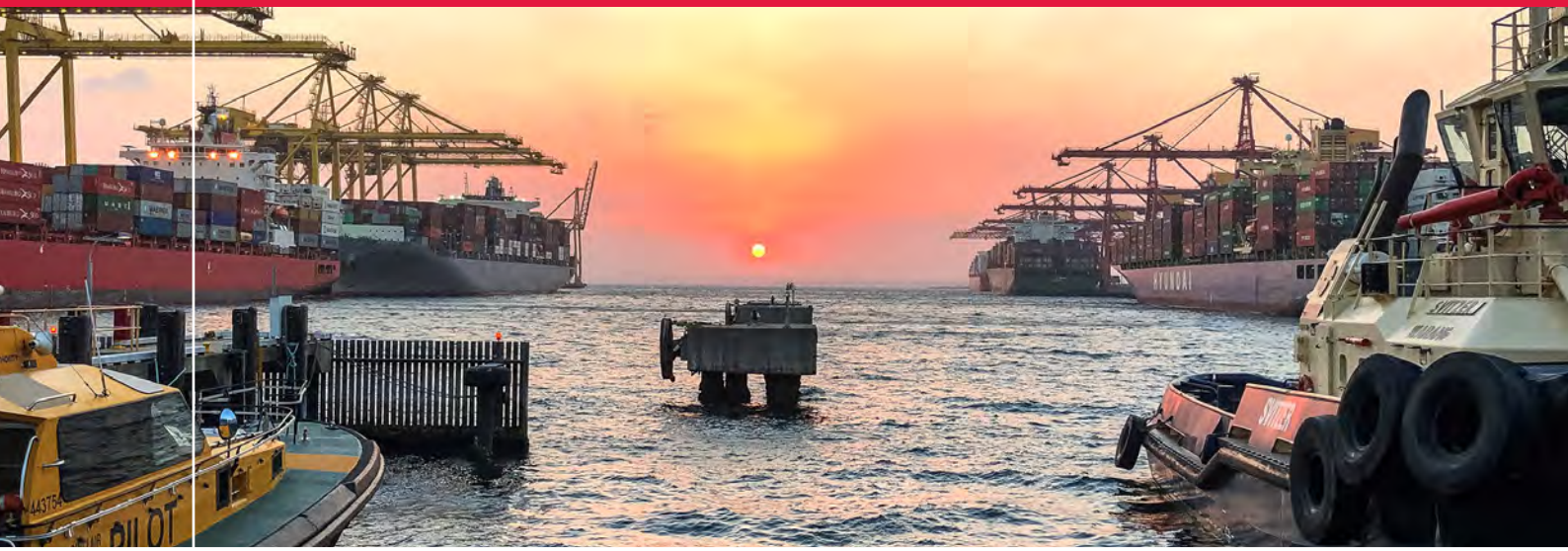
Transport
for NSW

Delivering freight policy reform in New South Wales

Prepared for the Hon John Graham, Minister for Transport, NSW

June 2025



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NSW
GOVERNMENT

Acknowledgment of Country

Transport for NSW acknowledges the traditional custodians of the land on which we work and live. We pay our respects to Elders past and present and celebrate the diversity of Aboriginal people and their ongoing cultures and connections to the lands and waters of NSW.

Many of the transport routes we use today – from rail lines, to roads, to water crossings – follow the traditional Songlines, trade routes and ceremonial paths in Country that our nation's First Peoples followed for tens of thousands of years.

Transport for NSW is committed to honouring Aboriginal peoples' cultural and spiritual connections to the lands, waters and seas and their rich contribution to society.

The Panel shares this acknowledgement with Transport for NSW.

Minister's Foreword

As Minister for Transport, I welcome this report – Delivering Freight Policy Reform in NSW - which will set the course for freight policy reform and ensure we get the settings right to secure the future of our communities, businesses and industries.

The movement of freight is fundamental to the viability of our communities; our lifestyles; the competitiveness of our manufacturers and producers; and the cost of our imported goods. The freight sector is now estimated to add over $74 billion to the NSW economy and employ 330,000 people and we are all reliant on the sector.

Critically freight moves through our neighbourhoods on our shared road and rail networks so needs to be given due consideration in our strategic planning, infrastructure delivery and network management.

I thank the Freight Policy Reform Advisory Panel – Kerry Schott AO; Lucio Di Bartolomeo; and Hermione Parsons – for their extensive work over the past year to review the state's policy regarding freight in NSW. This final report sets out the findings of this review and a clear roadmap of short, medium and long-term actions to ready the state to better integrate freight into our transport networks into the future.

Preparing our state transport networks for the drivers of change to freight – population growth and change; decarbonisation and climate change; and changing technology – is a legacy I intend to leave as the Minister for Transport.

To this end I am pleased to confirm the NSW Government accepts the recommendations contained in this report and will commence work to implement the reform through adoption of the roadmap contained in Section 4. Work will commence on delivery of the action plan.

In addition, further consideration will be given to the barriers to and opportunities for greater night-time operations for the freight sector. I am keen that we fully explore the constraints to moving more freight at off-peak times, including during the night, and whether there is action Government can take to support more night-time operations. On completion any recommended actions will be added to this roadmap.

I look forward to progressing delivery of this roadmap and *Delivering Freight Policy Reform in NSW*.

John Graham, MP
Minister for Transport

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Acronym glossary

ACCC	Australian Competition and Consumer Commission
ANPR	Automatic Number Plate Recognition
ARTC	Australian Rail Track Corporation
BITRE	Bureau of Infrastructure and Transport Research Economics
CML	Concessional Mass Limit
CPI	Consumer Price Index
CRN	Country Regional Network
DIRN	Defined Interstate Rail Network
DITRDCA	Department of Infrastructure, Transport, Regional Development, Communications and the Arts
DPHI	Department of Planning, Housing and Infrastructure
DTPOS	Daily Train Path Ordering System
EV	Electric Vehicle
GML	General Mass Limit
GVA	Gross Value Added
HPV	High productivity vehicle
HVAP	Heavy Vehicle Access Policy
HVCN	Hunter Valley Coal Network
IMT	Intermodal terminal
IPART	Independent Pricing and Regulatory Tribunal
LGA	Local Government Area
LZEV	Low and Zero Emission Vehicle
MFN	Metropolitan Freight Network
MRN	Metropolitan Rail Network
NFSCS	National Freight and Supply Chain Strategy
NHVR	National Heavy Vehicle Regulator
NSW	New South Wales
NTC	National Transport Commission
OSOM	Over size and over mass
PAMA Act	Ports and Maritime Administration Act 1995
Panel	Freight Policy Reform Independent Advisory Panel
PBLIS	Port Botany Landside Improvement Strategy
PBS	Performance Based Standards
QUT	Queensland University of Technology
Reform	NSW Freight Policy Reform
RNEW	Regional Network East/West (Uplift Program)
RIM	Rail Infrastructure Manager
SWTT	Standard Working Timetable
TAFE	Technical and Further Education
TEU	Twenty Foot Equivalent Unit
TMA	Truck Marshalling Area
TOC	Train Operating Condition
Transport	Transport for NSW
UGLRL	UGL Regional Linx

Executive summary

Work on the NSW Freight Policy Reform (Reform) has occurred over twelve months from January 2024 to January 2025. The Independent Advisory Panel (Panel) was appointed by the Minister in January 2024 and is submitting this final report in June 2025. The Panel thanks the many stakeholders for their valuable contributions. Section 3.1 identifies several key themes identified during consultation.

There are three types of freight movements in NSW:

- exports and imports
- interstate and transit freight
- intrastate freight.

Each relies on freight chains between origin and destination, including pipelines for bulk liquids, sea, air, rail and road networks, large terminals like ports and intermodals and many smaller handling sites. Section 2 provides more detail on the current freight system in NSW.

Improvements can be made across all these freight chains, focusing on the system as a whole. Freight operations are only as efficient as their weakest link allows and focusing on only one part of the chain neglects the interdependence of the entire freight system.

The Panel has identified three future challenges for the freight system in NSW:

- population growth
- decarbonisation
- changing technologies.

Population growth is concentrated in Sydney, Central Coast, Hunter and Illawarra regions with the main focus in western Sydney. This growth location pattern mirrors the increase in freight activities in these areas.

To reform the system the Panel examined both industry wide and network reforms. The industry wide reforms include:

- use of information and data
- the need for planning to identify immediate and future industrial land requirements for freight purposes
- severe workforce shortages
- addressing decarbonisation.

Network reform areas covered:

- resilience
- funding and pricing
- ports and airports
- rail networks
- road networks
- governance.

Section 3 outlines the issues needing improvement and section 4 sets out a roadmap of proposed short, medium and long-term actions that deliver reform.

Population growth is concentrated in Sydney, Central Coast, Hunter and Illawarra regions with the main focus in western Sydney.

Industry wide reforms

Information and data

Managing large volumes of information into data sets, useful for specific purposes, is a challenge for most industries as new digital technologies increase the availability of information as detailed in section 3.2.1.

The actions recommended for reform are intended to address consistency, data sharing and clarity about the purpose of the data being collected, as detailed in section 4.1.1.

The goal is to give governments and industry the data they need for better planning and decisions.

Strategic planning

The most significant risk to enabling freight logistics chains in NSW is a lack of adequate strategic planning. Current transport planning and planning more broadly, does not adequately address the importance of freight.

There is a significant shortage of industrial land available for freight purposes. Additionally, there is a lack of planning for future freight routes, both in the immediate and longer term, which is creating issues that will be evident in future. Corridors and sites for freight use are not being identified and reserved, making their later acquisition extremely expensive, if not prohibitive. Sections 3.2.2 and 4.1.2 discuss planning with certain future route and site requirements noted in other sections.

The recommended actions are steps towards delivering a NSW masterplan to guide investment decisions by the government and industry stakeholders.

There is a significant shortage of industrial land available for freight purposes.

These actions are not the sole responsibility of Transport for NSW (Transport) and importantly involve the Department of Planning, Housing and Infrastructure (DPHI). Short-term planning actions include:

- Developing the Western Sydney Freight Line and an associated intermodal terminal (IMT) at Mamre Road, Erskine Park.
- Careful consideration of the possible residential development at Glebe Island as homes and freight activity rarely coexist well and a port site cannot be replicated.

In the longer term, investigating an Outer Sydney Orbital to provide a dedicated rail freight network around Sydney, as well as activating opportunities from Inland Rail, connecting regional freight to the ports by existing rail networks is required. Section 3.2.2 covers the issues and section 4.1.2 the actions needed, relating to planning and industrial land.

Workforce shortages

There are widespread workforce shortages across the Australian and NSW economies since the Covid pandemic.

Consultation with the NSW freight industry provided useful suggestions about how to increase both truck and train driver numbers where shortages are acute. Suggestions included:

- changes to give more emphasis on competency in training programs
- standardised training across different rail networks
- states to allow easier cross border movement
- measures to inform of opportunities in the freight industry, noting that many of these opportunities are highly skilled.

Sections 3.2.3 and 4.1.3 provide more details on skills and workforce issues and recommended actions.

Decarbonisation

Lowering emissions requires changes which take time and government support. Working with the Australian Government is important as it has industry wide decarbonisation policies in place.

Industry is likely to need support when moving to lower emissions vehicles (from battery charged vans, trucks and forklifts to higher productivity trucks and battery/fuel cell driven locomotives).

The most substantial immediate reduction in freight emissions would come from a shift from road to rail. Measures recommended throughout the report focus on making rail more competitive to enable this shift.

Charging stations in appropriate locations may need government support and regulation to allow access for high productivity low emission vehicles.

Optimising freight networks to ensure adequate responses to changing markets, lower emissions and new technologies is addressed throughout the report, specifically in section 2.5 on these future challenges and 4.1.4 on actions to lower emissions. Section 3.2.4 discusses decarbonisation issues in more detail and section 4.1.4 the actions to address them.

The most substantial immediate reduction in freight emissions would come from a shift from road to rail.

Inner Sydney traffic congestion

Network reforms

Resilience

Resilience issues were a common theme in the feedback provided by stakeholders. Stakeholders noted that resilience issues in the rail network typically take longer to fix and alternative routes are less available than in the road network, as detailed in section 3.3.1.

The recommended actions, as detailed in section 4.2.1 involve 'building back better' and providing additional funding for maintenance and disaster recovery on state and local roads. The lack of sufficient resilience funding is a matter for both Australian and NSW governments.

The responsibility for asset maintenance of shared operational assets, such as road over rail bridges is confusing. This maintenance responsibility could be clarified if it was incorporated into road maintenance planning and transferred to Transport rather than remaining with Sydney Trains and UGL Regional Linx (UGLRL).

Funding and pricing

The steady decline of excise tax on fuel as Electric Vehicle (EV) usage increases presents an opportunity to implement an efficient road access pricing system, with a shift to distance-based charging.

The lack of consistency in the access charging for rail and road use currently favors road for relatively short haul tasks. Given the substantially lower emissions produced by moving on rail than road, this long-standing bias needs attention.

The framework for road user charging is one of the most important areas for reform.

Section 3.3.2 provides detailed discussion of these issues and Section 4.2.2 provides detailed actions for road reform funding and pricing.

Ports and airports

Issues concerning ports and airports are explained in section 3.3.3.

Actions for reform in this area include implementation of parts of the Port Botany Landside Improvement Strategy (PBLIS) recommendations to move away from a penalty scheme to an incentive scheme. However, due to strong opposition from the trucking sector, several PBLIS recommendations are not adopted at this time. Any changes carried out should be reviewed in five years to allow modification if needed and this review should also re-examine the recommendations not followed at this stage.

The Panel recognises that Port Botany is and is likely to remain, the main container port until its capacity is reached. Any Government-funded infrastructure needed to support container terminals should be directed to Port Botany for the foreseeable future.

The Panel supports the Port of Newcastle and Port Kembla diversifying its activities, particularly as coal traffic declines. The Panel considers that any move by the Port of Newcastle or Port Kembla to diversify its business, including into container terminal development, should not be hindered.

The only action identified for airports is to finalise the plan, funding and delivery of a fuel pipeline to Western Sydney Airport. Transporting this fuel via pipeline will be safer and more sustainable than road transport once the scale of airport operations increases. Section 4.2.3 provides more detail on these actions.

Rail network

The rail freight policy framework needs significant improvements to increase the use of existing capacity and over time, expand that capacity. Sections 2.2.2 and 2.4.2 explain the existing network and regulation and charging regimes. Section 3.3.4 outlines the issues and section 4.2.4 sets out the Panel's recommendation on actions to address these issues.

Some freight tasks do need different rail requirements and this is reflected in the current networks. The issues in the system that are creating difficulties and inhibiting the use of rail over road, are:

- the need for better coordination between the three rail networks in NSW
- the constraints rail faces in the allocation of paths through the dense passenger prioritised Sydney Trains network
- unfavourable access pricing for the rail network compared to that faced by road network users.

There are measures that can increase the capacity on the existing rail network, as well as longer-term measures to extend this capacity through new infrastructure.

To improve the use of existing capacity the NSW rail access undertaking should be formally reviewed with a new instrument in place by 2026.

To increase capacity, the Panel recommends continuing the planning, funding and development of the Western Sydney Freight Line and the Mamre Road IMT and industrial precinct. The Panel's view is that the Western Sydney Freight Line and Mamre Road, Erskine Park industrial precinct offer the best opportunity for reform and improvement for freight in the foreseeable future.

In the medium term work should be done with the grain industry to close rail lines that are rarely used and redirect the maintenance savings to improve other parts of the grain road and rail networks.

In the longer term, dedicated freight routes may need to be extended as passenger density on the Sydney Trains network increases, making it more challenging to allocate freight paths.

Road network

Regarding the road network, the reforms to enable heavy vehicle access are supported. More importantly, the reform of road funding should be progressed quickly, as excise fuel tax revenues decline. The main responsibility for this reform is with the Australian Government and offers a way to introduce a far more effective pricing framework as outlined in sections 3.3.2 and 4.2.2.

The road network is better placed than the rail network in NSW as detailed in Section 3.4. Completing access connections to Port Botany and addressing other bottlenecks is recommended. Providing the long needed rest stops for freight trucks is also recommended and detailed in section 4.2.5.

Governance

Governance covers two main issues, as detailed in section 3.4. The Panel emphasizes the importance of the relationship between the Australian and NSW governments on matters of joint responsibility.

There are currently a number of outstanding issues including:

- road pricing reform
- heavy vehicle access
- measures to lower emissions.

The Australian Government has the primary responsibility for national freight policy and is also a major funder of freight infrastructure. It is important that the views of the NSW Government in this field are well understood at a senior level within the Australian Government.

Current Transport organisational arrangements for freight policy which include planning, finance and delivery, allocate these functions to different divisions with different Deputy Secretaries.

The spread across Transport divisions leaves a risk that the coordination required across the different functions will not occur as detailed in section 3.4.2, with actions to mitigate this risk proposed in section 4.2.6.

Finally, the Panel notes that they have been assisted by Transport for NSW in this work and would particularly like to thank Bianca Slack-Smith and her team from the Freight Branch for their support throughout this review.

Traffic on Westlink M7

1 Introduction

Hexham Bridge, Kooragang NSW

1.1 Approach

On 25 January 2024 the NSW Minister for Transport announced the Reform Program. The intention is to deliver a reform agenda that enables the most effective and productive freight system in NSW to be developed and implemented. To provide initial support, the Minister established the Freight Policy Reform Independent Advisory Panel (Panel). The Panel members are Kerry Schott AO, Lucio Di Bartolomeo and Hermione Parsons who all have extensive experience in the freight sector.

This is the final report from the Panel, following an earlier Consultation Paper and an Interim Directions Paper. The Panel sincerely thanks the many industry participants and stakeholders who provided substantial input and suggestions. Over 180 submissions were received, with many noting relevant experiences and reflecting considerable effort. The industry strongly supported a policy approach that focused on end-to-end freight supply chains, rather than solely on one part of the supply chain. The Panel also received detailed comments on a range of issues.

The industry strongly supported a policy approach that focused on end-to-end freight supply chains, rather than solely on one part of the supply chain.

1.2 Terms of Reference

The Panel followed the Terms of Reference, set by the Minister for Transport, which requested the Panel assist in developing policy and guiding principles about six matters.

The Terms of Reference and Panel's responses are:

1. The role of the NSW Government, Australian Government and industry in making a step change in freight transport is to work together to ensure that governance of the industry is achieving the goals that have been set and is able to manage the future challenges of population growth, decarbonisation and changing technology. The two governments have important roles to harmonise and improve interoperability across networks and importantly, to plan together for the future.

2. The major ports in NSW are critical freight handling facilities and should be efficient, productive and well connected to the freight chains they serve. Efficient ports will lower freight costs for consumers and improve the international competitive position of NSW exporters. Competition between the ports should not be inhibited by governments without clear and justifiable reasons for doing so.

3. The road and rail network should be fit for purpose, resilient and well-coordinated with the other parts of the freight logistics chains including networks, terminals and ports. Funding for these networks should take these objectives into account.

4. The supporting metropolitan and regional IMTs and other enabling transport infrastructure are part of the overall system. Open access to terminals is preferred to enable full use of the facility by all operators and operations within IMTs should coordinate with their requirements.

5. The consideration of freight in the identification and use of industrial land is essential for the economy of the state to function and be able to handle a growing population. It must also recognise that shorter supply chains are less costly for operations and generate less emissions.

6. Embedding freight considerations into transport planning, prioritisation and investment decisions should be mandatory. Government planning processes more generally should recognise the importance of freight services and connections throughout the freight supply chains, from networks, large terminals and ports down to small handling and loading facilities.

In providing advice on the Freight Policy Reform, specific guidelines were set in the Terms of Reference to ensure regard was given to:

- Whether the current rail freight policy framework is delivering on its objectives and remains fit for purpose in today's operating environment to deliver an effective rail network for the movement of goods.
- Whether differing market design solutions are required for different rail tasks (for example: containers to port, bulk to port; construction materials; interstate freight; intrastate freight) to support greater modal shift to rail, giving regard to the costs, benefits and public benefit associated with any proposed reforms.
- The short, medium and long-term plans for the major port operators and potential impacts on port operations such as the changing coal task, consideration of the implications of the Independent Pricing and Regulatory Tribunal's (IPARTs) determination in relation to the Port of Newcastle and potential development of a container port at Port of Newcastle, to identify the best transport outcomes, in particular road and rail connections, and public value for the people of NSW.
- Road freight priorities and opportunities to improve the network capacity and capability and increase the proportion of modern, safe, sustainable and productive vehicles operating on NSW roads.
- Opportunities for sustainable road funding models that support the National Heavy Vehicle Road Reform including delivering more efficient and demand-driven pricing of road services.

- How industrial land is being identified, used and valued and how land use planning can better accommodate the current and future needs of the supply chain as NSW grows.
- How to optimise freight networks to support the growing freight task and better enable the safe, sustainable and productive movement of goods, ensuring an effective response to changing markets, the transition to net zero emissions, and new and emerging technologies.
- Whether current transport planning and investment processes adequately recognise the importance and value of freight for our industries and communities, including consideration of planning for urban freight and supply chain resilience.
- Whether current organisational arrangements within Transport for NSW for freight policy, operations and industry engagement provide the appropriate level of influence and access to decision makers to drive reform.

1.3 Guiding Principles

The Panel's main focus is to set clear goals, drawing on the knowledge of the current system and its future challenges, while recognising that freight must operate as an integrated system, not an uncoordinated collection of independent parts.

In addressing the Terms of Reference, the Panel used the following guiding principles to undertake the review.

Freight plays a critical role as part of the integrated transport system and as part of our cities, towns, suburbs and regions. Freight needs to be given priority consideration as part of the transport system and as part of strategic land use planning.

Governments have a role to ensure the freight system makes best use of our roads, railways, ports and intermodal terminals which requires consideration of all the costs and benefits – financial (cost of transport, impact on cost of living and value of exports), social (e.g. safety, congestion, lifestyle impacts), environmental (e.g. emissions, noise impacts) to identify the policy settings required to align the freight system that achieves the greatest outcomes (in terms of greatest benefit and lowest cost) with the preferred commercial models that make up the freight system.

Competition must be encouraged and well balanced. The interconnected nature of the freight system means the application of NSW policy and National Competition Policy needs to recognise the operational realities of network services within the market.

Access and charging frameworks should drive the use of the safest, cleanest and most productive freight vehicles and technologies. Charges within the freight chain should be supporting investment to optimise the freight system and driving improved outcomes in terms of how freight is transported.

The cost and complexity for freight users and customers accessing and using the transport network should be minimised. Inefficiencies in the freight system, including a lack of coordination and a lack of transparency, need to be addressed in order to support improved operating models and deliver better options for freight customers.

NSW needs to align with and influence the national agenda. The NSW freight system is part of the national freight system, including industry operations, transport networks and policy and regulatory settings. The nature of the freight chain, and interdependencies between the interstate and intrastate tasks, means alignment with the national approach is essential.

Public and private investments should be effectively utilised to deliver improvements to the freight system. Government and industry continue to make significant investments in infrastructure and equipment to support the efficient movement of freight. It is imperative that those investments are effectively utilised to realise the benefits.

2 The current freight industry in NSW

2.1 Freight movements

To address the Terms of Reference, the Panel's first task was to understand the current freight industry in NSW and the future challenges it faces. This was covered in some length in the Panel's Consultation Paper and readers are encouraged to refer to that paper for more detail.

During the period of this review, Transport finalised an assessment of the value of freight to the NSW economy. This used a new methodology that recognises a wider range of freight services than had previously been considered. This assessment found the freight sector currently employs approximately 330,000 people and has a Gross Value Add (GVA) of $74.3 billion. By 2061 these figures are forecast to increase to 565,000 jobs and $131.5 billion GVA.[1] This highlights the significance of the freight sector to the people and workforce of NSW. In addition, it is clear that freight services are critical to supporting the broader economy and our communities. We rely heavily on freight.

There are three main freight movements in NSW:

- exports and imports
- interstate and transit freight
- intrastate freight.

All this freight moves on network systems of sea, road, rail and/or air. International trade centres around the main ports of Newcastle, Port Botany and Port Kembla.

Time critical or high value, low volume goods use airports, with Sydney Airport at present and in future, Western Sydney Airport will capture a share of that trade.

Truck loaded with grain on weighing bridge

1 Transport for NSW, 2024, Value of Freight Study

About 38 per cent of the value of NSW export trade is coal[2], mainly handled through the Port of Newcastle and Port Kembla. Almost all coal is carried by the rail network with few exceptions. The Hunter Valley Coal Network (HVCN) connecting to the Port of Newcastle is considered one of the most efficient rail networks in NSW, supporting the Port of Newcastle as the largest coal terminal in the world.

