

FIXING FREIGHT: ESTABLISHING FREIGHT PERFORMANCE AUSTRALIA



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ABOUT IPA

Infrastructure Partnerships Australia is the nation's peak infrastructure body – formed in 2005 as a genuine and enduring policy partnership between Australia's governments and industry.

IPA's formation recognises that through innovation and reform, Australia can extract more from the infrastructure it's got, and invest more in the infrastructure we need.

Through our research and deep engagement with policymakers and industry, IPA seeks to capture best practice and advance complex reform options to drive up national economic prosperity and competitiveness.

Infrastructure is about more than balance sheets and building sites. Infrastructure is the key to how Australia does business, how we meet the needs of a prosperous economy and growing population and how we sustain a cohesive and inclusive society.

Infrastructure Partnerships Australia draws together the public and private sectors in a genuine partnership to debate the policy reforms and priority projects that will build Australia for the challenges ahead.

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EXECUTIVE SUMMARY

FREIGHT IS GROWING BUT AUSTRALIA'S RELATIVE COMPETITIVENESS IS FALLING

Australia is a trading nation. Almost every facet of the Australian way of life relies on our capacity to move goods to, from and around the country. Whether it is moving product from farms or mines, transporting cars from ports to dealerships, or servicing our major global cities with building materials, groceries or smart phones, we are reliant on complex supply chains largely hidden from every day view.

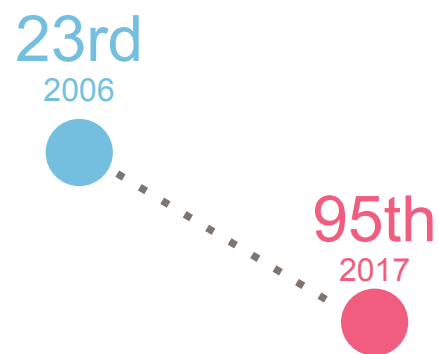
Australia's freight operators and infrastructure providers have excelled over recent decades in extracting more efficiency and capacity from our existing logistics networks. Innovations like larger trucks with multiple trailers, and automation at port terminals have meant we can do more, with less. But with a 26 per cent forecast growth in freight over the next 12 years, these isolated, incremental improvements will be insufficient.

The strains on Australia's freight networks, and in turn our economy, are already beginning to be felt. A range of macro indicators, coupled with feedback from customers and industry, show that Australia is falling behind on freight.

According to the World Bank, Australia underperforms other first world economies on logistic performance, sitting between Ireland and South Africa in 19th position.

A further measure for ease of 'trading across borders' places Australia 95th globally, this much lower than our 2006 ranking of 23rd. The 95th rank places Australia, at the bottom of our peer group of high-income countries.

▶ Australia's World Bank 'trading across borders' ranking is declining



These declining indicators of Australia's global competitiveness are not theoretical or remote. They expose an everyday reality for Australian producers, exporters and consumers. They are indicative of the higher costs and longer lead times that make Australian businesses less competitive, and see Australian consumers pay higher prices.

These high level indicators only describe a snapshot of the problem. There is limited reliable data available to accurately understand where the pinch points, bottlenecks and breakdowns are across the supply chain. Along with a lack of insight about where constraints emerge, we have little information about how costly they are, meaning a policy or project response is often reliant on intuition rather than evidence.



ESTABLISHING FREIGHT PERFORMANCE AUSTRALIA

This lack of clarity about the nature and scale of the challenges we face in the freight sector is why our key recommendation is for the Commonwealth Government to establish an independent statutory body, with the mandate, structure and resources to close the data gap. We call this concept Freight Performance Australia.

Our work shows that the freight data deficit is not due to a lack of data collection. Much of the data decision makers need is already collected, but it remains fragmented, in silos, and rarely analysed. We have found systematic collection and publication of information about network performance is routinely deficient – often held in a patchwork of isolated datasets spread across tiers of government, industry, and the supply chain.

For the individual actor in the supply chain, this privacy around data appears to be rational. After all, revealing your cost structures and relative efficiency to the market would allow competitors to replicate your innovations and remove your competitive advantages. But thought holistically, every participant in the supply chain, from primary producer to final consumer, would benefit from greater knowledge about where the network is constrained or inefficient. That's why we have proposed Freight Performance Australia as a body which will be able to protect the commercial interests of participants, but collect, synthesise and share data across the supply chain to the benefit of all.

At its highest level, Freight Performance Australia would be charged with addressing data and information gaps. It would provide a basis for a much clearer measurement of the problems – and a much clearer understanding of the solutions – that will restore the competitiveness of Australia's freight market.

Freight Performance Australia would be established as a statutory, independent national agency – with governance processes that ensure appropriate connections to government agencies, freight providers and customers but also appropriate independence from each.

Our consultations with industry in the development of this work confirm a greater willingness to provide data to an independent body, with requisite statutory protections, than to a private company or traditional government department.

This concept, sometimes known as a 'freight observatory', is not new. Various countries across the world, such as Chile and Spain, have made steps towards deepening their understanding of the performance of the freight network. This international experience is valuable because we can draw lessons to guide the establishment of an Australian body.

Existing freight measurement agencies and observatories around the world vary in structure (i.e. public, private or both), scope, modes covered and objectives. In general, they aim to strengthen and facilitate decision making and support robust policy and regulation through three broad functions:

- freight and logistics performance indicators;
- measurement of externalities such as congestion and environmental impacts; and
- specific policy or analytical reports – for example, using its information and data to inform sector-wide policy, investment and structural considerations.

These functions have informed our analysis of what FPA should be and what it should do.

MEASUREMENT SHOULD DRIVE FREIGHT MARKET REFORM

Noting the absence of performance data, we undertook analysis from the submissions to the *Inquiry into National Freight and Supply Chain Priorities* (the Inquiry) – to identify from this primary data where there is agreement about Australia's major freight challenges – and where there is a degree of consensus about the solution.

We also undertook a critical assessment of contemporary state freight strategies to identify commonalities and divergence on the nature of the freight problem, and ways of solving it.

While there is broad consensus on the themes of the problem, and the need for a more integrated solution, the proposed solutions are generally characterised by aspiration rather than practical action.

A strategy alone will not be enough to achieve the supply chain coordination Australia needs. However, the forthcoming *National Freight and Supply Chain Strategy* (which will be informed by the Inquiry) can be the opportunity to ensure all levels of government, and the private sector, focus on freight. This will ensure that we properly diagnose the issues, before seeking to resolve them.

To be successful, the *National Freight and Supply Chain Strategy* will need to be supported by a standing function to provide evidence and insights. Without the systematic collection and exposure of data there is a substantial risk the *National Freight and Supply Chain Strategy* will remain a document on the shelf, rather than actions on the ground. Indeed, without concrete actions it could draw attention away from badly needed regulatory reform and investment.

HOW CAN WE IMPROVE OUR FREIGHT SYSTEM?

Measuring our performance on freight is not an end in itself. Collecting data alone will not make Australia a more efficient place to move goods and deliver services. The analytical insights and advice provided by Freight Performance Australia will be crucial to understanding the challenges – but the evidence it will deliver to inform and shape policy and market reform is potentially vastly more powerful.

To a degree, freight has been the forgotten part of Australia's infrastructure debate. It is often said that freight 'can't complain', with a greater emphasis placed on people-focused infrastructure in project and policy commentary.

Freight's 'hidden' nature is compelled by a patchwork of fragmented responsibility across the tiers of the Federation – often with a lack of clarity about who is responsible for investment and regulation. For instance, an agricultural product transported by truck will travel on local and state-owned roads which are partially funded by the Commonwealth, and with access determined locally. The truck will be subject to a national user charging regime called PAYGO, coupled with state based registration fees. It will deliver to a terminal or port which could be state or privately owned; passing through customs and border control administered by the Commonwealth; before finally being loaded onto a ship likely registered outside of Australia.

This fragmentation and complexity inevitably makes reform more challenging, but systematic measurement through a body like Freight Performance Australia can provide the clarity and momentum needed for change. In particular, appropriate measurement can show where a frailty in the supply chain is not due to a physical barrier, but an operational or regulatory one.

SUPPORTING FREIGHT REFORM

The freight sector has been well supported by the delivery of plans and strategies across levels of government over the past decade. The Commonwealth has, since 2017, been engaged in a detailed process to deliver an updated and integrated *National Freight and Supply Chain Strategy*.

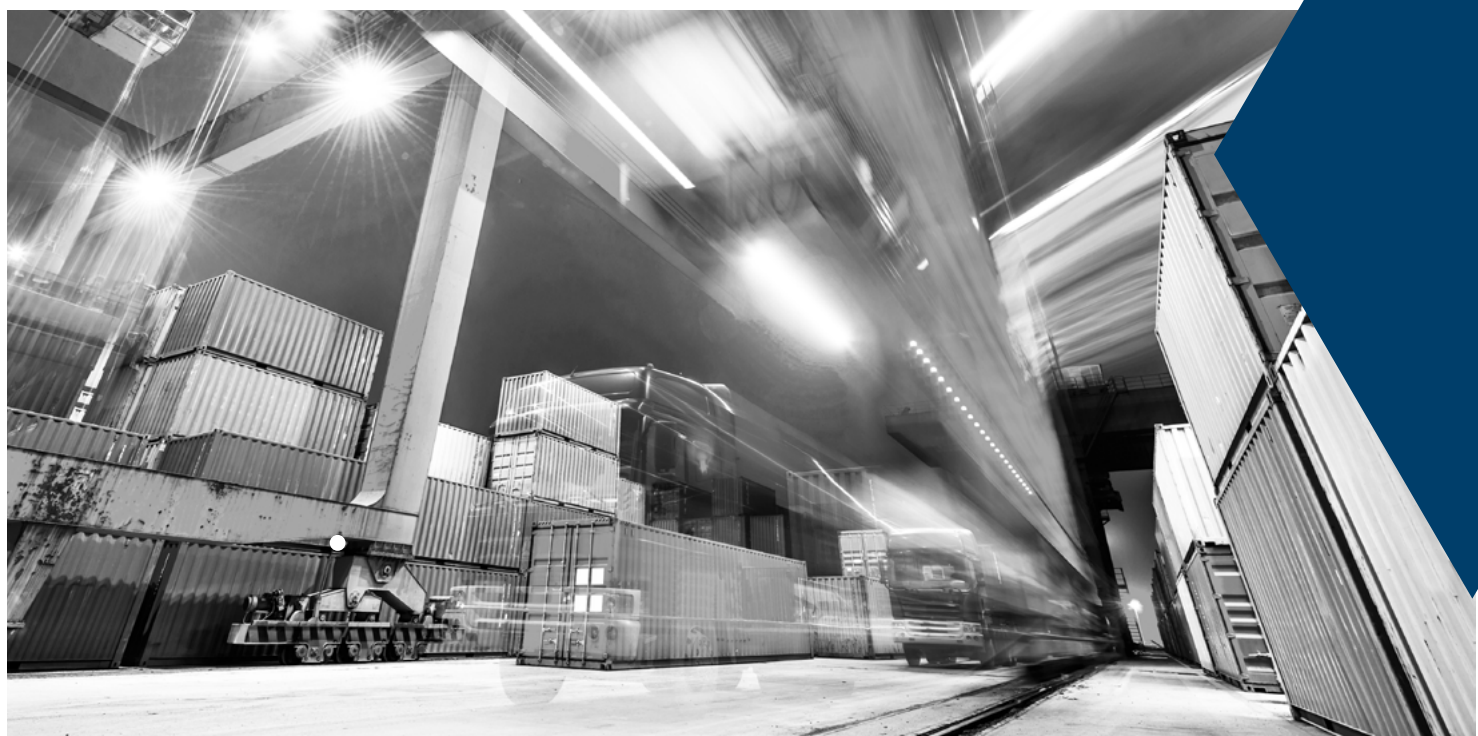
The volume and breadth of strategies, plans and independent reviews has created a degree of reform consensus in freight markets, but this consensus has not yet converted into persistent action. This reform lethargy can, in part, be traced to the absence of a strong, evidence based rationale for reform. Part of Freight Performance Australia's role would be to inform and build that platform for change.

By systematically measuring across time, quality and cost in the supply chain, Freight Performance Australia can both recommend intervention, and crucially, measure the impact of those interventions once delivered. This is true of physical interventions

like a new or upgraded rail connection, as well as from policy changes like a new access regime or modified curfew. Freight Performance Australia could provide the evidentiary baseline for governments to pilot and test reform options before a wider rollout; and provide clear evidence to industry and the community to secure enduring reform.

Our work clearly demonstrates a pressing need to do better on data collection, integration and analysis. The call for 'better data' is a common feature of submissions to the Commonwealth Government's Inquiry process and a staple recommendation in virtually every independent industry report on freight market reform. But few have provided a detailed architecture through which the aspiration of 'better data' could be practically delivered.

Freight Performance Australia provides that framework and could deliver the platform for a dramatically more efficient freight system, in a sector that affects the lives and prosperity of all Australians.



RECOMMENDATIONS

Australia needs an appropriate framework to connect the challenges – which are poorly understood – with the right solutions. Our four phase recommendation guides the development of a robust independent freight body, Freight Performance Australia.



1. OBJECTIVE

- The Council of Australian Governments (COAG) agrees to support a new independent Commonwealth statutory agency, Freight Performance Australia – which measures and reports freight productivity;
- The Federal Department of Infrastructure, Development and Cities (DIRDC) and the Bureau of Infrastructure, Transport and Regional Economics (BITRE) to lead concept design and consult with freight industry and states, with draft legislation released by 2019; and
- the Commonwealth to fund Freight Performance Australia's operating costs.

2019



2020

2. ESTABLISH

- Freight Performance Australia Board is appointed, with the Board to then select independent management;
- the Board publishes a draft organisational strategy, allowing detailed input by industry and tiers of government; and
- the Board publishes draft work programme outlining 'quick wins' as well as data acquisition strategies, methodological issues and timelines for publication.



3. PUBLISH

By 2021, Freight Performance Australia begins regular publication of national freight indicators and other KPIs, which should include:

- detailed quantitative and qualitative measurement of Australia's freight and logistics cost, capacity and time performance across modes, corridors and regions, and particular commodities, etc.;
- detailed absolute and comparative performance measures, against key global competitors;
- developed mechanisms to measure and report freight infrastructure connectivity gaps or other asset condition data; and
- regular publications with detailed freight forecasts, data, information and other reports as needed.

2021

ongoing



4. INFORM

- Freight Performance Australia uses data and information to engage the freight industry, political stakeholders and the community on key freight policy, regulatory reform and priority projects;
- regular measurement makes cost, time and capacity problems explicit, which are provided to government and industry stakeholders to assist in capital and operational planning; and
- data used to develop useful, relevant insights to assist the wider community in understanding the importance of freight productivity – driving accountability for improvement.





CHAPTER 1

AUSTRALIA'S FREIGHT SECTOR

1.1 INTRODUCTION

Australia's economy and community are increasingly engaged, challenged and changed by the 'digital disruption' offered by 21st century technology – driving a globalised, connected economy – which serves people right across the globe.

Challenges in the Australian transport system continue to evolve in response to the changing patterns of goods movements and passenger travel. In the case of freight, the growth of international trade, the shift from a manufacturing to a service economy, regulatory change, and the advent of freight logistics have all resulted in changes in the nature, destination and volumes of the transported goods.

But we are seeking to build our modern economy on an ageing freight system – resulting in increasing frustration and expense for businesses and consumers alike.

A growing demand for goods from businesses and residents in urban and regional areas that are expanding in population has resulted in increased freight activity. In turn, an increased population means more containers, more trains, more ships, more aircraft and more trucks are using our infrastructure networks.

The strong growth in freight is also due to the increasing volume of intermediate products in our trade system, and because community preferences and demographics are changing.

For example, households increasingly expect the type of highly customised, 'just in time' logistics for their groceries that until recently, would have only been common in high value, complex manufacturing businesses or very valuable perishables.

Some of these changes are attributable to macroeconomic factors – such as the decline of heavy manufacturing across much of Australia and the massive growth in resource exports over the past 20 years. Others are due to shifts in industry – for example, technology appears to be changing the fundamental logistics needs across retail and other consumer products.

But this demand for more freight and much more customised logistics services occurs within the context of existing problems and emerging challenges. Australia's modern economy needs a sustained focus on developing the type of 21st century freight and logistics sector that will enable, not hinder, that shift – delivering better services for consumers and a more efficient economy for all Australians.

