

Inquiry into **National Freight**
and **Supply Chain Priorities**



REPORT
March 2018



© Commonwealth of Australia 2018

March 2018 / INFRA 3485 / ISBN: 978-1-925701-13-5

Ownership of intellectual property rights in this publication

Unless otherwise noted, copyright (and any other intellectual property rights, if any) in this publication is owned by the Commonwealth of Australia (referred to below as the Commonwealth).

Disclaimer

The material contained in this publication is made available on the understanding that the Commonwealth is not providing professional advice, and that users exercise their own skill and care with respect to its use, and seek independent advice if necessary.

The Commonwealth makes no representations or warranties as to the contents or accuracy of the information contained in this publication. To the extent permitted by law, the Commonwealth disclaims liability to any person or organisation in respect of anything done, or omitted to be done, in reliance upon information contained in this publication.

Creative Commons licence

With the exception of (a) the Coat of Arms and (b) the Department of Infrastructure, Regional Development and Cities' photos and graphics; copyright in this publication is licensed under a Creative Commons Attribution 3.0 Australia Licence.

Creative Commons Attribution 3.0 Australia Licence is a standard form licence agreement that allows you to copy, communicate and adapt this publication provided that you attribute the work to the Commonwealth and abide by the other licence terms.

A summary of the licence terms is available from <http://creativecommons.org/licenses/by/3.0/au/deed.en>.

The full licence terms are available from <http://creativecommons.org/licenses/by/3.0/au/legalcode>.

This publication should be attributed in the following way: *Inquiry into National Freight and Supply Chain Priorities, Report, March 2018* © Commonwealth of Australia 2018.

Use of the Coat of Arms

The Department of the Prime Minister and Cabinet sets the terms under which the Coat of Arms is used. Please refer to the Department's Commonwealth Coat of Arms and Government Branding web page <http://www.dpmc.gov.au/resource-centre/government/australian-government-branding-guidelines-use-australian-government-logo-australian-government-departments-and-agencies> and in particular, the Commonwealth Coat of Arms - Information and Guidelines publication.

Contact us

This publication is available in hard copy or PDF format. All other rights are reserved, including in relation to any Departmental logos or trade marks which may exist. For enquiries regarding the licence and any use of this publication, please contact:

Director - Publishing and Communications
Communications Branch
Department of Infrastructure, Regional Development and Cities
GPO Box 594
Canberra ACT 2601
Australia

Email: publishing@infrastructure.gov.au

Website: www.infrastructure.gov.au



Contents

FOREWORD	3
PART A: PANEL'S REPORT	5
1. INTRODUCTION	5
2. CRITICAL ACTION AREAS	7
3. PRIORITY ACTIONS	9
4. WHAT SUCCESS MAY LOOK LIKE	16
5. IMPLEMENTING THE INQUIRY	17
PART B: BACKGROUND	19
1. THE INQUIRY	19
2. WHY ARE WE DOING THIS AND WHY A NATIONAL APPROACH IS NEEDED?	20
A national approach recognising regional opportunities and aspirations	23
Our achievements and future challenges—the story of Australia's freight productivity	24
3. WHAT THE EVIDENCE TELLS US	25
Experiences of the current freight system	25
Sizing-up the challenge of lifting productivity to the next level	28
4. SUPPLY CHAINS	33
Import/export supply chains	33
Inter- and intra- state supply chains	39
Urban supply chains	41
5. SUPPLY CHAIN INTEGRATION	45



Resource and agricultural freight 45

Regional and remote freight 47

APPENDIX A—Terms of Reference 49

APPENDIX B—Stakeholder consultation key issues and themes 51

APPENDIX C—Supporting and research papers..... 65



Foreword

Whether you live in a city or a regional or remote setting, all Australians rely on efficient and reliable freight movement. A truly liveable city is one that has freight systems and freight needs embedded within it.

Globalisation, international competition and fast paced technological change mean that Australia cannot afford to be complacent in relation to freight and the physical and social infrastructure that delivers it. Failure to act will lead to loss of international competitiveness, loss of market share and higher cost of goods.

Businesses and governments will need to embrace new thinking and adopt new technologies to capture the opportunities and meet the challenges of the growing freight task.

We heard a strong message of support for an overarching national strategy addressing the needs of all sectors of the freight and logistics industry and the users of freight services. The next step is for all levels of government to collaborate and commit to a National Freight and Supply Chain Strategy based on the priorities identified in this Report.

Many of the priorities in this Inquiry Report address issues that are well known and have been identified in previous work but they have not been previously addressed. Governments need to take a leadership role and take immediate action.

The recommended priorities map a direction for the National Freight and Supply Chain Strategy to guide investment, reform and governance for improved productivity and efficiency in the freight sector. There are clear productivity gains to be achieved by doing so.

To ensure that the recommendations of this Inquiry Report are actioned, we recommend that an Industry Expert Panel be appointed as part of the development of the National Freight and Supply Chain Strategy and that widespread industry engagement be an integral part of Strategy development. We also recommend that an Industry Advisory Group be formed to monitor progress with implementation of the National Strategy.

A National Freight & Supply Chain Strategy presents an opportunity for a true national approach to freight that transcends borders and transport modes and creates the environment to deliver significant productivity, safety and environmental reforms.

We encourage everyone in the industry to participate in the development of the National Freight and Supply Chain Strategy.

We would like to acknowledge the outstanding participation we have received from all sectors of the industry and governments in the preparation of this Inquiry Report. We would like to thank the team at the Department of Infrastructure, Regional Development and Cities, for their support in the very important secretariat role. The secretariat has prepared supporting papers to support this Inquiry Report.



The Panel's assessment of what needs to be done and why is set out in Part A of this report. Further background and analysis is set out in Part B.

Expert Panel

Marika Calfas

Chief Executive Officer, NSW Ports

Nicole Lockwood

Chair, Freight and Logistics Council Western Australia and Infrastructure Australia Board Member

Maurice James

Managing Director, QUBE Holdings Limited

David Simon

Executive Chairman Simon National Carriers and former Chair, Australian Trucking Association



PART A: PANEL'S REPORT

1. Introduction

In order to secure the nation's productivity into the future, Australia needs to adopt a clearly defined goal of having a national and integrated approach to freight. Failure to have a national approach means higher cost of living for Australians and reduced competitiveness of Australian exports in the global marketplace.

Australia's freight system is one of the foundations of the nation's economic success. It connects Australia to the world and facilitates the movement of goods domestically between regions and within cities. The freight and logistics sector accounts for up to 10 per cent of Australia's gross domestic product.

Historically Australia's transport sector has continued to grow in accordance with market demands. Reforms in the 1980s and 1990s led to a quarter of a century of productivity growth, based on open markets, enhanced vehicle capacity and access, capital investment and privatisation of state and territory government run infrastructure.

Trade agreements help by facilitating the flow of goods across national borders that once protected their industries from outside competition with tariffs, duties and penalties.

However, more recently, high domestic population growth rates, new technologies, global sourcing and increasing import substitution, and changing consumer habits and expectations are driving massive changes in demand for freight in Australia and across the world.

Policy leaders are now calling for a renewed focus on productivity growth to ensure Australia remains internationally competitive in the future. The Productivity Commission warns that simply adding more transport infrastructure, like rail lines and roads, may not be enough to sustain the current freight system.

Over the past five years, a number of important national reviews, which impact on freight, have been undertaken by government. We have also seen reforms and strategies with freight as the main focus including the *2012 National Ports Strategy*, *2013 National Land Freight Strategy* and Infrastructure Australia's *2015 Australian Infrastructure Audit*, which highlighted potential future national freight constraints.

These previous reforms and strategies do not deal with the supply chain in its totality. A number of priorities/reforms identified in those documents are still to be implemented, and a number of the identified issues remain. Urgent action is now needed to facilitate the physical growth in the freight task, and to maintain and boost Australian competitiveness through productivity and efficiency enhancements which have been stalled in recent decades.

This Inquiry was tasked with identifying priorities for Australia for the next 20 years, to improve freight and supply chain efficiency and capacity, and manage the costs of transporting goods through our major national container ports, airports, intermodal terminals and pipelines.

Analysis conducted for the Inquiry suggests that while the freight task is projected to double in the next 20 years, even with extra investment, Australian transport infrastructure will be hard pressed to meet this demand. Productivity improvements will need to be obtained through a national approach of coordinated investment and reforms.



The Inquiry adopted a functional approach based on supply chains to test and more deeply understand the priority issues that are affecting freight sector productivity and supply chain performance. Of the thousands upon thousands of supply chains operating in this country, the Inquiry saw that they are transacted across three functional areas.

- **Import/export freight**

Australia's high levels of international trade and transport mean import/export supply chains must be flexible as they face continual exposure to new international standards, business practices and changes in transport technology such as bigger ships.

Productivity at port and airport gateways is important, as is getting products to the gateways by land. Over decades with the decline in domestic manufacturing¹, Australia's capital city ports have become the cheapest way to import goods directly to where the majority of Australians live. Our regional ports are the largest export ports for certain commodities in the world. Our four largest capital city airports are gateways for online shopping and parcel handling, plus high value exports such as perishable foods and niche manufactures from across regional Australia.

- **Inter- and intra- state freight**

Australia's inter- and intra- state freight supply chains are the backbone to supporting the country's widely dispersed population, including managing the movement of imports and exports. Australia's land and air freight resilience handle annual inundation in the top end 'wet', while its coastal shipping maintains the essential flow of sea freight to Tasmania across Bass Strait throughout the year, and together with air freight, to our many remote islands and Northern Australian land based communities.


Key interstate freight links need to perform efficiently, as does access to regional freight routes and regional rail networks. As a result of the need to manage long internal supply chains very efficiently, Australia counts its long distance trucking fleet as among the most efficient in the world, while its mineral networks in the Pilbara are among the country's most efficient. Regional and remote freight supply chains need to be sufficiently robust to support the commodities produced, and the local communities they service. Coastal shipping of freight is an opportunity to support a strongly growing domestic freight task.

- **Urban freight**

Australia's urban spaces are where import/export and inter- and intra- state freight supply chains come together with the distribution of urban freight to households and businesses.

Urban freight is growing faster than any other freight task in Australia, with all capital cities experiencing growth. While extensive investment is being made in urban transport networks by all levels of government, new infrastructure alone will not be able to meet the increased demand for freight. Well integrated transport and land use planning will be needed for major cities and their regional linkages. Clearer conversations with communities about the complexities and trade-offs for a truly liveable, efficient and affordable city are critical.

¹ Reserve Bank of Australia (2016) *Conditions in the Manufacturing Sector*, Bulletin: June Quarter 2016



Alongside these broad areas, the Inquiry conducted specific investigation into resources and agricultural networks, and regional/remote freight. It also found that mechanisms for better integration of the movement of freight along supply chains can unlock major productivity benefits at relatively small cost (for example, compared to building new infrastructure). The Inquiry found there is a diverse set of obstacles to better supply chain integration, including filling data gaps.

2. Critical action areas

Drawing on 127 submissions and one-on-one meetings with over 200 individuals, from 28 peak bodies and over 90 businesses, we developed advice to Government and a draft Report. This included consideration of six supporting papers prepared by the department and 10 research papers commissioned by the department, including long-term scenario planning analysis undertaken by Deakin University. We then followed-up by meeting with state and territory Ministers, Commonwealth agencies and targeted peak bodies on our draft proposed recommendations, before submitting this Inquiry report to the Minister.

After considerable reflection on the research undertaken and our extensive consultations we have concluded that five critical action areas must be addressed to lift freight productivity and efficiency for Australia. The Panel acknowledges that governments and industry are already active across many of these areas, but argues that more must be done by all tiers of governments and industry in partnership.

1 An integrated approach

A nation-wide, consistent and integrated approach to freight and supply chain issues is needed to enhance the efficiency of the movement of freight. Other than where completely vertically integrated supply chains exist, freight modes and operators need to work together for the whole network to be efficient.

A national approach to freight that encompasses planning, infrastructure investment and regulation is important to maximise benefits to Australia and enhance international competitiveness.

Future challenges and opportunities which require a national approach include: harmonisation, streamlined regulation and cross-border planning among Commonwealth, state, territory and local governments.

2 Measurement of freight performance

Supply chain activity and performance must be measured to monitor domestic and global competitiveness over time and identify areas where action is required to maintain and improve productivity. A national approach to data consistency across jurisdictions is essential.

Performance data should inform the need for capital expenditure and maintenance, regulatory and governance reform, and measuring progress, including implementation of the National Strategy.

3 Planning for current and future needs

The conduct of freight supply chains needs to be properly integrated into land, sea and air use planning systems in states and territories.



Part of the challenge is to work with the planning profession to integrate freight needs into liveable city concepts so that there is a stronger social licence to implement development in a freight-friendly way.

Current and future freight corridors need to be planned and sufficiently protected from urban encroachment. Planning for freight also needs to consider ways to enable regional and remote opportunities, including integrating the wider social benefits from improved access.

4 Act to deliver the priorities

Freight precincts need to have adequate capacity to handle expected future volumes, and there needs to be sufficient capacity in the associated land, maritime and air connections.

Just as importantly, these precincts must remain accessible for the purposes of trade and protected from inappropriate or incompatible uses that compromise their productivity and optimal utilisation of existing land and infrastructure.

5 Communicate the importance of freight

There needs to be a social licence for freight, and education and expectations that freight is a valued system contributing to community well-being and prosperity. Governments and industry need to collaborate for this to be realised.

Training and education courses must also teach matters relevant to freight related supply chains to ensure that future decision makers understand the implications of their decisions in their future careers.

3. Priority actions

In order to address each critical action area, the Panel has identified priority actions focusing on investment, reform and governance.

It is recommended that the Commonwealth Government drive the proposed priority actions by linking all new infrastructure funding and agreements, like the *National Partnership Agreement on Land Transport Infrastructure*, to achieving freight outcomes in planning and decision making at all levels of government.

Critical action area 1: An integrated approach

Focus area	Recommended priorities
Investment	1.1 Fund the Department of Infrastructure, Regional Development and Cities to establish a dedicated freight and supply chain unit with responsibility for ongoing development and implementation of the National Strategy.
	1.2 Increase the department's capacity for technological and operational trend analysis and enhance its engagement with industry on potential trends and innovation in the wider economy, the logistics sector and ensure regulations enable the adoption of new technology and innovation.
	1.3 Encourage adoption of global data standards and collaborative electronic platforms across all freight modes to streamline the exchange, comparison, and understanding of data within the land, sea and air freight sectors. For example, port community systems utilise a common electronic platform to connect multiple systems operated by the different organisations that make up a sea port community, such as: <ul style="list-style-type: none"> • stevedores • vessel operators • slot charterers • freight forwarders / customs brokers • road and rail landside container carriers.
	1.4 Bring forward the proposed 2019 Productivity Commission review of rail and road operating frameworks to 2018, including a focus on productivity, harmonisation of standards, safety and regulation.
	1.5 Streamline the route permit approval process (including responsibility for decision making, and funding) for heavy vehicles (including over size and over mass vehicles) by local governments and associated regulations, with a view to establishing a national design standard/policy and reducing the approval period to 24 hours on key freight routes in line with national best practice.
	1.6 Review Commonwealth, state and territory regulations to be more outcomes focussed and supportive of innovation. For example, regulations that prescribe the specific type of freight aircraft that can land at night should be changed to allow for the use of any aircraft that meets relevant noise standards. This will allow for technological improvements to be adopted sooner.



Reform	<p>1.7 Implement a market solution to road user charging for all heavy and light vehicles, with pricing linked to the level of road infrastructure investment required, and community service obligation payments (or similar alternative) made available for maintenance of low volume roads which are key components of regional and rural transport networks.</p> <p>1.8 Road charges revenue should be directed back to road infrastructure investments, with a particular focus on ensuring adequate maintenance.</p> <p>1.9 Review opportunities for reform to competition policy to recognise that vertical integration where one player may own and operate different parts of a supply chain (for example, a single owner of rails, train sets and intermodal terminals) may produce a more efficient outcome for customers than enforced structural separation.</p>
Governance	<p>1.10 Establish an institutional framework for the development and implementation of the National Strategy as outlined in this Inquiry Report.</p> <p>1.11 Require business cases developed for infrastructure funding submissions to include a comprehensive analysis of alternative options including low build / no-build alternatives, which may include investment in technology or operational efficiencies (for example, investing in new rolling stock instead of duplication of underlying rail track).</p> <p>1.12 The COAG Transport and Infrastructure Council establish cost reflective pricing principles to apply to all transport modes to ensure freight moves via the most efficient transport mode. This work could be initiated through a review of current arrangements by a body like the Productivity Commission.</p> <p>1.13 Ensure standardisation and interoperability across rail networks, for example, train control and operating systems and rail gauge.</p>

Critical action area 2: Measurement of freight performance

Focus area	Recommended priorities	
Investment	2.1	Establish a data gathering and performance review mechanism focused on travel times and reliability on key freight routes and the efficiency of the interfaces at freight terminals with routine public reporting of performance over time.
	2.2	Benchmark key export supply chain performance against international competitors.
	2.3	Ensure the national Digital Economy Strategy, set up by the Australian Government in September 2017 to focus on ways governments, businesses and the community can seize the benefits of digital transformation, incorporates recommendations on freight priorities to create efficiencies. As an example, port community systems mentioned in priority 1.3 could be expanded.
	2.4	Fund the Australian Bureau of Statistics to establish a transport satellite account to its national accounts that separately reports the value of freight transport for the economy as a whole (e.g. GDP, employment, etc.).
	2.5	Fund a freight observatory to collect, analyse and publish freight performance data for all freight modes and supply chains to better inform decision making and investment, with appropriate governance arrangements and the potential for this function to be held by an independent body that has industry confidence.
	2.6	Develop a better understanding of regional air freight requirements to enhance regional export opportunities, for example through airport upgrades and/or improved road, or domestic air, connections to international airport gateways.
Governance	2.7	Introduce a 'chain of productivity' concept into supply chain monitoring that would involve developing guidelines and processes to measure and report performance throughout the supply chain, including freight vehicles and freight terminals.


Critical action area 3: Planning for current and future needs

Focus area	Recommended priorities	
Investment	3.1	Review and map current and proposed future key freight routes for all freight modes to include freight corridors, intermodal terminals, ports, airports, industrial areas, shipping lanes and flight paths, which if not appropriately managed, can create inefficiencies in the freight system. These maps would inform funding decisions and land use planning processes.
	3.2	Review supply chains and identify any points on the key freight routes where they could be significantly impacted by disruption (for example from climate change or other actions). In the absence of alternative supply chain options, enable mitigation strategies to be put in place to ensure ongoing freight accessibility.
	3.3	Preserve and protect land, air and water transport corridors and buffer/transition zones, as well as land for future freight use in growth areas, such as projects for



	the development of an alternative rail alignment into Port Kembla, Western Sydney Airport freight related road and rail, a high capacity rail link to the Port of Brisbane and intermodal terminal and pipeline connections and future intermodal locations for Inland Rail.
Reform	<p>3.4 Ensure all tiers of government integrate appropriate land use planning protections for existing freight related activities such as: preservation of industrial land; buffer zones around key freight hubs to allow 24-hour freight operations; protection of corridors and buffer zones (including sea channels to ports, pipelines and air corridors to airports) and sites for future freight purposes; protecting existing freight areas from urban encroachment; improving communication on current and future noise issues; and identifying land for current and future logistics uses, including urban freight facilities and consolidation centres.</p> <p>3.5 Freight related development assessments and conditions of approval issued by all tiers of government should consider impacts on efficiency of freight operations and the need to optimise utilisation of infrastructure, such as the ability for freight activities to grow by avoiding throughput limits and restrictions to operating hours.</p> <p>3.6 Local governments should work with their state and territory counterparts to develop coordinated urban freight plans for major cities, to ensure city wide freight outcomes are met, such as access to key freight routes, last mile access, buffers and industrial land preservation. Coordinated urban freight plans such as the London Freight Plan² provide an example of this approach.</p> <p>3.7 Promote training and re-skilling of employees in the freight industry appropriate to current and future needs, within the context of technological advancement, for example, increasing automation.</p>

² London's logistics and services policy framework which involves identification and protection of Strategic Industrial Locations and ensuring Locally Significant Industrial Sites are free to operate without significant restrictions and freight can access areas where needed. Further information can be found at https://www.london.gov.uk/sites/default/files/new_london_plan_december_2017.pdf.



