1 INTRODUCTION

1.1 Economic context

Economic impact

Freight and logistics are an indispensable component of economic activity. An estimate of the proportion of Gross State Product (GSP) attributable to logistics significantly understates its contribution to the whole economy, as logistics is a facilitator or enabler of almost all economic activity. New industries are dependent upon efficient and low cost transport, and improved logistics can transform the economy.

The direct contribution of the freight transport industry can be quantified, but it is a fraction of the entire logistics sector. Direct measures of how logistics contributes to the economy are difficult to determine. Nevertheless, the freight transport industry remains a starting point on which broader estimates are based.

Data from the Australia Bureau of Statistics (ABS) reveals that:

- 128,000 people are directly employed in freight transport in NSW
- 3.6 per cent of the State is employed in freight transport
- NSW freight transport has an annual turnover of $21.2 billion and a Gross Value Added (GVA) of $13 billion, or 3.1 per cent of the GSP.

Although easily derived, these figures distinctly underestimate the size of the logistics industry in two ways.

Firstly, ABS estimates do not include transport activities that are embedded within other industries, such as the movement of freight by in-house services. In NSW, this in-house activity is generally agreed to cover about two fifths of the total freight market and can be captured with a multiplier of about 1.7.

Secondly, logistics is much more than just transport, with general agreement in previous studies that the entire logistics sector accounts for 2.2 to 2.5 times the freight transport component.

Applying these multipliers yields an estimate that GVA for freight and logistics in NSW was 13.8 per cent of GSP or $58 billion in 2011.

Using the same multiplier for employment increases the number of **people working in logistics in NSW to 500,000, or nearly 14 per cent of NSW employment**. Even these estimates do not capture the $8.8 billion spent on construction of roads, bridges, railways, harbours, and warehouses and the resulting economic activity that this construction generates.

Key drivers of demand

The largest NSW logistics task is the movement of goods within the state, which accounts for 62 per cent of freight volume and is dominated by coal and aggregates. Exports account for 15 per cent of freight volume, while movements of manufactured goods into and out of NSW account for nine and 11 per cent of freight volume respectively. Imports, at two per cent of freight volume, make up the rest of the NSW transport task.

The major driver for the movement of goods is demand, both domestic and international. The key indicators of the freight task are therefore the export of goods and State Final Demand (SFD) for goods.

For more than two decades, these indicators have shown a very high correlation with the gross value added by transportation. They have grown at average annual rates of 3.2 per cent over this period, compared to 3.4 per cent average growth for gross value added in the NSW transport, postal and warehousing industry. Annual growth in exports of goods and SFD are forecast to average nearly 4.0 per cent over the next five years.

CASE STUDY ① CASELLA WINES

Based at Yenda, 16 kilometres east of Griffith, Casella Wines is Australia's largest wine exporter. The winery employs over 500 people and exports approximately 10 million cartons of wine to over 50 countries around the world. The business has an annual revenue of $344 million, of which 85 per cent is export revenue.

The scale of the Casella Wines' production and logistics operation is significant to the Riverina and NSW. During harvest, over 250 trucks a day from across NSW, Victoria and South Australia deliver grapes to the winery. Some 160,000 tonnes of grapes are crushed and processed at the winery annually. This equates to 10 per cent of the entire Australian grape crush. To fulfil the demands of its international customer base, the company requires a world-class supply chain.

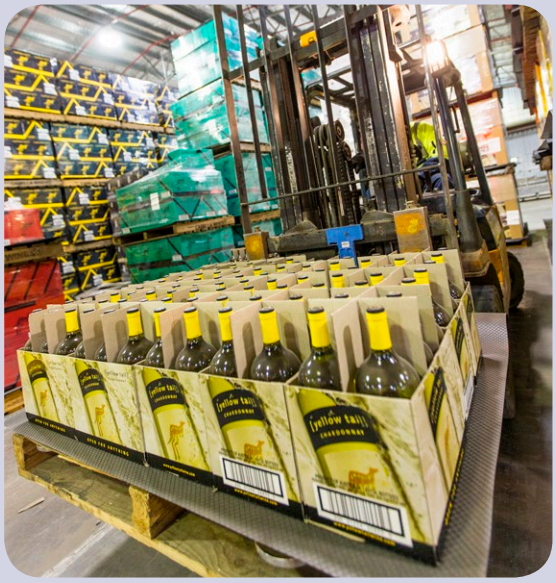
To meet this challenge Casella Wines has teamed with suppliers to fulfil production material requirements, invested in state of the art production and packaging equipment at Griffith and established cost effective and efficient transport solutions for product delivery. The company's latest bottling line is capable of bottling, boxing and palletising 36,000 bottles per hour.

