

# Strategic Review of the Victorian Empty Container Supply Chain

September 2021



# Disclaimer

Nine-Squared Pty Ltd (NineSquared) has prepared this report taking all reasonable care and diligence required. This report provides high-level analysis only and does not purport to be advice on particular investment options or strategies. We have not independently verified the information provided to us.

While NineSquared has used all reasonable endeavours to ensure the information in this report is as accurate as practicable, NineSquared, its contributors, employees, and Directors shall not be liable whether in contract, tort (including negligence), equity or on any other basis for any loss or damage sustained by any person relying on this document whatever the cause of such loss or damage.

## **General use restriction**

This report is prepared solely for the use of Freight Victoria. This report is not intended to and should not be used or relied upon by anyone else and we accept no duty of care to any other person or entity. You should not refer to or use our name or the advice for any other purpose. You have agreed that you will not amend the report or distribute the report to outside parties without prior written approval from NineSquared.

## **About NineSquared**

NineSquared is a specialist economic consulting and commercial advisory firm focused on helping governments and companies make great decisions and achieve their goals and objectives.

Our principals and staff are experienced, senior level practitioners who have worked in and advised government and private sector clients about a range of commercial and economic issues, primarily relating to transportation. Broadly, our expertise lies in the fields of transport and regulatory economics, policy development and analysis and advising on commercial arrangements between government and the private sector as well as arrangements between companies operating within regulated environments.

Our combined public and private sector experience means that we are well placed to provide our clients with deep understanding of both the public and private sectors and the interface between them.

[www.ninesquared.com.au](http://www.ninesquared.com.au)

## Table of Contents

<b>Executive Summary</b>	<b>4</b>
<b>Introduction</b>	<b>7</b>
<b>The empty container supply chain</b>	<b>10</b>
<b>Stakeholder feedback on the empty container supply chain</b>	<b>23</b>
<b>Findings and Recommendations for the VPPM</b>	<b>35</b>
<b>Appendix A – Glossary</b>	<b>42</b>
<b>Appendix B – List of stakeholders engaged</b>	<b>44</b>
<b>Appendix C – List of ECPs in Melbourne</b>	<b>46</b>



# | Executive summary



## Executive summary

NineSquared was engaged by Freight Victoria to undertake a targeted review of the empty container supply chain in Victoria. The primary purpose of the project was to provide advice on how the empty container supply chain should be considered in work to develop the Voluntary Port Performance Model (VPPM).

The scale of the empty container logistics task is inextricably linked to trade. COVID-19 has disrupted global containerised supply chains and driven increased spending on consumer goods in Australia. During this period, industrial action at stevedore terminals and congestion at ports (both across the East Coast and globally) has stretched the Victorian empty container supply chain and created challenges for managing empty containers.

Feedback from industry has identified a **confluence of factors including unprecedented demand for imports, high export volumes and issues with some specific export markets (e.g. timber), and low levels of empty container evacuation by some shipping lines**, as the root causes of current issues being experienced in the empty container supply chain. Broader commercial factors and operational practices appear to have exacerbated the impacts of these recent issues. Feedback from landside stakeholders suggest many of these issues pre-date COVID-19 and will continue to pose ongoing challenges for the management of empty containers. These include:



The trend towards use of large vessels, increasing the number of empty containers that will need to be moved to and from the terminals within current shifts



Progressive changes to equipment handling practices by shipping lines



Mismatch of operating hours across the empty container supply chain which “squeezes” a greater amount of container movements in a shorter timeframe and inhibits better utilisation of existing storage capacity



Insufficient and inconsistent provision of electronic data in empty container park booking systems which creates additional administrative and operational costs to transport operators and empty container parks (ECPs)



Redirections which adds significant transport and administrative costs to road transport operators (in particular regional operators)



Practices by some road transport operators such as arrival without a valid booking, booking windows immediately before use and exhausting ECP/stevedore slot availability



The practice of not providing information on stocks of export containers at ECPs, and insufficient/inconsistent use of system features that can help prevent futile truck trips

## Executive summary

Stakeholders across the supply chain are still coming to grips with what is the 'new normal' for trade in the COVID-19 environment, and in particular, if and when demand for imports will return back to pre-COVID levels. While the impact of recent supply chain issues in Victoria do not appear to be as significant as those currently being experienced in Sydney, stakeholder feedback suggests that these issues are increasing supply chain costs and will continue to pose challenges into the foreseeable future. There is an opportunity to plan for the future by extending the VPPM to provide greater transparency and visibility on the performance and efficiency of the empty container supply chain.

We recommend that the Department of Transport (DoT):

- 1. Expand the VPPM to include the empty container supply chain**, incorporating the following performance indicators published on the DoT website:
  - I. Load-discharge ratio, as an indicator of whether trade is generating or removing surplus empty containers
  - II. Container storage dwell times, empty container storage capacity and utilisation and truck turn times (TTT) at ECPs, to provide insights into the velocity of the landside component of the empty container supply chain and the interface between ECPs and transport operators
  - III. Direct return storage capacity and utilisation, which provides insights into the utilisation of terminal/Cargolink empty container storage capacity
  - IV. Provision of pre-advice information (electronic delivery order) in ECP booking systems, which provides insights into the number of empty container movements without electronic information on container return location
- 2. Commence discussions with stakeholders regarding the data required to publish performance indicators for the empty container supply chain.**
- 3. In collaboration with industry, monitor performance of the empty container supply chain to evaluate the need for voluntary actions or market intervention that may be required in the future**
- 4. Undertake further investigation of:**
  - I. Further insights and performance measures for the empty container supply chain that could be gained from the Container Logistics Chain Study (CLCS) being undertaken by Port of Melbourne
  - II. The role of rail in the management of empty containers and future development of rail-related performance measures
  - III. Governance arrangements that could be put in place in the future, if required, to facilitate better communication and sharing of information among stakeholders in the container freight supply chain
  - IV. Further consideration of the role of industry and Government in facilitating improved performance or responding to performance issues in the future. The implications of increasing direct returns of empty containers on stevedore operations and other parts of the supply chain could be an initial area for consideration



# | Introduction



# NineSquared was engaged by Freight Victoria to undertake a targeted review of the empty container supply chain in Melbourne

## Purpose of the Review

NineSquared was engaged by the Department of Transport (DoT) to undertake a targeted review of the empty container supply chain in Victoria. The primary purpose of the project was to provide advice on how the empty container supply chain should be considered in work to develop the Voluntary Port Performance Model (VPPM). Specific objectives are to:

- Examine current issues in the empty container supply chain
- Recommend appropriate suite of performance indicators which could improve transparency of performance
- Identify other actions that could be taken in the future to improve efficiency of the empty container supply chain

The work was undertaken as part of a commitment by the DoT to plan for the expansion of the Framework to other parts of the containerised freight supply chain, following an Industry Workshop on the Voluntary Performance Monitoring Framework (VPMF) in December 2020.

## Approach

The project involved:

- Consultation with a selection of stakeholders across the supply chain, including stevedores, transport operators, shipping lines and industry bodies.
- Identification of key themes and development of potential empty container supply chain performance measures that could be included as part of the VPPM and associated work.

Industry stakeholders were engaged on an iterative basis during the project in early 2020. In total, 26 organisations were invited to provide input into the study, of which 23 agreed to be interviewed through face-to-face meetings or teleconferences. In some cases, industry stakeholders provided information on the operations of multiple business units involved in empty container handling (e.g., transport and empty container park operations).

The list of organisations interviewed as part of this strategic review are provided in Appendix B.

We would like to thank all interviewees for their valuable input into this review.

## Limitations of the Review

This is a targeted review of issues in the empty container supply chain in Victoria, with a focus on making recommendations about if and how, the empty container supply chain should be considered as part of the VPPM. This review has not examined the cost impacts of inefficiencies in the empty container supply chain.

Issues related to pricing of container freight services and the draft protocol that governs notification processes and timing for how stevedores levy fees and charges are set were not in scope of this review.



# Planning for empty containers now can help safeguard the future performance and efficiency of the containerised freight supply chain in Victoria

## Voluntary Port of Melbourne Performance Model

In 2019, the Minister for Ports and Freight initiated an independent review into port pricing and access arrangements at the Port of Melbourne, in line with a commitment in the Victorian Freight Plan to investigate options for the future role of Government in regulating pricing/charges, and access to and from the port. Findings from the review were discussed with industry. Key recommendations from the review included:

- standards to increase transparency, cooperation and accountability between supply chain participants and inform their decision making
- measures to improve pricing transparency including notification of changes in pricing and the rationale for cost increases
- measures and standards to improve landside access and performance including container turnaround time; road transport operator service levels; rail operator service levels; on-time performance metrics for stevedores and land transport operators.

In May 2020, the Ports and Freight Minister advised industry of the intention of the Victorian Government to create a Voluntary Port of Melbourne Performance Model (VPPM). The VPPM comprises:

- A **draft protocol** governing notification processes and timing for how stevedores levy fees and charges are set
- A **Voluntary Performance Monitoring Framework** which will include the development of performance metrics to provide transparency to industry and Government on the performance of the Port of Melbourne landside container supply chain.

Initially, the Voluntary Performance Monitoring Framework will cover the landside interface at container stevedore terminals in Melbourne, including performance of container stevedores and

transport operators. Subsequent stages to be developed include other parts of the container freight supply chain including empty container management, rail container freight performance, and freight transport network performance.

## Empty containers

Australia has a relatively unique empty container supply chain, with dedicated empty container parks generally playing a more significant role in the storage of empty containers given the imbalance of imports over exports. In contrast, many international ports tend to rely more heavily on container stevedore terminals for the storage of empty containers.

Empty container handling is often seen as a cost impost rather than a necessary and important part of the containerised freight supply chain. The scale of the logistics task for loaded and empty containers is comparable, yet the empty container chain is not always managed in a way that aligns with its scale and importance.

In recent years, the empty container supply chain has been placed under significant pressure, with rising demand for containerised freight being driven by various factors including population growth, and Australia's reliance on imported products. The continued demand for imports will generate a greater amount of surplus empty containers at Port of Melbourne (PoM). Planning for future empty container movements can help safeguard the future performance and efficiency of the containerised freight supply chain in Victoria.

In this context, the DoT has commissioned NineSquared to conduct a review into current issues in the Victorian empty container supply chain, and is seeking advice on if, and how, the empty containers should be considered in development of the VPPM.



# | The empty container supply chain



# By 2030-31, empty containers will be the largest container export in Victoria

The container freight supply chain is an essential component of the national economy. As an island nation, Australia conducts 98% of its trade through Ports – of which container trade is the most significant component.<sup>1</sup> The Australian economy relies heavily on the efficiency of the container freight supply chain to ensure the cost-effective and timely import and export of goods to sustain economic growth over time.