Governance	<p>3.8 All states and territories should have a freight strategy with clear links to the National Strategy and associated infrastructure funding processes.</p> <p>3.9 All state, territory and local government land planning documents should specifically reference freight and identify its requirements, such as in the Greater Sydney Plan released in March 2018 by the Greater Sydney Commission.</p> <p>3.10 Processing timeframes for freight related development approvals by governments should be audited with a view to reducing timeframes to provide greater investment certainty and reduce the costs of development approval processes.</p> <p>3.11 Undertake a review to identify any potential gaps in existing infrastructure investment programs to allow funding for smaller, collective packages of investment in freight projects that could lift regional productivity, which may not otherwise be considered for Commonwealth funding.</p> <p>3.12 Improve the reliability of freight movements (often as important to customers as the capacity of networks or cost of transport) through state governments guaranteeing freight train paths in mixed use rail networks, similar to the approach adopted by NSW in relation to the Northern Sydney Freight Corridor initiative, and adopt dynamic network management control systems that enable freight trains to access spare capacity in metro systems.</p>
-------------------	--



Critical action area 4: Act to deliver the priorities

Focus area	Recommended priorities
Investment	<p>4.1 Target Commonwealth investment toward key freight routes and associated first/last mile roads, with investment aligned to the National Strategy. For example from City Deals, National Partnership Agreements etc.</p> <p>4.2 Expand current infrastructure investment programs to address infrastructure issues that are preventing High Productivity Vehicles and Over Sized Over Mass vehicles accessing key freight routes and freight facilities. This may include expanded support for local government assessment programs and investment in bridges, culverts and degraded roads.</p> <p>4.3 Provide additional funding to ensure efficient rail freight connections to major ports and rail freight paths through metropolitan networks, including port rail projects, such as completing the duplication of the Port Botany freight rail line.</p> <p>4.4 Investigate high reliability high capacity rail links to other key ports not included under priority 4.3, such as Fremantle, Brisbane and regional ports.</p> <p>4.5 Undertake targeted investment in freight rail infrastructure where the operation of multi-owner, multi-user networks (such as grain supply chains) may provide little commercial incentive for infrastructure investment.</p> <p>4.6 All governments to continue to work with the telecommunications industry to provide mobile coverage and broadband to a standard that supports freight movement along critical urban, regional and remote routes..</p> <p>4.7 Improve regional and remote supply chain resiliency to allow operations in all weather conditions, including sealing roads, with a priority for roads supporting high value/high volume freight and where sealing is the most cost effective long-term solution.</p> <p>4.8 Provide incentives for the adoption of more productive, efficient, environmentally sound and safe processes to meet freight needs where the market may not otherwise invest, including non-build solutions such as technology based, or high productivity vehicle solutions.</p>

Reform	4.9	Review the need for the many permit types required for the movement of high-productivity vehicles and over mass over size vehicles, and the cost/benefit of current permit arrangements.
	4.10	Accelerate the delivery of as-of-right access to key freight routes by B-doubles and other combinations unless current physical constraints genuinely impede their use.
	4.11	Support the development and implementation of a 'single window' for international trade which promotes the use of standardised trade and transport information and documents to reduce regulatory burden in the context of customs and quarantine arrangements at the border.
	4.12	Given the criticality of capital and maintenance dredging for securing shipping channels and berths, implement streamlined and timely regulatory approval processes, which are considerate of the environment, best practice and cost effective.
	4.13	Investigate the extent and impact of overlapping project planning approvals (such as environmental approvals) across the Commonwealth, state and territory governments to accelerate timelines for national and state significant projects.
	4.14	Reduce regulatory barriers to facilitate increased coastal shipping that supports the efficient movement and operation of domestic freight, and encourages coastal shipping as a viable and sustainable supply chain mode.
Governance	4.15	An assessment of freight impact should be included as part of significant development proposals and strategic planning documents.
	4.16	Implement key objectives and recommendations of the National Freight Strategy as part of City Deals.

Critical action area 5: Communicate the importance of freight

Focus area	Recommended priorities
Investment	5.1 All levels of government and industry should work collectively to strengthen the social licence for freight and promote positive communication of its importance for the community and economy, including through the development of a 'value of freight' web resource.
	5.2 Develop practice manuals for the implementation of key freight related urban planning processes and policies to assist state agencies and local government in the successful application of these processes and policies.
Reform	5.3 Raise awareness of the importance of freight and the need for appropriate planning, development approval conditions, protection and regulatory regimes in the government sector, particularly land use and transport planners, environmental regulators and developers, through formal and informal education.
	5.4 Include freight related topics in relevant tertiary courses, such as planning, transport and environmental courses to ensure that future decision makers understand freight supply chain benefits and needs, and make informed decisions relating to freight.



Governance	<p>5.5 Where absent, implement freight coordination bodies comprising representatives from government, industry and the community, similar to the Planning Coordination Forums at capital city airports.</p> <p>5.6 Identify options for meeting the cost of initiatives to deal with noise and other impacts that might otherwise continue to create community pressure for curfews and other restrictions on freight.</p>
-------------------	---

4. What success may look like

The broad markers of how success may look are:

- **By the end of 2018**—the *National Freight and Supply Chain Strategy* (the National Strategy) is agreed and oversight of its implementation is established.
- **Short term (within 5 years)**
 - Freight performance benchmarks and KPIs established.
 - Freight observatory established, capturing data, analysing and reporting against KPIs.
 - All levels of government have plans, strategies and planning processes consistent with the National Strategy.
 - National framework in place against which investment decisions are assessed.
- **Medium term (5-10 years)**
 - Regulations impacting on productivity are amended to support efficient freight supply chains and facilitate adoption of new technology.
 - Communication and education programs for the importance of freight are successfully implemented.
 - Freight planning and land use planning are fully integrated, with freight considerations forming part of all government decision making.
- **Long term (10+ years)**
 - Australia's supply chains are resilient to disruption.
 - Australia's supply chains continue to be internationally competitive and grow market share.
 - Australia's supply chains are productive and efficient in the face of growing freight volumes, keeping cost of goods to consumers and businesses low.
 - Australia's cities are 'freight aware' and freight outcomes are protected through integrated land use and transport planning.



5. Implementing the Inquiry

The Inquiry will provide the basis for development of the National Strategy, and the proposed approach for that to occur is set out in *Figure 1 – Implementing the Inquiry*.

We recommend the following institutional framework be adopted for the development of the National Strategy:

- the establishment of a working group of key senior government representatives across all levels of government and infrastructure bodies, including transport and planning representatives, to develop the National Strategy
- an industry consultation mechanism such as an Industry Expert Panel being appointed to contribute to the development of the National Strategy, with a focus on ensuring that the recommendations of the Inquiry Report are actioned in the Strategy.

We also recommend the following institutional framework be adopted for the implementation of the National Strategy once agreed:

- The establishment of a working group of key senior government stakeholders to oversee implementation of the National Strategy action plan across all levels of government and infrastructure bodies, and to propose annual updates to the National Strategy action plan.
- An Industry Advisory Group be formed to monitor progress in implementing the National Strategy.
- Regular reporting to the COAG Transport and Infrastructure Council on national freight performance outcome measures and outputs under the National Strategy action plan.
- A major review of the National Strategy every five years.

To support this institutional framework, we propose that:

- All levels of government and infrastructure bodies establish dedicated freight areas to drive implementation of the National Strategy action plan. There should be single integrated national monitoring and reporting annually on national freight performance outcomes.
- Further scenario planning work be undertaken to help refine medium and long term actions and identify critical decision making points for action.
- Periodic (two to three year) ‘horizon scanning’ exercise be undertaken to keep scenarios current and promote ongoing engagement with industry and government on the future of freight. This is important given the pace at which technological and supply chains are changing.

Figure 1 – Implementing the Inquiry





PART B: BACKGROUND

1. The Inquiry

In November 2016 the Commonwealth Government responded to the Australian Infrastructure Plan and agreed to develop a *National Freight and Supply Chain Strategy*.

In March 2017 the Honourable Darren Chester MP, former Minister for Infrastructure and Transport, initiated the *Inquiry into National Freight and Supply Chain Priorities* (the Inquiry) to consider how Australia can best lift productivity and the efficiency of Australia's freight and supply chain infrastructure.

The Inquiry will inform the development of a *National Freight and Supply Chain Strategy* to be considered by the Council of Australian Governments (COAG) Transport and Infrastructure Council in 2018.

The Inquiry was requested to identify priorities for Australia for the next 20 years, to improve freight and supply chain efficiency and capacity, and manage the costs of transporting goods through our major national container ports, airports, intermodal terminals and pipelines. The Inquiry was led by an independent Expert Panel, with significant industry expertise, appointed by the Commonwealth Government and was supported by a secretariat provided by the Department of Infrastructure, Regional Development and Cities (the department).

The Inquiry has built on recent national reviews, which impact on freight, together with the development of states and territory freight strategies and plans. These include the *2012 National Ports Strategy* and *2013 National Land Freight Strategy*, and Infrastructure Australia's *2015 Australian Infrastructure Audit* which highlighted potential future national freight constraints.

Approach

The key tasks of the Inquiry were:

- An initial two month consultation process commencing with the release of a formal Discussion Paper in May 2017.
- A review of 127 submissions and one-on-one meetings with over 200 individuals, from 28 peak bodies and over 90 businesses.
- Six supporting papers were prepared by the department, and 10 research papers commissioned by the department, including long-term scenario planning and analysis.
- Targeted industry and government consultations on the draft report in February 2018.

The Inquiry analysed the inputs about the many supply chains operating in this country at a high level, according to a number of functional areas, with detailed focus on agricultural/resource networks, regional/remote freight and supply chain integration.

Mechanisms for better integration of the movement of freight along supply chains can unlock major productivity benefits at relatively small cost (for example, compared to building new infrastructure). There is a diverse set of obstacles to supply chain integration, including filling data gaps.



2. Why are we doing this and why a national approach is needed?

Australia's freight system is the foundation of its economy and success. It connects Australia to the world and allows domestic freight to be moved between regions and within cities.

Reforms in the 1980s and 1990s to Australia's transport sector led to a quarter century of productivity growth, based on open markets, enhanced vehicle capacity and access, capital investment and privatisation of state and territory government run infrastructure.

Trade agreements have facilitated the flow of goods across national borders that once protected domestic industries from outside competition with tariffs, duties and penalties.

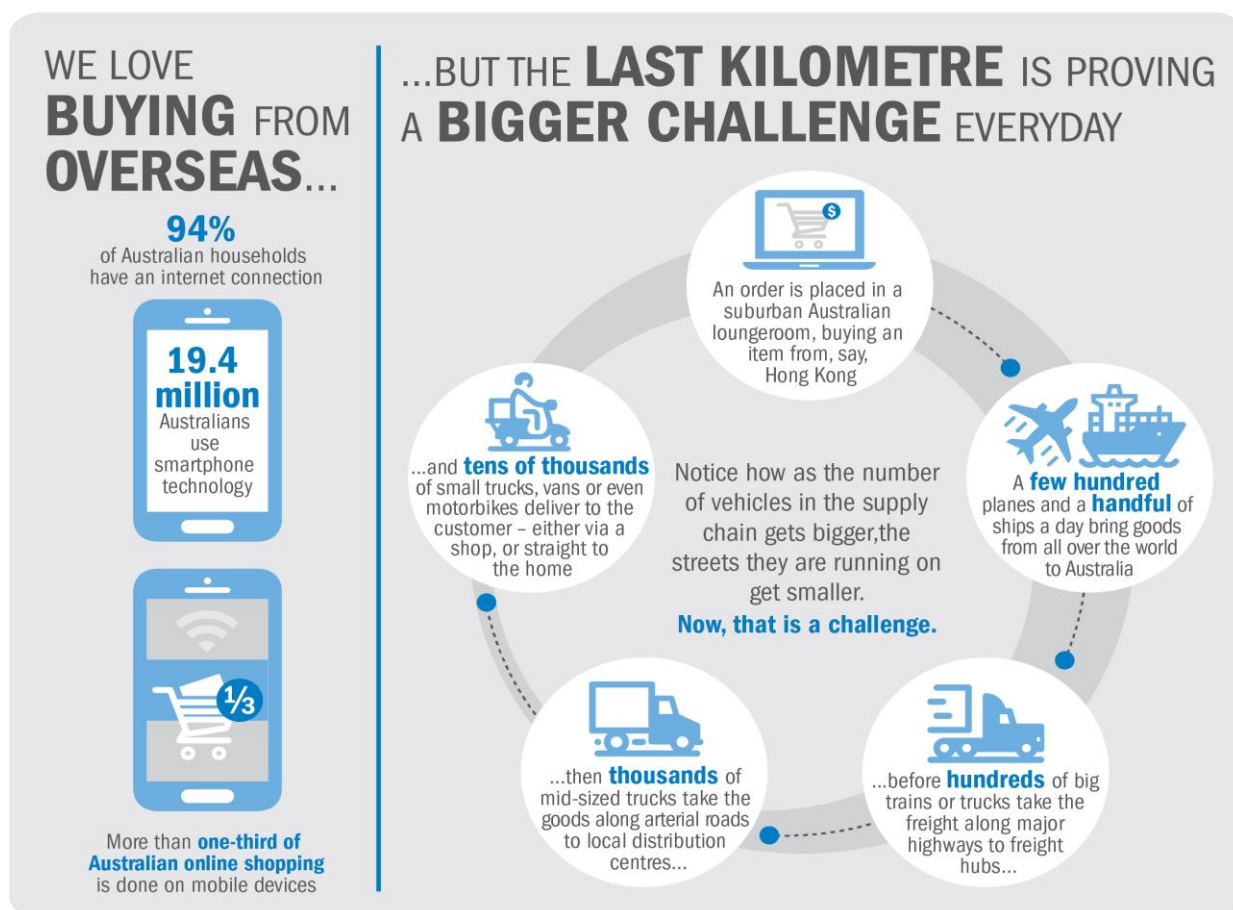
More recently, high population growth, new and emerging technologies, global sourcing and changed consumer habits and expectations are driving massive changes to demand for freight in Australia and across the world. In Australia, a decline in manufacturing has meant more imports are needed to meet business and consumer requirements. Australia needs a national freight system aligned with the opportunities presented by these changes to gain their full benefit.

Since the 1990s the convergence of logistics, information and communications technologies has seen a boom in electronic commerce. E-commerce changes supply chains — it enables manufacturers, wholesalers and retailers to perform transactions directly with consumers. As a result, small and mid-sized companies can source and sell products from much further afield and arrange for delivery with ever declining lead times.

Consequently, Australia's economy is increasingly dependent on just-in-time deliveries and modern logistics systems to ensure the efficient operation of supply chains.

These trends, coupled with significant population growth, place pressure on the nation's current network of airports, ports, intermodal terminals, rail and roads and impact the efficient movement of freight (Figure 2 refers). Nowhere is this more evident than in our major metropolitan centres, where supply chains have grown more complex, and thus more sensitive to congestion and other transportation-related disruptions.

Figure 2 – Consumer trends and challenges



Analysis conducted for the Inquiry suggests the projected growth in the freight task over the next 20 years is such that even with extra investment, Australian transport infrastructure will be hard pressed to meet this demand without additional costs or time delays.

Productivity improvements will need to be obtained through a national approach of coordinated investment and reforms. Significant population growth forecast for Australia raises the question as to how the population's freight needs will be met. For example, Melbourne currently requires approximately 15,000 tonnes of food to be produced and delivered each day³, in addition to all the pharmaceuticals, fuel, building products and other essentials consumed. How well will the freight infrastructure of Australia's cities be able to meet the needs of the expected 38 million people in 2050?⁴

³ Sheridan, J., Carey, R. and Candy, S. (2016) *Melbourne's Foodprint: What does it take to feed a city?*

http://veil.msd.unimelb.edu.au/_data/assets/pdf_file/0005/2355449/Foodprint-Melb-What-it-takes-to-feed-a-city.pdf

⁴ ABS Population Projections, 2012 to 2101 3222.0.

[http://www.abs.gov.au/ausstats/abs@.nsf/Lookup/3222.0main+features52012%20\(base\)%20to%202101](http://www.abs.gov.au/ausstats/abs@.nsf/Lookup/3222.0main+features52012%20(base)%20to%202101)



A national approach to freight is required given the detached nature of public perceptions about freight, and little interest shown from the public about learning more about freight except when faced with personally impacting situations. Research conducted as a result of the *2013 National Land Freight Strategy* into community attitudes towards freight found that increasing community awareness about freight also increases the risk of eliciting negative reactions that would otherwise not have been observed.⁵ This indicates the need for coordinated national approaches if future community partnerships on freight are to succeed.

National curricula for Australia's future planners need to incorporate a greater awareness of freight related issues and develop the skills needed to meet the difficult balance planners face in promoting residential amenity while meeting broader national and local economic outcomes. A review conducted for the Inquiry into university courses accredited by the Planning Institute of Australia⁶ revealed there are a number of transport planning courses available at under- and post-graduate levels in Australia. These courses focus on transit systems and modelling of transport systems with no specific focus on freight logistics listed in the course outlines. Topics such as 'urban congestion', 'freight' or 'distribution systems' are absent in course units entitled, 'Economies of Cities' and 'Economic Development'. The lack of freight transport or logistics topics is consistent at under- and post-graduate levels.