On average, 35 twenty foot equivalent units (TEU) of bulk and bottled wine leaves Casella Wines every day, destined for the international market. Of the 12,775 TEU shipped annually, 79 per cent is destined for the US, where the Casella Wines' Yellow Tail brand is the most imported wine in the country. The bottled and bulk wine is exported via the Griffith intermodal terminal owned and operated by Patrick Logistics, with all the TEU moving through the Port of Melbourne.

The scale and interstate contestability of Casella Wines' freight task highlights the challenges faced by users of the NSW transport network. The market is highly competitive with wines from Italy, France, Spain, Chile and South Africa vying for consumer attention. Coupled with economic factors such as the high Australian dollar, Casella and other Australian exporters need to optimise supply chain efficiency to remain cost competitive.

Currently road transport operators hauling grapes to Casella Wines are hindered by High Productivity Vehicle access restrictions at various source locations through regional NSW. Minimising barriers to highly productive use of the road network would allow industry to reduce operational costs by moving more freight with fewer trucks.

Additionally the majority of Casella's export product initially travels 18 kilometres by road through the Griffith urban area and several school zones to reach the intermodal terminal for transfer to rail. The relocation of the intermodal terminal out of the built up area will mitigate noise and interaction with light vehicle traffic and reduce the impact on residents' homes.



Like other exporters in the Riverina, Casella Wines is positioned halfway between the international port gateways of Port Botany and Melbourne. The preferred export route is currently to Melbourne, because of efficient terminal-to-port rail corridors that allow timely freight rail movement at a lower cost.

Such decisions deprive the NSW Government and industry of revenue and employment opportunities generated from these freight activities. Only by expanding network capacity between regional areas and ports can Port Botany offer exporters a cost effective rail freight option to deliver their goods to market.

Effective land use planning is critical to increasing the attractiveness of NSW's rail freight network to industry. For example the development of an intermodal terminal closer to the Casella Wines facility and free of the current constraints would maximise connectivity between the company's freight point of origin and export market. If this facility was connected to the Sydney-bound Cootamundra rail line, Port Botany would have enhanced viability as an export hub.

Land use decisions that optimise the State and national freight networks, while achieving sustainability by minimising social impacts, will add value to the NSW economy.

Benefits of efficient logistics

Improvements in logistics have enabled increases in both the value and volume of freight transported. Lower costs have enabled new online markets to develop and greatly increased the output in others that rely upon improvements in coordination for just-in-time delivery.

Online trading has expanded rapidly, aided in part by improvements in freight and logistics that have lowered the cost of transporting goods direct to the customer. This has enabled smaller online operators, which are characterised by low volume and low cost freight requirements, to compete with established bricks and mortar retailers in a way that was impossible a decade ago.

Logistic management also enabled the Hunter Valley Coal Chain (HVCC), the largest coal chain operation in the world, to rapidly increase efficiency and output through a centrally managed coordinator tasked with minimising total logistics costs and maximising volumes.

With 40 different coal mines, owned by 11 coal producers, operating 30 different loading points, delivering coal along rail lines up to 450 kilometres in length to three different port terminals, the HVCC was not naturally efficient. It had suffered from a lack of congruence between mines' requirement for additional capacity and contracts with rail service providers for loading and shipping capacity.

The HVCC is now considered to be world leading and is expected to enable a threefold expansion in outputs from 68 million tonnes in 2000 to 205 million tonnes by 2014.

