NSWPorts

Productivity Commission Inquiry into Australia's Maritime Logistics System

NSW Ports Submission

February 2022

Executive Summary

NSW Ports is the manager of Port Botany and Port Kembla and two rail intermodal terminals (Enfield Intermodal Logistics Centre and Cooks River Intermodal Terminal) in NSW. These assets are gateways for maritime trade in NSW, handling millions of tonnes of diversified trade each year.

This submission, to the Productivity Commission (the Commission) Inquiry into Structural Issues Affecting the Productivity of Australia's Maritime Logistics System, is made during a time in which maritime supply chains have faced increased pressure due to the Covid-19 pandemic, affecting trade on a global scale. Australia's maritime supply chain challenges have principally (but not solely) been driven by events overseas, with Australian supply chains being recipients of international disruptions and needing to adapt to address them.

Australia's experience during the Covid-19 period has not been unique but arguably Australia's supply chains have been more resilient than in many countries around the world. Challenges include: global shipping disruptions; escalation of ocean freight rates; increased risk of reduced labour availability; and protected industrial action. Investment in substantial new container ship capacity, to be delivered between 2022 and 2025, is expected to assist with easing the current global maritime supply chain challenges to the benefit of Australian importers and exporters.

That doesn't mean that there aren't improvements that can be made to improve the efficiency of Australian supply chains. Enhancements to infrastructure, technology improvements, efficient regulation and coordination are ongoing requirements to accommodate growing trade volumes.

To assist the Commission, NSW Ports has focussed its submission on what it considers to be priority focus areas for the productivity of the maritime logistics supply chains for which NSW Ports' assets form a key node, and which Australia has an ability to influence. Resilience to accommodate disruptions that are outside Australia's direct control, such as has occurred during Covid-19, is also an important consideration as Australia's supply chains form part of a global system.

This submission has been kept brief, with the opportunity for the Commission to seek further information from NSW Ports as its inquiry progresses.

Efficient port connections

Building a productive, efficient port involves building both the port infrastructure and the off-port road and rail connectivity to enable it. Maritime infrastructure and supply chain connectivity requires constant investment, as trade volumes and population grow creating infrastructure bottlenecks. Efficient road and rail connectivity is integrally linked to port productivity.

NSW Ports' analysis of container import and export supply chain costs has identified that ocean freight rates, followed by landside transport costs, are the most significant components of supply chain freight costs. All other costs are small by comparison, with port charges c.3-5% of total costs. Ocean freight rates are being driven by a global supply-demand imbalance, with costs in Australia having risen by 300-500% consistent with the magnitude of increases experienced globally. Therefore opportunities to improve landside transport productivity should form a key consideration in this Inquiry.

NSW Ports has identified seven priority off-port infrastructure connectivity projects to improve the efficiency of connections to and from Port Botany and Port Kembla for importers and exporters. These are outlined in Section 4 of the submission.

Technology Improvements

A centralised national trade system with a single window data exchange presents a significant technology opportunity to increase the productivity and resilience of Australia's maritime supply chains. This system needs to transact border and freight clearances and allow data interfaces across multiple systems throughout the supply chain. The system needs to be coordinated and implemented nationally. Such systems are already in operation around the world and have proven their worth in terms of operational efficiency and productivity improvement. Any such system adopted by Australia would be further optimised by compatibility with international systems and platforms, as well as through adopting international standards.

National Coordination

Australia has a National Freight and Supply Chain Strategy, endorsed by the Commonwealth and States in 2019. Notwithstanding this, international trade with Australian ports during the COVID 19 pandemic exposed the flaws in a federated state system – lack of national coordination. Conflicting rules between states on issues like port access for vessels created confusion and inefficiency. While the pandemic event exposed these issues dramatically, they were not new. Indeed, the lack of national coordination is a systemic issue which was sought to be addressed in the 2019 National Freight and Supply Chain Strategy.

This Inquiry presents an opportunity to strengthen the existing National Freight and Supply Chain Strategy and prioritise its implementation. The existing Strategy should be reviewed and updated, in light of the issues that have arisen during the pandemic, and should then form the basis of government investment and prioritisation to deliver productive supply chains.

Effective Land Use Policy

Land use planning that enables the protection and continued supply of industrial lands is essential to achieving productive and efficient movements of freight. Planning must support supply chains as well as providing for optimised use of infrastructure and industrial land through the avoidance of constraints such as throughput limits and operational curfews.

Restrictions imposed on freight related lands have flow on implications for port productivity. The protection and preservation of industrial lands is therefore critical to the future operating capabilities of the maritime logistics system and the future productivity and growth of our cities. Physical land separation and protection of industrial and employment lands from sensitive uses is required as a fundamental principal of good land use planning policy.

Commonwealth coordination with States to develop appropriate land use planning and approval approaches for industrial and freight lands and operations is fundamental for securing the long-term sustainability of maritime and freight supply chains.

International Comparisons

International comparisons of ports must be undertaken with caution and a complete understanding of the role of individual ports as they relate to the global supply chain. Only ports that are alike in terms of scale, geography and markets should be compared with one another.

The World Bank and IHS Markit report *The Container Port Performance Index 2020: A Comparable Assessment of Container Port Performance,* released in May 2021 and referenced by the ACCC in its 2021 container stevedore monitoring report, does not appropriately compare like-for-like ports, amongst other flaws in its methodology.

Measuring Supply Chain Productivity

Port productivity is highly monitored in Australia, including through the Australian Competition and Consumer Commission (ACCC) as part of its Container Stevedoring Monitoring Report and the Bureau of Infrastructure and Transport Research Economics (BITRE) waterline reports. Port productivity, however, is just one element of the productivity of the maritime supply chain. Road and rail performance is not monitored.

As landside transport costs are currently the second most significant component of supply chain costs, monitoring landside productivity and performance is essential for identifying cost efficiency and productivity opportunities for maritime logistics supply chains.

The National Freight Data Hub initiative is a positive step in this direction and should be progressed to enable road and rail productivity to be assessed as part of an end-to-end supply chain productivity assessment and to identify priority investment needs.

Port Capability Investments / Enabling Larger Vessels

Premature investment in capacity and productivity at the port may have the effect of adding cost to the supply chain, rather than reducing costs. An independent assessment undertaken for NSW Ports has found that vessel upsizing to 14,000 TEU delivers small (less than 2%) total system cost savings to the Australian container trade and vessel upsizing beyond 14,000 TEU results in higher total systems costs.

Therefore, there may be greater benefit obtained from investment elsewhere in the supply chain, for example through the improvement of road and rail access to the port. Hence, the focus of productivity considerations should be at a 'supply chain level' and not at a single point, such as the port, within this integrated system.

Port Disruptions

Disruptions at the port, for whatever reason, impact on port performance and productivity. These disruptions may be uncontrollable, such as weather and pandemics, or controllable such as industrial action.

Port productivity data during the peak period of protected industrial action in 2020 showed a substantial reduction in container terminal productivity for this period. Where the disruption is extended this has significant knock on effects, such as the introduction by shipping lines of congestion surcharges at the port. Mechanisms to conclude enterprise bargaining more expeditiously, to avoid extended industrial action and the subsequent longer term productivity impacts, should be explored.