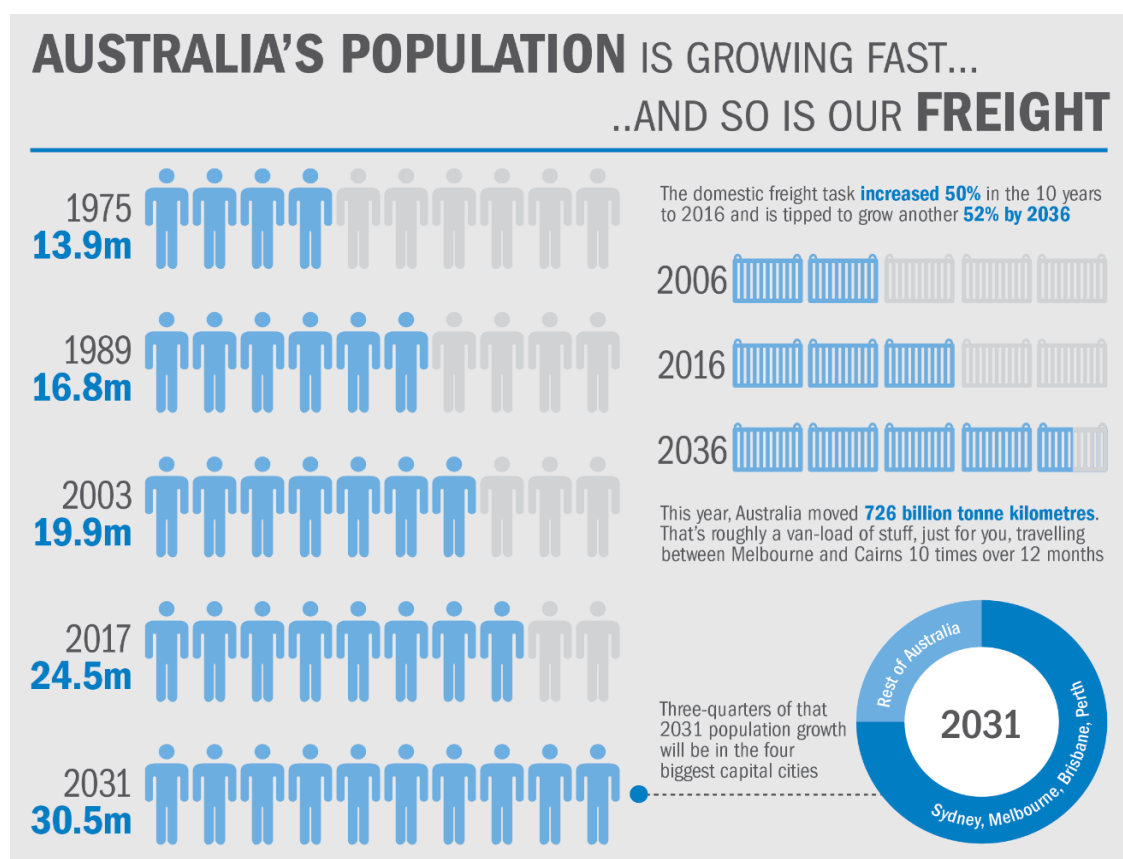
Policy leaders are now calling for a renewed focus on productivity growth to ensure Australia remains internationally competitive in the future. An integrated multimodal freight transport network is a critical factor for companies to successfully execute their supply chain processes both domestically and internationally. However, ongoing improvements in freight transportation will not be achieved without effort from both public and private sectors.

The need to examine freight capacity and performance now is highlighted by the growing scale of the freight task. Figure 3 shows how much Australia's population and freight task is expected to increase over the next 13 to 18 years.

⁵ Department of Infrastructure & Regional Development (2014), *Case Study Compendium – Community Engagement on Freight Issues*, page 7 https://infrastructure.gov.au/transport/freight/files/Case_Study_Compendium_Community_Engagement_on_Freight_Issues.pdf

⁶ Centre for Supply Chain and Logistics (2017), *Preliminary Report on Urban Planning and Freight and Logistics*, (unpublished)

Figure 3 – Australia's population and freight growth⁷



A national approach recognising regional opportunities and aspirations

While this report outlines undoubted benefits from a national approach to many aspects of the freight task, the Inquiry recognises that each state and territory has its own unique opportunities and aspirations. Examples referenced in state strategies and recent announcements are:

- NSW is preparing for large growth in freight volumes across Greater Sydney and regional NSW, and is supporting industry to take advantage of new technology to improve freight movement.⁸
- Victoria is planning for its population to rapidly grow to 10 million by 2050 by ensuring the necessary infrastructure is in place and regional cities, like Geelong, are integrated into the state wide economy.⁹

⁷ National Transport Commission (2016), *Who moves what where*

⁸ Transport for NSW (2017), *A clear direction for NSW Freight and port investment*, <https://www.transport.nsw.gov.au/news-and-events/media-releases/a-clear-direction-for-nsw-freight-and-ports-investment>

⁹ Infrastructure Victoria (2017), *Victorian Infrastructure Plan*, http://www.vic.gov.au/system/user_files/Documents/vip/Victorian%20Infrastructure%20Plan-Chapter%202-Transport.pdf, page 35



- Queensland has the opportunity to build infrastructure to facilitate renewed resource development while also responding to urban growth pressures in its South East.¹⁰
- Western Australia is supporting massive gas and iron exports in its north while preparing for Perth's population to reach 3.5 million by 2050.¹¹
- South Australia will continue to play a key role in linking both east-west and north-south traffic while at the same time looking to develop strong regional transport links to facilitate growth in minerals agricultural businesses.
- Tasmania is positioned to capitalise on the strong demand for high value agricultural products from emerging Asian markets, either through direct international air freight or staged flights through Melbourne and Sydney.
- The Northern Territory is seeking to make the best use of a new wave of critical infrastructure and push the social, security and economic outcomes of northern Australia.
- In the Australian Capital Territory, Canberra is the regional centre for more than half a million people, with strong road connections to Sydney and Melbourne and new international air connections providing options for export.

Across all of the above is the need to better coordinate the freight requirements of regional Australia with our capital cities, ports, airports and intermodal terminals.

Our achievements and future challenges—the story of Australia's freight productivity

Freight occupies a key place in the Australian economy, accounting for up to 10 per cent of gross domestic product.¹² The Productivity Commission has noted that much of the recent productivity growth in the transport sector has been from capital investments in infrastructure.¹³ The Commission warns that simply adding more transport infrastructure, like rail lines and roads, may not be enough to sustain the current freight system, drive the long term improvements needed for Australian businesses to remain globally competitive and meet the aspirations of the Australian community.

Reforms made during the 1980s and 1990s led to productivity growth from economic reform in the transport sector, but this growth began to plateau from around 2000. Strategies to deal with this slow down, and any future down turn in productivity (for example through congestion), need to be in place if the Australian economy and standard of living are to be maintained.

Freight rates are one indicator of trends in productivity in the transport sector. Figure 4 shows the plateauing for road, rail and sea freight rates since the 2000s.

¹⁰ Department of Transport and Main Roads (2016), *Moving Freight progress report*, <https://www.tmr.qld.gov.au/-/media/busind/Transport-sectors/Freight/Moving-Freight-final/mfprogressreport.pdf?la=en>

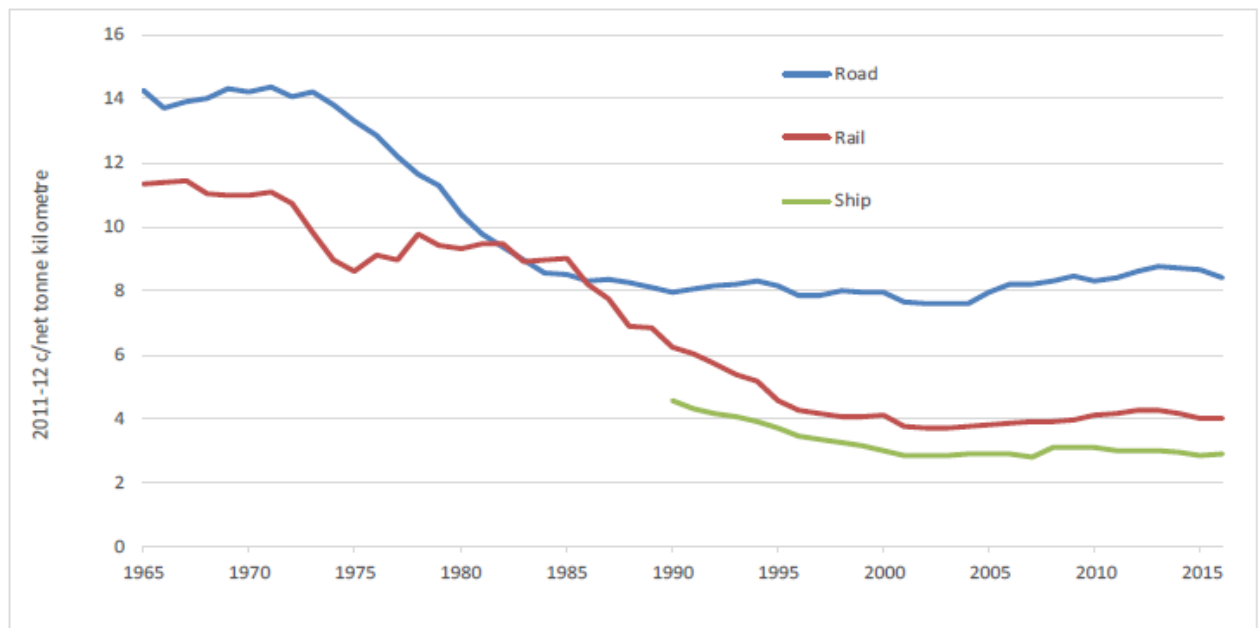
¹¹ Department of Transport (2017), *Transport @ 3.5 million*, https://www.transport.wa.gov.au/mediaFiles/projects/PROJ_P_Perth_Transport_Plan_full.pdf

¹² Australian Logistics Council (2014) *The Economic Significance of the Australian Logistics Industry*. <http://austlogistics.com.au/wp-content/uploads/2014/07/Economic-Significance-of-the-Australian-Logistics-Industry-FINAL.pdf>

¹³ Productivity Commission (2017) *Shifting the Dial: 5 year productivity review*. <http://www.pc.gov.au/inquiries/completed/productivity-review/report>



Figure 4 – Real interstate road, rail and sea freight rates¹⁴



An unproductive freight system will show up in lost export income, reduced employment, higher import prices and consumer impacts, such as less efficient supermarket restocking and deliveries, and higher cost of goods. The Productivity Commission also indicates the kind of productivity change that would be ideal- multifactor productivity, making what is already in place work better, as well as capital deepening, or adding more infrastructure, which has been the dominant approach in the economy in recent years.

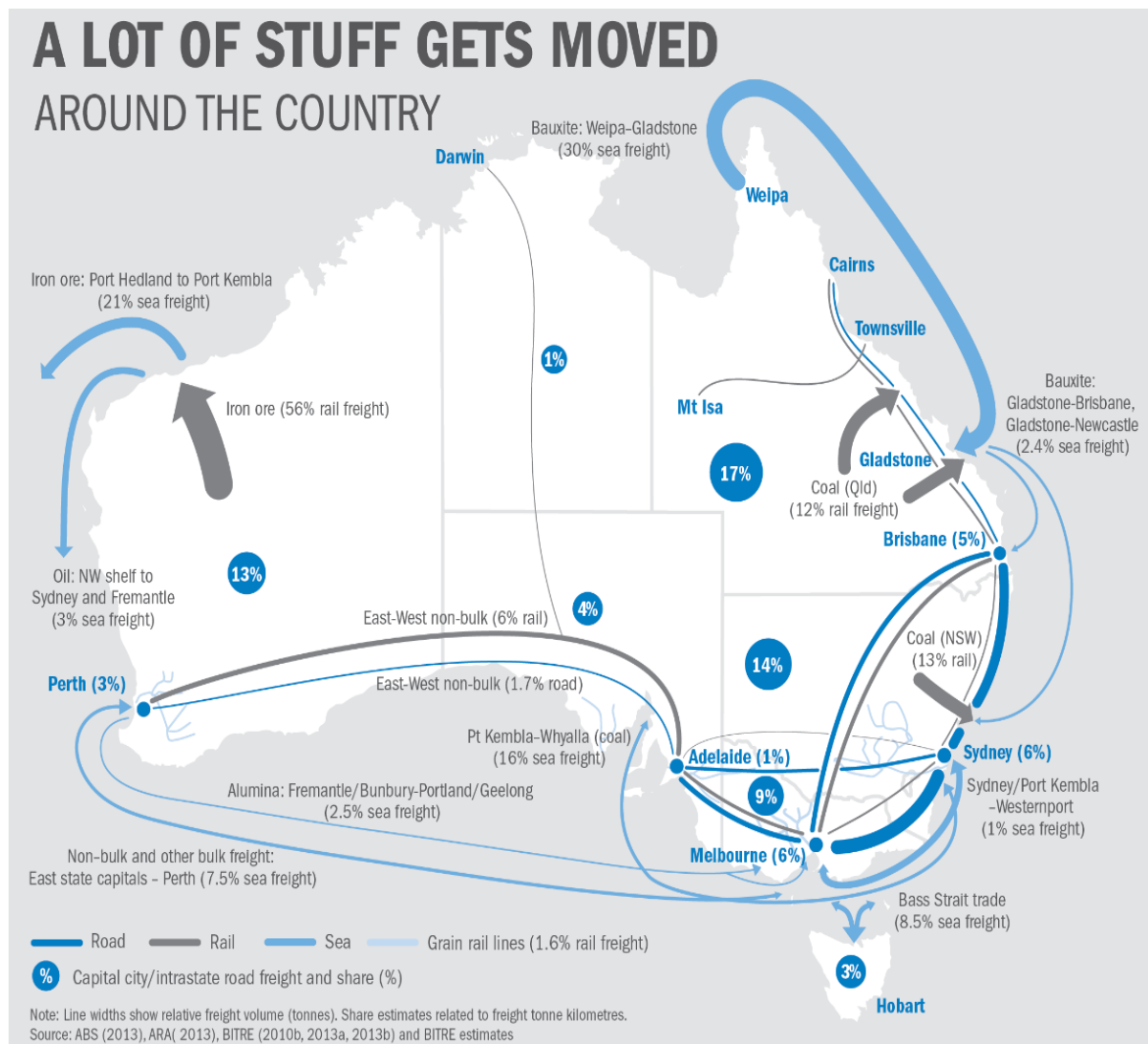
3. What the evidence tells us

Experiences of the current freight system

Over the past two centuries the Australian freight system has been built up into a complex mix of supply chain relationships utilising different land, sea and air transport modes, moving products of all descriptions to multiple locations (Figure 5). This system is typically fragmented with multiple operators within a supply chain, except perhaps by a few large companies operating national end-to-end supply chains.

¹⁴ <https://www.fullyloaded.com.au/industry-news/1707/stats-indicate-interstate-freight-rates-in-doldrums>

Figure 5 – Snapshot of major Australian freight movement 2011 to 2012¹⁵




Despite a range of sector-specific performance reporting, there has been no national view as to how the freight system is performing as a whole, due to the sector's extensive and fragmented nature. This makes it difficult to draw firm conclusions from existing analysis.

To start building a picture of national freight system capacity and performance, extensive stakeholder feedback on the Inquiry Discussion Paper was provided in the consultation period. In broadest terms, the persistent theme in stakeholder feedback was that significant frustration is experienced in managing freight supply chains, because of:

- capacity limits and land-side access restrictions at key national freight terminals
- diminishing industrial land around key national freight terminals and an inadequate

¹⁵ Bureau of Infrastructure, Transport and Regional Economics (2014), *Freightline 1 – Australian freight transport overview*, Statistical Report, https://bitre.gov.au/publications/2014/freightline_01.aspx



allocation of land for intermodal terminals

- conflicting freight and passenger rail and road movements during peak periods
- fragmented access to national key freight routes
- inadequate mechanisms for national supply chain integration, including a lack of freight data and information on the performance of Australian supply chains against international benchmarks
- inadequate jurisdictional strategies for protecting freight corridors and strategic industrial and logistics areas from urban encroachment
- a lack of integrated planning and harmonisation of freight regulation and coordinated freight governance across and within governments.

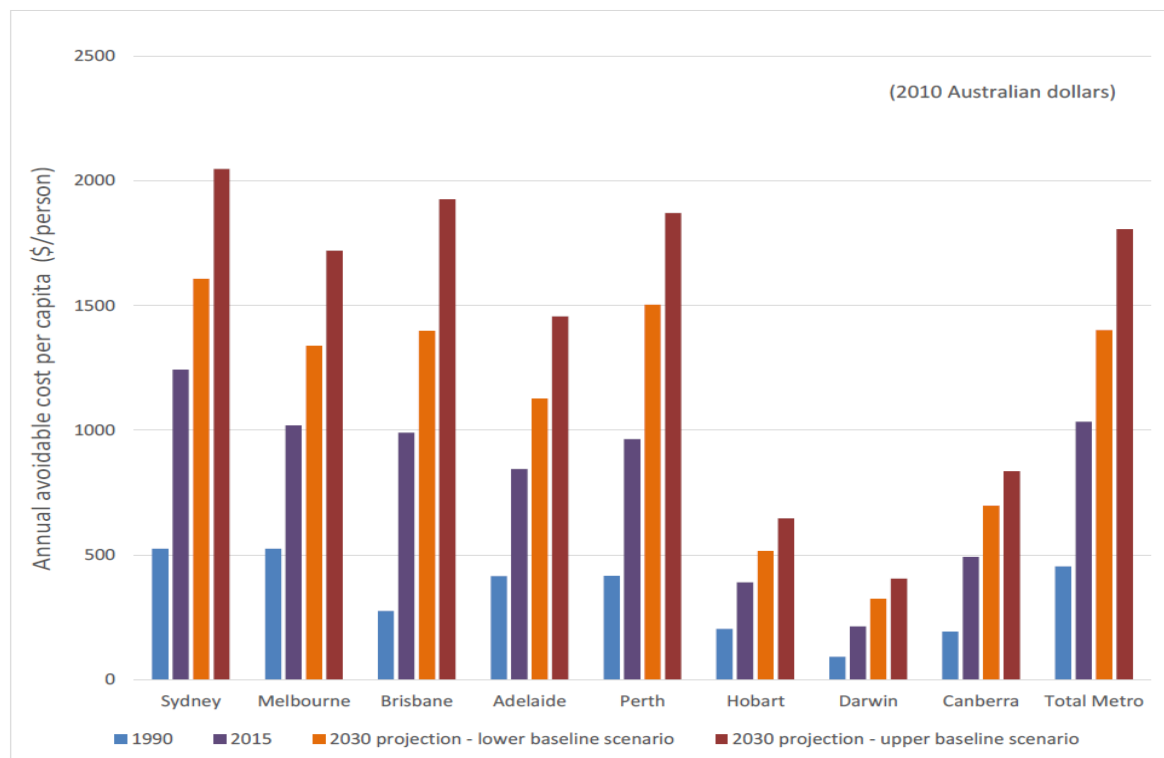
Alongside these challenges, the virtue of our freight operators is their ability to ‘work around’ the problems. The extent and deeply systemic nature of these challenges suggest there are significant costs imposed on freight businesses, Australian consumers and exporters.

When the Inquiry sought to test industry’s views, it found there was limited national data. Anecdotal and some operational cost information provided to the Inquiry made clear that access to key freight terminals and freight routes is compromised by traffic congestion in urban areas and inadequate infrastructure in regional and remote areas.

In the major cities, there is ongoing conflict between residential and industrial land uses, with the industry supporting better forward planning for freight infrastructure and early reservation of buffers and corridors to protect existing and future investment, including corridors for pipelines, which reduce tanker traffic on roads. The congestion difficulties in Sydney, Melbourne, Brisbane and Perth affect all parts of the country through bottlenecks in the import/export gateways. Figure 6 demonstrates the overall costs of traffic congestion.



Figure 6 – Average per capita congestion costs for Australian metropolitan areas¹⁶



The firm view made by many Inquiry respondents was that new technologies can improve safety and productivity. However, some technologies are not suited to the conditions in regional Australia due to patchy mobile phone coverage, which may inhibit further technology uptake.