1.2 Purpose of the NSW Freight and Ports Strategy

The NSW Freight and Ports Strategy is a core component of the State's overall strategic planning framework. It supports the goals identified in NSW 2021 to:

- Rebuild the economy
- Return quality services
- Renovate infrastructure
- Strengthen our local environment and communities
- Restore accountability to government.

The *NSW Transport Administration Act 1988* was amended in November 2011 to create a single transport authority with responsibility for overseeing the entire transport system. The Act includes objectives focused on freight and economic development. This Strategy is the road map to meeting those legislative objectives.

This Strategy also responds to Infrastructure Australia's National Port Strategy and the National Land Freight Strategy. In addition, this Strategy is consistent with the objectives of the NSW Long Term Transport Master Plan.

This Strategy will provide a framework for industry, all levels of government and stakeholders to guide investment and other decisions to enhance freight logistics in NSW.

The NSW Freight and Ports Strategy identifies where government intervention is justified to enhance productivity and economic efficiency by addressing problems with the operation of markets and institutions, and balancing competing interests and impacts. Government intervention can be in the form of the provision of physical infrastructure, coordination and control, market structure reforms, co-investment with the private sector, regulartory reform and other economic incentives.

Having a NSW Freight and Ports Strategy means that any government intervention in the market is:

- Guided by a clear aim and achievable objectives
- Proportional and accurately targeted
- Monitored for performance and progress in achieving its objectives.

The NSW Government plays a key role in balancing the need for improved strategic planning, investment, coordination and regulation of freight movement with the need to minimise the impact of freight movement on local communities, the environment and other transport users.

A strategy for integrated planning and investment in the NSW transport network has many benefits. For example, it provides a framework for agreement on the long term investment needs to deliver essential network capacity, efficiency and compatibility with the wider national network so that competitiveness is not hindered by network constraints.

1.3 Strategy framework

Aim and objectives

The aim of the NSW Freight and Ports Strategy is to provide a transport network that allows the efficient flow of goods to their market.

In 2013, congestion and inefficiencies are evident in all network modes with the people of NSW paying the costs, both directly and indirectly. Providing a network that eliminates or at least minimises congestion will support economic growth and productivity and encourage regional development.

In support of this aim, Transport for NSW has developed freight specific objectives which reflect the importance of the freight transport network for a competitive and productive NSW economy, as well as the need to integrate freight transport with other productive and non-productive activities and land uses.

The objectives are:

- **Delivery of a freight network that efficiently supports the projected growth of the NSW economy**
- **Balancing of freight needs with those of the broader community and the environment.**

These objectives are to be taken in the context of a wider set of considerations for this Strategy, including the need for alignment with related strategies and plans such as NSW 2021, the NSW Long Term Transport Master Plan and the National Transport Policy Framework. This Strategy will also inform the development of Regional Transport Plans that will include further attention to regional freight needs.

The maintenance of existing partnerships with industry and government, as well as enabling the creation of new and sustainable commercial relationships, is pivotal to this Strategy.

NSW Freight and Ports Strategy framework

The NSW Freight and Ports Strategy has been structured into three 'Strategic Action Programs' that target specific challenges associated with the forecast doubling of the NSW freight task by 2031.

The aim, objectives and challenges of this Strategy, as well as the Strategic Action Programs, are illustrated in the framework diagram shown in Figure 1. It should be noted that many of the challenges and actions within this framework are linked, and these interdependencies are recognised in this Strategy.