About 38 per cent of the value of NSW export trade is coal, mainly handled through the Port of Newcastle and Port Kembla.

NSW's other exports largely include agricultural products like wheat, beef, other meat, oil seeds and fruit. There are also exports of gold, aluminium, refined petroleum and medical instruments. Bulk grain is transported through Port of Newcastle and Port Kembla while containerised grain is transported mainly through Port Botany. Most bulk grain export uses the rail network, though the large seasonal variations make planning optimal network and storage requirements quite a challenge.

Imports in NSW are valued about 90 per cent higher than exports and are composed of a diverse range of goods.[3] These include refined petroleum, telecommunication equipment, motor vehicles, computers, pharmaceuticals and household items such as whitegoods, clothing and furniture.

Almost all containerised imports enter through Port Botany. Bulk liquids, including fuel, primarily enter via Port Botany, Kurnell and Gore Bay. Motor vehicles come through Port Kembla and a variety of non-containerised imports enter through Port of Newcastle and Port Kembla.

Due to its central east coast location, NSW plays a vital part in the national freight industry as goods transit through NSW or move to and from the state. Most interstate movements are non-bulk freight and the majority of this moves by road between the three east coast capitals of Sydney, Melbourne and Brisbane. The road network carries around 80 per cent of that interstate and transit freight.[4]

Intrastate freight, such as construction materials like sand and cement, is produced and consumed within the state or is part of the transport for goods ultimately being exported or imported via a distribution centre or another handling facility. As an economy dominated by imports, the receival and distribution of goods in NSW is a significant element of the freight and logistics task. The major intrastate freight flows occur in the Greater Sydney region and in the Illawarra, Hunter Valley, Newcastle and Central Coast regions.[5] This distribution reflects that of the population.

Aerial view of Port Kembla

2 See https://www.dfat.gov.au/sites/default/files/nsw-cef.pdf.
NOTE: this is an updated figure from the Freight Policy Reform Consultation Paper due to an update to the DFAT data from 22-23 to 23-24 year.

3 See: https://www.dfat.gov.au/sites/default/files/nsw-cef.pdf
NOTE: this is an updated figure from the Freight Policy Reform Consultation Paper due to an update to the DFAT data from 22-23 to 23-24 year.

4 Transport for NSW, Strategic Freight Model 2021

5 The freight hubs captured in Greater Sydney are at an SA3 (LGA) level whereas regional is captured at a broader SA4 level

2.2 The networks

2.2.1 Road networks

The quality of the road network outside the Sydney Metropolitan area varies greatly. Part of it is prioritised for planning and investment purposes by both the Australian and NSW governments under the National Land Transport Network. The intention of this policy is to ensure a high quality, nation-wide network for interstate transport that, in NSW, links to other parts of the road network. Figure 2.1 shows the National Land Transport Network.

The Hume and Pacific highways are by far the highest quality corridors in the interstate road network. Their full duplication enables road freight operators to complete inter-capital journeys in about 10 to 11 hours. This gives road freight a significant competitive advantage in journey time over rail freight. The high quality of these corridors also means they can support newer, innovative higher productivity vehicles. A traffic light-free route through metropolitan Sydney also increases the competitiveness of road freight for the transit task between Melbourne and Brisbane.

Outside the Hume and Pacific highways, interstate road corridors in NSW are generally of reasonable quality however, these other corridors are less resilient to extreme weather events. The roads not included in the National Land Transport Network fall under the responsibility of the state and local governments, with over 90 per cent managed by local government.[6] Funding these extensive road networks is a challenge for both state and local governments.

The interstate road network also connects into Sydney's metropolitan road network as shown in Figure 2.2.

Warringah Freeway traffic

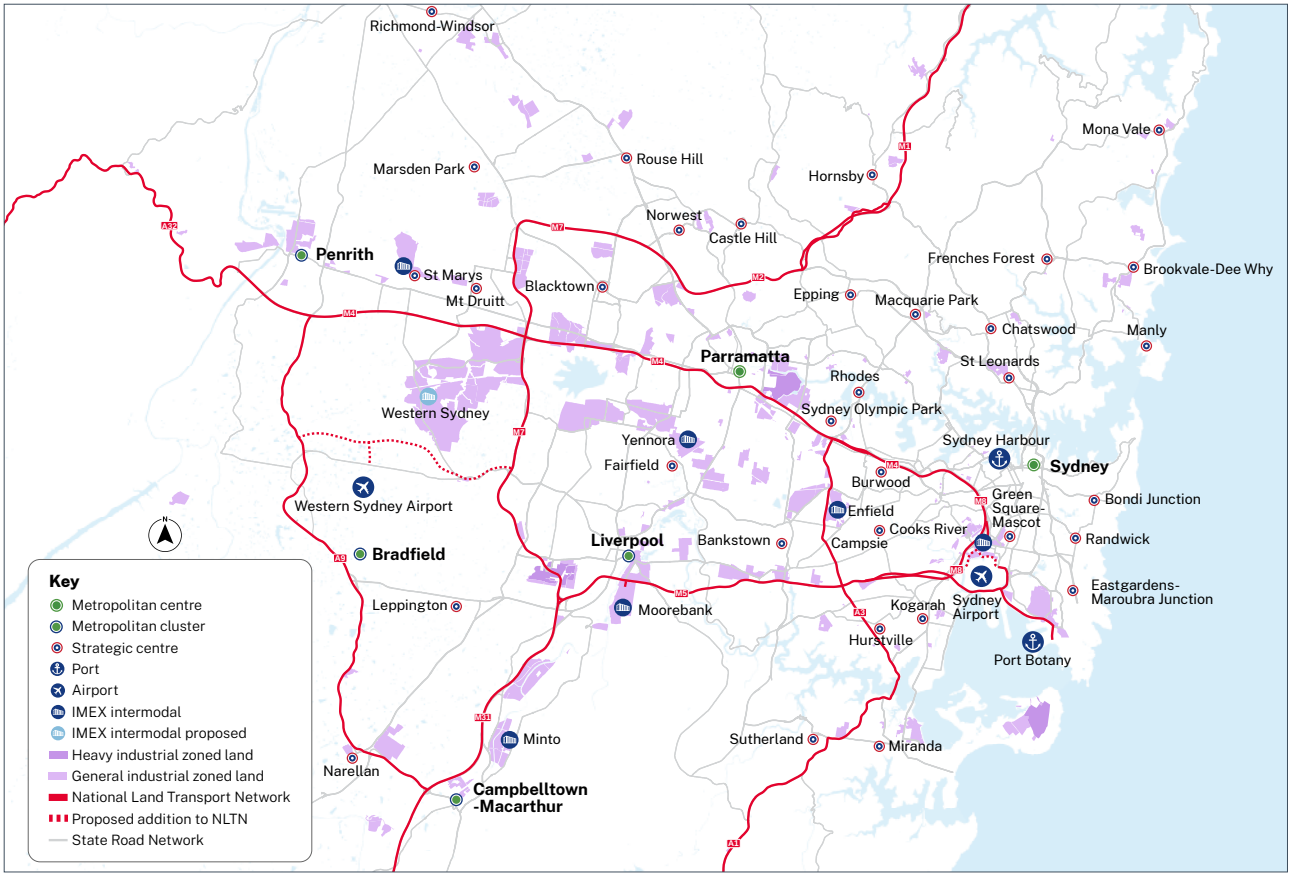
6 Audit Office of NSW, November 2023, Performance Audit Regional Road Safety

Figure 2.1 National Land Transport Network and NSW state road network

Source: Transport for NSW

Truck travelling on the Pacific Motorway near Grafton

Figure 2.2 Sydney's metropolitan road network



Source: Transport for NSW

Traffic on the M5 Motorway

2.2.2 Rail networks

The rail network in NSW consists of three sub networks, each operated by their own different network manager with different standards, procedures and rules for the users of those sub networks. The three networks are:

- The Metropolitan Rail Network (MRN), operated by Sydney Trains.
- The Metropolitan Freight Network (MFN), the Defined Interstate Regional Network (DIRN) and the HVCN, leased and operated by the Australian Rail Track Corporation (ARTC) which is an Australian Government owned company.
- The Country Regional Network (CRN), operated by UGL Regional Linx under a contract managed by Transport.

Coordination between the three networks and state boundaries is critical for users traversing multiple networks or state borders.

Part of the NSW rail network is covered by the National Land Transport Network and similar to roads covered by this policy, is prioritised by the Australian and NSW governments for planning and investment purposes. Figures 2.3 and 2.4 show the NSW rail network, MRN and MFN.

The three main interstate rail corridors link:

- Sydney to Melbourne, via Wagga Wagga
- Sydney to Brisbane, via Grafton
- Sydney to Adelaide and Perth/Darwin, via Parkes.

Most parts of that network support wagons with 25 tonne axle loads, although permitted length and loading gauge varies. The main west line section from Parkes to Broken Hill is the least constrained, allowing 1,800 metre double stacked trains. The north and south lines only accommodate single stacked trains, with the main north line also limited to 1,500 metre maximum lengths and wagons with 23 tonne axle loads north of Stratford Junction (near Gloucester).[7]

Interstate rail freight also relies on sections of the Sydney Trains managed network. Trains heading north from Sydney use the shared passenger network between Strathfield and Newcastle. Similarly, some freight services heading west to Adelaide and Perth share the passenger network over the Blue Mountains to Parkes, although commonly, these services are routed on the ARTC network via Cootamundra. Passenger train priority on these shared networks constrains the use of these networks by freight, especially

Rail tracks of Lower Hunter Freight Corridor

7 ARTC Route Access Standards General Information

Figure 2.3 NSW rail network

Source: Transport for NSW

during peak hours. These constraints are becoming more challenging as passenger traffic density increases with the population. There will be a point where passenger and freight traffic density dictates the need for dedicated freight lines like the Southern Sydney Freight Line and the Port Botany rail link.

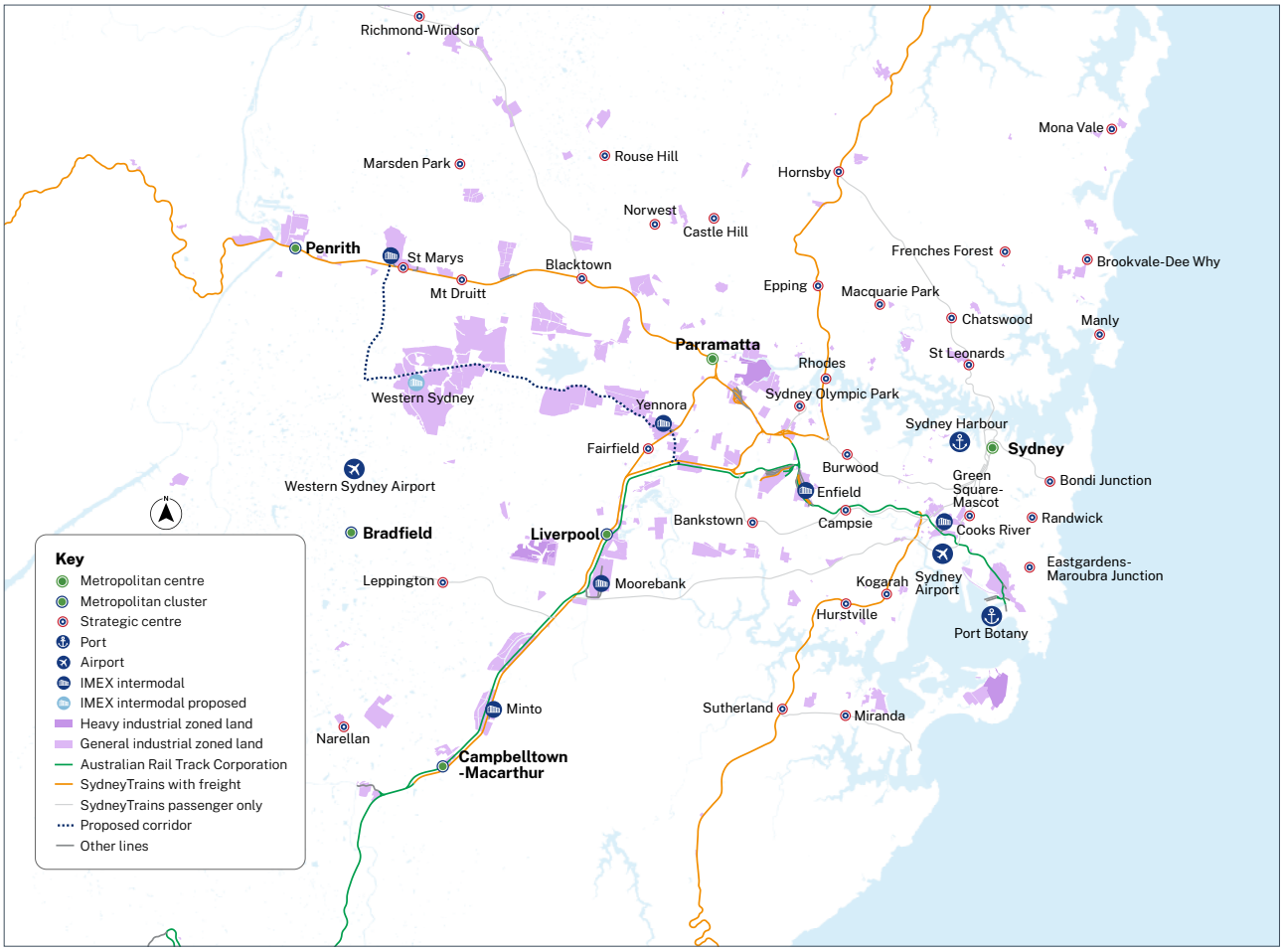
There are also intrastate movements that start on the CRN in regional NSW.[8] The CRN in regional NSW varies significantly in terms of track capability. Axle weight limits vary from 25 tonne wagon axle loads on many of its main lines, down to 19 tonnes on some of the grain lines.[9]

Heavy vehicle picking up containers from railway station

8 See figure 2.3 NSW rail network

9 Axle weight limits do not completely limit wagon tonnage as speed reductions in the lower axle load zones can allow a heavier load, albeit within limits.

Figure 2.4 Sydney Train and ARTC networks in metropolitan Sydney



Source: Transport for NSW

While differing track axle loads provide challenges to operators, these issues are exacerbated when operators traverse different rail networks with different infrastructure managers and different operating characteristics, regulation, engineering standards, operating systems and safe working rules. Access is also often managed through Train Operating Condition (TOC) Waivers which grant access by exception and means there is an element of uncertainty for long-term access. These challenges put the rail freight task at a disadvantage when compared to road freight. One exception is long haul rail routes and bulk product transportation which is more able to compete effectively with road freight operators.

Shipping containers being loaded onto freight train at Yennora Intermodal Terminal

2.2.3 Aviation networks

Aviation networks handle less significant freight volumes than road, rail and sea however, air freight is essential for high value items that need to be moved within strict time limits. Sydney Airport handles well over half of Australia's international air freight and a third of the domestic air freight task.[10] Passenger planes transport about 80 per cent of all air freight in the belly capacity of those aircraft. The remaining 20 per cent is carried in dedicated freight aircraft.[11]

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Sydney airport

2.2.4 Coastal shipping

Coastal shipping has a limited role due to laws and regulations surrounding maritime cabotage. However, there is a modest freight task moved by ship between NSW and other states, particularly Western Australia, estimated at 9.5 million tonnes.[12]

2.3 Connections to ports and terminals

Smooth connections between networks and handling/distribution points is a critical part of the freight supply chain. These handling points vary greatly in size from very large (e.g. ports) to the very small (e.g. shopping centre receival sites). Generally, the less handling points in a freight chain between origin and destination, the more efficient and lower cost that chain will be.

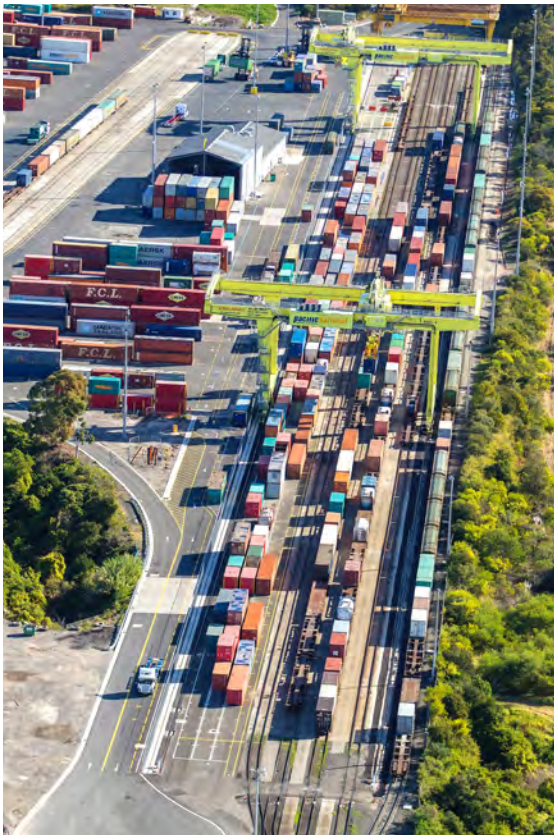
In NSW these handling and distribution centres are mainly owned and operated by the private sector, with some exceptions. The Australian Government owns the largest IMT in Sydney (Moorebank) which is operated under contract by the private sector. The other large ports are NSW Government owned with long-term leases held by private company operators. Smaller sites are almost all privately owned and operated. The discussion focuses on the larger handling sites however, all sites, whatever their size, are important for a smooth freight operating system. The freight industry provided feedback to the Panel concerning issues about imposed constraints at smaller sites often after they have been developed.

Aerial view of tugboats guiding a freight ship, Newcastle Harbour.

10 Transport for NSW, 2018, NSW Freight and Ports Plan 2018-2023, p.29

11 Sydney Airport Corporation Limited, 2019, Sydney Airport Masterplan 2039, p.26

12 BITRE,2023. Australian Sea Freight 2020-21.



Aerial view of Chullora intermodal hub

2.3.1 Port connections

Port Botany is the major import destination handling 99.6 per cent of containerised imports as well as the major share of bulk liquids and gas.[13] The three stevedores operating at Port Botany are:

- DP World
- Patricks
- Hutchison.

Most of the imported freight is destined for the Greater Sydney region with a particular focus on Western Sydney.

Port Botany has a major advantage as it is the closest port to the Greater Sydney population and importantly, connects directly to both the road and rail networks. The road network connecting to Port Botany provides a reasonably strong freight link as it is close to the main motorways.

While these motorways are tolled and can become heavily congested at times, the overall network is currently performing well. About 86 per cent of the containerised freight leaving and entering Port Botany does so on the road network. On a typical weekday, about 4,700 trucks access Port Botany to service both containerised freight and bulk liquids.[14]

The share of freight to Port Botany carried by rail over road is low, at about 14 per cent. Despite government objectives to increase the share of freight transported on rail to and from Port Botany, this shift has not yet occurred. Targets have been set but the necessary measures to enable those targets to be met have not been implemented.

Even though Port Botany has on-dock rail facilities at each of its three container stevedores and these port rail facilities are directly connected to the dedicated and duplicated Port Botany rail line, the share of freight carried by rail at Port Botany has remained low.

The Port Botany rail link connects to the ARTC's interstate network via the Southern Sydney Freight Line at Moorebank and extends as a dedicated freight line to Macarthur in the south. The MFN also connects to the Sydney Trains shared network, which is dominated by passenger traffic, particularly at peak periods.

Agricultural exports and other trade from country regions, use the CRN to reach Port Botany. This rail network feeds into the ARTC and/or Sydney Trains network on the way to Port Botany.

The ARTC interstate managed network[15] allocates paths for trains up to 1,800 metres in length on parts of the network. However, not all parts of the CRN, or any part of the Sydney Trains network, can handle trains of this size. For intrastate freight movements to and from regional NSW to Port Botany precinct, the usual pathing request is for trains between 600 and 1,200 metres. The train length restrictions vary across the Sydney Trains network, with train path allocation less constrained for shorter length trains.

13 NSW Ports 2024. Accessed at: https://www.nswports.com.au/

14 Transport for Transport for NSW, 2024, Open Data - Freight Data - Port Botany

15 ARTC, Route Access Standard (RAS) D45 Port Botany – Macarthur, p.7

Port Botany exports containerised grains, as opposed to bulk grains. Around 11 per cent[16] of the total grain crop exported is containerised and about 90 per cent of regional export containers that are moved to Port Botany from storage and terminals in regional NSW are moved by rail.[17]

Trains on the Port Botany line operate wagons with up to 25 tonne axle loading, consistent with other major rail freight corridors in NSW. Currently, the maximum siding length at Port Botany is 600 metres. Longer trains have to be 'split' in the Port Botany yard, or before arrival, to allow access at stevedore terminals.

Trains arriving from regional NSW are generally longer than the 600-metre siding length. Additionally, they carry mixed loads for multiple stevedores. These two factors require shunting and cross-checking of loading, which add to the complexities and inefficiencies of rail operations at Port Botany.

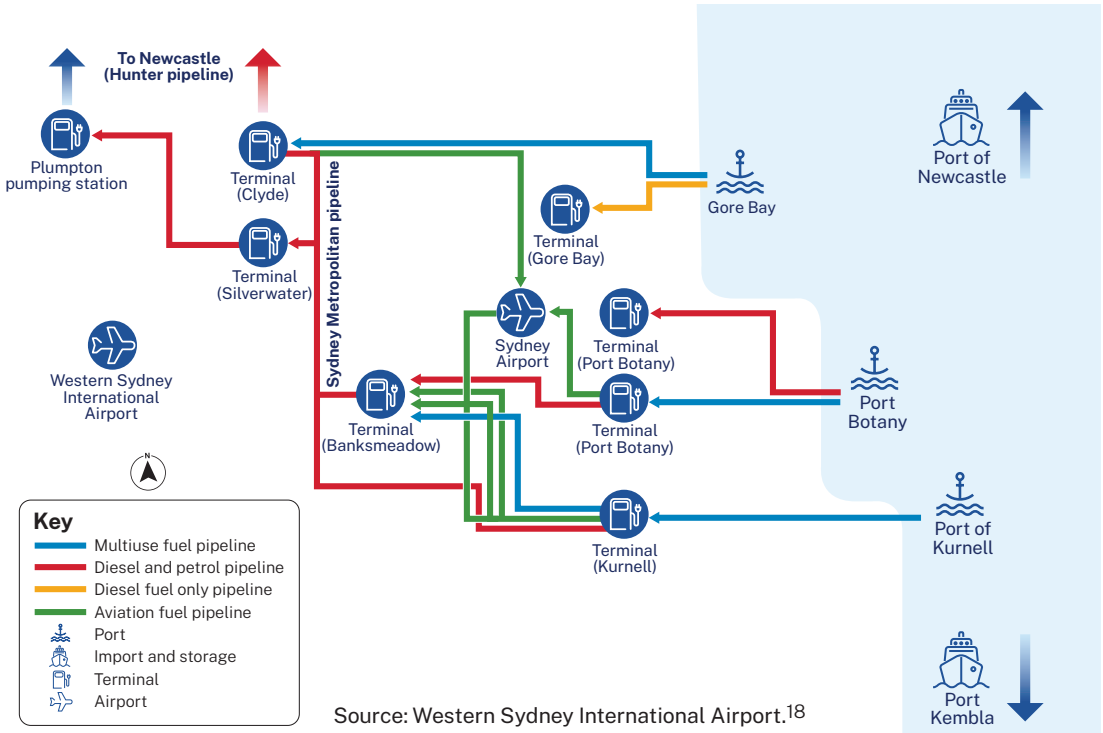
The important bulk liquid imports at Port Botany are handled through a pipeline network and by road. Diesel and petrol are piped from Port Botany storage facilities via the Sydney Metropolitan Pipeline. Aviation fuel is piped to Sydney Airport with access to these pipelines subject to access arrangements with the pipe owners.

Bulk liquid and gases, including LPG and ethylene, are distributed via a dedicated pipeline to Botany Industrial Park.

The Sydney to Newcastle pipeline links bulk liquid import storage facilities in Sydney to fuel terminals in Newcastle. Figure 2.5 shows the pipeline network.

Around 11 per cent of the total grain crop exported is containerised and about 90 per cent of regional export containers that are moved to Port Botany from storage and terminals in regional NSW are moved by rail.