Governments acknowledge that integrated planning and regulation across borders is required to avoid unnecessary costs and maintain competitiveness. Despite progress in reforms at the local, state and national levels, there is agreement that further work is required to address remaining issues.

Sizing-up the challenge of lifting productivity to the next level

Lifting the productivity of the freight sector will require sustained effort to manage a system central to economic well-being, but which consists of a diverse group of industry participants with diverse objectives.

Over the next 20 years, the advances in technology and data availability will be a major driver of productivity growth in the freight sector in areas such as automation, data processes and product delivery. These include the use of automated vehicles, telemetry, drones and big data, supported by international data standards.

¹⁶ BITRE (2015), *Traffic and congestion cost trends for Australian capital cities*, Information Sheet, https://bitre.gov.au/publications/2015/files/is_074.pdf, page 30



Scenario planning

Given the likelihood of disruption to the freight sector in the next 20 years, planning for long term productivity improvement will need a different approach to traditional ‘forecasting’. Infrastructure Australia advised the Inquiry to conduct scenario planning for this purpose.

The Centre for Supply Chain and Logistics (CSCL) at Deakin University, as part of the Inquiry, prepared four scenarios that identify potential drivers of change in freight and supply chains in Australia, based on a time horizon of 20 years. A full report of CSCL’s scenario planning exercise is referenced in Appendix C.

Scenario planning

The Inquiry findings have been informed by a scenario planning process carried out by the CSCL, modelled on a scenario planning methodology developed by the Massachusetts Institute of Technology’s Center for Transportation and Logistics as part of the Future Freight Flows Project.¹⁷

CSCL’s work included the identification and validation of potential drivers of change in freight and supply chains in Australia, with the development of four scenarios based on these drivers over a time horizon of 20 years.

The validation of these scenarios, and finally the facilitation of their application in workshops, helped the Inquiry to identify possible medium and long term priorities for action.¹⁸

CSCL interviewed 52 Australian experts to identify 43 categories of driving forces and local factors for Australian freight. These factors were then validated by a larger group of industry and government experts, and collated into four scenarios: a world with a stronger and more influential Asian economy; an overpopulated planet with high inequality; a world dominated by automation; and a world where public reaction to multiple political system failure has led to stronger social and environmental regulation.

None of these scenarios are likely to occur in their totality, but an element of each is quite plausible. The scenarios were analysed in workshops conducted in Perth, Melbourne and Sydney (including with the Inquiry Expert Panel members and national, state and territory infrastructure bodies) to identify the potential implications.

CSCL’s work is one of the first serious pieces of scenario work in the Australian transport sector. It offers a good starting point from which more detailed scenario planning work can be built.

¹⁷ MIT (2011), *Future Freight Flows*, Centre for Transportation and Logistics, <https://ctl.mit.edu/research/current-projects/future-freight-flows>

¹⁸ Centre for Supply Chain and Logistics, *Scenario Planning to Inform Australia’s National Inquiry into Freight and Supply Chain Priorities*, unpublished advice prepared for the Department of Infrastructure, Regional Development and Cities, page 6

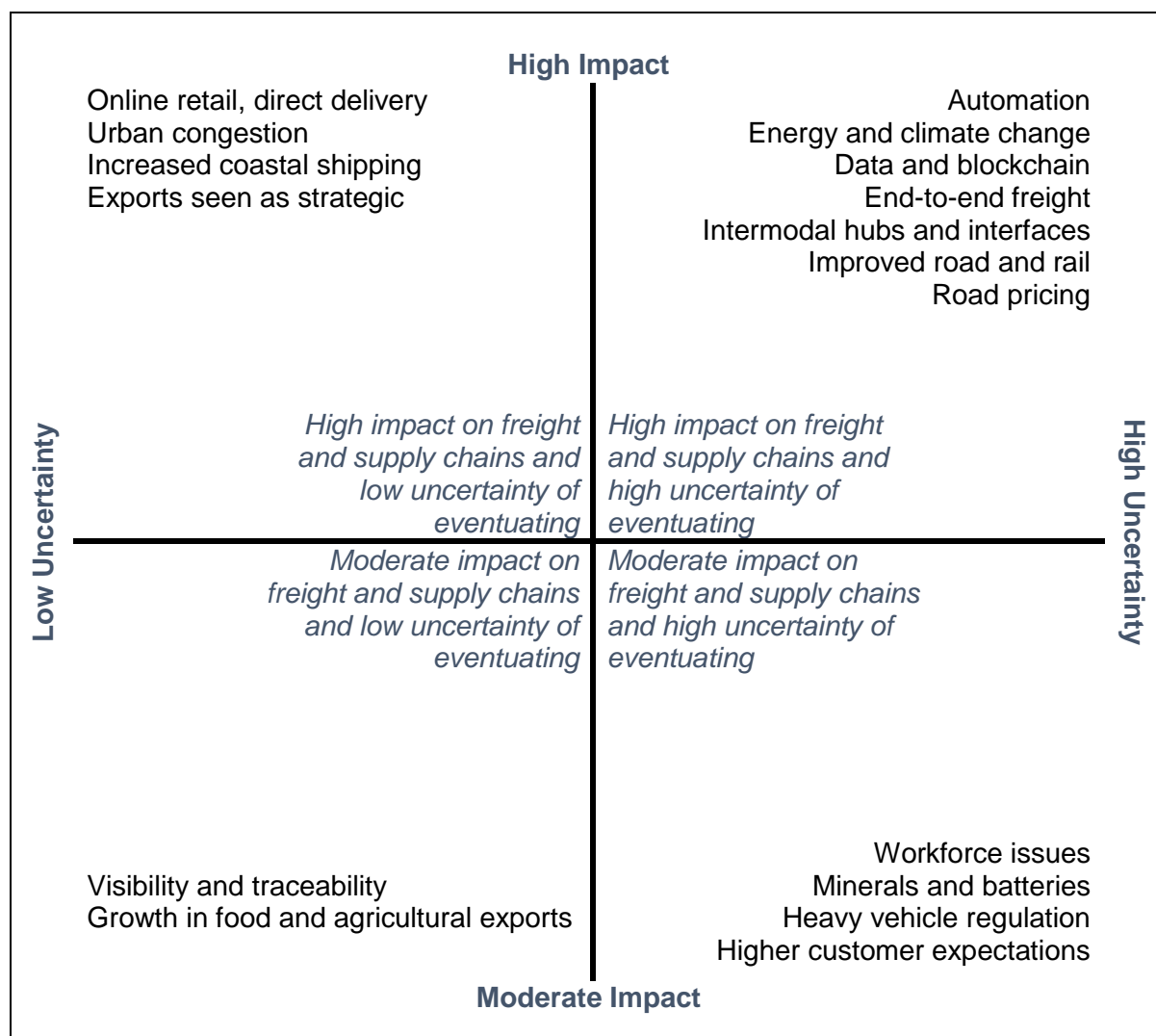


Figure 7 highlights some of the key factors or driving forces identified through expert practitioner interviews by the CSCL for scenario planning of Australia's freight and supply chains. Each factor is categorised below into four quadrants based on their certainty of eventuating and their impact on freight and supply chains, assuming they do eventuate.¹⁹

CSCL concludes:

*"A technology driven industrial revolution is at our doorstep, powered by the twin engines of automation and data....To remain competitive internationally, Australia must embrace the new technological revolution. Australian regulations should stay ahead of the technological changes."*²⁰

Figure 7 – Key driving forces and factors for scenario planning of Australia's freight supply chains



¹⁹ CSCL (2017), *Scenario Planning to Inform Australia's National Inquiry into Freight and Supply Chain Priorities*, page 17.

²⁰ CSCL (2017), *Scenario Planning to Inform Australia's National Inquiry into Freight and Supply Chain Priorities*, page 53.



Road pricing reform

Arguably another apparent barrier to productivity improvement is the apparent disconnect between road infrastructure charges, road infrastructure quality/service levels and road infrastructure investment and maintenance. For industry, the importance of this reform is also in providing better integration of road and rail markets.

The availability of funding for, or access to, state and local government based infrastructure such as rail networks and regional roads, and key links in the agricultural export supply chain, may appear to operators to be at odds with Commonwealth attempts to lift Australia's productivity and international trade competitiveness.

Road pricing reform is a long term micro-economic reform process agreed to by the Transport and Infrastructure Council and COAG, in response to the challenge of sustainable road related revenue and other shortcomings of current road management arrangements. The reform aims to improve productivity for the heavy vehicle industry by establishing a clear link between the needs of users, the charges they pay and the services they receive.

Road pricing and funding reform is intended to provide the freight industry and governments with the option to improve access for large vehicles and oversize loads across the road network by better linking road use to maintenance and investment expenditure. These sort of outcomes would be possible because the reform, in time, could provide mechanisms (such as a forward-looking cost base and dedicated road infrastructure funding) to more closely match heavy vehicle road use to road investments.

Building on road pricing reform and other reforms already in train, like coastal shipping reform, the Inquiry seeks to investigate the capacity and performance of air, sea, road and rail freight infrastructure and supply chains in Australia, to ensure they serve the needs of residents and businesses, and support growth in national productivity for the next 20 years.

Bringing together a national view of freight performance and action

Lifting productivity in a diverse sector undergoing rapid technological change will require effective mechanisms for nationally coordinated action, and tools to measure the effectiveness of action. An effective national approach to lift capacity and performance will be needed in a sector prone to fragmentation and 'work arounds'.

Australia will need a workforce capable of transitioning to new freight technologies across the next couple of decades, including automated trucks and delivery vehicles and greater automation at terminals. Meanwhile, there is a shortage of skilled workers at present in some areas e.g. experienced truck drivers, with relatively few new entrants to the industry. Handling this period of transition will be the challenge.

The process of undertaking the Inquiry highlighted the lack of robust performance measurement data to benchmark Australian supply chains across states and with international competitors. The ability to understand which components of a supply chain are operating effectively, or are weak links, is critical to the task of focussing investment or reform to make effective change.

A national approach would be more effective if supported by a dedicated freight and supply chain unit at the national level charged with the implementation of the Freight and Supply Chain Strategy. Such a unit would be most effective if it had the capacity to analyse technological and operational trends and innovations in the transport sector and propose regulatory settings to support trials and introductions of new and emerging technologies.

Effective policy tools will also be needed to understand the investment and reform interventions needed to lift long term freight productivity. A start was made in the implementation of the 2013 *National Land Freight Strategy* with the compilation of the National Key Freight Routes Map, shown at Figure 8.

Figure 8 – National Key Freight Routes Map



Source: Department of Infrastructure, Regional Development and Cities
(<http://maps.infrastructure.gov.au/KeyFreightRoute/index.html>)



4. Supply chains

Import/export supply chains

Australia's high levels of international trade and transport mean that import/export supply chains must be flexible as they face continual exposure to new international standards, business practices and changes in transport technology, such as bigger ships. However, Australia's openness to the world also supports supply chains through the free flow of ideas and its representation on a range of bodies that promote the development and harmonisation of international standards.

Long-term master plans prepared for ports and airports indicate there will need to be continued investment in these terminals and the land and sea side connections for our existing terminals to expand throughput.

Feedback from Ports Australia during the Inquiry process concluded that while terminal capacity at most ports across Australia can meet needs for the next 20 years with reasonable investment, some container ports such as Port Botany and the Port of Melbourne have constraints due to landside connections.

A number of major city ports are addressing the challenge of accommodating bigger container ships, both in terms of the added throughput and waterside access to the port, although it is clear that a diversity of ship sizes will still be needed to manage the Australian maritime freight task. To meet the needs of bigger ships, container ports need deeper and wider channels. Dredging capacity, adequate turning circles and height restrictions will also become increasingly important to port access. Port and freight masterplans should adequately address this issue.

Some major capital city airports are facing runway capacity constraints at peak hours, and Melbourne, Brisbane and Perth airports have announced (or commenced) the construction of additional runways to meet future demand.

Sydney airport is currently constrained by limited land and operational restrictions, but the construction of Western Sydney Airport should provide freight options. Growing passenger services at both of these airports will increase the capacity for air freight to be carried in passenger aircraft.

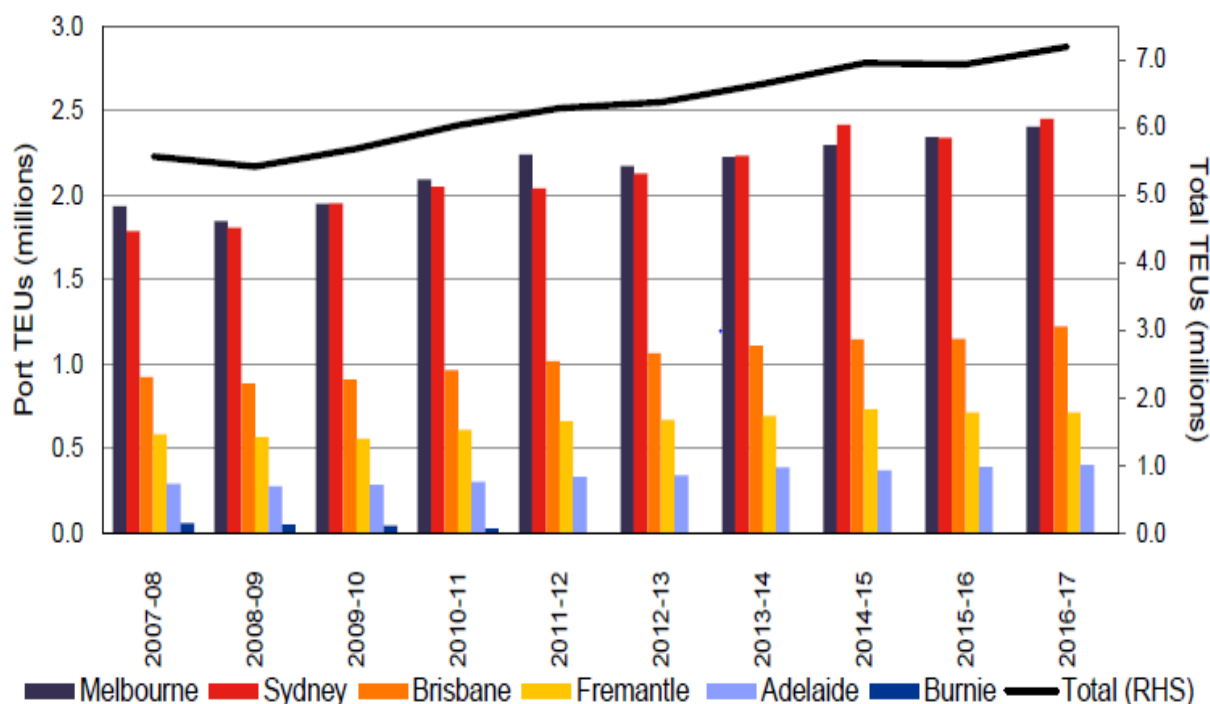
In the absence of consolidated international data, an assessment of national port and airport performance is difficult to make.

The Australian Competition and Consumer Commission (ACCC) notes the stevedoring industry is experiencing increased competition, resulting in downward pressure on stevedoring pricing and higher throughput (Figure 9).²¹

²¹ ACCC (2017), *Container stevedoring monitoring report 2016-17*. <https://www.accc.gov.au/publications/container-stevedoring-monitoring-report/container-stevedoring-monitoring-report-2016-17>



Figure 9 – Container stevedoring throughput trends at monitored ports²²



In 2012, an international port costs comparison for a 4,500 TEU vessel placed major Australian ports' costs (excluding stevedoring charges) in the middle ranks, between 6th and 12th place out of the 16 ports (Figure 10).²³ More recent international comparisons are required.

Port operations in Australia are progressively becoming more technology driven and automated, and this trend will continue. With greater stevedore competition in the Australian market, through the introduction of a third stevedore at major container ports, there has been greater competition and downward pressure on stevedore rates.

There is concern in parts of the industry that recent surcharges by stevedores at major ports and cost increases for port services will increase total costs for importers and exporters, affecting the competitiveness of exports, and ultimately increase the cost of imports for Australian businesses and consumers.

Australian airports appear to be reasonably efficient, with the Productivity Commission concluding the major airports' aeronautical charges, revenues, costs, profits and investment look reasonable compared with overseas airports.²⁴ At Sydney Airport, legislation restricts

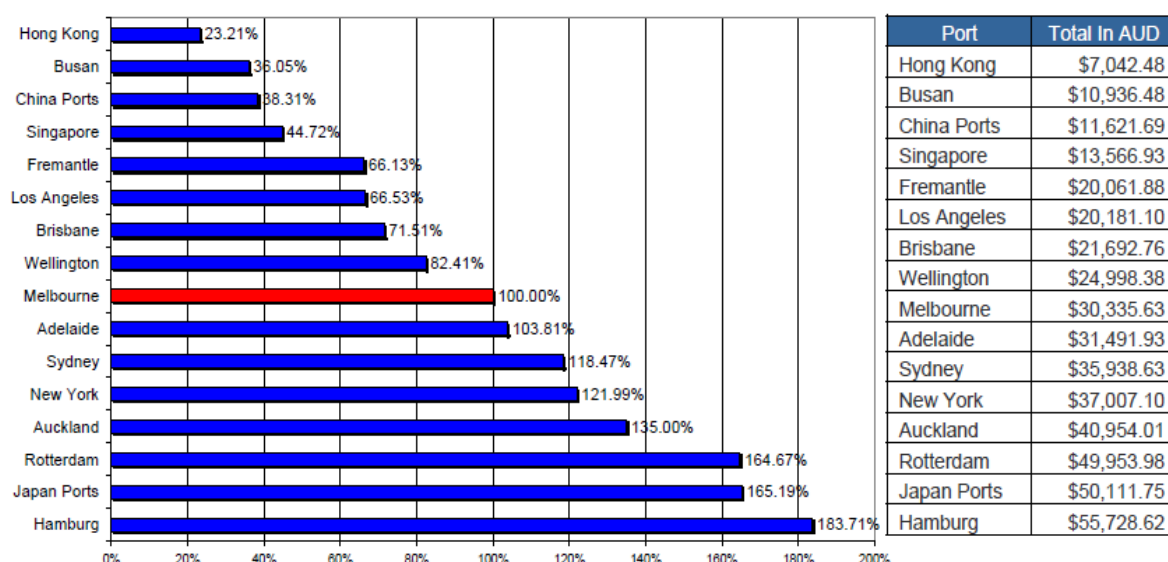
²² ACCC (2017), *Container stevedoring monitoring report 2016-17*, Report, <https://www.accc.gov.au/publications/container-stevedoring-monitoring-report/container-stevedoring-monitoring-report-2016-17>, page 23

²³ Shipping Australia Limited, *International port cost comparison project*, <https://shippingaustralia.com.au/wp-content/uploads/2012/01/L-InterPortCostComparison.pdf>

²⁴ Productivity Commission (2012) *Economic Regulation of Airport Services* <http://www.pc.gov.au/inquiries/completed/airport-regulation/report>

the types of aircraft to the use of specified (older) models, when more technologically advanced planes that are both quieter and have greater carrying capacity, have since become available.

Figure 10 – Port cost comparison, 2012²⁵



Border control operations need to be efficient at ports and airports. Continued development of the 'single window' concept, which promotes standardised trade and transport information and documentation while recognising security concerns is supported.

