

The **Allen Consulting** Group

National Freight Network Strategy

Background Paper

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Report to Infrastructure Australia

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Executive summary

As an island continent with a widely dispersed population, the movement of freight is vital to Australia's economy and society. The country's freight task is substantial — approximately 500 billion tonne kilometres of freight was transported in 2006-07. This movement of freight was achieved through a range of operators accessing a network of railway lines, roads, air routes, sea lanes and intermodal terminals spanning the nation. The Bureau of Transport and Regional Economics forecasts that Australia's freight task will increase to approximately 700 billion tonne kilometres in 2020.

Freight's importance notwithstanding, however, a number of factors constrain the efficient operation of Australia's freight network, reflected in significant economic costs arising from congestion and capacity constraints. These factors include:

- *Transport policy and regulation.* There is, generally speaking, inadequate strategic planning in, and coordination for, infrastructure development; freight transport does not enjoy equal rights to shared-use infrastructure; access pricing regimes for freight (particularly with reference to road and rail) are inappropriate; and inconsistencies exist between relevant State and Territory regulations.
- *Broader regulatory issues.* The efficiency of the freight network is not just affected by freight-specific policy and regulation. Broader issues can also impose constraints, such as land-use planning, labour availability, and environmental regulation.
- *Data measurement and analysis.* Problems with underlying data limit the ability of government and industry to plan and optimise the use of the freight network. These problems relate to productivity measurement, the use of network analysis, information and community technology, and a lack of a universal approach to forecasting demand.

While the problems listed above are broad in scope, they do share a commonality — the lack of a framework to guide freight-related decision-making in accordance with clearly-defined, national objectives. In other words, a national strategy aimed at improving the nation's freight network.

A number of Australian jurisdictions and organisations have sought to address this need by releasing policies aimed at reforming and rejuvenating the freight network. While these existing proposals are valuable and demonstrate a commitment to addressing the problems of the freight network, none could be reasonably described as a strategy that provides guidance for *Australia as a whole* and *all freight modes*. It is this gap that a *national freight network strategy* would seek to fill.

In developing such a strategy, government would first need to determine what the boundaries of the strategy should be — i.e. how would the strategy conceptualise what constitutes a national freight network? This report suggests defining a *freight network* in terms of infrastructure links connecting nodes, as well as featuring interoperability, interconnectivity and intermodality. It also favours an approach that focuses on those elements of the freight system that are *nationally significant* and meet the following *functional criteria*:

- the element facilitates freight movement of significant volume and/or value;
- the element is used to move more than one class of goods; and
- the element is accessed by more than one user.

The report identifies *six principles* to guide the development of the strategy. These relate to: the role of government; modal neutrality; neutrality between existing and new infrastructure; operational planning; freight's interaction with other regulatory areas; and strategic flexibility.

Drawing on existing freight policies (both national and international), consultations with stakeholders, and the range of problems affecting the freight network identified above, the report proposes *three objectives* to underpin a national freight network strategy:

- improve the efficiency of freight movements across the national freight network (considering all costs in the efficiency equation);
- minimise externalities associated with freight movement (including environmental and safety externalities); and
- influence policy making in other areas (e.g. urban planning and passenger transport).

In addition to these objectives, the report proposes that the *structure* of a national freight network strategy should comprise:

- *a vision* — ideally focused on the efficiency and sustainability of the national freight network;
- *priorities for action* — possibly determined on the basis of robust cost-benefit analysis, and such criteria as affordability, supportive of interoperability, and scalable to meet future demand; and
- *performance measurement* — best practice would ensure that a national freight network strategy would include some mechanism to allow third parties to objectively track the progress of government in pursuing the strategy.

Governance under a national freight network strategy is an important consideration. The report suggests that the proposed strategy should fall under the control of the Australian Transport Council (and ultimately COAG), with the National Transport Commission given authority to guide the development and implementation of the strategy.

Chapter 1

Overview

1.1 Introduction

The Allen Consulting Group has been commissioned by Infrastructure Australia to prepare a background paper to inform development of a *National Freight Network Strategy* for Australia.

In preparing this paper a range of documents and sources were drawn upon. These included past reports by government agencies and stakeholders identifying the magnitude of Australia's freight task, and impediments in the current network. Also closely examined were strategies developed by various Australian governments, ranging from the numerous Auslink corridor strategies, to the Victorian Government's *Freight Futures*. The paper also considers the approach taken to freight strategic planning in a range of international jurisdictions, including Canada, South Africa and the United States. These strategies either solely considered freight, or were focussed upon the entire transport system.

1.2 Key findings

The Australian economy is heavily dependent upon the freight network for the movement of many goods and commodities. However, the network is not operating efficiently, imposing many costs on society including congestion and pollution, delays and inefficiencies in supply chains, and sub-optimal allocation of resources in storage and handling facilities. There are many causes of these problems, ranging from past under-investment in infrastructure, poor regulatory design and issues associated with Australia having a federal system of government.

Looking forward, the paper finds there is a strong case for the development of a *National Freight Network Strategy*. A strategy will not, by itself, resolve many of the problems in the current network. However, it has the potential to provide a framework to governments and other stakeholders to guide investment and other decisions and, in combination with other reforms, assist in improving national productivity.

A *National Freight Network Strategy* will need to articulate a vision and objectives. Also required will be details of underpinning principles that are to be considered when developing specific priorities.

A feature of freight strategies developed in both Australia and overseas is that very few articulate measurable targets so that progress towards the achievement of objectives can be ascertained. This does not mean that measurable targets should not feature in an Australian strategy, but it does point to potential difficulties in doing so.

If the experience of the Victorian Government with *Freight Futures* is any guide, development of a *National Freight Network Strategy* is likely to be a protracted process. *Freight Futures* underwent several iterations over a seven year timeframe, with stakeholders consulted to varying degrees over that time period.

1.3 Paper structure

The remainder of this background paper is structured as follows:

- Chapter 2 provides a detailed overview of Australia's freight task, identifying the role of different modes, and the extent of the freight network;
- Chapter 3 considers why Australia needs a freight network strategy, with a strategy able to assist in addressing a number of impediments in the current freight network;
- Chapter 4 provides an overview of existing Australian freight strategies, as well as insight into key features of strategies in a number of overseas jurisdictions. Details on strategies in other Australian jurisdictions are provided in Appendix A, alongside information on overseas jurisdictions in Appendix B;
- Chapter 5 provides an indication of the key features of a *National Freight Network Strategy*, including identifying potential objectives and principles; and
- Chapter 6 identifies the steps that are required to progress development of a *National Freight Network Strategy*.

Chapter 2

Australia's freight task

Key points

Australia has a substantial freight task that is met through a range of operators accessing a freight network spanning the nation. This network is a critical component of the Australian economy, including railway lines, roads as well as intermodal terminals. Operators on the freight network use road, rail, sea and air, either in combination or individually.

Freight movements have grown significantly over the previous 30 years, particularly non-bulk freight by road. At the same time, bulk movement by rail, particularly of minerals, has also grown significantly. In 2006-07, domestic movements totalled in excess of 500 billion tonne kilometres, of which road and rail carried 36 and 39 per cent respectively.

Forecasts developed by the BTRE suggest that Australian domestic freight movements will continue to grow, being projected to increase by an average of 2.8 per cent per annum in the period up to 2020.

As an island continent with a widely dispersed population, Australia's freight task is substantial. Many goods are required to be moved both short and long distances, making use of what is known as the freight network. The freight network is a critical component of the Australian economy, moving Australia's export and import trade in goods, as well as inputs for all stages of the production process.

This chapter has three roles in examining the nature of the substantial task confronting Australian freight operators. The first is to provide an overview of the Australian network and the role of each freight mode — rail, road, air and shipping, as well as the key nodes of the Australian freight network.¹ The second is to provide an indication of the importance of the freight network for the Australian economy, with the third component examining the future outlook for freight movement in Australia.

2.1 Current Australian freight network

In general terms, the Australian freight network is the infrastructure that enables the movement of goods between geographic locations (the concept of a freight network is explored in further detail in Chapter 5). In addition to network links on land comprising roads and railway lines, the network also features nodes where freight modes intersect such as ports, airports and intermodal terminals.

The map below details Australia's nationally significant freight network lines (see Figure 2.1) as identified by the AusLink process in 2004. The freight network in the eastern states of Australia largely follows the coastline, with the exception of a major road and railway line to Mt Isa in Queensland and a railway line to Broken Hill and then onto South Australia. Western Australia is connected to the eastern states via a road and rail network in the south and a road across the north. A road and railway line connects Darwin to Adelaide.

¹ Shipping is not a major focus of this report, with ports infrastructure being considered in a separate study commissioned by Infrastructure Australia.

Australia’s freight network should not be considered in isolation to passenger transport. The two continuously overlap and share much common infrastructure, with improvements to the national freight network having the potential to increase passenger traffic safety and reduce congestion.

Figure 2.1

AUSTRALIA’S FREIGHT NETWORK



Source: Department of Transport and Regional Services 2004.

Freight modes

There are four main modes for transporting goods within the Australian freight network — rail, road, shipping and air. To varying degrees these modes are substitutes — much freight moved by road can also be moved by rail, sea or air. The choice of specific freight mode is influenced by factors such as:

- nature of the goods (bulk or non-bulk commodities)²;
- perishability and fragility;
- weight and volume;
- timeliness and reliability;
- service availability and frequency;

² Freight is often categorised as ‘bulk’ (generally involves large quantities of homogenous products, typically liquid or crushed solid material, transported en masse, and without packaging) or ‘non-bulk’ (generally includes heterogenous goods being moved between dispersed locations and goods that are containerised or other unitised freight) (ABS 1994). Apart from food, bulk freight tends to be relatively non-perishable and non-fragile whereas non-bulk freight varies in density, perishability and fragility.

- distance to be transported; and
- cost (which is influenced by the above factors).

In many cases specific modes are nearly always chosen to transport certain cargoes. For example, perishable and high value commodities are typically more time sensitive, making road or air the more frequent choice.

Rail

Rail is best suited for carrying heavy bulk commodities with regular, large volumes and long-haul cargos. Nearly half (48 per cent) of Australia's bulk freight task is transported by rail (BTRE 2009a). This is mainly due to the large volumes of coal and iron ore associated with mining operations integrated with rail transport. Rail is unable to exploit scale-induced cost advantages in urban areas due to the relatively low volumes and dispersed nature of most urban freight tasks.

Rail has been losing market share (but generally maintaining volume) on the shorter, predominantly non-bulk, north-south freight corridors, where road freight dominates. These routes have been the principal focus of the debate about road-rail price neutrality, although the two modes are increasingly competing for bulk freight in other regions (PC 2006). While there is competition between rail and road on the long-distance non-bulk freight line-haul segment, rail freight is typically dependent on road freight transport for the pick-up and delivery of freight at intermodal terminals (BTRE 2009d).

Road

Since the early 1960s, the cost effectiveness of road freight has improved markedly. This improvement is a result of efforts to improve road vehicle productivity and road infrastructure quality, the gradual removal of regulations restricting road freight carriage, alongside an exponential growth in interstate trade (BTRE 2009a).

Road movement dominates the growing inter-capital non-bulk freight market. Non-bulk freight is predominately carried by road, being significantly more diverse and complex than bulk freight with respect to distribution networks, packaging and delivery requirements. Road is usually the most effective mode in urban areas, due to the combination of often dispersed origins and destinations, comparatively short distances and small shipment volumes. Outside urban areas, road is often the only available freight transport option.

Compared to rail, road freight offers significant flexibility, and is especially suited to carrying perishable, fragile or time-sensitive freight. Together with improved on-board communications, this flexibility has facilitated the use by business of just-in-time stock management, smaller inventories and door-to-door delivery, requiring more frequent and generally smaller, shorter-haul deliveries (PC 2006).

The productivity of road transport has improved with the introduction of articulated trucks with higher capacity, such as B-doubles and now B-triples (PC 2006). In addition, semi-trailers and B-doubles fitted with quad axle groups can carry heavy loads safely on a defined road network. The wider adoption of quad axle groups on semi-trailers and B-doubles form part of the Council of Australian Governments' (COAG) national reform agenda for transport.

Because fewer trucks are needed to move the same load, B-triples have the potential to reduce overall road wear. Two B-triples can do the work of three B-Doubles or five semi trailers. This extra capacity helps ease seasonal industry peaks and potentially shorten queuing times at freight centres. In addition, investment cost is low for the B-triple as it uses existing B-double trailers (NTC 2007). It is important to note, however, that sections of the broader community have expressed concerns about the safety of B-triples. Even in the absence of significant accidents, this public concern, in itself, represents a negative externality.

Sea and air freight

Sea and air are critical components in the movement of Australia's diverse freight task, mainly in international trade. Hence, they are driven mainly by the international freight supply chain.

A large proportion of sea freight (measured in tonne kilometres) comprises the transport of dry bulk commodities (for example, mineral ores and coal) and liquid bulk commodities (for example, crude oil and petroleum products), generally over very long distances.

On the other hand, air freight is typically characterised by low volume/high value and highly time sensitive products, such as express parcels, medical supplies, live seafood and high value technology parts. There is also an air freight market that carries larger, specialised equipment and products (DOTARS 2002).

Freight network nodes

Within the freight network, the points where network components intersect, or where the network terminates, are known as nodes. Nodes may include ports, airports, rail yards, intermodal terminals, manufacturing activity, warehouses and distribution centres. Nodes representing intersection points between freight modes (e.g. ports and intermodal terminals) are particularly important for the efficient operation of the freight network (see Box 2.1). These nodes enable the most appropriate transport mode to be used for different facets of the freight task.

Box 2.1

INTERMODAL TERMINALS

In recent years, an important feature of the Australian freight landscape is the increased ability of freight to be moved using different modes. This has largely been achieved through the development of intermodal terminals. Intermodal terminals generally have one of two markets:

- international imports and exports (the port-oriented system); or
- interstate movement of non-bulk cargoes (the national system — see Figure 2.2).

These roles are not mutually exclusive, with a number of intermodal terminals servicing both markets.

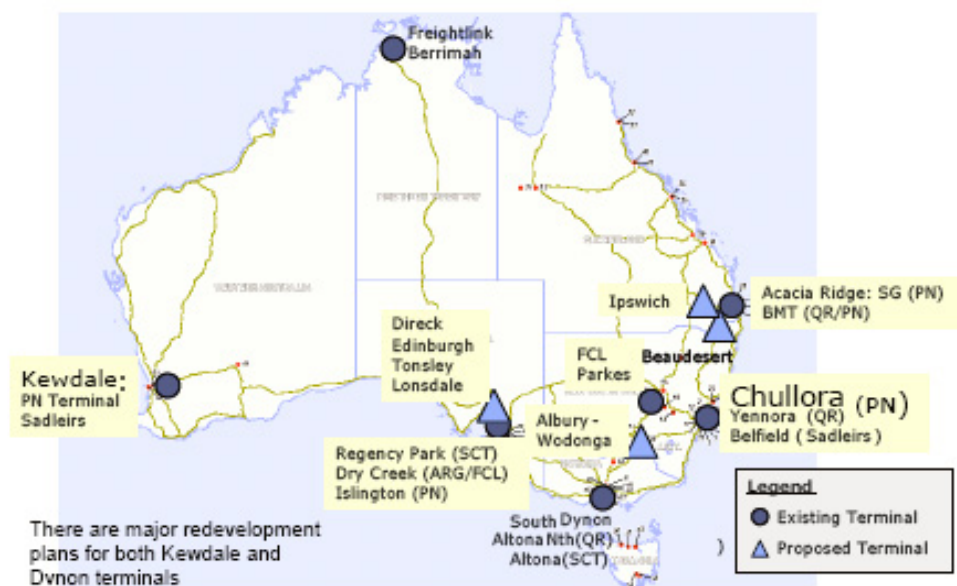
Intermodal terminals combine the flexibility of road operations with the linehaul efficiency of rail transport. Furthermore, these nodes are able to use sea transport to extend the transport chain beyond the geographical limits of the Australian continent.

Efficient intermodal terminals — both inland and at ports — are important for the future development of the rail industry, as well as containing the growth of road freight movements by encouraging modal shift.

Source: Meyrick and Associates and Arup 2006

Figure 2.2

DOMESTIC INTERMODAL TERMINAL SYSTEM



Source: Meyrick and Associates and Arup 2006

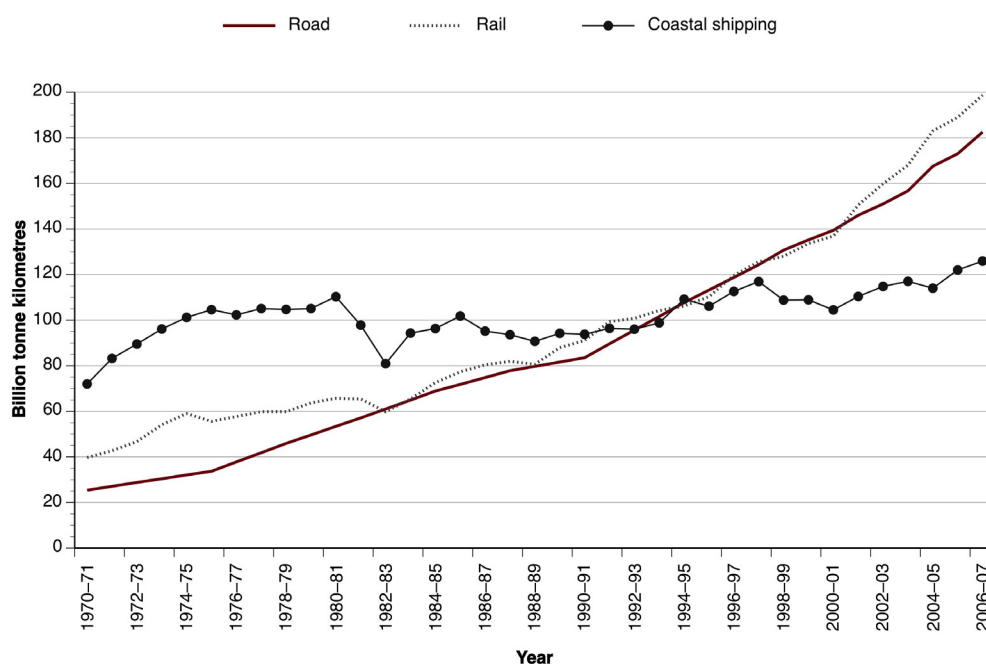
2.2 Current Australian freight movements

The contribution of road, rail and coastal shipping to Australia’s total freight task from 1970-71 to 2006-07 is detailed in Figure 2.3. Historically, coastal shipping has been the preferred mode of transport, transporting 52 per cent of total freight in 1970-71. At this time rail transported 29 per cent of all freight, with road accounting for the remaining 19 per cent. Since the early 1970s there has been a marked increase in road and rail freight movement, with coastal shipping increasing only slowly. In 1993-94, the total freight task was split evenly between the three different modes. Since then, road and rail freight have exceeded coastal shipping (in terms of tonne kilometres), being responsible in 2006-07 for 36 per cent and 39 per cent of total freight movements, respectively.³

³ The metric, tonne kilometres, concurrently records both the distance freight is transported and weight.