The Port of Melbourne is Australia’s largest container port, handling over one-third of national container trade.<sup>2</sup> The Port handles Victorian imports and exports, as well as servicing markets in Tasmania, South Australia and southern New South Wales. In 2018-19, the Port handled approximately 3 million twenty-foot equivalent units (TEUs) or c. 8,250 TEUs per day, which represents c. 75% of the Port’s overall trade.<sup>3</sup>

Demand for full imports represents the largest share of overall trade handled by the Port (c. 45%). Demand for full imports exceeds the demand for full exports by a ratio of approximately 1.5 to 1.<sup>4</sup> Population and income growth are the primary drivers of demand for imported products in Victoria. This, combined with a declining manufacturing sector, favourable exchange rates and technological advancements (which has driven the shift from traditional retail to e-commerce) have further fuelled the demand for imported products.

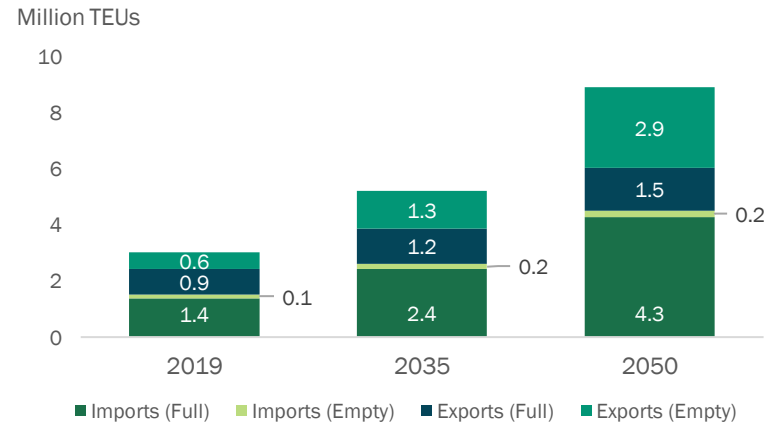
Exports also play a pivotal role in the Victorian container freight supply chain, with products such as dairy, pulp and paper products, timber and wood products and other agricultural produce transported in containers to overseas markets. Full exports represented 0.5 million TEUs or 30% of total container trade in Victoria in 2019.<sup>5</sup>

Import and export containers vary in terms of size. 20ft containers are generally used for export purposes due to the weight of raw materials whilst 40ft containers are generally used for imports due

to the volume of imported consumer goods (that are less weighty).

Figure 1 presents unconstrained container trade forecasts for Victoria for the period 2019 to 2050. PoM anticipates that container freight demand will grow from 3 million TEUs in 2018-19 to approximately 8.9 million TEUs in 2050. It is predicted that by 2030-31, empty containers will be the largest export in Victoria. Planning for future empty container movements is critical to safeguarding the future performance and efficiency of the containerised freight supply chain in Victoria.

**Figure 1: Victoria unconstrained container trade forecasts – 2019 to 2050 (million TEUs)**



Note: Breakdown of import and exports was calculated using figures provided by Deloitte (2017) - Container trade forecasts for Victoria and BITRE Waterline 65 (2019). These forecasts assume unconstrained availability of port infrastructure, industrial lands and wider network infrastructure and does not factor in supply-side constraints such as capacity of existing infrastructure and ability of the landside interface to fulfil this demand.  
Source: Port of Melbourne (2020), NineSquared analysis.

- Ports Australia (2020), *Value of Ports*, available at: <<https://www.portsaustralia.com.au/value-of-ports/economy>>
- Port of Melbourne (2021), *About the Port*, available at: <<https://www.portofmelbourne.com/about-us/about-the-port/>>
- Port of Melbourne (2020), *2050 Port Development Strategy – 2020 Edition*, available at: <<https://www.portofmelbourne.com/wp-content/uploads/PoM-PDS-2020-Edition-For-Publication.pdf>>
- Bureau of Infrastructure, Transport and Regional Economics (2019), *Waterline 65*, December 2019, available at: <<https://www.bitre.gov.au/publications/2019/waterline-65>>
- Ibid.

# Empty container park storage capacity in Melbourne is greater than other ports across Australia

Various stakeholders directly or indirectly influence the movement and operation of empty containers within the container freight supply chain. An overview of these stakeholders and their role in the empty container supply chain is provided in Table 1 (see Page 13).

Australia's status as a net importer of goods means that a dedicated empty container supply chain has evolved over time. The imbalance between imports and exports results in a greater requirement to store a large number of surplus empty containers compared to many overseas markets. To meet the demand for short-term storage of surplus empty containers, dedicated ECPs have been developed and play a critical role in the management and operation of empty containers. In comparison, many international ports rely heavily on container stevedore terminals for the storage and management of empty containers.

Most import containers are unpacked at warehouses and distribution facilities within the Greater Melbourne area, and empty containers are stored at ECPs at various locations, with a concentration of storage located close to the port and in inner-west industrial suburbs such as Footscray, Tottenham and Brooklyn (see Figure 2). A key differentiating factor between Melbourne and other ports (in particular Sydney) is a greater amount of storage capacity is located outside of the Port precinct. This can be beneficial for exporters who need to collect empty containers from ECPs, but requires longer distances to be travelled to return surplus empty containers to the port, meaning that general road congestion and delays can more significantly impact road freight operations.

Greater availability of industrial land in the inner-west suburbs means that fixed ECP storage capacity in Melbourne is much greater than other ports across Australia (c. 85,000 – 90,000 TEUs).<sup>1</sup> Despite trade volumes being relatively equal<sup>2</sup>, empty container

storage in Melbourne is c. 40-50% greater than Sydney.<sup>3</sup>








Another unique feature in Melbourne compared to other Australian cities is that four of the largest shipping lines (Maersk/Hamburg-Sud, COSCO, CMA CGM ANL and MSC) own ECPs or exclusively use specific ECPs to store their containers. Whilst this provides shipping lines greater control over their equipment and enables them to better service the needs of their customers, it can pose challenges for the land side management and operation of empty containers (e.g. preference of shipping lines to direct de hires to their own ECPs which may be congested or experiencing service-related issues). Further details of ECPs including fixed capacity, operating hours, ownership and IT service provider are provided in Appendix C.

ECPs in Melbourne are also configured almost exclusively for road-based operations (as the dominant mode of transport of containers). Whilst rail plays an important role in the supply chain by moving empty containers from the Port to be filled with exports from producers across regional Victoria (and to a lesser extent South Australia and southern NSW), it represents c.7.5% of overall container movements in Victoria.<sup>4</sup> Nevertheless, rail is expected to play a greater role in the empty container supply chain in the future with investments in metropolitan intermodal terminal freight precincts, the Port Rail Transformation Project and Port Rail Shuttle Network which will enable more freight to be transported via rail between PoM and metropolitan intermodal terminals.

1. This is a conservative estimate that excludes the temporary Qube Swanson Dock site and other sites that may not be used for empty container storage. See Appendix C for further details on ECP capacity in Melbourne.
2. Bureau of Infrastructure, Transport and Regional Economics (2019), Waterline 65, December 2019, available at: <<https://www.bitre.gov.au/publications/2019/waterline-65>>
3. NSW Empty Container Working Group (2021) estimates fixed ECP capacity in Sydney to be c. 55,000 to 60,000 TEUs
4. ACCC (2020), Container Stevedore Monitoring Report 2019-20, available at: <<https://www.accc.gov.au/system/files/Container%20stevedoring%20monitoring%20report%202019-20.pdf>>

# Overview of the empty container supply chain in Victoria

**Table 1: Key stakeholders in the empty container supply chain**

Stakeholder	Role in supply chain
 <b>Shipping lines</b>	Shipping lines transport cargo (and containers) from origin port to destination port. Shipping lines are often also the owner of containers and contract ECPs to store, clean and repair containers ready for export. Shipping lines direct their customers to return empty containers to a specific facility (typically an ECP) by a due date. If the date is not met charges are incurred under the terms and conditions of the Bill of Lading.
 <b>Stevedores</b>	Stevedores are involved in all activities directly connected with loading or unloading vessel cargo, stacking and storage on the wharf, and transferral of containers for land transport. Stevedores provide short-term storage of empty containers either within a dedicated pool (known as Direct Return of Empty Containers or DREs) or within a facility adjacent to the terminal (Patrick Cargolink).
 <b>Road transport operators</b>	Road transport operators are involved in transporting containers from stevedore terminals to customers and returning empty containers to ECPs, exporters and stevedore terminals. Road transport operators are engaged by freight forwarders or cargo owners who hold a Bill of Lading with a shipping line.
 <b>Rail operators</b>	Rail transport operators transport empty containers from ECPs to exporters in regional Victoria to be filled and returned to metropolitan intermodal terminals and/or the Port.
 <b>Freight forwarders and customs agents/brokers</b>	Freight forwarders act as an intermediary to arrange the international transport (“forwarding”) of cargo on behalf of exporters or importers. They deal directly with shipping lines and hire transport companies for pickup and delivery of containers. Customs agents/brokers arrange clearance of cargo on behalf of importers.
 <b>Customers/Cargo owners</b>	Customers are the owner (individual or business) of the cargo being imported or exported.
 <b>Empty container parks (ECPs)</b>	Empty container parks (also referred to as container depots) provide storage of empty containers on behalf of shipping lines. ECPs typically (but not always) have contracts with multiple shipping lines and allocate space for each shipping line for the storage of empty containers. ECPs may also provide ancillary services to shipping lines such as container cleaning and repairs for export reuse.

# Empty container parks in Melbourne

Figure 2: Map of ECPs in the Greater Melbourne region



Source: NineSquared analysis.

# Shipping lines play a critical role in managing empty containers by setting the length of time for customers to receive and unpack containers, and their return location

## The physical flow of containers

Figure 3 (p. 17) shows an overview of the physical flow of full and empty containers within the supply chain via road. Stevedores are responsible for lifting containerised cargo on and off container ships at ports and facilitating the transfer of containers for landside transport. From the stevedore terminal, full container loads (FCLs) have two pathways via road transport:

1. **Direct movement** to the customer's premises
2. Transported to the road transport operator's depot to be stored (generally overnight) before being transported to the end customer. This concept is known as '**staging**'.

Under the second pathway, FCLs are unpacked, placed into a warehouse inventory and distributed thereafter. Larger road transport operators have noted that staging containers overnight using stack run arrangements from the stevedore terminal to their depot before being transported to the end customer (usually the next day) is the preferred method. This can guarantee delivery time to the importer as well as reduce waiting times at the stevedore terminal as stack runs can be undertaken during off-peak periods.

Once containers are unpacked at the customer's premises, there are two dominant return or 'dehire' pathways for empty containers:

1. **Direct or staged movements from the cargo owner to a dedicated ECP to be dehiired.** From here, containers are stored for a certain period of time before being transported via **stack run arrangements to the stevedore terminal.** This is a coordinated 'just-in-time' process between the stevedore, the ECP and the transport operator. The majority of export empty containers come through the terminal via the stack-run method (c. 70% to 80%). Within Melbourne, there are dedicated empty

container road transport operators that undertake stack runs from ECPs to the terminal.<sup>1</sup>

2. **Direct return of empty containers** to a dedicated holding area (or pool) in the stevedore terminal. Under this method, empty containers are stored in a pool before being exported at a later point in time. Stevedores noted throughout the consultation process that these containers are stored for a short period (dwell times up to c. 7 days) before being loaded onto a vessel.<sup>2</sup> DP World and Victoria International Container Terminal (VICT) offer a specific type of booking category for empty containers referred to as Direct Return of Empties (DREs) and Patrick Terminals offers a similar facility that is located adjacent to the terminal known as CargoLink.