1.2 FREIGHT HAS DOUBLED OVER THE LAST 20 YEARS

Australia's domestic freight network moved some 738 billion tonne kilometers (tkm) of freight across the country in 2015/16¹.

- More than half (56 per cent) was carried by rail;
- 29 per cent by road;
- 15 per cent by coastal shipping; and
- less than 0.01 per cent by air.

¹ Bureau of Infrastructure, Transport and Regional Economics, 2017.

Figure 1 highlights that Australia's freight task has more than doubled over the past 20 years, growing by an average of four per cent per annum. Forecasts produced by BIS Oxford Economics for IPA suggest that the total national freight task will grow by 26 per cent by 2030, an average of two per cent per annum. The projections show continuous growth out to 2050.

Australia's freight task is forecast to grow

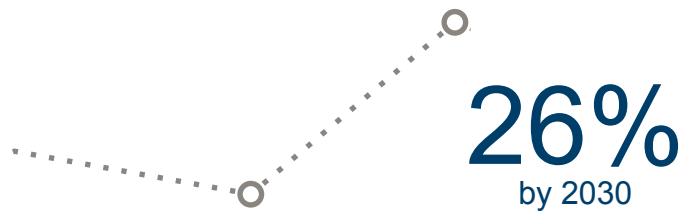
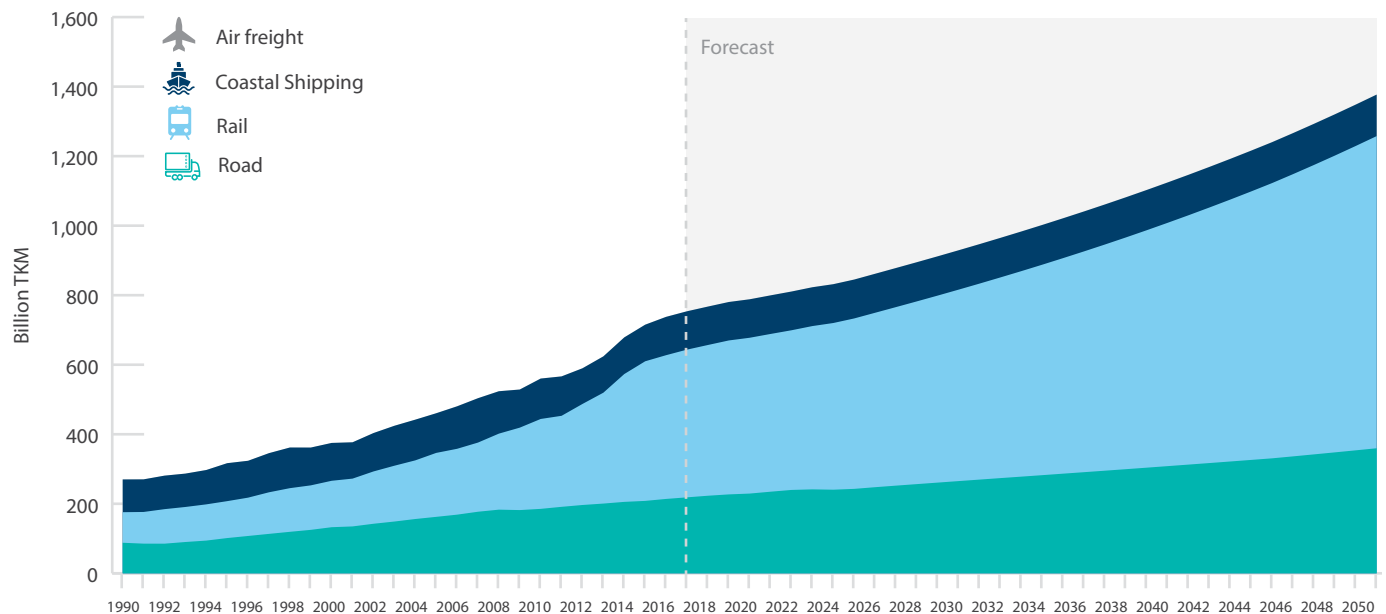


Figure 1 - Australia's domestic freight by transport mode



Source: BIS Oxford Economics, 2018

Australia's domestic freight by mode in 2015/16



29%



56%



15%



0.01%

1.2.1 Domestic bulk freight is mostly moved by rail

Figure 2 shows the bulk freight task and modal share from 1990, modelled to 2050 on a business as usual outlook. It shows that:

- rail moved 68 per cent, or 381 billion tkm of total bulk freight in 2015/2016, and is forecast to increase its volume by a further 33 per cent by 2030;
- coastal shipping moved 18 per cent, or 103 billion tkm in 2015/2016, and will maintain its volume over the forecast years; and
- roads moved 14 per cent, or 79 billion tkm in 2015/16, and will shrink to 11 per cent mode share by 2030.

Rail is the dominant and growing mode in the bulk freight task, because of its natural advantages around cost and economies of scale. The bulk task is dominated by coal and iron ore in the resource states – but also sees smaller, though still significant, volumes of minerals and bulk grains, moving across the wider freight system.

1.2.2 Domestic non-bulk freight is mostly on our roads

Unlike bulk freight, three quarters of Australia's non-bulk freight is carried on roads, dominating freight movements between Sydney, Melbourne, Brisbane and Adelaide². Figure 3 compares the non-bulk freight volumes by transport mode over time – again modelled to 2050, showing that:

- rail moved 19 per cent, or circa 32 billion tkm of total non-bulk freight in 2015/2016 with forecasts showing an increase in volume by an average of two per cent per annum out to 2030;
- coastal shipping moved four per cent or circa eight billion tkm in 2015/2016 and will increase on average by two per cent per annum out 2030;

- roads moved 77 per cent, or 135 billion tkm in 2015/16, with a forecast average annual increase of two per cent out to 2030; and
- air freight accounted for less than 0.01 per cent of the non-bulk freight task in 2015/16 with projections estimating an average increase of two per cent of the non-bulk freight task out to 2030.

The dominance of road freight is explained to some degree by the nature of the non-bulk freight task itself – with some 80 per cent of road freight transported over a distance of less than 100 kilometres. Advances in vehicle technology have allowed freight to be moved on Australia's roads for a relatively low unit cost and compared to rail, road freight has a great 'flexibility' advantage since it connects every warehouse and customer in Australia.

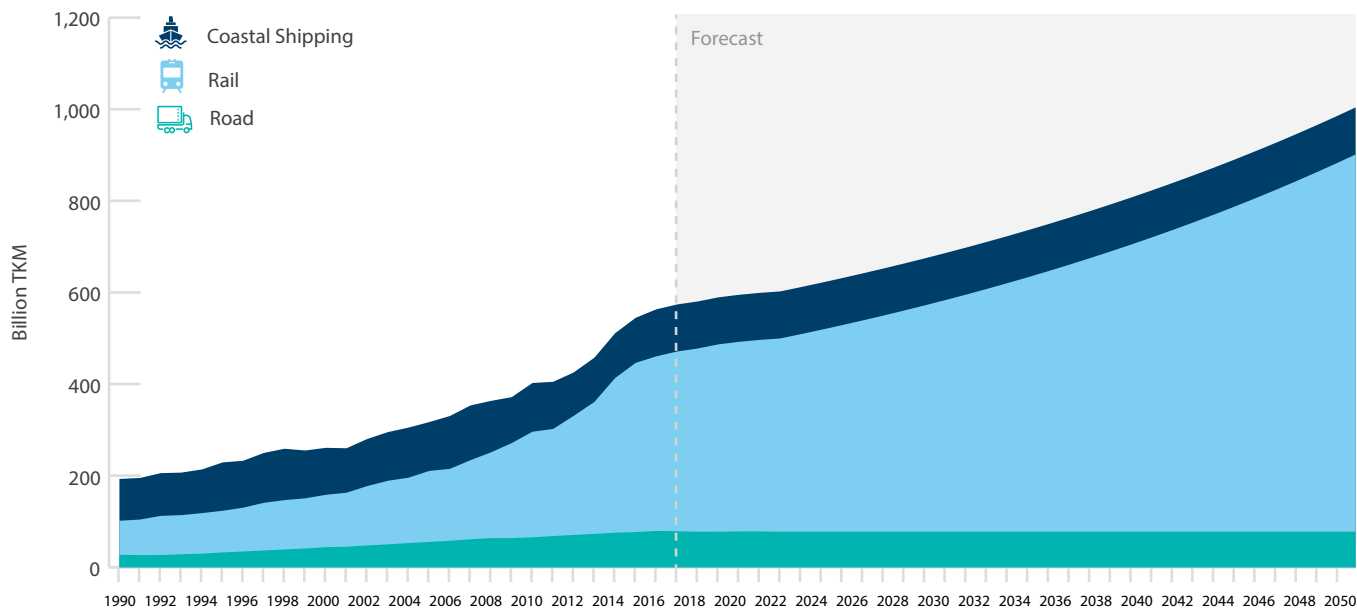
But road's share in long-distance non-bulk freight has grown six-fold³ over the last four decades, driven by productivity and technology improvements in freight vehicles and major investments in the road freight network. Further, opaque cost-reflectivity in heavy vehicle charges for road infrastructure, compared to rail, further distorts mode preference and share.

Challenges for non-bulk freight rail movement include fragmentation between the tiers of government, infrastructure constraints through the major cities and particularly, time and reliability challenges compared to road freight. While efforts have been made towards better utilisation of rail (e.g. intermodal terminals), rail will likely need to play an even greater role to accommodate the growth in the freight task as shown in Figures 1 to 3.

² National Transport Commission, 2016.

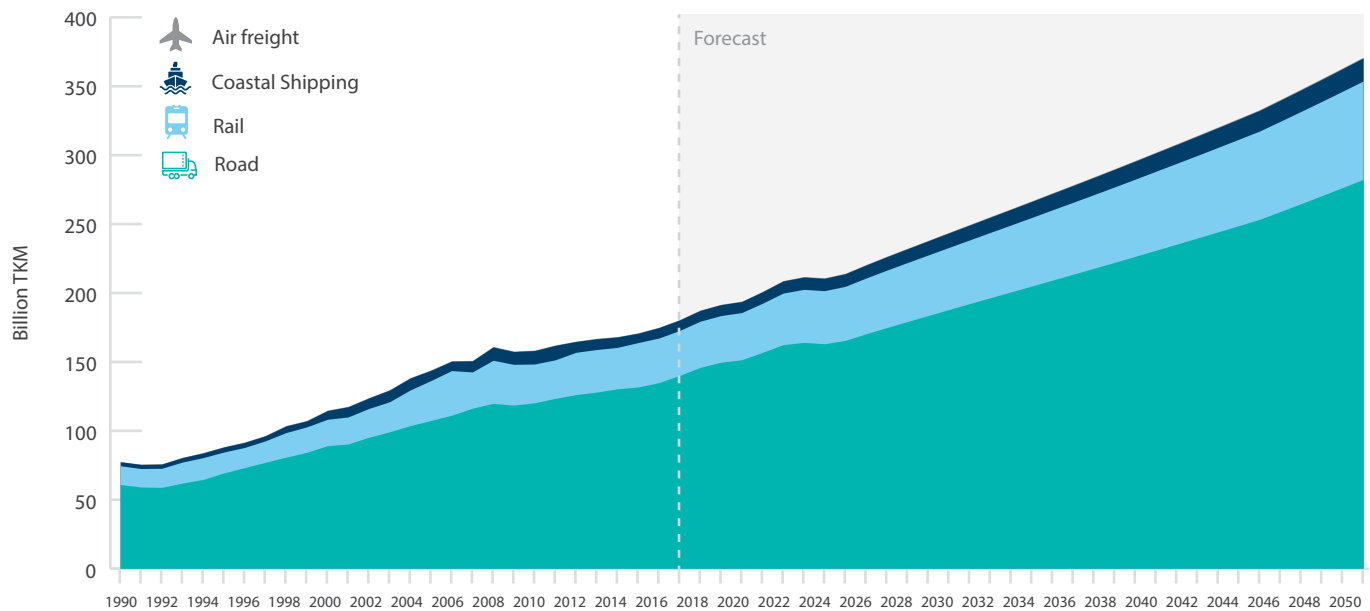
³ Chaderi et al., 2015.

Figure 2 - Domestic bulk task by transport mode



Source: BIS Oxford Economics, 2018

Figure 3 - Domestic non-bulk freight by transport mode



Source: BIS Oxford Economics, 2018

1.2.3 Coastal shipping is mostly bulk products

Figure 1 shows coastal shipping playing a relatively minor and stagnant role in overall freight movements, with a mode share of 15 per cent of domestic freight movements.

Of that 15 per cent, bulk freight comprises more than 90 per cent – with less than 10 per cent of shipping movements related to non-bulk freight.

Further segmentation shows that 70 per cent of the domestic coastal shipping task relates to just four freight routes⁴, being:

1. shipping oil from north-west Western Australia to capital city refineries;
2. shipping iron ore from Pilbara to Port Kembla and Whyalla;
3. shipping bauxite/alumina from Weipa and Bunbury to Gladstone and Geelong; and
4. shipping freight to and from Tasmania.

Other than Tasmania, only a tiny proportion of non-bulk freight uses coastal shipping, mainly from the east coast capitals to Perth⁵. Two thirds of this east-coast to Perth shipping task is performed by international ships, operating under a permit scheme that allows them to pay a fee to operate within the cabotage rules.

However, Australia's cabotage rules largely prohibit international competition – requiring instead that coastal shipping be performed by Australian registered ships – or else, operate under the permit scheme. Cabotage policies could potentially curb competition and restrict the growth of coastal shipping in Australia.

1.2.4 Shipping dominates international trade

As an island, it is little surprise that international shipping supplies more than 98 per cent⁶ of Australia's total trade by mass – and circa 74 per cent of trade by value. Figure 4 and Figure 5 show the profiles of major exports and imports, by volume and value.

As an international economy, Australia is not left unaffected by the increasing prominence of the global supply chain and trade in intermediate (semi-finished) goods used as inputs in the production of other goods. The shift towards 'just in time' global supply chains sees trade in components of manufactured goods and intermediate goods now three times greater – and growing at a faster rate, than flows of final goods.

Over the next 15 years, containerised international trade will grow by an average of 5.1 per cent per year, while non-containerised freight will grow by 3.9 per cent⁷.

This growth will exacerbate existing and emerging problems such as land availability, capital funding, planning, urban encroachment and freight performance measurement.

Increased freight volumes, larger ships and regulatory impediments like operating curfews and restrictions all impact on the ability of international shipping to operate efficiently.



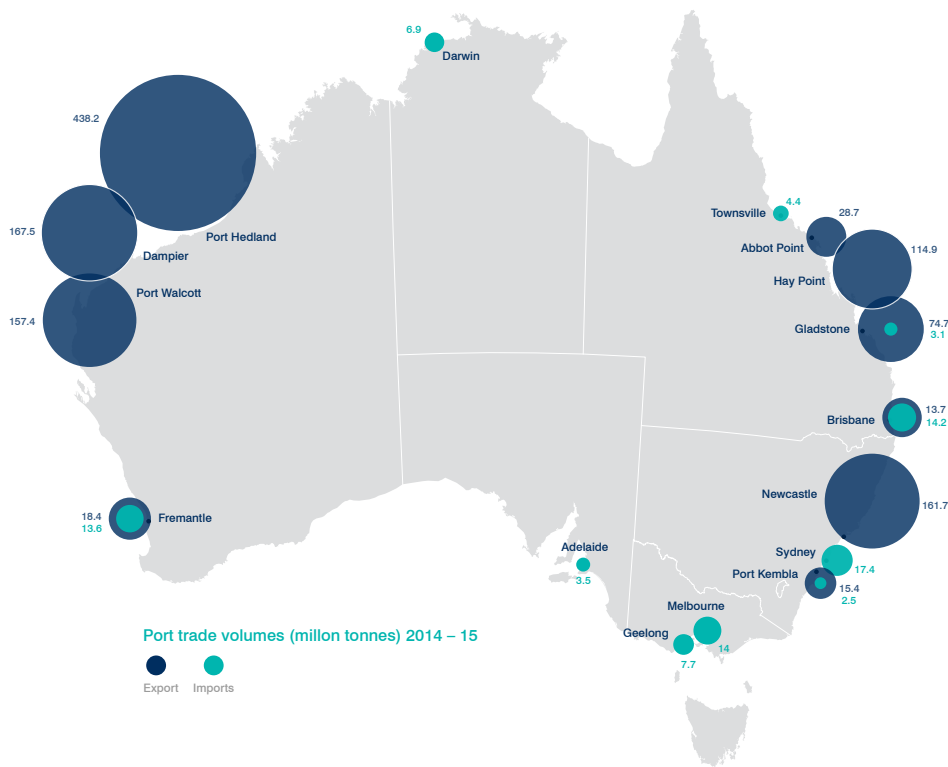
4 Bureau of Infrastructure, Transport and Regional Economics, 2014a.