Challenges

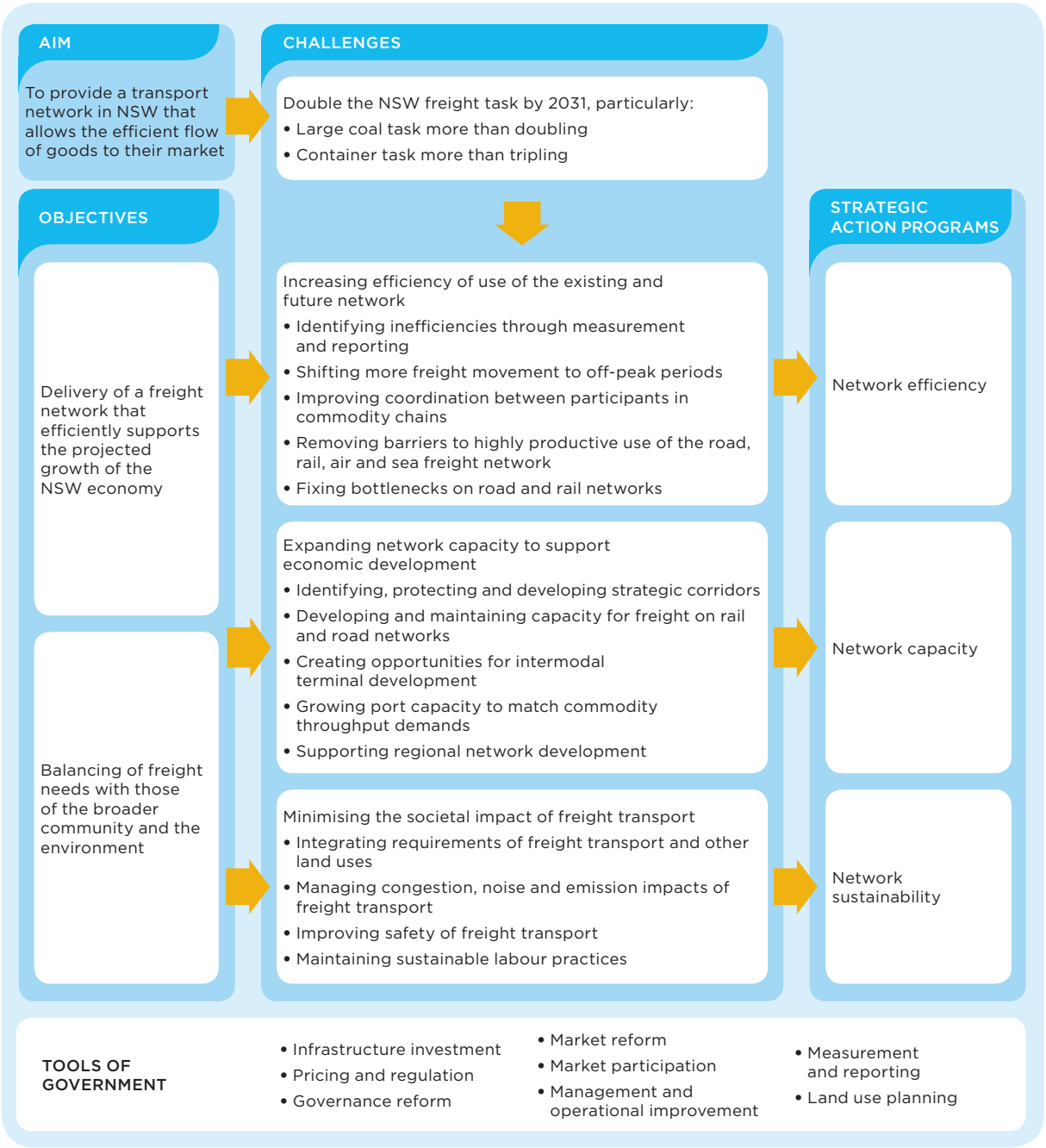
For the purposes of this Strategy, 'challenges' are defined as the targeted outcomes that need to be achieved in order to meet the objectives. The challenges associated with increases in freight volumes in NSW in the next 20 years are significant. They relate broadly to efficient network usage, network capacity expansion and sustainability. Within each of these broad challenges fall several more specific challenges that will need to be met in order to achieve the objectives. As shown in Figure 1, each set of challenges will be addressed by a Strategic Action Program.

Expectations

The NSW Government has a range of tools at its disposal to use in meeting the challenges of the freight task. The NSW community expects that any government involvement in the transport network is transparent, represents value for money and avoids unintended commercial consequences and social impacts, such as congestion and noise.