Another albeit uncommon method is to treat empty containers as an export container wherein a **Pre-Receive Advice (PRA)**<sup>3</sup> must be completed and lodged prior to containers being returned directly to a stevedore terminal. Under this method, empty containers are designated for export on a specific vessel and are not allocated to a pool within the stevedore terminal. The PRA method is the lowest cost pathway for shipping lines but offers limited flexibility because containers must be allocated to a specific vessel. For shipping lines, this approach has greater inherent risks as short shipment fees and other costs (e.g. transporting a container to an ECP and then back at a later date) may apply if an empty container is not loaded onto its assigned vessel.

Shipping lines, as the owner of containers, play a critical role in the overall management and operation of empty containers by setting the length of time that customers have to receive and unpack containers before returning them (free time or dehire period) and setting their return location (e.g. ECP, direct return to stevedore terminals or other location).

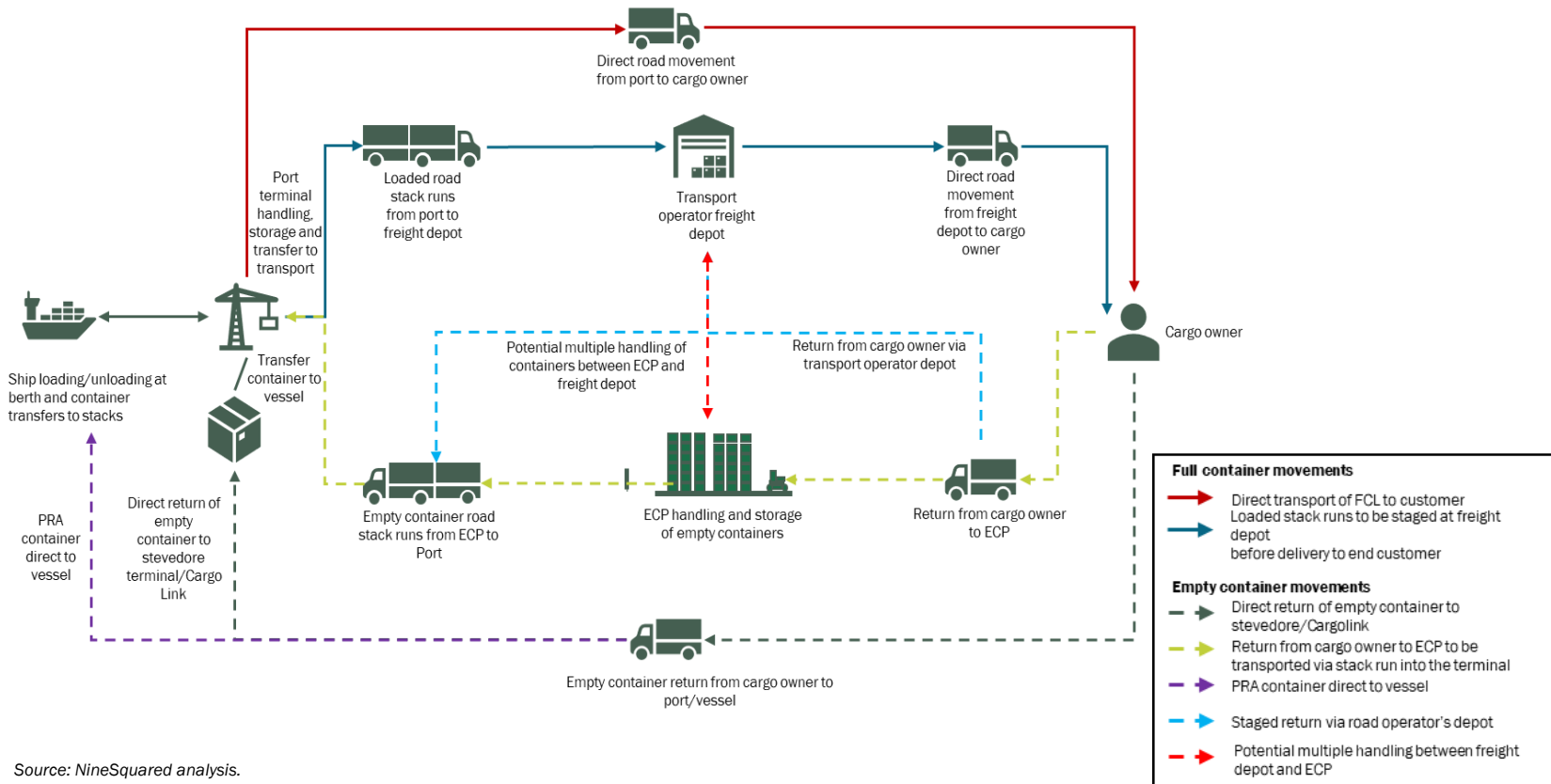
1. Consultation with industry stakeholders

2. Dwell times for containers moved via stack runs in to the terminal are considerably less as they are managed on a just-in-time basis.

3. A PRA is a form that provides a detailed description of a container which informs the shipping terminal that a container for export is about to arrive at the terminal.

# Road-based physical supply chain flows

Figure 3: The physical movement of containers via road within the containerised freight supply chain



Source: NineSquared analysis.



# Container triangulation provides significant benefits to the supply chain

## The role of rail in empty container management

Empty containers are also moved via road from ECPs to depots with rail access (e.g. ACFS e-Rail) where they are often cleaned and repaired before being moved via rail to regional intermodal terminals to be filled with exports and transported back to the Port. Rail may also be used to move empty containers from regional intermodal terminals back to the Port, however industry stakeholders have noted that this rarely occurs.

Nevertheless, rail operators and stevedores noted during the consultation process that there may be opportunities to increase the use of rail for export empties as part of the Port Rail Transformation Project and development of the Port Rail Shuttle Network.

## Re-use of empty containers for export purposes

In an ideal state, the container supply chain would flow as follows:

1. A full import container arrives via a vessel and is transported to the importer.
2. The import container is unpacked.
3. Empty container is transferred to exporter where the container is packed and is then loaded on a vessel.

This process, illustrated in Figure 4, is known as triangulation.

The process of re-using surplus empty containers for export purposes is more common in Victoria because of the balanced nature of trade (as opposed to other states such as NSW where imports outweigh exports by a ratio of 2.5 to 1).

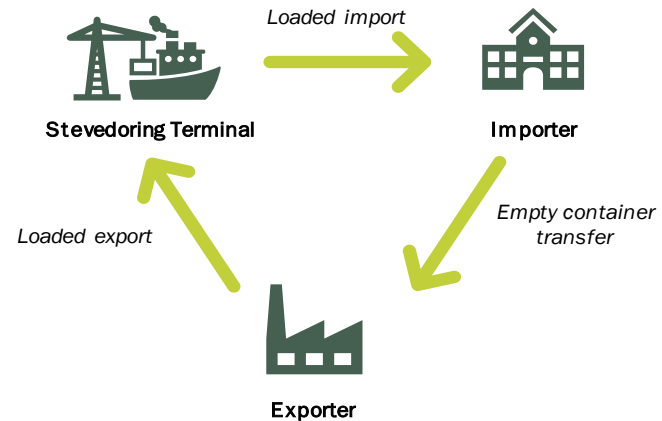
Container triangulation provides significant benefits to the containerised freight supply chain including:

- Reduction of truck movements to and from the port precinct and ECPs

- Reduced transport costs for importers and exporters
- Reduced empty container storage requirements and better utilisation of shipping line equipment

Triangulation of containers is constrained by the need for containers to be inspected, repaired and cleaned. The responsibility of this is transferred to the cargo owners rather than shipping lines who typically contract ECPs to perform this work on their behalf, including repairs which are increasingly performed overseas. Triangulation requires exporters/cargo owners or third-party logistics operators to ensure empty containers are fit for purpose for the export of cargo. ECPs play a key role in the preparation of containers for release to exporters. MatchBox Exchange is the popular system used by transport operators to support triangulation.

**Figure 4: Triangulation of containers**



Source: Adapted from CBFA – Peak Season Guide for Industry (2014)

1. Consultation with industry stakeholders
2. Ibid.
3. A PRA is a form that provides a detailed description of a container which informs the shipping terminal that a container for export is about to arrive at the terminal.

## Customers often have limited visibility of the processes for returning or collecting empty containers

The physical movement of empty containers is influenced by transactions that occur between stakeholders within the supply chain. This section presents an overview of these commercial arrangements and the flows of information across the supply chain.

Shipping lines contract with stevedore terminals to service a vessel. As the long-term lessee of the port, Port of Melbourne charges stevedores rent for use of port assets and shipping lines wharfage and berth hire fees to recover the cost of port infrastructure and other facilities required to provide port services. Shipping lines also operate and contract ECPs, stevedore terminals and/or CargoLink for storage and handling of empty containers.

Many freight customers employ freight forwarders/customs brokers who engage with shipping lines and road transport operators (company-owned or outsourced/contracted arrangements) to arrange for international and/or domestic transport of cargo. As such, customers often have limited visibility of processes for returning or collecting empty containers. Large freight customers may have direct relationships with shipping lines and transport operators. Given their greater bargaining power, they can often negotiate more favourable terms for the return of empty containers compared to smaller freight customers.

The time period provided for cargo owners to collect, unload and return containers (referred to as 'free time' or the 'dehire/detention period') is determined by commercial agreements between individual shipping lines and their customers. Dehire periods vary by freight market, operation type and the size of the company negotiating with the shipping line. Importers are generally offered shorter time periods for unloading and dehirer containers compared to exporters. Additional charges (referred to as rental charges by shipping lines and detention charges by non-shipping

lines) apply if a container is not dehiere by the nominated return date. These charges are generally levied on per day basis and escalate the longer that a container is held following the nominated return date.