Figure 2.3

FREIGHT TRANSPORT BY MODE, 1970-71 TO 2006-07



Source: BTRE 2006

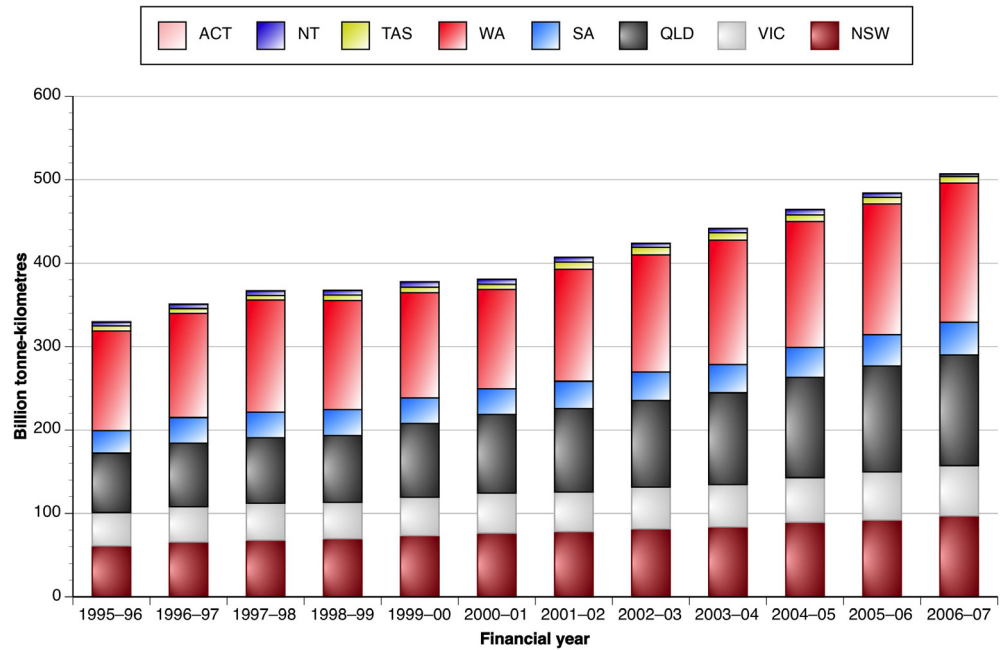
Figure 2.4 details freight activity in Australia, by state from 1995-96 to 2006-07.⁴ In 2006-07, total freight transported amounted to 507 billion tonne kilometres. The total freight task has almost quadrupled since 1970-71, with the majority of the increase occurring since the mid 1980's.

In the year 2006-07, almost a third of total domestic freight activity was undertaken within Queensland. Taken together, Queensland and Western Australian account for more than half of the total domestic freight task, which is attributable to the large movements of coal and iron ore in these two states.

⁴ It is important to note that there has been no consistent measure over time of total road or rail freight movements by state within which the freight is moved (BTRE, 2006).

Figure 2.4

FREIGHT ACTIVITY BY STATE

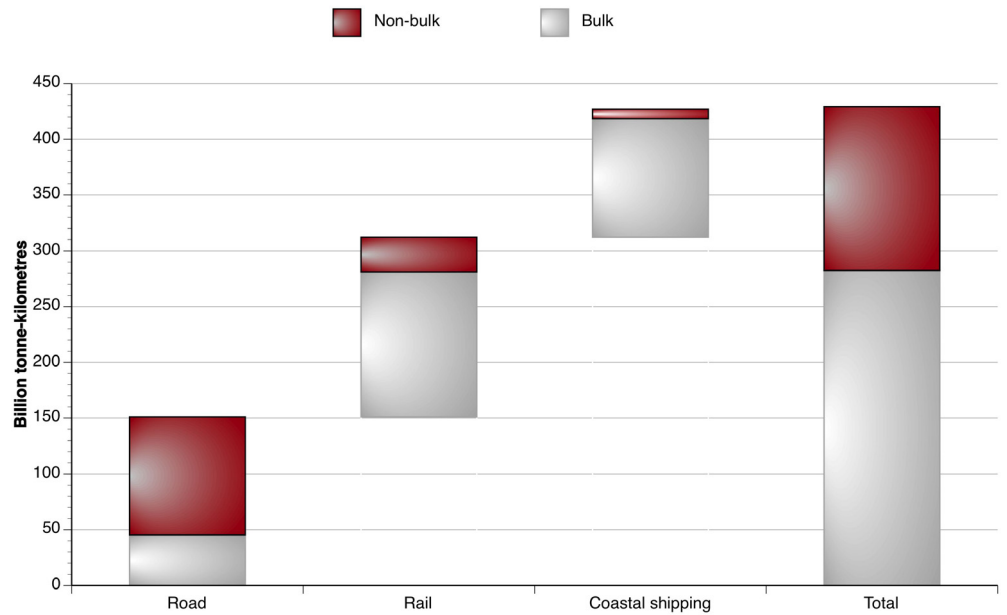


Source: BTRE 2009a

The majority of the freight movement within Australia comprises bulk products, making up 66 per cent of the total freight moved in 2002-03 (measured by tonne kilometres). Bulk products are moved largely by rail and coastal shipping, comprising only 30 per cent of the total freight moved by road (see Figure 2.5).

Figure 2.5

FREIGHT ACTIVITY BY MODE AND TYPE, 2002-03



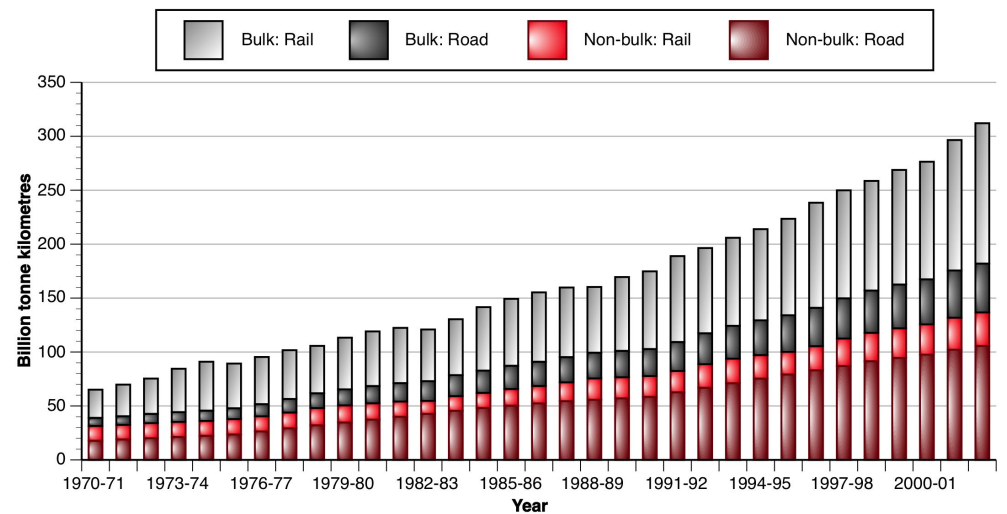
Note: Data on tonnage of goods moved by domestic air freight data are not currently available. Latest data available on all three modes is for 2002-03.

Source: BTRE 2009a

A key feature of the last 20 years is that the distribution of bulk and non-bulk freight between road and rail has been relatively stable — in 1981-82, of the freight carried by rail 56 per cent comprised bulk and 44 per cent comprised non-bulk freight, with an identical distribution in 2002-03. The distribution between modes for freight carried by road and rail has also remained stable — in 1981-82, road carried 47 per cent of this freight, and 48 per cent in 2002-03. The key factor that has changed over this time has been volumes (see Figure 2.6).

Figure 2.6

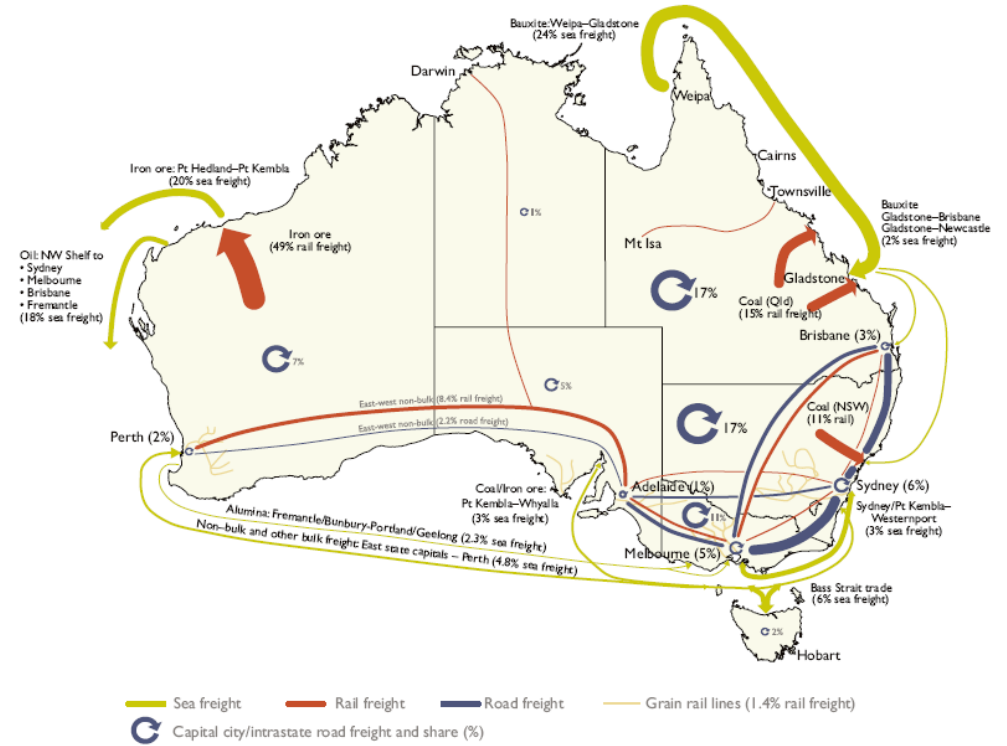
BULK AND NON-BULK FREIGHT BY ROAD AND RAIL



Source: BTRE 2009a

Figure 2.7 brings together the above statistics to provide an overview of Australia’s major road, rail and sea freight tasks in 2006–07. The figure illustrates the relative significance of bulk freight in the total freight task, particularly for rail. The diagram also highlights the dominant role of road in south-eastern Australia.

Figure 2.7
MAJOR AUSTRALIAN DOMESTIC FREIGHT MOVEMENTS, 2006–07



Note: Lines widths indicate relative freight volume (tonnes), percentages are the share of the total modal freight task (tonne kilometres).

Source: BTRE 2009c

The magnitude of Australia’s freight task is exemplified by the case of one of Australia’s largest retail companies, Woolworths Limited (see Box 2.2). Woolworths is required to maintain a national supermarket network through the ongoing distribution of fresh produce and other goods.

Box 2.2

CASE STUDY: WOOLWORTHS LIMITED

Woolworths Limited has a substantial task to deliver goods, particularly fresh produce, to nearly 3,000 stores across Australia. Many of the goods sold in Woolworths must travel thousands of kilometres from the point of origin to place of sale.

Woolworths services the supermarket network using 3,000 vehicles making 25,000 movements each week. Overall 400 million kilometres are travelled each year.

To service the many stores operated by Woolworths, there are 12 supermarket distributions centres located around Australia, including three in each of Sydney and Melbourne, along side a number of third-party logistics providers.

Reflecting the urbanised nature of Australia's population, around 80 per cent of Woolworths' freight task is in metropolitan areas, meaning that urban infrastructure is a key determinant of logistics efficiency. The freight task is compounded by store curfews and delivery restrictions. In Sydney, 45 per cent (67) of stores have curfews limiting deliveries to peak hours.

Source: Thomas 2009

International freight

The movement of freight into and out of Australia represents an important component of the freight task. Indeed, before leaving Australia by either sea or air, or after arriving, freight must often travel significant distances domestically.

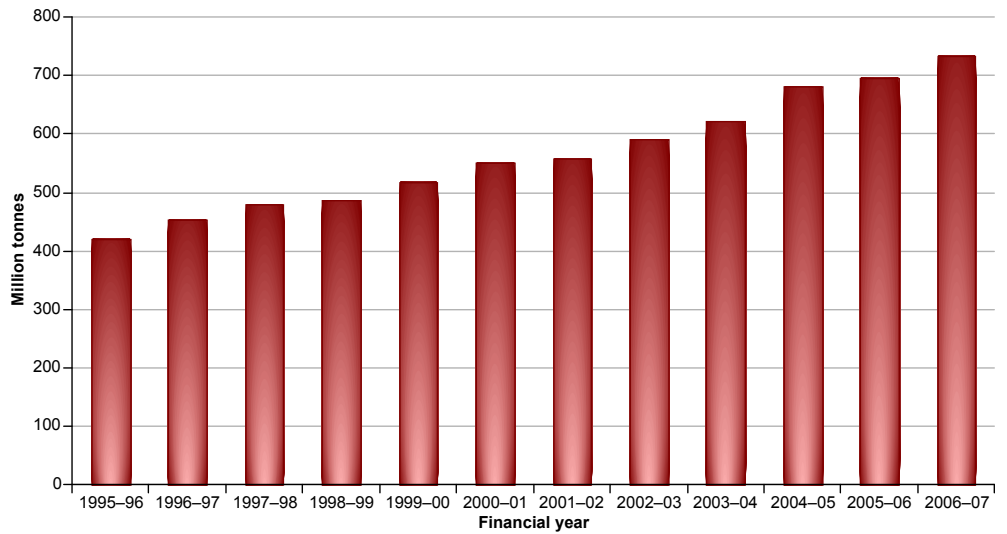
Maritime transport has long been the main mode for international freight, carrying over 99 per cent of total import and export trade in goods by volume. In 2002–03, these totalled over 596 million tonnes. Although the air transport component is small in volume, it constitutes approximately 26 per cent of the value of the total trade in goods, amounting to \$256 billion in 2002–03 (BTRE 2004).

Sea freight

Total sea freight imports and exports from 1995-96 to 2006-07 are detailed in Figure 2.8. Total freight increased from 420 million tonnes in 1995 to just over 733 million tonnes in 2006-07.

Figure 2.8

TOTAL FREIGHT BY SEA (1995-96 TO 2006-07)

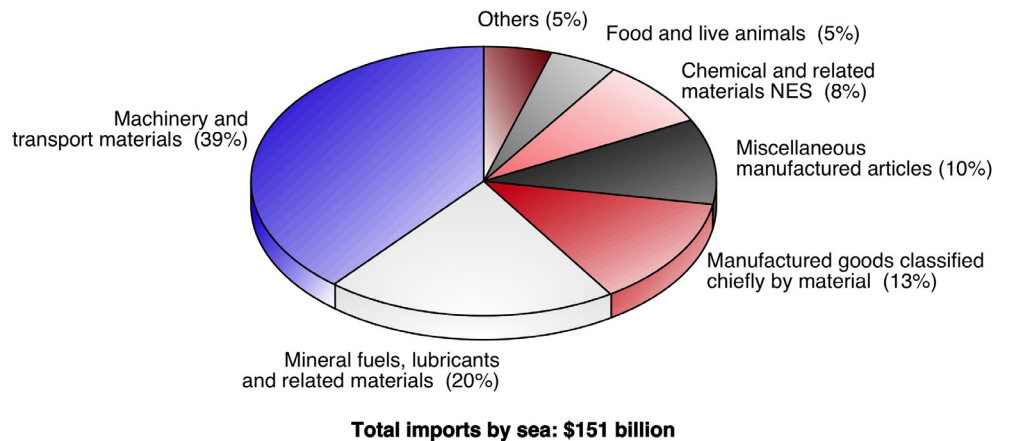


Source: BITRE 2009b

Figure 2.9 details Australia’s sea imports by category and value in year 2007-08, totalling \$151 billion. The leading group is machinery and transport materials, comprising 39 per cent of total imports (\$59 billion). The second largest group is the mineral fuels, lubricants and related materials category (20 per cent or \$31 billion).

Figure 2.9

STRUCTURE OF AUSTRALIA’S INTERNATIONAL SEA FREIGHT — IMPORTS, 2007-08



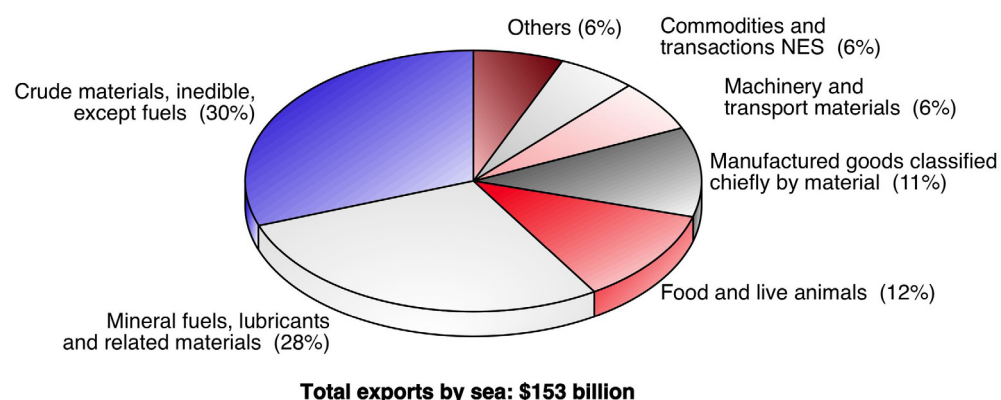
Note: 'Others' includes animal and vegetable oils, fats and waxes, beverages and tobacco, crude material (excludes fuel, inedible) and commodities and transactions not elsewhere specified.

Source: BTRE 2009c

Figure 2.10 illustrates the breakdown of Australia’s sea exports by category and value in the year 2007-08, which totals approximately \$153 billion. The leading group is crude materials, contributing 30 per cent of total exports. This group consists mainly of iron ore and concentrates (44 per cent or \$46 billion). The second largest group is the mineral fuels, lubricants and related materials category (28 per cent or \$43 billion), which primarily consists of coal, coke and briquettes (\$25 billion).

Figure 2.10

STRUCTURE OF AUSTRALIA’S INTERNATIONAL SEA FREIGHT — EXPORTS, 2007-08



Note: 'Others' consists of animal and vegetable oils, fats and waxes, beverages and tobacco and chemical and related materials not elsewhere specified.

Source: BTRE 2009c

Air freight

Air freight is important for the movement of high value and time sensitive products. BTRE estimates indicate that in 2006, total imports moved by air accounted for less than 1 per cent by weight but just below 30 per cent when measured by value. In the same year, the value of air freight was approximately \$135,452 per tonne compared to sea freight which was just under \$1,702 per tonne (BTRE 2009e).