Getting products to the gateways by land can be slow and expensive. Transport to import and export facilities involves complex supply chain steps relying on several players, such as road and rail freight companies, warehouses, freight forwarders, container yards and urban transport companies.

In some regional areas, access to key freight routes and export terminals is limited by wet season road closures and the poor condition of many remote roads.

Domestic freight costs are a major part of exporters' cost bases and impact on the international competitiveness of Australian businesses. Gaining efficiencies and reducing costs in getting products to the ports is a high priority. For grain exporters, domestic freight costs account for 30 per cent of total costs, although the measurability of this cost share is hard to define.²⁶

Access is problematic for a number of reasons. Key freight facilities within larger cities suffer the road congestion problems inherent in busy places.

Road transport will experience increased congestion and associated higher costs over the next 20 years. Investment in efficient rail freight connections to major ports and rail freight paths through metropolitan networks will take pressure off the road system. Infrastructure Australia's *Infrastructure Priority List* has recognised this by supporting

²⁵ Shipping Australia Limited, *International port cost comparison project*, https://shippingaustralia.com.au/wp-content/uploads/2012/01/L_InterPortCostCcomparison.pdf

²⁶ Export Council of Australia submission to the Inquiry, page 3



completion of the duplication of the Port Botany freight rail line and improved rail access to the Port of Melbourne. Other options to avoid road use such as increasing the use of pipelines to move liquids should be encouraged. The diversity of owners and operators in the sector requires high levels of coordination to optimise the complex processes around import/export freight, including operating hours, container movement, vehicle access restrictions, truck waiting times, gate capacity at various facilities and train loading, unloading and travel times.

Uncoordinated investment by industry participants also affects the potential outputs of freight facilities. In addition, local regulations can limit or prohibit high productivity vehicles (HPV) access to terminals and on key routes. As-of-right access for high productivity vehicles and access for higher mass vehicles where there are no physical constraints are key productivity improvements that need to be seriously addressed.

Recent experience has shown that increasing the capacity of key roads to reduce peak hour congestion increases the propensity for people to use them, and congestion rapidly returns to its former level or worse.

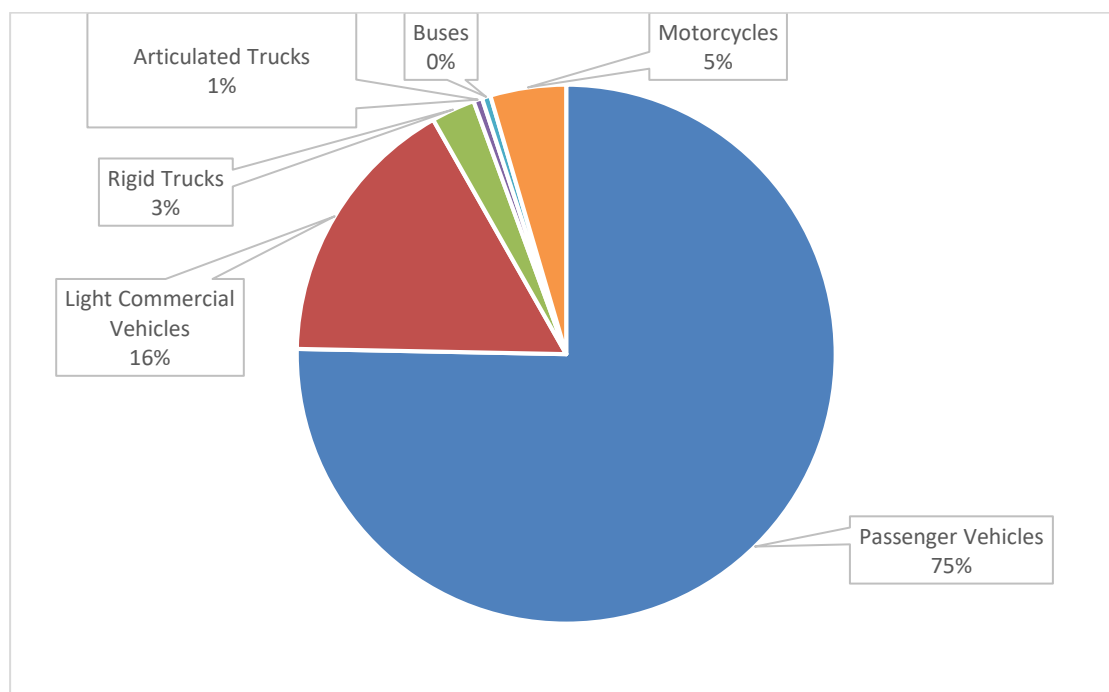
While trucks are not the cause of peak congestion they can contribute to the congestion problem.²⁷ Figure 11 shows trucks making up only approximately 4 per cent of the Australian road fleet, although the proportion can be much higher on key links into ports for instance.

It is on linkages to key gateways that importers and exporters may also perceive a disconnect between state, territory and Commonwealth Government priorities.

All future Commonwealth transport and infrastructure funding relevant for freight movement should be aligned with specific national objectives expressed through the national freight and supply chain strategy. Any Commonwealth funded business cases for new or upgraded infrastructure should also be aligned with these objectives. This should include comprehensive analysis of alternative options such as investment in technology or operational efficiencies for freight.

²⁷ PricewaterhouseCoopers (2017), *Technology and Supply Chains for Critical Industries: Urban Freight (working paper 3 of 3)*, page 15, www.infrastructure.gov.au

Figure 11 – Proportion of vehicle types in Australia, 2017²⁸



Operating practices in the freight industry are impacted by the peak hour congestion issues. The disconnect between the 24/7 port and larger terminal operating regimes and the shorter operating hours of freight consuming industries could be exacerbated by regulations prohibiting access by freight vehicles, including after hour curfews, as well as a belief that out-of-hours operations incur higher operational costs not matched by productivity gains.

While there is little empirical data about freight movement times, such restrictions would likely push freight vehicles onto roads in peak hours to compete with commuters.²⁹

Where facilities are subject to urban encroachment, it may be difficult to increase night time operations due to resistance by residents.

Increased use of rail and intermodal terminals is suggested by stakeholders as a response to peak congestion around ports, but there can be competing priorities where freight rail shares with passenger rail, as reliable and timely rail transport is required for getting people to work in the large cities.

Modelling on future traffic flows in capital cities indicates that along with increased use of rail relieving pressures on major city road networks, there will still need to be investment in roads to meet future demand.³⁰

All sectors of the freight industry will need to embrace technological innovation to limit the potential impacts of the growing freight task and take up opportunities such as presented by the national Digital Economy Strategy. This Commonwealth Government

²⁸ Australian Bureau of Statistics (2017), *Motor Vehicle Census*, Australia, 31 January 2017

²⁹ PricewaterhouseCoopers (2017), *Technology and Supply Chain for Critical Industries: Urban Freight (Working Paper 3 of 3)*, page 15

³⁰ Department of Infrastructure, Regional Development and Cities (2017), *Inquiry Supporting Paper 4: Analysis of Capital City Key Freight Route Performance*



initiative focuses on ways that governments, business and the community can realise the full benefits of digital initiatives such as port community systems. In addition, the development of telematics standards that incorporate industry concerns about the security and use of shared data would improve planning and decision making and improve investment decisions.

Regulatory and operational policies in concert with technological advances will also play a part in building a more productive freight system. For example, dynamic network management control systems could allow guaranteed freight train paths in mixed use rail systems to enable freight trains to access spare capacity in metro systems.

Potential land use conflicts between freight and residential uses will need to be carefully managed to ensure key freight facilities' long term viability. Ports in major cities except Brisbane, and some airports, have been subject to residential encroachment.

Australia's future population growth will be largely in cities, and to accommodate the growing population without ever expanding the edges of the cities, some degree of urban densification is needed to place more people in existing urban areas.

Conversion of former industrial areas near ports and airports has led to potential conflict between freight activities and residential development in freight corridors and near key terminals. Many freight-related activities have moved from near ports to outer suburban locations. These former large scale industrial sites are being sub-divided into smaller industrial parcels or converted to residential and commercial uses.

An example of the issue of diminishing industrial land occurred in Sydney in 2015, where 124 hectares of former industrial land in the Southern Sydney Employment Lands precinct was rezoned to allow for residential and business uses.³¹ Even where retained for industrial uses, sub-division into lots smaller than two hectares reduces the suitability for container-related uses.³² Residents' concerns over noise, odours and safety can lead to limits on freight related uses, and so it is sensible to maintain buffer areas to allow for both residential and industrial uses to co-exist.

The *National Land Freight Strategy* raised this issue in 2013, and while not new, the solution of buffers (mentioned at that time) is clearly of importance and a foundation for good place management.

Freight corridors also need to be protected from inappropriate development. In Perth, residential apartment buildings have been built next to the rail freight line into the Inner Harbour.³³ In Melbourne, residential apartments are proposed near the entrance to the port precinct³⁴, threatening to bring truck and pedestrian movements into direct conflict.

Planners in Australia are challenged by the need to find a balance between creating opportunities for people to live in areas with good access to services and jobs, and the job creation and national wealth aspects of freight terminals and the facilities and corridors that support them. This balance between community amenity and employment and commercial

³¹ NSW Ports (2015). *Navigating the Future: NSW Ports' 30 Year Master Plan*, p 53

³² *ibid*

³³ Fremantle Ports (2015), *Planning of Strategic Freight Routes Fact Sheet*.

<http://www.fremantleports.com.au/Planning/Planning/Documents/Planning%20of%20Strategic%20Freight%20Routes%20Fact%20Sheet.PDF>

³⁴ Victorian Department of Environment, Land, Water and Planning (2017), *Fisherman's Bend Draft Framework*.
<http://www.fishermansbend.vic.gov.au/framework/fishermans-bend-draft-framework>



uses is difficult to achieve to everyone's satisfaction. In Victoria, a range of approaches is suggested to reduce friction:

*"Measures that may assist in managing amenity impacts include noise and emission standards for freight vehicles; designation of key road corridors for port related vehicles; review of permitted land uses in the inner west; and transition of freight and container transport companies to sites with good road and rail transport access and ample industrial land that do not conflict with residential uses."*³⁵

In NSW, a city-wide approach to planning has recently recommended the prevention of inappropriate developments within the airport noise-affected corridor on the Kurnell Peninsula. This included protecting industrial lands for port, intermodal terminals and logistics uses from the encroachment of commercial, residential and other non-compatible uses which would adversely affect industry viability, operation and long-term growth.³⁶

Given the relative paucity of data on these issues, there is a need to build an evidence base to fully understand the impacts of encroachment and the effectiveness of measures taken to ameliorate them.

Sites for future freight developments should be identified at an early stage to ensure a reasonable separation of potentially incompatible uses. As increased use of short haul rail is seen as a way of reducing traffic congestion around ports, sites for intermodal terminals should be identified and also protected.³⁷

Noise and safety are key issues for nearby residents at most airports, and some airports, including Sydney, have curfews that limit air freight potential. Australian governments, through the National Airports Safeguarding Advisory Group, have created a framework to guide development near airports. The intention is that state, territory and local government planning processes should be aligned to the principles and guidelines, however implementation has been mixed across jurisdictions. Coordinated planning around capital city airports has been improved in recent years through the operation of airport Planning Coordination Forums, with active participation from government, community and industry. Access into and out of airports for freight purposes is relevant for these groups, and this model may be extended to other key freight terminals such as intermodals and ports where coordination mechanisms are absent or less formal.

Inter- and intra- state supply chains

The dominant features of inter- and intra- state supply chains are as follows.

Key interstate freight links appear to be performing well. A sustained national commitment to improve interstate networks has been the backbone of successive Commonwealth governments. This started with road and rail investments in 1901, the establishment of national air services in 1947, and the commencement of financial assistance for eligible non-bulk freight shipments between Tasmania and the Australian mainland in 1976.

³⁵ Infrastructure Victoria (2017), *Advice on securing Victoria's Ports Capacity*.

<http://www.infrastructurevictoria.com.au/sites/default/files/images/Securing%20Victoria%27s%20Ports%20Capacity%20WEB%20final.pdf>

³⁶ Greater Sydney Commission (2017), *Draft Greater Sydney Region Plan*.

https://gsc-public-1.s3.amazonaws.com/s3fs-public/draft_greater_sydney_region_plan_web.pdf

³⁷ BITRE (2016), *Why short-haul intermodal rail services succeed*, Research Paper 139



Tasmania presents a special case in interstate transport, as it relies heavily on sea transport, and any changes to national shipping policy and operations need to consider the impacts for freight shipments across the Bass Strait. The 2014 Productivity Commission review into Tasmanian Shipping and Freight resulted in additional funding for and expansion of the Tasmanian Freight Equalisation Scheme.

The broader concern is the efficiency of accessing regional freight routes, including into major urban centres. There is no reliable, performance-based evidence on regional links, despite an extensive *Freight Movement Survey* finalised by the ABS in 2015. So called ‘first/last mile’ access continues as an enduring concern.

In the roads space, future reform options such as the introduction of a systematic funding base for local roads could include these links.

In the interim, however, assessment framework approaches are being progressed through bodies such as Austroads and state-based local government associations, to improve the capacity of local governments to undertake bridge assessments, for example, which are often critical bottlenecks to access improvements in road key freight routes.

Coastal shipping freight growth appears to be very modest despite a strongly growing domestic freight task,³⁸ and furthermore, market share relative to other modes has decreased as shown by Figure 12. There has certainly been a long term decline in Australian registered ships. Despite government efforts to support the Australian maritime industry, commercial decisions have seen the number of major Australian ships with coastal trading or general licences reduce from 33 ships in 2005-06 to 14 in 2015-16³⁹. Foreign registered ships have always been necessary to satisfy the demand for shipping services, including in the coastal sector.

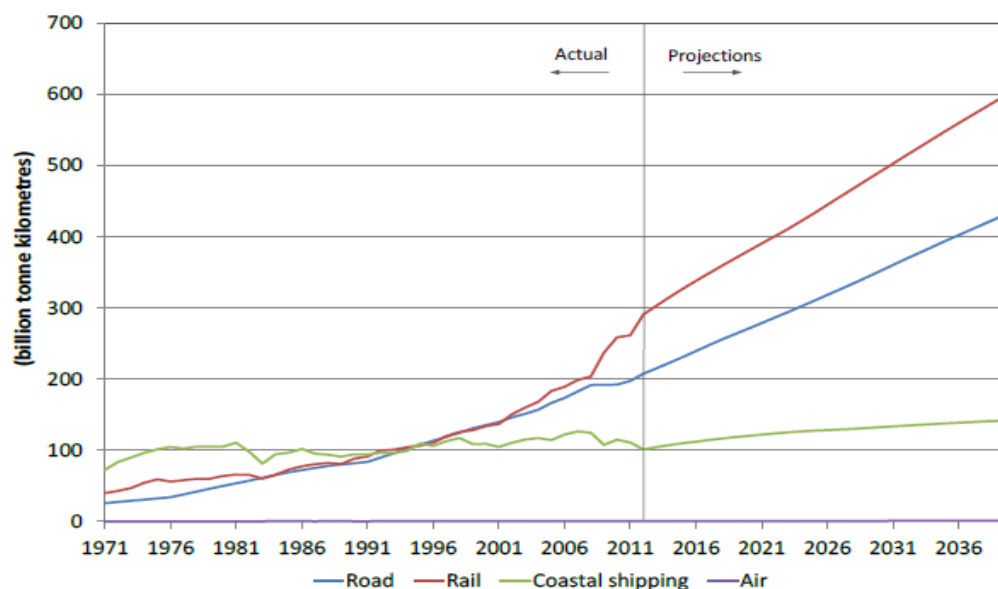
Coastal shipping has the potential to grow its share of the national transport system in order to meet the growing transport task efficiently, effectively, safely, and with the least impact on the environment of all modes of transport. Stakeholders however consider the current regulation of coastal shipping creates a range of administrative issues for shipping companies and Australian businesses that use coastal shipping, resulting in substantial regulatory and cost burden. These issues raise costs and stifle economic activity in both the Australian maritime sector and industries using shipping for the movement of freight.

If there were a relaxation of cabotage restrictions and/or the introduction of autonomous ships, coastal shipping could offer an attractive option for inter/intrastate logistics. It will maximise the use of available shipping capacity on the Australian coast and consequently grow the share of the freight task.

³⁸ Department of Infrastructure and Regional Development (2015), *Factsheet: Coastal Shipping Reform*

³⁹ BITRE (2017), *Statistical Report: Australian Sea Freight 2014-15*. 2015-16 data provided by BITRE.

Figure 12 – Actual and projected domestic freight task, by mode 1972 to 2040⁴⁰



Urban supply chains

International trends in manufacturing, production and distribution are changing the nature of the urban freight task in Australia reflecting a major reduction in manufacturing in south east Australia, increased global sourcing of products and increased consumption of consumer goods.⁴¹

The global sourcing of products for the Australian market has fundamentally changed the role of major capital city ports; now they are the main source for imported finished products as Australian manufacturing has declined.⁴² Changes in air freight in response to online consumer shopping has also changed the role of airports and parcel handing in how Australian cities function.

Well integrated transport and land use planning will be needed for major cities and their regional linkages. Future planning for decentralisation will require strong major urban freight links to international gateways for consumer products and other supplies.

⁴⁰ BITRE (2014), *Freightline 1 - Australian Freight Transport Overview*, https://bitre.gov.au/publications/2014/files/Freightline_01.pdf, page 9

⁴¹ PricewaterhouseCoopers (2017), *Technology and Supply Chain for Critical Industries: Urban Freight (Working paper 3 of 3)*

⁴² Reserve Bank of Australia (2016), *Conditions in the Manufacturing Sector*, Bulletin: June Quarter 2016

Table 1 – Estimated greater capital city population growth (high growth scenario)⁴³

	2006 Population	2016 Population	% Change 2006-2016	2036 Population Projection*	% Change 2016-2036
Greater Sydney	4,256,161	5,029,768	18.2%	6,601,176	31.2%
Greater Melbourne	3,760,760	4,725,316	25.6%	6,787,748	43.6%
Greater Brisbane	1,908,265	2,360,241	23.7%	3,689,219	56.3%
Greater Perth	1,576,912	2,022,044	28.2%	4,004,042	98.0%

*Assumption: high fertility rate, high mortality rate and high net overseas migration (ABS Series A)

Freight movement in major urban centres exhibit a number of different segments. Port related freight movement occurs in tandem with the 24 hour turn-around of shipping, while urban freight patterns are more aligned with retail and warehousing operating hours, and consumer/retail operations.

While the prevalence of urban freight during the peak movement period for people is clearly observed, the underlying causes are not well understood, and will require further research. Industry discussions have indicated several practical disincentives to 24 hour operation:

- higher out-of-hours employee expenses prohibit warehousing/goods receipt availability
- road tolls cost the same to the delivery vehicle operator regardless of the time travelled, thereby not incentivising off-peak deliveries
- opposition to night movements from residents near delivery locations, eg. supermarkets
- curfews and other restrictions placed on night time operations due to concerns about impact on residents.

Urban freight has grown faster than any other road freight task in Australia (see Figure 14), with Brisbane and Perth likely to experience the highest rates of growth between 2010 and 2030 at 157 per cent and 141 per cent respectively.

While extensive investment is being made in urban transport networks by all levels of government, new infrastructure alone will not be able to meet this increased demand for freight given the limited capacity for further infrastructure development in high density urban areas.