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1. Introduction

NSW Ports is the manager of Port Botany and Port Kembla and two rail intermodal terminals (Enfield Intermodal Logistics Centre and Cooks River Intermodal Terminal) in NSW. These assets are gateways for maritime trade in NSW, handling millions of tonnes of diversified trade each year.

This submission, to the Productivity Commission (the Commission) Inquiry into Structural Issues Affecting the Productivity of Australia's Maritime Logistics System, is made during a time in which maritime supply chains have faced increased pressure due to the Covid-19 pandemic, affecting trade on a global scale. Australia's maritime supply chain challenges have principally (but not solely) been driven by events overseas, with Australian supply chains being recipients of international disruptions and needing to adapt to address them. Australia's experience during the Covid-19 period has not been unique but arguably Australia's supply chains have been more resilient than in many countries around the world including USA, Europe and China.

That doesn't mean that there aren't improvements that can be made to improve the efficiency of Australian supply chains. Enhancements to infrastructure, technology improvements, efficient regulation and coordination are ongoing requirements to accommodate growing trade volumes.

To assist the Commission, NSW Ports has focussed its submission on what it considers to be priority focus areas for the productivity of the maritime logistics supply chains for which NSW Ports' assets form a key node, and which Australia has an ability to influence. Resilience to accommodate disruptions that are outside Australia's direct control, such as has occurred during Covid-19, is also an important consideration as Australia's supply chains form part of a global system.

This submission has been kept brief, with the opportunity for the Commission to seek further information from NSW Ports as its inquiry progresses. Our submission has been structured into six key areas:

1. Current Maritime Supply Chain Challenges
2. Efficient Port Connection Requirements
3. Technology Improvements
4. National Coordination
5. Effective Land Use Policy
6. Port Performance and Productivity

2. NSW Ports Assets

Port Botany and Port Kembla are key trade gateways for Sydney and NSW. The Enfield and Cooks River intermodal hubs have direct freight rail links to Port Botany, playing a key role in supporting NSW's container freight task and helping to reduce truck movements on Sydney's roads.

These critical infrastructure assets underpin the NSW economy.

Our facilities operate 24 hours a day, 7 days per week, contributing an estimated $4.4 billion to the NSW economy annually and directly and indirectly supporting 30,000 jobs[1].

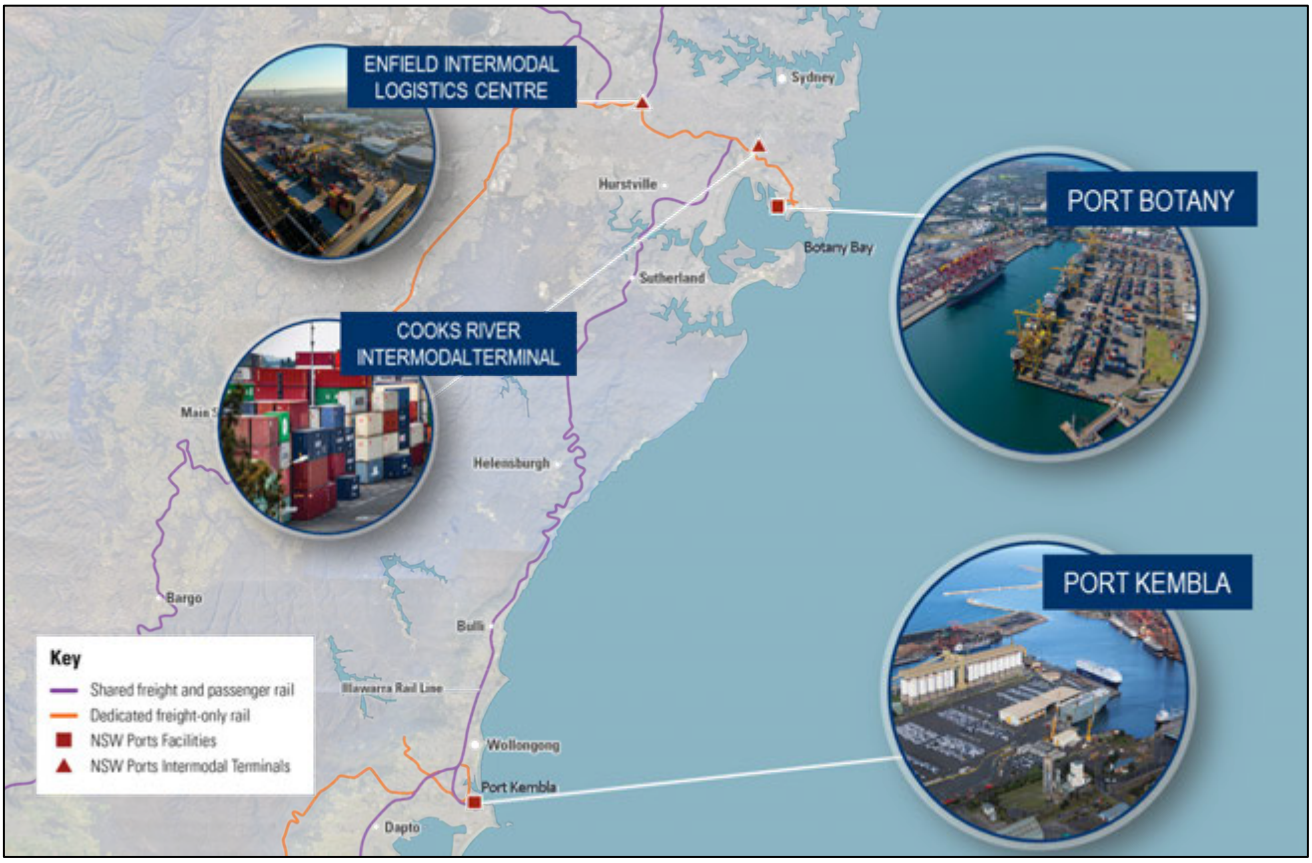

Figure 1 - *NSW Ports Assets*

[1] BIS Oxford Economics Study *The Economic Contribution of NSW Ports: Phase Two Report* 2018

2.1. Port Botany

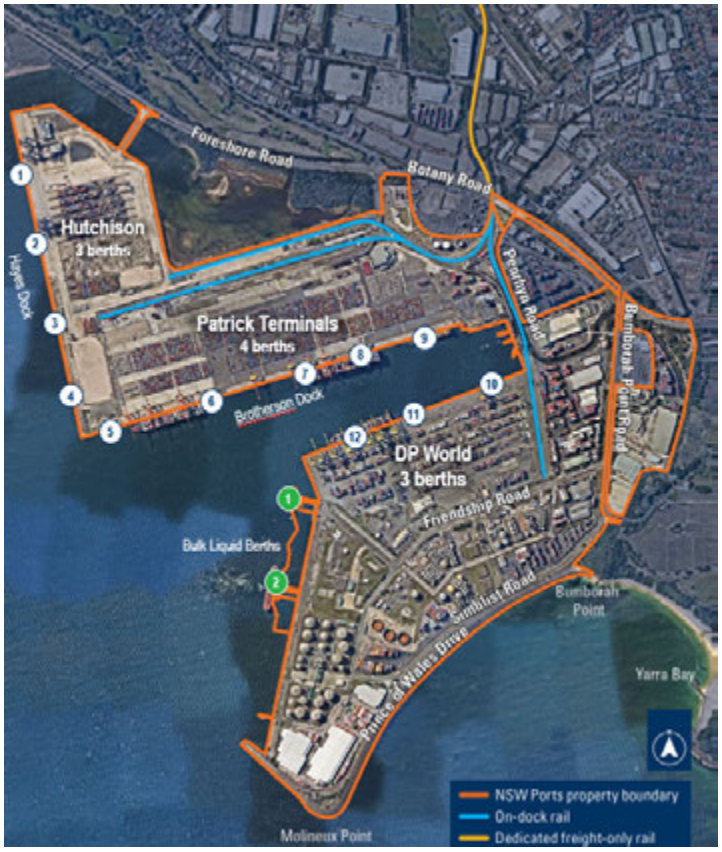

Figure 2 - *Port Botany has three stevedoring terminals each with on dock rail*

Port Botany is the NSW gateway for containerised trade. It is an import dominant port. For every ten full import containers only four containers are exported full, the remaining six are exported empty.