Table 2.1

INTERNATIONAL FREIGHT MOVEMENTS: SEA AND AIR

Mode	Total weight (billion tonnes)	Total value (\$ billion)	Average value per tonne	Per cent of total tonnage	Per cent of total value
Imports					
Sea	75.4	\$128.3	\$1,702	99.47%	70.24%
Air	0.4	\$54.4	\$135,452	0.53%	29.77%
Exports					
Sea	642.3	\$137.8	\$215	99.96%	81.57%
Air	0.3	\$31.1	\$110,969	0.04%	18.43%

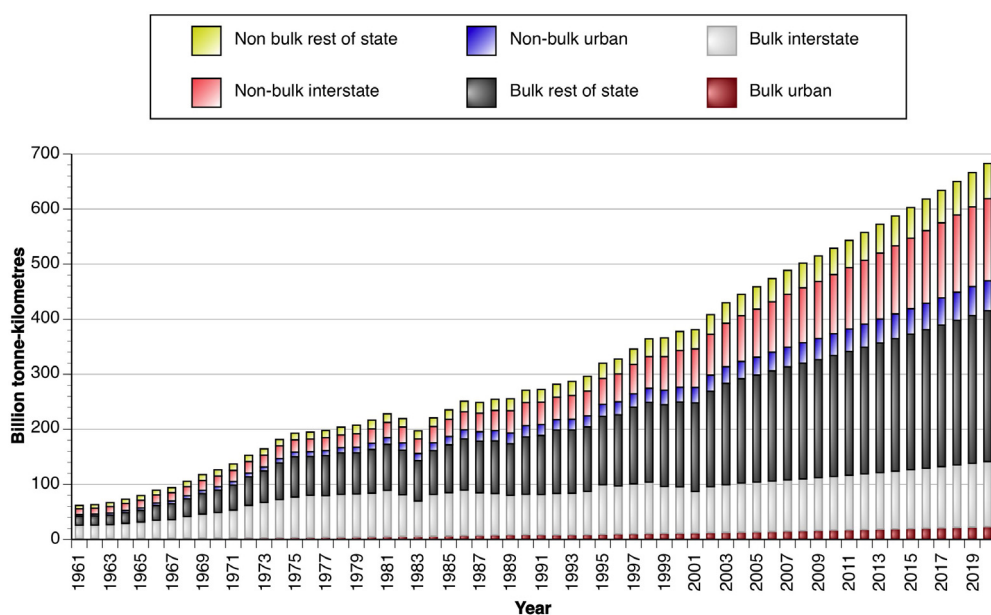
Source: BTRE 2009e

2.3 Outlook for freight movement in Australia

Figure 2.11 shows the estimates from 1961 to 2003, and forecasts of the Australian domestic freight task to 2020. Total freight movement in Australia is projected to increase by 59 per cent in billion tonne-kilometre terms between 2003 and 2020, with an average annual growth rate of 2.8 per cent. Non-bulk freight is projected to increase by 82 per cent in tonne-kilometre terms between 2003 and 2020 with an average of 3.6 per cent per year.

Figure 2.11

ESTIMATES AND OUTLOOK OF THE AUSTRALIAN DOMESTIC FREIGHT TASK, 1961-2020



Source: BTRE 2006

Although total domestic freight is projected to increase, this trend is slowing, as the projected average annual growth rate of 2.8 per cent is lower than the 3.4 per cent average annual growth rate experienced between years 1985 and 2003.

Future freight by mode

Domestic freight for all modes is projected to grow, with road experiencing the highest growth at an average annual rate of 3.8 per cent (Table 2.2). Projections do not consider the potential for rejuvenation of rail on north-south routes, which may increase rail’s share of freight (BTRE 2006).

Freight by road and rail is projected to grow at a lower rate compared to the historical growth rate of 4.8 per cent and 4.5 per cent, respectively. On the other hand, freight by sea and air is forecasted to show higher average annual growth rates between year 2003 to 2020 at 2.1 per cent and 3 per cent, respectively.

Important ‘drivers’ in these forecasts include expected growth in gross domestic product and reductions in freight rates.

Table 2.2

DOMESTIC FREIGHT GROWTH RATES BY MODE

	Annual growth rate (1985-2003)	Annual growth rate (2003-2020)
Road	4.8%	3.8%
Rail	4.5%	2.2%
Sea	1.0%	1.9%
Air	2.5%	3.0%

Source: BTRE 2006

Chapter 3

Why Australia needs a freight network strategy

Key points

The movement of freight is vital to the Australian economy and community. Regrettably, a number of factors constrain the efficient operation of Australia's freight network. These include:

- *transport policy and regulation — including a lack of strategic planning, freight rights relative to passengers, inappropriate access pricing, and inconsistent State and Territory regulations;*
- *broader regulatory issues — such as land-use planning, labour availability and environmental regulation; and*
- *data measurement and analysis — particularly inadequate productivity measurement, use of network analysis, information and communication technology, and a lack of a universal approach to forecasting demand.*

The impact of these problems primarily arises in the forms of congestion and capacity constraints — i.e. where demand for freight infrastructure outstrips supply. The BTRE estimates that the avoidable costs of urban congestion were \$9.4 billion in 2005, and will rise to \$20.4 billion in 2020. Furthermore, Access Economics estimated that between 2002 and 2007 Australia lost \$17 billion of national income through lost mineral market share attributable to capacity constraints.

The development of a national freight network strategy could help address these challenges and thus reduce associated economic costs.

As the previous chapter highlighted, freight is important to Australia. As a large continent, with a relatively small and dispersed population base, an efficient system of distributing goods is necessary to underpin achievement of the country's economic and social objectives.

Unfortunately, a number of issues constrain the efficient operation of Australia's freight network. There is no one solution to addressing these problems. Rather, multiple approaches from government, industry and broader society are required. One measure, however, that would likely help mitigate the problems affecting the freight network, is the development of, and demonstrated government support for, a national freight network strategy.

The remainder of this chapter will first identify the importance of the national freight network, followed by exploration of the various challenges facing the network. Subsequently, it will highlight why a national freight network strategy is required to address these challenges.

It is important to note that this chapter will not seek to comprehensively examine the problems affecting the national freight network. Such analysis has been undertaken elsewhere.⁵ Rather, this chapter provides an overview of the importance of the Australian freight network, alongside commonly identified problems.

3.1 Importance of Australia's freight network

Australia's freight network has a role to play in the generation of almost every component of Gross Domestic Product (GDP), including raw inputs for production and construction, final goods for consumption, exports and imports. Without a freight network it would not have been possible for the Australian economy to grow in the manner in which it has.

Ongoing improvement in the productivity of the freight network is particularly important for the Australian economy. The geographic location and demographic characteristics of the Australian economy increases the difference between the producer price and purchaser price of goods in Australia.⁶ In 2005-06, this margin is estimated to be 15.6 per cent. An efficient freight network is essential to minimising this gap, thus ensuring competitive pricing and maximum returns from Australia's goods. Further, efficient freight networks are important in facilitating competition in regional markets and exploiting regional comparative advantages.

It has been estimated that the transport and logistics sectors of the Australian economy contribute 14.5 per cent of GDP, with Australia's supply chain worth an estimated \$150 billion every year. The sector also contributes to the generation of more than one million jobs across approximately 165,000 companies (PWC 2009).

3.2 Existing problems in the national freight network

Identifying problems within the national freight network is not a new proposition. The challenges facing the sector have been documented most recently through:

- a high level report produced by the Business Council of Australia (BCA) in 2009 — entitled *Groundwork for Growth*, this report highlighted 'problems of poor planning, regulation, pricing, funding and a number of specific market and government failures' facing the freight sector;
- Infrastructure Australia's 2008 report to the Council of Australian Governments (COAG), which noted that 'the markets in which road, rail and shipping operate are distorted by prices that do not fully reflect costs, inconsistent regulatory regimes and tax and other incentives that compromise transport policy objectives';
- comments by the Minister for Infrastructure, Transport, Regional Development and Local Government, Anthony Albanese, in 2008 about the 'huge transport challenge' facing Australia; and

⁵ See: Business Council of Australia (2009); Exports and Infrastructure Taskforce (2005); Infrastructure Australia (2008); National Transport Commission (2009); Productivity Commission (2006); and Sinclair Knight Merz (2006).

⁶ The difference between producer price and purchaser price is referred to as a margin. Freight costs usually make up a significant component of Australian margins.

- the Productivity Commission’s 2007 inquiry report into road and rail freight infrastructure pricing, which found that ‘[c]urrent pricing and regulatory arrangements are hampering the efficient provision and productive use of road and rail infrastructure.’

This section identifies these problems, and groups them into the following categories: transport policy and regulation; the broader regulatory environment; and data, measurement and analysis.

Transport policy and regulation

The primary source of inefficiency in the national freight network lies with the policy and regulatory framework surrounding the transport sector. Problems arise relating to the planning of the freight network, the provision of policy guidance, and particular regulatory issues — including access pricing and jurisdictional inconsistencies.

Lack of strategic planning

Australia has a poor legacy of planning for future demand and infrastructure needs in the freight sector. As Infrastructure Australia noted in its 2008 report to COAG, ‘Australia’s infrastructure governance arrangements create an environment in which reactive, incremental policy approaches dominate... This leads to a tendency to wait until congestion, bottlenecks, risks or inefficiencies reach a critical point before acting, leading to sub-optimal outcomes’ (Infrastructure Australia 2008).

As this statement implies, governance is a key reason why Australia’s freight network suffers from a lack of strategic planning. Responsibility for particular modes and elements of the network is divided across different levels of government, government-owned corporations, and private entities. Consequently, strategic planning tends to be limited in scope (according with areas of responsibility) and not based on the network as a whole.

Freight rights relative to passenger services

There is little dedicated road and rail freight infrastructure in Australia. In most instances, road and rail freight operators share infrastructure with passenger services. This situation exists largely because of cost — it is generally more cost effective for transport infrastructure to be used by both freight and passenger services.

The problem with this situation is that, due to legislative requirements and political pressures,⁷ passenger services generally enjoy greater rights over the use of shared infrastructure — often at the expense of freight and even in cases where freight movements would lead to a greater net welfare gain. As the NTC (2009) noted in its study of rail freight productivity:

Most rail track in urban areas is shared by passenger and freight services. The performance of the passenger sector can therefore influence rail freight efficiency. Passenger trains, generally speaking, have priority over freight trains. Where rail network capacity is constrained, freight operators have reduced access to rail paths and freight rail performance is impacted (e.g. in Sydney there is a curfew on freight trains during peak hours).

⁷ As one stakeholder noted, ‘freight can’t vote’.

Conceptually, a market-based solution would see access to the transport network allocated on the basis of price. However, this becomes politically problematic when assets are both publicly owned, and used to move large numbers of commuter passengers. In some instances a cost-effective solution may be to develop dedicated freight corridors, which could also be accessed by passenger transport, to the extent this would be compatible.

Inappropriate access pricing

Differences in road and rail access pricing, and in particular the mismatch between heavy vehicle user price and marginal cost, is currently creating distortions in freight markets and clouding price signals to potential public or private investors. There is also varying rail access and pricing regulation across states, which increases the regulatory burden, and rail access prices may not always lead to the most efficient outcome.

Inconsistent transport regulations

Currently, regulations between states are inconsistent, forcing the transport sector to use freight transport acceptable in all states (that is, a ‘lowest common denominator’ approach) rather than the most efficient transport technology available. As Infrastructure Australia (2008) noted in its report to COAG:

There is a lack of uniformity in regulations for land transport across the nation. While significant elements of road and rail freight are national operations, there are separate rail safety regulators and communications systems in each state – in some cases driving up costs, creating inefficiencies and causing confusion. Inconsistent State and Commonwealth road safety, registration and licensing laws also hinder seamless and efficient transport operations. Transport companies operating on a national level carry the overheads associated with these different licensing, safety and communications regulations.

This regulatory inconsistency is not just based upon decisions made by governments alone, but may also comprise a regulatory response to decisions made by operators, such as the implementation of new rail equipment. These inconsistencies need to be addressed to support the operation of a national network.

Broader regulatory issues

The performance of the national freight network is not just determined by the relevant policy and regulatory frameworks. A number of broader regulatory issues also influence the efficiency of freight movement across the country. The three most important of these are land-use planning, labour availability, and environmental regulations.

Land-use planning

Land-use planning has a significant impact on freight patterns. For example, dispersing industrial zones as a consequence of urban planning policy can lead to increased road freight across the urban centre. Furthermore, the development of vital freight infrastructure can be hampered by ‘inadequate early planning and reservation of infrastructure corridors’, leading to the ‘encroachment by housing developments or alternative land uses’ (Infrastructure Australia 2008).

Labour availability and skills

Labour is a significant input into Australia's freight transport sector, which ranges from owner-operators, to large national employers. The current freight transport sector is constrained by labour availability, with, for example, 24-hour freight operation constrained by the cost of after-hours labour. Workforce planning and skills issues to achieve better recruitment, training and work practices need to be addressed.

Environmental regulations

The problems for freight resulting from environmental regulation are twofold. First, environmental regulation is primarily the responsibility of the States and Territories. Freight operators are thus confronted with inconsistencies between regulatory requirements for noise and air quality across jurisdictions. Second, inconsistencies also exist in how environmental regulations interact with different freight modes. For example, rail freight has stricter noise restrictions than road freight, whereas truck noise restrictions for the 'open road' are very different to those in urban areas.

A further challenge facing the freight sector in the future is the likely introduction of an Emissions Trading Scheme (ETS). Where viable options exist, the introduction of a price signal for carbon emissions will encourage change from relatively emission intensive modes such as road to lesser emission intensive modes such as rail and shipping. This could not only increase the market share of freight by rail and shipping operators, but also lead to further congestion of rail infrastructure — especially if the ETS also encourages a greater shift towards rail passenger services.

Data, measurement and analysis

For both industry and government, effective planning and monitoring the freight network requires appropriate mechanisms for measuring and projecting the performance of the network. Current data and measurement systems in the freight sector, however, are generally inadequate. At the same time, advancements in information technology are altering the operating landscape.

Productivity measurement

There is a lack of reliable and available data about freight sector productivity to undertake meaningful analysis. As the NTC (2009) recently stated regarding the rail sector: 'there is currently no agreed measure of freight rail productivity for different rail market segments in Australia. As a result, it is difficult to measure the impact of current regulatory arrangements, market changes, technical innovations and investment choices.'

Use of network analysis

A useful tool in planning future freight infrastructure is network analysis. It can be applied by government or industry to assess which parts of the network are, or will be, facing capacity constraints. It is understood that submissions for funding from Infrastructure Australia in 2008-09 did not feature significant levels of network analysis. This includes proposals that intended to split corridors that are not at capacity and design strategies that would overcrowd freight corridors that are.

A related challenge is a lack of ‘overarching’ network analysis that would enable assessment of whether a proposal is the most critical across the entire freight network.

Developments in information technology

Recent developments in information technology have the potential to significantly alter the operating environment of the Australian freight network. One example is Intelligent Transport Systems (ITS), which are contributing to increased productivity in road freight. For example, the Intelligent Access Program is a national program using Global Navigational Satellite Systems to monitor heavy freight vehicles. The program is aimed at ensuring compliance with road use regulations and has assisted in reducing costs associated with heavy vehicle congestion. Connect Freight is another ITS initiative being trialled in Victoria. Connect Freight is an information transfer system that sends alerts to road freight operators regarding average truck processing times, the status of critical queues, or information surrounding road works. Connect Freight has assisted fleet managers make better decisions and reduce the time trucks are idle at a distribution centre (Department of Transport [Victoria] 2008).

It is likely that ITS will play a larger role in freight movement into the future. To facilitate this, a coordinated policy led approach may be required to improve technology in the freight sector. More broadly, for technological improvements to yield their full potential it is imperative that they are considered in the broader planning context. As an example, if the application of high efficiency vehicles is to increase, then planning regulations must ensure that bridges or critical points along the freight network can support their load.

Another relevant development is the analysis opportunities that have arisen due to the expanding processing power of modern IT systems. This development should allow interested parties to analyse the transport system with greater accuracy and reliability — improving, in turn, their ability to identify gaps in the network and identify projects that are likely to more closely match capacity to demand.

Lack of a universal approach to forecasting demand

Forecasting the future freight challenge is inherently difficult and will depend on variables such as: population growth, demographic change, changes in wealth, fuel prices, labour rates, demand elasticities, government policy, and industry structure and location, to name a few. Forecasts require assumptions to govern these key parameters into the future. However, there is currently no consistent approach as to how these assumptions should be made. Further, there is very little accessible, reliable data to inform forecasting assumptions. Therefore, different freight proposals are made using different forecasting assumptions with the results varying greatly.

Further, very few proposals forecast at what point in time the infrastructure will become economically viable or when the infrastructure will exceed its prospective capacity.

Forecasts are critical to understanding the future freight need and the design of any future freight strategy. Such inconsistency in freight forecasting makes planning from a government perspective very difficult.

Symptoms of the problems affecting the freight network

The problems affecting the freight network detailed above primarily arise in the form of capacity constraints. These occur when demand for freight infrastructure outstrips supply. Capacity constraints can lead to congestion — delays in the movement of both passenger and freight transport — and bottlenecks at intermodal terminals (e.g. the queuing of cargo ships at ports).

Costs of congestion and capacity constraints

Capacity constraints impose significant costs on the Australian economy. For example, the Bureau of Transport and Regional Economics (BTRE 2007) estimated that the avoidable costs of urban congestion were \$9.4 billion in 2005, and would rise to \$20.4 billion in 2020. Sydney and Melbourne are forecast to have the highest per capita congestion costs, and Brisbane and Perth have the greatest growth in per capita congestion costs.

The avoidable congestion costs forecast by the BTRE are due to delay, trip variability, vehicle operating expenses and motor vehicle emissions (due to congestion) being above the economic optimum level for the relevant network. Of the total \$9.4 billion of avoidable congestion costs in 2005, \$3.5 billion comprises private time costs, \$3.6 billion is business time costs, \$1.2 billion is in extra vehicle operating costs and \$1.1 billion is in extra air pollution costs.

Capacity constraints more broadly can impose significant costs. Access Economics (2008), for example, estimated that Australia lost mineral market share between 2002 and 2007 equivalent to 1.6 per cent of national income, or \$17 billion at current prices, due to supply infrastructure not being able to keep up with demand.

The challenges faced by the Australian freight network are exemplified by the Port of Melbourne (see Box 3.1). One key feature of this case study is efforts being pursued to overcome, or at least manage, these challenges.

Box 3.1

CASE STUDY: PORT OF MELBOURNE'S KEY CHALLENGES AND STRATEGIES

Background

The Port of Melbourne handles around 38 per cent of the nation's container trade with more than 3,400 commercial ship calls to the port each year, making it Australia's largest container and general cargo port. It handles nearly \$75 billion in international and coastal trade each year and is estimated to contribute more than \$2.5 billion every year to the Victorian economy. The Port of Melbourne Corporation (PoMC) owns and manages around 510 hectares of port land including 34 commercial berths at five docks and at river wharves.

Key challenges

Driven largely by population and economic growth, the long-term freight task at the Port of Melbourne is expected to quadruple to around 8 million TEU (twenty-foot-equivalent units) by 2035. A significant and growing proportion of Victoria's freight movement is centred about Port of Melbourne, making the existing port infrastructure insufficient to accommodate the predicted growth in freight volumes. In addition to increasing the Port's capacity, it also requires better integration with Victoria's road and rail infrastructure and freight terminal facilities to ensure freight can be moved quickly and efficiently with minimal adverse social and environmental impact.