5 Ibid.

6 Bureau of Infrastructure, Transport and Regional Economics, 2014b.

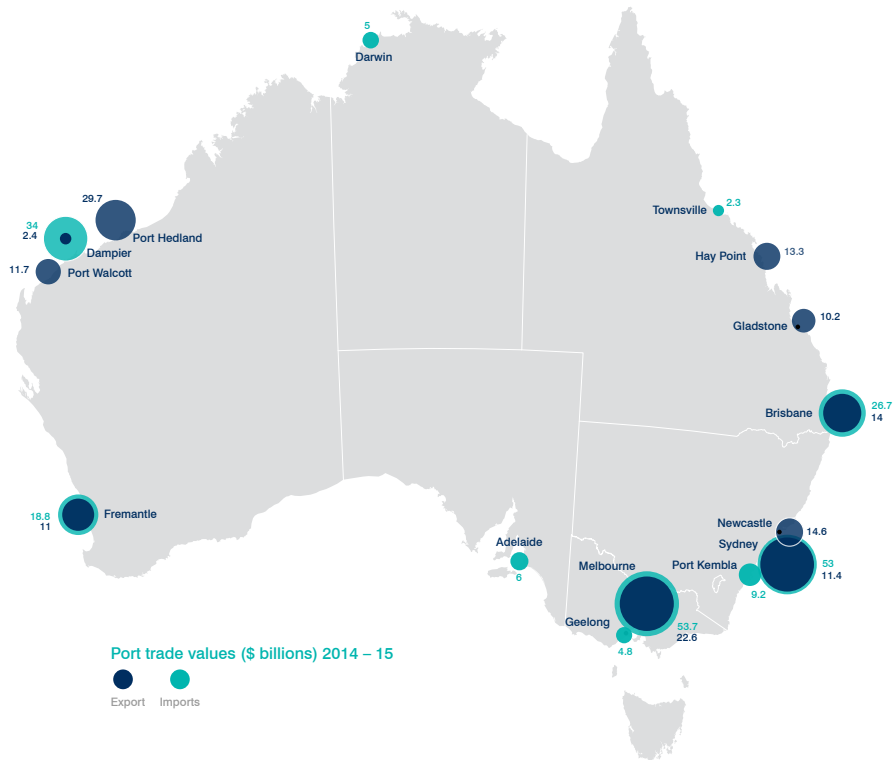
7 Ibid.

Figure 4 - Top ten export and import sea ports by volume (million tonnes), FY 2014–2015



Source: IPA visualisation of BITRE statistics

Figure 5 - Top ten export and import sea ports by value (\$ billion), FY 2014–2015



Source: IPA visualisation of BITRE statistics

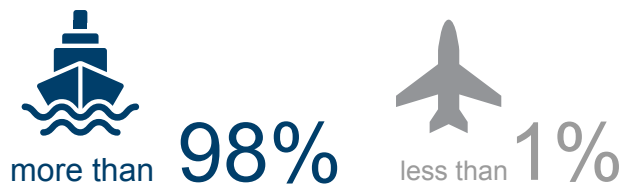
1.2.5 International air freight is mostly high value products

While international air freight is only a small part of the freight task by volume – less than one per cent – it represents more than 21 per cent⁸ of freight movements, when measured by value.

A key driver of the overall growth of air freight is the growth in the Business to Consumer (B2C) market which reflects air freight's natural advantage in moving high value or time critical goods⁹.

Air freight's growth reflects the shift by consumers towards online purchases, requiring 'next day' supply chain processes and deliveries. However, this growth will coincide with the growth in the passenger aviation task at many capital city airports. This will place increased pressure on capacity – and require a review of operating curfew rules, future capacity or other restrictive regulations.

International freight volumes for 2017



International freight values for 2017



Note: The modes in the figures do not add up to a 100 per cent because data for some goods is not available for publication. This includes 0.9 per cent for freight volumes, and 4.8 per cent for freight values.

Source: BIS Oxford Economics, 2018



⁸ Australian Airports Association, 2018.

⁹ Bureau of Infrastructure, Transport and Regional Economics, 2014a.

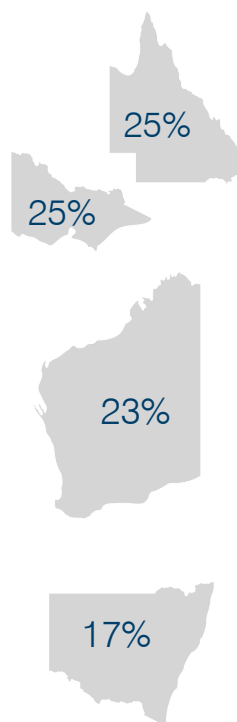


1.3 A GROWING ECONOMY AND POPULATION MEANS FREIGHT MUST RECEIVE INCREASED FOCUS

Freight and logistics is a significant sector in Australia, which accounts for around 10 per cent of Gross Domestic Product (GDP)¹⁰. Studies estimate that every one per cent improvement in the national supply chain's efficiency, delivers around \$2 billion of gains to the economy¹¹.

Figure 6 shows the forecast of population growth across Australia – which will surge from nearly 25 million people today, to circa 30 million people by 2030, and to 36 million by 2050. Despite the population growth across regional areas, the vast bulk of growth will occur across the major capital cities and larger centres.

► Australia's population forecast suggests that by 2030:

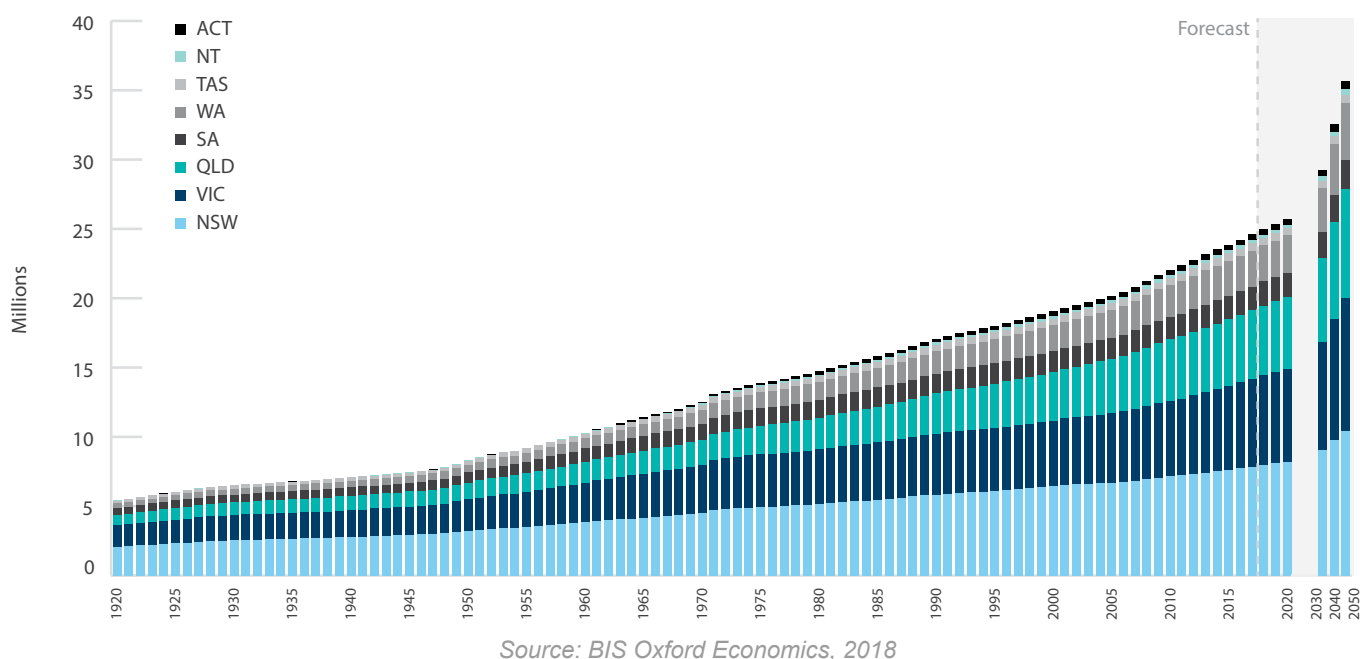


the fastest growth will occur in Queensland (QLD) and Victoria (VIC) (25 per cent);

Western Australia (WA) will grow by 23 per cent; and

New South Wales (NSW) is growing more slowly in proportional terms (17 per cent) – but off a higher existing population than the other states.

Figure 6 - Australian population distribution - total by states and territories, 1920-2050



¹⁰ Department of Infrastructure, Regional Development and Cities, 2017.

¹¹ Australian Logistics Council, 2017.

This strong population growth rate, which is the highest of all advanced economies, will lead to even stronger growth in demand for freight. This is due to the growing intensification of trade in intermediate goods, as global supply chains expand and deepen.

It is also driven by higher community expectations on freight movement, as technology facilitates 'just in time' movements of goods. This robust forecast growth in freight must be met with supply side reforms, and capital investment.

Figure 7 shows that there has been a substantial lift in transport capital expenditure across certain modes, which saw levels roughly double between the early 2000s and now. This lift in funding levels was also accompanied by a range of freight and logistics related strategies – such as the development of AusLink in the mid-2000s, and the Nation Building Program which commenced in 2009.

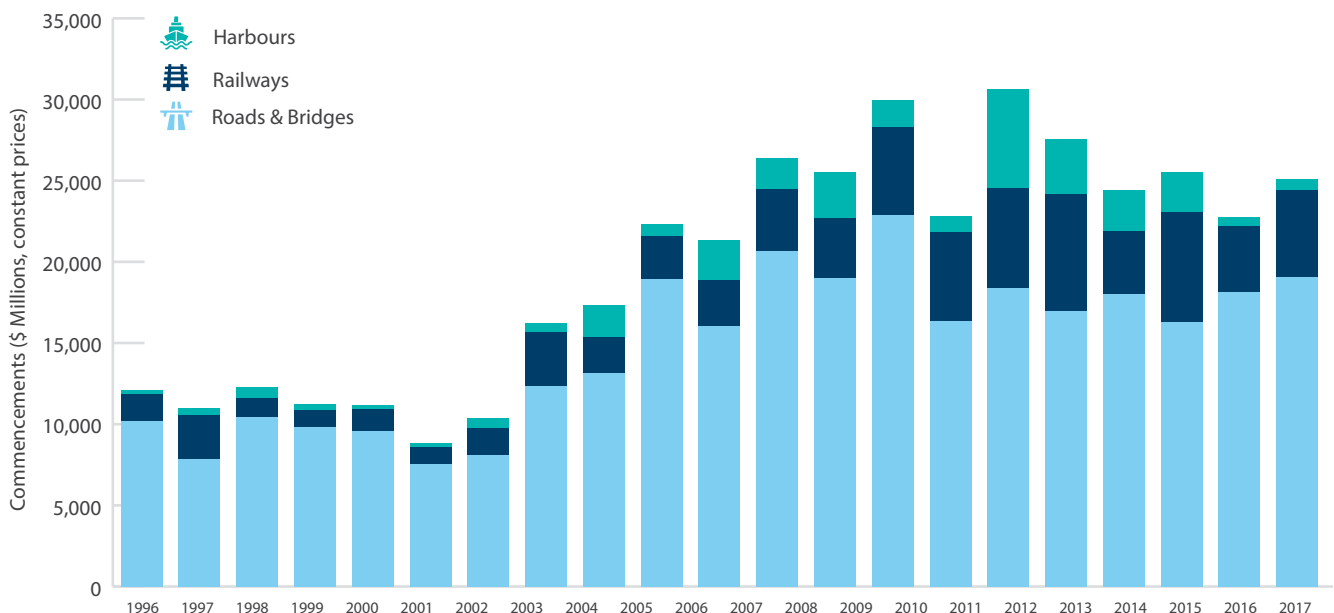
While roads absorb the largest part of transport funding, the growth in rail investment over the later years of the chart reflects the large private investments made to connect to bulk export ports, as well as some degree of investment in passenger and non-bulk railways.

The large and sustained lift in capital funding is itself a little misleading, because much of this has been dedicated to passenger transport projects. Low cost freight projects with high Benefit Cost Ratios can often fail to advance, because of a high degree of focus on the more visible passenger transport task.

The freight task cannot be considered in isolation from the passenger movement task or vice versa. After all, freight often shares the same modes, the same roads, rail lines and airports that are used by passengers.

However, while freight is often prioritised in governments' project assessments, when it comes to appropriate actions and reform the focus often shifts to passenger needs.

Figure 7 - Total investment in transport infrastructure



Source: ABS statistics, IPA and BIS Oxford Economics analysis, 2017





CHAPTER 2

IS AUSTRALIA INTERNATIONALLY COMPETITIVE IN LOGISTICS?

2.1 INTRODUCTION

Australia is a modern, growing, first world economy, but we are served by an ageing freight transport sector, posing increasingly complex barriers to Australian producers and consumers.

Intuitively, trucking, shipping and other movement costs are the major drivers of freight transport costs. However, trade logistics such as customs procedures, tracking and tracing services, and overall infrastructure and other logistics costs, have proven to impact more on a country's trade performance than freight's 'movement' costs alone¹².

Many factors have contributed to the poor outcomes for freight. These include constrained landside connections to ports and airports, broader urban road and rail congestion, under maintained and ageing freight infrastructure and strained last mile connections.

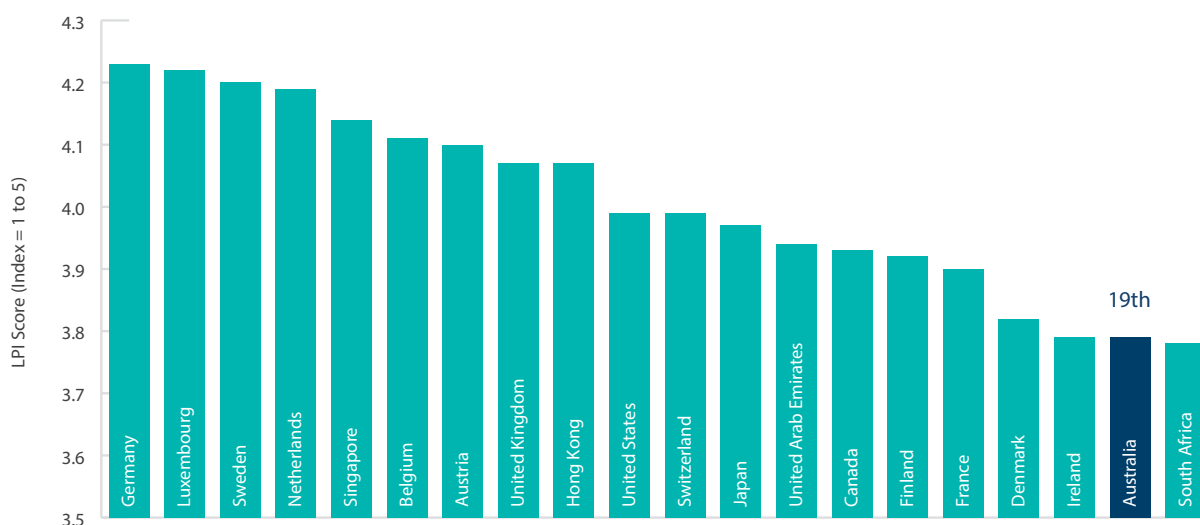
These factors are overlaid with complex environmental, safety and planning controls across the tiers of government; which together have seen Australia's logistics efficiency decline relative to our global peers.

Consumers and the economy ultimately absorb these costs, through higher than necessary prices for goods and services, and reduced international competitiveness for Australian exporters.

2.2 SENTIMENT AND MEASUREMENT BOTH SHOW AUSTRALIA'S LOGISTICS ARE BEHIND GLOBAL COMPETITORS

Figure 8 shows a regular sentiment survey done by the World Bank, ranking countries on the Logistics Performance Index (LPI). This shows a broad perception that Australia underperforms compared to other major economies, including Canada, the US, much of Europe and the United Arab Emirates.