In addition to handling 99.6% of NSW's container trade, Port Botany is also Australia's largest common user bulk liquids facility. The port's bulk liquid and gas precinct handles over 5.5 billion litres each year and supplies one-third of the State's fuel supply.

The port is centrally located for the most sustainable and efficient distribution network for imports needed to support the population and businesses of Sydney and NSW.

The population centre of Sydney, with its 5.3 million residents[2], remains the key destination for most of Port Botany's imports. More than 80% of import containers are delivered within a 40-kilometre radius of the port. By minimising distribution distances, the location of Port Botany assists in minimising the environmental impact and overall handling and distribution costs of goods imported for Sydney and NSW. This is important, because approximately 42% of all goods in a Sydney household are imported in containers via Port Botany[3].

On the waterside, Port Botany is also highly efficient with a naturally deep-sea shipping channel which does not require regular dredging and very short pilotage, with pilot boarding to berth within one hour.

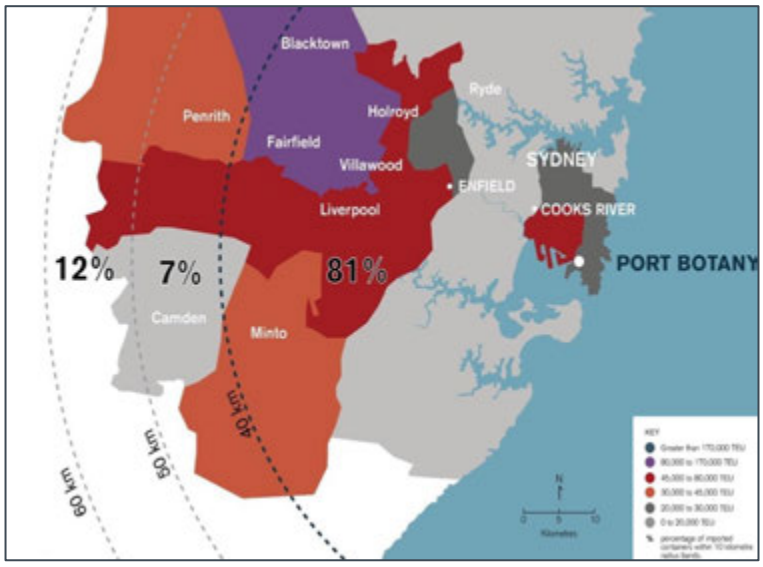

Figure 3 – *Over 80% of all imported containers arrive at their destination within 40kms of Port Botany*

[2] Source: https://www.nsw.gov.au/about-nsw/key-facts-about-nsw accessed 14 February 2022

[3] BIS Oxford Economics Study *The Economic Contribution of NSW Ports: Phase Two Report* 2018, p22

2.1.1. Port Botany's capacity and capability grows with demand

Since commencing operations in the 1970s, ongoing investment in Port Botany has seen the port's capabilities and capacity grow to meet throughput demand.

In 1980-81, throughput at Port Botany was 111,000 Twenty Foot Equivalent Units (TEUs)[4]. Today, throughput at the Port is 2.7 million TEU.

In its 40 years of operations, Port Botany has seen systematic infrastructure investment in order to meet demand. Larger cranes, larger capacity fenders, more productive handling equipment, and improved infrastructure have all been typical examples of productivity investments made.

According to Transport for NSW forecasts, NSW container volumes could reach 4 million TEU by 2031[5]. Port Botany has capacity, with the existing land and berth footprint, to handle more than 7 million TEUs per annum.

Port Botany's current waterside infrastructure is capable of servicing large vessels of up to 15,000 TEU today.

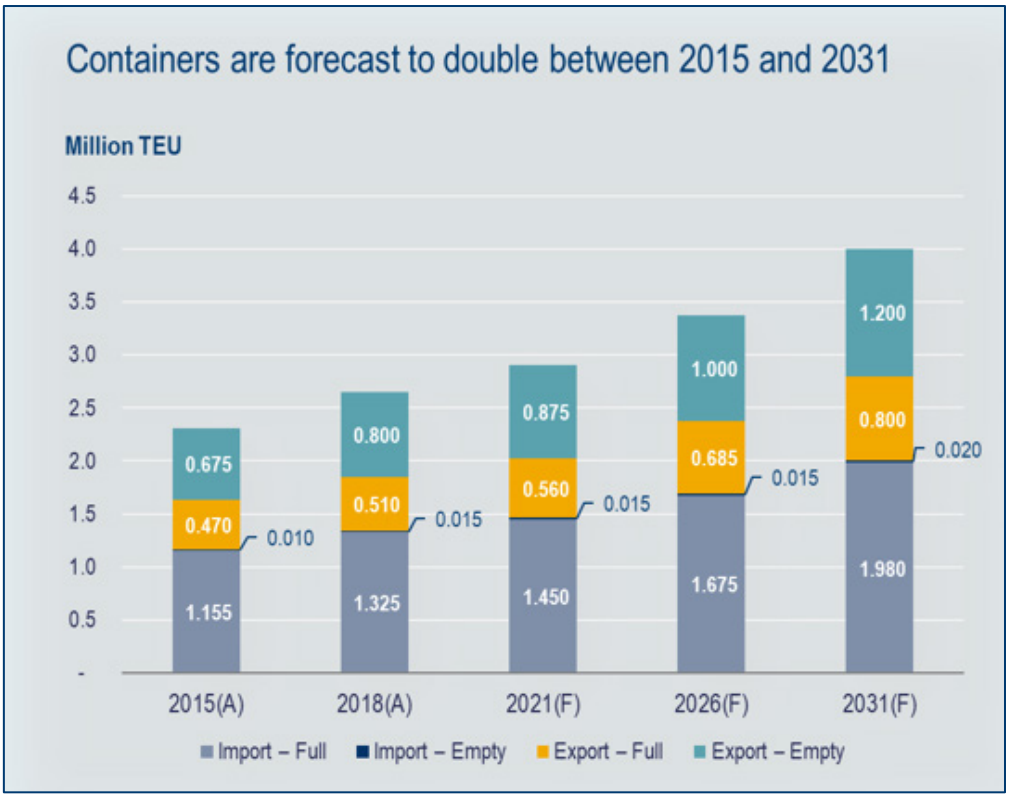

Figure 4 – *NSW Container volume forecasts*[5]

[4] TEUs are the units of cargo capacity used internationally to measure trade volumes. A 'twenty-foot equivalent unit' refers to a standard twenty-foot shipping container used to transport goods globally. There are also forty-foot containers, which are the equivalent of 2 TEUs.