In turn, the expectation from government is that users of the transport network comply with transport and network regulations and perform their work efficiently, so that network performance is optimised. The shared goal is to create maximum economic value for NSW enterprises and the community.

Figure 1 NSW Freight and Ports Strategy framework



The NSW Government expects that the freight and logistics sector communicate demand forecasts to help inform government decision making in addition to the following:

- Create value for the economy through innovation
- Apply best practice methods in using the network
- Comply with regulation and pricing mechanisms, and where appropriate, cooperate with other network users so that finite network capacity is optimised.

NSW transport planning framework

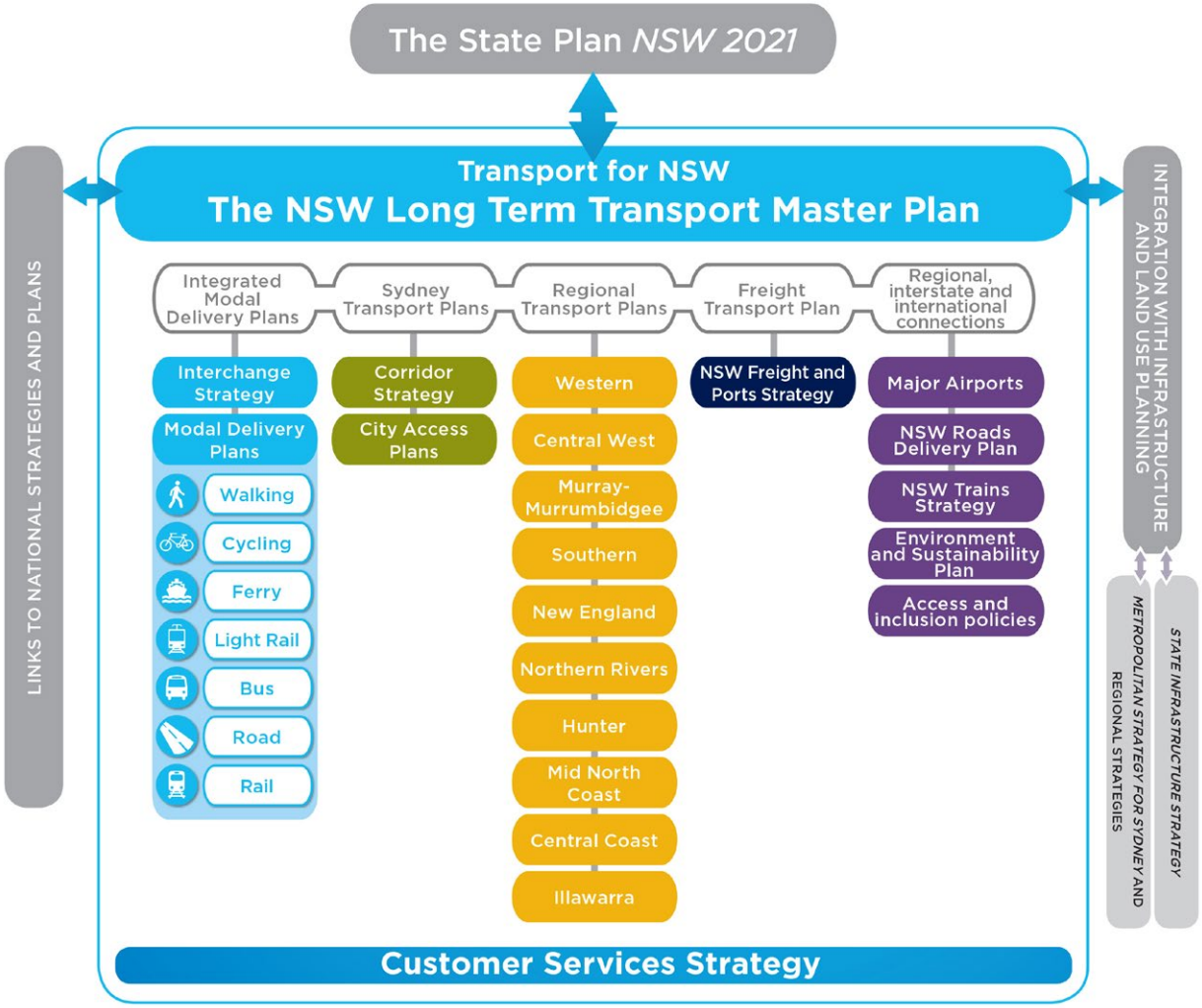
A 20 year timeframe, with 2011 as the base year, is used in developing Transport for NSW plans. The 2011 to 2031 timeframe has been used to develop volume forecasts referred to in this Strategy.