Figure 2.5 Sydney fuel port terminal and pipeline supply chain



Source: Western Sydney International Airport.[18]

16 See: https://www.graingrowers.com.au/policy/grain-freight-and-supply-chains/graingrowers-container-port-policy

17 See https://www.nswports.com.au/keeping-nsws-economy-moving-paddock-port

18 Western Sydney International Airport, 2023, Review of Aviation Fuel Supply Options May 2023, p.18

Freight trucks in a parking lot at Port Botany

Gore Bay in Sydney Harbour and Kurnell in Botany Bay are also important bulk fuel receival ports. The Gore Bay Terminal handles imported diesel, marine fuel oil, jet fuel and gasoline.[19] Marine diesel and fuel oil are stored at the facility while gasoline and jet fuel are pumped via a pipeline to the Clyde Terminal in Western Sydney for storage and distribution. The Clyde Terminal has a pipeline connection to Sydney Airport for jet fuel supply and fuel products are transported by road from the adjacent Parramatta Terminal to destinations across metropolitan and regional NSW.[20] Aviation fuel for Western Sydney Airport is expected to be trucked from Clyde initially before the airport expands significantly.

In Botany Bay the Kurnell Terminal is connected by pipeline to the Banksmeadow storage facility within the Port Botany precinct as well as to the facility at Silverwater.[21] This pipeline provides jet fuel to Sydney Airport. There are also connecting pipelines distributing petrol and diesel to other storage facilities.[22]

Port Kembla has both road and rail connections, however both face constraints. Road access involves a steep descent on the escarpment. Once in the Illawarra region, roads connecting to Port Kembla are by Masters Road, Springhill Road and Five Islands Road which link the port to the M1 and broader state motorway network. Port Kembla currently receives an average of 800 trucks per day.[23]

The rail connection to Port Kembla operates with some limitations. About 60 per cent of the coal exports at this port are moved by rail. This coal rail share is influenced by a range of factors including:

- limited access to rail for many of the mine sites in the Illawarra region
- the use of lighter rail, which limits wagon loading to 75 tonnes
- network capacity constraints.

The steep rail link from Moss Vale down the escarpment has a history of resilience issues. On average, the coal terminal receives around seven trains and 420 trucks each day.[24]

Port Kembla also receives bulk grain by rail and road. Rail freight travelling to and from Port Kembla by the coastal Illawarra Line is constrained for extended periods as passenger services are given priority.[25]

19 Viva Energy Australia, 2023, accessed 18 January 2024 at Gore Bay Terminal - Viva Energy Australia
20 Viva Energy Australia, 2023, accessed 18 January 2024 at Clyde & Parramatta Terminals - Viva Energy Australia
21 Exxon Mobil, 2023, accessed 18 January 2024 at Fuel terminals | ExxonMobil Australia
22 Deloitte 2017, Western Sydney Airport Aviation Fuel Supply Corridor Options Report, p.35
23 NSW Ports, 2023, NSW Ports 2063 our 40-year master plan for sustainable growth, Port Kembla road network, p.77
24 Port Kembla Coal Terminal, 2024, About PKCT
25 Infrastructure Australia 2016 Proposal: Rail Access to Port Kembla.

The Port of Newcastle has strong road and rail connections. By road there is direct access to the national heavy vehicle road network and dangerous goods route via Industrial Drive, providing interstate connectivity and links to major regions across NSW. The broader network of national highways is accessible from the M1 Pacific Motorway (M1).

The Hunter Expressway, between the M1 and the start of the Golden Highway, provides a 40-kilometre east-west dual carriageway freeway connection. This links the Central West and Orana regions, including Dubbo and Parkes, although the final link on the Golden Highway is not dual carriageway.

The New England Highway provides access to the New England Northwest region including Tamworth, Narrabri and Moree. The A1 Pacific Highway to the north provides access to the North Coast and is the major highway link to Brisbane. To the south, the M1 connects Sydney, the Central Coast and Newcastle. The M1 also connects to existing freight distribution centre hubs that service the north and north-west Sydney and Central Coast markets (Figure 2.1).

The rail connection is via the HVCN, which is considered an efficient and robust freight system.

The HVCN network consists of:

- a dedicated double track coal line between the port and Maitland
- a shared double track line from Maitland to Muswellbrook
- a shared single track with passing loops that runs north towards Gunnedah and west towards Ulan.

The ARTC operates this rail link to the Port of Newcastle.

Nearly all export coal moves to port via the HVCN, supporting axle loads up to 30 tonnes and train weights up to 8,300 tonnes.[26] The predominance of coal and bulk grain exports result in an overall rail mode share for the Port of Newcastle of more than 95 per cent.[27]

It is notable that the high share of coal carried by rail in NSW was initially driven by planning approval conditions attached to coal mine development. Over time, this high rail share influenced the development of very efficient rail and port operations in the Hunter.

2.3.2 Intermodal terminal connections

Historically, IMTs have been largely provided by the freight operators and have not been developed as part of a NSW or national planned freight network system. The only exception in NSW is the Australian Government owned and recently developed Moorebank IMT. The six IMTs are:

- Moorebank
- Cooks River
- Minto
- Enfield
- St Marys
- Yennora.

Except for Moorebank, the IMTs have a capacity less than 350,000 twenty foot equivalent unit (TEU) per annum. Cooks River and Enfield Intermodal Logistics Centre are located on the MFN. Moorebank is accessed via the MFN and the Southern Sydney Freight Line and Minto, St Marys and Yennora rely on access to the shared passenger rail network (Figure 2.4).

Moorebank and Enfield terminals handle the largest share of metropolitan port container volumes although, Yennora has recently announced its area of operations will expand from 60,000 square metres to 104,000 square metres. A new interstate terminal began operations at Moorebank in April 2024 enabling receival of trains 1,800 metres in length. This may provide an

Moorebank and Enfield terminals handle the largest share of metropolitan port container volumes

[26] State Environmental Planning Policies require that, for mines, most or all product is not to be moved by road, and most mines in NSW (in particular in the Hunter) have conditions of consent in their development approvals to use rail.

[27] Port of Newcastle, 2024, Rail Access

Aerial view of distribution centre, Eastern Creek

additional site where long interstate and regional trains could be 'split' prior to reaching Port Botany. Additional interstate terminal capacity is being added in Sydney. Aurizon has recently started operations at Glenlee, located in the south-west of Sydney, which links directly to the ARTC's interstate network.[28]

Most operators indicate that their terminals are open access, meaning they will service trains other than the terminal owner/operator's. However, Moorebank is the only terminal that has published open access protocols and procedures.

At an operational level, it is understood that each terminal has a single, predominant rail operator providing haulage services to and from Port Botany. In practice, competing rail operators do not use each other's terminals and are not incentivised to do so.

Regionally, Parkes is a key hub for interstate rail traffic, in particular domestic non-bulk movements. It is the starting point for the operation of double stacked trains heading west to Adelaide and Perth. It is located at the junction with the Inland Rail corridor which is currently under construction. Parkes is also located on the Newell Highway.

Currently, only Pacific National operates a terminal at Parkes, however the NSW Government has set aside 4,800 hectares of land as a Special Activation Precinct and National Logistics Hub to support future terminal development and growth in rail freight.[29]

The NSW Government has set aside 4,800 hectares of land as a Special Activation Precinct and National Logistics Hub to support future terminal development and growth in rail freight.

There are several other key interstate IMTs, such as Bomen, near Wagga Wagga and Ettamogah, near Albury. The key focus for these sites is interstate export movements. Specifically, product moving from NSW to ports in other states for export, although they do also support domestic intrastate and interstate movements.

The Inland Rail development has encouraged development at Bomen and increased rail use. The NSW Government encouraged Special Activation Precincts at Bomen and Parkes, and this strategy has added value to the regions, and the rail network. Similar policy is anticipated at Narrabri and Moree once the next stage of Inland Rail to Gowrie, near Toowoomba, is completed.

28 Aurizon, 2023, Aurizon launches east coast container service
29 NSW Government, 2024, Parkes Special Activation Precinct

2.4 Policy and regulation

While freight operators on all networks are privately owned, all components of their logistics chains are regulated as part of government policy. Significant areas of regulation cover:

- safety
- network access
- land use planning (the placement and operations of terminals and depots through planning decisions)
- access to industrial land and utilities
- other matters such as noise and permitted times of operations.

Access for heavy vehicles to the road network is regulated nationally under the Heavy Vehicle National Law

2.4.1 Road network regulation and charges

Access for heavy vehicles to the road network is regulated nationally under the Heavy Vehicle National Law (HVNL). This approach has been adopted by all states and territories, except Western Australia and the Northern Territory. A National Heavy Vehicle Regulator (NHVR) has also been established to support a safe and productive heavy vehicle industry.

The road managers are responsible for providing access to the road network for Restricted Access Vehicles. These are vehicles that exceed the mass or dimensions allowed for general access vehicles, which can travel anywhere subject to signposted restrictions.

In NSW the primary road managers are:

- Transport for state roads in NSW, including the state roads that comprise the National Land Transport Network.
- Local councils for their respective local and regional road networks.

Intermodal freight hub in regional NSW

Trucks at night on the bridge over the Clarence River at Harwood

The NSW Government's policy concerning road access, set out in the NSW Heavy Vehicle Access Policy (HVAP), is implemented via national notices, schemes and permits issued by the NHVR for both state and local roads.

The National Freight and Supply Chain Strategy (NFSCS)[30] identified issues in the freight sector including:

- inconsistent decision-making
- lack of certainty
- inconsistent rules across borders.

This lack of certainty inhibits long-term investment decisions and the inconsistent regulation across jurisdictions creates confusion and duplication, resulting in higher costs for operators.

The inconsistency has also made it difficult for governments and industry to balance the benefits of moving freight efficiently with social and environmental outcomes.

The recent adoption of the 'National Access Framework for Heavy Vehicles' should reduce inconsistency, uncertainty and yield considerable benefit.

Road user charges are collected through state vehicle registration and Australian Government fuel excise. Heavy vehicles also pay tolls on Sydney's motorways with a truck multiplier, currently designed to fully recover the cost of infrastructure investment.

Despite the charging arrangements, road investment, including new builds, upgrades and maintenance, is funded by government budget and program allocations.

The NSW Government provides significant funding for the road networks in each budget. Local councils are dependent on grants from the Australian or NSW governments and have no ability to charge vehicles for use of their extensive local road network, including its use by heavy vehicles.

The Australian Government provides some funded programs and Transport administers disaster recovery funding for local councils. Currently, Transport is also supporting regional councils to conduct emergency road repairs.

30 Australian Government, May 2024. Review of the National Freight and Supply Chain Strategy.

2.4.2 Rail network regulation and charges

Rail network managers provide access in line with their relevant rail access frameworks, with the various approaches guided by the National Access Regime (Part IIIA of the Competition and Consumer Act 2010).

The NSW Rail Access Undertaking applies to the two rail networks in NSW that are the sole responsibility of the NSW Government. These are the MRN, managed by Sydney Trains, and the CRN managed by UGLRL under a commercial contract to Transport. Given its national role, the ARTC operates the interstate track under separate arrangements made through intergovernmental arrangements. This includes the MFN in Sydney. Other sections of the interstate track within metropolitan Sydney, such as Strathfield to Broadmeadow, remain part of the Sydney Trains managed network.

The NSW Rail Access Undertaking also continues to apply those track sections that are part of the leased network, but are not subject to the ARTC's Interstate or Hunter Valley Undertakings. These include:

- Turrawan to Boggabilla (249 km)
- Goobang Junction to Merrygoen (244 km)
- Merrygoen to The Gap (183 km)
- Merrygoen to Ulan (103 km)
- North West Link (6 km).

Freight train on a passenger network

The HVCN was also transferred to ARTC through intergovernmental arrangements, operating under its own specialised undertaking, as it is a fully commercial network where access charges cover all network operating and capital costs.

For the Sydney Trains managed and congested MRN, allocation of access is managed through the Standard Working Timetable (SWTT). For the SWTT, Transport develops a higher-level outcome specification for both passenger and freight services. This is used by Sydney Trains to develop the detailed timetable.

Rail safety, governed by the Rail Safety National Law, is regulated by the Office of the National Rail Safety Regulator. Additionally, the Australian Transport Safety Bureau and the Office of Transport Safety Investigations have a role in investigating safety incidents and accidents. Rail Infrastructure Managers (RIMs) manage safety through access conditions such as approval of the standards of rolling stock operating on their network.

Rail access charges are set by the infrastructure owner, in line with the relevant rail access undertaking. For the NSW Rail Access Undertaking, pricing principles set a floor and ceiling test. IPART assess compliance to ensure access charges fall within this band.

To meet the floor test, access charges must recover the direct cost of access seekers using the network. This amounts to recovering the day-to-day costs of providing access but excludes a return on investment. Meeting the ceiling test requires that access charges do not exceed the full economic cost of providing access, which allows a rate of return on assets to be set but does not allow monopoly profits.[31]

[31] See - https://www.ipart.nsw.gov.au/Home/Industries/Transport/Rail-Access/Rail-Access-Compliance

2.4.3 Port regulation and charges

The private port operators, NSW Ports for Port Botany and Port Kembla and the Port of Newcastle, are partly regulated through the terms of their long-term leases. These leases and relevant legislation require the operators to manage the Ports in an economically efficient way and ensure investment in port infrastructure.

Port Botany is also subject to the PBLIS, administered by Transport, which regulates landside servicing at the Port Botany container stevedore terminals. PBLIS sets complicated rules, primarily applied to truck servicing, about how the landside interface operates. For example, PBLIS covers the booking of truck slots with the stevedores, the minimum number of slots to be made available per day and cancellation terms.

Stevedores and truck operators pay penalties to each other when rules are not met. Failure to service a truck within the required truck turnaround time requires a stevedore to pay a penalty to a trucking operator. Similarly, failure to adhere to a booking window requires a trucking operator to pay a penalty to the stevedore. Servicing rules are also regulated for stevedores and rail operators at the port rail interface.

Port charges include charges applied to vessels by port operators such as NSW Ports, Port of Newcastle and Port Authority for services such as navigation and wharfage. These are subject to light touch price monitoring regulation under the Ports and Maritime Administration Act (PAMA) 1995.

Stevedore landside charges are charges applied by stevedores for terminal related services such as access and administration. These charges are not regulated beyond commercial law, except for rail handling and storage charges in some instances under PBLIS. In recent years some stevedore landside charges have increased by very large percentages.

A busy day in Port Botany

FedEx parcel delivery, Sydney Airport

2.4.4 Airport regulation and policy

Airport regulation is the responsibility of the Australian Government. Sydney Airport is subject to a nightly curfew and restricted numbers of air landings and take-offs each day within that curfew due to its lease arrangement and regulation. State and local governments can influence the airport freight logistics chain through the road connections to the airports and the availability of terminals and depots around the airport.

Additionally, key access roads including Airport Drive, Mascot are privately managed by Sydney Airport Corporation and heavy vehicle access is impacted by the regulatory standards of the Civil Aviation Safety Authority.

2.5 Future challenges

The Panel recognised three challenges impacting the freight task now and over the next decades. These were population growth, decarbonisation and emerging technologies, outlined in the Freight Policy Reform - Consultation Paper - April 2024.

2.5.1 Population growth

Population growth in NSW is expected to increase by about 20 per cent in the twenty-year period 2021-2041.[32] The freight system must be able to accommodate this growth. The impact depends on where the population growth occurs and any changes in the composition of goods to be moved. These anticipated changes imply that better use of existing capacity and some additional capacity will be required.

The largest population growth of 28-30 per cent over the 2021-2041 period is expected in western Sydney, specifically in the Central River City and the Western Parkland City, as well as in the Lower Hunter-Newcastle and Illawarra-Shoalhaven areas. The Central Coast and Eastern Harbour City in Sydney are also forecast to see significant growth of 13-16 per cent over that period. Growth in regional NSW is more modest, ranging from 0-10 per cent, although some regional cities are expected to become more concentrated.[33]

Dense traffic in Sydney CBD

The composition of goods carried is also expected to change with these differences already being observed. There is a major industry transition underway, as policies aimed at reducing emissions are encouraging industry restructuring and the introduction of new technologies. This is linked to better commercial outcomes for the private sector operators and owners, as well as decarbonisation and technological innovations.

32 NSW Department of Planning, Housing and Infrastructure, 2022, NSW Common Planning Assumption Projections: Metropolitan or Regional Projections

33 Transport for NSW Strategic Freight Model 2021

In terms of the composition of freight being carried, better data availability for the government would allow a more accurate forecast, however several trends are evident. There is an anticipated decline in coal freight movements over the period, with a trend that has already begun. Regional commodities like grain, beef, steel and cotton are expected to increase by about 25 per cent over the period with interstate and transit freight expected to grow by 33 per cent for road and 57 per cent for rail.

The largest population growth of 28-30 per cent over the 2021-2041 period is expected in western Sydney

NSW Ports estimates a 220 per cent increase in containerised imported freight from 2.8 million TEU in 2022 to over 9 million TEU in 2063.[34] Most of the containerised freight will go to Greater Sydney, the Illawarra, Central Coast and Newcastle regions. However, a significant portion will go to Western Sydney in line with major residential, commercial and industrial demand and development.

2.5.2 Climate change

It is notable that industry is undergoing major changes as decarbonisation occurs. New lower emissions equipment is being introduced to replace older assets as they retire. This process will take time as the older equipment reaches its end of life and the newer technology becomes cheaper. The new equipment includes a range of vehicles from small EV vans, battery powered forklifts, battery charged heavy vehicles and lower emissions battery-hydrogen fuel cell locomotives.

NSW Ports estimates a 220 per cent increase in containerised imported freight from 2.8 million TEU in 2022 to over 9 million TEU in 2063.

The government also has a policy across all industry sectors, including transport, to lower its own emissions. International requirements for Scope 1, 2 and 3 emissions reporting is driving change.

2.5.3 Emerging technology

Innovation is allowing industry to run its freight movements more safely and efficiently. More data is being collected through telemetry. This data could be used by government in planning future freight policies. It could also help industry in their day-to-day operations and longer-term investment decisions. The information is already there however, government must consider what data it needs and for what purposes.

Privacy concerns and protecting commercially sensitive information should not be a barrier to collecting the aggregate data needed for policy purposes.

Planning to manage the future challenges is essential. The Panel's views on how to progress the changes needed in the short and longer term are set out in the following sections.

Electric truck charging. *Photo credit to SEA Electric.*

[34] Transport for NSW Strategic Freight Model 2021

3 Progressing reform

3.1 Consultation feedback

Several common themes emerged from the consultation conducted by the Panel as well as specific issues. Common themes, included:

- A need for a freight masterplan.
- Need for some clarification about future port policy in NSW.
- A lack of effective coordination between network managers for road and rail, government agencies and freight operators.
- A noted lack of transparency and inconsistency between pricing and charges across the different supply chains, especially between road and rail.
- The need for more streamlined and harmonised network access and safety management.
- A critical shortage of industrial land available and prioritised for freight purposes, both now and in the future and the need for protection of freight corridors including regional rail lines that are utilised.
- A severe shortage of skilled labor, especially, but not limited to, heavy vehicle and rail locomotive drivers.
- A lack of transparent data for industry, government and regulators to enable better planning and decisions.
- Underutilisation of telematics where sophisticated use would enable better management of transport networks, better data and improved safety.
- A desire to lower emissions through more efficient operations and the use of new technologies.
- Increased resilience requirements exacerbated further with the increase in extreme weather events.

Additionally, feedback was received in relation to the PBLIS, the draft HVAP and many specific problems for road and rail operators on particular supply chains.

Based on the feedback and other issues identified by the Panel, a roadmap of actions has been developed to progress reform.

The first set of actions relate to industry wide concerns, including:

- information and data
- strategic planning and industrial land (for freight purposes)
- workforce shortages
- decarbonisation.

The second set of actions is more specifically about network concerns, including:

- resilience
- funding and pricing
- ports and airports
- rail networks
- road networks
- governance.

The Freight Policy Reform: Interim Directions Paper provides more detailed coverage of these issues.

3.2 Industry wide reforms

3.2.1 Information and data

The Panel is concerned about the limited data that is currently accessible to government and industry for decision making. There is a vast amount of information however, it is not always accessible, consistent, robust or widely known. This means government policymakers and industry are lacking data that would improve performance. To effectively use this information, policy makers must be very clear about what information they need and why.

The current restrictions on the use of data held by government, for the purposes of policy, planning and investment to benefit industry and the community, do not reflect business and community expectations. It is assumed that governments have an informed understanding of what is moving on public infrastructure. This includes:

- how freight moves
- distances travelled
- what vehicles and locomotives are moving on the network in terms of
  - configuration
  - mass
  - commodity carried or not carried reflecting additional capacity on our roads or rail networks.

Informed decisions about planning and infrastructure maintenance depend on that data however, it needs to be organised into a data hub that suits the purposes of the user. Harmonising this data hub with Australian Government actions on data would be beneficial, as supply chains rarely operate solely on a state-by-state basis.

With a key objective to improve supply chain coordination through better data sharing, Transport should:

- Remove the current broad constraint in contracts and agreements, including rail access agreements, that prevent the use of key data for policy and planning purposes.
- Report publicly on levels of use of publicly funded rail infrastructure.
- Implement the transparent reporting recommended in the Port Botany Landside Improvement Strategy Review.
- Consider the business case for mandating and possibly subsidising telematics in all heavy vehicles, using existing telematics systems where possible, to provide data for network management purposes.

Grain weighing bridge displaying weight of loaded truck

3.2.2 Strategic planning and industrial land

The movement of freight is underpinned by strategic planning to manage the freight chain networks and considers the long-term use for land, including its development, protection and conservation.

A significant issue for reform now and in the future is the current lack of available industrial land.

Sydney has the tightest vacancy rate of serviced industrial land of any city globally at 0.2 per cent. Lack of land is forecast to continue for at least the next two years, with record-breaking double-digit rent growth of 14 per cent over the past 18 months.

Sydney is estimated to have 1.5 years worth of industrial lands currently available. In contrast, Melbourne has 11.5 years and South-East Queensland has 13.5 years of available lands.[35] Currently only 4 per cent (585 ha)[36] of the total industrial zoned land in the Sydney Metropolitan Region is undeveloped and serviced.[37]

The shortage of land is causing major freight and logistics operators to leave Sydney. They are re-locating their main centres to Brisbane or Melbourne where suitable land is available and less expensive.

While the current focus is rightly on delivering housing, Sydney's industrial land shortfall needs to be addressed. This will enable existing and new housing developments to be serviced and allow the provision of jobs in the local area.

While freight terminals, depots and warehousing activities are mainly located on industrial zoned land separate from residential activities and requirements, freight supply chains involve all land uses: residential, commercial, industrial, recreational and environmental.

Often, the most efficient and environmentally friendly approach is to have 'hub and spoke' [38] freight facilities. The 'spokes' geographically should be located close to where demand occurs.

Counterintuitive to current planning approaches, the greater the intensity of land use that generates demand, the greater the need for the logistics network structure to be in

Traffic on Parramatta Road at Burwood

35 Barings 2024, Barings Submission to IPART Cost of the Mamre Road Precinct Stormwater Scheme Plan

36 CBRE Australia 2023, Sydney Industrial and Logistics Land Supply 2023

37 The definition of "serviced" land refers to land in Greater Sydney where a Sydney Water sewerage and potable water service may be available for connection (lead-in water and wastewater infrastructure). The servicing data does not include power, roads or other infrastructure.

38 The 'hub and spoke' model in freight logistics refers to a transportation network design where freight is consolidated at a central 'hub' facility, and then distributed outwards to various 'spoke' locations.

White Bay Cruise Terminal

close proximity. This allows the network to meet customer demand in an efficient and environmentally friendly way.

Freight and facilities services are essential to the functioning of our society however, they can be considered unattractive due to concerns about amenity and the higher value of the land if rezoned for residential use. Pushing all city serving freight functions to the urban fringe, away from the port and final point of demand, can be more costly to the city. This requires extra vehicles and longer freight transportation distances, resulting in higher social and environmental costs, as well as a higher cost to consumers.

In this context it is important to note that the NSW Government is undertaking a review, led by The Cabinet Office, to consider the future of the Glebe Island and White Bay port in the Bays West precinct. A key driver for this review is housing policy and the potential large value of this industrial precinct on Sydney Harbour for housing. The review is considering whether housing should replace or can coexist with the port. The Panel's earlier comments about the importance of freight should be considered in this review, along with concerns that co-existence of housing and industrial operations such as a port, is often an unsustainable outcome.

Sydney is estimated to have 1.5 years worth of industrial lands currently available. In contrast, Melbourne has 11.5 years and South-East Queensland has 13.5 years of available lands. Currently only 4 per cent (585 ha) of the total industrial zoned land in the Sydney Metropolitan Region is undeveloped and serviced.

3.2.3 Skills and workforce

During the consultation process, feedback identified shortages in a range of critical freight industry roles. Currently the sector is struggling with two key challenges:

- short-term labour shortage, particularly for drivers
- longer-term skills shortage and workforce attraction issues.

Worker at Cargo Coordination Centre, Port Botany

The most recent data suggests that short-term shortages may be easing and total job vacancies are nearly back to pre pandemic levels.[39] Nevertheless, the freight industry still requires more workers to support its viability.