Figure 8 - Australia's Logistics Performance Index (LPI)¹³ compared to reference countries

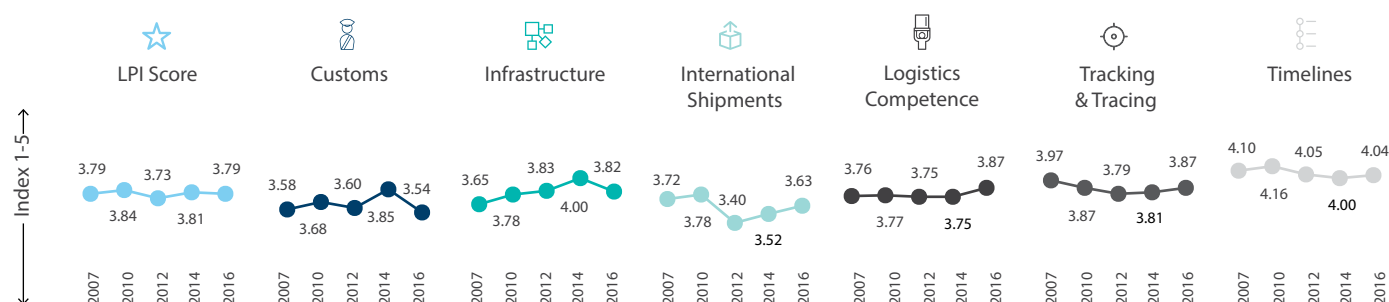


Source: World Bank, 2016

¹² Korinek and Sourdin, 2011.

¹³ Arvis, et al., 2016.

Figure 9 - Australia's LPI Scores



Source: World Bank, 2016

Despite a near doubling in transport infrastructure investment since the early 2000s, Figure 9 shows that within the overall ranking, Australia performs poorly compared to its global peers across the six components of performance. Only two scores have improved since the LPI began in 2007 – infrastructure and logistics competence. Despite the increased score for the infrastructure category, which measures the overall quality of trade and transport related infrastructure, our global ranking has declined over the same time period.

Tracking and tracing, which measures the ability to track and trace consignments, has declined over the last decade, as has international shipments, which measures of ease of arranging competitively priced shipments.

The World Bank's qualitative work is supported by quantitative measures, such as the import and export cost comparison shown in Table 1. Australia's supply chain costs are very high compared to our competitors – with cost and price impacts for Australian consumers and exporters alike.

Table 1 - Shipping charge for a 40-foot dry container (US\$)

	EXPORT	IMPORT
AUSTRALIA	1033	1006
GERMANY	675	892
SINGAPORE	323	266
HONG KONG	194	211
CHINA	494	683
UNITED STATES	921	769
CANADA	542	414
INDIA	492	518
INDONESIA	579	568

Note: Export: from the point of origin to the port of loading (air/sea). Import: from the port of discharge (air/sea) to the buyer's warehouse.

Source: Arvis et al., 2014

The cost of transportation in Australia makes it difficult for firms to compete in global markets. Recent submissions to the *Inquiry into National Freight and Supply Chain Priorities* (the Inquiry) identify a range of examples:

- it costs a Brisbane-based advanced manufacturing company as much to move their products 35 kilometres to the Port of Brisbane, as it costs to complete the 13,000 nautical mile journey to the UK;
- a beetroot exporter's domestic freight costs are circa two thirds of their overall freight costs;
- for a grain exporter, domestic freight costs accounted for 30 per cent of total costs; and
- transportation comprises around 25 per cent of the total cost of heavy construction materials.

► It costs the same for a Brisbane-based advanced manufacturing company to move their products to the Port of Brisbane, as it does from the Port of Brisbane to the UK



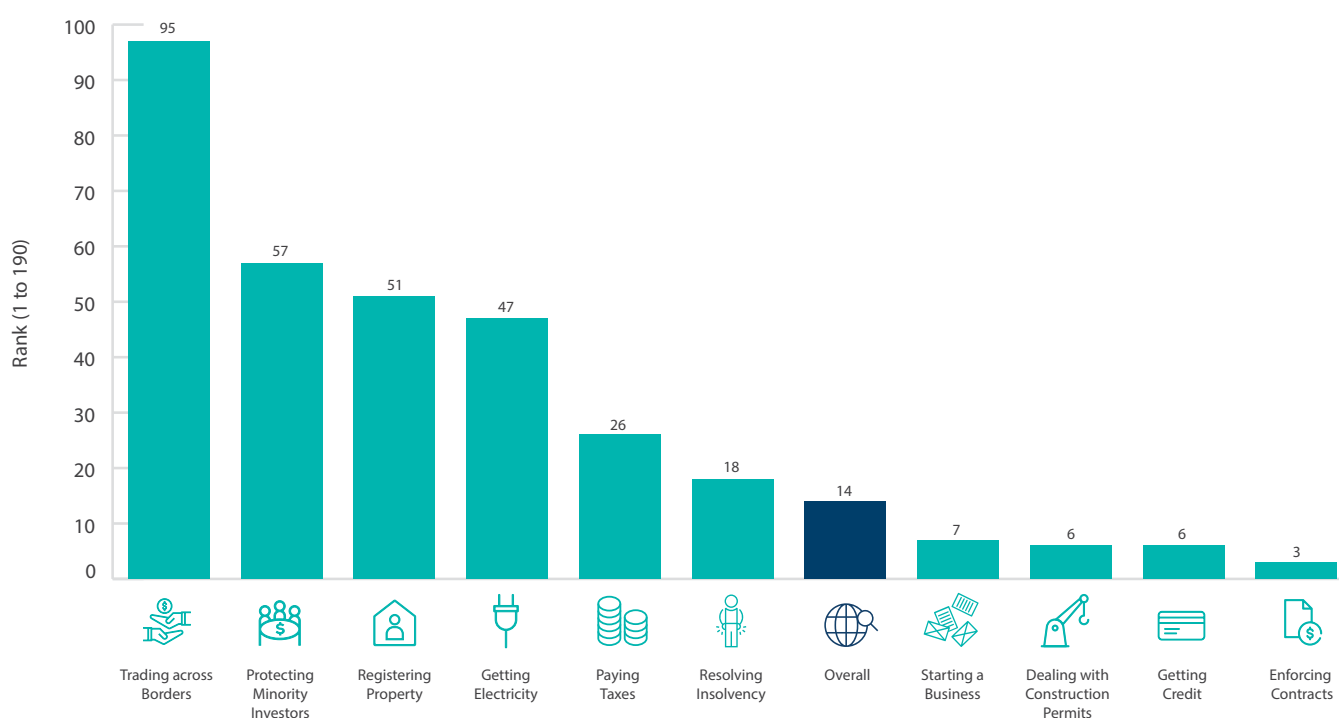
AUSTRALIA'S BORDER PROCESSES – POTENTIAL AREAS OF IMPROVEMENT

While there is limited data available on the performance across the different components of the supply chain, international studies indicate that Australia's customs process are burdensome and inefficient. However, specific detail on why, how, and what could be improved are not well understood.

The LPI identifies 'customs processes' as the weakest aspect of Australia's international logistics performance. The World Bank report notes that Australia requires seven separate documents to be lodged to export and three to import goods – while our OECD peer economies require just two documents for each direction of trade.

Further, the World Bank's annual *Doing Business* report¹⁴ measures the relative 'ease of doing business' across world economies. While it shows Australia at 14th place overall (Figure 10), we rank 95th out of 190 countries on ease of 'trading across borders', which is an indirect measure of the quality of Australia's border connections and processes. The 95th ranking is much lower than our 2006 ranking of 23rd¹⁵.

Figure 10 - Australia's ease of doing business



Source: World Bank, 2018

14 World Bank, 2018.

15 World Bank, 2007.

Australia's rank of 95th is further explained by Figure 11 and 12¹⁶, which present the cost and time associated with the logistical processes of importing and exporting goods. Figure 11 shows that Australia's border-related compliance processes see exporters face higher costs to trade than their OECD peers and emerging economies.

In terms of border administration, the cost of compliance is significantly higher for imports and exports. On the export side, compliance is costly and time-intensive according to World Bank estimates, however this in part due to the high proportion of meat exports that tend to require more oversight.

Figure 12 shows that while Australia outperforms emerging regions in term of hour time to export – we severely lag the OECD high-income peer economies, due to border-related processes. Examination, inspection, approval of documents and customs shipment process are all fundamentally important functions – but the evidence shows that Australia's overall performance of these functions is far more time consuming than our OECD peers.

These global studies provide useful metrics to understand, at a high level, Australia's relative performance compared to our global peers in one aspect of our supply chain.

The capacity to analyse and diagnose problems along the supply chain, such as customs processes, is important as Australia seeks to improve efficiency and competitiveness.

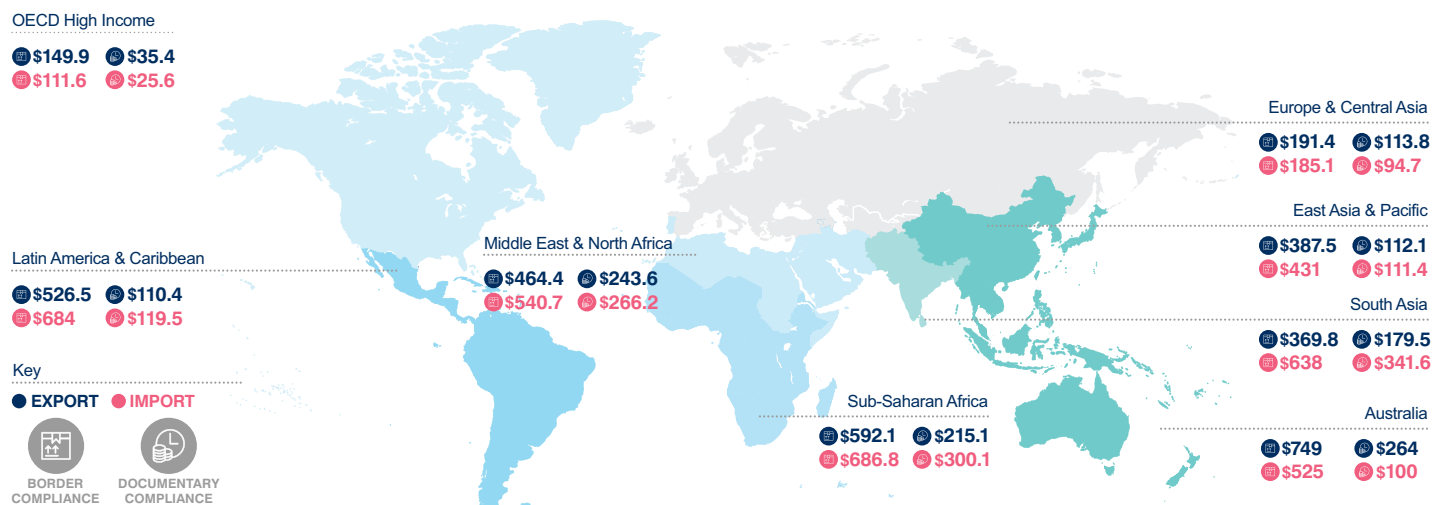
Efficiency could potentially be improved if Australia was to automate its customs procedures – for example, by using an integrated 'Single Window' system, which many of our global peers have implemented. 'Single Window' and similar technology platforms enable customers, regulators, logistics providers, customs brokers, freight forwarders, finance and insurance providers all to have an integrated visibility of trade related documents. This allows each part of the supply chain to 'respond in time'.

But the needs, priorities and benefits of such system are not known, because we don't measure customs process performance in detail, or how it impacts the entire supply chain.



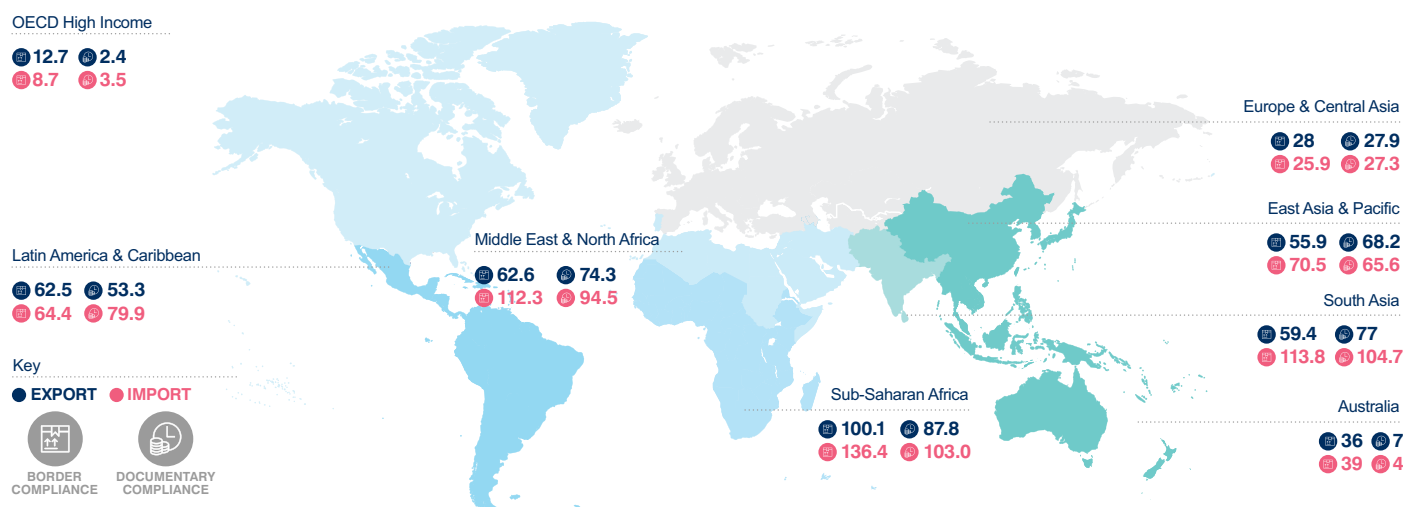
¹⁶ Border compliance captures the time and cost associated with compliance with the economy's customs regulations and with regulations relating to other inspections that are mandatory in order for the shipment to cross the economy's border, as well as the time and cost for handling that takes place at its port or border. Documentary compliance captures the time and cost associated with compliance with the documentary requirements of all government agencies. The time and cost for documentary compliance include the time and cost for obtaining documents, preparing documents, processing documents, presenting documents, and submitting documents.

Figure 11 - Australia's cost to export and import (\$US)



Source: World Bank, 2017

Figure 12 - Australia's cost to export and import in hours



Source: World Bank, 2018





CHAPTER 3

AN ASSESSMENT OF RECENT DEVELOPMENTS IN FREIGHT

3.1 INTRODUCTION

A substantial suite of strategies and plans have been developed over the past decade focusing on particular aspects of the freight system (e.g. ports, airports, cities, rail, etc.) at both state and national levels.

The current holistic freight review is the *Inquiry into National Freight and Supply Chain Priorities*¹⁷ (the Inquiry). The Inquiry will inform the *National Freight and Supply Chain Strategy*, which was a recommendation in Infrastructure Australia's 2016 Australian Infrastructure Plan.

We have conducted a detailed descriptive analysis of each of the 110 public submissions¹⁸ to the Inquiry. We then compare the alignment with the focus of the individual state and territory freight plans including:

- *Draft NSW Freight and Ports Plan* (2017);
- *Tasmanian Integrated Freight Strategy* (2016);
- *ACT's Integrated Transport Network - Freight* (2016);
- *South Australia's Integrated Transport and Land Use Plan* (2015);
- *National Remote and Regional Transport Strategy* (2015);
- *Queensland's Moving Freight Strategy* (2013);
- *Western Australian Regional Freight Transport Network Plan* (2013); and
- *Freight Futures: Victorian Freight Network Strategy* (2008).

Our analysis of the various strategies reveals that while the themes are similar across jurisdictions, the priorities vary, particularly when comparing between state and national levels. The review confirms a determination to solve freight infrastructure challenges – however the necessary mechanism to deal with challenges is often absent. This absence of a practical mechanism to address a problem is often indicative of a lack of visibility of the underlying cause. This lack of visibility, in turn, is a consequence of shortages in data availability, integration and analysis.

A detailed understanding of the performance of freight networks is the requisite mechanism needed to deepen our understanding of these challenges, and provide a pathway forward.

3.2 OUR SEGMENTATION OF SUBMISSIONS TO THE INQUIRY

In approaching our analysis of the submissions, we segmented the publicly available submissions by allocating each respondent a geographic focus and describing their relationship to the freight task. For example, whether the respondent was a company, industry association or government.