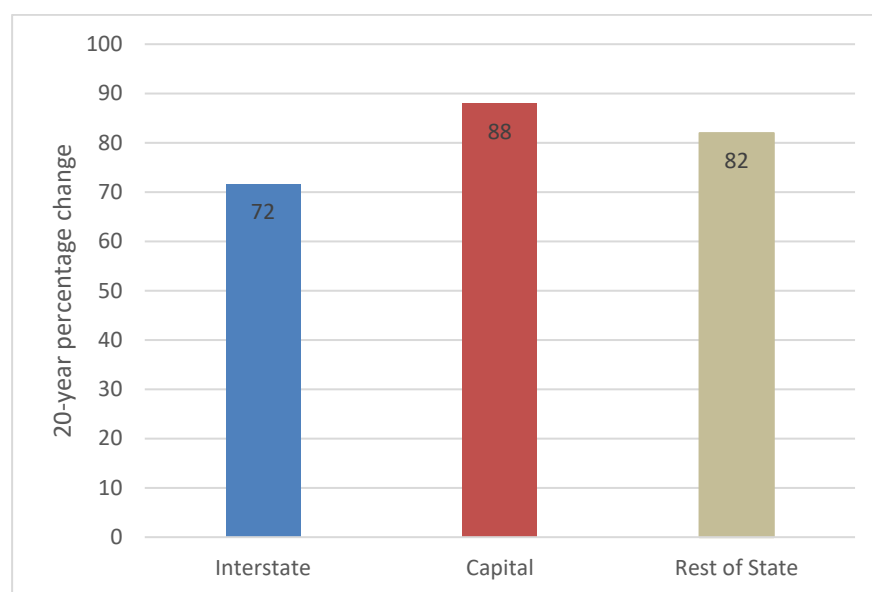
Major urban centres like Sydney face the predicament of not being able to manage their increasing road freight task, even with new infrastructure.⁴⁴ Sydney's road freight is forecast

⁴³ ABS (2016), Regional Population Growth Australia 2016, <http://www.abs.gov.au/AUSSTATS/abs@.nsf/Lookup/3218.0Main+Features12016?OpenDocument>

⁴⁴ BITRE working papers, unpublished

to grow by 59 per cent between 2010 and 2030.

Figure 14 – 2010 to 2030 road freight task projections, Australia⁴⁵



There are no obvious ‘silver bullet’ type initiatives that will make substantial improvements to urban freight movements. Rather, gains are likely to come from the cumulative effect of many initiatives with individually small impacts in certain situations and locations. Initiatives will include both additional infrastructure and initiatives to optimise use of existing infrastructure to maintain existing capacity.⁴⁶

To manage an ever increasing number of trucks and delivery vans on roads in the coming 20 years, urban freight distribution and planning systems will need to be reconfigured to support more efficient technologies such as automation, including delivery. Urban freight consolidation centres are being trialled in some overseas cities, but coordination and competitive factors among delivery companies presents challenges. Further, operators point out that fixed costs like registration are the same whether trucks are used or not, so an operator may run a truck at low capacity provided marginal costs are covered.

Clearer conversations with communities about the complexities and trade-offs for a truly liveable, efficient and affordable city are critical, and need to be underpinned with better evidence and transparency.

Integrated planning for the freight and logistics task, as cities grow, now needs to take its place alongside other important agendas such as urban renewal and affordable housing, efficient passenger transport networks, liveability and greening.

Changing consumer preferences, including for online retail activity which is growing at more

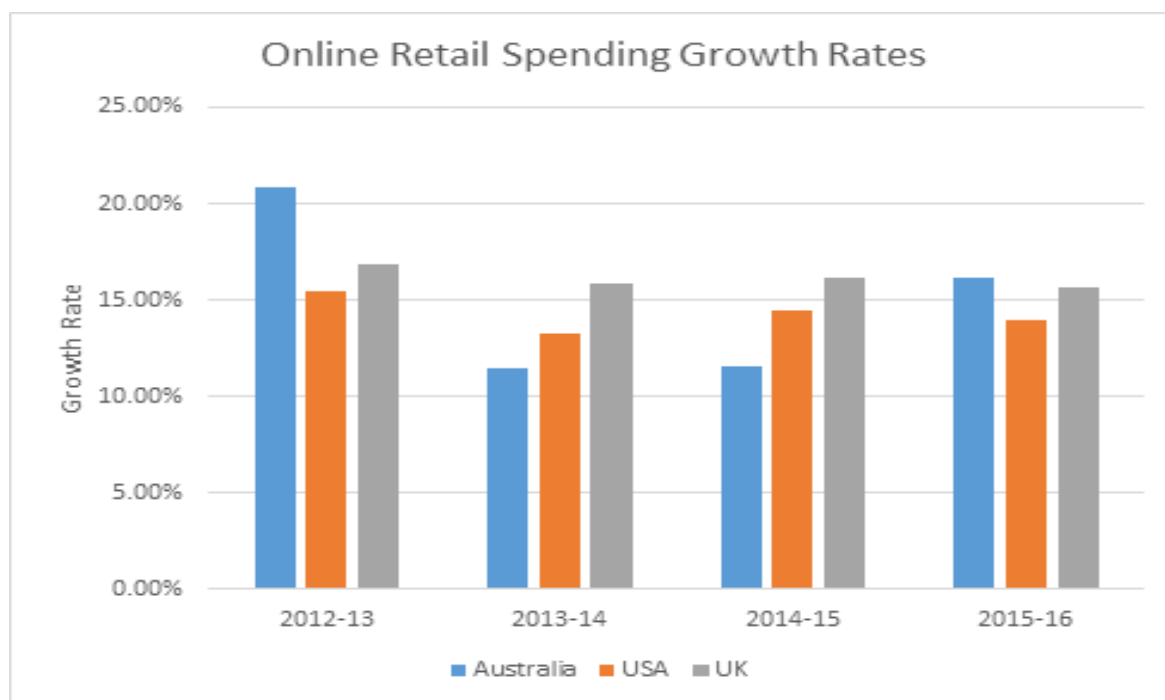
⁴⁵ BITRE working papers, unpublished

⁴⁶ Austroads (2016), *Urban Freight: Development of a policy framework to support safety, efficiency and productivity*, Research Project AP-R529-16, page 61



than 10 per cent per year (see Figure 15), demand more instant deliveries. This requires urban centres to have strong distribution centre networks and accessible intermodals.

Figure 15 – Online retail spending growth, Australia, USA and UK (nominal)⁴⁷



Key options for improving urban freight flows have been summarised by national roads agencies into five areas⁴⁸:

- **Preventing incompatible adjoining land uses** and increasing the understanding of freight issues to avoid unintended barriers.
- **Extending HPV access to Key Freight Routes** to maximise freight per vehicle, and reduce numbers of vehicles on the road.
- **Port-rail shuttle trains** supported by the development of hinterland freight precincts where freight can be unpacked and distributed to final destinations, including improved central business district loading zones.
- **Enhanced management of loading zones** including innovative, off-street freight delivery systems, such as the Emporium in Melbourne, and better management of existing unloading space to prevent use by other vehicles, highlight their location to drivers through apps.
- **Consolidation of deliveries** where appropriate, particularly into high density areas, for example, office supplies, express freight and groceries.

⁴⁷ NAB Online Retail Sales Index, <https://business.nab.com.au/tag/online-retail-sales-index/>; United States Census Bureau, Advanced Monthly Retail Trade Report, <https://www.census.gov/retail/marts/www/timeseries.html>; Statista, *Online retail sales in the United Kingdom (UK) 2012-2017*, <https://www.statista.com/statistics/315506/online-retail-sales-in-the-united-kingdom/>

⁴⁸ Austroads (2016), *Urban Freight: Development of a policy framework to support safety, efficiency and productivity*, Research Project AP-R529-16, page 78



Further options are:

- **Facilitating 24-hour operations** of warehousing, receipt sites and key urban freight links needed to service them.

5. Supply chain integration

There is a diverse set of obstacles to better integrating the movement of freight along supply chains. These include industry characteristics such as:

- the high number of small operators in the transport sector that affect the capacity to take up new tracking and productivity technology
- variable and low freight volumes in some supply chains impacting reliable planning
- data gaps that could improve planning and delivery
- a lack of standardised train control and rail operating systems across rail networks
- a lack of platforms for sharing information such as port community systems
- the need for common standards, such as the width of refrigerated truck trailers, which should align with major international partners.

Data to understand the costs and benefit of supply chain integration mechanisms is difficult to obtain. A recent study to quantify the benefits of end-to-end supply chain visibility data standards found significant benefits for small-to-medium enterprises⁴⁹, as well as for the large freight enterprises that performed the study trials.

The aspects of supply chain integration that are worth considering for productivity are:

- integration mechanisms can unlock major productivity benefits at relatively small cost (for example, compared with building new infrastructure)
- they require, however, high levels of cooperation and innovation, which tend to rely on either regulation, or strong commercial frameworks and leadership.

To understand the importance of integrated supply chains the Inquiry examined resource, agriculture, regional freight and remote freight flows, which cross multiple supply chains.

Resource and agricultural freight

Capacity at resource ports for bulk products such as iron ore and coal is closely related to mining production, and is generally considered adequate to meet demand.

Australia has some world class mineral supply chains, as in the single user, vertically integrated Pilbara iron ore networks.⁵⁰

Where there are multiple users and freight operators, as in the eastern states' coal networks, a greater level of coordination in the various government and private interests is required to

⁴⁹ Austroads (2017), *Investigating the Potential Benefits of Enhanced End to End Supply Chain Visibility*, page 32

⁵⁰ BITRE and Australasian Railway Association (2016), *Trainline 4*, Statistical report

achieve efficient transport to port.

Most notably this was achieved in the Hunter Valley where the Hunter Valley Coal Chain Coordinator has seen coal volumes and infrastructure capacity grow to its current level from a very low base.⁵¹ The approach overcame previous attempts to broker capacity expansions, which were seen to favour large producers.

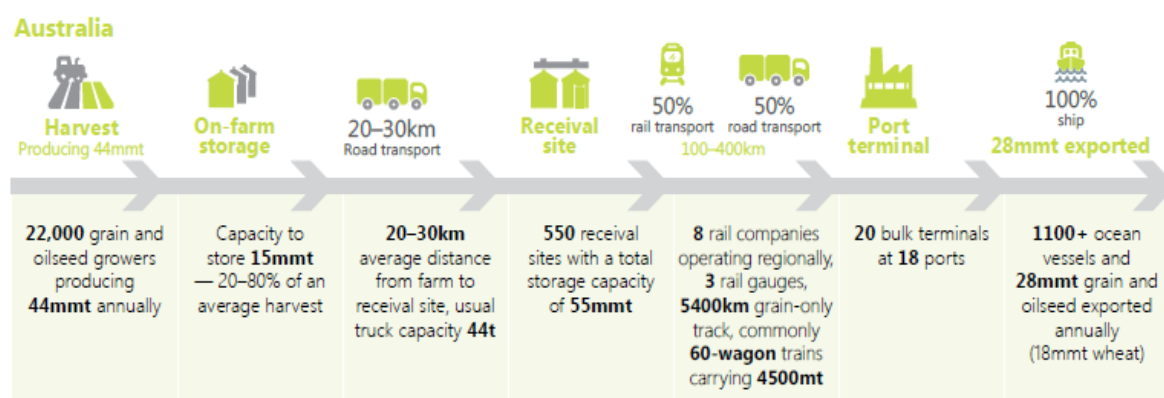
Australian farmers grow and use a wide range of agricultural products that reflect the diversity of the sector and which often require complex supply chain solutions.

Significant freight issues for them include first mile access for high productivity vehicles, timely permit approval for movement of oversize agricultural equipment, capacity of the freight system to meet large harvest years, and containing costs in transporting produce to markets or export ports.

While rail is a preferred mode for bulk mineral and agricultural exports, its use in regional networks alongside road is problematic. Some of Australia's most efficient freight networks carry these products. There are clear concerns about the state of some existing regional networks, such as mainland grain rail. The extension of standard gauge rail and standardised axle loads are seen as major investment opportunities in regional Australia.

There is concern for state based infrastructure, such as grain rail networks, that competing demands for discretionary state funding could be resulting in decreased functionality without factoring in the impacts on Australia's international trade competitiveness. The variability in harvest size in agricultural areas means that it is impractical for governments or industry to provide a cost-effective feeder and/or secondary rail networks to fully meet the needs of peak-harvest years.

Figure 13 – Bulk export grain supply chain in Australia⁵²



It is a role for governments to support the higher use of road systems at these times when first mile issues become more significant. State-based rail networks would also benefit from interstate collaboration, as well as a clear strategy of strengthening core regional rail networks alongside an effective, connecting network of roads and grain receival sites, so that road and rail work together rather than having the rail lying dormant in low yield seasons.

⁵¹ Hunter Valley Coal Chain Coordinator (2015), *History*, <https://www.hvcc.com.au/About us/Pages/History.aspx>

⁵² Australian Export Grains Innovation Centre (2016), *Russia's wheat industry: Implications for Australia*, Report, <http://aegic.org.au/publications/economics-and-business-analysis/>, page 43



Regional and remote freight


The current capacity and performance of freight networks in regional and remote areas (road, rail, coastal shipping and air) have been shaped by historical patterns of settlement driven by economic opportunity, lifestyle and traditional indigenous peoples. The *2015 Northern Australia White Paper* estimates the population growing by 2 per cent per annum into the late 2020s in northern Australia, and other reports point to positive long-term prospects for trade.⁵³

The dominant risks for regional and remote freight supply chains are that:

- Adverse climatic events increase in frequency over 20 years, and need to be adapted to. Extensive damage to regional rail and road networks need to be seized as an opportunity to assess the potential to upgrade them for resilience but also better interconnection. For example, national emergency funding allowing road bridges and culverts to be upgraded to allow for higher productivity vehicles.
- Low freight volumes, especially for back-filling, increase the costs regional communities pay for freight services. The Harper Competition Review of 2015 noted that vertical integration of rail may be preferable to structural separation on some low volume routes, particularly where road freight is an effective competitor, with appropriate compliance and enforcement regimes.⁵⁴
- Transport automation unable to deliver expected supply chain cost savings as in other parts of the economy.
- Access to telecommunications services remains inadequate across key stretches of transport routes in regional and remote areas and prevents the realisation of important safety and economic benefits.⁵⁵ This issue has been identified as a key priority by the COAG Transport and Infrastructure Council in the 2015 *National Remote and Regional Transport Strategy*.
- Concerns that future national security and safety regulation may add costs and reduce the efficiency of air freight movement to key national and international locations.
- The long lead times for return on investment, coupled with the dual utility that freight networks play in social outcomes within communities, especially in remote areas, mean that different approaches to infrastructure are needed to those in major urban cities. In the absence of private investment, governments will need to take a key enabling role in the development of freight networks.

⁵⁴ *The Australian Government Competition Policy Review* (2015), page 212.

⁵⁵ Available at: <http://transportinfrastructurecouncil.gov.au/nrrts.aspx>



Supply chain visibility

Supply chain visibility is the ability of products in transit to be tracked from the manufacturer to their final destination. Benefits include:

- for buyers and sellers—provenance and inventory management
- for consumers—order control
- for freight infrastructure managers and governments—planning information (e.g. aggregate origin-destination information), and regional development.

To achieve supply chain visibility, supply chain partners must:

- gain an awareness of, and control over, specific information relating to the ordering and physical shipment of products, including transport and logistics activities
- the status of events and milestones that occur prior to and in transit.

A lack of visibility in supply chains can result in participants being unable to effectively monitor freight, transport assets, and storage and delivery locations, and efficiently respond to events throughout the shipment. For example, traffic congestion, accidents and port delays.

To address visibility challenges, firms have adopted global data standards, which enable supply chain participants to send and receive messages to and from each other in a globally consistent language. By adopting common identifiers for goods, transport equipment, places and events, activities in the supply chain can be viewed from end to end by relevant stakeholders. To ensure identifiers remain unique, the GS1 organisation, a not for profit body, creates and manages standards for supply chain data on a global basis.

In 2016 the (then) Department of Infrastructure and Regional Development partnered with industry and GS1 to quantify the benefits to Australian freight supply chains of the adoption of global data standards. With the support of Austroads (a research collaboration body owned by Commonwealth, state, territory and local governments), the project, 'Investigating the potential benefits of enhanced end to end supply chain visibility' (FS2000), confirmed that data standards are a necessary pre cursor to the creation of visibility in supply chains. The adoption of global data standards demonstrated significant efficiency benefits for firms involved in the pilot and showed that the adoption costs were far outweighed by the productivity 'penalty' resulting from the inability to integrate incompatible data formats.

The use of global data standards has also been recognised as a way to ensure reliable, safe and secure supply chains, particularly where data is used in a clinical setting. For example, in 2016 the Commonwealth Government introduced changes to make labelling of prescription medicines clearer and more consistent. Included in these changes was the requirement for labels to include 'machine readable code' in the form of a GS1 Global Trade Item Number (GTIN) contained within a GS1 barcode. A GTIN is a global data standard used to uniquely identify its specific 'trade item' or product. For pharmaceuticals a GTIN can be used to identify different product variants, differentiating between strengths, dose forms, pack sizes and the different supplier brands of products.



APPENDIX A—Terms of Reference

INQUIRY INTO NATIONAL FREIGHT AND SUPPLY CHAIN PRIORITIES

The Australian Government is seeking to improve freight and supply chain efficiency and capacity and to reduce the costs of transporting goods through our major national container ports, airports and intermodal terminals.

To achieve this the Government is undertaking an Inquiry into Australia's National Freight and Supply Chain Priorities. Identified priorities will inform the development of a long term (20 year) National Freight and Supply Chain Strategy through the COAG Transport and Infrastructure Council.

An Expert Panel will assist in the inquiry, by reviewing inquiry findings, providing advice on how Australia can best lift productivity and the efficiency of Australia's freight and supply chain infrastructure, and leading engagement with industry on the inquiry's objectives. The Expert Panel will be able to access specialist advice to complete its role throughout the inquiry process.

Productivity is the foundation for growth in Australian incomes and living standards. The freight and supply chain sector contributes to that growth as a service provider to Australian industries, communities and regions, and as the connection to international suppliers and consumers.

Australia's freight task is expected to grow by around 50 per cent over the next two decades. Australia's freight supply chains, including road, rail, shipping and air, need to continue adapting to meet the freight task.


When examining options for new and/or adaptive capacity to meet forecast freight growth, and possible productivity and efficiency improvements for freight and supply chain infrastructure, the inquiry will need to take into account a range of factors and possible interdependencies, including: urban, regional and investment planning; efficient markets; competition; innovation; connectivity; resilience; and safety. Industry has identified the following measures as important:

- preservation of transport corridors and protection of access corridors (including shipping channels) and freight precincts from encroachment which reduces efficiency and capacity of key national port, airport and intermodal terminal assets;
- integrated land use and transport planning to ensure adequate land transport and site capacity, including airport/port/intermodal terminal master planning;
- rail access to ports and intermodals;
- efficient pricing and competitive access arrangements for key infrastructure assets;
- efficient infrastructure investment planning;
- first and last mile issues;
- road and supply chain safety;
- better use of big and open data to maximise innovation opportunities;
- the key technology changes likely to enable further efficiency and safety improvements; and
- effective supply-chain performance data and measurement.