The Freight and Regional Development Division has developed the NSW Freight and Ports Strategy. The basis of this Strategy is previous work undertaken by transport agencies in NSW, as well as contemporary input from industry and stakeholders. A series of industry and public consultations was undertaken, as well as the review of submissions provided as part of the development of the NSW Long Term Transport Master Plan.

Decisions that impact the State's freight network are made as part of the NSW Government budget planning process.

The integrated planning process is shown in **Figure 2**.

Figure 2 The NSW transport planning framework. The NSW Freight and Ports Strategy provides specialist freight and logistics input to the NSW Long Term Transport Master Plan.



1.4 Development and implementation of the NSW Freight and Ports Strategy

Action prioritisation

The NSW Freight and Ports Strategy comprises three Strategic Action Programs, 19 Actions and 49 underlying Tasks. In order to ensure a high level of effectiveness and efficiency in implementing this Strategy, Actions have been prioritised according to the following criteria:

- Positioning to address objectives, challenges and demand requirements
- Targeted outcome (size, nature and timing of impact)
- Linkages and dependencies (potentially resulting in the creation of portfolios of related work)
- Difficulty and timing of implementation
- Cost and funding requirements.

The final section of this document incorporates this prioritisation (see Chapter 5).

Targets and measurement

In implementing this Strategy, Transport for NSW will develop a range of Key Performance Indicators (KPIs) that will provide the basis for ongoing assessment of network performance. The KPIs will draw upon those already established within some sectors of the transport and logistics industry, such as container movements by road and rail through Port Botany, as well as new indicators that measure network efficiency and capacity.

Historically, performance indicators have been established and monitored by individual organisations or groups of organisations. There have been few indicators related to overall supply chain efficiency. This segmentation has resulted in decisions being made on limited inputs, with few indicators shared between industry participants. Transport for NSW will build a single performance management framework, incorporating micro and macro level indicators.

An effective framework of targets and measures will provide a snapshot of freight network capacity, industry performance within key supply chains and the effectiveness of the State's freight transport operations for different modes. One of the key challenges in establishing the measures will be for all participants in the supply chain, and across industry, to share information which will enable decision making that benefits the freight industry and communities.

Updating this Strategy

This Strategy is built on a strong evidence base including advice from industry, local government and freight specialists. The Strategic Action Programs and tasks identified in this Strategy nominate a range of policy approaches and tools to ensure the transport network allows optimal performance by all users. Measurement and communication of performance are critical to continual improvement of and gaining maximum utility from the network.

There will be a continuous evolution of this Strategy through periodic review and assessment of Strategic Action Programs to ensure they remain relevant and on schedule. The process will encompass ongoing engagement with industry and government agencies. Monitoring and review of this Strategy is addressed further in Chapter 5.

The NSW road network is shared between bicycles, pedestrians, passenger vehicles, buses, light commercial vehicles, construction vehicles, and heavy trucks. Congestion, particularly during peak periods, is often incorrectly attributed to freight movements rather than passenger vehicles.