In the longer term, the freight industry is facing labour and skills shortages due to:

- an aging workforce
- challenging working environments
- a lack of workforce diversity, in particular low levels of female participation
- a low awareness of career pathways among prospective workers.

Feedback indicated poor public perception of these occupations as a contributing factor to the labour and skills shortages.

Feedback also suggested that improvements to training frameworks could be made, including giving TAFEs and universities greater roles in providing pathways for new entrants to the industry. There was also a consistent view that national leadership and consistency are essential to agree on the required skills and training and to respond to labour shortages.

Rail industry stakeholders highlighted inconsistencies in training requirements between different network managers. This created challenges in skilling up new workers and redeploying existing workers to address temporary shortages. The problem is not limited to different states having different requirements for their networks as even within NSW different rail networks have different requirements.

Road industry stakeholders highlighted the need to improve the quality of training provided through the licensing process for new drivers. Many called for a move to 'competency-based assessments' for licensing. Given heavy vehicle licensing is already competency based, this was understood to mean a greater emphasis on practical hours of driving experience as the basis for licence progression, rather than current time-based tenure requirements.

There are indications of positive, industry-led initiatives to address some of the most critical challenges. For example, based on feedback, a growing number of training and recruitment programs that target increased female participation appear to be delivering good results.

Road industry stakeholders highlighted the need to improve the quality of training provided through the licensing process for new drivers.

[39] ABS, Job vacancies by industry. Accessed at https://www.abs.gov.au/statistics/labour/jobs/job-vacancies-australia/latest-release#industry

The majority of these issues require whole-of-government commitment to reform, at both a state and national level. Under the National Rail Action Plan there is an intention to harmonise skills and training for rail roles.

Austroads has also led a review of the National Heavy Vehicle Driver Competency Framework, which was agreed in principle by Ministers in late 2023. This review includes consideration of ways to increase the number of skilled and safe heavy vehicle drivers. Specifically, it proposes two new expedited licensing pathways, one based on hours of experience the other on a combination of experience and supervised driving. Both actions would at least halve licence progression time. The Panel supports both of these Austroads initiatives.

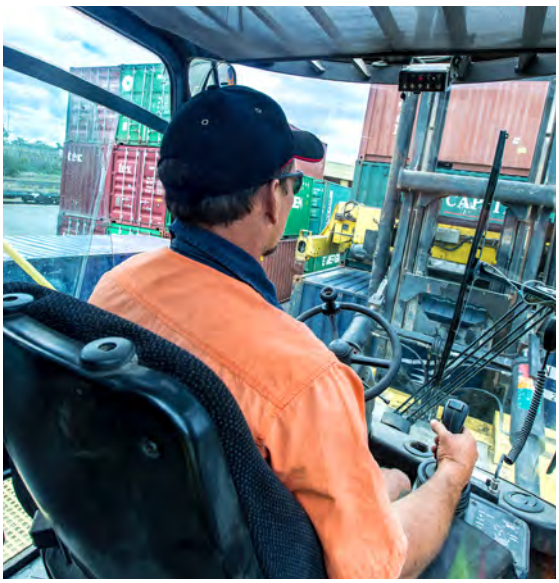
The NSW Government could further support training and licensing, although additional options should be carefully targeted. One possibility could be relief packages, such as the payroll tax rebate for recognised apprentices and trainees already in place in NSW. Another option could be a more structured subsidy scheme like the Western Australian Government's 'Heavy Vehicle Operations Skills Set Program.' This program couples existing vocational training with an industry-led mentorship program, producing measurable results. In the first round of the project, 552 people enrolled in the course, 282 obtained a heavy rigid or higher class licence and 30 per cent of these were women.[40]

Government decision making is vital to the efficiency and competitiveness of NSW's supply chain in national and global markets. Supply chains are complex systems and government decision making, especially in Transport due to its freight responsibilities, requires deep knowledge about the system. This includes its economic, social and environmental significance and importantly, the system's operational interdependencies.

Within government a wider understanding of freight is required. For example, research into the formal education of urban planners[41] revealed not a single unit of study in any undergraduate or post graduate course, accredited by the Planning Institute of Australia, focused on supply chain, freight logistics or freight transport. In contrast, courses taught amenity, with many offering electives in active transport. To fill this knowledge gap, the NFSCS is proposing the development of short course credentials.

The way the system works and how it could work with improved understanding, is likely to support the achievement of an even broader set of government objectives beyond those just associated with freight.

Government decision making is vital to the efficiency and competitiveness of NSW's supply chain in national and global markets.



Worker unloading containers

40 Department of Training and Workplace Development (WA), 2024, "Heavy vehicle driver training expanded to cover new ground". Accessed at https://www.jobsandskills.wa.gov.au/news/heavy-vehicle-driver-training-expanded-cover-new-ground

41 Research sponsored by the Department of Infrastructure, Transport, Regional Development, Communications and the Arts (DITRDCA) in 2022 by IMOVE and Queensland University of Technology (QUT)

3.2.4 Decarbonisation

As the freight industry gradually replaces existing assets with more fuel efficient and lower emissions vehicles, different fuel recharging stations may be needed.

Reducing uncertainty and risks associated with purchasing zero emission vehicles is key to enabling freight businesses to make effective long-term sustainability decisions.[42]

Stakeholders have identified several key barriers to uptake, including:

- range anxiety
- lack of charging facilities
- market uncertainty
- high upfront costs
- technology limitations.

Dedicated, fit-for-purpose public charging infrastructure for freight is crucial for increasing confidence in this new market.

Some changes are likely to be needed by government to assist freight operators in these decarbonisation efforts and more consultation with industry is required as changes emerge.

Electric truck recharging. *Photo courtesy of SEA Electric.*

A significant rise in the share of freight carried by rail would have a substantial and favourable effect on emissions. Rail freight produces 16 times less carbon pollution than road freight per tonne kilometre travelled, even when diesel locomotives are being used.

It is estimated that just a one per cent modal shift away from road to rail would result in a reduction in emissions nationally of 330,150 tonnes of CO_2 equivalent. In addition, there are an estimated $72 million in total benefits per year from reduced carbon emissions and improved safety and health benefits.[43]

The attempts by government to increase the rail share of freight movements at Port Botany has been ineffective. One important lesson is that setting a target for rail mode share without effective policy measures to back it up does not achieve the desired outcome.

It is estimated that just a one per cent modal shift away from road to rail would result in a reduction in emissions nationally of 330,150 tonnes of CO2 equivalent.

Freight will only move to rail if it provides a competitive service. Rail is competitive on long haul routes and on shorter haul where there is not multiple handling between origin and destination. Bulk freight, such as coal and grain, falls in this category.

The Panel believes the long haul east-west interstate rail links and the efficient handling experience in the HVCN, at both mine and port, are competitive with road.

42 National Road Transport Association 2023, Australian Road Freight Transport Decarbonisation: Industry White Paper, Canberra

43 Deloitte 2020, 'Value of Rail: The contribution of rail in Australia', a report commissioned by the Australasian Railway Association, November.

Two rail links that could become more competitive are:

- the Port Botany link to IMTs connected to the line
- the Sydney-Melbourne or Sydney-Brisbane link for some types of freight.

Other possibilities should be explored however, network constraints and/or multiple handling add significant costs and make the outcome uncompetitive.

Given the emissions reduction that an increased rail freight share would enable, consideration should be given to an incentive payment to encourage use of the rail network. Specifically, on nominated routes that could be competitive with road.

For the government, policies that can effectively increase the share of freight being moved on rail would substantially lower emissions in the freight sector.

Port Kembla

3.3 Network reforms

3.3.1 Resilience

A common theme in the consultation was concern about the resilience of road and rail networks. The resilience of NSW's road and rail freight networks has been severely tested by natural disasters[44] with 141 key road corridor closures between 2020 and 2023, primarily due to flooding.

Beyond weather events, the freight network faces risks from pandemics, cyber threats and extremist action.[45] The current approach to managing unplanned events has been reactive, with 97 per cent of disaster-related funding focused on recovery and only three per cent on prevention.[46] This imbalance leaves infrastructure vulnerable to recurring damage.

Road networks offer some flexibility for alternative routing, however this is not viable for all freight networks or in all areas.

The poor resilience of rail corridors, with limited alternatives and significant operational impacts from disruptions, has contributed to a decline in rail's mode share. Rail operators informed the Panel of significant losses following floods in recent years and these customers have not returned to rail.

The increasing frequency of extreme weather events exacerbates these challenges, particularly on regional and interstate networks where the impact on freight services is most pronounced.

The long-term planning need for infrastructure and network resilience has been noted by government, with a focus on rebuilding infrastructure to a higher standard than it was before a disaster. This should ensure more resilience to events and emphasises the need for proactive measures to strengthen infrastructure against future risks.

Bushfire smoke over Warringah Freeway

44 Transport for NSW, 2024, Freight Policy Reform: Consultation Paper.
45 Bureau of Infrastructure and Transport Research Economics (BITRE), Road and Rail Supply Chain Resilience Review, 2023, BITRE, Canberra ACT.
46 NSW Government Department of Regional NSW 2022, Natural Disaster Infrastructure Betterment in NSW.

Evidence shows that every dollar invested in betterment and proactive measures can save up to $10 in recovery.[47] The benefits of betterment also extend beyond financial savings and include:

- intangible benefits such as more connected communities
- the continuity of essential services
- the continuity of business activities in impacted areas
- reduced environmental impact.

This underscores the need to rethink the approach to disaster funding, prioritising proactive measures that strengthen infrastructure before disasters strike. Planning for multi-modal responses on vulnerable parts of the network to ensure freight keeps moving when part of the network is impacted should also be considered.

There has been significant attention given to resilience, particularly of the road network. Efforts to 'build back better' and improve transport network resilience are noted. There may however, still be too much focus on recovery and response to infrastructure failure, rather than supporting the upgrade of network risks before an incident occurs to ensure resilience.

Evidence shows that every dollar invested in betterment and proactive measures can save up to $10 in recovery.

As mentioned earlier, road and rail maintenance activity should be informed by data and respond to the usage of the network. Freight movements should be as productive as possible to benefit society. This requires strategic use of roads and rail lines to get the most out of the infrastructure, while ensuring its resilience.

Bushfire damage along roadside

47 NSW Government Department of Regional NSW 2022, Natural Disaster Infrastructure Betterment in NSW.

3.3.2 Funding and pricing

Attention must be given to the funding frameworks for both road and rail networks.

Road and rail networks are funded differently and in terms of user cost, the charging regimes greatly favour road. Pricing frameworks for users should be more transparent, noting these networks benefit from a considerable level of public funding or significant cross subsidy.

Submissions received by the Panel noted a commercial framework, reflective of the economic cost of delivering a unit of freight, would provide the right incentives for users to decide the most efficient freight chain to use.

Road

Road network funding, under current state and Commonwealth policies is volatile and will fall well short of spending growth. Additionally, changes in fuel efficiency requirements for vehicles pose a threat to the reliability of fuel excise. The inefficiency of road related taxes further compounds this issue.

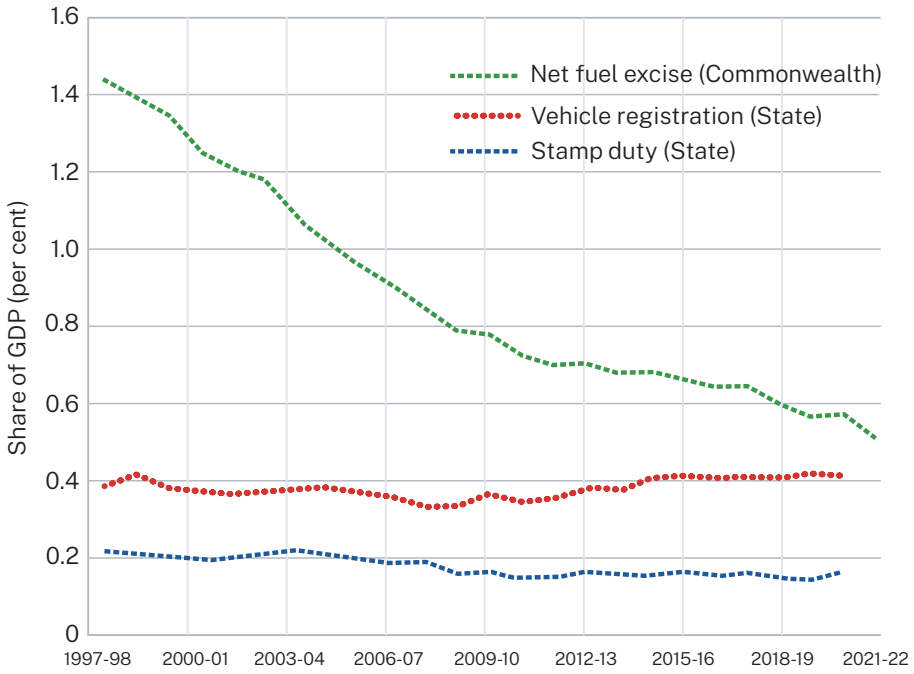
Fuel efficient vehicles, including EVs, are causing a decline in Australian Government fuel excise tax revenue. This is already evident as shown in Figure 3.1.

This decline in revenue puts pressure on governments to identify alternative sources of funding. This also presents an opportunity for governments to develop a new funding framework. Such a framework should not only address the revenue decline, but also provide a more accurate reflection of an operator's road usage through distance-based charging.

Existing road funding does not limit road congestion, nor does it provide investment signals about where roads should be built and to what capacity.

The current set charges do not reflect the road damage associated with vehicles with different axle mass on roads with different levels of resilience to damage. Nor do the existing charges use a sound framework for pricing that balances efficiency, distributional concerns and meeting some of the fixed costs of construction.

Figure 3.1 The structural decline of fuel excise revenues



Source: Australian Government Bureau of Infrastructure and Transport Research Economics 2024.

A distance-based road user charge is levied on the number of kilometres driven, often charged at different rates depending on vehicle class. This creates a user-pays framework that links charges paid to the benefits each road user derives from the road network, as well as the additional costs imposed by that user, such as:

- road wear and tear, which varies by vehicle mass
- environmental damage
- congestion.

These reforms bring various benefits:

- Improved road network efficiency by optimising the use of heavy vehicles, minimising congestion, and enhancing traffic flow.
- Environmental advantages by encouraging the adoption of cleaner technologies, reducing emissions, and enhancing air quality.
- Pricing mechanisms that generate revenue for road maintenance and infrastructure upgrades, enabling more efficient resource allocation.

When implemented, a distance-based charge could be introduced in stages, starting with heavy low or zero emissions vehicles. This could then expand to cover all heavy vehicles and include charges based on:

- mass
- efficiency
- environmental impact
- location.

Such a system would create a sustainable source of revenue and contribute to establishing a more sustainable funding model for roads.

The charges should not aim to generate any additional revenue beyond what operators would already be paying under a fully cost reflective model. The charging system design should ensure operators pay the costs they impose on roads and possibly the external costs to society, rather than seeking additional financial gains from operators.

This approach will reinforce fairness and equity in the charging system while promoting a sustainable road network in the long term.

Transport and infrastructure are a significant cost on local governments nationally. While some funding is provided by the Australian and NSW governments, roads are primarily funded from council's rate base and local roads are their responsibility.

This funding is inadequate for most councils. Unlike other levels of government, local government has no direct mechanisms to raise funds for road construction and maintenance, such as road user charges, registration charges, or any road or transport related fees or charges.

Local councils are heavily dependent on grants from Australian and NSW governments. The structure of these grants make long-term maintenance and repair programs difficult for local councils.

Rail

Rail users typically pay a flag fall to access the network and a mass and distance-based charge for their use.

Aerial view of full and empty freight train coal carriers

3.3.3 Ports and airports

Improvements at the ports will ensure the efficient movement of exports and imports. The government considered the recommendations made in the 2022-2023 PBLIS Independent Review[48] about the management of the container handling landside interface at Port Botany and sought the Panel's views on these. Recommendation 18 for the administration of PBLIS to be undertaken by NSW Ports was not supported at this time. The Panel has considered the recommendations and consulted on implementation.

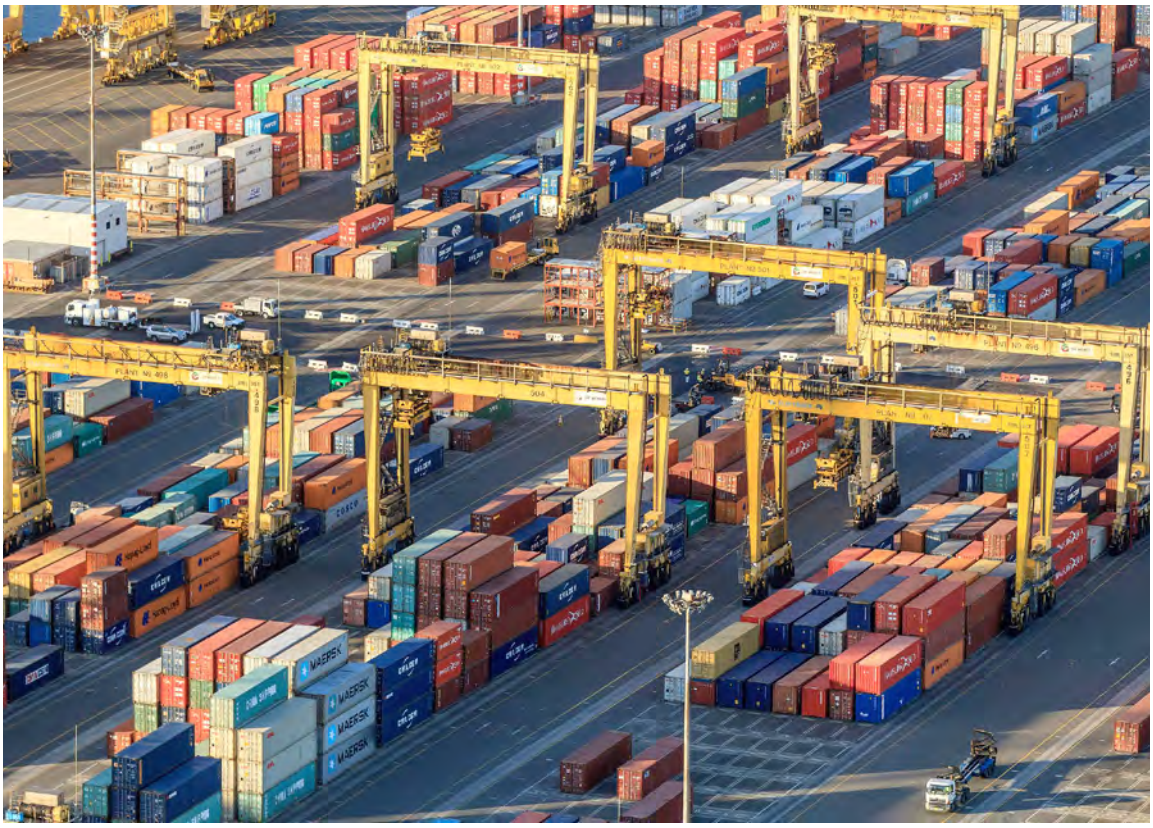
The Independent Review found PBLIS:

- achieved initial success in 2010 in addressing congestion and inefficiency issues
- has not supported change in line with other changes in the market
- has a high administrative cost for all parties
- does not incentivise improved performance.

The landside container movement can be carried out more efficiently and at lower costs to all involved than PBLIS currently allows.

The Panel Interim Directions Paper supported the immediate implementation of the 20 recommendations, excluding recommendation 18 and advised that the outcomes of these changes be reviewed in five years, to consider their effect and make any necessary modifications. The Panel also suggested that recommendation 18 be reconsidered at that time.

Feedback provided to the Panel on the implementation approach, clarified that parts of the trucking industry do not wish all recommendations to be implemented, even with a review after five years to assess outcomes.



Aerial view of stacked containers and container handlers at Port Botany

48 Willett 2023, Independent Review Ports and Maritime Administration Act & PBLIS Final Report, accessed at https://www.transport.nsw.gov.au/operations/freight-hub/independent-review-–-ports-and-maritime-administration-act-and-port-botany

Based on this and other feedback, the Panel recommends proceeding with the key changes that would make PBLIS an incentive scheme, rather than the existing restrictive penalty regime, with the aim to support improved truck and stevedore performance at the port.

The Panel recommends a staged, cautious implementation approach, with comprehensive monitoring and public transparency to ensure unintended consequences do not occur. To support the implementation process, regular public reporting on performance should start as soon as possible.

The staged approach would see the 20 PBLIS recommendations implemented in three groups.

The first group would focus on:

- the performance scheme (Recommendation 1)
- removing the broad power for regulating stevedore charges (Recommendation 6)
- applying late penalties per truck trip rather than per container (Recommendation 7)
- updating penalty rates by the Consumer Price Index (Recommendation 9)
- road data transparency (Recommendation 12)
- rail data transparency (Recommendation 13)
- empty container data transparency and efficiency (Recommendation 14)
- certified transport operator access (Recommendation 17).

This group will achieve the most benefits across all of industry and will allow other changes to follow when there is greater confidence and certainty, particularly for the trucking industry, that the changes will benefit all stakeholders.

The second group of recommendations, which require further development and potential business case consideration include:

- freight community system (Recommendation 15)
- a second truck marshalling area (TMA) (Recommendation 16)

These recommendations can be concurrently progressed with the first group of recommendations.

The third group of recommendations are changes to the current PBLIS rules that were opposed by some transport operators and should be further considered during the implementation process. They include:

- change carrier cancellation rules to take or pay (Recommendation 2)
- facilitate no booking until discharge (Recommendation 3)
- staggered time zone commencement (Recommendation 4)
- applying unforeseen events to terminal sections (Recommendation 8)
- removing large and small carrier classifications (Recommendation 10)
- removing Transport approval for stevedore allocation of import and export slots (Recommendation 11).

Recommendation 5 does not require government action as stevedores are currently able to apply differential pricing. The rail recommendations 19, 20 and 21 are addressed in the Rail Networks section 3.3.4 of this report.

The current container port policy in NSW is that Port Botany will be the key container port for the state until it reaches capacity. Port Kembla is identified as the location for a second container port when required.

Port Botany will remain the key container port for NSW as it has significant potential capacity remaining for at least two decades[49] and is close to the main import destinations in Sydney.

The Panel recommends the government should not determine the location of a second container terminal. Instead, the ports may develop and diversify as they see fit for their commercial purposes, as long as it does not require supporting infrastructure investment by the government in the near future, other than what is required at Port Botany.

[49] NSW Ports, https://www.transport.nsw.gov.au/operations/freight-hub/freight-policy-reform-program/freight-policy-reform-submissions

The Panel agrees with the effective change in policy to not determine the location of future container port developments.

The uncertain future of the Port of Newcastle, the world's largest coal terminal, justifies the port's plans for diversification and expanding into container trade and other opportunities. The Panel considers this is an appropriate commercial approach.

The Consultation Paper detailed the pipelines that are a key part of the bulk liquids import supply chain in NSW, particularly in Sydney.

Stakeholder feedback included concerns that the amount of aviation fuel that will be required by the Western Sydney Airport in the future will exceed efficient and safe road transport from the Clyde terminal and other ports to the airport.

Options for a dedicated pipeline route to transport the fuel have been identified and should now be protected to avoid future issues. Discussion between governments about funding is needed and a future model for that pipeline that entails user pay principles should be adopted.

3.3.4 Rail networks

The rail operating environment in NSW is complex. There are three RIMs and multiple regulatory instruments. Regulatory complexity impacts the rail freight's service level offering.

The leased ARTC track is under Australian Competition and Consumer Commission (ACCC) approved Access Undertakings, one for the interstate track and one for the Hunter Valley.

Track retained by the NSW Government is subject to the NSW Rail Access Undertaking and includes the MRN and CRN. Until recently, the NSW Access Undertaking also applied to the MFN, which is managed by ARTC. However, in December 2024, the MFN was belatedly incorporated into the ARTC's revised interstate undertaking.

There is no long-term strategic plan to explain how the rail networks in NSW will evolve to achieve the necessary service levels required to meet public policy objectives for both passenger and freight.

The Panel notes, the NSW Government choice of contracting approach, for the infrastructure and related services they provide, is one shorter-term lever to address this situation. An appropriate starting point for governments is to re-examine some of those contracting approaches to improve coordination problems, rather than potentially exacerbate them.

The choice of functions to include or not include in a contract often involves a trade-off between the benefits of improving coordination and seeking the benefits of competition.

The three different network managers in NSW operate different parts of the network. Some of these arrangements reflect statutory directions included in the Transport Administration Act, while other arrangements are more discretionary in their possible contracting approaches. Several submissions highlighted the disjointed nature of the end to end journey and coordination challenge this presents.