ECPs provide access for transport operators to book returns and collections of empty containers. This booking process is managed within ECP booking systems, with Containerchain the dominant system used in Australia. Booking fees for returns or collections, known as container notification fees, vary by ECP. According to Container Transport Alliance Australia (CTAA), prior to January 2019, ECP Notification Fees ranged between \$11.00 (+GST) to around \$20.00 (+GST) depending on the port (e.g. Port Botany or PoM) and the ECP. As of August 2020, ECP notification fees are on average **c. \$50.00** (with the highest fee being \$65.00 per notification).<sup>1</sup>

Transport operators that return empty containers directly to stevedore terminals do so through using the 1-Stop Vehicle Booking System (VBS) at all three stevedores in Victoria. For stack runs in to the terminal, transport operators are charged a booking fee between \$7.50 to \$12.50 per container as of May 2021.<sup>2</sup> Stack runs are generally subject to terminal arrangements for minimum volumes per booking. Off-window surcharges apply if trucks arrive prior to or after notification window. Transport operators are also charged a no-show fees of **c. \$175 to \$215** if they make a booking and miss their timeslot.<sup>3</sup>

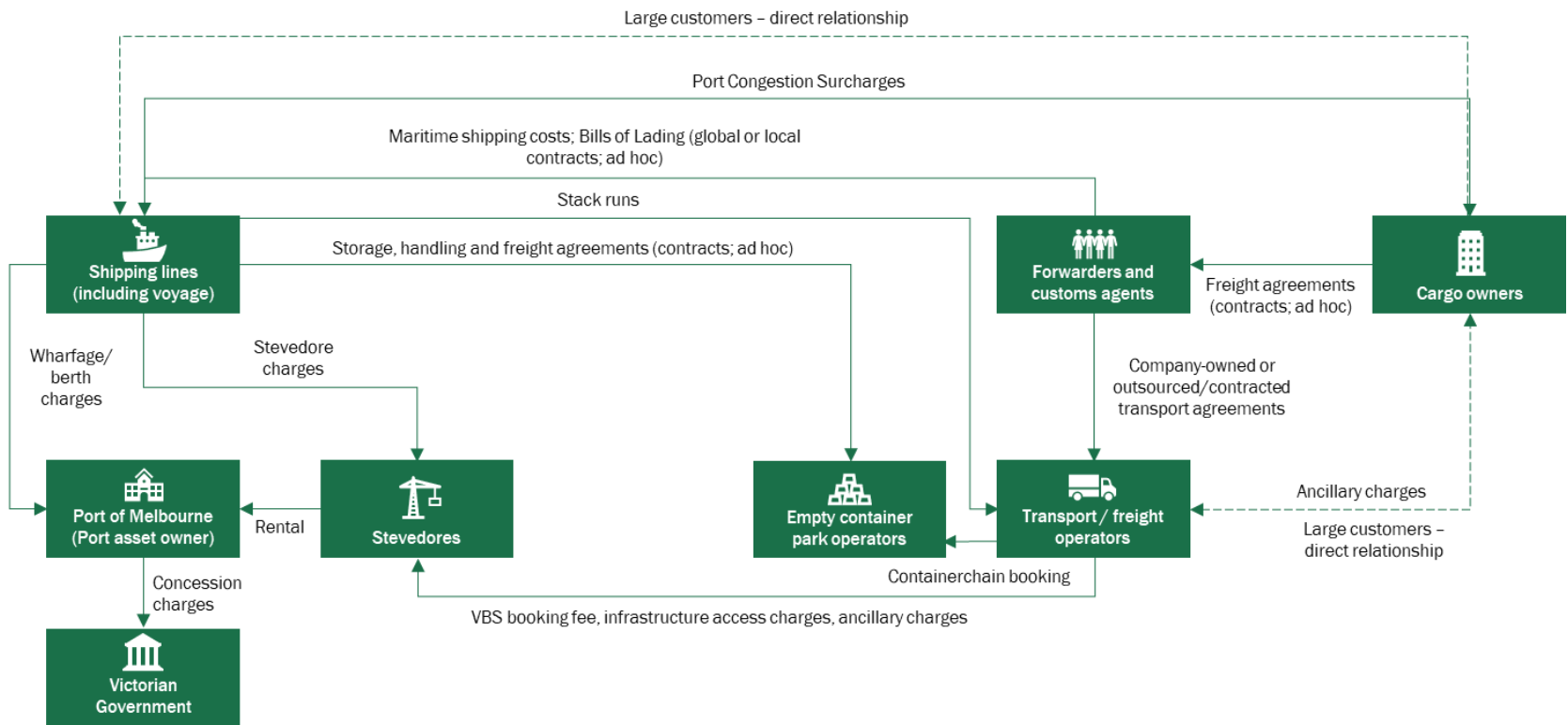
1. Container Transport Alliance Australia (2020), *Empty Container Management – August 2020*, available at: <<https://ctaction.com.au/wp-content/uploads/2020/08/Empty-Container-Park-Notification-Fee-Increase-Announcements-as-at-17-August-2020.pdf>>

2. DP World (2021), VICT (2021) and Patrick Terminals (2021) – *Carrier Access Arrangements*

3. Ibid.

# Commercial arrangements in the empty container supply chain

Figure 5: Commercial arrangements in the empty container supply chain



Source: NineSquared analysis.

## There are three key information flows across the empty container supply chain

This section presents some of the key flows of information within the empty container supply chain to provide context for issues raised and experienced by stakeholders. This review focuses on three key information flows, however there are a number of other important flows of information across the supply chain (as demonstrated in Figure 6 on Page 23).

- 1. Pre-receival advice and container announcements for receival or pickup at ECPs:** Companies operating within the container freight supply chain (e.g. shipping lines and customers) can use electronic data interchange (EDI) to send and receive information about cargo and shipping containers electronically. This information can include identification data for a shipping container, its contents, and/or the tracking or shipping information associated with that container and shipment. When shipping lines supply electronic import delivery orders (EIDOs or EDOs), they must specify a location for the container to be de hired e.g. an ECP, direct return to stevedore terminal/CargoLink etc.
- 2. Container notifications (bookings):** At most ECPs, the booking process for empty container returns or collections involves the use of Containerchain's Notifications product. The ECP operator inputs the container number into the Containerchain system. The platform stores reference data which allows container information to be automatically pre-populated within the system. ECPs then provision slots for transport operators to book to de hire or collect containers at a particular time. To gain access to the ECP, transport operators must provide a notification number provided by Containerchain. ECPs determine the number of containers that can be received in or delivered out during a given notification window period.

Containers stored within ECPs are then moved into the stevedore terminal via stack runs. This is a coordinated process between

the shipping line, stevedore terminal operator, the transport operator and the ECP. Typically, the stevedore will liaise directly with the transport operator on the volume of containers to be moved via a stack run. The transport operator will then contact the ECP to determine labour and equipment availability to service trucks. The transport operator will then request slots to return containers to the terminal. The stevedore will request a certain number of containers to be moved over a specified time period and will assign slots to the transport operator to book directly (e.g. 100 containers over 10 hours = 10 slots per hour) using stevedore VBS. For stack runs, there must be a minimum number of containers involved and the transport operator must complete the stack run in the time/zones allocated (if the operator goes over their allocated slots per time/zone, trucks are not serviced until the next zone).

Direct return of empty containers to stevedores/CargoLink are conducted via 1-Stop VBS at all three stevedores in Victoria. Shipping lines negotiate storage of empty containers at the terminal, with the stevedores and transport operators notified to de hire the container at the terminal. Once a shipping line has reached its allocated capacity, no more containers can be accepted for the shipping line until the empties have been loaded onto a vessel. This method removes short shipment risk for shipping lines.

Containers may also be returned directly to the terminal to be loaded on a vessel immediately (i.e. not in the DRE pool). Containers must be PRA'd into the terminal, with a specific vessel allocated for loading. This method carries some risk for shipping lines when full exports are higher than anticipated and the empty container does not load onto its assigned vessel, a short shipment fee and storage is generally applied by the stevedore.

## Redirections can be initiated by various parties in the supply chain, including empty container park operators, shipping lines and transport operators

- 3. Redirection notices:** Empty container redirections are issued through ECP booking systems to notify cargo owners, freight forwarders and transport operators of changes to return locations for empty containers. Where applicable, redirection notices effectively override return locations nominated on original delivery manifests (Bills of Lading, Delivery Orders, EIDO/EDOs)

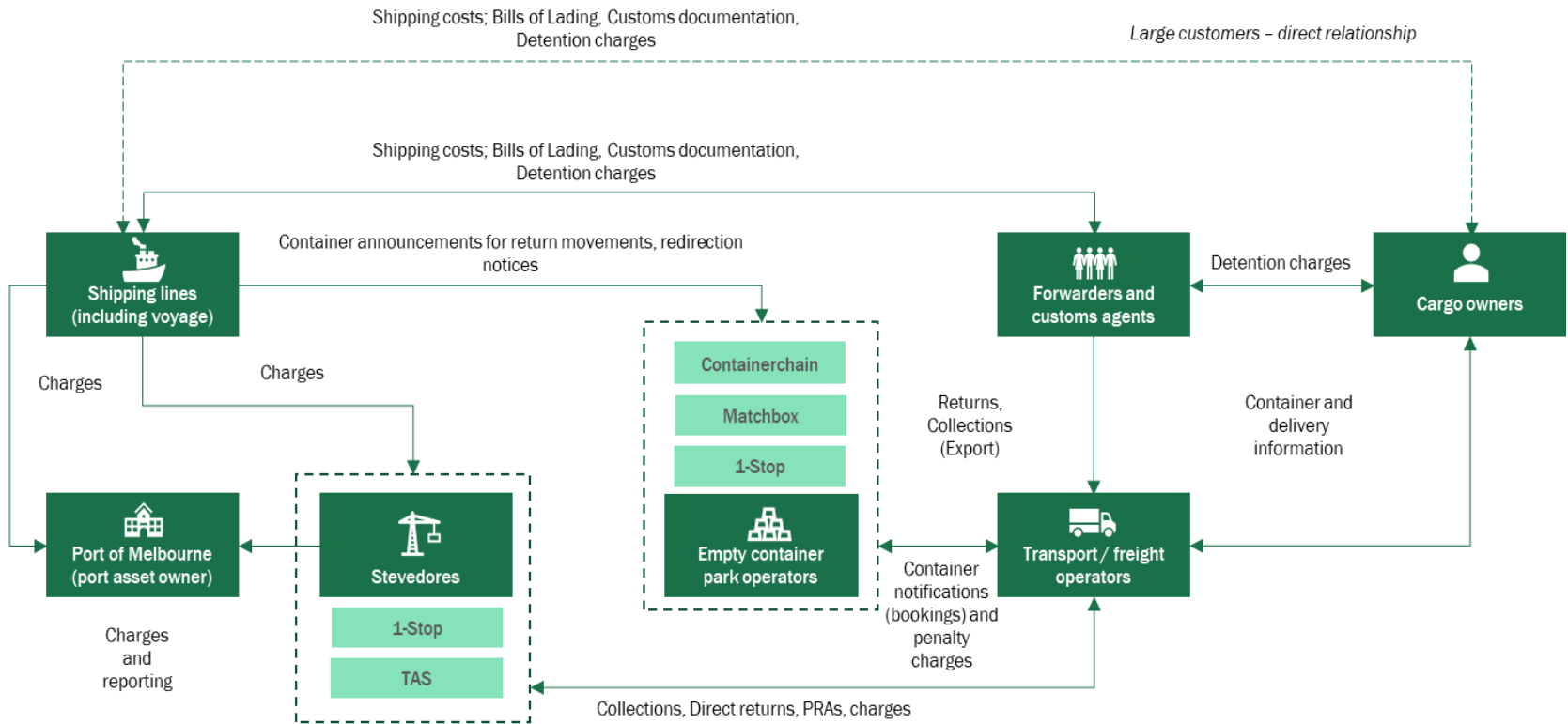
Redirections can be initiated by a number of parties for various reasons e.g. an ECP operator when there is insufficient capacity at a site or unforeseen issues arise, by a shipping line if a nominated return ECP no longer has capacity to accept certain containers or a return location is required for some other reason (e.g. to meet the requirements of an exporter). Redirections are also requested by individual road transport operators who may prefer to return an empty container to a different location for efficiency reasons.