Scope of the inquiry for a national freight and supply chain strategy

Without limiting related matters, the inquiry and development of a national freight and supply chain strategy through consultation with industry will inform Transport and Infrastructure Council members, by:

1. Establishing the capacity of the key national ports, airports and intermodal terminals in comparison to international markets with similar characteristics, identifying trends occurring in the global supply chain and reviewing the adequacy of investment planning to efficiently meet forecast growth to keep Australia's position with its trading partners;
2. Determining the regulatory and investment barriers to improved efficiency and access to key national terminals, including road and rail corridors;

- 
3. Establishing the opportunities for regulatory changes and targeted investment to lift the capacity of key supply chain nodes and improve efficiency of operations, including an analysis of the implications of the changing profile of ownership in large scale supply chain infrastructure such as ports and rail;
 4. Identifying the costs and benefits of options at a national level to improve:
 - a. The efficient operation of our national supply chain system, including effective and transparent public performance measures for key national terminals; and
 - b. Broad first and last mile issues.
 5. Providing options for scenario planning and predictions, where possible, related to the following areas:
 - a. Future developments across the supply chain e.g. distributed production and changes in technology;
 - b. Urban distribution and impacts of the movement of freight in urban areas due to population growth and changing consumer activities such as online shopping;
 - c. Decentralisation and redistribution of the population into regional centres;
 - d. Trade arrangements and the development of distribution systems in agriculture; and
 - e. Impacts on the supply chain following major climatic events.
 6. Exploring opportunities to use big and open data and new digital technologies to improve the performance of our freight infrastructure; and
 7. Identifying options and recommending regulatory changes and investment actions (public or private) that will benefit the economy over the next 20 years. Specifically through improved performance, productivity and efficiency of the freight and supply chain network and infrastructure.

The inquiry should have regard to any recent policy reviews commissioned by Australian governments relating to the productivity performance of Australia's transport infrastructure such as:

- The current land transport market reform and work program;
- Productivity Commission's National Access Regime, Infrastructure and Agriculture Reviews—2013-2016;
- Harper Competition Policy Review—2015;
- Infrastructure Australia's 2015 Infrastructure Plan and 2016 government response;
- Agricultural and Northern Australia White Papers—2015;
- Industry Innovation and Competitiveness Agenda, and National Science and Research Priorities—2014-2015;
- National Ports Strategy, National Land Freight Strategy and current state and territory freight/port strategies and plans—2012 to present;
- Coastal shipping reviews and city deals;
- National Rail Vision and Work Program;

and include any international best practice guidance relevant to freight and supply chain infrastructure.

Process

The inquiry report should be supported by evidence and, where possible, provide qualitative analysis where data is not available.

A draft report is to be made available for industry and government for comment by December, and the final report should be provided to the Government by March 2018.



APPENDIX B—Stakeholder consultation key issues and themes

Expert Panel foreword

Efficient and sustainable freight underpins our national economy and standard of living. In a new era of consumerism, globalisation and growth, supply chain businesses are at the heart of how Australia will manage the complexity of its older city layouts, geographically-spread import/export hubs, regional distances and remote areas, and multi-layered system of government, to meet the needs and aspirations of modern Australia.

The Inquiry into National Freight and Supply Chain Priorities is an important opportunity to inform the development of a National Freight and Supply Chain Strategy that will position Australia's freight system over the next twenty years.

In undertaking its role to provide advice on priorities to lift productivity and the efficiency of Australia's freight and supply chain infrastructure, the Inquiry Expert Panel has given particular consideration to stakeholder input. This has been supported with the assistance of the Department of Infrastructure and Regional Development, and has also been informed by our perspectives.

The Expert Panel was pleased at the nature of engagement and responses received and widespread support for the development of a National Freight and Supply Chain Strategy. This update draws on the first stage of the Inquiry's Stakeholder Consultation process, which included 126 submissions, and meetings with 28 industry peak bodies and over 90 firms and 200 individuals.

The Expert Panel was pleased to provide this update on Stakeholder Key Issues and Consultation Themes to the Minister for Transport and Infrastructure in October 2017. Key issues and themes to emerge from consultations to this date included:

- capacity limits and land side access restrictions at key national freight terminals;
- diminishing industrial land around key national freight terminals and an inadequate allocation of land for intermodal terminals;
- conflicting freight and passenger rail and road movements during peak periods;
- fragmented access to national key freight routes;
- inadequate mechanisms for national supply chain integration, including a lack of freight data and information on the performance of Australian supply chains against international benchmarks;
- inadequate jurisdictional strategies for protecting freight corridors and strategic industrial and logistics areas from urban encroachment; and
- a lack of integrated planning and harmonisation of freight regulation and coordinated freight governance across and within governments.

The Expert Panel further broke down the key stakeholder issues and consultation themes identified through the consultation process according to broad supply chains – import/export, inter/intra regional and urban – and other industry-specific supply chains in agriculture, resources and regional and remote supply chains.

The stakeholder key issues and consultation themes will be considered in a second stage of limited consultation to advise on priorities to lift productivity and the efficiency of Australia's freight and supply chain infrastructure, which will be presented in the final Inquiry report.

Expert Panel

Marika Calfas, Chief Executive Officer, NSW Ports

Nicole Lockwood, Chair, Freight and Logistics Council Western Australia and Infrastructure Australia Board Member

Maurice James, Managing Director, QUBE Holdings Limited

David Simon, Executive Chairman, Simon National Carriers



Introduction

On 24 November 2016, the Australian Government announced it will develop a National Freight and Supply Chain Strategy (the Strategy) to increase the productivity and efficiency of Australia's freight supply chain. In March 2017, the former Minister for Infrastructure and Transport, the Hon Darren Chester MP, announced an inquiry into National Freight and Supply Chain Priorities (the Inquiry) would be held to inform the development of the National Strategy, and released [Terms of Reference](#) for the inquiry. The Minister also appointed a four-member [Expert Panel](#) with significant freight industry experience to assist the Department of Infrastructure and Regional Development (the Department) with the inquiry. The Inquiry is being led by the Department of Infrastructure and Regional Development with the assistance of Infrastructure Australia and the Expert Panel.

To initiate discussion about the key issues to be examined in the inquiry, the Department issued a [Discussion Paper](#) on 26 May 2017. Between May and September 2017 an extensive consultation process was undertaken by the Inquiry Secretariat and the Expert Panel to seek views from freight industry participants, governments, community groups and individuals. This included face-to-face consultations, participation in workshops, and a call for written submissions in the Discussion Paper.

This report is an outline of the key themes and issues that were raised in written submissions and consultation meetings.

Consultation process

Around 200 people from industry associations, private sector companies, universities and governments participated in over 50 face to face meetings and workshops as part of the Stage 1 consultations. [Appendix B.1](#) lists the bodies consulted.

In addition to these meetings, members from the Expert Panel and Inquiry Secretariat attended workshops hosted by the Australian Logistics Council in Queensland, New South Wales, Victoria and Western Australia.

By the end of September 2017, 126 written submissions had been received in response to the call for submissions in the Discussion Paper. Of these, 62 were lodged by businesses or associations involved in the freight industry, 24 by state or local governments, 16 by community organisations, 11 by individuals and 13 were not categorised in one of these groupings. [Appendix B.2](#) lists the submissions received.

Submissions were received from all states and territories:


- ACT – 14
- VIC – 19
- WA – 20
- NSW – 35
- TAS – 1
- SA – 5
- QLD – 16
- NT – 3
- Other – 13 (joint submissions from multiple jurisdictions).

Key issues and themes

Import / export capacity and supply chains

Consultations and submissions stressed the importance of maintaining efficient and productive import/export supply chains to service our ports and airports, reflecting Australia's growing reliance on imports and its expanding export trade in minerals, agricultural products and value-added products.

"Australian businesses face significant challenges when competing internationally and it is imperative that domestic policy settings enhance, rather than limit, their competitiveness". Export Council of Australia, Submission 115 page 2



They also stressed the importance of maintaining access to major import/export infrastructure and preserving opportunities to increase capacity of this infrastructure to meet future demand.

The Inquiry was informed of a number of significant investment, planning and community issues that will provide challenges to the freight industry in meeting the future demand. The following sections outline these challenges and issues.

Infrastructure and capacity

A key issue raised by participants in consultations and in submissions was the congestion experienced on road access routes into key freight nodes within cities such as ports, airports and intermodal facilities. Participants consider this causes bottlenecks and inefficiencies and increases costs right through the supply chains. In addition, many roads that participants rely on form important access routes to the freight infrastructure and are not available to high productivity vehicles (HPVs), which they consider exacerbates congestion with the need for more numerous and smaller trucks.

“Due to the scale of trade moving through the ports any increase in efficiencies surrounding them no matter how small provide massive economic benefits”. Ports Australia, Submission 64 page 3

“the container transport logistics task is predominately a metropolitan task (ie the vast majority of import containers move less than 50km from the port..)”. Container Transport Alliance Australia, Submission 66 page 7

While there was support for greater use of rail from ports to intermodal terminals to reduce pressure on roads, there was also industry uncertainty about its efficiency and costs of changing modes. Given the current priority for passenger rail, dedicated freight rail was favoured by many participants for improving access to ports.

The trucking sector underscored the need for setting significant ‘last mile’ higher mass limit connections, connecting our supply chain corridors with industrial, port and agricultural businesses. The rail sector put forward the development of port rail shuttles as a priority. There was broad support for the role of intermodals to improve import/export efficiency with the use of road and rail.

The ports sector emphasised that shipping channels and port capacity are key elements of Australia’s freight network. These stakeholders noted that current environmental regulatory approaches related to maintenance dredging of shipping channels may not adequately reflect the true economic importance of these channels for Australia.

“The Pilbara Ports Authority submission “proposes that shipping channels are just as integral to the national freight network as land transport corridors and freight precincts and should be subject (to) regulatory protection in the same manner as land transport corridors”. Pilbara Ports Authority, Submission 76 page 2

Some submitters argued that increasing the capacity of ports and airports near capital cities such as Bunbury, Port Kembla and Newcastle, was an effective way to support capital city freight nodes.

“Concentrating hubs in capital cities is fuelling a constraints time bomb. Alleviate pressure by investing appropriately in nearby regions.” Regional Development Australia, South West WA, Submission 12 page 2

While there were relatively few comments regarding air freight, it was noted that freight takes a secondary position to passenger services in our major airports, in spite of its importance in our import and export markets. As air freight is largely carried in passenger aircraft, any restriction on access such as a curfew was regarded as reducing the opportunities to increase this market.

Planning and regulatory issues

The freight industry has significant concerns about land use planning, particularly in urban and near urban areas. A number of submissions outlined a need to promote better integrated regional planning, involving partnerships between local governments and state bodies.

There is support for increased certainty in planning, unaffected by electoral change or divergence between approaches adopted by differing levels of government, to allow long term capital commitments by the private sector. Further, there is a perceived disconnect between policy and



funding for freight infrastructure and planning for urban development.

“...there remains a gap between infrastructure and planning policies that needs to be bridged...”
Linfox, Submission 69 page 2

The Planning Institute, the Property Council of Australia, the Australian Logistics Council and other stakeholders placed strong emphasis on identifying locations for the next wave of intermodal terminals for outer metropolitan areas with dedicated rail and road connections to ports. It is seen as a high priority strategic planning activity.

“The Inquiry should recommend that governments support the preservation of potential intermodal terminal sites, along with planning for future road and rail connections”. Australian Logistics Council, Submission 96 page 15

Other major planning concerns are urban encroachment and protection of freight corridors and facilities. There were strong and persistent calls for not just the preservation of corridors and precincts for freight, but also for greater protection for existing freight corridors and freight facilities restrained from using their full capacity due to community restrictions.

Freight operators were critical of local and state government operating restrictions limiting where and when freight can be moved, reducing productivity. For example, Fremantle Port is constrained by its rail access adjoining residential development which limit the operational hours for freight. Constraints are also in place on Port Botany’s road access.

“As settlement and densification encroaches on traditional freight routes and intermodal access points it is important to retain freight gateways as enablers of the delivery of critical supplies to our urban populations”. National Heavy Vehicle Regulator, Submission 110 page 5

“Facilities that are constrained by planning laws, curfews or other operational restrictions are a genuine risk to our industry – particularly the ‘gentrification’ and increase in high density living near ports.” South Australian Freight Council, Submission 29 page 3

As part of the response to these issues, it was felt that governments and the industry could work to build community support for jobs and promote better recognition and understanding of the trade-offs required in terms of jobs and amenity. It was also felt that local governments should be encouraged or incentivised to take a state and national perspective to economic development as well as dealing with local concerns.

Some submissions questioned the adequacy of planning for the availability of industrial land surrounding ports, and for additional inland freight hubs.

“The Employment Lands Development Program 2015 Report provided key information on the state of industrial land supply and major business parks in Sydney. It reported that, depending on the rate of take-up, there is 1.5 to 5.6 years of supply of undeveloped and appropriately zoned employment land in Sydney that is serviced (water and sewer lead-in services). On an “average” to “high” take-up, there is 1.5 to 2.8 years of supply. This is well short of the supply standard of 5 to 7 years”. Property Council of Australia NSW, Submission 91 page 6


Regulatory burden was seen by many Inquiry participants as a barrier to productivity in many quarters and there is support for streamlining where appropriate.

“World Bank figures show Australian exporters must complete seven documents compared to 2-4 documents in other countries, taking 7 hours and costing \$US 749, compared to the OECD average of two hours and \$US150”. Export Council of Australia, Submission 115 page 3

Technology and information

Many of the technological advances expected to improve efficiency in the import/export freight sector involve increased automation in shipping, stevedoring and transport and better information flows between supply chain participants. Such advances should drive down costs and can help deal with congestion and access to ports.

The development of end-to-end supply chain data standards, distributed ledgers and port community systems such as ‘single window’ technology is supported to improve information flows in freight



movements and forecasting, and to reduce costs through reduction in paperwork, data entry duplication and intermediaries in supply chains.

Productivity

There is a strong view among Inquiry participants from the freight sector that productivity can be enhanced substantially with better collection and dissemination of data, which, for example, could assist transport operators in their scheduling, identify traffic bottlenecks and help government planners understand better the extent of freight movement in their jurisdictions.

“You can’t improve what you don’t measure” Container Transport Alliance Australia, Submission 66 page 5

However, despite agreement that “data is the new oil”, and that interoperability was important for the industry, barriers to information sharing arising from competitive concerns were conceded by road transport groups. A further comment made in consultations was that even where good data was collected, it was often not analysed to a sufficient extent.

There was strong support from the Export Council of Australia and other submitters for better performance measures, including measures of the relative and absolute performance of Australia’s freight and supply chain system and asset performance. This could involve international benchmarking supported by a comprehensive national freight performance framework.

“Major changes in ICT means that there are now unprecedented opportunities to observe ‘actual’ use, rather than rely on modelling based on assumptions”. Infrastructure Partnerships Australia, Submission 118 page 3

Operating hours were seen as barriers to productivity. It was pointed out that most ports and airports operated 24/7, while many other elements of the industry, including distribution centres, empty container parks, and transport operators, only worked part of the day.

A “mismatch of operating hours and customer demands....sees well over 90% of import and export containers ‘staged’”. Container Transport Alliance Australia, Submission 66 page 3

There was support for moving ahead on heavy vehicle road user charging models. In addition, the Property Council of Australia noted that other incentives such as congestion levies could be explored to support further rail use and relieve road access bottlenecks.

The Australian Peak Shippers Association and allied peak bodies were concerned by the overall costs and inefficiencies of freight movement through the supply chain.

There was also a perceived lack in consultations of transparency and efficiency cost drivers on the provision of port services by government (customs/biosecurity). In particular, there is a strong feeling that these processes are not customer focused and could be improved.

Intra/interstate freight


Comments and submissions concerning interstate and intrastate freight mainly covered regulatory and planning issues.

Stakeholders such as the Australian Trucking Association believe that productivity is being blunted by a patchwork of road access regulations for higher productivity vehicles, a view supported by the National Farmers Federation and GrainGrowers Australia, who see these as a result of over-zealous regulators at the local government level. As pointed out by one regional exporter, such regulation means that transporting product 1000kms to a port requires four separate trucks.

Of particular concern to some operators is the lack of harmony in regulation in different states and the varying attitudes of local governments to the use of high productivity vehicles in their areas of control.

“in many instances the policies and regulations relating to freight infrastructure and operations are state based whereas supply chains cross these borders” Pacific National, Submission 90 page 4

“One of the key blockages impacting access to critical freight networks is the capacity to undertake assessment of local road freight infrastructure particularly bridges. An operator can



receive different access outcomes for the same combination and freight task due to a different bridge assessment method being applied by road managers.” National Heavy Vehicle Regulator, Submission 110 page 6

“According to an assessment by the National Transport Commission (NTC) improved access for heavy vehicles alone can deliver \$7 billion in benefits through the reduction of time and cost for the heavy vehicle industry (with flow on benefits to other parties in the supply chain)” National Heavy Vehicle Regulator, Submission 110 page 4

Several submitters felt that there needed to be better coordination across different levels of government with regard to planning and provision of freight infrastructure.

“..supply chains to seaports from processing plants should be mapped and examined for infrastructure upgrade/ regulatory packages that will allow the highest productivity vehicles to access these ports”. The Red Meat Advisory Council, Submission 120 page 18

Some submitters sought more certainty about the details of the Inland Rail project, including its route, links to existing rail, and the manner of connection to Brisbane and Melbourne.

Rail and coastal shipping stakeholders seek a ‘level playing field’ in assessments of the relative costs of different freight modes, with externalities such as environmental impacts and safety appropriately accounted for in a single freight pricing approach across all modes (coastal shipping, road and rail). The current reform agendas of government for heavy vehicle pricing and coastal shipping were seen as supportive of this. It is believed an integrated approach to freight modal pricing will foster more informed decisions about the appropriate mode for a particular class of freight.

Air freight operators involved in inter-state deliveries are concerned about the regulatory restrictions placed on some metropolitan airports. These involve curfews, movement caps and restrictions on aircraft types. There is a view that freight aircraft meeting noise performance measures should be allowed access at any time during the day or night.

Urban freight

Urban freight is largely concerned with road freight and encompasses the movement of materials within urban areas, including retail supply, urban delivery services, construction material movement and waste removal. The NSW Government notes that the last two mentioned supply chains are subject to increased travel distances in recent years.


“Road transport is by far the most predominant mode utilised by our industry, preferred over other modes (or in combination with these modes) due to its flexibility in overcoming last mile issues. Whether the end use is an infrastructure project, a multi-residential build or a residential driveway, the final delivery point is always changing and requires access beyond key freight routes.” Cement Concrete & Aggregates Australia, Submission 72 page 1

“Increases in population density, especially around key urban centres in major cities, drive corresponding increases in freight and servicing demand. Without suitable light industrial land to support this demand, however, the distance of the last mile is stretched from available land on the outskirts of cities to the end-consumer in the urban centre” Transport for New South Wales, Submission 123 page 8

There is concern that the rise of online shopping and the changing nature of distribution platforms (such as Uber and Amazon) have the potential to increase congestion on metropolitan roads, particularly in CBDs, which are already seen as inefficient. It was noted by some that most delivery vans in urban areas operate with less than full loads, and there is a view that a way needs to be found to consolidate loads and share facilities in ways that do not stifle competition between freight companies.