It is recommended the government review alternatives to the current contracting approach. For example, the current structure and contracting approach adopted for the CRN could be reconsidered, as it appears to add significant complexity and interfacing issues for 'above-rail' operators. This could include an examination of the bundled functions in the CRN Operate and Maintain contract.

In due course the government might also explore whether moving to two rail network managers instead of three would improve coordination.

It is recommended the government review alternatives to the current contracting approach.

Freight train passing station

Due to the limits on formal access rights that can be granted to access seekers, particularly on the MRN as its primary function is to provide high frequency commuter services, Transport has developed a specified rail Freight Level of Service. The level of service that Sydney Trains should provide to freight users of its network is clearly specified. This is an important step to providing certainty in public policy settings to industry. Stakeholders indicated to the Panel they were supportive of this approach.

The MRN is the most constrained component of the port rail supply chain. Applying a specified Freight Level of Service to that network is an important initial step. The concept also needs to be extended by complementary level of service commitments on the ARTC network and at the port and be reflective of reform initiatives, such as standardising port shuttles.

Optimising the port rail shuttle operation around a standardised 600 metre length, dedicated to particular (single) stevedores, would minimise the need for splitting and shunting longer trains at the port.

At present the port yard can manage this complexity but this will not be the case as volumes increase. The industry must work out how and where it will split trains and manage delivery to multiple stevedores in a way that adds to port efficiency, as well as that of the rail operators. This is particularly important for long regional trains carrying agricultural exports.

Industry participants' commitment to improving the efficiency of metropolitan port shuttles by adopting this model is noted.

Several stakeholders suggested a subsidy or financial incentive approach for regional export trains. This would incentivise them to use metropolitan IMTs to preferably split train lengths and then continue to port or, less efficiently, transfer containers onto port shuttles. Based on the evidence of a natural, commercial transition to standardised 600 metre operations, the Panel does not find there is a compelling case for public subsidy at this point.

Inside the port gate at Port Botany, the container stevedore rail servicing charges and terms are regulated. This was considered in the PBLIS Independent Review. Stakeholders provided feedback to the Panel about two things relating to this:

- concerns with removing the regulation, as was recommended in the Independent Review (Recommendation 19)
- the complexity of the regulation and that charge rates had not increased.

The Panel believes is it is not the role of the NSW Government to intervene in stevedore charges. However, given the interconnected rail network and the time needed to progress the rail policy recommendations in this Reform, this regulation should not be removed at this time.

Instead, the stevedore rail charge rates should be increased by the Consumer Price Index (CPI), backdated from 2011 and applied annually on an ongoing basis. This approach should then be reconsidered in the recommended five year review of PBLIS changes, with a view to removing the regulation.

The 2004 lease arrangements have led to a successful level of harmonisation within the ARTC leased network. However, the level of integration and harmonisation with networks outside the ARTC leased network has arguably worsened.

The NSW Government can pursue initiatives that move the complexity of arrangements behind the scenes, while current network interfaces remain. The Daily Train Path Ordering System (DTPOS) is such an example. This is a one-stop shop for all communication between Rail Operators and RIMs used across the three networks in NSW.

Governments need to progress further changes, including more efficient access to networks and industrial land for depots and handling facilities. There is also some scope to improve access for freight trains to the Sydney Trains network without the need for significant investment. Examining present arrangements and timetables may be helpful. While the peak hours will continue to be busy, access procedures outside these hours could improve and be more flexible with shorter trains.

Over the medium to longer term, addressing the significant capacity issues in Greater Sydney requires infrastructure investment. This is because of the limited availability of dedicated freight lines.

Freight-only lines are limited to the Southern Sydney Freight Line between Liverpool and Macarthur and the link from the Southern Sydney Freight Line to Port Botany. All other rail links use the Sydney Trains network through Sydney where passenger traffic has priority.

The Panel does not question the passenger priority, but notes its intensity in peak hour and the fact that it is increasing in those periods and across the day. Beyond Sydney the rail network to the north is particularly constrained as is the line to the west across the Blue Mountains.

In the Panel's view, important projects to expand capacity through new construction include:

- the Western Sydney Freight Line to Mamre Road at Erskine Park
- an IMT development at the Mamre Road site.

Those two developments must be considered together. In time, the terminal is likely to be profitable and may enable some private sector involvement and financing. The expertise gained by the Australian Government through their establishment of National Terminals at Moorebank should be used.

In the longer term, serious consideration and planning should be given to an Outer Sydney Orbital for rail freight. This would connect Hexham, near Port of Newcastle and through Maldon, near Picton, to Port Kembla. This would enable a north-south rail freight link through Sydney. This link could connect to an extended Southern Sydney Freight Link, which with population growth, may need extension to Picton in the next decade.

The rail links from the Port of Newcastle to regions are good but do need upgrades in certain places to connect into the new Inland Rail. This would enable increasing agricultural exports through Newcastle from regional NSW. Special Activation Precincts at these sites, similar to those at Parkes and Bomen, should be considered in the longer-term framework.

Over the medium to longer term, addressing the significant capacity issues in Greater Sydney requires infrastructure investment.

3.3.5 Road networks

Road networks will carry the vast bulk of freight in the future and this task will only become manageable with an increasing rail share and the introduction of high productivity vehicles (HPV).

To support the projected population increase and shifting freight patterns, it is important that heavy vehicle access is aligned with the development of strategic centres across NSW. Key priorities are strengthening north-south and east-west freight connectivity, including across state borders and harmonising standards at the borders.

Addressing bottle necks, such as the connection between the M8 and Port Botany and key routes to IMTs and distribution centres like Moorebank and Eastern Creek would also help.

The NSW HVAP, which refers to HPVs, has recently been updated and now needs to be delivered. Government support and intervention to increase the adoption of HPVs is required to fully realise the benefits of improved safety, environmental sustainability and productivity for the community of NSW in moving more freight with less vehicles

In addition, improved end-to-end access for HPV, along with supporting infrastructure such as improved rest areas and facilities, a long-recognised issue, needs immediate attention.

HPV, when operated under the Performance Based Standards (PBS) Scheme, are well performing in terms of safety, sustainability, and productivity, so it is important to ensure these standards are met by industry.

Costs for road maintenance and upgrades for enhanced connectivity remains a significant challenge for state and local governments. With the right policy settings, greater public value can be achieved from government investment in road infrastructure.

Truck unloading grain at grain storage

There is significant potential to optimise the capacity of the existing network, while minimising community impacts, by using high productivity vehicles to:

- reduce the number of vehicles on the road
- reduce the total kilometres travelled
- minimise impact on pavements
- improve the community impacts of emissions and safety risk.

Road safety is a shared objective of government, industry and community. Recognition of the significant advancements in technology and incentivising broader adoption and use of these modern technologies and vehicles, needs to be prioritised. The objectives of safety, sustainability and productivity can be achieved together with the right approach.

Greater public value can be achieved from government investment in road infrastructure with the right policy settings.

Targeting infrastructure upgrades to enable and support PBS vehicles can yield significant long-term economic benefits. As these vehicles are designed to meet rigorous safety and infrastructure protection standards, they typically require less extensive infrastructure modifications compared to prescriptive vehicles.

A study commissioned by Transport assessed cost and benefits between PBS vehicles and prescriptive vehicles. It compared upgrade costs for a prescriptive B-double against a PBS Level 1 B-double on the Princes Highway from Nowra to the NSW and Victorian border. Upgrades involved:

- road widening
- adding overtaking lanes
- rest areas
- realigning intersections
- strengthening bridges.

The analysis found that upgrades for PBS Level 1 B-doubles costs about half as much as for prescriptive B-doubles. Upgrading routes to accommodate prescriptive or PBS Level 1 B-doubles reduced freight trips by nearly 40 per cent, thereby enhancing traffic efficiency and safety through reduced heavy vehicle exposure on NSW roads, as outlined in the HVAP 2024.

By prioritising upgrades for PBS vehicles, Transport can deliver the targeted improvements necessary for access and realise cost savings. These savings can then be redirected to other critical areas, delivering the best value for the community.

Sheahan Bridge, Gundagai

3.4 Governance

3.4.1 The role of the Australian and NSW governments and industry

The Australian and NSW governments work together on freight matters in several important areas.

The first relates to the coordination of freight chains across the nation and the planning and investment needed to deliver, maintain and sustain these freight chains.

The National Land Transport Network policy aims to ensure there is road and rail networks of the standard required to carry the nation's freight task. This Australian Government policy coordinates government's planning and investment, after agreement with NSW Government.

This is accompanied by agreed funding allocations and a delivery program which is a critical contribution to the road and rail networks. The Australian Government focus on national freight is also instrumental in trying to achieve better harmonisation between states in terms of standards and policy. This policy has taken some years to progress and is ongoing.

NSW plays a useful and important role in this harmonisation because of its central location on the east coast and because, it is generally amenable to changes that are productive. A recent specific harmonisation matter includes access for heavy vehicles on national roads and a uniform approach to regulation of these vehicles. There are many areas where harmonisation can be improved and together, the Australian and NSW governments are in a good position to drive these changes and encourage other states to do so.

The defence and fuel security policies are the clear responsibility of the Australian Government however, they need to work with the NSW Government on these. The provision of airports nationally is also in this category and the recent developments at Western Sydney Airport show the role both governments play.

The NSW Government has successfully coordinated development and funding for significant transport links to the airport and aviation fuel access.

Aerial view of Mamre Road and Western Motorway at St Clair

Finally, the funding framework for roads will require significant change. As decarbonisation and electrification progress, fuel excise revenues will decline. This will require the Australian Government to establish alternative funding arrangements, consistent with its constitutional demands.

Nevertheless, it is a matter that must be handled with coordination between governments. The NSW Government can lead a staged implementation of distance-based charges as a first step however, these changes need to be made with the clear desire to bring consistency of charging for access to critical infrastructure by both road and rail users.

Both governments have played important roles in the recent construction of the duplicated and dedicated rail link to Port Botany. Its link to the Australian Government owned Moorebank Intermodal has also added efficiencies to freight import movements, in particular, to south-western Sydney.

The development of the Western Sydney Freight Line to Mamre Road, Erskine Park, could be pursued in a similar manner by coordinating the planning, funding and different expertise of both governments.

In the longer term, the planning for the Western Sydney Orbital, including corridor preservation and funding, is a matter for both governments due to the important freight role it will play.

Both governments have played important roles in the recent construction of the duplicated and dedicated rail link to Port Botany.

A coordinated approach will be important in several policy areas. Improving skills in the freight workforce is more effective if both governments agree an approach. The same improved outcome applies to a data hub development, where both governments support this initiative.

3.4.2 Arrangements within Transport for NSW freight

Freight issues within Transport concern policy, planning, delivery and network operations. The NSW Government owns the networks but contracts out their management and operations, except for Sydney Trains. Additionally, the private sector plays a significant role in freight in NSW.

The private sector operates trains, trucks, terminals and depots within the freight system using highly regulated government owned assets. This creates management complexity.

Regardless of the organisational structure within Transport, the different parts of the freight function need to work closely together.

Planning, policy, implementation, funding and day-to-day operations and regulation should not be separated in day-to-day management of the freight branch within Transport, if it is to function effectively.

This does not mean that responsibility for each part must be located together, but it does mean each part and the person responsible, must be aware of what is happening in other parts on an ongoing basis to maintain close connections to those other functions.

At present, the different freight functions are dispersed across Transport. In this structure, all freight functions are not a direct responsibility for a single Executive. While this approach can work, it may not be the optimal solution.

A different approach may be required to ensure a coordinated approach for the benefit of the overall freight task.

One way would be to make a single senior executive responsible for the freight area even though its parts are located in different parts of Transport.

A better option would be to set up freight as a functional division with its own Deputy Secretary bringing all its parts together and ensure it coordinates as appropriate in areas of policy, planning and operations across Transport.

4 The roadmap for change

In response to the issues identified in Section 3, short, medium and long term actions are categorised by:

- information and data
- strategic planning and industrial land
- skills and workforce
- decarbonisation
- resilience
- funding and pricing
- ports and airports
- rail networks
- road networks
- governance

The Panel acknowledges that while all the recommended actions work together to achieve genuine and necessary reform, there are some priorities. The actions that the Panel considers most prudent and likely to have the biggest impact are those that address:

1. The shortage of industrial land for freight purposes.
2. The strategic planning required to identify freight chain requirements immediately and in the future.
3. Road pricing reform.
4. Examining arrangements on the Sydney Trains network to enable more freight train paths, while maintaining passenger priority.
5. Improving the coordination between the three rail networks in NSW.
6. Considering an incentive payment, relating to emissions reduction, to increase rail mode share compared to road.
7. Workforce shortages, especially for drivers of trucks and locomotives.
8. Heavy vehicle access on the road network.
9. Modifying the Port Botany Landside Improvement Strategy to an incentive base rather than a penalty base.

4.1 Industry wide actions

4.1.1 Information and data

Data is a fundamental enabler to achieve a modern, safe, sustainable, connected and productive freight logistics chain. Governments and industry need access to comprehensive supply chain data to understand:

- what is happening on the ground
- how productive, safe and sustainable freight supply chains work
- what needs to be done to deliver an efficient freight network into the future.

Data across the NSW supply chain is currently fragmented with incomplete datasets. Governments and industry have limited insights into the productivity, safety and sustainability of freight supply chains, particularly in relation to multi-modal (road, rail, air, ports) freight movements.

Freight train being loaded with grain

An action plan is needed to establish a data repository about the movement of goods. This includes origin and destination for the purpose of informing network access and investment decisions. The data should provide insights on:

- what freight is moving, where it is moving, the time of day it is moving and how this movement is changing over time
- what parts of the freight network are constraining the efficient multi-modal movement of freight
- what are the critical places for freight and how are these being used now and into the future.

This does not mean monitoring individuals or businesses but having robust data sets that enable governments to set policy, plan and invest. This would include information such as:

- the number and location of vehicles and locomotives travelling in particular combinations
- the mass and distance travelled on segments of the network
- the commodities transported on segments of the network including time of day of transport
- the origin and destination of goods so that the various connections between networks and between supply chain terminals is understood
- the movement of empty vehicles and empty rail wagons so that opportunities for greater capacity are identified, recognising policy and planning may be barriers to effectively utilising the full capacity of the network.

While the NFSCS is expected to call out the importance of improved data sharing and the need for a potential data development plan to support the National Freight Data Hub, more needs to be done at a national level. Particularly in the collection of data and the potential of telematics supplied data on the movement of heavy vehicles across the national road network. Consideration of mandating telematics in all heavy vehicles nationally should be a priority.

Actions

Short term (start within 12 months)

1. Develop industry-wide data standards for freight movement tracking to ensure consistency in data and interoperability in anticipation of data sharing agreements across the NSW freight supply chain.
2. Finalise and implement data sharing agreements with key industry participants within the NSW freight supply chain, including the ARTC, to provide comprehensive supply chain data for industry and government.
3. Finalise the automated National Service Levels Standards for NSW road categorisation in anticipation of a rollout by the end of the year, including the categorisation of local roads.
4. Develop data sets and collect information to understand the freight requirements for industrial lands.
5. Identify existing sources of data and identify gaps in that data for use in government policy development, planning and investment by both government and industry and network management.
6. Note the owners of that identified data and where arrangements can be made to improve the sharing of relevant information for government and industry.
7. Identify data about the movement of goods, including modes, origin and destination, time of travel and end to end journeys.

Medium term (start within 2 years)

8. The NSW Government to engage with the Australian Government and collaborate with industry to develop a (or support a national) data repository (potentially open data source) that will collect and hold data about the movement of goods, including modes, origin and destination.

9. Investigate the possibility of removing the current broad constraints in contracts and agreements, including the rail access agreements, that prevent the use of key data for policy and planning purposes.

Long term (start within 5 years)

10. Mandate (and possibly subsidise) telematics in all heavy vehicles and data sharing from road and rail operators as well as infrastructure managers, using existing telematics systems where possible, to inform network management and investment through transparency of information regarding the end-to-end movement of goods.

4.1.2 Strategic planning and industrial land

A significant risk to enabling efficient freight logistics chains in NSW is the lack of adequate strategic planning for the freight needs of cities and regions, along with an immediate and critical shortage of industrial land.

Freight has not been given appropriate consideration in our state planning endeavours for land use or transport industry development and skills. Without better planning and support to operate through the off-peak, night-time hours, integration within our transport networks and communities will become more challenging. Planning for our cities, towns and suburbs needs to take a systems approach, recognising the end-to-end freight logistics chain holistically and as a fundamental service for our households, businesses and industries.

The actions recommended are steps towards the delivery of a NSW Freight Masterplan which would identify future efficient, interconnected, resilient and sustainable freight logistics chains.

Stakeholders submitted that the development of a coordinated master plan for freight infrastructure would guide investment decisions, maximise supply chain efficiency and minimise additional costs. The master plan would need to be overarching and cover all modes and interfaces to trigger investment in areas required for efficiency and expansion.

Salt is being unloaded from a freight ship at Glebe Island

A master plan also provides a good foundation for considering what the future national freight network should be, noting that nationally there is recognition that modelling is required to identify an ideal future freight network in 2040. It will also consider what is needed to support decarbonisation, such as:

- energy needs
- fuel types
- depot/refuelling locations and infrastructure requirements
- potential sites for freight precincts and intermodals
- safety requirements on key routes
- what is needed to meet Australia's import/export demands to ensure supply chains support the prosperity of Australian communities.

Actions

Short term (start within 12 months)

11. In partnership with DPHI, deliver an Industrial Lands Action Plan that includes:

- **a.** Reviewing industrial land stock and strategically prioritise the delivery of suitable land for different freight requirements.
- **b.** Identifying strategic freight land use principles, including recognition of freight as a vital service for application in government policy and for the protection of freight corridors for current and forecast use.
- **c.** Supporting aspirations for the 24-hour economy with minimal restrictions on hours of operation and planning for freight lands in locations that support off-peak operations to maximise opportunities for operators to move freight during the night.

12. Establish and maintain a prioritised list of strategic infrastructure projects that support improved freight networks across NSW.

13. Begin the development of the project that interconnects the future Western Sydney Freight Corridor with an open access intermodal terminal at Mamre Road.

14. Consider the proposal to rezone land at Glebe Island and White Bay for housing developments, noting that the co-existence of freight activities and residential development is typically not sustainable and that port infrastructure of this kind is irreplaceable.

15. Transport to conduct initial investigations into surplus land assets that may be suitable for freight operations.

16. Complete the economic and choice analysis component of the joint study with Queensland and Victoria that focuses on the export grain haulage task at a strategic east-coast level. If this is not proceeding quickly, complete the analysis for NSW with industry consultation so that grain can be moved efficiently using whatever mode leads to this outcome.

Medium term (start within 2 years)

17. Develop a NSW Freight Masterplan, in partnership with DPHI, ARTC and other infrastructure operators, to ensure an integrated approach to freight logistics including:

- **a.** Building on the current work in identifying the corridors to provide a dedicated freight network in metropolitan Sydney and the Outer Sydney Orbital connecting to the Hunter and Illawarra, with a preference for dedicated freight rail lines where volumes exceed reasonable opportunity for integration with passenger services.
- **b.** The sequencing of long-term critical freight infrastructure projects (particularly for Western Sydney) including the need for an additional future IMT in Western Sydney located on the Outer Sydney Orbital.

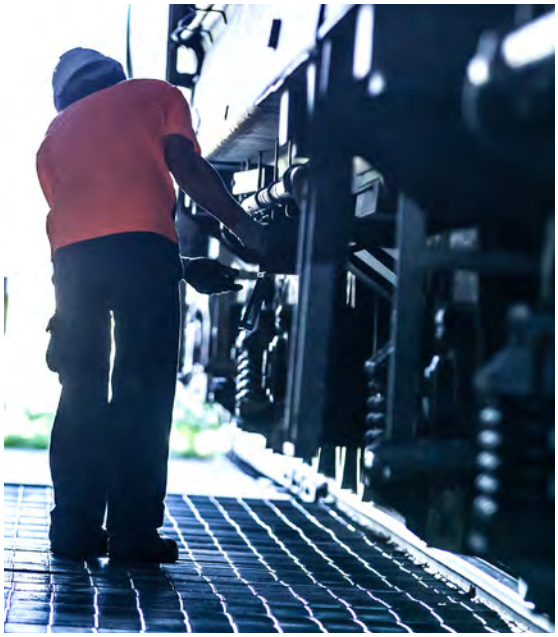
Long term (start within 5 years)

18. In partnership with the ARTC:

- **a.** Capitalise on the opportunities Inland Rail will present to NSW industry and communities including the continuation of Special Activation Precincts.
- **b.** Support delivery of priorities within the NSW Freight Masterplan.

4.1.3 Skills and workforce

Workforce shortages are consistently identified as a major risk facing the sector. The shortages extend across various roles within the industry, but the immediate priority needs to be on addressing shortages of heavy vehicle and train drivers as well as seafarers. Feedback indicated that improved training was important.



Worker at Port Kembla grain terminal

Feedback indicated that improved training was important. Austroads has undertaken a review of the National Heavy Vehicle Driver Competency Framework which underpins the licensing system.

Austroads has undertaken a review of the National Heavy Vehicle Driver Competency Framework which underpins the licensing system. There are recommended alternative pathways for licence progression between heavy vehicle classes that should be prioritised, particularly the 'Supervision program' and 'Driving experience' pathways.

Licensing is only the first step towards a skilled and job ready driver. Small and large industry participants invest in driver training to ensure their drivers are confident and skilled and provide pathways for progression to attract and retain drivers. The benefits and opportunities for driver training should be promoted and shared across the industry.

More work needs to be undertaken for freight train drivers to continue to identify opportunities to recognise skills and training and support movement and progression across the industry. Greater harmonisation of safety standards and operating systems may assist in addressing this issue.

The National Rail Interoperability Work Program is focused on five rail interoperability priorities and associated work streams – which includes a focus on addressing skills and labour shortages in the rail industry and improving the mobility of workers across networks. Several national reform initiatives are being progressed to address this issue, including:

- standardising safe working rules and practices, to reduce the need for bespoke skills and training
- a national framework for the mutual recognition of entry-level rail competencies across Australia, to make it easier for workers to enter the rail industry and move across networks
- developing nationally defined rail roles, competencies, training and assessment materials.

Seafarers and the development of a new workforce is a different challenge again. It is acknowledged that this is a critical role and the opportunities for new entrants and training is limited in terms of available roles. The Australian Government has been advancing work to address this issue and this is encouraged.

The greatest opportunity to address driver shortages appears to lie in diversity. The freight industry is lacking in diversity, with women particularly under-represented in the heavy vehicle driver cohort. Large and small operators are actively tackling this issue and having success in building a diverse workforce.

Actions

Short term (start within 12 months)

19. Publish accessible information for potential workforce members (and their families and associates) that indicates the driver pathways from new entrant to highest licence class for heavy vehicle and freight train drivers.

20. Develop a program, in partnership with industry bodies, to promote recruitment and training programs focused on attracting new entrants to the maritime, road freight and rail freight workforce from underrepresented backgrounds, particularly women.

21. Allocate funding to expedite the Austroads recommended "driving experience" licence pathway (for progression from Medium Rigid/ Heavy Rigid to Heavy Combination and Heavy Combination to Multi Combination) as soon as practicable.

Medium term (start within 2 years)

22. Develop a targeted skills and workforce attraction program for the freight sector aimed at:

- **a.** first addressing roles with the most acute shortages (such as heavy vehicle drivers, train drivers and seafarers)
- **b.** recognising the longer-term demand for higher skilled occupations with a particular focus on underrepresented workforces (such as women).

This should include a funding commitment, as well as exploring other mechanisms for providing financial relief for employers (such as the existing payroll tax rebate on wages paid to registered apprentices and new entrant trainees during the eligible period of their training).

23. Support the delivery of national rail reforms to address skills shortages and the mobility of workers across networks, including:

- **a.** standardising safe working rules and practices
- **b.** developing a national framework for the mutual recognition of rail competencies
- **c.** developing national competencies and training.

4.1.4 Decarbonisation

Research suggests that there are several strategies that governments can be taking to decarbonise transport.[50] [51] These are:

- facilitating the transition to lower emitting vehicles, technologies and rollingstock
- supporting market shift from road to rail
- influencing customers' willingness to pay for low and zero emission transport
- providing quality and up to date information and data to enable government and stakeholders to make informed decisions to decarbonise.