[5] Transport for NSW. NSW Empty Container Supply Chain Study May 2020. Available at: https://www.transport.nsw.gov.au/system/files/media/documents/2020/empty-container-supply-chain-study-web.pdf

2.2. Port Kembla

Port Kembla is NSW's port of growth. Located south of Wollongong, the Port is a key infrastructure asset for NSW and an economic driver in the Illawarra region. A trade gateway supporting NSW's motor vehicle, mining, agricultural, manufacturing and construction industries, Port Kembla accommodates a range of dry bulk, bulk liquid and general cargoes. It is home to NSW's largest motor vehicle import hub and grain export terminal.

NSW's construction and manufacturing industries rely on bulk products and general cargo imported via Port Kembla, including cement clinker imports which are ground on-site to produce cement; iron-ore for steel making; and lubricant oils for cars and machinery. The port has capacity to handle new trades and increased volumes of existing trades.

Port Kembla is connected to Sydney and regional NSW via both road and rail infrastructure, with both grain and coal transported to the port by rail.

Port Kembla has a deep-water shipping channel and berths, both of which require minimal maintenance dredging. It is capable of handling large cargo vessels and its short shipping channel minimises vessel transit time and contributes to port efficiency.

Figure 5 - *Port Kembla*

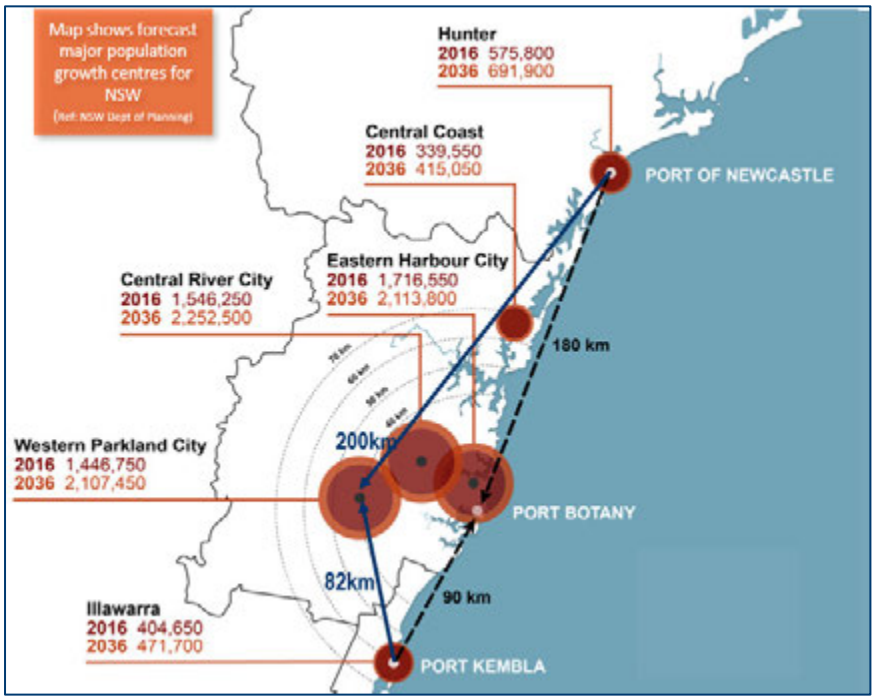

Figure 6 - *Current and Forecast Population Relative to Port Locations*

Port Kembla is 90 kilometres south of Port Botany, 67 kilometres to south-west Sydney and 100 kilometres to western Sydney. The port's proximity to the growing population of Sydney's west and south-west means the Port is best positioned to handle the expected growth in container freight volumes once Port Botany nears capacity. Port Kembla has been identified by the NSW Government as the site of New South Wales' next container terminal.

Port Kembla has an excellent supply of well-connected nearby industrial land to support key trades and port-related activities.

3. Current Maritime Supply Chain Challenges

The maritime supply chain has been faced with a number of challenges borne out of, or exacerbated by, the current global pandemic. Notably, these challenges are not unique to the Australian supply chain and impacts have been more significant at other ports around the world such as those in the USA, UK, northern Europe, China and south-east Asia.

There are five key issues challenging the maritime supply chain:

1. **Global shipping disruptions** – the Covid-19 pandemic and the local restrictions that accompanied outbreaks around the globe led to significant changes in consumer behaviour. Individuals shifted their spending from services, holidays, and experiences to the purchase of 'goods'. This increase in demand, coupled with reduced supply chain capacity due to labour and equipment constraints and manufacturing shutdowns, meant that demand for supply chain capacity exceeded supply capability. This resulted in significant and well-publicised delays, many of which are continuing, at ports such as Yantian, Shanghai, Ningbo, Singapore, Los Angeles, Rotterdam, Ho Chi Minh City (Cat Lai and Cai Mep), and London (Felixstowe).
2. **Ocean freight rates have escalated** – the increase in demand, led by consumer behavioural changes and constraints on global supply chain capacity, has resulted in an increase to ocean freight rates around the globe of at least 300-500%. Australia is not unique in experiencing substantial ocean freight rate increases.

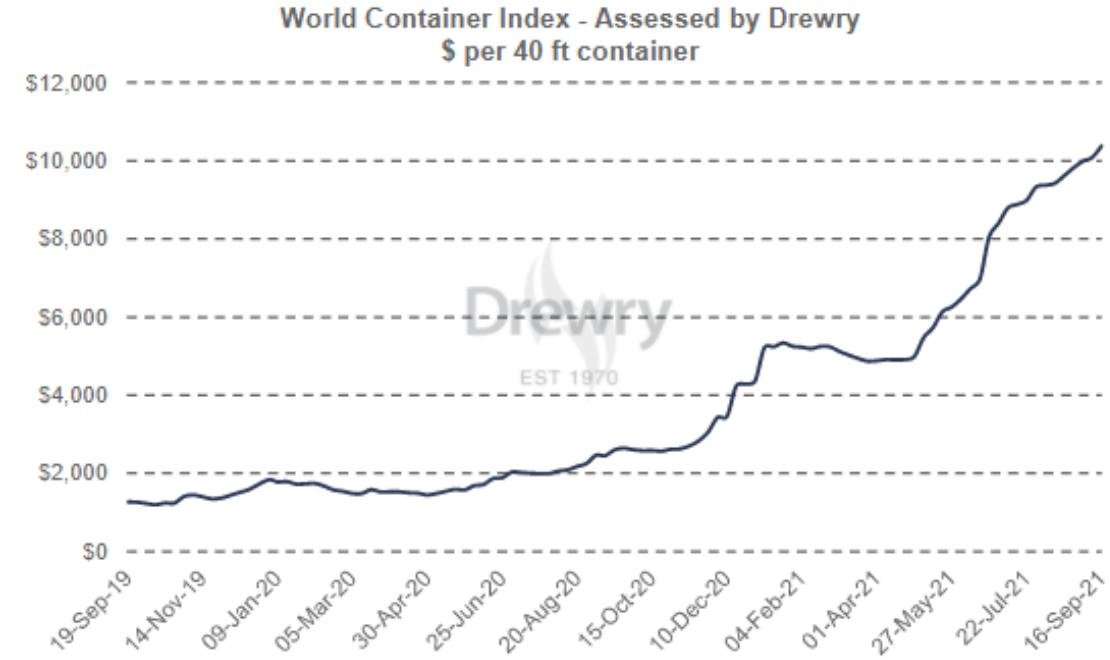

Figure 7 - *Container ocean freight rates have escalated globally by 500% since 2020.* (Units in USD)