Channel Deepening

The recently completed Channel Deepening Project addresses the draught constraint, enabling greater access for bigger and more efficient ships, which will result in lower freight costs to users. Prior to its completion, nearly 54 per cent of container vessels using the port were unable to load to full capacity due to channel depth restraints.

Rail and road access to ports

As the port is a part of the national freight network, the future strategic development of transport links is a high priority for the PoMC. To achieve the government's target to move 30 per cent of state-wide port-related freight by rail by 2010, PoMC is working closely with customers and stakeholders on a number of projects to re-establish rail links to the Port of Melbourne in order to minimise congestion at the port and improve overall efficiency of the freight and logistics sector. For example, rail was reintroduced to Swanson Dock West in February 2003. Other projects include improvements to existing rail facilities at Swanson Dock East and the potential reinstatement of rail to Webb Dock, south of Yarra River.

A recent initiative is the completed Dynon Port Rail Link project, which is a 24 hour direct, uninterrupted rail link into the Port of Melbourne. This link will ease a major road and rail bottleneck and significantly improve the port's capacity to receive and dispatch freight directly by rail. This link has increased efficiency and profitability of freight operators.

To facilitate increased rail activity, a current project is the construction of a new Melbourne International Terminal (MIT) at the wholesale market sites on Footscray Road in the Dynon-Ports precinct. When completed, the terminal will significantly improve freight efficiency by enabling trains to be loaded and unloaded, and containers moved more efficiently between the rail networks and stevedoring terminals.

A strategy currently in development to improve port access, efficiency, productivity and investment is a Road Freight Access Charge for trucks accessing the major terminals at the Port of Melbourne.

Development of the Metropolitan Freight Terminal Networks (MFTN)

The Victorian Government has indicated intent to develop the MFTN, comprising a series of metropolitan Freight Terminals and key, high capacity transport links on the Principal Freight network. It is envisaged that the Port of Melbourne, integrated with a new Melbourne International Freight Terminal, will form a key part of the MFTN. Metropolitan Freight Terminals will be located with good access to rail and road connections, ensuring that the most effective and appropriate mode can be utilised as the network develops.

Source: Department of Transport [Victoria] 2009a, Department of Transport [Victoria] 2009b, Port of Melbourne Corporation 2009, Pallas 2009.

3.3 Need for a national freight network strategy

The problems affecting the national freight network detailed above are broad in scope. Despite this breadth, a commonality exists across the problems — the lack of a framework to guide freight-related decision-making in accordance with clearly defined, national objectives. In other words, a national strategy aimed at improving the freight network.

For instance, a national freight network strategy could be used to address transport policy and regulatory problems by:

- providing a process to identify widely-accepted objectives, the appropriate role of government (and each level of government), and a mechanism for addressing inconsistencies across jurisdictions;
- '[h]elping to ensure consistency in the application of policy principles across all transport subsectors and in pursuit of different objectives' (Lee and Hine 2008); and
- '[h]elping to identify gaps and shortcomings in existing policies and strategies, thereby flagging priorities for addressing them' (Lee and Hine 2008).

Likewise, a national freight network strategy could be used to address problems of a broader regulatory nature by providing:

- a process by which non-transport areas of government could inform the development of freight strategy; and
- a means to inform non-transport areas of government about freight objectives, principles and priorities — which will hopefully lead to greater alignment in approaches across government.

Lastly, a national freight network strategy could be used to address data and measurement problems by ‘providing the basis for a system of monitoring and accountability’, as well as the development of standards related to measurement, analysis, and forecasting (Lee & Hine 2008).

Chapter 4

Existing Australian freight policies

Key points

A number of jurisdictions have released policies aimed at reforming and rejuvenating components of the freight network. Despite the range of jurisdictional proposals, there is currently no strategy that provides guidance for Australia as a whole and all freight modes. It is this gap that a national freight network strategy would seek to fill.

Key learnings that arise from the existing freight policies (particularly the Victorian Freight Futures), as well as freight strategies recently developed in other countries, include:

- *objectives are generally framed around twin issues of efficiency (covering capacity, reliability and productivity) and sustainability (covering safety, environmental and social);*
- *policies/strategies generally lack frameworks for tracking progress in meeting objectives;*
- *the successful development of a freight network strategy requires a clear understanding — and internal acceptance — about the proposed roles and responsibilities of government and the private sector;*
- *a freight network strategy is likely to be more effective if it is closely linked with a broader transport strategy; and*
- *consultation of stakeholders in developing a freight strategy is advantageous not only from a good governance perspective, but also as a means of aligning industry investment and expectations with government planning.*

The importance of freight to the national economy is widely recognised, as is the sub-optimal nature of Australia's current freight system. Consequently, a number of government and industry bodies have developed policies (in the form of reviews, strategies and policy documents) aimed at reforming and rejuvenating the freight network. This chapter has three purposes in considering these existing policies.

First, to examine the gaps of the existing freight policies, with the intention of highlighting the need for a national freight network strategy.

Second, to highlight learnings from existing freight policies relevant to the development of a national freight network strategy.

Third, a case study of the Victorian freight network strategy, *Freight Futures* is closely examined. This strategy was chosen for closer examination because it is widely seen as the most advanced and comprehensive attempt at a freight network strategy in Australia. The case study of *Freight Futures* will provide information about the scope of the strategy, how it was developed, its acceptance by stakeholders, its key identified benefits, as well as learnings that may be relevant to the development of a freight network strategy.

In addition to the analysis of existing Australian freight policies, this chapter will also briefly examine a number of freight strategies recently developed in other countries — specifically, Canada, New Zealand, Scotland, South Africa and the United States. This analysis will also be used to identify learnings for the development of a freight network strategy in the Australian context.

4.1 Overview of freight policies and reviews

Table 4.1 provides an overview of freight policies released over the past five years. Existing policies range from documents considering aspects of a specific freight task at the national level, to considering freight movement in a small geographic area. Greater detail about all of the policies listed in Table 4.1 is provided in Appendix A.

It is important to note that Queensland and New South Wales are currently in the process of developing their own freight network strategies. The Queensland Government is intending to release the first part of its strategy in early-2010, while the New South Wales Government is intending to release its strategy in mid-2010.

Table 4.1

MAJOR FREIGHT POLICIES AND REVIEWS — 2005 TO PRESENT

Title	Organisation	Year
<i>Australia's Export Infrastructure</i>	Exports and Infrastructure Taskforce (for the Prime Minister)	2005
<i>Railing Port Botany's Containers</i>	Freight Infrastructure Advisory Board (for the New South Wales Department of Transport)	2005
<i>Twice the Task</i>	Sinclair Knight Merz (for the National Transport Commission)	2006
AusLink Corridor Strategies	Department of Transport and Regional Services and relevant State and Territory transport and infrastructure agencies	2007
<i>Southeast Queensland Regional Freight Network Strategy 2007-2012</i>	Queensland Transport and Main Roads	2007
<i>Switchpoint</i>	Rail Freight Network Review Committee (for the Victorian Department of Infrastructure)	2007
<i>Freight Futures</i>	Victorian Department of Transport	2008
<i>National Transport Policy Framework</i>	National Transport Commission	2008
<i>Southeast Queensland Intermodal Terminal Freight Study</i>	Queensland Transport and Main Roads	2008
<i>Freight Rail Productivity Review: Final Position Paper</i>	National Transport Commission	2009
<i>Groundwork for Growth</i>	Business Council of Australia	2009
<i>New South Wales Grain Freight Review</i>	Department of Infrastructure, Transport, Regional Development and Local Government	2009
<i>WA Grain Freight Review</i>	KPMG (for the Department of Infrastructure, Transport, Regional Development and Local Government)	2009
<i>Western Brisbane Transport Network Strategy</i>	Queensland Department of Transport	2009
Various Rail Infrastructure Strategies	Australian Rail Track Corporation	Various

Source: Allen Consulting Group

4.2 Coverage of existing freight policies

As Table 4.1 illustrates, there is a range of existing policies that seek to improve aspects of Australia’s freight network. Despite this breadth, however, there is currently no strategy that provides guidance for Australia as a whole and all freight modes. It is this gap that the proposed national freight network strategy would seek to fill. The remainder of this section will provide further detail about the gaps in the existing freight policies.

Geographic scope

For the most part, the existing freight policies are geographically limited in scope. Specifically, they tend to focus on:

- a sub-region (e.g. *Railing Port Botany’s Containers* is focused on metropolitan Sydney, while *Southeast Queensland Intermodal Terminal Freight Study* is centred on Southeast Queensland);
- a State/Territory (e.g. *Freight Futures* is the freight network strategy for the State of Victoria); or
- a particular transport corridor (e.g. the AusLink corridor strategies are focused on the corridors outlined in Box 4.1).

Box 4.1

AUSLINK CORRIDORS

- | | |
|---------------------------------|---|
| • Adelaide Urban corridors | • Perth Urban corridor |
| • Adelaide-Darwin corridor | • Perth-Adelaide corridor |
| • Brisbane Urban corridor | • Perth-Bunbury corridor |
| • Brisbane-Cairns corridor | • Perth-Darwin corridor |
| • Brisbane-Darwin corridor | • Sydney Urban corridor |
| • Melbourne Urban corridor | • Sydney-Adelaide corridor |
| • Melbourne-Adelaide corridor | • Sydney-Brisbane corridor |
| • Melbourne-Brisbane corridor | • Sydney-Dubbo corridor |
| • Melbourne-Geelong corridor | • Sydney-Melbourne corridor (including the Canberra connectors) |
| • Melbourne-Mildura corridor | • Sydney-Wollongong corridor |
| • Melbourne-Sale corridor | • Tasmanian corridor |
| • Mount Isa-Townsville corridor | |

Source: Allen Consulting Group

There are a number of existing freight policies and related reviews that have a national focus. These include:

- *Australia’s Export Infrastructure* — developed by the Exports and Infrastructure Taskforce, this report examined physical and regulatory bottlenecks affecting export trade across Australia;
- *Twice the Task* — developed by Sinclair Knight Merz for the National Transport Commission, this report proposed solutions to address the projected doubling of Australia’s freight task over the next 20 years;

- *National Transport Policy Framework* — this document, compiled by the National Transport Commission, seeks to provide an overarching framework for the development of transport policy across Australia;
- *Freight Rail Productivity Review* — developed by the National Transport Commission, this position paper seeks to improve freight rail productivity; and
- *Groundwork for Growth* — this policy document was developed by the Business Council of Australia to encourage government to address business concerns with Australia's infrastructure stock.

Considered collectively, the AusLink corridor strategies technically provide a national framework for reforming Australia's freight network system. Feedback from stakeholders suggests, however, that the utility of the corridor strategies as a source of national strategic guidance is limited. The primary concern is the seeming lack of consistency between the corridor strategies. Due to their varied authorship, these strategies have slightly divergent views about the strengths and weaknesses of existing infrastructure and possible modal solutions. Further, while the 21 corridor strategies have shared objectives, their priorities for action were formulated within a corridor-specific focus. The AusLink strategies thus do not have a complete appreciation of how identified freight problems and solutions 'fit' in either an inter-corridor or network context.

Modal focus

It is possible to divide the existing freight policies and reviews into two general categories. The first incorporates those policies that have their primary focus on one or two freight modes. Examples include:

- the Western Australian and New South Wales grain freight reviews, which primarily examined rail and road freight in relation to the grain industry;
- *Railing Port Botany's Containers*, which recommended how the New South Wales Government could meet its objective of increasing the rail share of freight throughput at Port Botany from 19.5 per cent to 40 per cent; and
- *Switchpoint*, which provides an outline for how the Victorian Government can establish a sustainable rail freight system in Victoria.

The second category encompasses those policies that have advised reforms relevant to all freight modes (i.e. rail, road, sea and air). These include:

- the AusLink corridor strategies;
- *Australia's Export Infrastructure*;
- *Twice the Task*;
- *Southeast Queensland Regional Freight Network Strategy 2007-2012*;
- *Freight Futures*; and
- *Groundwork for Growth*.

An exception to the categories described above is the *National Transport Policy Framework*. The focus of this document is on the entire transport system, comprising not only all freight modes, but passenger transport as well.

Strategic guidance

In all, there are four existing freight policies that have both a national focus and cover all freight modes. These comprise:

- *Australia's Export Infrastructure*;
- *Twice the Task*;
- *National Transport Policy Framework*; and
- *Groundwork for Growth*.

These documents, however, provide only limited strategic guidance for the future of the Australian freight network. *Australia's Export Infrastructure* and *Groundwork for Growth*, for example, were not developed with a specific freight focus. The scope of the former was bottlenecks affecting Australia's exports, while the scope of the latter was Australia's infrastructure stock more broadly. Furthermore, both documents are largely reactive — as opposed to strategic — in nature. That is, their proposed reforms are essentially solutions to identified problems, rather than actions developed within an articulated framework of government roles, objectives, principles and drivers of change.

The *National Transport Policy Framework*, meanwhile, is more of a strategic document; providing a clear sense of objectives, principles, and possible government policy levers. The document, however, has a broader transport focus, encompassing both freight and passenger movement. It is thus unclear whether the emphasis of the NTPF is appropriate or too expansive for guiding reforms to the freight network.

Twice the Task arguably provides the most strategic guidance of the existing freight policies. The document is limited, however, as it was specifically developed to address the projected doubling of Australia's freight task, rather than as a broader document to guide decisions relevant to Australia's freight network. Furthermore, the document lacks a consideration of what the appropriate role for government should be in the freight network.

4.3 Learnings for the development of a national freight network strategy

An analysis of the existing freight policies raises a number of broader learnings relevant to the development of a national freight network strategy. These include:

- objectives generally framed around twin issues of efficiency (covering capacity, reliability and productivity) and sustainability (covering safety, environmental and social);
- existing policies generally lack frameworks for tracking progress in meeting objectives; and
- the credibility of a freight strategy is dependent on the extent to which government supports and owns the proposal.

Objectives: enhancing efficiency and sustainability

A number of existing freight policies identify objectives that should drive government and industry action in reforming the freight network. After analysing and synthesising these policies, two general objectives emerge. The first of these is *improving the efficiency of the freight network*. As the *National Transport Policy Framework* states, this objective is about ‘getting the right operating asset (e.g. cars, trucks, trains, planes, ships) on the right infrastructure to meet the task of moving ... freight in the least cost manner with the greatest reliability and quality’. As this statement implies, improving the efficiency of the freight network incorporates the goals of:

- increasing freight productivity — to paraphrase the National Transport Commission (2008), this involves not only ‘increased investment in infrastructure, assets or other inputs, but [also] improvements in the way existing or new assets are used to provide [freight] services’; and
- improving ‘supply chain reliability’ (Department of Transport [Victoria] 2008).

The second general objective is *enhancing the sustainability of the freight network*. This objective aims to ensure that the network is planned and operated in a manner that:

- ‘maximises public safety outcomes’ (Department of Transport [Victoria] 2008) — that is, providing a freight system that meets Australia’s ‘economic objectives without killing or maiming its users’ (National Transport Commission 2008);
- is ‘consistent with viable, long-term economic and social outcomes’ (DOTARS 2004); and
- ‘protect[s] our environment and improve[s] health by building and investing in the efficient movement of goods ... which minimises emission and consumption of resources and energy’ (National Transport Commission 2008).

Policies lack frameworks for tracking progress in meeting objectives

In order for a strategy to be meaningful, it must provide some form of performance measures by which internal and external stakeholders can determine if the strategy has been successful — i.e. met, or is meeting, its objectives. For a strategic plan of a publicly traded company, such performance measures could be sales volume, market share and profit. For a freight strategy, such performance measures could be travel times, queue length and arterial capacity.

Very few of the existing policies provide a framework that would allow stakeholders to track the performance of the proposal in meeting its objectives. *Railing Port Botany’s Containers* comes the closest. This document was intended to provide guidance to the New South Wales Government in how it could meet its stated objective of increasing the rail share of container throughput to Port Botany from 20 per cent to 40 per cent.

Strategy credibility depends upon government support and ownership

A key reason why governments produce strategic plans is to provide external stakeholders with a degree of certainty about future government priorities and likely investment patterns. This certainty, however, is undermined if external stakeholders do not believe that the government ‘owns’ or is being guided by the strategy.

During consultations for this study, stakeholders noted that, in some cases, governments produced transport/freight strategies for perfunctory reasons (e.g. due to legislative requirements). The credibility of these documents is thus reduced, as industry has no confidence that the strategies in question reflect government intention.

Existing freight policies typically have not gained acceptance

Stakeholders consulted as part of this report noted that there have been frequent calls by industry for a national transport/freight strategy/policy/framework to address perceived problems with the transport/freight system. Despite the publication of a number of documents in answer to these calls, industry continues to request the development of strategies/policies/frameworks for the transport/freight sectors. This pattern suggests existing freight policies have not garnered sufficient acceptance to influence and drive reform of the freight network — due possibly to the perceived inadequacies of the documents, or the failure of governments to communicate and ‘own’ the policies.

Limited timeframes of existing freight policies

The existing freight policies generally suffer from two challenges associated with their timeframes. First, few provide any historical context of the issues that they are attempting to address, and the various evolutions that have occurred in the relevant freight network over the past 100 years. Such context would provide a better sense of:

- why the freight system is as it is today;
- what government actions have worked in the past; and
- how government intends to address issues that may have been constraining the system for decades (such as rail gauge standardisation) and whether more adventurous/generational changes are required, rather than incremental change.

Second, the timeframes to which the existing freight strategies apply are generally unclear. Such information should be provided, given that most types of freight infrastructure have a useful life of 30 years and greater.

4.4 Freight Futures case study

In 2008, the Victorian Department of Transport released *Freight Futures* — a freight network strategy for the State of Victoria. The ‘overarching purpose’ of this document is ‘to drive the development of an efficient, sustainable freight network for the future that balances the needs of the growing Victorian economy and population with the quality of life aspirations of the Victorian community.’ *Freight Futures* was developed in the context of:

- existing Victorian Government policies, strategies and reviews, including *Growing Victoria Together* (2001), *Melbourne 2030* (2005), *Victorian Ports Strategic Framework* (2004), *Keeping Melbourne Moving* (2008), *The Victorian Rail Freight Network Review* (2007), *Investing in Transport* (2008) and, more particularly, *The Victorian Transport Plan* (2008);
- other government initiatives — *Freight Futures* aims to complement and support other government initiatives and programs, such as Local Government transport plans, the National Transport Policy reform process, the Building Australia Program, *Enhancing Australia's Supply Chains 2008-2015*, and the 'objectives and strategic priorities of Infrastructure Australia and the Commonwealth Building Australia Fund'; and
- identified drivers of change, such as:
 - significant growth in the freight task — 'Freight volume across all transport modes is expected to grow by close to 50 per cent by 2020 and by around 100 per cent by 2030 from today's levels'
 - impacts of increasing congestion on freight costs
 - climate change
 - increased public awareness of sustainability and liveability issues
 - higher security and safety standards
 - Victoria's changing economy — the declining relative importance of manufacturing and primary production to freight movement, compared to the growth in importance of the services sector
 - increasing oil prices
 - labour and skills shortages
 - changes to industry structure and technology — including strategic alliances and amalgamations along supply chains, increasing ship and container size, increased use of intermodal solutions, advances in road and rail freight performance, size and technology, and the increased role of information and communication technology.