[50] Energy Agency 2021, Net Zero by 2050: a roadmap for the global energy sector, accessed at: Net Zero by 2050 – Analysis - IEA

[51] Climateworks Centre, 2023, Delivering freight decarbonisation: Strategies for reducing Australia's transport emissions, Accessed at: https://www.climateworkscentre.org/resource/delivering-freight-decarbonisation-strategies-for-reducing-australias-transport-emissions/

Increasing the share of freight moved by rail

Increasing the use of rail depends on making rail freight competitive to road freight. The Panel notes that at present the east-west rail link and the Hunter Valley Coal chain, fall in this category. Long haul rail tasks and those that do not require multiple handling are more able to compete. There is an opportunity for inter-capital city rail freight to improve its competitiveness and raise its mode share.

There may also be opportunities with the Port Botany rail task and some regional agricultural traffic. Just a one per cent modal shift away from road to rail would result in reduction in emissions nationally of 330,150 tonnes of CO_2 equivalent.[52] In addition to reducing emissions, increasing the rail mode share can improve road congestion, pavement damage and road safety.

Electrification of road and rail freight

There is a role for government to work with industry to support its transition to low emissions vehicles and locomotives. This may include investment in battery recharging infrastructure across the road and rail network to support vehicle and locomotive electrification. As outlined in the Towards Net Zero Emissions Freight Policy, this will require appropriate regulatory frameworks, trials, targeted incentives and education and engagement with stakeholders.

Transparent and regularly updated data that tracks the progress and impact of decarbonisation efforts within the freight sector is important. This information can help businesses, councils and individuals benchmark their own performance.

Increased access for high productivity vehicles

High productivity vehicles provide an immediate emission reduction as they offer substantial payload efficiencies compared to their traditional counterparts, meaning they move more goods for the same kilometres travelled. This equates to fewer vehicles required to perform the same task, optimising freight movements and reducing congestion and greenhouse gas emissions. Between 2008 and 2022, the increased use of PBS vehicles resulted in a reduction of carbon emissions of 3.2 million tonnes.[53]

Supporting informed decision making

Transparent and regularly updated data that tracks the progress and impact of decarbonisation efforts within the freight sector is important. This information can help businesses, councils and individuals benchmark their own performance, identify areas for improvement and make more informed choices that align with local, state and national decarbonisation goals.

Actions

Short term (start within 12 months)

24. Continue to deliver the Towards Net Zero Emissions Freight Policy and incorporate the actions from that Policy into this action plan (Actions included in Attachment A).

25. Investigate an incentive scheme (based on emissions reduction) to encourage a shift to rail from road.

26. Investigate the Port Botany container task and the regional grain task to maximise modal shift to rail including potential for zero emission rail.

27. Investigate the urban freight task across cities in NSW to identify opportunities to support transition to zero emission vehicles.

52 Deloitte 2020, 'Value of Rail: The contribution of rail in Australia', a report commissioned by the Australasian Railway Association, November.

53 National Heavy Vehicle Regulator 2024, Performance Based Standards-Removing Roadblocks to Reform

28. Advance consideration of an incentive program to drive uptake of zero emission vehicles and investment in public and private charging infrastructure to support transition to zero emission vehicles and locomotives.

29. Undertake an analysis of an appropriate charging infrastructure network for heavy vehicles that will support industry uptake and remove 'range anxiety'.

30. Provide certainty of access for zero emission vehicles by establishing the heavy vehicle access trial as ongoing and permanent.

31. Continue to work with the Australian Government and jurisdictions to deliver a harmonised approach to freight decarbonisation.

32. Consider, with the Australian Government, imposing charges on vehicles to reflect the impact of carbon emissions. Similar charges are being implemented in other countries and their experiences should be examined.

Medium term (start within 2 years)

33. Make data readily available to support industry and the community to make informed decisions to decarbonise.

34. Investigate the likely impacts of increased mass from zero emission vehicles on pavements.

35. Increase access for modern high productivity vehicles, particularly PBS vehicles which are more sustainable.

36. Review NSW design and maintenance standards for road pavement and consider whether investment in higher standards of pavement would deliver a reduction in overall costs and improved environmental outcomes, given the different pavement wear impacts that will need to be accommodated to achieve an overall reduction in emissions.

Long term (start within 5 years)

37. Review the benefits and need for delivery of an incentive program for all zero emission heavy vehicles and locomotives, including fit for purpose and strategically located recharging and/or refuelling infrastructure to support industry transition to zero emission vehicles.

4.2 Network reforms

4.2.1 Resilience

NSW's freight and supply chains have experienced major disruptions over the last few years due to natural disasters, highlighting a growing need to address disaster preparation, response and recovery deficiencies. Resilience of our transport networks is not just related to the impact of natural disasters but the ongoing reliability of access to the networks. Increasing the resilience of our transport infrastructure in turn increases the resilience of our communities, industries and services.

Assessing resilience and measuring success

Developing effective ways to assess and measure the capacity of the supply chain to withstand, adapt to and recover from the impacts of a natural disaster in a timely and effective way are paramount. Likewise, metrics to evaluate the economic and social costs to communities when supply chains are disrupted are needed. With these, valuable data can be collected to inform recovery programs specific to the movement of freight, including issues identified in the 2023 Sydney Trains Review such as workforce planning, timetabling, maintenance prioritisation and scheduling, along with other tasks that grow the resilience of the supply chain.[54]

[54] Sydney Trains Review, 2023

The integration between road and rail ownership and maintenance responsibilities is also a challenge to reliability and network resilience. The steward of rail bridges is often the rail network manager however, the bridge forms part of the road network. Responsibility for maintenance of this structure should be brought into the road network agency to be suitably prioritised. This consideration should be extended to local roads on a priority basis.

Strategic approach

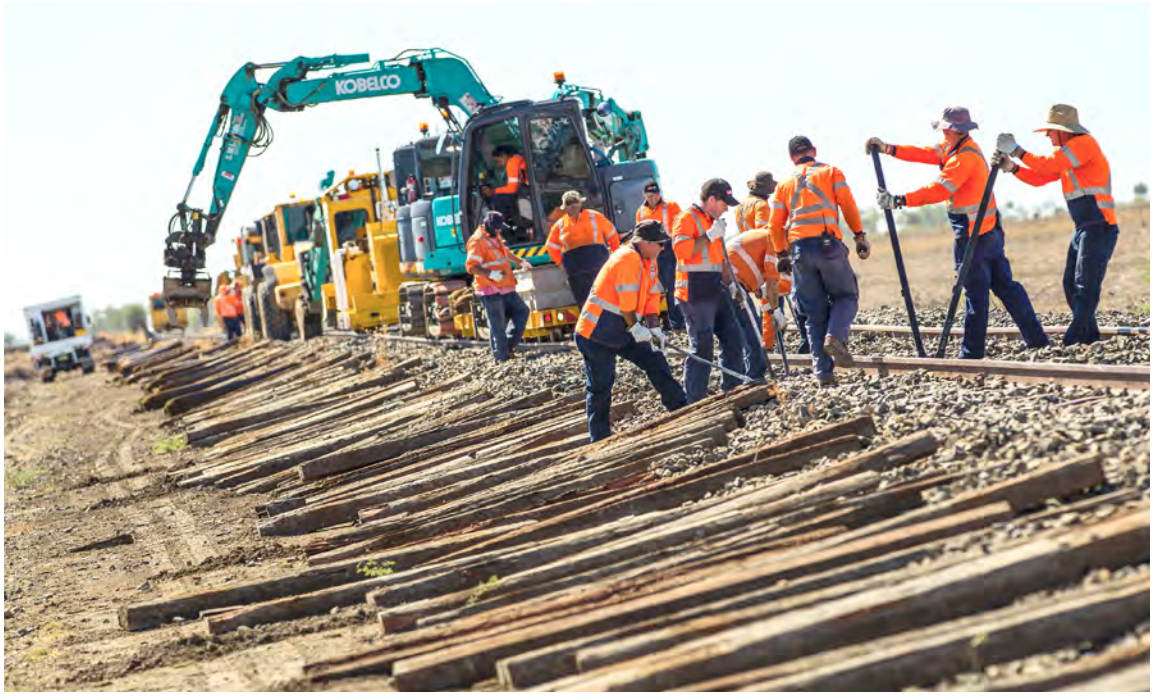
Rolling disasters over the last few years have necessitated urgent place and asset specific responses at local and state government levels.[55] This approach has highlighted that a statewide approach to disaster planning and resilience is needed.

The NSW transport network must be looked at as a whole system to inform funding strategies and better support our communities to provide certainty of access across the freight logistics chain. A network resilience approach will necessitate greater collaboration and information sharing between all levels of government and enable Transport to use the strategic alignments currently available.

Rail network resilience

Resilience impacts specific to the movement of freight differ between rail and road. The consequences of a rail network closure results in potentially permanent shifts from rail to road for operators seeking greater reliability. To meet decarbonisation targets, maintain a safer transport network and meet economic challenges associated with freight, steps need to be taken to increase the reliability and resilience of the rail network.

The new Regional Network East/West Uplift Program (RNEW) will create a comprehensive 10-year investment strategy and strategic plan for rail in regional NSW, with a specific focus on the CRN.



Resilience - Track maintenance and repair

55 Audit Office of NSW, 2024 - Road asset management in local government

Building back better

There is an opportunity to include factors, such as betterment, in the proposed national Resilience Plan to ensure a nationally consistent approach.

Actions

Short term (start within 12 months)

38. Embed freight outcomes in resilience planning, including development of freight resilience metrics to inform monitoring and evaluation of actions.

39. Advance resilience and reliability in the NSW regional freight rail network through delivery of the RNEW Program to guide strategic infrastructure investment.

40. Consider the transfer of the asset steward responsibilities (for maintenance) for shared (operational) infrastructure, such as road over rail bridges, from Sydney Trains and UGLRL to Transport to ensure effective management and recognise these assets form critical links in the road network.

41. Support development of a national freight resilience plan as per the recommendation in the Australian Government's Review of the NFSCS.

42. Work with the NSW Reconstruction Authority to embed freight outcomes in all place-based and community-centric Disaster Adaptation Plans.

43. Ensure freight outcomes are considered as part of infrastructure betterment when repairing or building-back directly damaged assets to better withstand future natural disasters, such as through the Regional Road and Transport Recovery Program.

44. Examine how the 2023 Sydney Trains Review findings and initial implementation of recommendations relating to resilience, may be applied more broadly to the movement of freight by rail in NSW.

45. Network resilience and recovery from disruption needs to be built into business as usual in the long term, recognising the increasing frequency and variety of network impacts and the critical need to continue moving freight across the country.

46. Work with the Australian Government on measures that can be taken to improve resilience in the interstate freight logistics chains and to the ports in NSW.

Medium term (start within 2 years)

47. Embed freight resilience outcomes in all Strategic Regional Integrated Transport Plans.

4.2.2 Funding and pricing

Pricing is a strong lever for government to influence and drive outcomes. Unfortunately, the present pricing frameworks are complex, lacking transparency and inconsistent. In the long term, governments should be working to achieve comparable and consistent pricing frameworks for transport infrastructure, predominantly in road and rail network access. That pricing should reflect the comparable cost incurred by the transport task, including the:

- social and economic costs of congestion
- pollution
- emissions
- safety
- impact on infrastructure.

This would enable optimisation of the modes that deliver the greatest outcome for the people and businesses of the state.

This would see a system where all users contribute fairly to the maintenance and development of freight infrastructure. In addition, a comprehensive and integrated approach to pricing and charging encourages investment in the right infrastructure, particularly road and rail interfaces such as IMTs. This approach links infrastructure investment with the level of services required across the freight logistics chain.

Pricing should be monitored and set to avoid unintentional outcomes such as disincentivising the use of rail where it is the optimal mode for the movement of the freight, lowering emissions and reducing impact to the community. At the same time, any pricing needs to reflect the recognition that both road and rail are essential and efforts should always ensure one is not made less competitive than the other for the benefit of a proportion of the task (i.e. increasing the cost of goods or reducing the value of exports through higher prices).

Road user charge for heavy low and zero emission vehicles

Introducing a distance-based charge for heavy low and zero emission vehicles (LZEV) to replace the fuel-based road user charge would deliver significant improvements in fairness, revenue security and provide certainty for industry on total cost of ownership. It is important to commence design of the system now and apply it to heavy LZEV while the numbers are low. The proposed way forward is that:

- Initial focus should be on capturing the revenue to establish a maintenance fund, particularly for local roads.
- The price may be lower than the current fuel-based road user charge to encourage transition to heavy LZEV and in recognition of the broader benefits the vehicles will deliver.
- The money raised needs to flow quickly from the Australian Government to programs ready for implementation - potentially through a national road maintenance fund – noting a national model is preferred.
- There should be transparency around the revenue collected and where this money is invested.
- The system should leverage off existing telematics systems and current national arrangements.

6. Actions

Short term (start within 12 months)

48. The NSW Government to work with other jurisdictions to prioritise further efforts to expedite road pricing reform, including the introduction of a distance-based charge for heavy LZEV as a first stage of a broader introduction of distance-based charging.

49. As part of the Toll Review implementation, undertake analysis to confirm whether heavy vehicles are currently travelling on arterial and local roads when the motorway network would be more suitable. If so, consider levers to incentivise greater use of the motorway network by heavy vehicles. Encourage more off-peak freight movements including evaluating the effectiveness of the proposed reduction of the multiplier for smaller trucks by monitoring the temporary Truck Multiplier Rebate Scheme for the M8 and M5 East.

Long term (start within 5 years)

50. The NSW Government to investigate with the Australian Government the potential to develop a consistent commercial framework between rail and road in circumstances where externality costs need to be addressed. This would mean road and rail corridors could operate on a level playing field when externalities are considered.

Introducing a distance-based charge for heavy low and zero emission vehicles (LZEV) to replace the fuel-based road user charge would deliver significant improvements in fairness, revenue security and provide certainty for industry on total cost of ownership.

4.2.3 Ports and airports

Port policy

Ports and airports are the gateways for all imports and exports, representing a critical link in the freight logistics chain. As noted, Port Botany is the primary container port for NSW, with 80 per cent of import goods unpacked within 40 kilometres of the port. It is recognised that for Port Botany to reach its capacity in coming decades, additional landside infrastructure such as the road and rail networks connecting to the port, is required. At present, important but relatively minor upgrades are needed. Any public investment in infrastructure to support container terminal capacity should be focused on Port Botany for the foreseeable future, as this is where the greatest and most strategic opportunity lies for NSW.

One of the future gaps in the freight network is the rail connection from Port Botany to western Sydney, the destination of most import containers. Priority must be given to progress the planning, investment and delivery of both the Western Sydney Freight Line and development of the related IMT at Mamre Road Industrial Precinct. Coordinated development of adjoining sites at that precinct for the purposes of freight using rail is also required.

The Port of Newcastle and Port Kembla are major ports and their diversification should be encouraged and supported to foster more competition between the ports. These two ports are integral to the state's economy and the communities they serve. Their future continues to evolve and becomes even more necessary as coal volumes decline in future decades. The port operators should continue to identify opportunities arising from renewable energy transition, growing industries and changing import demand to secure the future of these ports and regional communities.

The Glebe Island and White Bay in Sydney Harbour (Bays Port), Yamba and Eden ports play an important role in the state's freight industry, recognising our diverse import, export and domestic freight requirements. The Bays Port facilitates domestic bulk shipping, including cement imports from northern Queensland and gypsum from South Australia, as well as sugar from Queensland and salt from South Australia.[56] The Port of Eden handles wood exports as well as fish and explosives.

Ships at Port Botany

[56] Port Authority 2023, Sydney Harbour data

Port Botany Landside Improvement Strategy

The PBLIS regulatory framework delivered benefit when it was introduced in 2010. However, it currently represents a risk to the objective of a modern, connected, resilient and productive port. The recommendations from the Independent Review of PBLIS should be adopted, commencing with priority development of the PBLIS Performance Scheme and related recommendations (Recommendations 1, 6, 7, 9, 12, 13, 14, 15, 16 and 17). At the same time, regular public reporting on the performance at the port should commence to provide confidence to industry during the implementation process.

A group of recommendations opposed by some transport operators should be further considered during the implementation process (Recommendations 2, 3, 4, 8, 10 and 11). The three rail recommendations (Recommendations 19, 20 and 21) are covered in section 4.2.4 Rail networks.

Stevedore charges

Container stevedoring companies mostly operate nationally and charges they apply to landside transport operators are a national matter. Stakeholder feedback was received from some transport operators about the shift in stevedore charging from the shipping lines since 2018 to also charge landside transport operators who pass this on to cargo owners. There is a need for transparency in stevedore charges applied to road and rail operators, but the charging structures are overly complex (particularly for road operators) and this is not required.

Governments in consultation with industry developed the National Voluntary Guidelines for stevedore charges to ensure a consistent approach to applying charge increases with industry notification and engagement commencing two months prior to annual increases. This voluntary arrangement has been in place since 2022.

The Victorian Government has negotiated changes to its Voluntary Pricing and Access approach on which the national approach was based, including applying a 1 January increase date. The national approach should be reviewed.

Further, the Australian Government Productivity Commission Maritime Supply Chain Inquiry Report released January 2023, found that container stevedores had exercised their market power (Finding 6.3) and recommended that the Australian Government Treasury develop a mandatory stevedore charges code and give the ACCC powers to enforce this (Recommendation 6.2).[57] The Australian Government should consider the merit of this recommendation.

Port Botany

[57] Productivity Commission 2022, Inquiry into Australia's Maritime Logistics System Final Report, p. 211-220

Airports

Air transport is used for the high value and time critical segment of the overall freight task, though representing a small proportion in terms of volume. This freight predominantly moves in the spare belly capacity of passenger aircraft.

Changing consumer patterns and population growth are driving an increase in air freight. The development of Western Sydney International Airport is likely to be a significant change in the movement of both people and goods by air in NSW. Nevertheless, it is expected that most air freight will continue to be transported in passenger aircraft, but the lack of a curfew at Western Sydney Airport offers opportunities for more dedicated air freighters and more passenger flights. Access and connections to both Sydney Airport and Western Sydney Airport for freight must be well planned.

As Western Sydney Airport increases its scale of operations, the movement of aviation fuel must be given priority. Initially this aviation fuel is planned to move by truck from the pipeline at Clyde to the airport, but this is unlikely to remain sustainable or safe at a larger scale. A fuel pipeline route has been identified. However, action has not been taken to progress planning, financing and delivery of this required infrastructure.

Actions

Short term (start within 12 months)

51. Confirm the port policy position is to encourage competition between the ports and specifically it is not for government to determine the location for a second container port in NSW. Recognise that Port Botany remains the key container port for NSW.

52. Prioritise the necessary planning, business cases, funding and land acquisition to secure and commence development of the Western Sydney Freight Line and the Mamre Road Industrial Precinct before the end of the decade. Note that the IMT (which is expected to be a commercial operation in the future) is fundamentally linked to the Western Sydney Freight Line and planning, business case analysis and financing must recognise this interrelationship.

53. Finalise necessary planning and confirm funding to deliver upgrades to Port Botany access roads.

Freight plane landing, Sydney Airport

54. Adopt the recommendations from the Port Botany Landside Improvement Strategy Independent Review (Actions included in Attachment B):

- **a.** Prioritise implementation of Recommendation 1 – to develop a PBLIS performance scheme and related recommendations 6, 7, 9, 12, 13, 14, 15, 16 and 17.
- **b.** Acknowledging concerns from some trucking operators, consider changes to the current PBLIS rules further during implementation, recommendations 2, 3, 4, 8, 10 and 11.
- **c.** A review of the changes should be undertaken within five years (including Recommendation 18 the administration of PBLIS to be undertaken by NSW Ports that was ruled out of consideration in this review). To support the implementation process, regular public reporting should commence on performance as soon as possible.

55. Stevedores should consider simplifying their charging structure.

Medium term (start within 2 years)

56. The National Transport Commission should review the National Voluntary Guidelines for stevedore charges and consider the updates made to the Victorian Government Voluntary Pricing Protocol.

57. The Australian Government should consider the Productivity Commission Maritime Supply Chain Inquiry finding about stevedore charges and the recommendation to develop a national mandatory code for stevedore charges to determine whether action in this area is required.

58. Progress necessary planning and approval processes to secure delivery and financing of a fuel pipeline to supply Western Sydney International Airport with aviation fuel.

4.2.4 Rail networks

Over time rail offers the greatest potential to improve safety, reduce emissions, lessen traffic congestion and in the case of Port Botany, potential to increase the port's capacity. Moving more freight on rail requires more than setting a target for mode share. To increase the share of freight carried by rail it must be competitive with road, in terms of reliability, efficiency and price.

A short-term challenge is to improve the rail service offering through the Sydney Trains network. The development of Sydney Metro and the introduction of digital train control to the Sydney Trains network should provide opportunities for additional freight capacity on the existing shared network, over the short to medium terms. However, a clear and transparent policy process for sharing network capacity and giving effect to reasonable passenger priority while retaining appropriate access for freight, is essential for this opportunity to be realised.

A major contributor to the challenge of price competitiveness of rail is the additional movement by road in the freight chain that is often required. Proximity matters. NSW needs to support the co-location of freight and logistics facilities (e.g. distribution centres, terminals and warehouses) with railheads, removing the need for a road transport leg as part of the first or last movement. Moorebank IMT is a prime example of how this can be achieved and should be emulated when planning future terminals. Further work is needed to make this a reality for Mamre Road Industrial Precinct given the current land ownership around the chosen site.

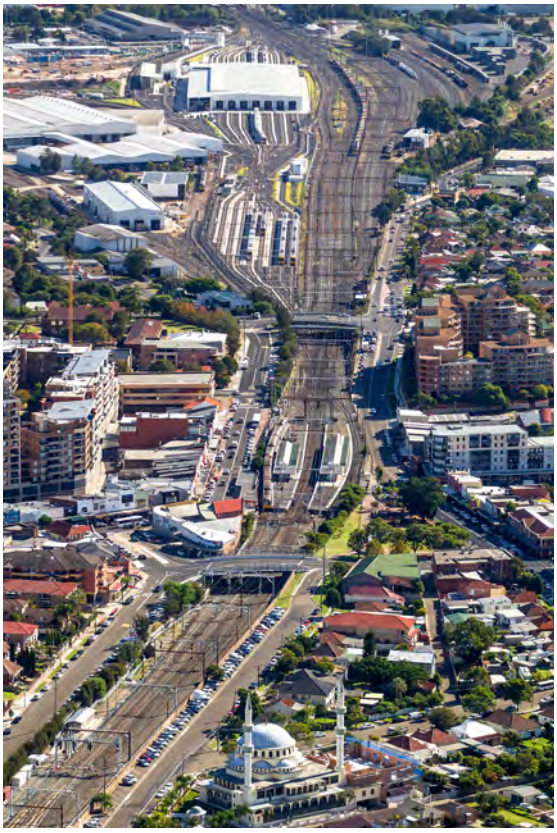
Coordination between the rail network managers, both interstate and between the three network managers in NSW, must be addressed. When considering access for the end to end movement of freight this is a significant level of complexity which requires multiple interfaces, interactions and administration. Efforts to harmonise standards for the management of safety and ensure interoperable systems are welcome.

Consideration should be given to the establishment of a 'one stop shop' for rail access, initially in NSW, although with the potential for the model to be extended across the country if proven effective. Where complex network ownership, management and regulatory arrangements cannot be reduced, they can be made less burdensome and less visible to operators and customers. This can be through initiatives such as 'wholesale' arrangements between RIMS/infrastructure owners for train paths and adopting common technology platforms and single interface portals for administrative tasks, such as path bookings or invoicing.

The DTPOS should be expanded upon to reduce the complexity of dealing with multiple network managers, where this cannot be more directly avoided by better contract development, to reduce organisational interfaces between networks. A partnership approach between the relevant jurisdictions, RIMS and technology organisations will be critical to this being realised. Such requirements should flow through to network management and access contracts, including with consistent KPIs, data sharing requirements, transparency and interoperability obligations.

Coordination between the rail network managers, both interstate and between the three network managers in NSW, must be addressed.

However, for the simplest approach to reducing complexity, common management across networks should be first considered. It is therefore recommended the NSW Government investigate all long-term options for operating the CRN with the aim of moving to the model that best delivers a fully coordinated rail network, the highest possible service levels and value for money.



Aerial photo of Auburn Station

The PAMA and PBLIS Independent Review in 2022-2023 made recommendations to improve the container landside interface at Port Botany for road and rail. For rail the Review acknowledged that the interconnected and inflexible nature of rail networks meant Port Botany rail performance could not be considered in isolation of the broader network. This Reform has considered and addressed the outside port gate issues raised in the Independent Review to improve governance frameworks and to align public infrastructure managers with the port rail task (Recommendation 20) and future rail options for consideration (Recommendation 21).

Recommendations have been made to improve the container landside interface at Port Botany for road and rail

Recommendation 19 of the Independent Review is to remove the regulation of stevedore rail servicing arrangements at Port Botany to allow container stevedores to set charges and service terms as appropriate. The Panel has considered the substantial and varied feedback on this and recommends retaining the regulation of rail servicing charges at this time, with CPI price increases backdated from its introduction in 2011 and annual CPI increases ongoing.