3. **Challenges for exporters** – A number of factors have created challenges for Australian exporters including: strained trade relations with China; climate impacts; constrained availability of food grade containers; higher ocean freight rates; and delays and unreliability in shipping. Australia is not unique in experiencing challenges with higher shipping costs and shipping delays for its exports.
4. **Increased risk of reduced labour availability** –Covid-19 lockdowns, coupled with isolation requirements for those with Covid-19 and close contacts, have impacted labour availability within the supply chain impacting productivity. This has been an acute issue with many overseas ports and supply chains, but less so in Australia to-date. It was most acute in NSW during the Omicron outbreak over December 2021 / January 2022.
5. **Protected industrial action** – Over the past 3 years, enterprise bargaining for new Enterprise Agreements at the container stevedores at Port Botany has taken place, including protected industrial action (PIA) throughout this period. This peaked in the second half of 2020 when PIA was occurring at all three Port Botany stevedores concurrently, and at most container ports around the country. This action exacerbated the global shipping disruptions already being experienced, resulting in additional productivity impacts and congestion surcharges being applied by shipping lines for container ports in Australia.

In response to a number of the above disruptions, orders for a substantial number of new ships have been placed and a record number of new containers have been manufactured.

More than 5.8 million TEU in new container ship capacity has been ordered, with delivery scheduled between 2022 and 2025. In 2023 alone 2.4 million TEU of new container ship capacity will be introduced, the highest ever annual capacity expansion[6]. This will result in a significant shipping capacity increase, which is expected to put downward pressure on ocean freight rates.

There has also been record production of new containers over the past two years. In 2021, a record 7.2 million TEU new containers were manufactured[7], more than double the pre-Covid levels of about 2.8 million TEU per year.

[6] Alphaliner. Monthly Monitor January 2022. www.alphaliner.com

[7] https://theloadstar.com/container-fleet-soars-above-50m-teu-in-response-to-supply-chain-congestion/

4. Recommended Domestic Responses

The introduction of substantial new container shipping capacity between 2022 and 2025 (as outlined in Section 3) is expected to assist with easing the current global maritime supply chain challenges, which will also benefit Australian importers and exporters.

For its part, Australia needs to focus on ensuring domestic productivity and efficiency is optimised through:

1. Efficient port connections
2. Technology improvements
3. National Coordination
4. Effective land use policy

4.1. Efficient Port Connection Requirements

Building a productive, efficient port involves building both the port infrastructure and the off-port road and rail connectivity to enable it. Maritime infrastructure and supply chain connectivity requires constant investment as trade volumes and population grow creating infrastructure bottlenecks.

4.1.1. Investing for growth: external infrastructure needs

Maritime logistics systems do not stop at the port. An efficient and effective system relies on ports having good road and rail connectivity as well as intermodal terminals, warehousing and distribution centres.

Maintaining a productive and efficient supply chain requires ongoing investment by both the public and private sector. NSW Ports and our tenants have heavily invested in infrastructure at both ports and intermodal terminals, with more than $2.2 billion having been invested since the ports were privatised in 2013. Investment has included: new fuel storage tanks; new grain export facility; expanded rail capacity; new quay cranes; and new operational equipment.

Portside investment increases port productivity and capacity in response to trade demands, however these investments must be complemented by off-port road and rail infrastructure capacity to secure efficient and productive supply chains. **Efficient road and rail connectivity is integrally linked to port productivity.**

NSW Ports has assessed the freight costs for container imports and exports through Port Botany. (Further information can be provided upon request.) For container imports, ocean freight rates are the largest contributor to total freight costs (currently c. 80% up from c. 54% pre Covid), followed by landside costs (currently c.10%, down from c.23% pre Covid). All other costs, including port charges, are small components.

A similar trend is observed for container exports, with ocean freight rates currently the largest component of the overall cost, followed by landside transport. However for exports landside transport costs form a larger component of the total supply chain cost than occurs for imports. Pre-Covid, landside transport costs made up a larger share of the total cost than ocean freight rates. All other costs, including port charges, are smaller components.

Port charges are a relatively small contribution to the overall cost of shipping a container (c.3-5%).

Ocean freight rates are being driven by a global supply-demand imbalance, with costs in Australia having risen by 300-500% consistent with the magnitude of increases experienced globally. Therefore opportunities to improve landside transport productivity should form a key consideration in this Inquiry.

Investment in and planning for port connectivity is necessarily ongoing, as increasing population increases the demand for freight whilst also creating more public road and rail traffic that may compete with the same road and rail access used by port freight.

The role of Port Botany as the primary container port for NSW has informed off-port road and rail infrastructure investment decisions since the 1970s. Port Botany is serviced by a dedicated freight rail line, strengthened through historical projects such as the Southern Sydney Freight Line, which has allowed containers to move by rail to western Sydney without conflict with the passenger network. The M5 East Motorway, constructed in 1998, significantly improved road access between southwest Sydney and Port Botany and removed port traffic from local roads in the Inner West and St George areas.

Development of a freight rail intermodal network in Sydney has been part of the NSW Government strategy for 20 years.

Port Botany is now connected by dedicated freight rail to a network of metropolitan intermodal terminals (Figure 8) and beyond to regional NSW. The intermodal terminals and their surrounding industrial precincts play a key role in ensuring that Port Botany is efficiently connected to consumers. Moving containers by rail to and from Port Botany to intermodal terminals is a key part of the State's and NSW Ports' strategy to sustainably support growing container trade volumes.

With the forecast growth in containers, these intermodal precincts will play an ever increasingly important role in meeting the freight demands of the State.