We then analysed each submission to identify where individual anecdotes or examples aligned to a higher-level challenge (e.g. 'last mile issues') or a solution (e.g. 'improve regulation').

We undertook this analysis to provide an overall quantitative understanding of the issues raised – and the solutions suggested.

¹⁷ We reviewed 110 submissions to the Inquiry (126 total submissions were made, including 13 in confidence and three which were irrelevant).

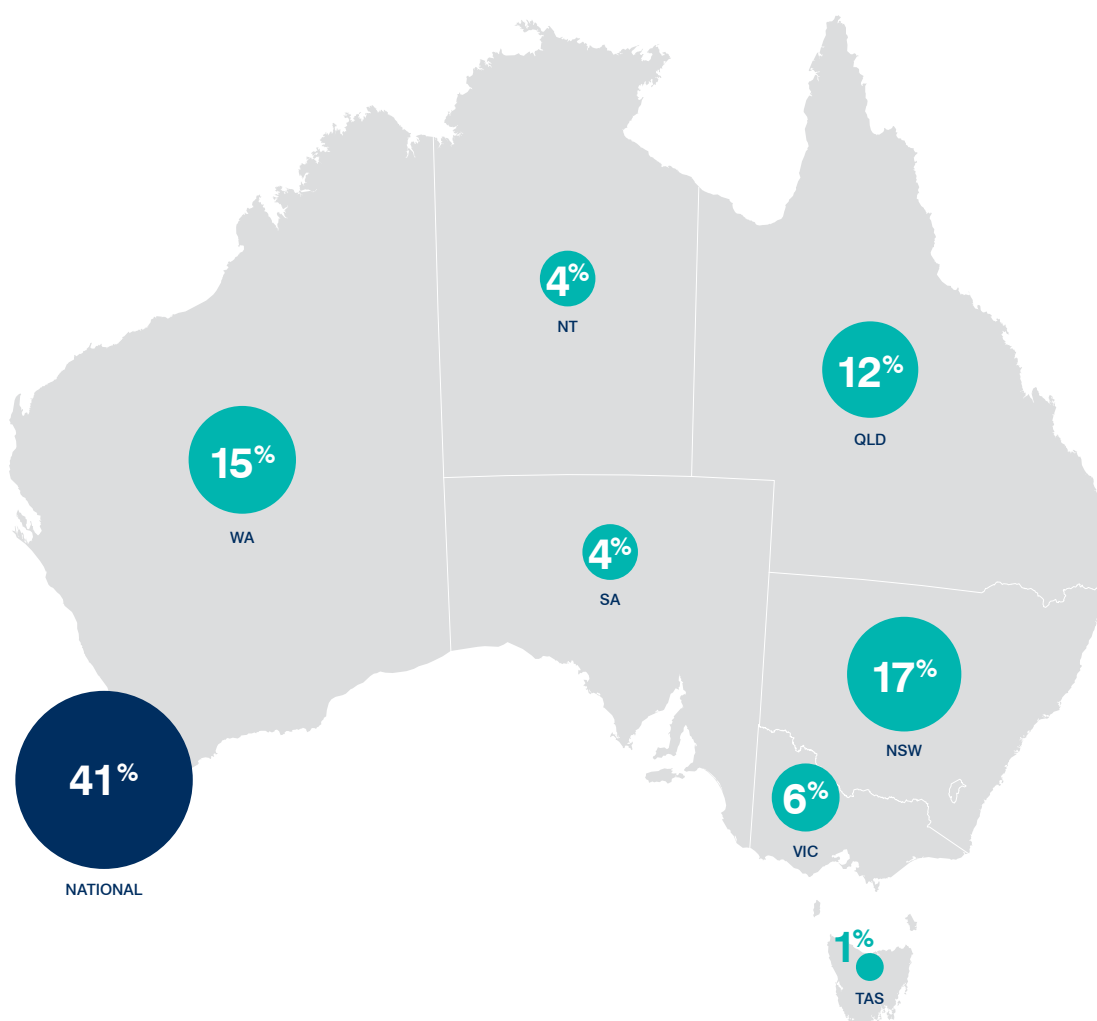
¹⁸ www.infrastructure.gov.au/transport/freight/national-strategy.aspx

3.3 MOST SUBMISSIONS WERE NATIONALLY FOCUSED

Figure 13 shows that the overwhelming majority of submissions were from organisations, which we classify as having a 'national', rather than a state or territory focus.

Our analysis classifies respondents by their geographic focus, rather than by the physical location of their head office. For example, we have classified Infrastructure Partnerships Australia (IPA) as 'national' – but classified the Port of Newcastle as 'NSW'.

Figure 13 - Submissions were from organisations with a national focus



Source: IPA analysis of submissions to the Inquiry, 2018

3.4 MOST SUBMISSIONS CAME FROM GOVERNMENT OR INDUSTRY GROUPS & THINK TANKS – WITH A SMALL NUMBER FROM THE FREIGHT INDUSTRY OR CUSTOMERS

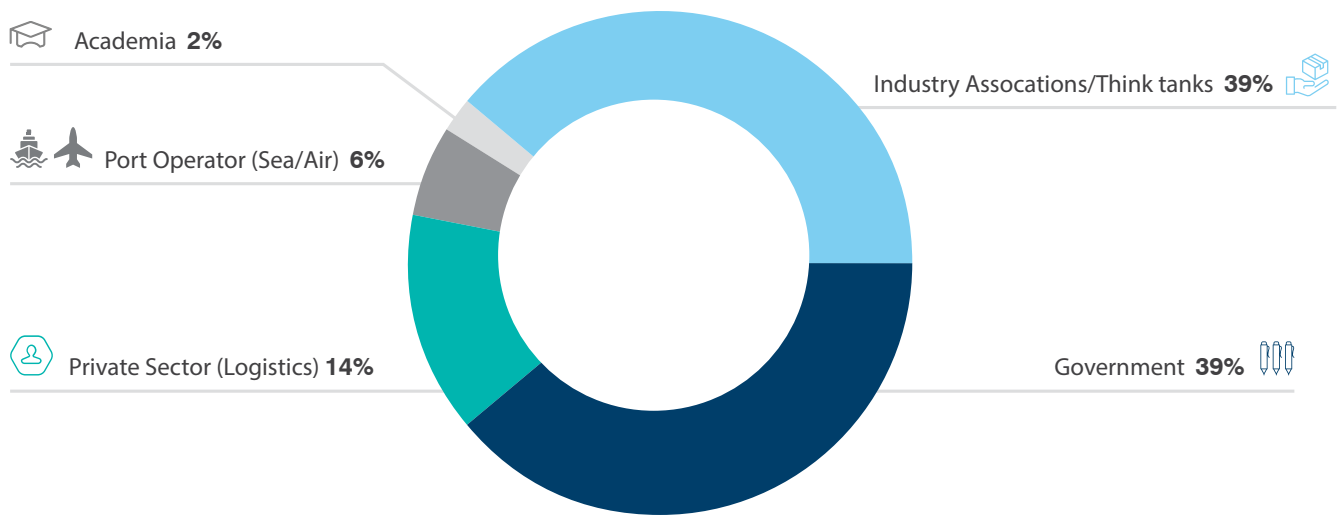
Figure 14 displays our segmentation by organisational type, which shows a heavy and symmetrical dominance by both government agencies (e.g. Queensland Transport & Main Roads, Transport for NSW, etc.), and industry associations or think tanks (e.g. IPA, the Property Council of Australia, the Australian Logistics Council, etc.).

Together, government bodies and industry associations make up circa four fifths of all public submissions.

One important insight from this analysis is that besides the Expert Panel members of the Inquiry, which draws deep experience in the supply chain, there is relative paucity of submissions from the private sector. This includes freight and infrastructure companies (e.g. ports, rail companies, carriers, trucking companies, freight forwarders, etc.), or customers in the freight market (e.g. supermarkets, major retailers, major exporters and the like).

Close engagement with customers and freight companies should be a core feature of any *National Freight and Supply Chain Strategy* – because companies hold the data, information and insights needed to identify problems, and they will likely provide valuable input on the solutions.

Figure 14 - Submissions by organisational type



Source: IPA analysis of submissions to the Inquiry, 2018

3.5 AT A HIGH LEVEL THERE IS BROAD CONSENSUS AROUND SEVERAL THEMES – BUT THE CHALLENGES VARY BY JURISDICTION

3.5.1 The problems focus on infrastructure constraints, price and limited governance

Figure 15 shows our segmentation of issues and problems, raised across the 110 public submissions – showing high-level thematic agreement about the major problems. Figure 16 demonstrates how these manifest in different ways, in different places. Broadly, respondents identified issues that can be grouped as:

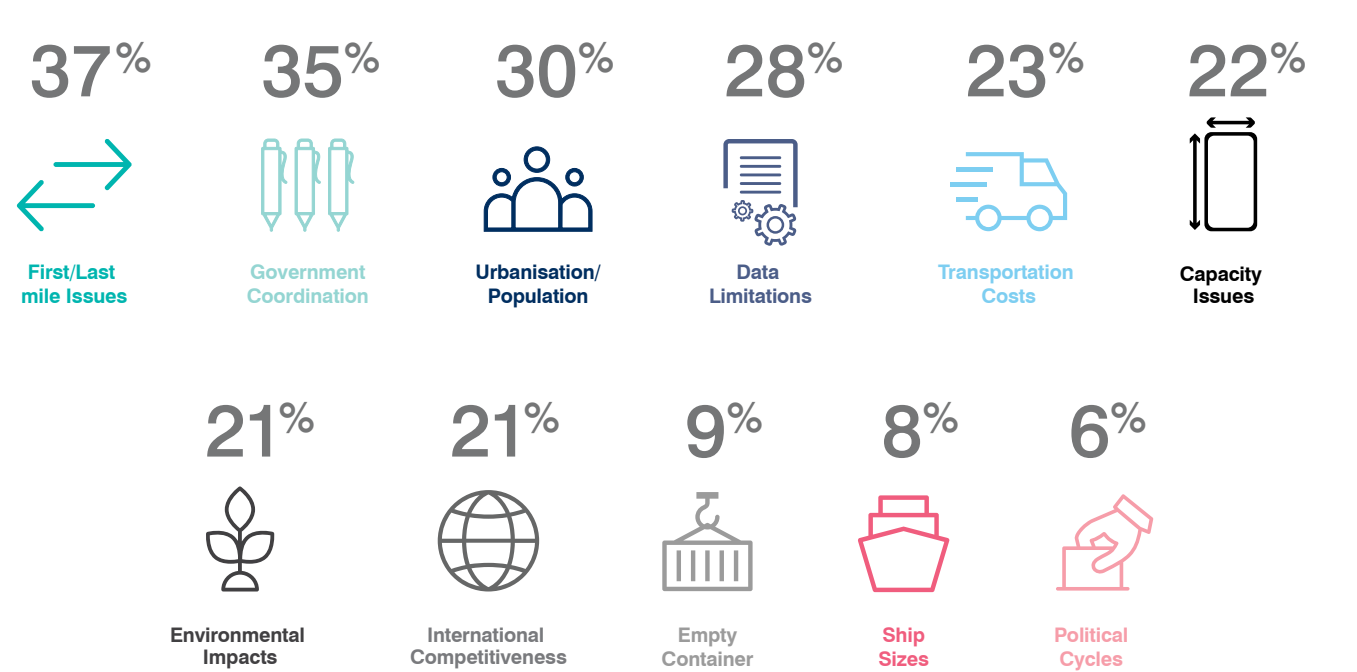
- infrastructure constraints and/or growth challenges;

- regulatory or governance problems;
- price or cost challenges;
- a lack of information or visibility of end to end freight problems; and/or
- other related challenges.

This segmentation shows how many submissions identified a particular issue. For example, first/last mile problems were raised, directly or indirectly, in 37 per cent of the total submissions received, while the limited coordination across the government tiers was raised by 35 per cent of the submissions.

However, beyond these broad thematic agreements, the symptoms of Australia’s struggling freight market manifest in different ways, in different places, often for different reasons.

Figure 15 - Challenges identified in the submissions to the Inquiry



Source: IPA analysis of submissions to the Inquiry, 2018



Figure 16 shows the identified problems, segmented by the principal operational focus of each organisation, which shows that individual challenges can vary widely, based on location and personal experience of the freight network or other ‘local issues’.

This variability is exacerbated by the relatively small sample size for the minor states – for example, Tasmania is excluded altogether, because it only saw one submission and South Australia is included but has only a handful of submissions.

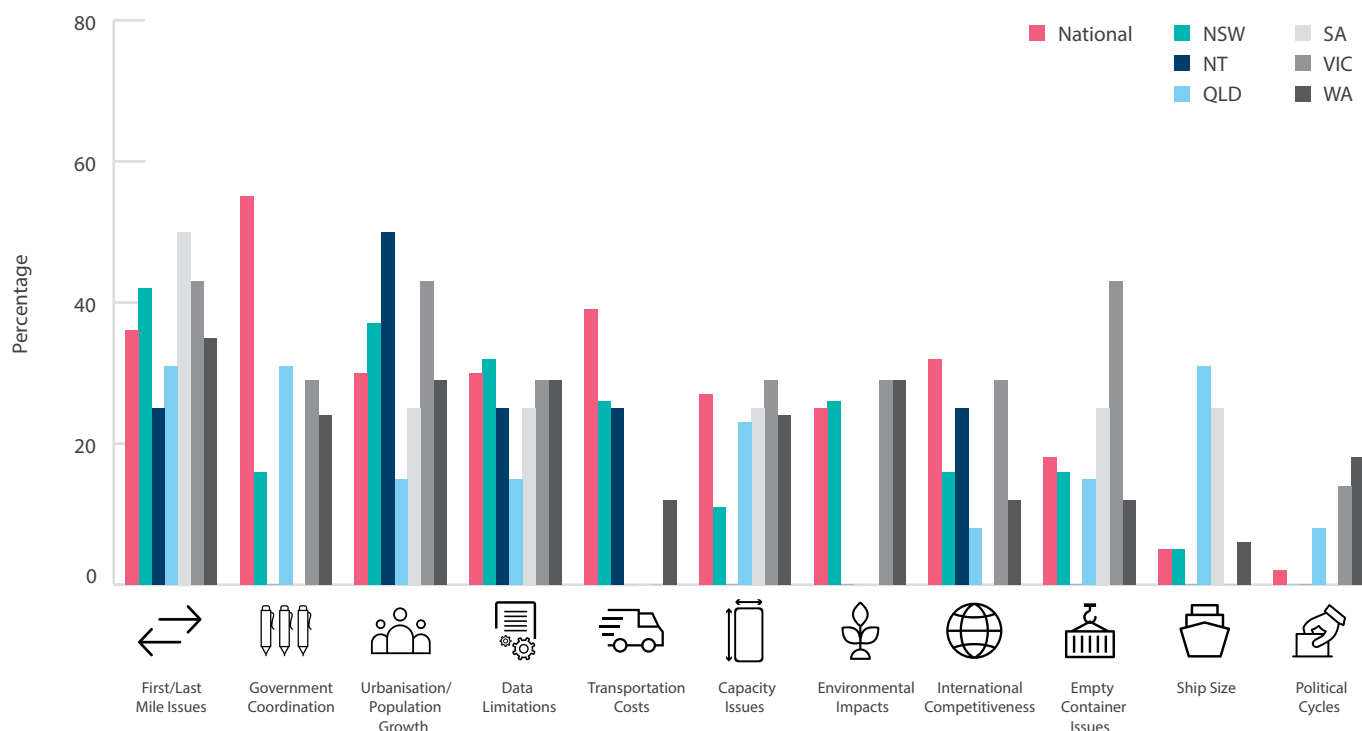
3.5.2 Our analysis shows broad agreement that ‘freight regulation’ must be improved

Figure 17 shows our analysis on the solutions, identified within the Inquiry submissions.

We have used the same qualitative approach as with the problem identification in Figures 15 and 16 – reporting how many submissions identified an issue within a particular theme. For example, this means that 39 per cent of all submissions identify technology or ICT in some form, as a solution.