Box 4.2 outlines the goals, objectives and priorities of *Freight Futures*. On the basis of these, *Freight Futures* identifies 20 strategic directions that 'provide the foundation of the Government's commitment to building a sustainable freight future in Victoria.' The strategic directions are grouped in three overarching categories, 'reflect[ing] the Government's core role in the freight network':

- planning and protecting the network;
- building and maintaining the network; and
- managing and regulating the network.

Box 4.2

FREIGHT FUTURES: GOALS, OBJECTIVES AND PRINCIPLES**Goals**

- Maintain and improve the efficiency of the freight network – ensuring that the road and rail links, ports, terminals and related facilities for handling and moving goods around our cities, towns and State are operating to their maximum efficiency to support Victoria's continued economic growth.
- Ensure the availability of sufficient capacity in the freight network to handle the growing freight task – both through achieving better utilisation of existing infrastructure and providing new infrastructure as required.
- Enhance the sustainability of the freight network – by planning and operating the network in a manner that maximises public safety outcomes and minimises environmental and amenity impacts on the Victorian community.

Objectives

- Facilitate the efficient movement of freight in Victoria.
- Reduce the cost and improve the reliability of supply chains.
- Manage and mitigate any adverse impacts of freight planning and operations on communities and the environment.
- Optimise the use of existing network infrastructure.
- Provide appropriate priority for freight on the network in the context of competing demands.
- Plan and deliver new network infrastructure in a timely manner.
- Identify and protect freight network options where necessary to ensure future capacity, flexibility and certainty.
- Provide a policy environment that encourages private sector investment.

Priorities

- Proactive land use planning – planning for future port and freight facilities and their land use requirements, including buffering strategies.
- Effective targeting of infrastructure investment by optimising the use of existing public infrastructure, identifying future infrastructure priorities and, together with the Australian Government, contributing to future infrastructure capacity.
- Greater integration of the network – working in close collaboration with industry to deliver new initiatives that promote supply chain efficiency.
- Improved regulatory arrangements – providing the right regulatory and institutional settings to foster a sustainable freight and logistics sector.
- Effective management of community and environmental impacts – seeking to mitigate the negative impacts of freight growth.
- Continuous improvement of safety and security performance – adopting best practice safety management principles and implementing further measures to mitigate security threats to land, sea and air transport in accordance with relevant legislation.

Source: Department of Transport [Victoria] 2008.

Table 4.2 details the 20 strategic directions of *Freight Futures*.

Table 4.2

STRATEGIC DIRECTIONS: FREIGHT FUTURES

Planning and protecting	Building and maintaining	Managing and regulating
<ul style="list-style-type: none"> Identify and develop a Principal Freight Network for Victoria Identify and develop Freight Activity Centres Plan and protect future freight corridors and activity centres Plan and develop a Metropolitan Freight Terminal Network Plan for growth in regional freight Improve planning for the 'last kilometre' of freight journeys 	<ul style="list-style-type: none"> Invest in the Principal Freight Network — Roads Invest in the network and trial next generation High Productivity Freight Vehicle (HPFVs) Revitalise the Principal Freight Network — Rail Enhance commercial port efficiency, capacity and integration Alleviate the impact of truck movements in Melbourne's inner west Support increased take up of information and communications technology 	<ul style="list-style-type: none"> Maximise efficient use of the Principal Freight Network Minimise the amenity, environmental and climate change impact of freight transport Enhance the safety and security of freight transport Undertake regulatory reform and reduce the regulatory burden Implement improved governance arrangements for ports Establish governance arrangements for the Metropolitan Freight Terminals Network Actively manage access for vehicles carrying over-dimensional loads Implement a new freight data collection and analysis capability

Source: Department of Transport [Victoria] 2008.

Development of Freight Futures

Freight Futures had, in the words of one stakeholder, 'a difficult birth.' It took seven years and four attempts before the Victorian Government was able to develop its freight network strategy. A key factor behind this delay was that the government was unable to reach an internal consensus about what its roles and responsibilities in the freight network should be — particularly where to draw the line between the market and government intervention.

The Victorian Government eventually resolved this question — driven in part by growing public concern about congestion and the impact of freight (particularly road freight) on the environment and amenity — by:

- limiting the scope of the strategy to a focus on infrastructure (a supply-side strategy, as one stakeholder described it); and
- settling on a *custodian* view of the freight network.

From this perspective, the government is not seeking to operate the freight network, but to maintain and enhance the network in line with the three goals of efficiency, capacity and sustainability (see Box 4.2 above).

It is also important to note that the Victorian Government did not produce *Freight Futures* in isolation. The strategy was developed and released in conjunction with *Port Futures* and the *Victorian Transport Plan*; the latter of which outlines the government's strategic infrastructure programme for 2020 and beyond. Stakeholders from the Victorian Government highlighted the value of developing a freight strategy within a broader transport framework — as decisions made regarding one transport sector will invariably affect the other.

The Victorian Government developed *Freight Futures* primarily through internal processes. Input from key stakeholder groups — such as the Victorian Transport Association, the Victorian Freight and Logistics Council, and the Transport Workers Union — was sought, though the Government did not undertake a formal and lengthy process of community consultation.

Stakeholders noted that, in one sense, a structured consultative process was unnecessary, as industry had already expressed its opinions about freight needs and solutions during the previous failed attempts to develop a freight network strategy. Stakeholders maintained, however, that greater consultation with industry during the development of *Freight Futures* would have produced better outcomes — as government planning and expectations could have been better aligned with existing industry investment.

Acceptance by stakeholders and identified benefits

Stakeholder consultations undertaken as part of this study revealed a broad acceptance of *Freight Futures*. The strategy is not seen as being perfect, but a solid first attempt and a clear net benefit for Victoria. Possibly the best example of the high regard in which *Freight Futures* is held is that the strategy is being used as the basis for the development of freight network strategies in other jurisdictions — notably Queensland and New South Wales.

Stakeholders nominated 'certainty' as the key and overarching benefit of having *Freight Futures*. By articulating government intentions and likely spending patterns, *Freight Futures* gives industry confidence about the type of infrastructure they should be investing in, and where such investments should be made. Given that most freight infrastructure has a use life of between 30 and 50 years, there is a clear economic benefit from having greater certainty to mitigate the risks involved in freight investment.

It is important to note that certainty is not only a benefit for industry. A stakeholder noted that *Freight Futures* also provides certainty for other Victorian Government agencies about the future of freight movements in the State; leading hopefully to a greater alignment of whole-of-government interaction with the freight sector.

As noted above, while stakeholders are generally accepting of *Freight Futures*, they do have some concerns with the strategy. These concerns include:

- the perceived port-centric focus of *Freight Futures*, and a seeming lack of recognition of freight distribution that is not linked to export;
- the strategy had a supply-side focus, and gave little consideration to demand-side issues (such as information flows and regulation) — to have an effective freight network, the Victorian Government will eventually need to develop a strategy that targets both supply and demand; and

- some planning decisions did not align with current industry infrastructure investments — the proposed new intermodal terminal at Donnybrook, for example, is seen by industry as a worthwhile initiative, but not really relevant to existing freight distribution infrastructure.

Learnings for the development of a national strategy

A number of key learnings arise from *Freight Futures* relevant to the development of a national freight network strategy.

- The successful development of a freight network strategy requires a clear understanding — and internal acceptance — about the proposed roles and responsibilities of government and the private sector.
- A freight network strategy is likely to be more effective if it is closely linked with a broader transport strategy. Freight and passengers often compete for use of the same freight infrastructure. Decisions made affecting one sector thus are likely to affect the other, and vice versa.
- Identifying appropriate high-level objectives for a freight strategy is a relatively easy undertaking. Greater difficulty arises in attempting to operationalise the high-level objectives. That is, identifying the goals/measures required to achieve the high-level objectives.
- Current community concern about congestion, greenhouse gas emissions, amenity and road safety (particularly in light of recent road accidents involving trucks) provides a window of opportunity to reform the freight network. It would be wise to take advantage of this window while it still exists.
- Ideally, a freight network strategy should not be limited to supply-side concerns (e.g. infrastructure), but should also include a focus on demand-side measures such as improving information systems and reforming relevant regulation.
- Consultation of stakeholders in developing a freight strategy is advantageous not only from a good governance perspective, but also as a means of aligning industry investment and expectations with government planning.

4.5 Approaches taken in other countries

To inform development of a freight network for Australia, analysis has also been undertaken of freight strategies (or similar documents) from a number of overseas jurisdictions. These strategies take the form of either being for all transportation (with a strong focus on freight), or freight only, and are examined in detail in Appendix B.

Jurisdictions that have been considered include Canada, South Africa, the United States and the European Union. These jurisdictions all have substantive freight tasks, with populations dispersed across a large area. This is particularly the case in Canada and South Africa, where freight must be moved large distances from coastal to inland population centres and vice versa.

In the case of Canada, there is no national freight strategy, but there have been several reports prepared by stakeholders advocating for the development of such a document. Similarly, the United States does not have a freight network strategy *per se*, but rather what is called a *Framework for a National Freight Policy*. This is a ‘living’ document developed by the United States Department of Transportation, and is used as a facilitator across stakeholders at various levels of government and within the private sector.

Smaller countries such as New Zealand and Scotland also have freight strategies, reflecting that low population countries also see the need for a freight strategy.

A common theme in these strategies is that each highlights the overarching objective of improving efficiency of the freight network, particularly inter-modal linkages. Other objectives include improving safety and accessibility to remote areas, and meeting environmental targets related to reduced emissions and congestion. These different objectives indicate that there may be a degree of ‘trade off’ associated with achieving different objectives — different actions may be undertaken to improve efficiency to those aimed at improving accessibility.

A number of principles are identified in strategies, relating both to freight-specific issues, and the broader policy environment. For example, the South African *National Freight Logistics Strategy* identifies the need for the strategy to support broader social and environmental objectives, such as supporting equitable accessibility.

In the various strategies, little attempt is made to specifically define a national freight network. However, one of the Canadian stakeholder reports does articulate what a national network comprises, envisioning a single multi-modal system with a seamless integration of rail, road, waterway and air transportation methods. This dichotomy may reflect the political challenge associated with defining a national network — expectations may be created that government will finance the establishment or enhancement of such a network.

Notably, none of the strategies articulate specific and quantifiable targets. Rather, general statements are made about improving performance across a range of broad indicators.

Table 4.3 below indicates the various freight tasks in the areas of road, rail, waterways and air for selected countries.

Table 4.3

FREIGHT TASK IN SELECTED INTERNATIONAL JURISDICTIONS

Country/region	Total	Road		Rail		Waterways ^a		Air	
		t-km	%	t-km	%	t-km	%	t-km	%
Australia ^{b,c}	507	182.5	36	198.7	39	125.9	25	0.1	0.03
Canada ^d	493.5	133.0	27	311.1	63	48.9	9.9	0.7	0.1
European Union ^e	3968.8	1896.3	47.1	432.6	10.9	1662.9	41.9	4	0.1
New Zealand ^c	26.8	18.8	70.2	3.9	14.6	4	14.9	0.1	0.3
Scotland ^e	31.9	14.3	44.8	3.6	11.3	14	43.9	-	-
South Africa ^d	374	245	66	129	34	-	-	-	-
United States ^d	5442.2	2006.6	36.9	2591.4	47.6	822	15.1	22.2	0.4

Notes: a – includes both sea and inland waterways, b – the most recent data available for Australian air freight was 2003-04. The corresponding percentage was calculated using the total from the same financial year (441.6 billion tonne-kms)

Data years: c – 2006–07, d – 2007, e – 2006.

Source: Australia - BTRE 2009a, 2009b; Canada and United States - North American Transportation Statistics 2009; European Union - Mahieu, Y 2009; Scotland- Scottish Government 2009; South Africa- Havenga, J et al. 2009.

Chapter 5

Moving to a national freight network strategy

Key points:

A freight network is defined in terms of infrastructure links connecting nodes, as well as featuring interoperability, interconnectivity and intermodality. This report favours an approach that focuses on those elements of the freight system that are nationally significant and meet the following functional criteria:

- *the element facilitates freight movement of significant volume and/or value;*
- *the element is used to move more than one class of goods; and*
- *the element is accessed by more than one user.*

The report identifies six principles to potentially guide development of the strategy. These relate to: the role of government; modal neutrality; neutrality between existing and new infrastructure; operational planning; freight's interaction with other regulatory areas; and strategic flexibility.

Three objectives for the proposed strategy are identified for consideration:

- *improve the efficiency of freight movements across the national freight network (considering all costs in the efficiency equation);*
- *minimise externalities associated with freight movement (including environmental and safety externalities); and*
- *influence policy making in other areas (e.g. urban planning and passenger transport).*

So far, this report has examined the current state of Australia's freight system, the need for a freight strategy, and how various jurisdictions — both nationally and internationally — have instituted freight strategies to varying degrees. This chapter seeks to build on this analysis by providing guidance about how government could move towards developing a national freight network strategy. It will achieve this by:

- elaborating on key concepts that will underpin any national freight network strategy (e.g. defining what constitutes a national freight network, and why a freight strategy should focus on the freight network);
- identifying principles that should guide the development of a strategy;
- proposing a structure for the strategy — comprising a vision, objectives, priorities and performance measurement; and
- discussing possible governance approaches.

5.1 Underlying concepts of a national freight network

In developing a strategy for a national freight network, it is important to have a clear understanding of the key concepts that will underpin the strategy. These include:

- what is a freight network?
- what makes a freight network a national network? and
- why should the proposed strategy focus on the national freight *network*, rather than the freight system more broadly?

These concepts will be discussed in greater detail below.

Defining a freight network

This report relies on the definition of a ‘freight transport network’ provided by Bithas and Nijkamp (1997). Specifically, that a freight network is a ‘cohesive set of infrastructure links (edges) connecting concentrations of people or economic activity centres (so-called nodes)’ — connections which are intended to be ‘utiliz[ed] ... by transport actors.’ The authors also stress that the three main characteristics of a freight network are:

- interoperability — ‘which refers mainly to operational and technical uniformity which allows actors and operators to use a network for different simultaneous or sequential purposes’;
- interconnectivity — ‘which is in particular concerned with horizontal coordination and access to the network from different geographical areas’; and
- intermodality — ‘which addresses the issue of a combined use of different transport modes in the chain of freight transport’ (Bithas & Nijkamp 1997).

It is important to note that this definition is only a guide. It is difficult to create a definition that fully captures the complexity and possible scope of a freight network. This notwithstanding, Bithas and Nijkamp do provide a definition of the *physical* aspects of a freight network.

Defining a national freight network

Having a clear understanding of what constitutes a *national* freight network is vital, given the Australian context and the constitutional division of roles and responsibilities between the States and Territories and the Commonwealth over such matters as transport regulation and taxation. Such a definition is also important as it will determine the boundaries of the strategy — that is, which elements of Australia’s entire system of freight structure will be covered by the strategy, and which elements will not. This, in turn, will help determine the relative importance and likely achievability of the various goals and priorities that could form the strategy. It should be stressed that a national network is already considered to exist — rather, this section focuses upon articulating a definition that can be used to identify where the network lies.

This report identifies four possible options to defining what constitutes a national freight network. Specifically, adopting either:

- a constitutional focus;

- a nodal focus;
- an impact focus; or
- a functional focus.

The *constitutional focus* is based on State and Territory borders and the existing division of constitutional responsibilities between the Australian and State and Territory Governments. From this perspective, a national freight network would comprise those elements of the broader freight system that primarily involve the movement of freight across State and Territory borders, as well as those elements that interface with the constitutional responsibilities of the Australian Government.

The East-West rail link (connecting Kalgoorlie with Broken Hill and Wolseley) is a good example of an infrastructure link that would be part of a national freight network using a constitutional focus. Conversely, the transport links between Perth and Bunbury would unlikely form part of the national freight network under a constitutional focus.

The *nodal focus* is concerned less with jurisdictional borders and constitutional responsibilities and more with the nation's key nodes — i.e. the cities and towns that have sufficient economic or societal importance (e.g. the capital cities and key regional centres) and/or play a key role in facilitating the transport of goods across the broader network (e.g. Port Augusta and Tennant Creek). From the perspective of the nodal focus, a national freight network would consist of those elements of the broader freight system that link Australia's prescribed key nodes.

As the description above implies, identifying what are the nation's key nodes plays a vital role in defining what constitutes Australia's national freight network.

The AusLink National Network is a good example of a nodal focus. It consists of the land transport linkages between the capital cities, major regional centres and other regional and remote locations identified as either benefiting the connectivity of the broader network or having potential for contributing to regional development.

The *impact focus* is the broadest of the four options discussed here. It originates from the *National Transport Policy Framework*, which sought to redefine what constitutes a national transport issue away from 'state borders or Constitutional responsibilities' (NTC 2008).

An alternative view, and one that reflects industry and community opinion, is that national is something that is important to a significant proportion of Australians (be it directly, e.g. urban congestion or indirectly, e.g. productivity of economically important supply chains), irrespective of the level of government formally responsible. Addressing a national challenge in this sense would require a united approach by all levels of government.

From this perspective, therefore, a national freight network consists of *those elements of the broader freight system that have a material impact on the national economy or society*.

Being able to identify what is, and what is not, 'material' is critical for this option to have any utility. Unfortunately, the *National Transport Policy Framework* does not provide any guidance in this regard. Further work on defining materiality must be undertaken before this option can be used to determine what constitutes a national freight network.

The *functional focus* derives from the impact focus, in that it shares the perspective that a national freight network should be defined by those elements having a material impact on the national economy or society. It differs, however, from the impact focus by providing functional criteria limiting the potential scope of what constitutes a national freight network. According to these three criteria, a particular element of the broader freight system can be considered part of a national freight network if it:

- facilitates freight movement of significant volume and/or value — in a sense, this criteria provides further definition to the concept of materiality that underpins the impact focus;
- is intended to be used to move more than one class of goods (e.g. a railway line that is used to transport coal, grain and cattle); and
- is intended to be accessed by more than one user.

On the basis of these criteria, it is possible that *nationally significant* freight links may fall outside of the definition of what constitutes a national freight network. Examples of such links that are likely to be excluded include:

- the Pilbara iron ore rail lines (which are dedicated to the movement of only one class of goods, are not connected to other road and rail networks, and are independently managed and augmented as part of commercial mining operations);
- the Hunter Valley and Central Queensland coal chains (which are also dedicated to the movement of only one class of goods, and are operated and augmented separately from the remainder of the nation's freight network); and
- branch lines carrying grain only (e.g. the Western Australian narrow gauge rail network).

The importance of focusing on the freight network

An important issue that arose during preliminary consultations for this project concerns the appropriate scope of a national freight network strategy. Some stakeholders questioned why the proposed strategy should focus only on the freight network, rather than the entire freight system. These stakeholders maintained that the efficient and sustainable movement of freight is not just a network issue, but also concerns such factors as:

- workforce availability and training;
- the availability and quality of rolling stock; and
- truck capacity and monitoring.