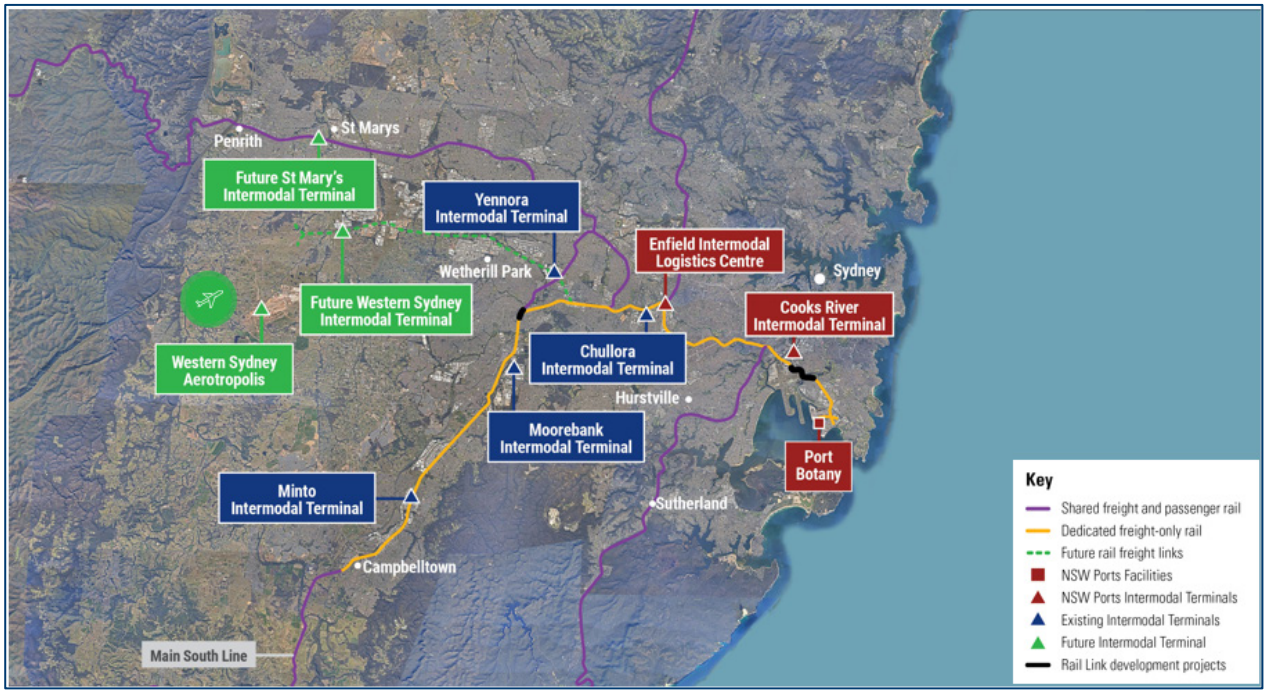

Figure 8 - *The network of metropolitan intermodal terminals*

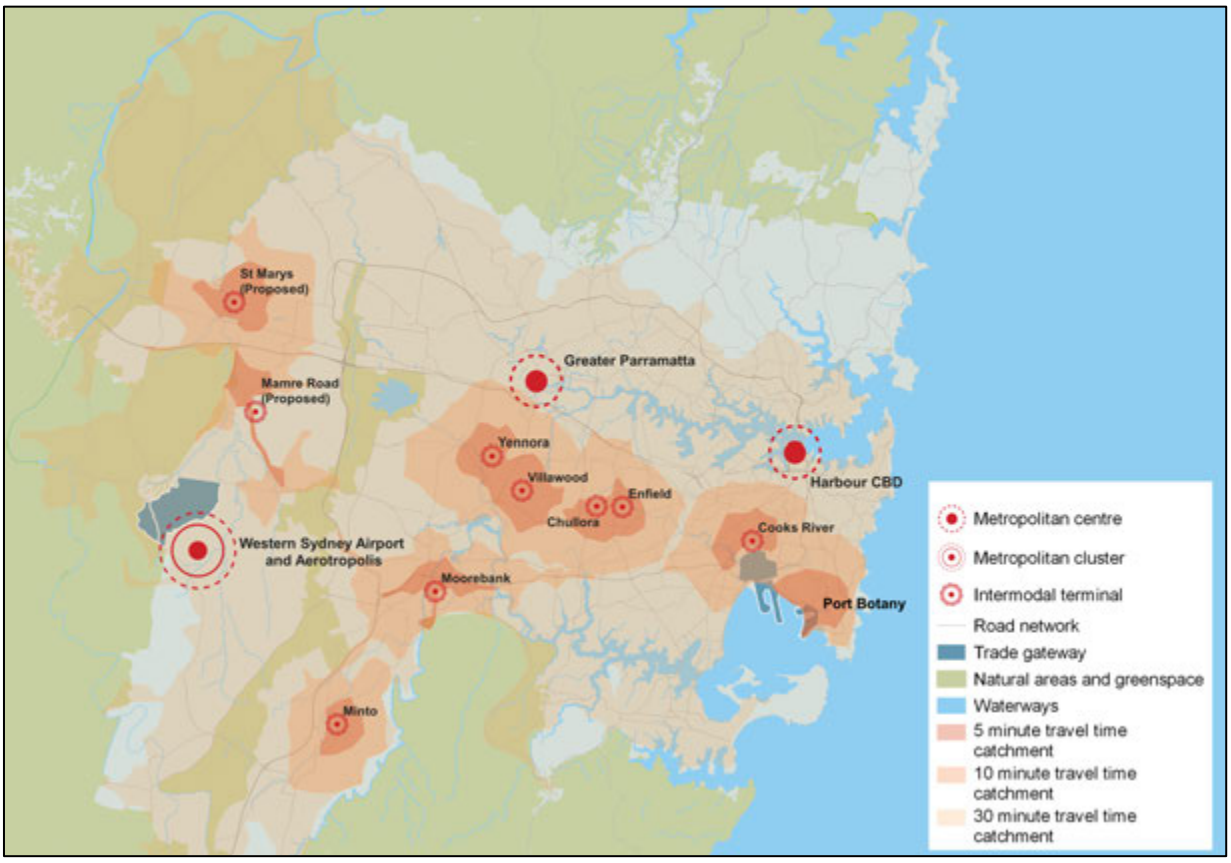

Figure 9 - *30 Minute Travel Time Catchments from Sydney's Intermodal Network*

4.1.2. Connectivity Priorities

NSW Ports has identified seven priority off-port infrastructure connectivity projects to improve the efficiency of connections to and from Port Botany and Port Kembla for importers and exporters – these are summarised in the table below.

Further detail on each of these projects, including further explanation and cost estimates, can be provided on request.

PROJECT	SUMMARY
Missing Road Link between Sydney Gateway and Port Botany	Improved connectivity of Port Botany to Sydney motorway network investments including WestConnex, NorthConnex, Sydney Gateway, M6 Stage 1.
Regional rail connectivity enhancements at Junee & Stockinbingal	Improved regional rail connectivity to ports and to Inland Rail, to improve efficiency of transport for regional exporters.
Western Main Line upgrades	Improved capacity and reliability of the western main line to support regional exporters.
Canal Road On-Ramps	Construction of ramps accessing the Sydney Gateway Motorway from Canal Road to remove freight trucks from Mascot high density residential precinct.
A3 (King Georges Rd, Roberts Rd, Homebush Bay Dr etc) corridor capacity expansion	Intersection upgrades and road widening to address capacity constraints impacting on freight operations including intermodal operations at Enfield.
Picton Road Upgrade	The upgrade of Picton Road to motorway standard (i.e. 2-lane each-way divided road) to improve connectivity between Port Kembla and Western Sydney.
M1 Widening at Mount Ousley	Construction of the third southbound lane at the descent on Mount Ousley to improve connectivity between Port Kembla and Sydney.

4.2. Technology Improvements

A centralised national trade system with a single window data exchange presents a significant technology opportunity to increase the productivity and resilience of Australia's maritime supply chain. This system needs to transact border and freight clearances and allow data interfaces across multiple systems throughout the supply chain.

4.2.1. A centralised trade system

Throughout the journey of freight, data is entered multiple times and into systems that do not communicate with each other. Some processes still require manual intervention. This results in duplicative effort, inefficiencies, delays and errors.