1.5 Strategic Action Programs summary

Strategic Action Program ① – Network efficiency

ACTION 1A Identify freight movements and network demand

Task 1A-1 Establish and manage freight network performance indicators

Task 1A-2 Analyse the role of freight transport in the NSW economy

Task 1A-3 Maintain a single agency for streamlined data collection and strategic analysis

Task 1A-4 Develop purpose designed cargo movement models

Task 1A-5 Promote efficient movement of general road freight

ACTION 1B Shift more freight movements to off-peak periods

Task 1B-1 Build the case for off-peak freight handling for planning purposes

Task 1B-2 Support the growth of off-peak freight movement through industry-informed policy development

Task 1B-3 Identify the infrastructure and regulatory requirements for off-peak freight handling

ACTION 1C Develop a seamless interstate freight network

Task 1C-1 Maintain dialogue with national regulators to support the interests of freight

Task 1C-2 Improve cross border freight flows

ACTION 1D Improve productivity of the road freight network

Task 1D-1 Develop national heavy vehicle charging and investment reforms

Task 1D-2 Provide necessary infrastructure to support High Productivity Vehicle access

Task 1D-3 Improve access for High Productivity Vehicles on State and local roads

Task 1D-4 Incorporate freight considerations into managed motorway access decisions

Task 1D-5 Manage oversize and overmass heavy vehicle movements

ACTION 1E Improve productivity of the rail freight network

Task 1E-1 Conduct NSW Rail Access Review

Task 1E-2 Secure current and future freight capacity requirements on the shared network

ACTION 1F Maintain productivity of the air freight network

Task 1F-1 Understand the landside movements which support efficient air cargo logistics

Task 1F-2 Incorporate the value of air cargo in planned infrastructure upgrades for the Port Botany and Sydney Airport precinct

Task 1F-3 Work with the Sydney Airport Corporation and the Australian Government to ensure a consistent approach to strategic airport planning

ACTION 1G Facilitate the use of coastal shipping

Task 1G-1 Improve the understanding of the role of coastal shipping in the NSW freight task

Task 1G-2 Work with industry in expanding the use of coastal shipping

ACTION 1H Improve efficiency of landside cargo transport in regional and urban areas

Task 1H-1 Establish a NSW Cargo Movement Coordinator

Task 1H-2 Improve network connectivity between networks and key freight precincts

Strategic Action Program 2 – Network capacity

ACTION 2A Identify and protect strategic freight corridors

Task 2A-1 Establish corridors to meet long term freight needs of NSW

ACTION 2B Develop and maintain capacity for freight on the road network

Task 2B-1 Connect and complete Sydney's motorway network

Task 2B-2 Prioritise road infrastructure investments

ACTION 2C Develop and maintain capacity for freight on the rail network

Task 2C-1 Separate passenger and freight movements with network enhancements and rail alignments

Task 2C-2 Complete the Northern Sydney Freight Corridor

Task 2C-3 Ensure that there is sufficient rail infrastructure capacity from mine to port to meet coal demand

ACTION 2D Develop effective port growth plans to meet freight volume growth

Task 2D-1 Develop a Port Botany growth plan

Task 2D-2 Develop a Port of Newcastle growth plan

Task 2D-3 Develop a Port Kembla growth plan

ACTION 2E Foster intermodal terminal network development

Task 2E-1 Foster intermodal terminals in metropolitan areas

Task 2E-2 Support the operation of regional intermodal terminals

ACTION 2F Coordinate regional infrastructure and service provision

Task 2F-1 Adopt a best practice reform model for regional infrastructure

ACTION 2G Develop and maintain projects to support network capacity

Task 2G-1 Evaluate freight infrastructure through an investment framework

Task 2G-2 Maintain a program of projects for freight investment

Task 2G-3 Fund the infrastructure program

Strategic Action Program 3 – Network sustainability

ACTION 3A Embed freight requirements in planning schemes

Task 3A-1 Integrate land use planning and freight logistics

Task 3A-2 Enable efficient freight access

ACTION 3B Manage congestion, noise and emission impacts of freight transport

Task 3B-1 Recognise costs of congestion

Task 3B-2 Mitigate noise from freight operations

Task 3B-3 Mitigate emissions from freight operations

ACTION 3C Prioritise safety of freight transport

Task 3C-1 Support National Rail Safety Regulation

Task 3C-2 Improve heavy vehicle safety

Task 3C-3 Enhance port safety

Task 3C-4 Manage the transport and storage of dangerous goods

ACTION 3D Support the growth of the transport and logistics workforce

Task 3D-1 Develop strategies to attract and retain skilled workers