While the above factors (and others) are important to the movement of freight in Australia, we maintain that, in this instance, it is appropriate to limit the scope of the proposed strategy to that of the national freight network. The reasons for this are threefold. First, research for this project suggests that the major problems affecting the movement of freight in Australia relate to the freight network. These problems include: access pricing; strategic planning of future infrastructure needs; and freight rights relative to passenger services. The importance of focussing upon freight network issues is highlighted by the branch of economic theory known as network economics. This discipline indicates that in a network, improving one network component (e.g. a node), can increase the value of the entire network (see Box 5.1). A key example of improvements to network nodes is the development of intermodal terminals.

Box 5.1

NETWORK ECONOMICS

Network economics is an important strand of economics relating to freight as it describes how an entity may become more valuable through networking within the industry and by means of the network effect.

In reference to the freight industry, the network effect constitutes an investment in one section of the network having the potential to increase the value of the entire network through increased capacity and utilisation.

Improving certain sections of the freight network may allow for carriage of freight that was previously unable to be transported along that portion of the network due to prior capacity constraints. An example of this would be investment in long-distance Australian freight lines that are presently unable to sustain the high-weight high-velocity trains utilised in much of the United States.

These investments may also open up freight pathways that were previously closed due to the capacity limitations of particular sections of the network, thus increasing the value of the entire network by means of improving capacity and utilisation in connecting sections.

When considering network effects in conjunction with the freight industry it is prudent to discuss both positive and negative aspects of such effects. Positive effects have been discussed earlier, yet there exists the potential for negative congestion effects to result from investment in one section of the network as opposed to the network in its entirety.

Source: Shy 2001

Second, limiting the scope of the proposed strategy to the freight network will help make the development and implementation of the strategy manageable. Given the vast array of issues affecting the movement of freight in Australia, and the players involved (both from government and industry), a strategy that seeks to ‘do everything’ may prove unachievable and/or ineffective. Focusing on the freight network — a major but limited element of the broader freight system — may help government find the right balance between holism and practicality.

Third, freight infrastructure is primarily an issue relating to the freight network. It is thus appropriate to limit the scope of the proposed strategy to the freight network, particularly given Infrastructure Australia’s sponsorship of the strategy and its concentration on infrastructure concerns.

5.2 Principles that should underpin a national strategy

Before it begins the process of developing a national freight network strategy, there are a number of factors that the government should consider. These include:

- the role of government;
- modal neutrality;
- neutrality between existing and new infrastructure;
- operational planning;
- freight's interaction with other regulatory areas;
- importance of publication and transparency;
- timeframes; and
- strategic flexibility.

Reaching agreement on the specifics of these principles will provide the strategy with both direction and clarity of purpose.

Role of government

It is important that government has a clear view on the expected roles and responsibilities of government (at the Federal, State/Territory and local levels) and industry are in the national freight network, and in progressing the strategy. It is also important that this articulation of roles and responsibilities reflects the internal views of government on this matter.

Key issues that government will need to address include:

- what gaps/problems currently exist in the freight network? To what extent do these represent a market failure and/or a need for government intervention?
- should the government be involved in:
 - the provision of freight services?
 - the management and maintenance of freight infrastructure?
 - the funding and development of freight infrastructure?

The view of this study is that, ultimately, the movement of freight is a matter that is best determined by customers and freight operators. The role of government, therefore, should be to use policy and regulation to support customers and operators in moving freight optimally across the network, while ensuring that this movement is in line with broader goals of sustainability. This could include government attempts to harmonise relevant freight regulations, the implementation of effective pricing regimes, and the establishment of an agency responsible for analysing and measuring the operation of the freight network.

Government also has a lead role in planning the development (and re-development) of freight infrastructure — on behalf of the community at large and/or in conjunction with specific operators — and, where appropriate, providing funding for such development. However, funding should only be provided from government budgets (rather than from the operators of the system) where:

- there is a clear net public benefit from doing so;
- such funding is needed (as a last resort after user pays), and only to the extent of the gap (if any) between costs and user charge revenues; and
- there are no higher priorities for public expenditure over the relevant timeframe.

Modal neutrality

In developing a national freight network strategy, the government should consider whether it plans to use the strategy to favour a particular mode (or modes), or to remain neutral — leaving the decision about modal choice to freight operators and customers. An example of a policy favouring a particular mode is the New South Wales Government's target of 40 per cent rail share of freight throughput to Port Botany by 2011.

A government may seek to favour a particular mode if it seeks to capture more of the perceived benefits of the mode (e.g. greater safety and fewer emissions). The downside of favouring a particular mode is that the associated distortion in the freight market may end up costing more than the benefits realised.

This study contends that the strategy should not seek to favour one mode over the other. Rather, it should seek to create a situation where government policy and regulation are (where reasonable) applied equally across all modes in terms of network outcomes. The ultimate decision about how freight is moved should be left to customers and operators.

Neutrality between new and existing infrastructure

There is a tendency for planning of freight infrastructure to be driven by the funding and development of new projects, rather than examining the possibilities of making better use out of existing facilities (which may present government with more cost-effective investments). Such better use may be achieved through targeted investment, or better utilisation practices. Accordingly, the proposed national freight network strategy should be framed in a manner to ensure neutrality between new and existing infrastructure when considering solutions to identified problems in the network.

Operational planning

In developing a national freight network strategy, government will need to determine the extent to which the strategy should deal with questions of operational planning. In other words, should the strategy identify and endorse particular policy actions or projects to progress the stated objectives of the strategy?

Victoria's *Freight Futures* has taken this approach, providing both a strategic framework and a list of policies and projects that the government intends to undertake in pursuit of the strategy. Feedback from other stakeholders suggests that other jurisdictions currently developing freight network strategies will adopt a similar approach to Victoria in this regard.

The key benefit of articulating operational plans as part of a broader strategic document is that it provides greater certainty to freight operators, potential investors and the broader community about the government's intentions. The downsides include:

- the process of determining which particular policies and projects are included in the operational plan may prove contentious and delay the development of the overall strategy; and
- specifying particular policies and projects in an operational plan may limit the flexibility of the overall strategy.

The view of this study is that the overarching purpose of the strategy is to provide a framework to guide decision-making relevant to the national freight network. The strategy should not seek to pre-empt this decision-making by supporting specific proposals or seeking to provide an operational template for the future of the freight network. Rather, operational planning should be considered as a separate exercise.

A related operational planning activity required to inform the strategy is a study of future freight movements. To date, forecasts of freight movements have largely involved extrapolating previous trends; further analysis is required to understand 'drivers' of freight demand and supply, recognising that demand for freight is a derived demand, influenced by economic activity, locational decisions and in turn, transport prices. Such analysis can then become the basis for more robust forecasts whose dependencies on the drivers are better understood.

Freight's interaction with other regulatory areas

The movement of freight across the national network is not influenced by freight-specific policy and regulation alone. Land-use planning, passenger transport and workplace relations also impact on freight efficiency and sustainability. The strategy should thus not seek to cocoon itself, but ensure that it can align itself with, and inform, these other policy areas.

Government could achieve this by having a clear understanding of how other regulatory areas impact the performance of the freight network, and examining approaches by which the government could seek to ensure that this impact is favourable. Government could gain such an understanding by commissioning a review of the relationship between freight and non-freight regulation. This process would involve close consultation with stakeholders from non-freight areas, such as urban planning.

Furthermore, government could seek to include all relevant agencies in the development of the strategy — not only to ensure that the perspective of these agencies is heard, but also to increase the awareness of these agencies about the potential impact their regulatory areas have on the movement of freight.

Importance of publication and transparency

Government should ensure that the process of developing a national freight network strategy is as transparent as possible, and that the strategy itself is published and widely accessible. This will help provide confidence to investors and the community about the government's intentions and the likely shape of the future freight network. Furthermore, transparency will help enforce a sense of discipline upon government — ensuring that decision-making is able to pass scrutiny, and that it can be held accountable against commitments outlined in the strategy.

Timeframe

Ideally, a national freight network strategy would provide a sense of the evolution of Australia's freight system (and previous attempts to improve the network), as well as a timeframe to which the strategy would apply. A longer term focus would be more appropriate, given that:

- most freight infrastructure (e.g. corridors, ports, and bridges) has a useful life of generations; and
- the location of new infrastructure (e.g. a new port or freight-only corridor) would likely require significant preparation time so as to allow government to purchase the required land, make required zoning changes, and so on.

Strategic flexibility

The technical, economic and policy environments surrounding freight do not remain static. Demand for freight services also changes, as new industries emerge, others decline, and different freight modes become more or less competitive. As the market for freight varies, it is vital that the strategy has enough in-built flexibility so that it can adapt to this change. Such in-built flexibility may involve:

- mandating periodic reviews of the strategy and any associated legislation; and
- a focus on outputs and outcomes, rather than on prescribed means of achieving specific goals.

5.3 What could a national freight network strategy look like?

This section provides guidance on what the structure of the national freight network strategy should look like. Ideally, the strategy would consist of:

- an overarching vision;
- objectives;
- priorities; and
- performance measurement.

Vision for the national freight network strategy

The underlying purpose of a national freight network strategy is to provide a framework that will guide decision-makers in progressing the freight network towards a desired end-state. It is thus necessary before such a strategy is developed for government to have a clear vision of what it believes the desired end-state for the freight network should be — in other words, what constitutes a ‘good’ freight network in the eyes of the government? As this statement implies, ‘vision’ in this context is an idealised abstract concept, not a specific and definite goal that will allow the success or failure of the strategy to be measured; but it is nevertheless an important foundation for developing a strategy.

Examples of freight network visions included in other freight policies include:

Australia requires a safe, efficient, reliable and integrated national transport system that supports and enhances our nation’s economic development and social and environmental wellbeing (NTC 2008).

The purpose of the Strategy is to support the implementation of the SEQ Regional Plan and in particular the achievement of its broad vision to “provide an efficient and integrated freight transport system for the region” (Queensland Government Department of Transport and Main Roads 2007).

The overarching purpose of Freight Futures is to drive the development of an efficient, sustainable freight network for the future that balances the needs of the growing Victorian economy and population with the quality of life aspirations of the Victorian community (Department of Transport [Victoria] 2008).

This study finds that the vision articulated in *Freight Futures* would be appropriate for a national freight network strategy, as it focuses on the key goals of efficiency and sustainability, while also recognising the tension between the economic and societal aspects of freight.

Objectives

The objectives of a strategy are those outcomes that the government is seeking to achieve through the strategy in pursuit of its broader vision for the freight network. In consultation with key stakeholders, and drawing on the discussion in Chapter 4, this study identifies the following as possible objectives for a national freight network strategy.

Improve the efficiency of freight movements across the national freight network (considering all costs in the efficiency equation)

The primary objective of the national freight network strategy should be to ensure the efficient movement of freight across the national freight network. This can be achieved by focusing on such factors as reliability, network capacity, pricing regimes, harmonising State and Territory regulations, information communication and technology, and strategic planning. Activities undertaken with a view to achieving this objective are also expected to improve efficiency of the *entire* freight network – not just the *national* network.

Minimise externalities associated with freight movement (including environmental and safety externalities)

The strategy should recognise the impact that freight has on the broader community. The strategy should thus aim to balance its pursuit of network efficiency with minimising the impact of freight on residential amenity, congestion, noise and air quality, and commuter safety.

Influence policy making in other areas (e.g. urban planning and passenger transport).

The strategy should recognise that the movement of freight is affected not only by freight-specific policy and regulation, but also by such areas as land-use planning, workplace relations, and passenger transport. A goal of the strategy should thus be to influence policy-making in these areas, to ensure that the movement of freight is dealt with as consistently as possible across the whole-of-government.

Priorities

The priorities are those broad actions that government believes will best achieve the objectives of the strategy. In seeking to identify priorities, government should ultimately be driven by the overarching goal of maximising net benefits attributable to the freight network. This could primarily be achieved through the use of robust benefit-cost analysis that sought to capture and quantify as many externalities as possible. The perceived validity of this approach will depend heavily on the quality of the assumptions that underpin the analysis, and the weight given to different factors.

Other criteria that the government could use to set priorities include:

- *affordability* — priorities should not only have net benefits, but also be affordable;
- *supportive of interoperability* — priorities should, at the very least, not hinder the interoperability of the freight network and, ideally, enhance the efficiency of intermodal terminals; and
- *scalable to meet future demand* — to ensure its future adaptability, the strategy should prioritise those proposals that do not have set limits on their capacity, but are scalable to future fluctuations in demand.

As noted in Chapter 3, the movement of freight in Australia, and planning surrounding the freight network, is hindered by a lack of data and adequate and widely accepted network analysis. In the initial stages of developing a national freight network strategy, government may therefore wish to invest in a rigorous and holistic network analysis of the national freight network (however it is eventually defined), including the forecast of a range of possible scenarios and associated analysis of drivers. Such network analysis would be valuable in identifying gaps in the network and prioritising projects under consideration.

Performance measurement

Ideally, a strategy should include some mechanism that would allow third parties to objectively track the progress of government in pursuing the strategy. Such a focus on performance measurement ensures accountability and that the government is acting in accordance with best practice. It also acts as a spur for action — incentivising the government to pursue its objectives.

A characteristic of most existing freight policies is that they lack any means by which the performance of the strategy can be judged. Perhaps the only form of performance measurement included in an existing freight policy is the New South Wales Government's target of a 40 per cent rail share of freight throughput to Port Botany by 2011.

At this time, no specific targets have been identified in a review of existing strategies and consultations. However, it is considered highly preferable that the strategy feature a range of performance measures to inform implementation and monitoring of the strategy.

5.4 Governance

Developing an appropriate governance model will be critical for the successful development and operation of a national freight network strategy. It is understood that the strategy will be a multi-lateral document, and ultimately approved by the Council of Australian Governments (COAG). An appropriate body to guide the development of the strategy would thus require:

- technical knowledge about the freight network — ranging from regulatory/policy issues to an understanding of supply chain logistics and vehicle types;
- Ministerial input and direction;
- representation from the Commonwealth, the States and Territories, and Local Government; and
- an established mechanism to garner feedback and advice from industry and community groups.

This report suggests that the National Transport Commission (NTC) (overseen by the Australian Transport Council and, ultimately, COAG) would be a suitable body to govern the development of the strategy. Indicative representation of governance arrangements is provided in Figure 5.1.

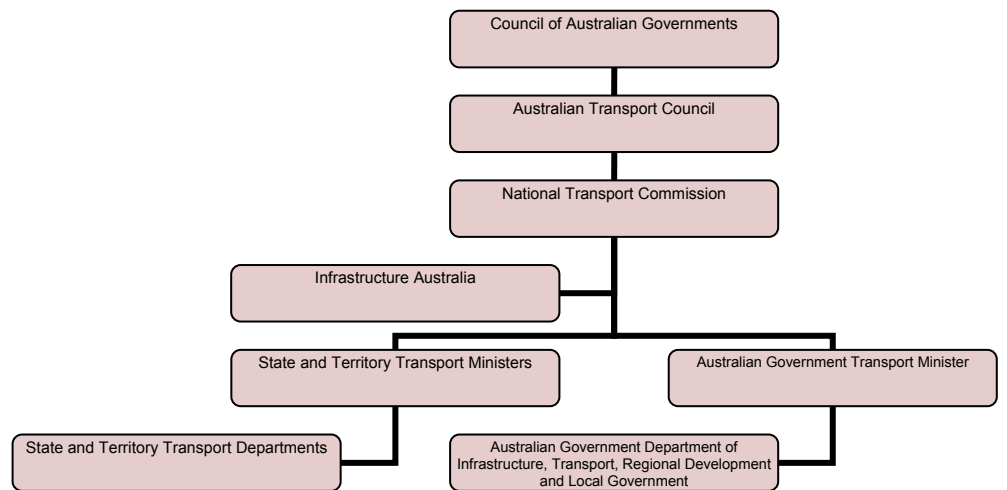
It is acknowledged that the current NTC remit of regulatory reform may limit its ability to develop and implement a national freight network strategy. Government may still wish to consider the NTC, however, given its structure (oversight is provided by relevant Ministers from across the Commonwealth and the States and Territories) and its established expertise in transport/freight matters. However, selecting the NTC would require a change in its focus, and potentially some degree of re-organisation.

COAG control over the proposed strategy is necessary to ensure State and Territory engagement and to counter the perception that the Australian Government would have sole or primary responsibility for funding and regulating the identified national freight network.

One issue requiring careful consideration is whether industry stakeholders should play a formal role in the governance of the National Freight Network Strategy. In Figure 5.1 industry stakeholders have no formal role, however, it is envisaged that stakeholders would be extensively consulted regarding both the development and implementation of a strategy.

Figure 5.1

GOVERNANCE ARRANGEMENTS FOR A NATIONAL FREIGHT NETWORK STRATEGY



Source: Allen Consulting Group

Chapter 6

Next steps

The previous chapters have discussed: current and forecast movement of freight in Australia; problems affecting the freight network and the possible role that a strategy could play in addressing these problems; the quality and applicability of existing freight policies; and how government may approach the task of developing a national freight network strategy.

This chapter seeks to provide government (particularly Infrastructure Australia) with guidance about the ‘next steps’ involved in responding to this report and moving towards developing a national freight network strategy. These ‘next steps’ include: stakeholder consultation; and establishing an intergovernmental framework to develop the strategy.

6.1 Stakeholder consultation

An important next step in developing a national freight network strategy is to consult with stakeholders. The purpose of this engagement is threefold:

- to gain an understanding from freight customers about what they perceive the national freight network to comprise;
- to garner broad feedback about the concepts raised in this report; and
- to reach agreement on the key terms, approaches and structural elements (e.g. vision, objectives, and the criteria for prioritising actions) that will underpin the strategy.

An effective approach to consulting with stakeholders would involve:

- a call for submissions in response to specific questions about the national freight network. This would allow Infrastructure Australia to consult widely with interested stakeholders in a cost-effective manner; and
- in-depth consultations with major customers of the freight network (e.g. Woolworths Limited, Wesfarmers Limited, and Australia Post). These customers are likely to provide Infrastructure Australia with unique and valuable insight about the national freight network and the appropriate scope of a national freight network strategy.

6.2 Intergovernmental framework

After consulting with relevant stakeholders, an important next step is to establish an appropriate intergovernmental framework to drive the development of the national freight network strategy. Key elements of this framework should involve:

- identifying (and, if necessary, creating) a body to *govern* the development of the national freight network. This should ideally comprise representatives from the Commonwealth, the States and Territories, and Local Government, with an appropriate mechanism to receive input from industry;

- reaching agreement about the shape and definition of Australia's national freight network;
- determining the best means by which governments can invest in detailed analysis of the freight network (including multiple scenario forecasting and associated driver analysis) to identify gaps; and
- reaching agreement on the structure, focus and detail of the national freight network strategy.

Appendix A

Existing Australian freight policies

Table A.1 provides a summary of the existing freight policies that form the basis of the discussion in Chapter 4.