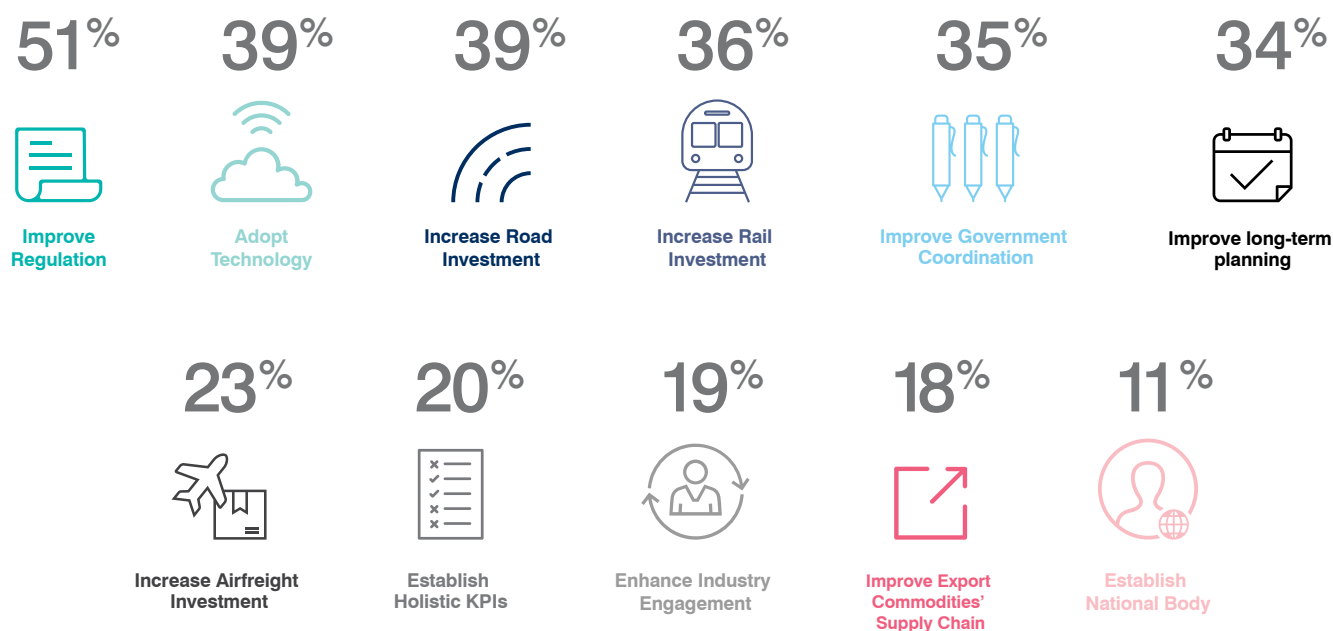
Unlike the problems analysis, the segmentation of solutions sees 51 per cent identify regulation improvements as a solution – substantially higher than technology at 39 per cent. Other solutions include establishing a comprehensive set of key performance indicators (KPIs) to measure changes in freight performance, and to establish an independent body to focus on freight market development.

Figure 16 - Reported problems vary in different places, for different reasons



Source: IPA analysis of submissions to the Inquiry, 2018

Figure 17 - Solutions identified in the submissions to the Inquiry



Source: IPA analysis of submissions to the Inquiry, 2018

3.5.3 By 'regulation' the submissions specify improving economic, price and safety regulation

Figure 18 segments 'improve regulation' further - showing more than half of the submissions focused on price, cost or economic regulation – and the balance focused on planning, safety or freight network restrictions (e.g. curfews, road network restrictions, etc.).

The largest single issue raised within 'improve regulation' is achieving modal neutrality, with most identifying road user charging reform as the major mechanism to achieve this outcome – an issue raised in 35 per cent of submissions.

Road freight regulation was the second largest issue raised – gathered around common standards for heavy vehicles via the National Heavy Vehicle Regulator (NHVR).

The relatively high consensus and thus awareness of road and wider freight charging reform reflects the need

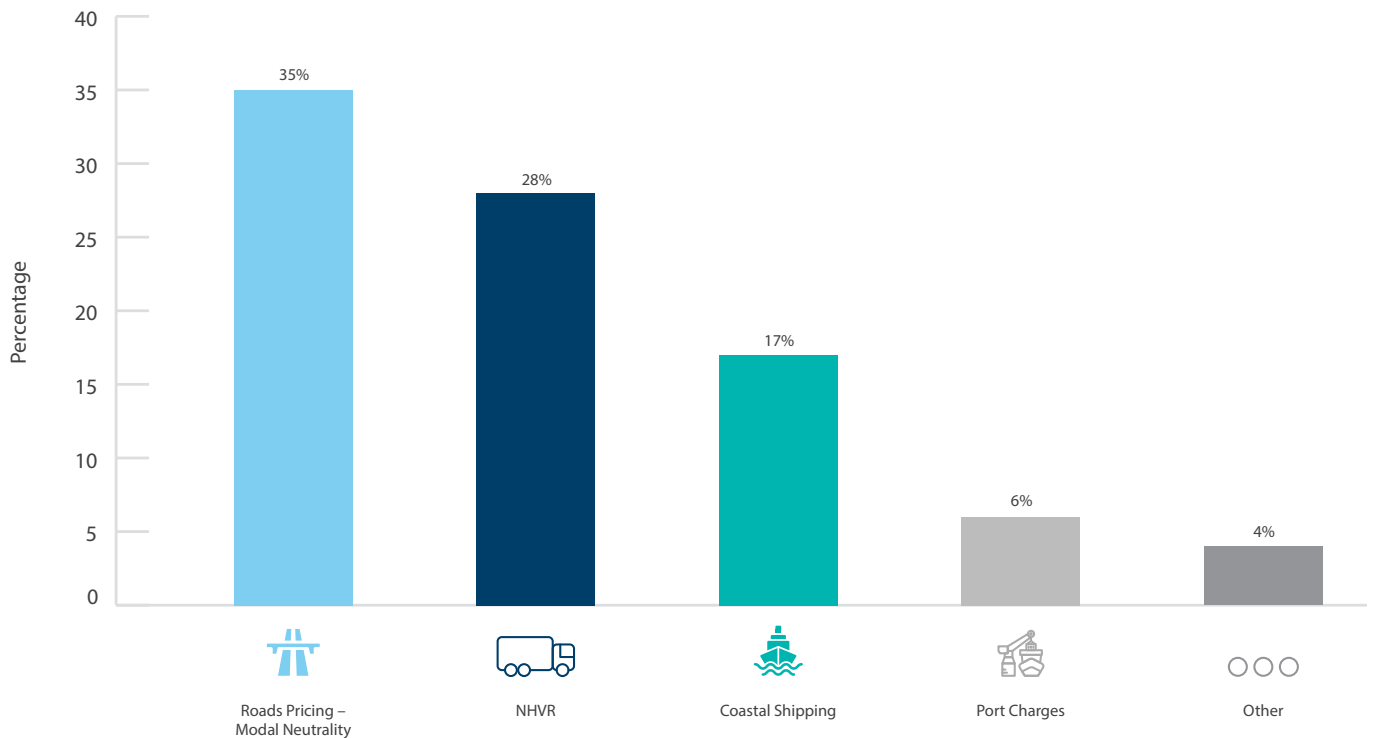
for system-wide structural reform to freight and the wider transport system. Many submissions refer to the opportunities offered by charging reform to improve:

- journey time reliability;
- improve investment decision signals;
- ensure efficient choices and journeys across modes; and
- decongestion of key nodes on the network.

The Federal Government had committed to develop, trial and implement national heavy vehicle road charging 'within five years' – but this reform is far from developed at this point, and trials have not yet commenced.

Policy and regulatory neutrality is particularly important when considering infrastructure pricing especially for road and rail. The road and rail infrastructure charges for these two freight modes are determined and paid for via two very different mechanisms.

Figure 18 - Pricing and road regulations dominate among the solutions submitted to the Inquiry



Source: IPA analysis of submissions to the Inquiry, 2018

Currently, road freight is charged under a Pay-As-You-Go (PAYGO) heavy vehicle charging system consisting of registration fees and fuel based user charge; while rail freight pays access charges (either regulated or commercially negotiated) based on the cost of funding, maintaining and operating the rail freight infrastructure.

This sees road and rail access charges calculated without reference to one another – leading to inefficiencies and inconsistencies across the supply chain. The different charging models that apply to heavy vehicles compared to rail operators carrying freight impedes the efficiency of the land freight transport network. For example, the current road funding system sees cross subsidisation across and between types of heavy vehicles, and other road users. This may mean, for instance, some interstate freight may move by road, when it would have been more efficient to move it via rail.

3.5.4 But the solutions vary, depending on where respondents are focused

As with the geographic analysis of identified solutions, Figure 19 shows that the emphasis on particular solutions varies according to the locational focus of the respondent¹⁹.

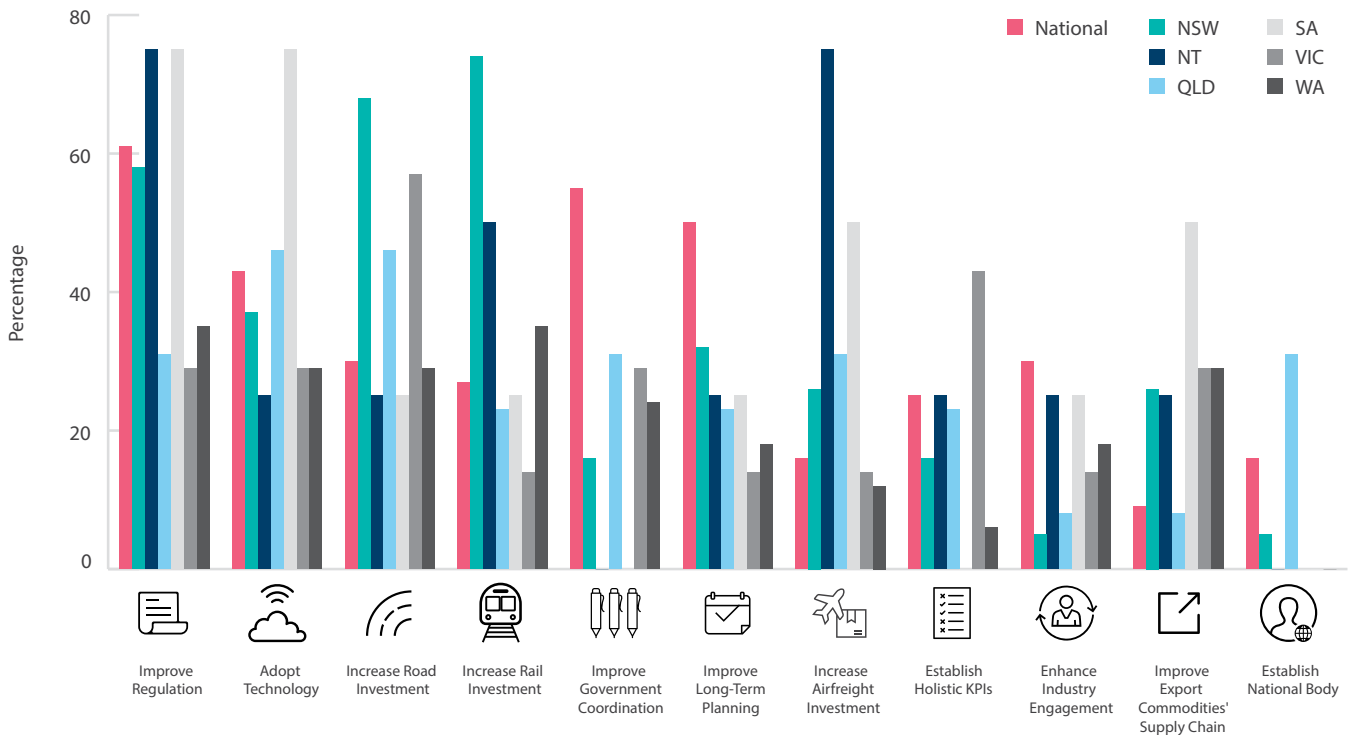
This variation likely reflects local factors – as well as the small sample size in the smaller states.

For example, the very high reading on ‘rail investment’ in NSW likely reflects the sustained focus from freight companies on duplicating the freight rail connection to Port Botany, which was put forward in circa 70 per cent of the 19 submissions from organisations with ‘NSW’ as their geographic focus.

Similarly, the very high focus on ‘increasing road investment’ in Victoria likely reflects the current debate about motorway access to the Port of Melbourne.

¹⁹ Tasmania is excluded altogether because it only saw one submission – meaning each theme would see a ‘100 per cent’ response from Tasmania.

Figure 19 - Identified solutions across jurisdictions



Source: IPA analysis of submissions to the Inquiry, 2018

The smaller states show a wider variability, for example, 75 per cent of South Australian respondents identify 'technology' as a solution to freight challenges – but that simply reflects that three of just four submissions identified an aspect of technology.

3.5.5 Commonalities and differences between the issues raised in the Inquiry submissions state freight strategies

Alongside our analysis of the submissions to the Inquiry, we have also undertaken a critical review of each state and territory freight and logistics strategies. We did this – seeking to understand how the issues identified at the Commonwealth level align with the intent of each state's existing planning – and to consider any mechanisms identified to achieve them.

Our analysis shows that state government freight strategies focus most heavily on:

- non-economic regulation;

- first/last mile issues;
- government coordination;
- data and information; and
- urban encroachment and growth pressures.

While there is a predictable commonality of themes and issues across each jurisdictional freight strategy, as well as the issues and solutions in the submissions, there is an asymmetry between priorities.

In particular, state and territory government strategies identify non-economic regulation, such as heavy vehicle standards and safety, as the greatest area for focus – whereas the submissions to the Inquiry identify price regulation as the largest issue. To a degree, this reflects the jurisdictional power between the level of governments, however it is also indicative of the limited policy integration across different levels of government.

Most of the freight strategies identify 'first/last mile' connections as a major challenge – for example, High Productivity Vehicle (HPV) capable connections to primary producers, or distribution centres. In some developed markets, the 'last mile' problems account for or even exceed 50 per cent of total supply chain costs for parcel delivery²⁰. Related to this, government strategies also largely note the conflict between residential development and the growth in the freight task, including through increasing urban encroachment pressures in capital cities.

► For parcel delivery, last mile problems can account for



more than **50%**
of total supply chain costs

In terms of government coordination issues, all government strategies bring an understandable focus to the coordination and allocation of funding responsibilities across the tiers of government. For example, local governments own and maintain a significant amount of roads – but road related taxes are collected by Federal and state governments. Funding is then redistributed across the tiers of government through annual budget cycles.

This can see major pressure on local governments' ability to fund the maintenance and renewal of their road network, let alone deliver first and last mile links in order to facilitate increased levels of HPVs across the network, for example.

In this regard, state government strategies identify that investment planning should be part of a comprehensive and integrated infrastructure plan

across the tiers of government. However, they do not identify a mechanism as to how this could be achieved in practice - which is a common occurrence across the various strategies.

In addition, all of the state and territory strategies identify strengthening partnerships between industry and government as a key priority, to improve freight network efficiency. However, while the various plans and strategies are statements to 'action', further development and support is needed to resolve details on what, how and when this will be achieved.

Despite the observed lack of measurement of freight productivity, some state freight strategies do not identify data limitations as a problem to be resolved. Data collection should be considered a requisite input that can lead to robust analysis and deep understanding of the freight issues before proceeding to freight priorities.

This broad consensus in themes – but variability in priorities and commitment to solve them – neatly shows the reality of a complex national problem, where the impacts are fundamentally local.

This means that a successful *National Freight and Supply Chain Strategy* will need ongoing and deep connections with state freight strategies. This is because each state strategy is seeking to address problems that are inherently localised in their scale and impact.

For example, a WA manufacturing business serving high value resource clients may have a greater focus on say, aviation-based transport – noting the remoteness of the client and the relatively fewer modes available. Therefore, the WA manufacturing business is likely to be less focused on the way access charges are determined for the east coast interstate freight rail network.

²⁰ TasMcKinsey & Company, 2016.



Conversely, a supermarket chain in an east coast capital may identify local government curfews on night-time deliveries as one of the more significant constraints to their business – noting the growing congestion delays and costs in the major capitals.

But analysis of the various strategies also shows that governments need support to put the pieces of the freight puzzle together and achieve the various priorities.

A detailed understanding of the performance of freight networks is the absent mechanism required to deepen our understanding of the freight and supply chain challenges, and address them in a meaningful and productive way.

And this mechanism needs a national mandate, because overhauling economic and non-economic regulation and other issues will occur across the tiers of government, and require national coordination and oversight. A national focus will also ensure there is consistent measurement of performance and analysis across jurisdictions.







