additional transfers and subsidies which are not included in these current transfers. The Commonwealth government has several programs to subsidize public transit investments by the states, including a new \$5 billion infrastructure subsidy fund announced in its 2016 budget; see Stephen Dziedzic and Francis Keany, “\$5b infrastructure fund to be used to fund public transport projects,” ABC News, May 2 2016, [http://www.abc.net.au/news/2016-05-02/\\$5b-plan-in-budget-to-fund-public-transport-projects/7374772](http://www.abc.net.au/news/2016-05-02/$5b-plan-in-budget-to-fund-public-transport-projects/7374772).

<sup>12</sup> In fact, most government revenues are pro-cyclical, in the sense that the average revenue take as a share of GDP increases when the economy strengthens.

<sup>13</sup> Not all Commonwealth-to-state transfer programs automatically adjust with GDP levels, but it is reasonable to assume that eventually state governments will ensure that their ultimate share of new GDP will be at least maintained if not increased.

A process of joint decision-making by the two levels of government, would help to ensure that procurement decisions optimized the full net benefits of infrastructure investments. Alternatively, the Commonwealth government could impose domestic content provisions on procurement purchases made with Commonwealth support; this would further guide state decision-making to ensure that the positive spillovers of domestic sourcing (some of which are received by jurisdictions other than the state making the direct decision) are maximized.<sup>14</sup>

There are other reasons why it is imperative that decisions like this one be coordinated across the various levels of government. Not only do some of the benefits of domestic sourcing spill over to other jurisdictions, as described above. In addition, the collective impact of sourcing decisions by multiple governments would have an important cumulative effect on the efficiency and competitiveness of the entire Australian railway equipment manufacturing sector. Industry experts have long identified that a fundamental challenge in domestic railway equipment manufacturing results from the fragmented, irregular nature of the decision-making process regarding major infrastructure projects. Research in 2013 by Deloitte Access Economics<sup>15</sup> suggests that at least \$30 billion worth of purchases of railway rolling stock by publicly-funded bodies will be forthcoming in Australia over the next three decades; that total has likely been boosted by subsequent project announcements since the research was completed. Better coordination of procurement, in order to attain a stable flow of work (instead of the irregular patterns of work typical of past procurement practice), would facilitate cost improvements of 20 percent or higher, according to this research.

Decisions by individual state governments, however, are exacerbating this irrational fragmentation of decision-making. Consider, for example, the recent decision by the NSW government to unilaterally offshore sourcing of major new passenger rail purchases (to South Korea).<sup>16</sup> 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 percent 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

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<sup>14</sup> Exactly this sort of domestic content provision was formerly applied to Australian transit procurement until the mid-2000s, and is still widely utilized in other jurisdictions – such as the U.S. (with its “Buy America” regulations) and the Canadian provinces of Ontario and Quebec.

<sup>15</sup> Deloitte Access Economics, “Opportunities for Greater Passenger Rolling Stock Efficiency,” September 2013, 66 pp.

<sup>16</sup> The implications of this decisions are explored in detail in our recent report, *Penny Wise and Pound Foolish: The Economic and Fiscal Costs of Offshoring Public Procurement* (August 2016, [www.futurework.org.au](http://www.futurework.org.au)).

potential vulnerability of entire clusters of industry to loss of critical mass,<sup>17</sup> 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.

## Conclusion and Recommendations

The Australian public would undoubtedly support efforts to leverage more domestic manufacturing activity from the public procurement contracts which they, as taxpayers, ultimately pay for. A vivid example of this underlying public support for “made-in-Australia” was provided during the recent procurement of next-generation submarines. Public opinion polls commissioned by the Australia Institute, the Lowe Institute, and other agencies indicated overwhelming public support for Australian manufacture of the submarines.<sup>18</sup> This strong support forced the hand of a Commonwealth government that until then had downplayed the importance of domestic content as a criteria for selection; a made-in-Australia build program was eventually selected. The logic for building publicly-financed passenger rail cars in Australia, would seem to be just as compelling as that for building publicly-financed submarines here: both types of equipment serve the public interest and are paid for by taxpayers, whose own well-being depends on domestic employment and income opportunities. More recent survey evidence published in the Fairfax newspapers confirms that public support for measures to enhance Australian manufacturing is strong and broad, cutting across traditional political boundaries, education levels, and income.<sup>19</sup>

With concerted efforts to enhance the competitiveness of an Australian build, including by coordinating and planning future procurement contracts from other locations in Australia; taking into account the decline in Australia’s exchange rate; and negotiation with stakeholders to attain their best possible offers for supplies and labour, the competitiveness of Australian-made railway equipment on simple cost grounds versus offshore-made alternatives can be tremendously enhanced. Moreover, the relative appeal of alternative sourcing options must be compared on the basis of a suitably comprehensive cost-benefit analysis – one which rightly considers the implications of alternative sourcing decisions for Australia economic and fiscal performance.

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<sup>17</sup> The near-simultaneous decision by all three motor vehicle assemblers to close their remaining Australian operations is a powerful warning of the existence of strong cluster effects in manufacturing.

<sup>18</sup> Both the Australia Institute and Lowe Institute polls indicated 70 percent support for domestic manufacture of the submarines; see Jim Stanford, “Manufacturing (Still) Matters,” Center for Future Work, May 2016, pp. 12-14, [https://d3n8a8pro7vhmx.cloudfront.net/theausinstitute/pages/536/attachments/original/1464819264/Manufacturing\\_Still\\_Matters\\_\\_\\_Centre\\_for\\_Future\\_Work.pdf?1464819264](https://d3n8a8pro7vhmx.cloudfront.net/theausinstitute/pages/536/attachments/original/1464819264/Manufacturing_Still_Matters___Centre_for_Future_Work.pdf?1464819264); and “Majority of Australians favour a local build for next-generation submarines,” April 26 2016, <http://www.lowyinstitute.org/publications/2016-lowy-institute-polling-majority-favour-local-build-australias-next-gen-submarines>.

<sup>19</sup> “Voters want goods made in Australia,” by Matt Wade et al., *Sydney Morning Herald* (February 6, 2017), p.1.

The simulation described in this submission confirms that domestic sourcing of railway equipment procurement generates significant direct and indirect benefits experienced by multiple stakeholders in Australia – including the government sector itself, via fiscal effects of alternative sourcing decisions. No rational, transparent government can ignore those effects in its sourcing decisions.

With active leadership and coordination, rather than passively issuing multi-billion-dollar contracts solely on the basis of whatever bidder seemed to offer the lowest price, Australia can convert the coming important investments in passenger rail transportation into a dynamic engine of economic growth.

**Recommendation #1:** The Commonwealth and state governments in Australia should develop a broader framework for future rolling stock procurement, in order to capture maximum efficiencies from scale and coordination of the enormous flow of public transit procurement that will be forthcoming in coming years.

**Recommendation #2:** The Commonwealth government should assist state governments to make appropriately inclusive procurement decisions by establishing reasonable domestic content guidelines for public transit purchases that are supported with Commonwealth current and capital subsidies.

**Recommendation #3:** Direct procurement decisions for railway equipment should be determined on the basis of an inclusive cost-benefit analysis of the full economic and fiscal implications of alternative sourcing options, including the direct and indirect spillovers of sourcing decisions on Australian employment, output, incomes, and tax revenues experienced in the railway manufacturing sector, its supply chain, and downstream consumer goods and services industries.