Table A.1

EXISTING FREIGHT POLICIES

Title	Modal focus	Geographic focus	Objective	Identified gaps	Proposed roles	Identified investments
<i>Australia's Export Infrastructure</i> (Exports and Infrastructure Taskforce, 2005)	All	Australia	The purpose of the report was to identify any bottlenecks, of a physical or regulatory kind, that may be impeding the full realisation of Australia's export opportunities, and recommend plausible solutions.	<p>Challenges include:</p> <ul style="list-style-type: none"> • Effective infrastructure coordination and planning. • Maximising private sector funding of infrastructure. • Port channel depth, port capacity (bulk and container), and landside connection to ports. • Capacity of coal rail lines, and the state of grain rail lines. • Australia's regulatory practice RE: export infrastructure - relating to scope of regulation, appropriate objectives of regulation, national consistency, and timeliness of decision-making. 	<p>Roles are proposed as follows:</p> <ul style="list-style-type: none"> • COAG is to examine need for and possible scope of a national regulator governing export oriented infrastructure (or at least reducing number of current regulators). • COAG is to explore the scope for simplifying and streamlining the regulatory process as it applies to export oriented infrastructure, where appropriate. • COAG is to renew the commitment to harmonising road regulations and rail regulations and establish a reinvigorated agenda, including time limits. • Australian and State/Territory Governments are to develop AusLink planning as quickly as possible– and AusLink is to be expanded to cover ports and associated shipping channels. • DOTARS is to facilitate groups to coordinate logistics chain. • PC is to carry out an 	The report identifies no proposals for physical infrastructure investment. Rather, it will focus more on investing time and effort into improving regulatory systems.

Title	Modal focus	Geographic focus	Objective	Identified gaps	Proposed roles	Identified investments
<p><i>Railing Port Botany's Containers: Proposal to Ease Pressure on Sydney's Roads</i> (Freight Infrastructure Advisory Board, 2005)</p>	<p>Primarily rail, with additional intermodal focus on road and shipping.</p>	<p>Sydney</p>	<p>The report examines the means by which the NSW Government can meet its stated goal of increasing the rail share of freight throughput at Port Botany to 40 per cent by 2011.</p>	<p>Challenges in the relevant area include the following:</p> <ul style="list-style-type: none"> • Disjunction exists between modern distribution of industrial lands and rail freight network supporting Port Botany. • Expected growth in container volume through Port Botany. • Expected growth in road freight traffic. • Capacity constraints facing current intermodal terminals - Camellia, Yennora, Leightonfield and Minto. 	<p>infrastructure audit.</p> <ul style="list-style-type: none"> • All jurisdictions are to establish 'one stop shops' for approval and planning of export infrastructure. <p>The proposal calls for Australian Government cooperation, particularly with regard to Moorebank, and generally with regard to the future roles of AQIS and Customs.</p> <p>It is suggested that the NSW Government take all necessary steps to ensure that Sydney has sufficient additional intermodal terminal capacity to meet a rail freight share of 40 percent'. It proposes specific actions for the NSW Government to achieve this regarding the intermodal sites at Enfield, Moorebank, Ingleburn, Minto, Menangle and Eastern Creek.</p> <p>Suggested actions for the NSW Government also include improving the Botany Freight Line, and the M4 and M5.</p> <p>There are additional proposed actions for Sydney Ports to improve and expand Port Botany and its handling of freight traffic.</p> <p>The proposal calls for the ARTC to take over Sydney Metropolitan Freight Network from RailCorp and improve the South Sydney Freight Line.</p>	<p>The proposal outlines a broad range of relatively specific investments (without a dollar amount), relating to proposed intermodal terminals, existing rail freight networks, the M4 and M5, and the Port Botany Terminal.</p> <p>Further investments related to governance arrangements are proposed.</p> <p>The proposal advises establishment of a Freight Infrastructure Fund, funded by a Freight Infrastructure Charge (\$30 per TEU). The Charge would be collected by Sydney Ports, and the fund managed by Department of Planning, Infrastructure and Natural Resources.</p>

Title	Modal focus	Geographic focus	Objective	Identified gaps	Proposed roles	Identified investments
<i>Twice the Task</i> (Sinclair Knight Merz, 2006)	All	Australia	Provides a framework for addressing the forecast doubling of Australia's freight task. This framework is based on four avenues of attack and 12 clusters of measures.	Identifies the close linkages between freight and: <ul style="list-style-type: none"> • economic growth; • current patterns of distribution and consumer demand; and • residential amenity, noise, air quality, and broader quality of life issues. 	Assesses and ranks all measures in terms of cost, role of government, effectiveness, achievability, and time.	
AusLink corridor strategies (Department of Transport and regional Services and relevant State and territory transport and infrastructure agencies, 2007)	All	The corridor strategies focus on 23 corridors across Australia. See Box 4.1 for a list of each corridor.	The corridor strategies have shared objectives and strategic priorities for the long-term development of transportation corridors. They are guided by the objectives of the AusLink Network, which aims to support national economic growth by developing sustainable transport solutions that: <ul style="list-style-type: none"> • increase infrastructure handling capacity and efficiency; • improve transport productivity on nationally strategic and export-oriented freight corridors; • improve the reliability of interstate and inter-regional corridors; • improve safety and security; and • are consistent with viable, long-term economic and social outcomes, pursued in 	The corridor strategies identify specific gaps relevant to each corridor. Common issues identified across the strategies are: <ul style="list-style-type: none"> • congestion around urban areas from rapid population growth and increasing freight demand; • lack of direct links between centres often requiring transit through urban centres, adding to congestion; • inefficient connections between different modes; • poor state of road and rail infrastructure, primarily from age but also flooding; and • safety issues arising from the condition of road and rail infrastructure as well as congestion. 	The Department of Transport and Regional Services (now Department of Infrastructure, Transport, Regional Development and Local Government) has joint responsibility of all of the corridor strategies, shared with the respective State or Territory's relevant agency.	Mostly general ideas and concepts for where funding and investment should be targeted, only a few strategies state specific areas that should be targeted, less give the dollar values required or proposed. Key themes for directing investment are: <ul style="list-style-type: none"> • improving safety; • increasing capacity, performance and reliability; • reducing congestion; and • upgrading and improving road and rail infrastructure.

Title	Modal focus	Geographic focus	Objective	Identified gaps	Proposed roles	Identified investments
<i>Southeast Queensland (SEQ) Regional Freight Network Strategy 2007–2012</i> (Queensland Transport and Main Roads, 2007)	All	Queensland	an environmentally sustainable manner. The aim of the Strategy is to facilitate freight moving efficiently across the transport network in a manner that enhances economic development, safety, quality of life and environmental sustainability.	Growth in SEQ freight movements is increasing pressure on effective utilisation of existing transport infrastructure. For example, increasing inter-modal movements are contributing to congestion around transport nodes. The recent trend of rising fuel prices also presents further implications for the freight transport industry as transport costs are generally sensitive to fluctuations in fuel prices.	Responsibility resides with the State government refining priority the road freight route network to identify emerging freight routes and to better inform land use planning schemes of future freight needs. Collaboration with local governments is encouraged.	The strategy does not propose any specific measures or investments for action.
<i>Switchpoint (Rail Freight Network Review Committee, 2008).</i>	Rail	Victoria	The Report's objective is to promote the idea that the Government should provide a fit-for-purpose regional rail freight system at reasonable cost, which is capable of efficiently transporting known freight volumes at prices competitive with road, providing a platform for future growth, which is economically, socially and environmentally responsible.	A lack of perceived efficiency and the poor condition of the rail freight network in Victoria are key concerns moving forwards. Additionally, members of the grain industry generally have a perception of lack of commitment, clarity and consistency from the Victorian Government in reference to policies and strategies for rail freight.	The Victorian Government is charged with providing the funding to preserve a functioning and well-conditioned rail freight network in Victoria.	It is considered that there is a pressing need to rehabilitate the track on nominated sections of the network to restore sustainable operating speeds. This would be prioritised into the four categories of platinum, gold, silver and bronze rated investment funds would be allocated accordingly.
<i>Freight Futures</i> (Victorian Department of Transport, 2008)	See Chapter 4 for more detail.					
<i>National Transport Policy Framework</i> (National Transport	All transport	Australia	The framework's vision is that 'Australia requires a safe, efficient, reliable and integrated	The framework outlines ten strategic priorities to progress the stated vision for Australia's	The Australian and State and Territory governments have assumed responsibility for	The framework does not propose any specific measures or investments for action.

Title	Modal focus	Geographic focus	Objective	Identified gaps	Proposed roles	Identified investments
Commission, 2008)			national transport system that supports and enhances our nation's economic development and social and environmental wellbeing.' It identifies six objectives in terms of economics, safety, social, environmental, integration and transparency.	transport future. These priorities include: <ul style="list-style-type: none"> • economic framework for efficient transportation marketplace; • infrastructure planning and investment; • capacity constraints and supply chain performance; • urban congestion; • environment and energy; • safety and security; • strategic research and technology; • workforce planning; • social inclusion; and • governance. 	progressing one of the strategic priorities (with the exception of Victoria, which is progressing two).	
<i>South East Queensland All (SEQ) Intermodal Freight Terminal Study</i> (Queensland Transport and Main Roads, 2008)		Queensland	The Study investigated the need for additional intermodal freight terminals to support the projected growth in the intermodal freight task within the geographic area of the study, to a planning horizon of 2026.	Identified challenges include: <ul style="list-style-type: none"> • increase in inbound movements (29Mt to 73Mt) and outbound movements (26MT to 46Mt) by 2026 – likely to change the cost structure of transport and influence the future location of industrial development and freight corridors to service demand; • Brisbane Multimodal Terminal's capacity to handle domestic intermodal traffic is expected to reduce to between 0.06 and 0.18 	It is noted that a decision on the site(s) for future intermodal freight terminal(s) should be informed by the outcomes of the Southern Infrastructure Corridor Investigation, any future Federal Government decision about the North South Rail Corridor Study, the outcomes of other Federal Government AusLink studies and other critical issues mentioned above. However, specific roles are not mentioned.	Identified investments are proposed in terms of periods: <ul style="list-style-type: none"> • Short term solutions (current to 2010) comprise of improvements in the operations and efficiency of the Acacia Ridge terminal and Brisbane Multimodal Terminal. • Medium term solutions (2010-2020) require an additional site to cater for approximately 650,000 TEU movements per annum, as a maximum. The most suitable existing

Title	Modal focus	Geographic focus	Objective	Identified gaps	Proposed roles	Identified investments
				million TEUs per annum by 2026. As a result, a new intermodal freight terminal will be needed between 2010 and 2020.		site without substantial investment in additional infrastructure is Bromelton. <ul style="list-style-type: none"> • Long term solutions (beyond 2020) include the development of a site at Greenbank and the development of a site at Ebenezer.

Title	Modal focus	Geographic focus	Objective	Identified gaps	Proposed roles	Identified investments
<i>Freight rail productivity review - Final position paper</i> (National Transport Commission, 2009)	Rail	Australia	<p>The review aims to identify how freight rail can operate more productively to improve the operation of the broader transport sector.</p> <p>More specifically, the review is aimed at:</p> <ul style="list-style-type: none"> understanding the role of rail within Australia's transport system; identifying productivity impediments within the freight rail sector; and developing recommendations for government to effectively intervene in the rail sector to improve outcomes for the transport system as a whole. 	<ul style="list-style-type: none"> Stakeholders see rail as uneconomical for intermodal freight due to inferior service, transit times and reliability compared to road transport (and sea transport for east-west movements). Below and above rail operators highlighted a lack of planning and policy direction from government for rail infrastructure and intermodal terminals as one of the major productivity impediments. Above rail operators also mentioned a lack of certainty around future track investments and demand for rail freight movements as one of the factors preventing efficient investment in rolling stock and therefore reducing rail productivity. Other barriers to productivity are also noted in the areas of environmental, safety and technical regulation and standards, economic regulation and market structure, and policy, planning and investment. 	<p>It is stated that the NTC should work with state and federal governments to develop a national framework to overcome coordination failures for rail transport planning, policy development and investment across Australia. The NTC is also to develop a consistent framework for assessing and providing government funding to private and publicly owned rail businesses, and improved monitoring of rail businesses receiving government funding.</p> <p>Collaborative efforts are endorsed between all levels of government in reference to planning and funding and Industry should lead coordination of planning along the supply chain with appropriate support from government.</p>	<p>The review does not propose any specific measures or investments for action.</p>
<i>Groundwork for Growth: Building the Infrastructure that Australia Needs</i>	All	Australia	To develop a National Freight Implementation Plan, drawing on the Commonwealth and State Treasuries, Infrastructure	The report outlines the several priorities in the freight industry that need to be addressed:	The report suggests appropriate institutional arrangements to ensure national road spending is planned, charges are set to	No investment requirements are identified per se, but the document proposes that a National Freight

Title	Modal focus	Geographic focus	Objective	Identified gaps	Proposed roles	Identified investments
(Business Council of Australia, 2009)			Australia and the National Transport Commission as appropriate in order to initiate better planning, more consistent state transport regulations and more appropriate user charges. This is in aid of facilitating Australia's broad growth ambition.	<ul style="list-style-type: none"> a lack of quality planning; inconsistent state transport regulations; and inappropriate user charges under investment. 	<p>match the planned spending, and the subsequent revenue raised is then used to implement the plan.</p> <p>COAG is generally identified as the appropriate driver for infrastructure reform.</p>	Implementation Plan be developed, and this should set out a clear and transparent spending timetable for investment in freight infrastructure.
<i>New South Wales Grain Freight Review</i> (Department of Infrastructure, Transport, Regional Development and Local Government, 2009)	All	New South Wales	To outline structures that will enable the retention of the majority of grain branch lines, allow government investment to be contingent on industry contributions, encourage long term planning and certainty for investment, and promote improved road access and broad improvements across the chain of grain logistics through improved collaborative efforts.	<p>The primary challenges identified by the review include:</p> <ul style="list-style-type: none"> increased competition for rail capacity by coal; complex and duplicated institutional arrangements; burden of road freight on local government and communities; a lack of clarity and coherence in the planning for the grain freight transport task; and need for an enhanced cross-border focus. 	<p>The review proposes the following roles:</p> <ul style="list-style-type: none"> Commonwealth – strategic guidance over development of east coast grain freight network; ACCC – review accreditation system as part of its scrutiny of access undertakings under the WEMA; NSW Govt – fund the stabilisation of specific branch lines through an unrecoverable grant; NSW Govt – negotiate future of four specific branch lines; NSW Govt – transfer management of branch line network to ARTC; NSW Govt – facilitate an ongoing grain logistics coordination vehicle; Australian and NSW Govts - investigate options to address train pathing constraints into the port of 	It is recommended that NSW Government pay (through an unrecoverable grant) for the stabilisation of nine branch lines, so that they can be reliably operated as Class five lines.

Title	Modal focus	Geographic focus	Objective	Identified gaps	Proposed roles	Identified investments
<i>Western Australia Grain All Freight Review</i> (Department of Infrastructure, Transport, Regional Development and Local Government, 2009).		Western Australia	<p>The Review suggests that in assessing potential investment options the focus should be on:</p> <ul style="list-style-type: none"> • what is likely to deliver the most value to the users of the grain freight service, and should not be transport mode or technology specific; • options that are most consistent with facilitating the development of the supply chain; • the WA grain industry, given its current structure (i.e. works with how the market is evolving rather than trying to work against it); and • resolving the pressing need to provide greater certainty to all players in the market in the short term, regardless of whether the Government chooses to invest or not. 	<p>The following gaps are identified in the review:</p> <ul style="list-style-type: none"> • there is a prima facie case for investing in rail to correct the market failure created by the inability to price the use of regional roads appropriately, and create a more level playing field between the two transport modes. However, the Review suggests that correcting for this externality is unlikely to change materially the competitiveness of rail; • optimising the efficiency of the rail grain supply chain in isolation might not be consistent with customer needs or the Government's objective. A more expensive freight supply chain might be more consistent with a higher value wheat supply chain if it allows for the creation of additional value in other parts of the supply chain 	<p>Newcastle; and</p> <ul style="list-style-type: none"> • RTA, local councils and industry are to develop a 'grain road network', to limit impact of road freight. <p>The main responsibility lies with the Australian Government who is charged with facilitating the development of a more sustainable grain freight supply chain in WA subject to the necessary commitment to providing investment from the WA Government, grain freight industry, growers and exporters.</p>	<p>The review found that the costs of the proposed investment package are likely to exceed benefits.</p> <p>It subsequently suggested that the GIG review does not provide a reliable basis on which to make major investment decisions and that further analysis of alternate investment options is required.</p> <p>In assessing potential options, focus should be on:</p> <ul style="list-style-type: none"> • What is likely to deliver the most value to the users of the grain freight services (not to be transport mode or technology specific); • Options that are most consistent with facilitating the development of the supply chain and the WA grain industry, given its current structure.
<i>Western Brisbane Transport Network</i>	All transport.	Queensland	The purpose of the Strategy is to promote a fully integrated multi-	Key issues raised through community consultation were	Responsibility reforms rests with the Queensland Government and	Various investments are outlined including:

Title	Modal focus	Geographic focus	Objective	Identified gaps	Proposed roles	Identified investments
<p><i>Strategy</i> (Queensland Department of Transport, 2009)</p>			<p>modal approach to the transport needs of western Brisbane. It provides a transport vision to guide all levels of government in developing an integrated transport network that caters for walking and cycling, rail, bus, roads and freight.</p>	<p>peak hour traffic congestion, overcrowding on public transport and buses being caught up in general traffic. An area for further improvement was seen to be the adaptability of the public transport network to future challenges such as increased population density and the impacts of climate change.</p>	<p>collaboration with local governments is strongly endorsed.</p>	<ul style="list-style-type: none"> • The development of the North South Motorway as a means of reducing congestion in Western Brisbane. • Centenary Motorway transit lanes and • A third track on the Corrinda to Dana rail line.
<p>Various Rail Infrastructure Strategies (ARTC)</p>				<p>Detail of these various strategies are not provided here, as they are largely operational in nature (detailing future ARTC investment decisions and ongoing infrastructure work) and thus offer a level of detail not in accordance with the proposed national freight network strategy.</p>		

Appendix B

International approaches

B.1 South Africa

Key issues

South Africa has a dispersed population, with much of the population located in inland cities such as Johannesburg, Bloemfontein and Pretoria. This dispersed population creates a significant freight task in the movement of goods from the coast to inland, alongside the movement of coal and iron ore from inland to port for subsequent export.

Impediments to the current network

In 2005, the South African Department of Transport released a *National Freight Logistics Strategy* (NFLS). This strategy is in response to the freight system's inability to meet current demand, at a price and quality that supports national development strategies. More specifically, the strategy states that:

The freight system in South Africa is fraught with inefficiencies at system and firm levels. There are infrastructure shortfalls and mismatches; the institutional structure of the freight sector is inappropriate, and there is a lack of integrated planning. Information gaps and asymmetries abound; the skills base is deficient, and the regulatory frameworks are incapable of resolving problems in the industry. (Cited in Department of Transport [South Africa] 2005)

The strategy indicates that these problems are attributable to inappropriate institutional and regulatory structures, which lead to poorly performing infrastructure and system-performance (Department of Transport [South Africa] 2005).