There are a number of additional direct costs that are absorbed by the transport operator or passed on to customers as a result of redirections including:

- Futile and additional truck trips resulting in additional truck kilometres travelled and dehire/collection delays
- Requirement for transport operators to make a new booking to dehire/collect containers despite having paid for an existing booking.
- Flow-on impacts to fleet management (difficulties in planning fleets in advance).

# Information flows between stakeholders

Figure 6: Information flows between stakeholders







Source: NineSquared analysis.



**| Stakeholder feedback**

# Overview of stakeholder feedback on the empty container supply chain

This section presents feedback received from stakeholder consultation, grouped according to commercial, operational and information-related issues. The nature of feedback varied by organisation role and size, with some stakeholders providing a supply chain wide view on the issues, and others providing feedback focused on their specific part of the supply chain and their related commercial arrangements. This section also provides commentary on issues being experienced in Victoria relative to those identified in other states (in particular NSW). In summary, the key issues identified by stakeholders can be categorised as:

-  **Market-based issues:**  
Issues that arise as a result of changes in market dynamics (i.e. supply/demand).
-  **Commercial issues:**  
Issues that arise as a result of commercial arrangements between stakeholders in the supply chain.
-  **Operational issues**  
Issues that are related to operational practices of members across the empty container supply chain
-  **Information issues**  
Issues related to a lack of provision or flow of critical information across the empty container supply chain.

*Note: There may be overlap between the three categories.*

It should be noted that market-based issues are (largely) outside of the control of the containerised freight supply chain and these issues can create new or exacerbate existing commercial,

operational and information issues (e.g. strong demand for imported goods can create service-related issues at ECPs and stevedore terminals).

Whilst views on issues and their severity vary by stakeholder, our view is that the following commercial, operational and information issues are creating significant challenges for the containerised freight supply chain:

- Mismatch of operating hours across the empty container supply chain which “squeezes” a greater amount of container movements in a shorter timeframe and inhibits better utilisation of existing storage capacity. This is further exacerbated by the trend towards use of larger vessels.
- Escalation of and introduction of new charges across the supply chain which are ultimately borne by the cargo owner
- Insufficient and inconsistent provision of electronic data in empty container park booking systems which creates additional administrative and operational costs to transport operators and ECPs
- Practices by select road transport operators such as arrival without a valid booking, booking windows immediately before use and exhausting ECP/stevedore slot availability
- The practice of not providing information on stocks of export containers at ECPs, and insufficient/inconsistent use of system features that can help prevent futile truck trips

Gathering better data on performance (see Page 38 and 39 respectively) can help the DoT and industry to better understand the materiality of these issues and their impacts on the containerised freight supply chain.



# The Victorian container freight supply chain has been heavily disrupted through a ‘perfect storm’ of recent events

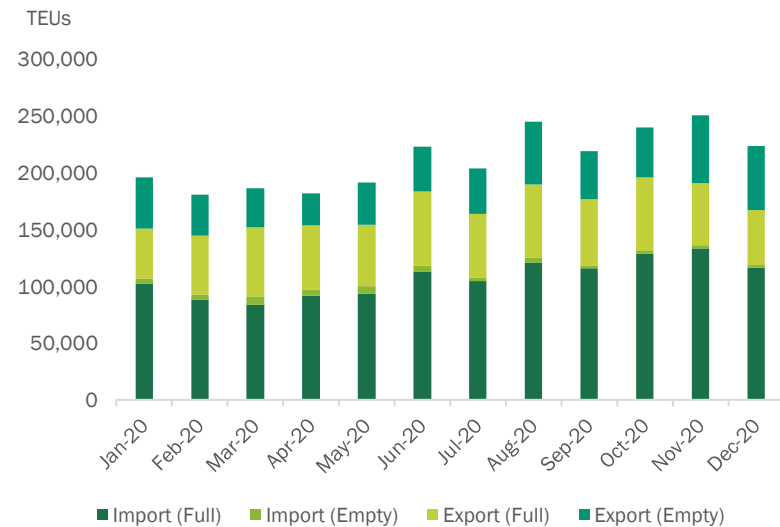
## Trade imbalance, the impact of COVID-19, industrial action at stevedore terminals and weather-related events:

Stakeholders across the supply chain consistently agreed that the Victorian container freight supply chain has been greatly disrupted over the last year through the combination of a ‘perfect storm’ of events such as:

- **Drought and severe bushfires** heavily impacted Victoria’s exports of wood, paper, pulp, seafood, wine and agricultural produce during the early part of 2020.
- **COVID-19** severely disrupted global supply chains and resulted in reduced import volumes in early 2020 as a result of a slowdown in manufacturing in China following the extended Chinese New Year break and lockdown restrictions imposed as a result of COVID 19. From January-June 2020, the Port reported 43 ship cancellations (also known as blank sailings), 29 of which were related to COVID-19 volume impacts, as shipping lines attempted to match supply with reduced demand.<sup>1</sup>

Demand for imports in Victoria rebounded during the second half of 2020, fuelled by strong demand for personal protective equipment (PPE), electrical goods, furniture, and clothing as Victorians were forced to work from home as a result of an extended lockdown. Domestic and international travel restrictions have increased consumer spending on e-commerce. Products that were traditionally carried by air have shifted towards sea freight as a result of reduced air freight capacity. Strong demand for import volumes has created a significant backlog of export empty containers at the Port.<sup>2</sup>

Figure 7: Port of Melbourne trade volumes - 2020



Source: Port of Melbourne (2021).

1. Port of Melbourne (2020), Port of Melbourne Trade Update (No. 1 to 15), available at: <<https://www.portofmelbourne.com/news-publications/media-releases/>>  
 2. Ibid.

## The highly interconnected nature of the port supply chain means that major disruptions at one port can have significant flow-on impacts on others

- **Bad weather and Protected Industrial Action (PIA)** heavily impacted stevedore operations during August and September 2020. Throughout September, a range of PIA activities were undertaken at the Patrick and DP World Australia Melbourne terminals. Port Botany was also heavily impacted by bad weather and PIA activities and this contributed to significant vessel congestion on the East coast. The highly interconnected nature of the Port supply chain means that major disruptions at one Port can have significant flow-on impacts on other ports.

Vessel schedules were arranged during 2020 with several vessels bypassing congestion at Port Botany and unloading imports in Melbourne, or changing rotation and calling Melbourne first. If vessels call at Melbourne before Port Botany, full imports destined for Sydney can reduce the ability of shipping lines to evacuate surplus empty containers. Alternatively, if the port call rotation is Sydney before Melbourne, vessels may be heavily laden with empty containers which can impact on space available to evacuate empty containers in Melbourne.

Following the suspension of PIA activities in October, stevedores have been working towards recovering vessel schedules and clearing berth and yard congestion. Shipping lines have brought in a number of additional sweeper vessels to assist in repatriating surplus empty containers that arose as a result of surging import demand in 2020.<sup>1</sup>

Stakeholders noted throughout the consultation process that bad weather and PIA activities at stevedore terminals during the second half of 2020 were the root causes of congestion and delays across the containerised freight supply chain. Strong import volumes created a large amount of surplus empty containers and filled ECPs

and stevedore terminals. Bad weather and PIA activities reduced the ability of stevedores to clear berth and yard congestion (and reduced the ability of shipping lines to bring in additional sweeper vessels to assist in repatriating empty containers).

These factors have placed significant pressure on the empty container supply chain over the last 12 months and are key drivers of some of the issues raised by stakeholders as part of the consultation process.

### China's trade restrictions on Victorian timber:

A number of stakeholders noted that the recent trade ban imposed by China on Victorian timber exports has contributed to the build-up of empty containers within the supply chain. Data from Industry Edge reveals that log exports in January were down 9.5% compared to the previous year, largely driven by recent trade restrictions imposed by China.<sup>2</sup>

Timber is one Victoria's biggest exports, representing 5% to 10% of total full exports.<sup>3</sup> Containers that would ordinarily be filled with timber exports (typically 40ft containers) are now sitting idle at the Port (as they await evacuation). As the majority of import containers are typically 40ft without special requirements (e.g. food grade for grain), timber exporters are typically able to secure containers for export bookings. In normal circumstances, reuse of these containers for exports helps to reduce the number of surplus empty containers needing evacuation.

1. Shipping Australia (2021), *Explainer: why has the inventory of empty shipping containers built up in Australia*, January 15, available at: <https://shippingaustralia.com.au/explainer-why-has-the-inventory-of-empty-shipping-containers-built-up-in-australia/>  
 2. Industry Edge (2020), *Challenges with Australian log exports*, 25 November, available at: <<https://industryedge.com.au/challenges-with-australian-log-exports/>>  
 3. Port of Melbourne (2020), *Monthly Overseas Container Trade Update: November 2020*, available at: [https://www.ftalliance.com.au/data/news\\_attachments/tbmts%20data%20-%20november%202020.pdf](https://www.ftalliance.com.au/data/news_attachments/tbmts%20data%20-%20november%202020.pdf)

# Larger vessel sizes are creating challenges for managing empty containers

## Investment in additional ECP capacity

Unlike issues reported at Port Botany, **stakeholders throughout the consultation process did not observe the need for additional ECP capacity to cater for fluctuations in demand.** Whilst a number of ECP operators reported that they were at c. 100% utilisation of operational capacity during peak periods of demand in 2020 (well above sustainable utilisation of 65% to 70%), stakeholders were generally of the view that there is sufficient system storage capacity. Stakeholders suggested that recent congestion was driven by market-based factors discussed previously (see pages 25 and 26) and impacts on the ability of shipping lines to evacuate empty containers.

Data suggests that Melbourne has 40-50% more empty container storage capacity compared to Sydney, while having similar trade volumes. Trade in Sydney is less balanced compared to Melbourne (i.e. full imports heavily outweigh full exports) in Sydney.<sup>1</sup> The more balanced nature of trade in Melbourne reduces the reliance on ECPs for storage of empty containers, and this combined with the greater amount of storage capacity, means that the Victorian container freight supply chain is better equipped to handle import surges and supply chain disruptions when compared to Sydney.

A number of stakeholders praised Freight Victoria and the Port of Melbourne for facilitating and negotiating a short-term agreement with Qube to provide an additional 9,000 TEUs of ECP capacity during the peak periods of congestion in Q4 2020, as well as market-led developments such as ACFS e-Link.