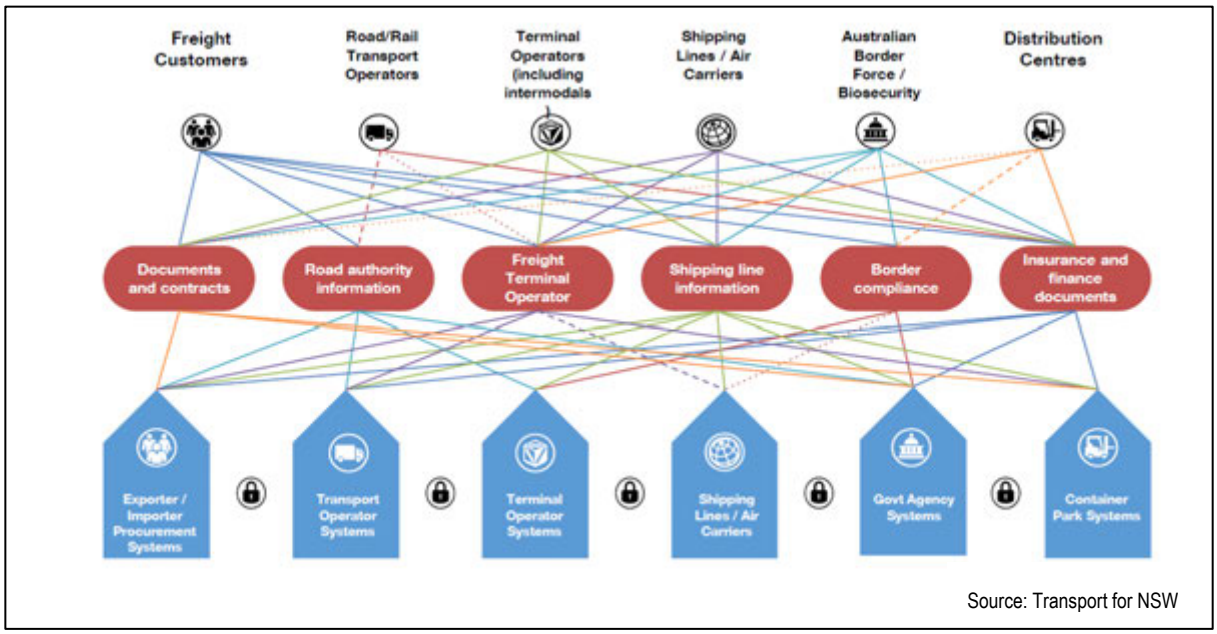

Figure 10 - *Current information flows – the same information being entered multiple times leads to inefficiencies, increasing likelihood of data entry errors. Lack of information sharing across all transport modes means the system is opaque and difficult to optimise.*

A centralised trade system with a single window data exchange presents a significant technology opportunity to increase the productivity and resilience of Australia's maritime supply chain. A digitised system is needed with the ability to handle electronic data and communicate between ports, port authorities, customs, other regulatory bodies, transport operators (shipping lines, agents, freight forwarders, stevedores, terminals, depots) and freight importers and exporters.

Such a system would be able to transact border and freight clearances and allow data interfaces across multiple systems. Aside from the immediate benefit to the efficiency, effectiveness and resilience of the system overall, it has the potential to improve forward planning and assist in optimisation of land, infrastructure and assets in order to meet the growing freight task.

Figure 11 – *Automation and simplification of the exchange of common data to create a centralised trade system which is interconnected for visibility of freight movement and clearances. This would optimise the system and improve its*

To be workable, a centralised trade system needs input from and availability to the whole industry. Data security and privacy measures must be carefully implemented, with data aggregation as required.

Since any centralised trade system must be rolled out across all jurisdictions in order to be effective, that system needs to be a national system coordinated at the Federal level. Such systems, are already in operation around the world and have proven their worth in terms of operational efficiency and productivity improvement.

Any such system adopted by Australia would be further optimised by compatibility with international systems and platforms, as well as international standards and technologies.

4.3. National Coordination

Australia has a National Freight and Supply Chain Strategy, endorsed by the Commonwealth and States in 2019. This Inquiry presents an opportunity to strengthen the existing framework for Strategy. This Strategy should be reviewed and updated to capture additional initiatives relevant to the period of the pandemic. This Strategy should then form the basis of government investment and prioritisation to deliver productive supply chains.

4.3.1. The National Freight and Supply Chain Strategy

International trade with Australian ports during the COVID 19 pandemic exposed the flaws in a federated state system – lack of national coordination. Conflicting rules between states on issues like port access for vessels created confusion and inefficiency. While the pandemic event exposed these issues dramatically, they were not new. Indeed, the lack of national coordination is a systemic issue which was sought to be addressed in the 2019 National Freight and Supply Chain Strategy.

The National Freight and Supply Chain Strategy was developed and released by the Transport Infrastructure Council in 2019. The Strategy sets an agenda for coordinated and well-planned government and industry action across all freight modes over the next 20 years and beyond. It sets a national vision for freight systems and supply chains to contribute to a strong and prosperous Australia through achieving the following goals:

- improved efficiency and international competitiveness
- safe, secure and sustainable operations
- a fit for purpose regulatory environment
- innovative solutions to meet freight demand
- a skilled and adaptable workforce
- an informed understanding and acceptance of freight operations

These goals should be guiding governments and industry in considering strategic priorities for freight policy, programs and investment.

The Strategy is intended to be the underpinning vehicle for national freight and supply chain policy in Australia and should be utilised as such. NSW Ports supports the four overarching Actions of the Strategy:

1. Smarter and targeted investment
2. Enable improved supply chain efficiency
3. Better planning, coordination, regulation
4. Better freight location and performance data

These overarching Actions should similarly be adopted by the Productivity Commission in making any recommendations.

This Inquiry presents an opportunity to strengthen the existing National Freight and Supply Chain Strategy and prioritise its implementation. The existing Strategy should be reviewed and updated, in light of the issues that have arisen during the pandemic and the outcomes of this Inquiry, and should then form the basis of government investment and prioritisation to deliver productive supply chains.

4.4. Effective Land Use Policy

Land use planning that enables the protection and continued supply of industrial lands to support the supply chains as well as providing for optimised use of infrastructure and industrial land through the avoidance of constraints such as throughput limits and operational curfews, is essential to achieving productive and efficient movements of freight.

4.4.1. Urban Encroachment

The productivity of ports, intermodal terminals, industrial land and infrastructure is optimised when they are able to operate 24/7 and without operational constraints such as throughput caps. This is especially true as populations grow, and the freight task increases.

Urban encroachment onto industrial lands – particularly of sensitive land uses like residential – reduces their productivity as throughput restrictions, curfews and constraints on operations are imposed eg. truck movement caps and curfews. This subsequently reduces the efficiency of supply chain and logistics operations, increasing servicing costs and the time to serve. This reduced efficiency results in increased business costs that are borne by businesses and subsequently consumers. This impacts the cost of living in, as well as the cost competitiveness and productivity of, cities and states.

Restrictions imposed on freight related lands have flow on implications for port productivity. Physical land separation and protection of industrial and employment lands from sensitive uses is required as a fundamental principal of good land use planning policy.