Relevant statistics

In 2003, 693 million tonnes of freight were transported domestically within South Africa. Of this, 513 million tonnes was transported by road (74 per cent) and 180 million tonnes by rail (24 per cent). Since 2000, road freight has been growing at a rate of 4 per cent per annum, capturing market share from rail, which experienced a slight downturn in the same period (Department of Transport [South Africa] 2005).

The National Freight Logistics Strategy

Objectives

The NFLS has the overarching objective of providing customers with an effective and efficient multi-modal network that promotes the government's objectives and priorities. The more specific objectives contained in the NFLS are categorised under economic, social and environmental:

- Economic objectives
 - to increase transport efficiency in regards to both cost and time, which will be aided by reducing inefficiencies at modal changeover points.
 - to develop infrastructure, including strategic transportation corridors and increase overall network co-ordination.

- Social objectives
 - To alleviate poverty, aided by job creation and to develop and improve the human capital of those already employed.
 - Decrease the disadvantages resulting from location by promoting equitable access to freight transport for rural sectors.
- Environmental objectives
 - To reduce the overall levels of pollution, aided by reducing congestion and to reduce the damage both the environmental and monetary costs associated with accidents.

Principles

The NFLS also identifies a number of economic principles that underpin the strategy — that freight drives economic growth and that the export market must operate smoothly.

These are complemented by the social principles of equitable opportunity, accessibility and sustainable social and economic development. The underlying environmental principle is to create a sustainable freight network.

Other key features of the National Freight Logistics Strategy

The NFLS also identifies the role for government in the South African freight network, including indicating that the government will take a more interventionist role in regulation, and identifying different infrastructure ownership models.

B.2 New Zealand

Key issues

Although having a relatively small population, New Zealand has a challenging freight task. This is largely attributable to geography, with the population spread across two islands, alongside the presence of volcanic mountains and woodlands. Furthermore, New Zealand's relative isolation provides a challenge for international freight movements into and out of the country.

The 2008 New Zealand Transportation Strategy (NZTS) identified rising energy costs and the funding of infrastructure investment to be significant issues in the freight sector over the next 30 years.

Relevant statistics

The movement of freight has increased significantly in New Zealand in recent years, and is expected to continue to increase in the years to come. Since 2000, tonne kilometres of road freight increased by 34 per cent, with the quantity of domestic freight expected to more than double by 2040.

In 2006-07, a total of 26.8 billion tonne kilometres of freight was moved in New Zealand (road: 70.2 per cent, rail: 14.6 per cent, coastal shipping: 14.9 per cent, air: 0.3 per cent) (Richard Paling Consulting 2008).

The national strategy

Although New Zealand does not have a stand-alone national freight strategy, the NZTS covers all forms of transportation, including freight.

The NZTS was designed as a strategy to address and responsibly manage the national transportation system. It integrates the lessons of the previous 30 years with the government's plan for the following 30 years.

Objectives

The 2008 strategy maintains the five objectives featured in the 2002 NZTS. These comprise promoting (1) environmental sustainability; (2) economic development, and (3) safety, while improving (4) accessibility; and (5) public health.

Although all of the objectives were noted as equally important over time, due to current environmental pressures, sustainability measures will be prioritised in the short to medium term.

Principles

The NZTS identifies a number of principles to guide implementation of the strategy:

- the transport system must be socially, economically and environmentally sustainable and in doing so, the strategy must also reduce accessibility inequalities;
- the transport system must be responsive. Freight must be able to be transported seamlessly using multi-modal methods; and
- the system must be able to recover and continue operating smoothly after unexpected events and natural disasters.

B.3 Scotland

Key issues

The 2006 *Freight Action Plan* prepared for the Scottish Executive identified investment, planning and policy, congestion, increasing costs and taxes, declining industries and accessibility as overarching issues.

Impediments to the current network

Like in Australia, congestion on road and rail are creating significant impediments in Scotland. Road congestion is increasing delivery times, causing inefficiencies and additional pollution. Furthermore, the rail network is under increasing demand from passenger trains, limiting freight capacity. An imbalance between imports and exports to and from England is also seeing trains periodically return to Scotland running empty.

A related challenge in Scotland is that freight policies differ between United Kingdom public agencies and other regions. This creates serious impediments in the highly interdependent United Kingdom.

Relevant statistics

In 2003, 220 millions tonnes of freight was transported within Scotland, two thirds of which was moved by road.

Rail and waterway freight increased significantly throughout the 1990s, but declined in 2002-03. This corresponds to an opposite trend experienced by the road freight sector.

The national strategy

The *Freight Action Plan* was created within the context of policy objectives set by the European Union and United Kingdom, as well as domestic Scottish imperatives. The external policy focus is largely environmental concerns such as pollution and emissions targets, while the domestic policy focus is on logistic concerns, such as congestion and policy and investment strategies.

The *Freight Action Plan* also identifies a number of measures to encourage the shifting of freight from roads onto rail and water to ease congestion. This is promoted through three government grant schemes.

Objectives

Through the *Freight Action Plan*, the Scottish Executive identifies five distinct objectives:

- enhance Scotland's competitiveness;
- support the development of the domestic freight industry;
- improve accessibility in rural and remote areas;
- minimise the adverse impact of freight movements on the environment, in particular through the reduction of emissions and noise pollution; and
- ensure freight transport policy integration.

Principles

The *Freight Action Plan* also identifies a number of principles that are to guide the development of specific actions. These include:

- the entire freight supply chain must be efficient and sustainable, and transport infrastructure both integrated and flexible; and
- the public and private sectors work in partnership to develop a flexible and sustainable transportation network.

B.4 Canada

Key issues

Much like Australia, Canada has highly populated urban areas connected by vast geographically harsh and sparsely populated areas. This raises two distinct and equally important issues: urban congestion and disjointed urban-rural infrastructure.

These issues have proved to be increasingly problematic for two major reasons:

- forecasted urban population growth; and

- expanding Canadian trade.

Trade is particularly pertinent as 75 per cent of all imports entering Canada from the Atlantic coast are destined for central and western Canada as well as the United States Mid-West, with a similar percentage for imports entering in British Columbia for movement across the continent.

Relevant statistics

A significant 67.6 per cent of Canada's annual GDP is traded internationally, making an efficient transportation infrastructure system vital for continued Canadian growth.

Excluding gas and oil pipelines, in 2007 311.1 billion tonne kilometres of domestic freight was transported by rail (63 per cent), 133 billion tonne kilometres by road (27 per cent), 48.7 billion tonne kilometres by waterways (10 per cent) and 0.7 billion tonne kilometres by air (0.1 per cent) (North American Transportation Statistics 2009).

Strategies

Canada currently does not have a national transportation or freight strategy. However, the Canadian Chamber of Commerce (2008) and the Council of the Federation (2005) both released reports advocating that a national strategy is crucial for continued growth. These two documents provide guidance on what is considered by stakeholders as important features of a national freight strategy.

Impediments to the current network

These two documents identify a number of factors providing impediments to the operation of the freight network. These include:

- split responsibilities between levels of government;
- inappropriate taxes; and
- operating constraints.

Defining a national network

The Chamber of Commerce envisions a national network as a single multi-modal system with a seamless integration of rail, road, waterway and air transportation methods.

The relationship between the Canadian freight network and that of the United States is seen as an significant component of any national strategy, as this is required to strengthen Canada's trade ties with their largest export market. Improved relationships between senior levels of transportation agencies and border control are identified as being increasingly important for achieving this goal.

Objectives

Both reports encourage movement away from single modal methods of transportation, towards the development of integrated multi and intermodal networks. It is considered that this transition will increase efficiency, safety and reduce environmental impacts.

The Chamber of Commerce explicitly listed four additional objectives:

- making Canada a competitive hub for North American transportation and trade, with a goal of 10-15 per cent of forecasted trade;
- create a socially and environmentally responsible infrastructure system;
- implementing any new strategy in partnership with stakeholders; and
- establishing a benchmark based on existing Government initiatives that can easily be built upon and refined.

These objectives are congruent with those outlined in the 2007 *National Policy Framework for Strategic Gateways and Trade Corridors* published by the Canadian Government.

Principles

The Chamber of Commerce emphasised that a national strategy or framework should be underpinned by a number of principles, comprising:

- infrastructure must link all areas of Canada, allowing all industries to contribute to trade;
- respect provincial and territorial objectives and priorities, allowing for adjustment to meet individual needs;
- support the capacity to handle high traffic loads in densely populated as well as rural provinces and territories;
- factor in the vital role of the private sector; and
- augment relationships between governments.

Other issues

Other issues identified by the Chamber of Commerce is that a national strategy should have a minimum lifespan of at least ten years to ensure stable and consistent development of infrastructure. Furthermore, it is considered that a national strategy should lead to the replacement of ad hoc funding approaches with dedicated and consistent Federal funding, alongside encouraging funding from public-private partnerships instead of just public sources.

B.5 United States

The United States has what the US Department of Transportation (USDOT) refers to as a 'national system, not a Federal system' when it comes to freight. What this means is that there is no explicit overarching freight transport policy that is issued or overseen by the American federal government. However an articulated freight policy framework has been organically developed over time (and continues to evolve) with the USDOT and its instrumentalities serving as facilitators across freight stakeholders at various levels of government and within the private sector.

Key issues

As the largest economy in the world, the sheer volume of freight that needs to be transported is enormous. And not only is the task large — so are the distances involved. Additionally, due to the varied nature of North American geography, varying from dense woodlands to expansive plains and snow-capped mountains to deserts, transporting large volumes of freight over long distances becomes increasingly difficult. This is particularly problematic as dense population centres are scattered throughout the country. However, much like Australia, there is a higher concentration along the coasts, and in particular the east coast.

Relevant statistics

In 2007 2,591.4 billion tonne kilometres of domestic freight was transported by rail (47.6 per cent), 2,006.6 billion tonne kilometres by road (36.9 per cent), 822 billion tonne kilometres by waterways (15.1 per cent) and 22.2 billion tonne kilometres by air (0.4 per cent) (North American Transportation Statistics 2009).

Impediments to the current system

In their 2008 *Freight Transportation: National Policy and Strategies Can Help Improve Freight Mobility* report, the US General Accountability Office identifies several issues within current federal freight policy. These are:

- an ‘absence of a clear federal strategy and role for freight transportation’;
- ‘an outmoded federal approach to transportation planning and funding’; and
- ‘the unsustainability of planned federal transportation funding’.

These issues hinder ‘the ability of public sector agencies to effectively address freight mobility and highlight the need to reassess the appropriate federal role.’

The report suggests ‘a comprehensive national strategy for freight transportation’ that should include explicit definitions of federal roles and national interests as well as explicit costings for fulfilling these roles.

Framework for a National Freight Policy

This 2009 document is web-based, explicitly decentralised in its development, and evolving. There is a national freight vision statement with supporting objectives, then, in hierarchical nested order, ‘strategies’, ‘tactics’ and ‘actions.’ Each of these is based upon continuing input from public and private freight stakeholders and supported by forums and research conducted by the Transportation Research Board (TRB), a non-partisan research entity under the US National Research Council-US National Academy of Sciences.

The Framework’s ‘Vision Statement’ in its entirety states: ‘The United States freight transportation system will ensure the efficient, reliable, safe and secure movement of goods and support the nation’s economic growth while improving environmental quality.’

Objectives

The objectives to be achieved by this vision are:

- Objective 1: Improve the operations of the existing freight transportation system.

- Objective 2: Add physical capacity to the freight transportation system in places where investment makes economic sense.
- Objective 3: Better align all costs and benefits among parties affected by the freight system to improve productivity.
- Objective 4: Reduce or remove statutory, regulatory, and institutional barriers to improved freight transportation performance.
- Objective 5: Proactively identify and address emerging transportation needs.
- Objective 6: Maximize the safety and security of the freight transportation system.
- Objective 7: Mitigate and better manage the environmental, health, energy, and community impacts of freight transportation.

From this level of generality, the framework continues down to greater detail to list numerous ‘strategies’ under each objective and ‘tactics’ under each strategy. For each tactic there are then further specific activities. For the 7 strategies, there are 97 associated tactics and several hundred activities. Each tactic, strategy and activity has a designated ‘lead agency’ (federal agencies in most cases) assigned responsibility for overseeing progress.

Principles

All of these elements are guided by four ‘Overarching Themes’:

- ‘Framework for National freight policy, not Federal freight policy’ — which indicates that the US Federal government is only one of many players in development and implementation of any freight policy that applies to the nation as a whole;
- ‘Importance of investment’ — which calls for maintenance of the system through a portfolio of financing approaches and mechanisms;
- ‘Public-private collaboration’ — which argues that governmental and nongovernmental responsibilities for freight should not be rigidly separated but should allow for flexibility according to the need at hand;
- ‘Living document’ — which states that ‘This framework will evolve as conditions change and as strategies and tactics are tried and evaluated.’

Because these elements have been arrived at through collaborative and consensual consultations, they vary in terms of their specificity. In some cases the strategies and tactics remain fairly generic. For example, Objective 1 contains ‘Strategy 1.3: Explore opportunities for privatisation’ which then contains ‘Tactic 1.3.01 Explore and monitor opportunities for private operation of highways’ which is the sole tactic mentioned. There is no associated activity. On the other hand, Objective 7 contains ‘Strategy 7.4 Prevent introduction of or control invasive species’ and a (sole) supporting objective of ‘Tactic 7.4.01 Support the Coast Guard's comprehensive national ballast water management program’ that contains 4 even more specific activities. Knotty and controversial issues thus tend to stay at high levels.

Freight Story

The Framework above sits atop a web of Federal, State, local and private programs that have some national components though few dealing explicitly with freight and each of which have developed across parallel but often uncoordinated historical lines. To provide some background and coherence to these separate developments, the USDOT Federal Highway Administration Freight Management and Operations Office issued *Freight Story* in 2008, spelling out the various components of current policies and how they relate to freight.

The section on ‘Government Responses at the National Level’ indicates how relevant Federal programs comprise major funding contributions to national highway corridors used for both passenger and freight movements, and, as of 2005, freight analysis and research through the surface transportation congestion relief solutions research initiative; the National Cooperative Freight Research Program (NCFRP) which is run through the TRB; and the Hazardous Materials Cooperative Research Program (HMCRP). The research programs provide about \$2 million per year.

Freight Transportation: National Policy and Strategies Can Help Improve Freight Mobility

One other useful document is a critique of US federal freight policy issued by the US General Accountability Office (GAO). This report argues that ‘the absence of a clear federal strategy and role for freight transportation, an outmoded federal approach to transportation planning and funding, and the unsustainability of planned federal transportation funding’ hinders ‘the ability of public sector agencies to effectively address freight mobility and highlight the need to reassess the appropriate federal role.’ The report calls for ‘a comprehensive national strategy for freight transportation’ that should include explicit definitions of federal roles and national interests as well as explicit costings for fulfilling these roles (something currently absent from the Framework described above).

B.6 European Union

The European Union (EU) has established a set of principles, guidelines and institutions to formulate and carry out a continent-wide investment programme of transport corridor improvements. This programme, referred to as Trans-European transport network or TEN-T (or TENs when referring to the various individual corridors, described in more detail below, collectively as networks), is being actively built and invested in with EU funds. TEN-T is designed to facilitate and expand both passenger and freight movements. There is an additional proposal within the European Commission to formulate an EU policy dealing with investments and plans to improve the infrastructure that supports logistics.

Transport: What do we want to achieve?

This online document from 2009 first spells out the purpose of the TEN-T programme:

Most of these transport infrastructures have been developed under national policy premises. In order to establish a single, multimodal network that integrates land, sea and air transport networks throughout the Community, the European policymakers decided to establish the Trans-European transport network, allowing goods and people to circulate quickly and easily between Member States and assuring international connexions. Establishing an efficient trans-European transport network (TEN-T) is a key element in the relaunched Lisbon strategy for competitiveness and employment in Europe.

This broad intent has been implemented and developed incrementally with various pieces of EU legislation and other orders that have coalesced into a set of guidelines that are periodically amended to meet changing circumstances (e.g. EU enlargement). The guidelines contain both efficiency goals (e.g. minimising travel times between points on the network) and equity goals (e.g. encouraging development in underdeveloped parts of Europe). Cohesion between the geographic core of Europe and its peripheral parts is another explicit objective.

The basic building blocks of TEN-T are corridors that are deemed as critical to achieving programme goals. In each of these corridors are specific 'Priority Projects' that are identified as worthy of EU investment and to which funds are then directed.

Although the programme is organised along specific modes (such as road or rail), it also emphasises intermodality and multimodality. In other words, investments are directed towards improving and expanding the individual travel modes but with the explicit aim of encouraging movements across different modes when efficient to do so (the multi-modal aspect) and ensuring that such switchovers are easy and costless to accomplish (the intermodal aspect). The use of technology to optimise use of transport infrastructure such as Intelligent Transport Systems (ITS) is encouraged through the GALILEO plank of TEN-T.

The building, integration and expansion of high speed rail across Europe are particularly distinctive features of TEN-T. This part of TEN-T involves increasing the percentage of existing national rail networks that operate at high-speed rather than conventional speed; easing connections between national networks; and building entirely new rail links. Rail, whose share of passenger and freight carriage has been declining worldwide and in Europe as well, is seen as an efficient and sustainable medium and long-haul mode and hence worth investing in to contain and better focus the more polluting road-based modes.

TEN-T is funded through a variety of mechanisms, including competitive grants from the Trans-European transport budget; grants from the Cohesion Fund budget, in the countries eligible for its intervention (these being countries with regions deemed economically disadvantaged); grants from the European Regional Development Fund (ERDF) which focuses on 'Convergence objective regions' (i.e. the EU goal of limiting economic development differentials within Europe); and loans and guarantees from the European Investment Bank (EIB). Of course national governments can and do make their own individual transport investments that suit national needs.

Freight transport logistics in Europe

Of specific interest to freight and logistics policy is this 2006 document which is a communication from the European Commission (EC). It is not official EU policy but has been put forward for discussion. The EC proposes the following actions:

- identifying bottlenecks;
- extracting value from information and communications technology networks;
- establishing European certification [for logistics specialists];
- developing statistical indicators;
- better use of infrastructure;
- recognising quality [perhaps through an EU logistics quality label];
- simplifying multimodal chains [through streamlined customs formalities];
- promoting a regulatory structure or worldwide multimodality; and
- establishing European loading standards [to make national freight loading standards common across the EU].

These actions already mirror current policies under TEN-T and elsewhere but specifically have a logistics focus.

Appendix C

Stakeholder consultations

The following organisations were consulted during the preparation of this report:

- Australian Government Department of Infrastructure, Transport, Regional Development and Local Government;
- Australian Logistics Council (staff and members);
- Australian Rail Track Corporation;
- Australian Railway Association (staff and members);
- National Transport Commission;
- New South Wales Government Department of Transport and Infrastructure;
- Queensland Government Department of Infrastructure and Planning;
- Queensland Government Department of Transport and Main Roads;
- VicRoads;
- Victorian Government Department of Transport;
- Victorian Freight and Logistics Council; and
- Western Australian Government Department of Transport.

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