CHAPTER 4

NATIONAL CHALLENGE, NATIONAL FOCUS: ESTABLISHING FREIGHT PERFORMANCE AUSTRALIA

4.1 INTRODUCTION

The observed decline in the international competitiveness of Australia's transport and logistics sector, the disparate nature of current Federal, state and local government freight planning and accountability, and the wide variations and localised freight market challenges all point the need for major reform. However, to a large degree, this can only occur with sustained engagement with industry and freight users to provide better information, data and understanding of the freight network.

We develop the case for a national body – Freight Performance Australia – that would be charged with addressing the data and information gaps, to develop an understanding of where, why and how freight performance can be improved.

This would provide the basis for a much clearer measurement of the problems, and a much clearer understanding of the solutions.

4.2 MEASURED IMPROVEMENTS - GLOBAL LESSONS FOR AUSTRALIA

A wide range of policy reviews, papers and strategies have identified both the complexity of current arrangements in Australia's freight market – and an array of potential solutions. However these problems and solutions have rarely won or sustained political or community focus, let alone been resolved.

Perhaps one of the most common findings on Australia's freight market has been the absence of information about the cost, capacity and time performance of the supply chains that support our economy.


Government agencies collect and publish data about the volume, value and type of imports and exports – and some limited degree of performance measurement data focused on the major ports and airports. However, beyond this limited visibility we have no real information about freight capacity, cost or time performance, across the rest of the country.

For example, we do not measure or report on the overall supply chain cost between say a primary producer in Queensland's western district and the sea port from which they export.

Moreover, we do not know the time taken, by commodity type, across each segment of the supply to the ultimate destination. For example, once a box of consumer goods leaves the port we do not know where it is going or how long it took to get there, and how this may change over time.

We also do not understand the condition of the assets which underpin those journeys, or have the pricing structures to encourage the most efficient use of that infrastructure.

Alternatively, once the primary producer's product reaches the port it may be heavily constrained by road or rail network congestion – a further cost to the supply chain that is not measured. If that primary producer wishes to avoid congestion by moving product when the roads are underutilised (e.g. overnight) they may encounter specific local government regulatory



constraints. Again, the cost, time and capacity impacts of this local restriction are not measured, and their national impact is not visible.

We also do not know the actual destination of freight. We only collect the destination state – meaning that we do not know where freight is going once it leaves the port or airport fence.

Together with the value and capacity measures, addressing these deficiencies would allow powerful and detailed insights to bring down costs and target investment.

Resolving the many constraints on freight and logistics requires an understanding of where, how, who and why these constraints exist.

Much better data is required for sound planning and policy development, especially for understanding specific supply chains. Governments need to be proactive in order to integrate data into decision making and planning. More importantly, the data needs to be analysed and interpreted in a meaningful way which allows it to add value to those decisions.

Australia is not the only country grappling with low freight productivity and increasing demand. To address this challenge, a number of other countries and regions have or are establishing dedicated freight measurement agencies to support robust policy development, modern economic regulation, or sophisticated infrastructure planning. This measurement function is sometimes referred to as a freight ‘observatory’.

Definition of a freight ‘observatory’

An entity, constitute by strong private and public actors, that *“has the legal right, the technical ability and the resources to acquire, store and disseminate all necessary data elements”*²¹ related to trade, freight and logistics, in a specific geographic region. The objective is to strengthen and facilitate decision making and support robust policy development.

Within this broad definition, the existing freight measurement agencies and similar bodies around the world are different in structure (i.e. public, private or both), scope, modes covered and objectives. In general they can be considered to apply macroeconomic and microeconomic inputs and individual measurements to advise across three broad areas:

- freight and logistics performance indicators;
- measurement of externalities such as congestion and environmental impacts; and
- specific policy or analytical reports – for example, using its information and data to inform sector-wide policy, investment and structural considerations.

²²¹ Guerrero and Abad, 2013.

Table 2 shows our analysis of a selection of different agencies and observatories across the world, describing their major functions, cost and other key details. Each of these bodies provides measurement and analysis for industry and the government and do not serve as economic or price regulators.

While data alone cannot promise good decisions, informed choices are not possible without good data. In turn, any *National Freight and Supply Chain Strategy* needs to be supported by good measurement.

Proper measurement of costs, time and capacity are essential to advance the right objectives, and the

right reforms. That's why, by drawing on the global experience presented in Table 2, we recommend the establishment of a dedicated freight measurement body, Freight Performance Australia (FPA).







We provide two case studies from which to draw lessons on the establishment and function of FPA:

1. Chile - Observatorio Logístico de Chile; and
2. France - Autorité de Régulation des Activités Ferroviaires et Routières (ARAFER).

While ARAFER is an economic regulator, we do not envisage that FPA would perform regulatory functions – but would be solely focused on measuring performance.



Table 2 - Different functions of observatories across the world

	 Structure	 Cost	 Mode	 Scope	 Data	 Objective
NETHERLANDS Dutch Institute of advanced Logistics (Dinalog ²³)	Non-profit Institute	€24 million per year (€12 million from government and €12 million from industry)	All related modes	Analysis & projects	Industry & public sector	Increase knowledge across the industry and the government
SPAIN Observatorio del Transporte y la Logística (OTLE ²³)	Work contracted to INECO (state-owned company)	€550,000 per year (approx.)	All related modes	Measurement (KPIs) & Analysis	Industry & public sector	Provide transparent information, promote market efficiency, and inform investment policy decisions
CATALONIA – SPAIN Oservatori de la Logística ²⁴	Public	Not available	All related modes	Measurement (KPIs) & Analysis	Industry & public sector	Tracking 41 indicators with 60 complementary statistical datasets, define the logistic needs of companies, and contribute to integrated planning and management
FRANCE Comité National Routier (CNR ²⁵)	Public with independent council	Not available	Road	Cost measurement & Analysis	Industry, surveys & public sector	Produces tools for the industry on costs, economic analysis
REGIONAL – CENTRAL AMERICA Observatorio Mesoamerica ²⁶	Inter-American Development Bank (IDB) – decentralised	US\$1.1 million (US\$0.91m from IDB and the remainder from the participating countries) for three years	All related modes	Measurement (KPIs) & Analysis	Industry & public sector	Provides analysis and information to government and policy makers
REGIONAL – EAST AND CENTRAL Central Corridor Transit Transport Facilitation Agency (CCTFA) ²⁷	Non government-funded by government and countries' agencies	Not available	All related modes	Measurement (KPIs) & Analysis	Industry, surveys & public sector	Tracking more than 40 indicators to guide policy formulation, decision-making, and rationalise business processes

23 www.dinalog.nl/en/

24 www.observatoriortransporte.fomento.es/OTLE/lang_castellano/

25 www.cimalsa.cat/observatori/observatori_en.htm

26 www.cnr.fr/en

27 www.logisticsportal.iadb.org/mesoamerica?language=en

28 www.observatory.centralcorridor-ttfa.org/index.php/en/index

OBSERVATORIO LOGISTICO DE CHILE

Role: Performance measurement

Annual budget: US\$0.5 million (A\$0.64 million) per year from 2018 onwards

Level of independence from general government: within Ministry of Transport

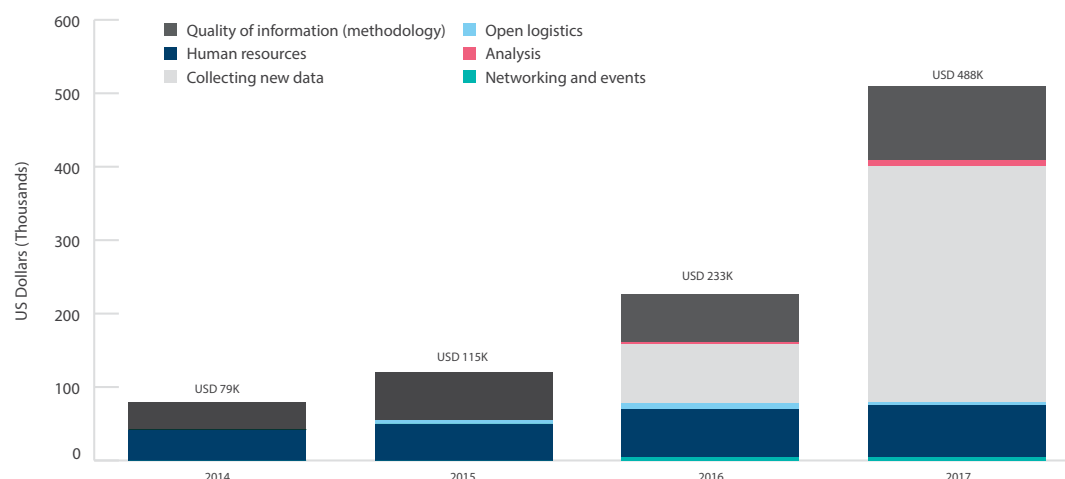
The Chilean Logistics Observatory was formally launched in 2017, but the idea was first conceived in 2009. It produced its first annual statistical report in 2014. The observatory is housed within the Ministry of Transport and Communications and collects data from across government ministries, as well as industry, the national statistics office, and other organisations. It does not have regulatory power but provides information for policy decisions and project selection.

The Observatory held a budget of US\$0.915 million, over the four years to 2017. The cost of the Observatory is shown in Figure 20 with expenses mainly related to data acquisition. The budget is expected to be about US\$0.5 million per year from 2018 onwards.

The Observatory covers all modes of freight and cargo transport. The key knowledge gaps that the observatory fills are:

- key performance indicators, such as total logistics cost (average and variable cost), time and the number of processes required for processing import and export containers;
- method and analysis on the development of the transport network, such as identifying bottlenecks and their economic impact, and scenario analysis to improve the network;
- basic information surrounding the logistics sector including tonnes of freight per year, tonnes per kilometre per year;
- congestion levels in ports (maritime and land) or key infrastructure used for moving freight (roads); and
- sector actors including the number of companies that work in freight, number of trucks and the levels of activity on the rail network.

Figure 20: Chilean Logistics Observatory budget and allocation²⁸



²⁸ www.iirsa.org/admin_iirsa_web/Uploads/Documents/GTE_tsp_Lima17_anexo15_Observatorio_TSP_Chile.pdf

AUTORITE DE REGULATION DES ACTIVITES FERROVIAIRES ET ROUTIERES (ARAFER)

Role: Performance measurement (to inform its role as a regulator)

Annual budget: €23.6 million (A\$37.01 million)

Budget attributable to its 'observatory' function: not identified

Level of Independence from general government: Independent

ARAFER was set up by the French Government in 2009 (at that time ARAF) to monitor and regulate the railway network. ARAFER's mandate was expanded in 2015 to include the Channel Tunnel, interurban bus services and again in 2016 to include some concessional motorways.

ARAFER is an independent, public body that has financial autonomy, and its powers and independence are supported by legislation. It is publically funded, but also receives part of its budget from the levies on transport.

In order to carry out its regulatory mandate, ARAFER has an observatory that provides information in the form of statistics, performance measurement and reports with data collected from the related operators. The information is published in a report quarterly and annually.

Due to the only recent introduction to its mandate of interurban bus services and concessional motorways, the majority of statistics available are on the rail network, including data collected from rail operators. Rail sectoral indicators include:

- goods, such as the quantities of goods transported by rail compared to other modes, across time and also country comparisons;
- passengers, such as the number of passengers and distance travelled, revenue from passenger services and costs paid to access rail network; and
- infrastructure, such as the network length, use of network, percentage of total usage by passengers and freight, intensity of network use (number of trains per km per day).

Limited information is available on interurban routes and concessional motorways at this stage. For interurban routes, available information is predominantly around passenger motivations for using the services, while for concessional motorways, ARAFER recently published a report on motorway costs and revenue of concessionaires.



4.3 APPLYING GLOBAL LESSONS TO AUSTRALIA'S FREIGHT CHALLENGE

Our literature review and inquiries into international examples of freight observatories has allowed us to distil good practice traits for consideration in establishing FPA. In our view FPA would:

- be established by statute, to be independent and include representatives of the private sector and user groups;
- standardise data collection methods;
- develop, collect and publish standardised/consolidated data, from public and private sources measuring the cost, capacity and time performance of each aspect of the supply chain across Australia – and within states and regions;
- improve transparency of freight movements across all modes in a manner that protects confidentiality;
- provide the data needed to maximise the best use of existing infrastructure;
- guide infrastructure decisions through complex budget and electoral cycles;
- measure and publish data on externalities created by, or imposed on, the freight market;
- identify and develop policy responses to address observed problems (e.g. pricing models to influence mode selection or congestion levels);
- provide a basis for better coordination between the tiers of government, across government agencies and with the private sector;
- provide new, sophisticated insights to inform government policy and investment planning; and
- provide new data to allow measurement of the ex-post performance of individual freight reforms or capital investments.

4.4 WHY SHOULD FREIGHT PERFORMANCE AUSTRALIA BE STATUTORY, BUT INDEPENDENT?

FPA would be established as a statutory, independent national agency with robust governance processes which would ensure appropriate connections to, and appropriate independence from, both government agencies and private corporations.

Independence is attractive on two fronts.

Firstly, because FPA's role will in part be about highlighting the problem and cost imposed by an imperfect freight sector – which may not always be electorally convenient.

Secondly, because much of the data that would be needed to achieve the outcomes described above is not held by the Federal Government or any one of its departments or agencies. Rather, data is fragmented across Federal, state and local governments, and the private sector.

Currently, these data collection methods are not coordinated, often resulting in datasets of varying quality and reliability. The consequence is an incomplete and incomparable picture of freight movement across Australia.

However, in part, the lack of data integration is due to the fact it is often held by the private sector. It is entirely rational that private actors would seek to protect their own data from competitors. Therefore issues relating to the commercially sensitive nature of the data require collective solutions that only a neutral body can succeed in delivering.

If we consider a capital city airport for example, relevant data about the cost, time and capacity of freight services, around, to and from the airport will likely be held by a range of actors, as seen in Figure 21.

Figure 21 - Actors of air freight services



The data and information required to build a particular freight performance metric incorporating this section of the supply chain would likely be obtained from only a few actors listed in Figure 21. However, the list exemplifies not only the quantity of data available, but the complex range of private and government sector organisations that operate across sectors, and tiers of government.

We can imagine that a capital city airport might have a degree of sensitivity about providing information to a government department, noting that the Federal Government regulates airports and that proprietary data is likely to be highly commercially sensitive.

Similarly, state and local governments could also be expected to have hesitations about providing detailed, sensitive data to a department controlled by a minister in another level of government.

Overseas, there are a range of ‘data engagement’ approaches varying between government departments, independent not-for-profit entities and quasi-academic institutions. Meanwhile, others serve a complementary role as a statutory regulator – as well as a measurer.

In an Australian context, and noting the low level of engagement by freight market participants and users, we strongly recommend FPA to be established as an independent, statutory body. Further, FPA should be grounded by strong legislative clarity about its purpose, data protections and other governance aspects.

Our consultations suggest that industry would be more likely to provide data to an independent body than to a commercial company or general government department.



4.5 WHAT WOULD FREIGHT PERFORMANCE AUSTRALIA ACTUALLY DO?

We are mindful of the need to segment between the proper role of general government agencies, of independent regulators, and of the independent 'measurer' and policy advisory function that would be performed by FPA.

For example, we do not envisage FPA having price setting or other regulatory powers, these would remain the preserve of the existing agencies. Nor would FPA replace the role of the DIRDC in allocating and administering Federal capital funding to particular projects on the freight network.

For this reason, we have sought to carefully segment between roles that are based in data, measurement and strategic advice – and those focused on

regulation, administration or policy implementation – which we would envisage as being informed by FPA information and insights, but determined elsewhere.

In this way, we see FPA's work programme as being centrally concerned with designing and populating performance metrics - using data sourced from across governments and the economy. Done well, this data would also provide FPA an opportunity to play a major role in assessing the feasibility of capital investments or operational changes. It would also provide post implementation analysis of how different interventions have performed.

Figure 22 shows the priorities that we have allocated to FPA, and how they would dovetail with broader policy and regulatory functions.