This approach should be considered in the five year review of changes to PBLIS. Given the interconnected nature of the rail network, this will allow time for the rail policy considerations in this Reform to be developed and progressed.

It is the Panel's view that it is not the NSW Government's role to be intervening in stevedore charges as this is appropriately considered at the national level. This approach is recommended as an interim measure with the aim to progress towards no NSW Government involvement in these rail charges. The road focused PBLIS recommendations are detailed in section 4.2.3 Ports.

The current key policy instrument for managing that passenger and freight interaction, the NSW Rail Access Undertaking, is no longer fit for purpose, as found by IPART in its Review of the Undertaking. The Panel has been asked to advise on a suitable response to IPART's Report.

The Panel notes, that the current undertaking was originally and primarily developed for application to the fully commercial HVCN. It therefore requires significant realignment to provide an appropriate basis for third-party access to the non-commercial (MRN and CRN) networks to which it now applies.

The Panel agrees with IPART's general conclusion that the approach to access regulation should support the policy goal of improving the service level that rail freight can offer to customers. However, IPART's proposed changes to the regulatory framework assume an environment, where there is significant scope for commercial negotiation of access rights by access seekers and arbitration or judicial enforcement of access rights under commercial law, when negotiations stalls or disputes arise. However, the operating, policy and legislative environment for the MRN in particular, means there is limited scope for the practical application of these commercial mechanisms. The capacity requirements of the predominant user (Sydney Trains), are largely determined by policy direction and expectations from Government for high frequency and reliable passenger services. They offer limited means by which the provision of access rights can provide a basis for driving service level improvements.

Rather, clear and active policy direction by Government, through detailed and measurable specification of service level expectations for the MRN and CRN, are therefore likely to be much more effective instruments for the NSW Government to pursue, to achieve those service level dependent policy goals for rail freight.

The Panel is supportive of the Minister issuing a set of guiding principles to direct that process of realigning current access regulation to a more policy-driven approach and the subsequent development of a revised NSW Rail Access Undertaking. It is suggested that the draft principles should reflect the Minister's expectations that resulting access arrangements include:

- A clear specification of the level of service expected to be provided for freight by the MRN and CRN's RIMs, including performance measures
- A transparent statement on how NSW Government agencies will apply the requirement for reasonable passenger priority, including ensuring freight is given adequate consideration and a share of additional capacity realised through network and/or operational improvements.
- Scope for encouraging, rather than impeding, collaboration and coordination among commercial parties, where this increases the rail freight service level offering and is consistent with competition policy.
- An access pricing approach that aligns with NSW freight policy objectives, including effective utilisation of network capacity.

- An ability for end customers to directly hold rail access rights, in addition to rail operators.
- The retention of all access rights to be conditional on achieving clear levels of performance and path and capacity utilisation.
- A clear emphasis on enabling a seamless and coordinated experience for operators across networks, with an expectation that the current complexity faced by operators will be pushed 'behind the scenes'.
- The advancement of a 'one stop shop' for rail access to streamline the customer interface across the RIMs and other entities.

In addition to replacing the current Access Undertaking to make best use of rail, it is also necessary to understand the end-to-end logistics chain and the opportunities that presents. There is capacity for greater use of rail to and from Port Botany and measures to realise a port-IMT rail shuttle network must be taken. Better coordination between industry parties in this supply chain is necessary and is outlined further in Section 4.2.6.

Similarly, industry and government should work together to define the priority regional rail network, particularly for the movement of grain and other agricultural commodities. The cost of maintenance and potential upgrade of rail infrastructure that is unused, would be better targeted at the rail lines that are used and make sense in terms of connectivity as part of the end-to-end chain.

Industry and government should work together to define the priority regional rail network

Actions

Short term (start within 12 months)

59. Undertake a formal review of the NSW Rail Access Undertaking, commencing with consultation with stakeholders on proposed Ministerial access principles, with a replacement access instrument to be in place by 2026.

60. Continue to increase the required freight level of service for the Sydney Trains network, including developing and refining performance measures and targets.

61. Consider measures to improve coordination between the networks, including opportunities to align service levels and performance measures.

62. Reduce complexity of the rail system, increasing harmonisation between networks and access arrangements and more strategic rail planning.

63. Develop guiding policy principles to inform how additional capacity, derived from introduction of digital train control, can be allocated between passenger and freight services on the MRN.

64. Amend the regulation of container stevedore rail servicing at Port Botany to apply annual CPI price increases, backdated from its introduction in 2011 and ongoing. Reconsider this in the five year review of PBLIS changes with a view to removal of the regulation, in line with PBLIS Independent Review Recommendation 19.

65. Work with industry to identify options within the MRN for breaking down longer trains to 600 metre lengths, dedicated to particular stevedores.

66. Work to enable the provision of saleable, end-to-end rail access – a cycle that includes a timetable path from an IMT to the port, a window at the port and a timetabled path from the port back to an IMT.

Medium term (within 2 years)

67. Undertake a review of the NSW rail network, with a view to consolidate and close disused rail lines to target funding to the remaining priority networks.

68. In partnership with ARTC (and other potential participants) develop the concept of a 'one stop shop' for rail access in NSW.

69. Investigate longer-term options for operating the CRN with the aim of moving to the model that best delivers a coordinated rail network, a higher level of service and value for money.

Long term (start within 5 years)

70. Work with the grain industry to close rarely used grain lines, with the savings from maintenance costs on these lines to be allocated to upgrades of rail and road networks that benefit the grain industry.

71. Investigate adding additional capacity to the rail network in the longer term, by increasing the provision of dedicated freight lines and improving capacity and connectivity of existing freight lines.

There are three projects to include in this examination:

- **a.** an extension of the Southern Sydney Freight Line to Picton
- **b.** an increase in Special Activation Precincts beyond Bomen and Parkes as Inland Rail extends
- **c.** upgrades to the connections of regional lines to the Hunter Valley network to enable more regional freight to move via the Port of Newcastle.

72. On the Port Botany rail line, work with industry to coordinate rail operations and terminal use to improve efficiency and increase rail mode share.

73. In the longer term, note that a dedicated freight route around Sydney may be needed and consideration should begin on the Outer Sydney Orbital to increase rail capacity. This route would extend from Hexham in the Hunter to Dombarton in the Illawarra, connecting to the extended Southern Sydney Freight Line at Picton.

Grain carrier train being loaded with grain at Narrabri silo

4.2.5 Road networks

The NSW road network carries most freight that moves in the state. There are very few freight tasks that do not include at least one road leg in the freight logistics chain. As such, the safety, sustainability and productivity of the freight system relies on effective use of the road for heavy vehicles.

The NSW HVAP was released in September 2024. Through our consultation processes, it is evident that NSW is a leader in terms of its approach to heavy vehicle access and this must continue. The impact of not continuing to advance and progress heavy vehicle access would be detrimental, with:

- a decline in safety on the roads
- an increase in emissions
- more congestion
- the need for more publicly funded road maintenance due to increased wear and tear.

The first action is to deliver the initiatives within the HVAP.

In addition, the HVNL was deemed to need improvement and a first-principles review of the law was commenced in 2018. Unfortunately, despite extensive and significant contributions across the country, the reform has not yet been delivered. At this stage, it is understood the amendments, while welcomed, are not likely to reach the scale of change anticipated. Despite this, the HVNL review in its entirety has been delayed. It must be prioritised and concluded.

NSW, as a significant jurisdiction and with a progressive approach to heavy vehicle issues, should continue to identify opportunities to make improvements to heavy vehicle operations within the current regulatory framework. This has been successfully achieved through the National Access Framework for Heavy Vehicles, which has established a practical and collaborative forum for jurisdictional road managers and industry to work together on an agreed set of policy principles. Similarly, support for projects such as the NHVR's review of the PBS Scheme, provides opportunity for reform within the law.

Heavy vehicle rest stop area, Menangle

A large improvement to the road network would occur, with support for local government to effectively and sustainably manage their road networks to enable heavy vehicle access. Local roads are over 90 per cent of the NSW road network and their maintenance is a significant proportion of many council's budgets.

While heavy vehicles do not need to access most roads on the local road network, those roads that are required are many and varied. Under the HVNL, councils as road managers must assess and determine suitability of access. This involves considering the route, including bridges, culverts and other infrastructure, to ensure it is safe.

Given the pace of change in terms of vehicle combinations, advances in technology and the emergence and requirement for electric and other zero emission heavy vehicles, support is needed to:

- build community acceptance
- improve end to end connectivity
- optimise network capacity and capability
- engage with councils to facilitate access approvals in the most streamlined approaches possible
- address the funding constraints.

A key action is to develop a community engagement campaign to build awareness and acceptance of heavy vehicles and the essential freight service they are providing.

Another priority is to address the issues relating to rest stops. As the road is their workplace, rest stops are essential for heavy vehicle drivers. Action must be taken to start delivering rest stop improvements to address gaps in the network and upgrade existing facilities. Consultation and planning has been undertaken at both the Australian and NSW government level and now is the time to take action.

9. Actions

Short term (start within 12 months)

74. Incorporate the NSW HVAP into this action plan as it forms an integral part of this system-wide approach (Actions included in Attachment C).

75. Progress delivery of a rest stop improvement program.

76. Investigate the opportunities presented in the Regional Cities NSW business case and confirm whether the approach taken with this initiative, provides a good framework for encouraging a 'one network' approach to infrastructure investment prioritisation.

77. Address existing bottlenecks on the road network including the connection between the M8 and Port Botany and key routes to distribution centres such as Moorebank and Eastern Creek.

Medium term (start within 2 years)

78. Deliver a local government engagement program to optimise NSW state road access and build awareness and acceptance of the benefits of heavy vehicles.

79. Support councils to expand strategic first and last mile access for high productivity vehicles by building capability and ensuring appropriate asset information to undertake access assessments.

80. Deliver the Automated Access Assessment Program as part of the National Automated Access System.

81. Work with RIMs and other third-party asset owners to support safe, efficient and timely access.

82. Prioritise infrastructure upgrades to accommodate PBS vehicles noting the economic and safety benefits.

83. Review current local government road funding programs including:

- **a.** Identifying opportunities to support ongoing maintenance activities with a more reliable and regular funding source.
- **b.** The costs and benefits of introducing local government strategic freight plans to provide a ground up approach to prioritising grant funding. This approach would also provide context for the development and implementation of the National Service Level Standards for local roads.

Long term (start within 5 years)

84. As the population grows, especially in Sydney, the Illawarra and the Hunter, ensure that appropriate additional road capacity for movement of freight is planned and delivered.

4.2.6 Governance

The role of the Australian and NSW governments and industry

NSW is an important link for most interstate freight chains because of its central geographic position on the east coast. Several areas where coordination between the Australian and NSW governments is progressing or needed have been referred to throughout this report. These include:

- heavy vehicle access on the road network
- more harmonisation on standards between rail networks (one of which is managed by ARTC)
- improved arrangements for funding local roads

In addition, the role played by the Australian Government in funding is fundamental and many of the changes recommended in this report depend on changes in funding arrangements. The finance of roads as excise fuel tax declines is of immediate concern, as is appropriate funding from the Australian Government for road and rail networks more generally. Charges for road and rail access significantly favour road and a major contribution to emissions reduction would be made, if the governments could work together to increase the rail share of freight. Agreement around an incentive payment, based on emissions, for operators to make this mode shift is an area worth exploring.

The Australian Government is very focused on freight movement across the nation and funds much of the ARTC managed network. Along with its development of the Moorebank IMT, these make a major contribution to freight chains in NSW. Funding for more resilient networks, their recovery after disasters and better arrangements for funding local council by both governments have been noted.

There are also specific areas where the Australian Government has primary responsibility and where cooperation with the NSW Government occurs. Defence sites and national fuel security require some coordination as does airport development, as occurred at Western Sydney Airport. There are opportunities for better collaboration and coordination in all these areas and it is important that the NSW Government communicates its position and requirements to the Australian Government.

Arrangements with Transport for NSW

A better coordinated freight system should be a basic aim for all governments. At present the NSW freight supply chains, excluding the Hunter Valley coal chain, could benefit from more effective coordination.

At ports, landside transport can be improved. The freight rail system is currently a somewhat disjointed system. Road freight connects with these systems and moves on networks managed by multiple local governments, along with third party infrastructure managers and the NSW Government.

To support this coordination and because freight involves policy, planning, financing and delivery, all these functions within Transport must work together seamlessly. The newly proposed organisational structure for Transport has a high risk that the various freight functions are not properly coordinated. There are two ways this can be addressed:

- The first is to appoint a senior executive (e.g. the Deputy Secretary level) with responsibility to manage this coordination.
- Alternatively, the Panel recommends placing all freight functions under one division with its own Deputy Secretary or Coordinator General, bringing all parts together under unified leadership.

The areas identified in this report, along with implementation of the actions, provide a good starting point for the functions required to effectively coordinate freight within Transport. Delivery of this reform should be prioritised within the agency with clear accountability and direct reporting to the Secretary.

Industry collaboration

The various businesses within the freight industry demonstrate many strong qualities including their:

- commercial acumen
- resilience and adaptability
- reliability
- innovation
- efficiency

The benefits of competition are unquestioned. However, many of the relationships within the sector could be described as dysfunctional. For some supply chains, more cooperation by industry participants is needed to improve coordination and connectivity.

Given the sheer volume of small, medium and large businesses operating within a competitive market comprising of the freight logistics chain, it is recommended industry take a step back to identify opportunities for each player to better align in working towards the greater collective good. This alignment will ultimately benefit everyone operating within the chain.

As mentioned earlier, there are two identified areas, grain and containers, where there is merit in industry initially being provided the opportunity to develop more collaborative approaches, with the aim of improving the performance of those logistics chains.

Grain network

Consultation was undertaken on the proposal for the three east-coast jurisdictions to work with their regional industry stakeholders. These included the grain industry and growers, silo operators, rail operators and network managers. The aim was to determine the optimal end-to-end regional network to support the grain haulage task and for that to be the focus of considerations for joint investment and risk sharing.

The cross-jurisdictional and cross-industry approach was proposed to reflect the impact of Inland Rail and to better align policy considerations with the industry view of the east–coast as a single grain market, rather than three jurisdictions.

Feedback highlighted a strong recognition of the importance and value of rail in transporting grain in regional NSW. The growing frequency of bumper harvests and concerns about the potential closure of branch lines that are utilised and deliver benefits to regional communities is noted.

This feedback aligns with the intent to continue working with all relevant stakeholders to determine the optimal end-to-end grain network. This includes consideration of rail lines and what governance and market design reforms should be considered, to ensure appropriate levels of utilisation from public and private investments in grain related assets. These planning and investment considerations should also extend potential utilisation by other regional commodities, such as new opportunities for minerals.

As outlined below, the NSW Government has announced the RNEW program. The development of this 10 year investment program will include consideration of possible NSW Government investment in grain lines. There is also potential to align this program with initiatives in Queensland and Victoria (e.g. the Grain Line Investment Program-GRIP). This would need to be accompanied by clear commitments for use by industry to warrant such consideration.

Accordingly, it's proposed that the NSW Government facilitate a stakeholder forum for the development of proposals to improve coordination, rail asset utilisation and investment risk sharing for the grain task. In consultation with this forum the NSW Government, potentially in partnership with the Victorian and Queensland Governments, should develop options to improve coordination, asset utilisation and rationalisation.

Port rail shuttles

Steps must be taken to ensure the long-championed concept of operations for 600 metre long port rail shuttles becomes a reality without loss of regional exports on rail. Following extensive consultation, it is clear that the 600 metre long shuttles would:

- provide greater capacity within the Port Botany yard by splitting trains before they reach the port
- enable greater access opportunities for freight trains through the metropolitan train network
- improve efficiency in the loading and unloading of trains for full trips in both directions
- require identified options for regional trains to split into 600 metre lengths dedicated to particular stevedores or unload onto 600 metre port shuttles.

There is room to enhance the way the parties within the port rail supply chain are currently operating, with a view to enabling a better system and operating model that benefits all participants. Better collaboration and coordination will be key. As such, it is proposed that the NSW Government assist in establishing a Port Botany rail supply chain coordination body to be led by industry. The objective is identifying and implementing arrangements that support more efficient use of rail, to in turn support greater capacity of the port.

Given the limited collaboration to date, it is recommended that the NSW Government concurrently develop an alternative model. This would mandate operating arrangements to realise the port shuttle concept, if collaborative industry efforts fail to achieve this objective.

Actions

Short term (start within 12 months)

85. Identify where there are opportunities for better harmonisation between the Australian and NSW governments and industry and prioritise how to address these matters. These include heavy vehicle access and road funding reform.

86. Communicate with the Australian Government about near-term NSW requirements that require funding contributions and/or expertise from the Australian Government.

87. Within Transport, review the existing structure to ensure freight functions are coordinated at a departmental level. This may include appointing a Deputy Secretary to take this responsibility or by placing all the freight functions within one division.

88. Work with the regional industry stakeholders, particularly the grain industry and growers, silo operators, rail operators and network managers as well as other potential sectors that have the potential to increase the use of rail. The aim being to determine the optimal end-to-end network, including rail lines, that should make up the grain network for long-term maintenance and investment.

89. Support the establishment of an industry-led port supply chain coordination body, to be chaired by an independent expert, to identify opportunities to develop a collaborative approach to the port rail task.

Medium term (start within 2 years)

90. Liaise with the Australian Government about the national regulation of stevedore charges.

91. Develop better funding arrangements for local roads, network resilience and disaster funding.

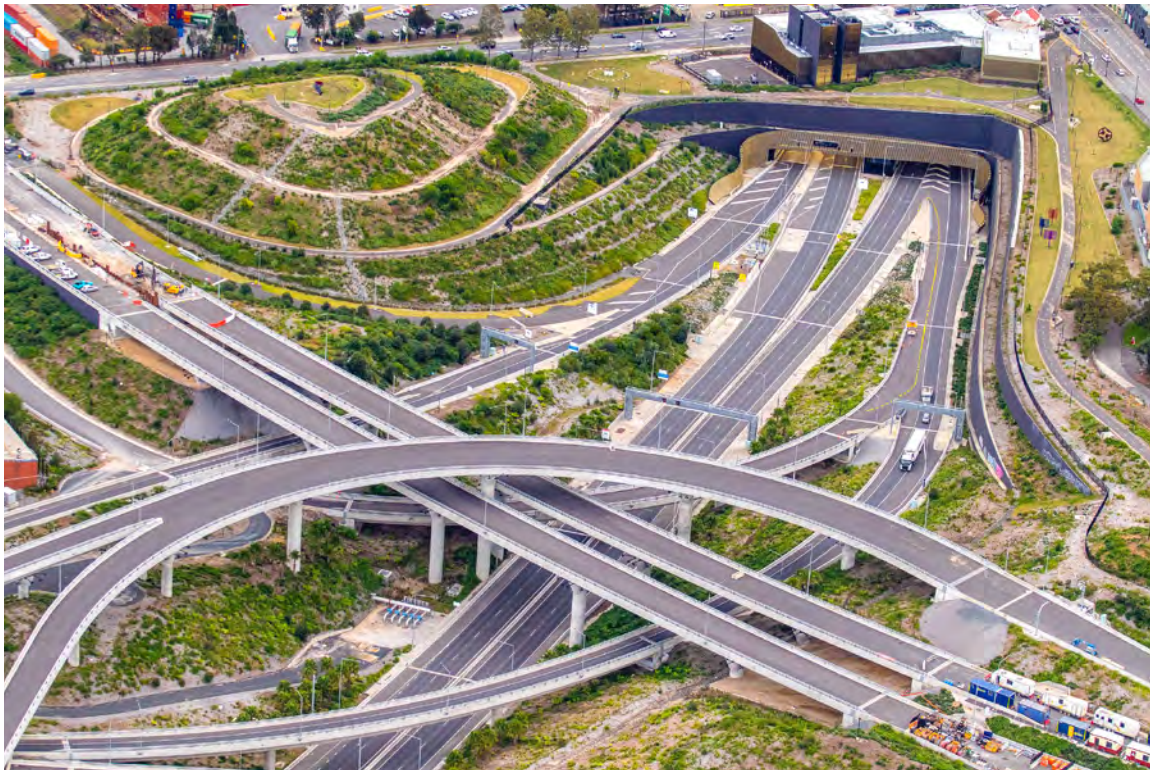
92. Identify assistance (including incentives) that may be needed to lower emissions in the freight industry.

93. Commence open development of alternative mandated models of operations for the port rail, potentially market redesign, to be introduced within a reasonable period if required, should industry efforts stall (estimated to be three years).

94. Work with the Australian Government and other jurisdictions to progress a review of road user charging and potential integrated pricing frameworks for road and rail.

Long term (start within 5 years)

95. Involve the Australian Government in strategic planning that identifies new longer-term infrastructure requirements that are relevant at both a state and national level.



Aerial view of Westconnex St Peters Interchange

5 Actions summary

Information and Data	
Short-term actions	
1	Develop industry-wide data standards for freight movement tracking to ensure consistency in data and interoperability in anticipation of data sharing agreements across the NSW freight supply chain.
2	Finalise and implement data sharing agreements with key industry participants within the NSW freight supply chain, including the ARTC, to provide comprehensive supply chain data for industry and government.
3	Finalise the automated National Service Levels Standards for NSW road categorisation in anticipation of a rollout by the end of the year, including the categorisation of local roads.
4	Develop data sets and collect information to understand the freight requirements for industrial lands.
5	Identify existing sources of data and identify gaps in that data for government policy development, for planning and investment by both government and industry and use in network management.
6	Note the owners of that identified data and where arrangements can be made to improve the sharing of relevant information for government and industry.
7	Identify data about the movement of goods, including modes, origin and destination, time of travel and end to end journeys.
Medium-term actions	
8	The NSW Government to engage with the Australian Government and collaborate with industry to develop a (or support a national) data repository (potentially open data source) that will collect and hold data about the movement of goods, including modes, origin and destination.
9	Investigate the possibility of removing the current broad constraints in contracts and agreements, including the rail access agreements, that prevent the use of key data for policy and planning purposes.
Long-term actions	
10	Mandate (and possibly subsidise) telematics in all heavy vehicles and data sharing from road and rail operators as well as infrastructure managers, using existing telematics systems where possible, to inform network management and investment through transparency of information regarding the end-to-end movement of goods.

Strategic planning and industrial land	
Short-term actions	
11	In partnership with DPHI, deliver an Industrial Lands Action Plan that includes: **a.** Reviewing industrial land stock and strategically prioritise the delivery of suitable land for different freight requirements. **b.** Identifying strategic freight land use principles, including recognition of freight as a vital service for application in government policy and for the protection of freight corridors for current and forecast use. **c.** Supporting aspirations for the 24-hour economy with minimal restrictions on hours of operation and planning for freight lands in locations that support off-peak operations to maximise opportunities for operators to move freight during the night.
12	Establish and maintain a prioritised list of strategic infrastructure projects that will support improved freight networks across NSW.
13	Begin the development of the project that interconnects the future Western Sydney Freight Corridor with an open access intermodal terminal at Mamre Road.
14	Consider the proposal to rezone land at Glebe Island and White Bay for housing developments, noting that the co-existence of freight activities and residential development is typically not sustainable and that port infrastructure of this kind is irreplaceable.
15	Transport to conduct initial investigations into surplus land assets that may be suitable for freight operations.
16	Complete the economic and choice analysis component of the joint study with Queensland and Victoria that focuses on the export grain haulage task at a strategic east-coast level. If this is not proceeding quickly, complete the analysis for NSW with industry consultation so that grain can be moved efficiently using whatever mode leads to this outcome.
Medium-term actions	
17	Develop a NSW Freight Masterplan, in partnership with DPHI, ARTC and other infrastructure operators, to ensure an integrated approach to freight logistics including: **a.** Building on the current work in identifying the corridors to provide a dedicated freight network in metropolitan Sydney and the Outer Sydney Orbital connecting to the Hunter and Illawarra, with a preference for dedicated freight rail lines where volumes exceed reasonable opportunity for integration with passenger services. **b.** The sequencing of long-term critical freight infrastructure projects (particularly for Western Sydney) including the need for an additional future IMT in Western Sydney located on the Outer Sydney Orbital.
Long-term actions	
18	In partnership with the ARTC: **a.** Capitalise on the opportunities Inland Rail will present to NSW industry and communities including the continuation of Special Activation Precincts. **b.** Support delivery of priorities within the NSW Freight Masterplan.