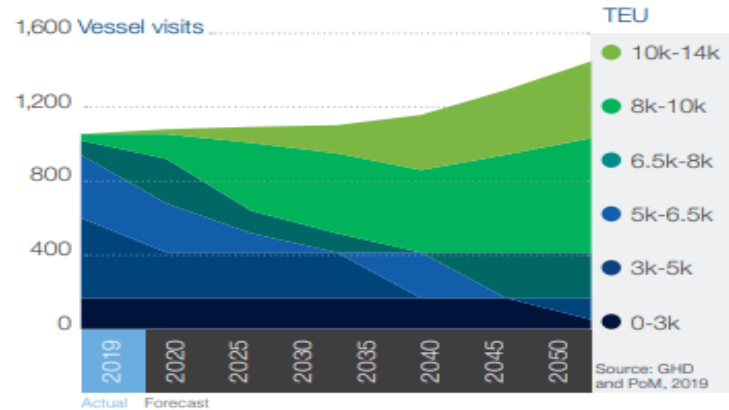
## The impact of larger vessels and capped exchanges at stevedore terminals

Stevedores reported that larger vessel sizes (and larger exchanges)

are creating new challenges for the management and operation of empty containers. Port of Melbourne noted that vessels are undergoing a step-change with c. 5,000 to 6,500 TEU vessels being phased out in favour of larger c. 8,000 to 14,000 TEU vessels (see Figure 8).

Stevedores expect that this trend will create bigger peaks in demand and significantly increase the number of empty containers that will need to be moved into the terminal during a given shift. Stevedores indicated that they are capacity constrained from both a labour and capital perspective, and this will inevitably create challenges at the landside interface between transport operators and stevedores (e.g. slot capacity and availability to service trucks). Another important issue is that laden containers will always receive priority over empty containers (as stevedores and shipping lines derive greater revenue from the handling of FCLs).

**Figure 8: Changing vessel sizes at Port of Melbourne**



Source: Port of Melbourne (2020)

1. NSW Empty Container Working Group (2021).

## New ancillary charges introduced in recent years have increased the cost of dehirng and collecting empty containers

Shipping lines and stevedores agree to capped “pro-forma” exchanges in which the stevedore agrees to unload a certain number of import boxes from the ship and then to load a certain number of export boxes back onto the ship in a given time.<sup>3</sup> During the consultation process, some stakeholders observed that when there are periods of peak congestion at the waterfront, shipping lines may be discharging large quantities of imports but due to servicing delays, they may experience reduced time for backloading with empty containers.

Stakeholders have noted that increasing vessel sizes will have significant flow-on impact to stevedoring operations and the landside interface with road transport operators. In particular, large exchanges will “squeeze” a greater amount of container movements in a shorter timeframe and require better coordination across the supply chain. Road transport operators noted that they may need to be changes to labour, equipment and operational practices (e.g. no. of shifts) to enable efficient servicing of larger vessels.

### Escalation of and introduction of new charges across the supply chain

Road transport operators and industry associations have noted that there are a number of additional ancillary charges that have been progressively introduced over the last few years which have increased the cost of dehirng and collecting empty containers. In particular, they noted:

- Introduction of stack run in fees (c. \$7.50 to \$12.50 per container moved in to the stevedore terminal via stack run).<sup>1</sup>
- Rising late arrival/wrongzone fees (c. \$80 per container) and no-show fees (c. \$175-\$215 per container) at stevedore terminals which was argued as being an overly excessive penalty for

arriving off-window which can occur due to legitimate reasons such as congestion on arterial roads or redirections which divert trucks to other facilities).<sup>2</sup>

- Introduction of other ancillary charges such as a long vehicle fee (\$50 per truck) and sideloader fee (\$62.50 per trailer) at Patrick Terminals in Sydney and Brisbane which may be introduced by stevedores in Melbourne. Industry stakeholders have raised concerns that this will have significant flow-on impacts to the road freight sector by disincentivising the use of Higher Productivity Freight Vehicles (HPFVs) and requiring additional truck trips to complete the freight task.<sup>3</sup>

It is understood that transport operators are passing on additional charges to cargo owners (at least partially) subject to their specific commercial arrangements. It should be noted that some (generally smaller) operators have limited ability to pass on these charges which significantly impacts their operating margins. It should also be noted that transport operators have introduced new charges (such as charges on the direct return of empty containers to stevedore terminals and CargoLink) as a means of cost recovery.<sup>4</sup>

1. DP World (2021), VICT (2021) and Patrick Terminals (2021) – *Carrier Access Arrangements*

2. Ibid.

3. Ibid.

4. CMA CGM ANL (2018), *Recent Issues with Direct Return of Empty Containers*, April, available at: <<https://www.anl.com.au/news/647/dre-surcharge>>

# Transport operators raised issues with the performance of some empty container parks

## Shipping line ownership of ECPs in Melbourne

A key differentiating factor between Melbourne and other major ports is four of the largest shipping lines (Maersk/Hamburg-Sud, COSCO, CMA CGM ANL and MSC) own ECPs or exclusively use specific ECPs. This provides shipping lines greater control over their equipment and enables them to provide better services to their customers. Another benefit of this ownership arrangement is that it allows full provision of EDI which should in theory enable faster turnaround times at ECPs.

Nevertheless, a number of stakeholders raised concerns over the performance of certain shipping line owned depots during the consultation process. In particular, they observed significant truck queuing and congestion, lack of slot availability, manual truck processing and slower turnaround times compared to other (third-party) owned ECPs. Some stakeholders suggested that shipping lines have limited commercial incentives to provide alternative dehire locations when issues arise or their depots are at or near capacity. Transport operators may experience difficulties dehiring containers at the nominated depot increasing the likelihood of incurring detention/rental charges.

## Changing container management practices of shipping lines

Feedback from industry indicates that shipping lines have made incremental changes to asset management practices in recent years to reduce time taken for empty containers to be available for export. Stakeholders observed that the standard free time period is now c. 7 days from vessel arrival/container availability (although larger volume customers can negotiate more favourable terms). Anecdotal evidence suggests free-time periods typically used to be between c. 10 to 15 days from vessel arrival.

The definition and application of the dehire periods varies by shipping line. In some cases, the dehire period commences from the day of vessel discharge (i.e. when a vessel commences unloading) while for others it is based on the day of availability (i.e. the soonest available date that the container can be collected from a stevedore terminal). Constraints on the overall length of standard dehire periods and the inclusion of weekends and public holidays during these periods were consistently raised by transport operators and industry associations as key issues.

Feedback indicates that these constraints, when combined with limitations on alternative dehire locations for shipping line-owned ECPs, operating hours for ECPs and freight customers, can erode the actual time available for transport operators to dehire containers on behalf of customers and significantly increase the potential for incurring detention/rental charges.

# Stakeholders suggested that a key barrier to increasing the use of rail is the additional costs to reposition containers for export use

## The use of rail

A number of stakeholders acknowledged that increasing the use of rail freight is critical to improving the overall performance and efficiency of the containerised freight supply chain. Stakeholders observed that structural changes will be needed to enable rail to play a greater role in the supply chain, given:

- Infrastructure improvements required to enable the increased use of rail such as the Port Rail Transformation Project and development of the Port Rail Shuttle Network
- Operational impacts associated with major rail-infrastructure projects
- Changes to shipping line equipment management – including the current preference to use their own depots which reduces equipment availability at other ECPs with rail access.

A number of stakeholders suggested that the biggest barrier to increasing the rail mode share is the additional costs to reposition containers for export use. If an empty container is at a different yard, the ECP and transport operator must coordinate the movement of the container from one yard to another. The additional transport and handling costs impact on the competitiveness of rail.

In Sydney, rail plays a greater role in the movement of containers for a number of reasons including that Sydney has a significantly more developed port-rail network with a number of ECPs and IMTs with access to a dedicated rail freight network (as opposed to one ECP with a rail head in Melbourne).



## Increasing freight on rail in Victoria

Whilst rail currently does not play a significant role in the movement and operation of containers in Victoria, much needed investment in freight rail infrastructure will enable a greater amount of freight to be moved to and from the Port via rail. There are two key freight rail infrastructure projects that will improve the competitiveness of freight rail operations and facilitate a modal shift from road-based operations:

- **Port Rail Transformation Project:** A \$125m investment by PoM that will deliver upgraded access, connections and sidings designed to support 1,500m long regional and interstate trains, and a new Coode Road Rail Terminal that can handle 600m long trains (up to 84 TEUs per trip) and enable efficient short-haul rail movements (port-rail shuttles). The project is being funded by a small increase in the tariff on full import containers of \$9.75 per TEU. The project is expected to be completed by 2023.
- **Port Rail Shuttle Network:** A jointly funded initiative by Victorian and Federal Government (c. \$58m to date) to develop or upgrade rail connections and metropolitan intermodal terminals in key industrial areas in Melbourne. These intermodal terminals include Altona, Dandenong South and Somerton. Construction on the new rail connections is expected to begin in May 2021 and is expected to be completed in late 2022

Source: Department of Transport (2021).

## Stakeholders consistently noted that sharing data and information is critical to providing visibility on ECP and stevedoring operations

### Performance of ECPs and stevedore terminals

A number of stakeholders consistently raised concerns about the performance of select ECPs, citing a wide range of issues including:

- **Lack of slot availability for de hires and collections**, driven by a combination of strong import volumes, low levels of empty containers evacuations and variations in operating hours between ECP operators and transport operators.
- **Truck queuing** outside ECPs (often spilling onto public roads), **manual processing of trucks** (in some cases despite having full provision of EDI) and **slow turnaround times**.
- **Lack of alternative dehire locations** provided by shipping line-owned ECPs, in particular when they are at or near capacity.
- **Lack of visibility on performance and efficiency of ECPs** (e.g. container dwell times, truck turnaround times and utilisation levels).

Stakeholders observed that these issues were reflective of a small number of ECPs and do not reflect the performance of all ECPs. Transport operators were also critical of the performance at stevedore terminals citing a number of issues including:

- **Lack of slot availability for direct returns/de hires** to stevedore terminals/CargoLink
- **Slow truck turnaround times** (although some stakeholders noted improvements in turnaround times in recent months)
- **Stevedore practices that limit two-way utilisation of trucks** (i.e. co-ordinating import pick-up slots with empty de hires) and

**imposition of ancillary charges** that limit take-up of HPFVs resulting in additional staging costs, truck trips and lift costs.

- **Insufficient planning and resources (e.g. additional labour, machinery and shifts) dedicated towards stack runs into terminals**, resulting in large amounts of containers being moved in within a compressed timeframe. This issue appears to be exacerbated by larger vessel sizes and exchanges.

The key frustration expressed by road transport operators is the **inconsistency of performance across ECPs and stevedore terminals**. They note that while the costs of de hiring containers have increased substantially, there has been no corresponding improvements in levels of service offered.