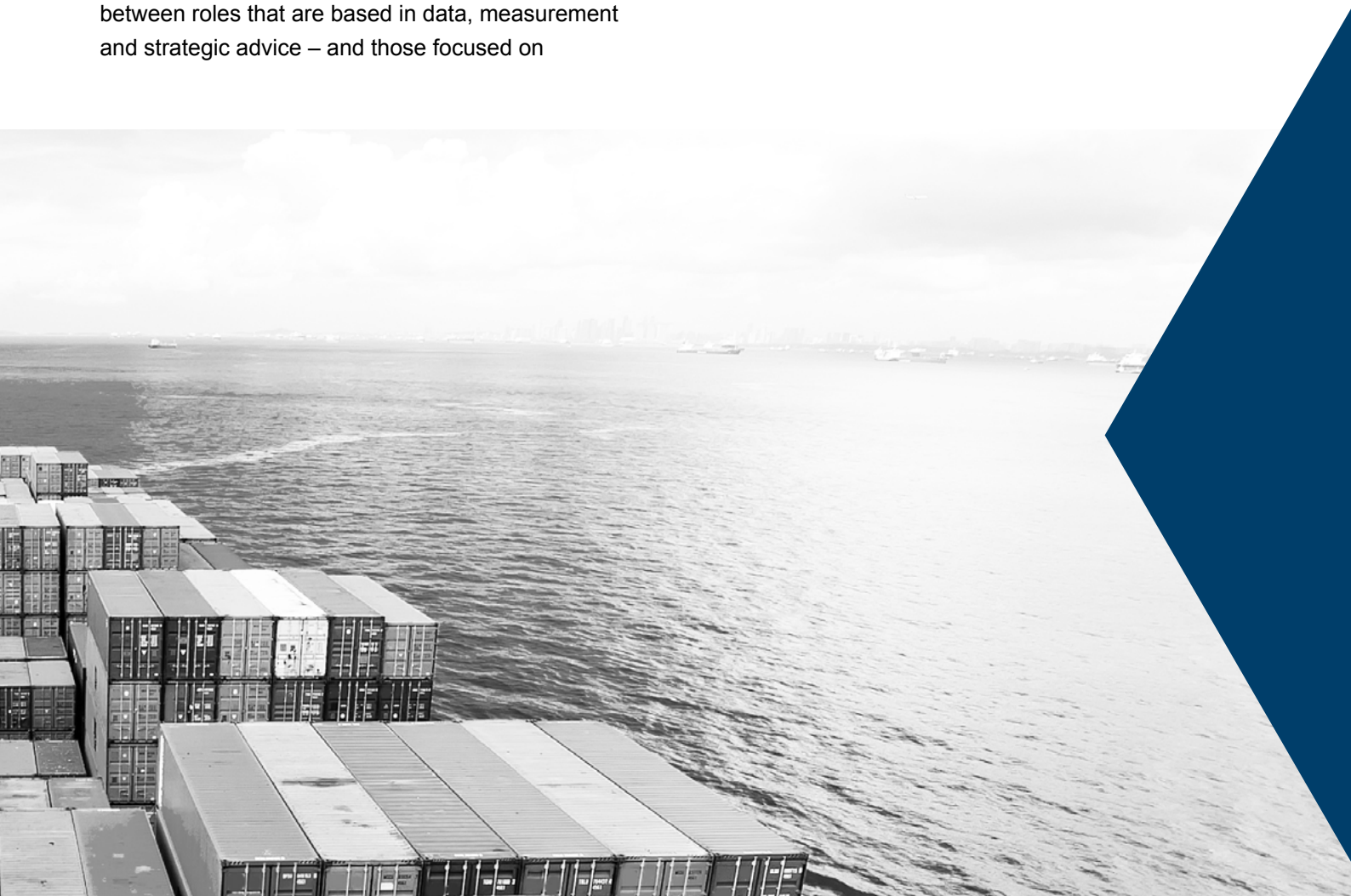
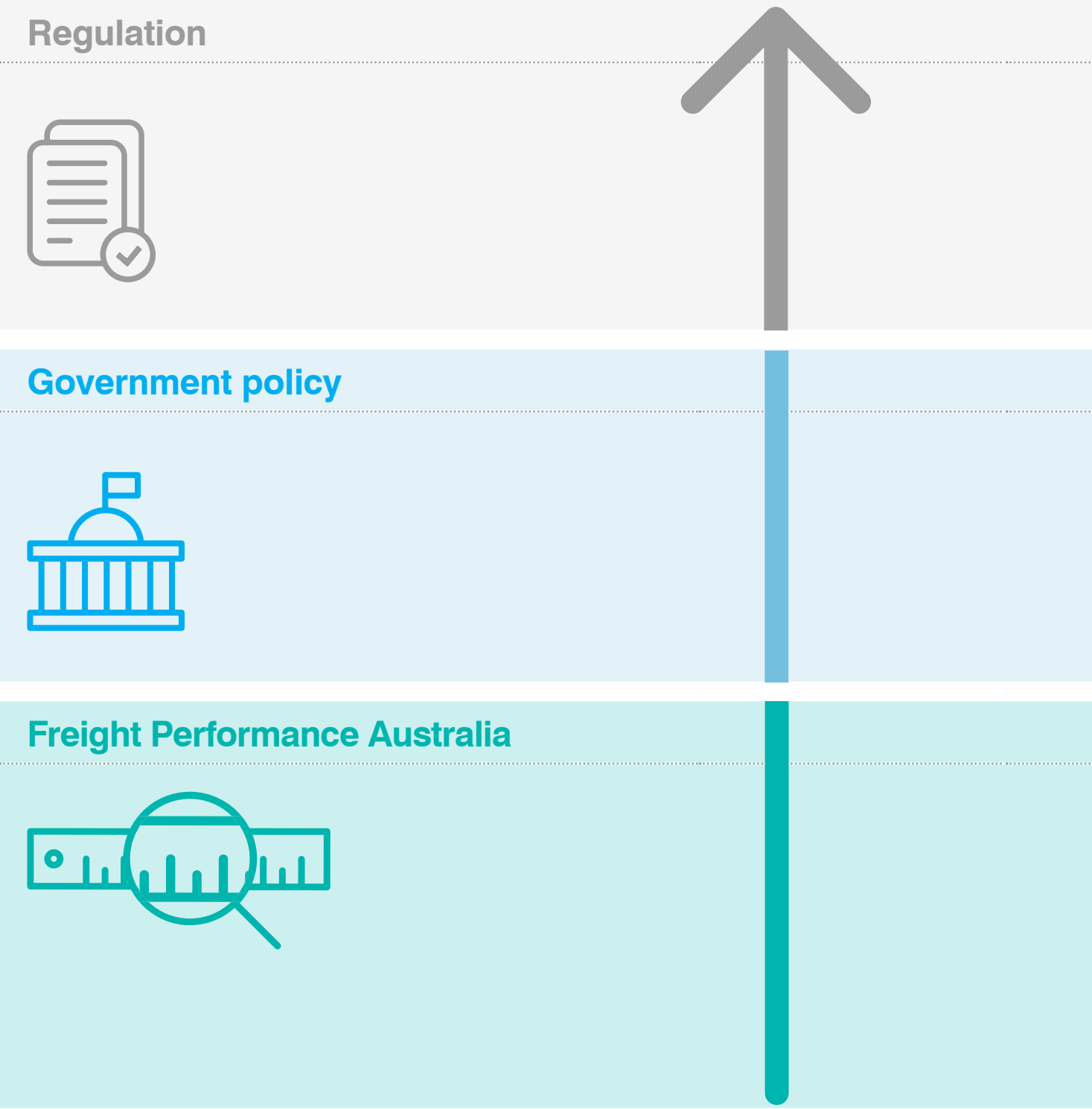


Figure 22 - FPA’s Main Priorities and Policy Contribution

Efficient Freight Market



Regulation

- ▶ Support modal pricing neutrality;
- ▶ Contribute to road pricing regulation and reform;
- ▶ Improve safety restrictions, e.g. curfews, integration of dangerous goods;
- ▶ Improve coastal shipping regulatory framework;
- ▶ Support improvement of the National Access Regime;
- ▶ Advise on the competition considerations on vertically integrated supply chains;
- ▶ Improve rail & road operating frameworks; and
- ▶ Support adoption of the National Heavy Vehicle Regulation and common standards.

Government Policy

- ▶ Develop priorities for the *National Freight and Supply Chain Strategy*;
- ▶ Prioritise funding options;
- ▶ Develop public understanding of the importance of freight;
- ▶ Improve technological standards, e.g. single windows;
- ▶ Coordinate across the government tiers for freight planning;
- ▶ Improve the reliability of the freight network;
- ▶ Identify gaps in existing infrastructure funding programmes;
- ▶ Target and expand investment towards freight projects; and
- ▶ Preserve freight corridors.

FPA's Main Priorities

- ▶ Standardise freight data collection methods;
- ▶ Measurement and KPIs;
- ▶ Measure and price externalities;
- ▶ Measure approval timelines for freight projects;
- ▶ Establish cost reflective pricing principles to allow modal neutrality;
- ▶ Review existing and identify additional freight corridors for protection;
- ▶ Support local and state governments to develop coordinated urban freight plans;
- ▶ Review nationally significant supply chains and identify inefficiencies;
- ▶ Review constraints on first/last mile access on key corridors and common road network restrictions;
- ▶ Identify overlapping government approval processes for freight projects;
- ▶ Advise on regional supply chain resilience; and
- ▶ Support the ongoing implementation of the *National Freight and Supply Chain Strategy*.

4.6 IMPLEMENTING AND GOVERNING FREIGHT PERFORMANCE AUSTRALIA

To achieve success, FPA would need appropriate integration and connections to both government and industry – but also, appropriate insulation and independence from each. To play its proper role, it will need to avoid being ‘captured’ by any one government, company or viewpoint.

While being independent, FPA will connect through the infrastructure cluster, within Federal Government agency arrangements. For this reason, the paper

recommends that FPA be created within the DIRDC cluster – and that the Secretary of DIRDC be a standing member of FPA’s Board.

This would ensure connectivity to the Commonwealth portfolio agency – and, through the Board, be connected to state agencies.

The legislation for FPA would need to outline clearly its objectives, its powers and limitations and also provide comfort about how the data would be used, and protected.

Figure 23 suggests a plan for implementing and resourcing FPA.

Figure 23 - FPA Implementation Plan



PHASE 1 OBJECTIVES

- The Council of Australian Governments (COAG) agrees to support a new independent Commonwealth statutory agency, ‘Freight Performance Australia’ – which measures and reports freight productivity;
- the Federal Department of Infrastructure, Development and Cities (DIRDC) and the Bureau of Infrastructure, Transport and Regional Economics (BITRE) to lead concept design and consult with freight industry and states, with draft legislation released by 2019; and
- the Commonwealth to fund the FPA’s operating costs.



PHASE 2 ESTABLISH

- FPA Board is appointed and Board then selects independent management;
- the Board publishes a draft organisational strategy, allowing detailed input by industry and tiers of government; and
- the Board publishes draft work programme outlining ‘quick wins’ as well as data acquisition strategies, methodological issues and timelines for publication.



PHASE 3 PUBLISH

By 2021 FPA begins regular publication of national freight performance indicators and other KPIs, which should include:

- detailed quantitative and qualitative measurement of Australia's freight and logistics cost, capacity and time performance across modes, corridors and regions, and particularly commodities, etc.;
- detailed absolute and comparative performance measures, against key global competitors;
- developed mechanisms to measure and report freight infrastructure connectivity gaps or other asset condition data; and
- regular publications with detailed freight forecasts, data, information and other reports as needed.



PHASE 4 INFORM

- FPA uses data and information to engage freight industry, political and community stakeholders on key freight policy, regulatory reform and priority projects;
- regular measurement makes cost, time and capacity problems explicit, which are provided to government and industry stakeholders to assist in capital and operational planning; and
- data used to develop useful, relevant insights to assist the wider community in understanding the importance of freight productivity – driving accountability for improvement.

The agency should draw some of its structural lessons from the Productivity Commission and from Infrastructure Australia.

As an independent, statutory body, FPA would be governed by an independent chair – and a board of directors appointed from both government and the private sector. The board should be selected to ensure a degree of diversity in terms of geography and professional experience. The Board composition should include:

- a suitably eminent independent Chair;
- the Secretary of the DIRDC; and
- at least two state transport road agency secretaries (i.e. one major state, one minor state).

The composition of the Board should represent the supply chain from production to delivery site (e.g. transport to/from the port, compliance at the border, port handling, and sea/air voyage). Board composition could include members with experience in:

- major transport operators (rail and road);

- port operators (a capital city airport CEO, a capital city port CEO and a bulk port CEO);
- a freight customer (e.g. a supermarket or a manufacturer);
- a major carrier;
- a major shipper;
- a major freight forwarder;
- a major custom broker;
- a terminal operator;
- a primary producer; and
- a resource company.

FPA should be subject to a five-year review of its progress, against its legislative and strategic priorities.

4.7 HOW MUCH WOULD IT COST?

Figure 24 shows our assessment and description of a number of existing, national, statutory independent agencies to provide guidance about the likely funding scope of FPA.

Figure 24 - Funding levels for government agencies

	INFRASTRUCTURE AUSTRALIA (IA)	NATIONAL TRANSPORT COMMISSION (NTC)	AUSTRALIAN ENERGY REGULATOR (AER)
Annual budget	\$12 million	\$11.5 million	\$47 million
Scope	Infrastructure Australia is an independent statutory body with a mandate to prioritise and progress nationally significant infrastructure. It provides independent research and advice to all levels of government as well as investors and owners of infrastructure.	The NTC provides advice on national land transport reform proposals to government through the Transport and Infrastructure Council. The Council consists of Commonwealth, state and territory ministers responsible for transport and infrastructure.	The AER regulates energy markets and networks under national legislation and rules in eastern and southern Australia, as well as networks in the Northern Territory.



CHAPTER 5

CONCLUSION

Australia is experiencing rapid growth and substantial change in the freight landscape. We are asking our 20th century system to do a 21st century job as we demand increasingly complex logistics services, at globally competitive costs.

Despite our aspirations, a range of international indicators show that Australia is falling behind as we seek to graft a modern, competitive freight and logistics sector atop infrastructure and regulations constructed decades ago.

Australia has seen many contemporary freight strategies, plans and schemes – but to date, none have won sustained political or community focus – let alone been implemented.

There is broad agreement that Australia has a freight productivity ‘problem’, but no agreement or understanding of where, how or why this is happening. This means we do not have consensus about what should be done, in what order, to ‘fix’ Australia’s freight competitiveness.

Addressing this issue is hard because surprisingly few aspects of the freight task are actually measured – meaning we are seeking to solve problems that we cannot see.

Technology is accelerating this change, for example, with e-commerce driving customer expectations of ‘just in time’ logistics, and concurrently, fundamentally changing freight distribution patterns.

While technology speeds up the ‘disruption’ of Australia’s freight, it also offers us the opportunity to have a far deeper and much more measured understanding of the challenges. Our capacity to collect, analyse and use data is continually being enhanced by evolutions in technology. But accurate, timely and consistent measurement will not just happen, it needs to be driven by an appropriately resourced and mandated body.

That’s why IPA’s central recommendation is the creation of Freight Performance Australia – a single, independent and national agency – charged with measuring and reporting on key aspects of the freight task, over time.

Freight Performance Australia will generate the evidence, focus and momentum to deliver enduring improvements and reform in the freight sector.

But most of all, Freight Performance Australia would create visibility of the actual problem – and create much clearer accountabilities for the solutions – in this way, offering new opportunities to increase the efficiency of the supply chain, and the prosperity of the community.





ABBREVIATIONS

ACCC	Australian Competition and Consumer Commission	HPV	High Productivity Vehicles
ACT	Australian Capital Territory	IA	Infrastructure Australia
AER	Australian Energy Regulator	ICT	Information, Communication and Technology
ARAFER	Autorité de Régulation des Activités Ferroviaires et Routières	IPA	Infrastructure Partnerships Australia
ARTC	Australian Rail Track Corporation	KPIs	Key Performance Indicators
ASA	Air Services Australia	LPI	Logistics Performance Index
B2C	Business to Consumer	NHVR	National Heavy Vehicle Regulator
BITRE	Bureau of Infrastructure, Transport and Regional Economics	NSW	New South Wales
CASA	Civil Aviation Safety Authority	NT	Northern Territory
CCTTFA	Central Corridor Transit Transport Facilitation Agency	NTC	National Transport Commission
CEO	Chief Executive Officer	OECD	Organisation for Economic Co-operation and Development
CNR	Comité National Routier	OTLE	Observatorio del Transporte y la Logística
COAG	Council of Australian Governments	QLD	Queensland
DINALOG	Dutch Institute of Advanced Logistics	SA	South Australia
DIRDC	Department of Infrastructure, Regional Development and Cities	tkm	tonne kilometres
FPA	Freight Performance Australia	VIC	Victoria
GDP	Gross Domestic Product	WA	Western Australia
		WEF	World Economic Forum

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