Skills and workforce	
Short-term actions	
19	Publish accessible information for potential workforce members (and their families and associates) that indicates the driver pathways from new entrant to highest licence class for heavy vehicle and freight train drivers.
20	Develop a program, in partnership with industry bodies, to promote recruitment and training programs focused on attracting new entrants to the maritime, road freight and rail freight workforce from underrepresented backgrounds, particularly women.
21	Allocate funding to expedite the Austroads recommended “driving experience” licence pathway (for progression from Medium Rigid/Heavy Rigid to Heavy Combination and Heavy Combination to Multi Combination) as soon as practicable.
Medium-term actions	
22	Develop a targeted skills and workforce attraction program for the freight sector aimed at: **a.** first addressing roles with the most acute shortages (such as heavy vehicle drivers, train drivers and seafarers) **b.** recognising the longer-term demand for higher skilled occupations with a particular focus on underrepresented workforces (such as women). This should include a funding commitment, as well as exploring other mechanisms for providing financial relief for employers (such as the existing payroll tax rebate on wages paid to registered apprentices and new entrant trainees during the eligible period of their training).
23	Support the delivery of national rail reforms to address skills shortages and the mobility of workers across networks, including: **a.** standardising safe working rules and practices **b.** developing a national framework for the mutual recognition of rail competencies **c.** developing national competencies and training.
Decarbonisation	
Short-term actions	
24	Continue to deliver the Towards Net Zero Emissions Freight Policy and incorporate the actions from that Policy into this action plan (Actions included in Attachment A).
25	Investigate an incentive scheme (based on emissions reduction) to encourage a shift to rail from road.
26	Investigate the Port Botany container task and the regional grain task to maximise modal shift to rail including potential for zero emission rail.
27	Investigate the urban freight task across cities in NSW to identify opportunities to support transition to zero emission vehicles.

28	Advance consideration of an incentive program to drive uptake of zero emission vehicles and investment in public and private charging infrastructure to support transition to zero emission vehicles and locomotives.
29	Undertake an analysis of an appropriate charging infrastructure network for heavy vehicles that will support industry uptake and remove 'range anxiety'.
30	Provide certainty of access for zero emission vehicles by establishing the heavy vehicle access trial as ongoing and permanent.
31	Continue to work with the Australian Government and jurisdictions to deliver a harmonised approach to freight decarbonisation.
32	Consider, with the Australian Government, imposing charges on vehicles to reflect the impact of carbon emissions. Similar charges are being implemented in other countries and their experiences should be examined.
Medium-term actions	
33	Make data readily available to support industry and the community to make informed decisions to decarbonise.
34	Investigate the likely impacts of increased mass from zero emission vehicles on pavements.
35	Increase access for modern high productivity vehicles particularly PBS vehicles, which are more sustainable.
36	Review NSW design and maintenance standards for road pavement and consider whether investment in higher standards of pavement would deliver a reduction in overall costs and improved environmental outcomes, given the different pavement wear impacts that will need to be accommodated to achieve an overall reduction in emissions.
Long-term actions	
37	Review the benefits and need for delivery of an incentive program for all zero emission heavy vehicles and locomotives, including fit for purpose and strategically located recharging and/or refuelling infrastructure to support industry transition to zero emission vehicles.
Resilience	
Short-term actions	
38	Embed freight outcomes in resilience planning, including development of freight resilience metrics to inform monitoring and evaluation of actions.
39	Advance resilience and reliability in the NSW regional freight rail network through delivery of the RNEW Program to guide strategic infrastructure investment.
40	Consider the transfer of the asset steward responsibilities (for maintenance) for shared (operational) infrastructure, such as road over rail bridges, from Sydney Trains and UGLRL to Transport to ensure effective management and recognise these assets form critical links in the road network.
41	Support development of a national freight resilience plan as per the recommendation in the Australian Government's Review of the NFSCS.
42	Work with the NSW Reconstruction Authority to embed freight outcomes in all place-based and community-centric Disaster Adaptation Plans.

43	Ensure freight outcomes are considered as part of infrastructure betterment when repairing or building-back directly damaged assets to better withstand future natural disasters, such as through the Regional Road and Transport Recovery Program.
44	Examine how the 2023 Sydney Trains Review findings and initial implementation of recommendations relating to resilience, may be applied more broadly to the movement of freight by rail in NSW.
45	Network resilience and recovery from disruption needs to be built into business as usual in the long term, recognising the increasing frequency and variety of network impacts and the critical need to continue moving freight across the country.
46	Work with the Australian Government on measures that can be taken to improve resilience in the interstate freight logistics chains and to the ports in NSW.
Medium-term actions	
47	Embed freight resilience outcomes in all Strategic Regional Integrated Transport Plans.
Funding and pricing	
Short-term actions	
48	The NSW Government to work with other jurisdictions to prioritise further efforts to expedite road pricing reform, including the introduction of a distance-based charge for heavy LZEV as a first stage of a broader introduction of distance-based charging.
49	As part of the Toll Review implementation, undertake analysis to confirm whether heavy vehicles are currently travelling on arterial and local roads when the motorway network would be more suitable. If so, consider levers to incentivise greater use of the motorway network by heavy vehicles. Encourage more off-peak freight movements including evaluating the effectiveness of the proposed reduction of the multiplier for smaller trucks by monitoring the temporary Truck Multiplier Rebate Scheme for the M8 and M5 East.
Long-term actions	
50	The NSW Government to investigate with the Australian Government the potential to develop a consistent commercial framework between rail and road in circumstances where externality costs need to be addressed. This would mean road and rail corridors operate on a level playing field when externalities are considered.
Ports and airports	
Short-term actions	
51	Confirm the port policy position is to encourage competition between the ports and specifically it is not for government to determine the location for a second container port in NSW. Recognise that Port Botany remains the key container port for NSW.
52	Prioritise the necessary planning, business cases, funding and land acquisition to secure and commence development of the Western Sydney Freight Line and the Mamre Road Industrial Precinct before the end of the decade. Note that the IMT (which is expected to be a commercial operation in the future) is fundamentally linked to the Western Sydney Freight Line and planning, business case analysis and financing must recognise this interrelationship.
53	Finalise necessary planning and confirm funding to deliver upgrades to Port Botany access roads.

54	Adopt the recommendations from the Port Botany Landside Improvement Strategy Independent Review (Actions included in Attachment B): **a.** Prioritise implementation of Recommendation 1 – to develop a PBLIS performance scheme and related recommendations 6, 7, 9, 12, 13, 14, 15, 16 and 17. **b.** Acknowledging concerns from some trucking operators, consider changes to the current PBLIS rules further during implementation, recommendations 2, 3, 4, 8, 10 and 11. **c.** A review of the changes should be undertaken within five years (including Recommendation 18 the administration of PBLIS to be undertaken by NSW Ports that was ruled out of consideration in this review). To support the implementation process, regular public reporting should commence on performance as soon as possible.
55	Stevedores should consider simplifying their charging structure.
Medium-term actions	
56	The National Transport Commission should review the National Voluntary Guidelines for stevedore charges and consider the updates made to the Victorian Government Voluntary Pricing Protocol.
57	The Australian Government should consider the Productivity Commission Maritime Supply Chain Inquiry finding about stevedore charges and the recommendation to develop a national mandatory code for stevedore charges, to determine whether action in this area is required.
58	Progress necessary planning and approval processes to secure delivery and financing of a fuel pipeline to supply Western Sydney International Airport with aviation fuel.
Rail networks	
Short-term actions	
59	Undertake a formal review of the NSW Rail Access Undertaking, commencing with consultation with stakeholders on proposed Ministerial access principles, with a replacement instrument to be in place by 2026.
60	Continue to increase the required freight level of service for the Sydney Trains network, including developing and refining performance measures and targets.
61	Consider measures to improve coordination between the networks, including opportunities to align service levels and performance measures.
62	Reduce complexity of the rail system, increasing harmonisation between networks and access arrangements and more strategic rail planning.
63	Develop guiding policy principles to inform how additional capacity, derived from introduction of digital train control, can be allocated between passenger and freight services on the MRN.
64	Amend the regulation of container stevedore rail servicing at Port Botany to apply annual CPI price increases, backdated from its introduction in 2011 and ongoing. Reconsider this in the five year review of PBLIS changes with a view to removal of the regulation, in line with PBLIS Independent Review Recommendation 19.
65	Work with industry to identify options within the MRN for breaking down longer trains to 600 metre lengths dedicated to particular stevedores.
66	Work to enable the provision of saleable, end-to-end rail access – a cycle that includes a timetable path from an IMT to the port, a window at the port and a timetabled path from the port back to an IMT.

Medium-term actions	
67	Undertake a review of the NSW rail network, with a view to consolidate and close disused rail lines to target funding to the remaining priority networks.
68	In partnership with ARTC (and other potential participants) develop the concept of a 'one stop shop' for rail access in NSW.
69	Investigate longer-term options to for operating the CRN with the aim of moving to the model that best delivers a coordinated rail network, a higher level of service and value for money.
Long-term actions	
70	Work with the grain industry to close rarely used grain lines with the savings from maintenance costs on these lines, to be allocated to upgrades of rail and road networks that benefit the grain industry.
71	Investigate adding additional capacity to the rail network in the longer term, by increasing the provision of dedicated freight lines. There are three projects to include in this examination: **a.** an extension of the Southern Sydney Freight Line to Picton **b.** an increase in Special Activation Precincts beyond Bomen and Parkes as Inland Rail extends **c.** upgrades to the connections of regional lines to the Hunter Valley network to enable more regional freight to move via the Port of Newcastle.
72	On the Port Botany rail line, work with industry to coordinate rail operations and terminal use to improve efficiency and increase rail mode share.
73	In the longer term, note that a dedicated freight route around Sydney may be needed and consideration should begin on the Outer Sydney Orbital to increase rail capacity. This route would extend from Hexham in the Hunter to Dombarton in the Illawarra, connecting to the extended Southern Sydney Freight Line at Picton.
Road networks	
Short-term actions	
74	Incorporate the NSW HVAP into this action plan as it forms an integral part of this system-wide approach (Actions included in Attachment C).
75	Progress delivery of a rest stop improvement program.
76	Investigate the opportunities presented in the Regional Cities NSW business case and confirm whether the approach taken with this initiative, provides a good framework for encouraging a 'one network' approach to infrastructure investment prioritisation.

77	Address existing bottlenecks on the road network including the connection between the M8 and Port Botany and key routes to distribution centres such as Moorebank and Eastern Creek.
Medium-term actions	
78	Deliver a local government engagement program to optimise NSW state road access and build awareness and acceptance of the benefits of heavy vehicles.
79	Support councils to expand strategic first and last mile access for high productivity vehicles by building capability and ensuring appropriate asset information to undertake access assessments.
80	Deliver the Automated Access Assessment Program as part of the National Automated Access System.
81	Work with RIMs and other third party asset owners to support safe, efficient and timely access.
82	Prioritise infrastructure upgrades to accommodate PBS vehicles noting the economic and safety benefits.
83	Review current local government road funding programs including: **a.** Identifying opportunities to support ongoing maintenance activities with a more reliable and regular funding source **b.** The costs and benefits of introducing local government strategic freight plans to provide a ground up approach to prioritising grant funding. This approach would also provide context for the development and implementation of the National Service Level Standards for local roads.
Long-term actions	
84	As the population grows, especially in Sydney, the Illawarra and the Hunter, ensure that appropriate additional road capacity for movement of freight is planned and delivered.
Governance	
Short-term actions	
85	Identify where there are opportunities for better harmonisation between the Australian and NSW governments and industry and prioritise how to address these matters. These include heavy vehicle access and road funding reform.
86	Communicate with the Australian Government about near-term NSW requirements that require funding contributions and/or expertise from the Australian Government.
87	Within Transport, review the existing structure to ensure freight functions are coordinated at a departmental level. This may include appointing a Deputy Secretary to take this responsibility or by placing all the freight functions within one division.
88	Work with the regional industry stakeholders, particularly the grain industry and growers, silo operators, rail operators and network managers as well as other potential sectors that have the potential to increase the use of rail. The aim being determine the optimal end-to-end network, including rail lines, that should make up the grain network for long-term maintenance and investment.

89	Support the establishment of an industry-led port supply chain coordination body, to be chaired by an independent expert, to identify opportunities to develop a collaborative approach to the port rail task.
Medium-term actions	
90	Liaise with the Australian Government about the national regulation of stevedore charges.
91	Develop better funding arrangements for local roads, network resilience and disaster funding.
92	Identify assistance (including incentives) that may be needed to lower emissions in the freight industry.
93	Commence open development of alternative mandated models of operations for the port rail, potentially market redesign, to be introduced within a reasonable period if required, should industry efforts stall (estimated to be three years).
94	Work with the Australian Government and other jurisdictions to progress a review of road user charging and potential integrated pricing frameworks for road and rail.
Long-term actions	
95	Involve the Australian Government in strategic planning that identifies new longer-term infrastructure requirements that are relevant at both a state and national level.

Attachment A: Towards Net Zero Emissions Freight Policy Actions

Priority 1: Regulatory Frameworks	
Road Actions	
1.1	Review state regulations applicable to freight to identify necessary changes for heavy LZEVs on the road network and potentially remove incentives for high emitting vehicles.
1.2	Advocate for changes to national heavy vehicle standards that help maximise the benefits from new and emerging vehicle technologies, including the Australian Design Rules.
1.3	Provide concessions on mass limits for heavy LZEVs operating on the State-road network to enable access.
1.4	Work with other jurisdictions to accelerate the implementation of Euro VI and Euro VII emissions standards in Australia.
1.5	Work with the Commonwealth and other States and Territories to consider an appropriate road user charging framework for heavy LZEVs.
Rail Actions	
1.6	Review service level agreements between Transport and RIMs to explore further opportunities to optimise the capacity of rail freight, particularly through two-way loading.
1.7	Investigate options and the most effective instruments to embed emission standards or control measures in NSW.
1.8	Explore options for a coordinated national approach to reducing red tape when industry begins applying low and zero emission technology solutions to locomotives that cross state borders.
Priority 2: Research, Modelling and Trials	
Road Actions	
2.1	Undertake emissions and economic modelling to identify effective medium and long-term options to reduce freight emissions and increase heavy LZEV uptake.
2.2	Collaborate with other jurisdictions to conduct an East Coast geospatial analysis to inform optimal locations for recharging and/or refuelling of alternate fuels.
2.3	Undertake a network analysis to understand the impact of increased vehicle mass and dimensions on infrastructure and the opportunities for a freight network redesign and optimisation.
2.4	Develop Transport's capability in freight emissions and economic modelling in the heavy vehicle sector.

Rail Actions	
2.5	Undertake research and modelling to understand the emissions impacts and projections of moving more freight on rail in NSW.
2.6	Explore Zero Emission Motive Power Options for freight trains as part of an assessment to develop a Western Sydney Freight Line.
2.7	Collaborate with industry and/or other jurisdictions on other potential trials or demonstrations of the use of low and zero emission locomotives (including retrofit options) on the NSW rail network.
2.8	Explore options to develop a national approach to support cross-border trials and joint investments in charging or refuelling infrastructure across the rail freight network.
Priority 3: Incentivising transition	
Road Actions	
3.1	Use research and modelling to identify potential incentives to reduce the whole-of-life cost of heavy LZEVs and support the uptake of these vehicles.
3.2	Optimise heavy vehicle movements by uplifting capacity and encouraging greater use of and access for higher productivity vehicles, particularly through two-way loading.
Rail Actions	
3.3	Continue to work with NTC and other relevant stakeholders to identify barriers and opportunities to uplift the efficiency of the accreditation process for new rail fleet operations in NSW to encourage industry investment in new and low and zero emission locomotives.
3.4	Explore options to improve the road and rail interface at IMTs to support rail mode shift.
Priority 4: Education and Engagement	
Road Actions	
4.1	Continue providing industry with reliable and up to date information (as it becomes available) about the economic, environmental and social benefits of LZEVs.
4.2	Collaborate with industry to develop guidance materials (including cost comparison tools) and share results from LZEV studies and trials to support operator decisions in switching to LZEVs.
4.3	Investigate options for a State-based heavy vehicle rating system to inform and influence vehicle purchasing decisions.
4.4	Work with industry to explore appropriate fleet and/or emission targets.
Rail Actions	
4.5	Explore options to establish a stakeholder reference group consisting of representatives from other relevant agencies as well as industry and the research community.
4.6	Work with industry and other relevant agencies to explore appropriate fleet and/or emission targets.

Priority 5: Procurement	
Road Actions	
5.1	Investigate opportunities and the business case to transition the heavy vehicle fleet owned and/or leased by TfNSW to LZEVs.
5.2	Encourage greater use of LZEVs in road transport infrastructure projects, particularly through contract conditions, key performance indicators and regulatory exemptions.
Rail Actions	
5.3	Encourage greater use of LZEVs in rail transport infrastructure projects, particularly through contract conditions, key performance indicators and regulatory exemptions.

Freight and passenger trains sharing corridors

Attachment B: Port Botany Landside Improvement Strategy Recommendations

Recommendations to be adopted	
Commence Implementation	
1	**PBLIS Performance Scheme** - Introduce (via a managed transition process) a regulated performance-based incentive scheme for the stevedore and road interface that rewards efficient performance of stevedores and road operators, and provides flexibility to support innovation in landside operations. Monitoring will provide transparency of ongoing landside performance. Government should retain the potential to re-introduce the current, prescriptive PBLIS rules if port performance deteriorates.
6	**Remove the broad power for regulating stevedore charges** - Remove the broad Regulation power for regulating stevedore charges and remove associated PBLIS stevedore charge notification and government assessment requirements.
7	**Apply late penalties per truck trip rather than per container** - Apply PBLIS late arrival penalties per truck trip rather than per container.
9	**Update penalty rates by Consumer Price Index (CPI)** - Backdate PBLIS penalty rates by CPI from 2010 and apply ongoing annual CPI increases.
12	**Road data transparency** - Increase the information publicly available on stevedore truck servicing and carrier performance, and improve data provided to government.
13	**Rail data transparency** - Provide detailed information on stevedore rail window and rail operator performance to industry, make data publicly available, and encourage visible container tracking.
14	**Empty container data transparency and efficiency** - Require empty container storage facility data and make suitable data publicly available, and require empty container redirections be provided in an appropriate electronic format.
15	**Freight Community System (FCS)** - Progress development of a FCS Strategic Business Case and, if positive, develop a phased implementation plan to proceed as a high priority (note there may be regulatory change requirements).
16	**Second truck marshalling area** - Investigate the need and timing for a second truck marshalling area (TMA) and, if required, consider options for its development.
17	**Certified transport operator access** - Introduce a certification requirement for container transport road operators at Port Botany.
20	**Improve governance frameworks to align public infrastructure managers with the port rail task** - Ensure public rail infrastructure managers (Sydney Trains and ARTC) requirements are appropriately aligned with the port rail task.
21	**Examine future rail options** - As rail investments mature, consider further options for improving the interface and/or coordination between supply chain participants and functions.

Recommendations to be given further consideration as Phase 1 is implemented	
Potential Implementation	
2	**Change carrier cancellation rules to take or pay** - Change the slot booking notice period and cancellation rules for carriers to a take or pay arrangement.
3	**Facilitate no booking until discharge** - Enable stevedores to voluntarily implement a no booking until discharge system that allows container pick up booking once the import container has been discharged from the vessel.
4	**Staggered time zone commencement** - Facilitate the optional commencement of truck servicing time zones every half hour instead of every hour.
8	**Apply unforeseen events to terminal sections** - Increase flexibility in stevedore unforeseen event application to allow partial closure of a stevedore terminal for an impacted time zone, instead of the whole terminal during that time zone.
10	**Remove large and small carrier classifications** - Remove the option for stevedores to separate carriers into Large Carriers (Class B carriers) and Small Carriers (Class A carriers) for the purpose of releasing slots.
11	**Remove Transport approval for stevedore import and export slot allocation** - Remove the requirement for Transport to approve the stevedore import and export slot allocation.
Recommendations not adopted in full	
Recommended with amendment	
18	**Engage NSW Ports as a service provider to administer elements of PBLIS, truck marshalling area and Transport camera network** - Engage NSW Ports to administer PBLIS and manage the TMA and the TfNSW ANPR camera networks as a service provider to TfNSW with the NSW Government (TfNSW) retaining responsibility for and control of the Act, Regulation and Mandatory Standards. This recommendation was not considered; however, it should be reviewed as part of the 5-year review.
19	**Remove regulated rail servicing arrangements** - Remove the regulation of stevedore rail servicing arrangements to allow stevedores to set charges and service terms as appropriate. It is recommended rather than removing the regulation, annual CPI price increases should be backdated from its introduction in 2011 and applied ongoing. This should then be reviewed in the 5-year review, with a view to removal of the regulation.
Recommendation currently possible	
Other recommendations	
5	**Differential pricing of time zones** - Stevedores should consider applying different prices to truck time zones to encourage 24/7 landside port access. No government action is required, stevedores are able to apply differential pricing.

Attachment C: NSW Heavy Vehicle Access Policy Actions

Pillar 1: Agile and resilient networks	
Expand access and optimise network capacity and capability	
1.1	Continually improve safety for all road users to mitigate risks – in line with commitments in the 2026 Road Safety Action Plan
1.2	Collaborate with industry, local councils, RIMs, Commonwealth and State agencies to develop end-to-end networks and further national harmonisation
1.3	Support the delivery of the Heavy Vehicle Rest Stop Implementation Plan
1.4	Undertake a network analysis to understand the impact of increased vehicle mass and dimensions on infrastructure, and inform decisions on road access for modern high productivity vehicles and heavy low and zero emission vehicles
1.5	Develop guidance materials to inform business cases for investment in network improvements to facilitate high productivity vehicle movements
1.6	Review the principles and standards for the design and maintenance of roads on the freight network to facilitate access for the high productivity vehicle fleet of the future
1.7	Develop a decoupling policy that supports the movement of high productivity vehicles across the network
Pillar 2: Innovative vehicles	
Encourage new and innovative vehicles that can deliver improved freight outcomes	
2.1	Investigate measures to encourage uptake of advanced driver assist and safety technologies - in line with commitments in the 2026 Road Safety Action Plan
2.2	Develop a database of standard design templates to encourage further innovation in PBS vehicle design that is best suited to the freight network
2.3	Facilitate industry trials and evaluation of innovative vehicles and technologies, such as powered axles on trailers
2.4	Upgrade Future Mobility Testing and Research Centre at Cudal to support heavy vehicle testing
2.5	Investigate measures to facilitate increased access for low and zero emission vehicles - in line with commitments in the Towards Net Zero Emissions Freight Policy

Pillar 3: Streamlined accesss	
Reduce administrative and regulatory burden and prioritise access for the best vehicles	
3.1	Develop a process to prioritise and streamline access approvals, including rail infrastructure manager approvals, for the safest, cleanest and most productive heavy vehicles
3.2	Support the National Automated Access System through the implementation of the Automated Access Assessment Program (AAAP) to streamline decision-making and approval processes and support intelligent assessments
3.3	Explore opportunities to transition from permits to notices and schemes to streamline access
3.4	Investigate opportunities to allow vehicles to operate at Concessional Mass Limit (CML) as per General Mass Limit (GML)
3.5	Investigate opportunities to improve Oversize Overmass (OSOM) vehicle movements
Pillar 4: Telematics and data	
Leverage telematics, data and other technologies to improve network management	
4.1	Work with industry and government partners to trial and implement innovative solutions, including safety enhancements, to facilitate safe access to level crossings
4.2	Investigate opportunities for data to improve access, identify and assess network constraints, and inform network planning and investment prioritisation
4.3	Progressively implement telematics as a condition of access for all restricted access vehicles under notice and permit in NSW
4.4	Work with Transport Certification Australia and other jurisdictions to align telematics requirements with other national projects, such as the Heavy Vehicle National Law Review and the Land Transport Market Reform
4.5	Work with Transport Certification Australia to increase the functionality and useability of telematics data for industry and local councils
Pillar 5: Strong partnerships	
Collaborate with stakeholders to support and improve access	
5.1	Engage with local councils to inform and encourage the development of networks for high productivity vehicles on local and regional roads
5.2	Investigate opportunities to leverage existing road grant funding programs and/or trial new alternative funding approaches to encourage greater access on local and regional roads
5.3	Work with jurisdictions and the Commonwealth to progress Land Transport Market Reform to establish a transparent national road user charging system that supports road maintenance and improvement
5.4	Provide guidance, tools and data to local councils, particularly via the AAAP, to support access assessments, particularly local road capacity and capability of sensitive assets to accommodate high productivity vehicles and other restricted access vehicles, such as Oversize Overmass vehicles
5.5	Develop guidance materials to support transport and land-use planners in considering requirements for high productivity vehicles and other restricted access vehicles in planning, particularly for strategic precincts, intermodal terminals and logistics hubs
5.6	Work with local councils and other stakeholders to improve community understanding of the benefits of high productivity vehicles

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