Stakeholders consistently noted that sharing data and information is critical to providing visibility on ECP and stevedoring operations.

## Various stakeholders expressed a view that transport operators need to move to new operating models

### Road transport operator practices

A common observation amongst stakeholders was that there is a **mismatch of operating hours** across the supply chain. Stevedores are operating effectively 24/7 whilst ECP operating times tend to be Monday to Friday (usually opening at 6 or 7am and closing by 5pm). ECPs have trialled extended operating hours in the past however **slot utilisation during offpeak periods (before 5am and after 5pm) has been historically low**, and demand has not been sufficient to offset the additional costs for ECP operators (in terms of labour and machinery). Similarly, stevedores have noted that there is latent capacity available for direct returns during off-peak periods but take-up of these slots have been low.

Various stakeholders expressed a view that transport operators need to move to new operating models (moving towards 24/5 or 24/7) to ensure a better spread of utilisation of existing capacity throughout the day, minimise congestion issues at stevedore terminals and ECPs and enable the supply chain to better service current and future trade volumes.

Other practices by road transport operators that impact the supply chain and were identified by stakeholders included:

- **Arriving at ECPs at unscheduled times and without a valid notification** which creates congestion at the ECP gate.
- **Booking notification windows immediately before use** (sometimes when trucks are queued at the ECP)
- Larger operators **exhausting slot availability at ECPs** by booking a number of slots in advance with dummy registration and container numbers before cancelling as a means of securing slots at an ECP.

In relation to the final point, road transport operators provided feedback that the inability to change container numbers within ContainerChain unless it is more than 2 hours in advance of the notification window reduces the operational flexibility of the transport operator, as a certain container may be located at the bottom of a stack and require a number of lifts to retrieve. An ECP operator noted that this process was introduced to prevent larger volume operators from 'hedging their bets' by overbooking slots in advance and cancelling up to 2 hours prior to the commencement of a notification window to avoid paying the notification fee.



# Lack of electronic data in empty container park booking systems adds administrative burden to fleet allocators and slows truck movements

## Provision of EDI by shipping lines

The lack of electronic data on container return location in empty container park booking systems creates additional administrative and operational costs to transport operators and ECPs. If EDI is not provided by a shipping line in an ECP booking system, transport operators must manually input container dehire information, truck drivers must be supplied with paper or electronic versions of the delivery order, and ECPs must also process trucks and container information manually.<sup>1</sup> While EDI is provided by all shipping lines to stevedores, not all shipping lines provide this information to Containerchain, the dominant service provider for empty container park booking systems.

Insufficient, or inconsistent provision of electronic data in empty container park booking systems means that there is no link between the container and the redirection notice(s). If pre-advise notifications are not provided, booking systems will not automatically advise the user that a redirection notice is in place for a particular container. This means that transport operators may inadvertently book a notification window at an ECP even though a redirection for the container is in place. Transport operators may also book a notification and then a redirection comes into effect after the booking has been made and the system will not automatically advise that a redirection notice is in place.<sup>2</sup> This creates a need for transport operators to continually check redirection notices to prevent incorrect bookings.

Stakeholder feedback indicates that this adds significant administrative burden to transport operators (from a truck fleet allocation perspective) and slows truck movements in ECPs. ECP operators expressed a view that shipping lines do not appreciate the landside logistics ramifications of a lack of EDI provision, and

that they are regularly in contact with shipping lines in order to increase the provision of EDI.

Information provided by ContainerChain reveals that the provision of EDI in Victoria is greater than in NSW (**c. 70% to 75% compared to c. 60 to 65%**). This is likely to be influenced by shipping line ownership of ECPs in Melbourne (wherein they provide EDI to their own depots c. 90% to 100% of the time). Stakeholders have noted that while provision of EDI is higher in Melbourne, there are significant opportunities for improvement in order to ensure greater velocity of truck movements at ECPs.

## Redirections

Redirections were raised by regional road transport operators as an issue that can add significant costs to their operations. Regional transport operators are often operating on a tight schedule and redirections from one facility to another (usually to collect equipment to be packed with exports) can significantly reduce the number of cycles per shift. Regional transport operators would like to see ECPs taking a more proactive approach to monitoring their equipment levels and providing information on export container stock availability in advance of sending their vehicles to the depot, to avoid futile truck trips (see Page 35).

1. Container Transport Alliance Australia (2018), *Notice to industry – Sydney Empty Container Management: Significant Additional Costs*.  
 2. NineSquared and Neil Matthews Consulting (2020), *NSW Empty Container Supply Chain Study*, available at: <<https://www.transport.nsw.gov.au/operations/cargo-movement-coordination-centre-cmcc/nsw-empty-container-study>>

## Transport operators reported futile truck trips as a result of insufficient information on export container availability at empty container parks

### System issues in relation to direct return of empty containers to stevedore terminals and CargoLink

Feedback provided by transport operators reveals that there are further opportunities to increase the use of direct return of empty containers to stevedore terminals and CargoLink. Stakeholders have noted that recent improvements in truck turnaround times and slot availability at stevedore terminals has enabled greater use of direct return slots. Stakeholders also observed that increased market share gained by VICT (wherein stakeholders have noted that direct returns appears to operate most effectively) has further increased opportunities to dehire containers direct to wharf.

A key barrier to further take-up of direct returns is the fact that shipping lines must nominate containers to be dehiired at DRE pools or CargoLink before the import container has been discharged from the vessel. If the container is not initially nominated for direct return, transport operators must request a redirection to the terminal by contacting the relevant shipping line. Because there is a lack of interoperability or data sharing between stevedore and ECP booking systems, manual processes are required to switch dehire locations between DRE pools/CargoLink and ECPs. This is a particular issue during peak periods of demand and there is congestion at various ECPs.

### Information flows from ECPs on export container availability

Another issue that was raised through discussions with transport operators is the lack of information on export container availability at ECPs. Regional transport operators expressed frustration regarding futile truck trips that occur as a result of shipping lines/ECPs not communicating information on export container availability to road transport operators in advance of making a booking and arriving at the ECP.

Discussions with ContainerChain revealed that the platform has functionality to alert ECP operators when stock levels of certain containers become low, to help prevent futile truck trips without disclosing specific information on stock levels. However, this functionality is not used by all operators. As a result, transport operators currently make trips without assurance that a container from a certain shipping line will be available for pickup, and report that they often arrive at ECPs to be told that the ECP does not have stock of that required container.

It should be noted that several ECP operators do use the ContainerChain to its full functionality and provide alerts to road transport operators in advance if equipment is unavailable. These operators also forecast what containers are coming in and what will be going out, examine historical trends and hold discussions with export customers to determine the amount of stock that needs to be on hand and what needs to be evacuated by shipping lines.

### Monitoring and reporting of performance and efficiency across the empty container supply chain

Stakeholders across the supply chain advised that there is a lack of visibility over current supply chain performance and efficiency and that this information is critical in providing greater transparency on current issues and enable the development of solutions to address these issues.

It was noted previously that information on ECP capacity and utilisation, truck movements and turnaround times was shared through an ECP Working Group in addition to other consultative forums, and that this information was previously found to be very useful.



## | Findings and Recommendations



# Feedback suggests that current issues are increasing supply chain costs and will continue to pose challenges into the future

## Summary of key findings

The scale of the empty container logistics task is inextricably linked to trade. COVID-19 has disrupted global containerised supply chains and driven increased spending on goods in Australia. During this period, industrial action at stevedore terminals and congestion at ports (both across the East Coast and globally) stretched the Victorian empty container supply chain during parts of 2020. Multiple stakeholders observed that prior to 2020, issues in the empty container supply chain were not as serious and only recently have they been brought to the surface.

Capacity limitations strongly influence issues currently being experienced in the supply chain, such as lack of slot availability, slow turnaround times and empty container redirections. Capacity constraints for ECPs are similar to those observed at port terminals, with ECP utilisation rates ideally needing to be 65-70% of capacity. Recent operating problems arose from ECP utilisation of operational capacity reaching levels of c. 100% which necessitated the development of additional capacity (e.g. ACFS e-Link and the short-term agreement between Port of Melbourne and Qube to provide additional 9,000 TEUs of capacity). The consensus amongst stakeholders is that there is sufficient capacity to meet short-term demand and that recent difficulties issues were mainly **influenced by a confluence of factors including unprecedented demand for imports, high export volumes and issues with some specific export markets (e.g. timber), and low levels of empty container evacuation** which was a particular challenge for some shipping lines.

Broader commercial factors and operational practices have exacerbated the impacts of these recent issues, and feedback from land side stakeholders suggests that these issues pre-date COVID-19 and create ongoing challenges for the management of empty containers. These include:

- The trend towards use of large vessels, increasing the number of empty containers that will need to be moved into the terminal within current shifts
- Progressive changes to equipment handling practices by shipping lines
- Mismatch of operating hours across the empty container supply chain which “squeezes” a greater amount of container movements in a shorter timeframe and inhibits better utilisation of existing storage capacity
- Insufficient and inconsistent provision of electronic data in empty container park booking systems which creates additional administrative and operational costs to transport operators and ECPs
- Redirections which adds significant transport and administrative costs to road transport operators (in particular regional operators)
- Practices by select road transport operators such as arrival without a valid booking, booking windows immediately before use and exhausting ECP/stevedore slot availability
- The practice of not providing information on stocks of export containers at ECPs, and insufficient/inconsistent use of system features that can help prevent futile truck trips

Stakeholders across the supply chain are still coming to grips with what is the ‘new normal’ for trade in the COVID-19 environment, and in particular if and when import demand may return to pre-COVID levels. While the impact of issues in Victoria does not appear to be as significant as those currently being experienced in Sydney, stakeholder feedback suggests that these issues are increasing supply chain costs and will continue to pose challenges into the foreseeable future.

## Performance measures have been identified through discussions with stakeholders and from work being undertaken in other jurisdictions

### Feedback regarding the proposal to include empty containers within scope of future enhancements to the VPPM

The issues identified as part of this Review are not unique to Victoria and are occurring at other ports across Australia, and in particular Sydney which has a greater share of imports and less ECP storage capacity compared to Melbourne. Stakeholders observed that whilst issues in Melbourne are not as severe as in Sydney, there is currently a window of opportunity to plan for the future by sharing information and developing performance measures to provide greater transparency on empty container supply chain issues. Stakeholders across the supply chain unanimously supported the concept of extending the VPPM to incorporate the empty container supply chain.

A key focus of this Review is to provide advice on performance measures that should be considered by Freight Victoria as part of the future development of the VPPM. Performance measures have been identified through discussions with stakeholders and from work being undertaken in NSW and Western Australia through the *NSW Empty Container Working Group (ECWG)* and *WA Port Operations Taskforce (WAPOTF)*.