“There is growing anecdotal evidence suggesting that increasing numbers of online purchases and small parcel deliveries to dense urban areas or urban workplaces are creating additional freight movements on congested urban roads, which often have limited parking and access for light vehicles”. Western Australian Transport, Submission 103 page 4

“There is a need to increase the consolidation of loads in freight vehicles to reduce congestion



and freight operating costs”. University of Melbourne Sustainable Urban Freight Systems, Submission 71 page 1

It was reported that large trucks requiring access to shopping centres and retail stores to deliver products can experience difficulty in accessing necessary kerbside parking. This can generate significant costs to the community given shopping centres’ emerging role as mini-distribution hubs for online retail. Further, access to these locations and to warehouses and distribution centres near residential development can be restricted by local regulations, reducing productivity.

“There is a need for improved 24/7 access to roadways and delivery loading areas to fulfil the freight task.” Regional Development Australia Sydney, Submission 83 page 16

City planning needs to consider changing technologies for deliveries, including consideration of parcel collection points in buildings and footpath design for parcel drones. While technological advances will be part of the answer to the urban freight issues outlined above, there were industry concerns expressed about the capacity for innovative solutions in complex last mile situations.

Regional and remote supply chains

Regional and remote freight capacity is generally considered as being adequate at best. Variability in infrastructure quality, weather and agricultural production are specific challenges for regional and remote supply chains.

Many participants in the consultations noted that the upgrading and maintenance of key freight infrastructure was an ongoing concern in regional and remote areas. This infrastructure includes roads, railway lines, airstrips and barge landing points. The Local Government Association of the Northern Territory advised that 85% of the NT roads are unsealed, with many impassable in the wet season, giving greater importance to airstrips and barge landings. Increasing demand for year-round live beef exports is underscoring a need for more reliable access to ports.

“The quality of transport infrastructure and industries’ costs and competitiveness are inextricably linked. As a pastoralist in the cattle industry I note from personal experience that before the sealing of 77 km of the Boulia-Winton road back in early 1990’s, live animals would lose 10% of their gross body weight during transport; after the road was sealed they only lost 4-5% gross body weight.”

Inland Queensland Road Action Plan, Submission 93 page 4

The capacity of local governments to maintain and improve road freight routes has been questioned given their often low rate base and sparse population.

“many rural and regional councils do not have the means to collect the same revenues as their urban and larger regional counterparts and are consequently much more reliant on external funding sources.”

“Of the three levels of government, local government has the largest relative task in terms of asset management and the smallest relative revenue base.” Australian Local Government Association, Submission 121 page 4

There was also strong stakeholder support for greater road and air infrastructure investment in remote areas, allowing not just more efficient freight movements, but also better access to health, education and community services.

The importance of regional rail in moving agricultural commodities and mineral resources to ports was an important theme, including the need for investment to support sufficient axle loadings and interoperable communication that enable regional rail systems to be productive contributors to the overall freight system. Constraints were noted on regional rail-based exporters’ access to metropolitan rail systems given the priority for passenger services on metropolitan networks and different track operators.

For safety as well as efficiency, operators in regional and remote areas believe that mobile phone coverage should be extended as far as possible on major freight routes.

Identification of road and air access bottlenecks is widely supported. Many submissions identified infrastructure upgrades to assist in improving productivity and maintaining Australia’s competitive



position in world markets.

The Inland Queensland Roads Action Plan identified “..over 3,000 kilometres of road and more than 300 bridges require upgrades to meet ‘fit for purpose’ standards”. Submission 93 page 2

Other industry specific supply chain issues

Resource industry supply chains

There are two key elements of resource industry supply chains – the need to transport raw product to ports or processing centres, and the need to supply workers and operations in often remote and inhospitable areas.

Those consulted felt there is little call for government involvement in single use, vertically integrated resource networks, such as those found in the Pilbara, where there are large volumes and high quality infrastructure.

However, there is support for ongoing government involvement in mixed-use systems such as the Hunter Valley Coal Chain to address freight and passenger conflicts and address perceived monopolistic behaviour from private infrastructure operators.

“The Hunter Valley Coal Chain Coordinator (HVCCC) exemplifies how cooperation in the operation of multi-user supply chain infrastructure can enhance efficiency and exports where participants have differing interests”. Minerals Council of Australia, Submission 117 page 3

Several freight and minerals operators noted a lack of buy-in from key players in the Central Queensland Coal Network had prevented the establishment of a coal chain coordinator, similar to the one in the Hunter Valley.

Supply issues for resource industry production facilities and population centres are similar to those of other regional and remote centres discussed above. One impact of the uncertain access for such centres is that levels of stock inventory need to be higher than could be expected to take account of periods without access.

Agricultural supply chains

In recent years there has been a rationalisation of rail lines in agricultural areas such as the WA grain belt and the fruit growing areas of NSW and Victoria. Where grain and agricultural products are grown for export, some producers are questioning the need to close secondary rail lines and are keen to see them re-open. Some submitters felt this was a transfer of responsibility from the private rail providers to local governments as the only other option for gaining access to ports was through road transport, which was seen as more expensive than rail.

The Australian Peak Shippers Association advised that grain growers and transport companies found difficulties in attempting to get grain to export markets arising from cancelled or postponed shipping services during the significant 2017 national grain harvest. Their view is that international shipping line consolidation appears to be impacting on conference agreements established under Part X of the *Competition and Consumer Act 2010*, leading to less use of this provision, which was intended to give certainty to growers about export shipments.

Agricultural producers in some states are also concerned about delays in gaining permits for large and unusual loads and farm vehicles, and what they see as excessive restrictions on such movement.

There was also considerable comment on the relative efficiency of different freight modes. Some agricultural producers and resource companies using open access rail mentioned that for rail to compete more effectively with road transport, rail owners needed to upgrade infrastructure to achieve higher axle loads, create longer sidings and improve service levels.

Participants in agricultural and resource supply chains expressed some concern about the level of economic regulation that was put in place in the privatisation of ports and rail lines and facilities. There is clearly concern that there should be a better balance between the interests of the users of these facilities and the interests of the shareholders.

“Suboptimal privatisations can impose a tax on future generations of Australians and hinder Australia’s competitiveness in the world market”. Minerals Council of Australia, Submission 117



page 11

“A key priority for consideration of the inquiry is the development of a National Agricultural Supply Chain Strategy. Agricultural freight is unique in terms of the seasonality of varying production across widely diverse areas”. Queensland Department of Transport and Main Roads, Submission 98 page 6

Governance

There was a wide range of comments from participants about the role of governments, as infrastructure providers, regulators and land planners, as well as the need for greater leadership and governments to work together. Proposals tended to focus on visible issues where inter-government cooperation is necessary, such as roads/rail access, maintenance, integrated approaches to charging and an equitable sharing of funding between urban, regional and remote areas. A common key concern was jurisdictional failure to adequately protect freight precincts from urban encroachment.

Other supply chain issues

A number of participants from different sectors of the freight industry believed there is a pressing need to reform coastal shipping to reduce costs and remove disincentives for use of this freight mode.

The Tasmanian Logistics Committee and other bodies considered that efforts to reduce empty container movements would greatly improve productivity and also help reduce congestion in port areas. It was advised that about a quarter of all container movements to and from Tasmania constituted empty containers.

Submissions lodged by community groups outlined concerns about issues of congestion, air quality, road safety and urban amenity. They generally supported more freight movement via rail than through the road system. Some submissions mentioned a need for more driver training and re-generation of the truck driver workforce, which is rapidly ageing.

In order to achieve the productivity benefits that technology can provide, it was held that there needs to be regulatory provisions, incentives or other encouragement to promote more widespread use of telematics to improve road planning and performance. End-to-end freight tracking was supported as a way to give greater transparency for cargo owners and increase economic efficiency for cargo owners and recipients.

“In particular, industry is eager to encourage the ability to transfer non-proprietary information so as to improve the flow of freight from one end of a supply chain to another, in a manner similar to that which operates through the Hunter Valley Coal Chain.” Australian Logistics Council, Submission 96 page 17

There was also support for a national data hub to take advantage of the information governments and industry already collect, as well as the potential information in the future. Better information about freight routes and usage was seen as a potential contributor to better planning for freight routes and may help preservation of transport corridors.

Increasing automation is seen as a way to enhance productivity and safety in the freight industry. The full potential of automation is not yet clear, although it is likely industry will embrace it when it becomes cost effective and safety is assured.

Automation is also seen as a productivity enhancer. That it would be best of help in remote areas where road freight on unsealed roads is especially taxing on drivers, but that there are doubts the technology as it is currently being used would work there, given limitations with lane markings etc.



Appendix B.1—Consultation meetings

These are the formal Inquiry consultation meetings held with peak bodies, companies and other relevant bodies, ahead of the formal close of the submissions period.

Date	Stakeholder	Attendance	
		In person	Teleconference
CANBERRA			
17 May	Australian Food and Grocery Council	2	0
23 May	Australian Livestock and Rural Transporters Association	1	0
25 May	Australian Logistics Council	4	0
26 May	Australian Airports Association	1	0
29 May	Australian Trucking Association	2	0
31 May	Freight on Rail Group	7	0
31 May	Australian Railway Association	2	0
2 June	National Farmers Federation	1	0
5 June	NatRoad	1	0
20 June	Minerals Council of Australia [10]	5 [26]	0 [0]
8 Aug	Virgin Freight	0	4
9 Aug	Australian Local Governments Association	2	0
MELBOURNE			
7 June	National Transport Commission	2	0
7 June	Australian Peak Shippers Association	5	3
7 June	Container Transport Alliance Australia	14	0
7 June	Centre for Supply Chain and Logistics Deakin University	4	0
8 June	Business Council of Australia	10	1
8 June	Newcrest Mining Limited [6]	2	0
18 July	Containerchain	1	0
18 July	GS1	xx	xx
19 July	Customs Brokers and Freight Forwarders of Australia		
19 July	Australian Food and Grocery Council's Agribusiness Forum [Minister Chester attended]	7 [44]	0 [4]
21 July	ALC Workshop	xx	0
SYDNEY			
14 June	Property Council of Australia	22	0
14 June	Planning Institute of Australia	2	0
14 June	GrainGrowers Association	1	3
14 June	Ports Australia	2	4
14 June	Infrastructure Partnerships Australia	3	0
15 June	Road Freight NSW	1	1
15 June	Institute of Transport and Logistics Studies, University of Sydney	1	0
15 June	Freight Trade Alliance [8]	1 [33]	20 [28]
28 July	ALC Workshop	xx	0
BRISBANE			
5 July	Transport and Main Roads QLD	1	0
5 July	Local Government Association of Queensland	1	0
5 July	New Hope	1	0
5 July	Customs Brokers and Forwarders Council of Australia	1	0
5 July	City of Brisbane	1	0
6 July	Australian Logistics Council	10	0
6 July	Department of Infrastructure, Planning and Development	1	0

6 July	National Heavy Vehicle Regulator	1 [17]	0 [0]
DARWIN			
12 July	Darwin Ports	2	0
12 July	NT Livestock Exports Association NT Cattlemen's Association NT Farmers	2	1
12 July	Local Government Association of the NT	1	0
13 July	NT Road Transport Association	4	0
13 July	Department of Infrastructure, Planning and Logistics	2 [11]	0 [1]
HOBART			
19 July	Aviation and Access Development – Tasmanian Government (meeting took place in Melbourne)	1	0
PERTH			
24 July	Australian Logistics Council	22	0
24 July	CBH Group (shipping and chartering services – grain)	2	0
24 July	Western Australia Planning Commission	2	0
24 July	Transport for WA	1	0
24 July	ALC Workshop	xx	0
25 July	WSP (formerly Parsons-Brinckerhoff)	1	0
		161	35
Total attendance			More than 196

The representation types are as follows:

Industry Peak Body – 27 meetings

Public Company – 4 meetings

Statutory Authority – 1 meeting

University – 2 meetings

Not-for-profit – 1 meeting

Local Government Authority – 4 meetings

Government Department – 4 meetings

Government Regulatory Body – 1 meeting

Private Company – 2 meetings

Cooperative – 1 meeting



Appendix B.2—Submissions

These are the submissions received to the Inquiry discussion paper, which was available over two months from 26 May until 28 July 2017.

Red text = submission provided in-confidence

Submitter ID number	Author—in alphabetical order
A 106	Australasian Railway Association (ARA)
88	Australian Airports Association
89	Australian Business Council of Australia
87	Australian Food & Grocery Council
86	Australian Livestock and Rural Transporters Association (ALRTA)
121	Australian Local Government Association
96	Australian Logistics Council
2	Australian Logistics Council (draft)
37	Australian Peak Shippers Association
42	Australian Rural Road Group
23	Australian Trucking Association
B 22	Blackall-Tambo Regional Council
41	Blacktown City Council
54	Bunbury Wellington Economic Alliance
8	Bustle
C 72	Cement Concrete and Aggregates Australia
79	Central Highlands Regional Council
51	Chemistry Australia
78	Clean Transport Action
66	Container Transport Alliance Australia
32	Co-operative Bulk Handling (CBH) Group
104	Council—Central NSW Council (Centroc)
11	Council—City of Busselton
67	Council—Greater Shepparton City Council
21	Council—Narrandera Shire Council
111	Council—Orange City Council
58	Council—Rockhampton Regional Council
6	Council—Shire of Capel
4	Council—Shire of Dardanup
16	Council—Shoalhaven City Council
70	Council—Toowoomba Regional Council
E 102	Enfoll
115	Export Council of Australia
F 45	Freight and Logistics Council of Australia
114	Freight on Rail Group (Arc Infrastructure, Aurizon, Australian Rail Track Corporation (ARTC), Genesee & Wyoming Australia, Pacific National, Qube Holdings and SCT Logistics)
G 59	Gas Energy Australia
14	Gilead Logistic Services Pty Ltd
95	Grain Growers Ltd
82	Grain Producers Australia
100	Grain Trade Australia
99	Greater Whitsunday Alliance (joint submission with No. 92 Regional Development Australia—Mackay-Isaac-Whitsunday)
101	GS1 Australia
I 94	Illawarra Business Chamber
77	Individual—Craig Neal
5	Individual—Gerry Lane

Submitter ID number	Author—in alphabetical order
63	Individual—Jim Donovan
80	Individual—John Austen
17	Individual—Lindsay Tuckwell
68	Individual—Philip Laird
18	Individual—Ronald McLean
71	Individual—Russell Thompson
1	Individual—Tim Kelsey
25	Individual—truck driver
118	Infrastructure Partnerships Australia
119	Infrastructure Victoria
93	Inland Queensland Roads Action Plan
27	Inter-Port Global
L 52	Landbridge
69	Linfox Logistics
55	Local Government Association of Queensland
19	Local Government Association of the Northern Territory
30	Local Government Association—Western Australia (WALGA)
M 73	McLean Management Consultants Pty Ltd
117	Minerals Council of Australia
53	Moree Plains Council
34	Murraylands and Riverland Local Government Association (joint submission with Regional Development Australia—Murraylands and Riverland)
N 105	National Farmers' Federation
110	National Heavy Vehicle Regulator
62	National Transport Commission
109	Newcastle Airport
107	Northern Territory Cattlemen's Association
124	Northern Territory Government
122	NORTHLink
125	NSW Ports
O 39	Outback Way—The Outback Highway Development Council
P 90	Pacific National
74	Perth Airport
76	Pilbara Ports Authority
44	Port of Brisbane
65	Port of Newcastle
64	Ports Australia
91	Property Council of Australia
Q 97	Queensland Ports Association
98	Queensland—Department of Transport and Main Roads
R 20	Rail Futures Institute
120	Red Meat Advisory Council
9	Regional Development Australia—Barossa Gawler Light Adelaide Plains
81	Regional Development Australia—Far North
47	Regional Development Australia—Hunter
43	Regional Development Australia—Illawarra
92	Regional Development Australia—Mackay-Isaac-Whitsunday (joint submission with No. 99 Greater Whitsunday Alliance)
61	Regional Development Australia—Mid West Gascoyne
34	Regional Development Australia—Murraylands and Riverland (joint submission with Murraylands and Riverland Local Government Association)
112	Regional Development Australia—Northern RDA Alliance
12	Regional Development Australia—South West



Submitter ID number		Author—in alphabetical order
	46	Regional Development Australia—Southern Melbourne (joint submission with Regional Development Victoria—Southern Melbourne)
	83	Regional Development Australia—Sydney
	46	Regional Development Victoria—Southern Melbourne (joint submission with Regional Development Australia—Southern Melbourne)
S	60	Shipping Australia Limited
	29	South Australian Freight Council
	75	South East Australian Transport Strategy
	24	Sydney Airport
T	7	Tasmanian Logistics Committee
	123	Transport for New South Wales
V	48	Victorian Transport Association
	85	Virgin Australia
W	26	Wakefield Transport Group
	31	Watco
	103	Western Australia—Department of Transport
	56	Western Australian Farmers Federation Corrigin/Lake Grace Zone
	33	Western Australian Port Operations Taskforce
	84	Western Australian Road Transport Association (WARTA)
	13	Wheatbelt Railway Retention Alliance
	35	Wollongong Neighbourhood Forum 5
	28	Wollongong Transport Coalition
Other		
	3	In-confidence
	10	In-confidence
	15	In-confidence
	36	In-confidence
	38	In-confidence
	40	In-confidence
	49	In-confidence
	50	In-confidence
	57	In-confidence
	108	In-confidence
	113	In-confidence
	116	In-confidence
	126	In-confidence



APPENDIX C—Supporting and research papers

The following supporting and research papers can be found at the Department of Infrastructure, Regional Development and Cities' website at < <https://infrastructure.gov.au/transport/freight/national-strategy.aspx> >

SUPPORTING PAPERS

Supporting paper No. 1 Air freight March 2018

Supporting paper No. 2 Maritime freight March 2018

Supporting paper No. 3 Road and rail freight March 2018

Supporting paper No. 4 Analysis of capital city key freight route performance March 2018

Supporting paper No. 5 Infrastructure investment March 2018

Supporting paper No. 6 Recent policy reviews of relevance to freight and supply chains in Australia March 2018

RESEARCH PAPERS

Centre for Supply Chain and Logistics, Deakin University

Scenario planning to inform Australia's national inquiry into freight and supply chain priorities, November 2017

Scenario planning to inform Australia's national inquiry into freight and supply chain priorities: Appendices, November 2017

PricewaterhouseCoopers Australia

Central Queensland coal chain network. Department of Infrastructure and Regional Development – Case studies of critical supply chains, October 2017

Riverina agricultural freight flows. Department of Infrastructure and Regional Development – Case studies of critical supply chains, October 2017

Hobart air freight. Department of Infrastructure and Regional Development – Case studies of critical supply chains, October 2017

Sydney urban freight. Department of Infrastructure and Regional Development – Case studies of critical supply chains, October 2017

Technology and supply chains for critical industries, Resources sector (working paper 1 of 3), October 2017

Technology and supply chains for critical industries, Agricultural sector (working paper 2 of 3), October 2017

Technology and supply chains for critical industries, Urban freight (working paper 3 of 3), October 2017

The University of Sydney Business School, Michael Bell, Professor of Ports and Maritime Logistics, Institute of Transport and Logistics

Australia's freight and supply chain performance against international comparators, November 2017

Australia's freight productivity, its effect on the national economy and opportunities for improvement, November 2017