4.4.2. Industrial Land Supply

The productivity and growth of any city requires the cost-efficient flow of goods through and around the metropolis. Planning for the right mix of lands to support the economy requires an understanding of the lands required not only for housing and employment, but the lands required for freight and logistics. To maximise productivity outcomes, freight and logistics lands need to be planned for a whole of system.

The rezoning and erosion of industrial lands to residential and commercial uses may result in windfall gains to the owner of the land and the developers that develop it. It may also provide short-term jobs for the building contractors that work on the construction and new dwellings for a growing population. But this short-term gain increases costs across the city – to all businesses and residents, gradually eroding the short-, medium- and long-term productivity of the city and state and increasing the cost of living and doing business. These costs have long term consequences. This is already being experienced from past erosion of industrial lands in Sydney, with increased road movements and congestion, and higher freight and logistics costs.

Today industrial and urban services lands represent only 4% of total lands across Eastern Sydney and 8% of land across Greater Sydney. The need for industrial lands to service cities will only increase in the future as population and freight volumes grow and the nature of freight movements evolve with increased technology.

The protection and preservation of industrial lands is therefore critical to the future operating capabilities of the maritime logistics system and the future productivity and growth of our cities.

Commonwealth coordination with States to develop appropriate land use planning and approval approaches for industrial and freight lands and operations is fundamental for securing the long-term sustainability of maritime and freight supply chains.

5. Port Performance & Productivity

5.1. Measuring Supply Chain Productivity

International comparisons of ports must be undertaken with caution and a complete understanding of the role of individual ports as they relate to the global supply chain. Only ports that are alike in terms of scale, geography and markets should be compared with one another.

The World Bank and IHS Markit report *The Container Port Performance Index 2020: A Comparable Assessment of Container Port Performance,* released in May 2021 and referenced by the ACCC in its 2021 container stevedore monitoring report, does not appropriately compare like-for-like ports, amongst other flaws in its methodology.

Port Botany, for example, is a gateway port with an import dominant role to meet consumer demands. It offers a competitive environment for maritime services, with three stevedores competing for business. It has a significantly lower proportion of full exports. Comparing Port Botany to ports that do not play the same role in the global supply chain, for instance larger ports with significant transhipment volumes (such as Singapore or Shanghai) and larger vessel sizes or smaller ports with fewer vessel visits and smaller vessel sizes, is not a meaningful comparison and therefore is of no assistance in identifying areas where productivity gains can be found.

Port Botany's typical vessel size is 5000-6000 TEU, rather than the very large vessels that the IHS Markit/ World Bank report is skewed towards. Further, the report presents a 'whole of port' ranking when in reality each container terminal should be considered separately as performance level varies across terminals.

This demonstrates the care that needs to be taken in benchmarking ports internationally. Broad-sweeping international comparisons are not useful in identifying opportunities for productivity improvement across a supply chain.

Port productivity is highly monitored in Australia, including through the Australian Competition and Consumer Commission (ACCC) as part of their Container Stevedoring Monitoring Report and the Bureau of Infrastructure and Transport Research Economics (BITRE) waterline reports.

Port productivity, however, is just one element of the productivity of the maritime supply chain. Road and rail performance is not monitored. As outlined in section 5.4 below, landside transport costs are currently the second most significant component of supply chain costs. Therefore monitoring landside productivity and performance is essential for identifying cost efficiency and productivity opportunities for maritime logistics supply chains and should be undertaken.

The National Freight Data Hub initiative is a positive step in this direction and should be progressed to enable road and rail productivity to be assessed as part of an end-to-end supply chain productivity assessment.

5.2. Port Capability Investments / Enabling Larger Vessels

Premature investment in capacity and productivity at the port may have the effect of adding cost to the supply chain, rather than reducing costs. For example, shipping lines routinely champion for ports to invest to cater for even larger vessels. This has a cost in infrastructure, operational equipment, and labour.

The cost-benefit of facilitating larger ships servicing Australia depends on many factors including volume demand, service frequency requirements, global connectivity needs and cost of infrastructure investment. Cost savings in ocean shipping rates may be offset by reduced frequency of vessel visits, fewer direct international port connections and the cost of additional infrastructure, labour and operational equipment to meet peak period demands.

An independent assessment undertaken for NSW Ports has found that vessel upsizing to 14,000 TEU delivers small (less than 2%) total system cost savings to the Australian container trade and vessel upsizing beyond 14,000 TEU results in higher total systems costs. Further detail on this analysis can be shared on request.

Therefore there may be greater benefit obtained from investment elsewhere in the supply chain, for example, through the improvement of road and rail access to the port. Hence, the focus of productivity considerations should be at a 'supply chain level' and not only at a single point, such as the port, within this integrated system.

5.3. Port Disruptions

Disruptions at the port, for whatever reason, impact on port performance and productivity. These disruptions may be due to weather related scheduling impacts (domestic or international), or pandemic related such as during the current Covid-19 global outbreak. They may also be caused by industrial action as part of enterprise bargaining, as has been experienced in recent years, with an escalation in late 2020.

Port productivity data during the peak period of protected industrial action in 2020 showed a substantial reduction in container terminal productivity for this period. (Further detail can be provided on request.) Where such disruption is short term, the catch-up period may also be short. Where the disruption is extended, this has significant knock-on effects, such as the introduction by shipping lines of congestion surcharges at the port. In 2020, many shipping lines introduced a port congestion surcharge of US$300/TEU, which represented a 14% increase in the ocean freight rate based on pre-Covid levels.

Highlighting the issue of protracted port disruption, the most recent enterprise bargaining at Hutchison occurred over a 3-year period, DP World 2.5 years and Patrick 2 years. Mechanisms to conclude enterprise bargaining more expeditiously, to avoid extended industrial action and the subsequent longer term productivity impacts, should be explored.

5.4. Port Charges

Port charges are a relatively small contribution to the overall cost of shipping a container (c.3-5%).

NSW Ports has assessed the freight costs for container imports and exports through Port Botany. (Further information can be provided upon request.) For container imports, ocean freight rates are the largest contributor to total freight costs (currently c. 80% up from c. 54% pre Covid), followed by landside costs (currently c.10%, down from c.23% pre Covid). All other costs, including port charges, are small components.

A similar trend is observed for container exports, with ocean freight rates currently the largest component of the overall cost, followed by landside transport. However, for exports landside transport costs form a larger component of the total supply chain cost than occurs for imports. Pre-Covid, landside transport costs made up a larger share of the total cost than ocean freight rates. All other costs, including port charges, are smaller components.

Ocean freight rates are being driven by a global supply-demand imbalance, with costs in Australia having risen by 300-500% consistent with the magnitude of increases experienced globally. Therefore, opportunities to improve landside transport productivity should form a key consideration in this Inquiry.

6. Conclusion

The maritime supply chain has been faced with a number of challenges borne out of, or exacerbated by, the current global pandemic. These challenges are not unique to the Australian supply chain and impacts have been more significant at other ports around the world.

Australia needs to focus on ensuring domestic productivity and efficiency is optimised through:

1. Efficient port connections
2. Technology improvements
3. National Coordination
4. Effective land use policy
5. Appropriate measurement and benchmarking of performance across the full supply chain
6. Minimising port disruptions

NSW Ports welcomes the opportunity to discuss this submission further with the Productivity Commission and to provide further information where it would be of assistance.

Further information

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