The following indicators have been identified as being critical to providing greater visibility over empty container supply chain performance and efficiency:

- Load-discharge ratio
- Container storage dwell time (by ECP, and potentially by shipping line)
- Empty container storage capacity and utilisation
- Truck turn times (TTT) at ECPs

- Direct return storage capacity and utilisation
- Provision of pre-advice information (electronic delivery order) in ECP booking systems
- Empty container redirection notifications

These indicators are explained in greater detail on Pages 38 and 39. A number of these measures have been captured and reported in other jurisdictions (e.g. WA and NSW) and use data that is already captured and reported (e.g. Port of Melbourne reports underlying trade figures used for load-discharge ratio on a monthly basis).

Performance measures should be validated, refined and prioritised in consultation with data owners. Data collection and reporting protocols will also need to be established (e.g. confidentiality arrangements, any necessary grouping or aggregation of performance indicators) as a next step.

# Performance indicators

**Table 2: Empty container supply chain performance indicators**

Category	Purpose	Published Indicators	Description	Data Required	Source(s)	Alignment
<b>Port throughput and volume</b>	Indicates whether trade is generating or removing surplus empty containers	1 Load-discharge ratio (monthly)	Ratio of total imports to total exports (full and empty). This measure shows if there is a build-up of empty containers at the Port and if shipping lines need to progress evacuation activities.	<ul style="list-style-type: none"> <li>Imports – Full (monthly)</li> <li>Imports – Empty (monthly)</li> <li>Exports – Full (monthly)</li> <li>Exports – Empty (monthly)</li> </ul>	PoM (note: this data is already captured)	PoMO/NSW ECWG
<b>ECP performance and efficiency</b>	Provides insight into performance and efficiency of ECP operations	2 Container storage dwell time – by ECP (monthly)	Average time (days) that empty containers are held in storage between dehire and evacuation. This measure shows if empty containers are building up and if shipping lines need to progress evacuation activities.	<ul style="list-style-type: none"> <li>Dwell time (days) – 40' containers</li> <li>Dwell time (days) – 20' containers</li> <li>This information is to be de-identified for reporting purposes</li> </ul>	ECP operators	NSW ECWG
		3 Empty container storage capacity and utilisation (monthly)	<ul style="list-style-type: none"> <li>Number of empty containers held at ECPs as a percentage of operational capacity.</li> <li>This measure highlights if ECPs are at or near capacity and if there is congestion at particular parks.</li> </ul>	<ul style="list-style-type: none"> <li>Total 40' containers</li> <li>Total 20' containers</li> <li>Total Fixed/Operational Capacity</li> <li>% Utilisation</li> </ul>	ECP operators	NSW ECWG
		4 Truck turn times (TTT) - 'Gate in' to 'job complete', measured in a consistent manner across ECPs (monthly)	The average elapsed time from when a truck arrives at an ECP and when it dehires or collects a container. This is a measure of how quickly ECPs are processing trucks within their yard.	<ul style="list-style-type: none"> <li>Average TTT</li> </ul>	ECP operators	VPMF/NSW ECWG
<b>Shipping Line performance and efficiency</b>	Provides contextual information on shipping line evacuations	5 Container storage dwell time – by shipping line (monthly)	Average time (days) that empty containers are held in storage between dehire and evacuation. This measure shows if empty containers are building up and if shipping lines need to progress evacuation activities.	<ul style="list-style-type: none"> <li>Dwell time (days) – 40' containers</li> <li>Dwell time (days) – 20' containers</li> <li>It is recommended that this information is to be de-identified for reporting purposes</li> </ul>	Shipping Lines	NSW ECWG

# Performance indicators

**Table 2 (cont.): Empty container supply chain performance indicators**

Category	Purpose	Published Indicators	Description	Data Required	Source(s)	Alignment	
<b>Shipping Line performance and efficiency</b>	Provides contextual information on shipping line evacuations	6	Load-discharge ratio- by shipping line (monthly)	<ul style="list-style-type: none"> <li>Ratio of total imports to total exports (full and empty) - by Shipping Line</li> <li>This measure provides ex post information on shipping line evacuation activities and may highlight which shipping lines need to progress evacuation activities.</li> </ul>	<ul style="list-style-type: none"> <li>Imports – Full (monthly)</li> <li>Imports – Empty (monthly)</li> <li>Exports – Full (monthly)</li> <li>Exports – Empty (monthly)</li> </ul>	<ul style="list-style-type: none"> <li>PoM</li> <li>Shipping Lines</li> </ul>	PoMO/ NSW ECWG
	Provides information on which shipping lines are providing electronic information	7	Provision of pre-advice information (electronic delivery order) in ECP booking systems (monthly)	<ul style="list-style-type: none"> <li>Number of pre-advice information provided ECP booking systems by shipping line</li> <li>This measure identifies shipping lines that are not providing electronic information on container return location and where intervention may be required.</li> </ul>	<ul style="list-style-type: none"> <li>Total pre-advice notification provided (monthly)</li> <li>Total pre-advice notification not provided (monthly)</li> </ul>	<ul style="list-style-type: none"> <li>IT/VBS provider</li> <li>Shipping Lines</li> </ul>	NSW ECWG/ WAPOTF
<b>Terminal /CargoLink performance</b>	Provides insight into the provision of access to terminals for landside operators.	8	Direct return storage capacity and utilisation (monthly)	<ul style="list-style-type: none"> <li>Total direct return slot bookings by road transport operators/Total direct return slots made available for dehiring and collecting empty containers</li> <li>Total on-time, early and late arrivals/Total arrivals</li> <li>This measure provides insight into use of direct returns which is another component of overall utilisation of storage capacity.</li> </ul>	<ul style="list-style-type: none"> <li>Total direct return slots offered</li> <li>Total direct return slots used</li> <li>% on-time arrivals</li> <li>% early arrivals</li> <li>% late arrivals</li> </ul>	<ul style="list-style-type: none"> <li>Stevedores</li> <li>Patrick CargoLink</li> </ul>	VPMF/ NSW ECWG
<b>Other</b>	Other measures that provide insight into supply chain inefficiencies	9	Empty container redirection notifications (monthly)	<ul style="list-style-type: none"> <li>No. of redirections in ECP booking systems (monthly)</li> <li>Redirection notices cited as a significant problem by transport operators, freight forwarders, cargo owners and their representative bodies. Consistent monitoring can support the identification and development of solutions.</li> </ul>	<ul style="list-style-type: none"> <li>Total redirections (monthly)</li> </ul>	<ul style="list-style-type: none"> <li>IT/VBS provider</li> <li>Road transport operators</li> </ul>	NSW ECWG

## Other issues for consideration

Other notable points of discussion from the stakeholder consultation process that should be considered or recommended for further investigation by DoT (and the empty container supply chain more broadly) include:

- **The role of government:** Some stakeholders questioned the effectiveness of voluntary, industry-led solutions and called for government intervention to address issues in the supply chain. In particular, stakeholders noted that government should implement:
  - **Mandatory data sharing requirements** to provide greater visibility on the empty container supply chain. Some stakeholders have noted that there may be a reluctance from data owners to share potentially commercially sensitive information.
  - **Mandatory provision of electronic information (EDI)** in empty container park booking system for all shipping lines that call Port of Melbourne.
  - **Mandatory requirements for shipping lines to provide alternative dehire locations** if containers are unable to be dehired at their nominated depot
- **The role of rail:** A number of stakeholders acknowledged that increasing the use of rail freight is critical to improving the overall performance and efficiency of the containerised freight supply chain. As rail currently plays a minor role in the overall movement of containerised freight in Victoria, rail-related performance indicators have not been proposed as part of this Review. Nevertheless, rail is expected to play a greater role through investments in the Port Rail Transformation Project and development of the Port Rail Shuttle Network and there is merit in exploring the role of rail in the management of empty containers and developing rail-related performance measures in the future.
- **Development of forward-looking indicators:** A number of stakeholders suggested the need to look at developing forward-looking indicators to assist planning across the supply chain. Recently, the Port of Los Angeles introduced a new data tool, 'The Signal', which provides stakeholders across the port supply chain forward-looking information on in-bound cargo coming into Los Angeles. The tool contains information on shipments heading into the port over a three week period and is designed to enable stakeholders to better plan and prepare for inbound cargo. A similar concept could be considered for the Port of Melbourne
- **Technological solutions:** Other transaction systems, such as MatchBox Exchange, enable empty containers to be exchanged between cargo owners and/or their transport and logistics providers. Container matching can help to avoid the need to collect/return containers to ECPs reducing supply chain costs as a result. Feedback from industry suggests that MatchBox Exchange is an increasingly popular platform in Victoria, and there may be merit in considering performance measures that monitor the number of exchanges that occur using this and other platforms.

Greater automation at ECPs can play an important role improving the efficiency of the supply chain. Stakeholders cited Containerchain's eGate platform as an example, noting that this can significantly reduce manual gate processing at ECPs. Greater provision of EDI is an important enabler for these types of solutions.
- **Data sharing/Working Group to table issues and work towards solutions:** A number of stakeholders suggested that there would be merit in forming a data sharing or Working Group (similar to the NSW ECWG and WAPOTF) where industry can raise issues, share and report on data, and develop whole-of-supply chain solutions.



# Recommendations

We recommend that the Department of Transport:

- 1. Expand the VPPM to include the empty container supply chain**, incorporating the following performance measures published on the Department of Transport website:
  - I. Load-discharge ratio, as an indicator of whether trade is generating or removing surplus empty containers
  - II. Container storage dwell times, empty container storage capacity and utilisation and truck turn times (TTT) at ECPs, to provide insights into the velocity of the landside component of the empty container supply chain and the interface between ECPs and transport operators
  - III. Direct return storage capacity and utilisation, which provides insights into the utilisation of terminal/Cargolink empty container storage capacity
  - IV. Provision of pre-advice information (electronic delivery order) in ECP booking systems, which provides insights into the number of empty container movements without electronic information on container return location
- 2. Commence discussions with stakeholders regarding the data required to publish performance measures for the empty container supply chain**
- 3. In collaboration with industry, monitor performance of the empty container supply chain to evaluate the need for voluntary actions or market intervention that may be required in the future**
- 4. Undertake further investigation of:**
  - I. Further insights and performance measures for the

empty container supply chain that could be gained from the Container Logistics Chain Study (CLCS) being undertaken by Port of Melbourne

- II. The role of rail in the management of empty containers and future development of rail-related performance measures
- III. Governance arrangements that could be put in place in the future, if required, to facilitate better communication and sharing of information among stakeholders in the container freight supply chain
- IV. Further consideration of the role of industry and Government in facilitating improved performance or responding to performance issues in the future. The implications of increasing direct returns of empty containers on stevedore operations and other parts of the supply chain could be an initial area for consideration

# | Appendix A – Glossary



# Glossary

Term	Definition
Direct Return of Empties (DRE)	The holding area allocated for direct returns of empty containers at DP World and VICT.
eGate	An application created by ContainerChain that connects ECPs with road transport operators and other parts of the container logistics supply chain. It automates the processing of truck arrivals in real-time, improving truck turnaround times and reducing the requirement for gate staff.
Empty Container Park (ECP)	Facilities that provide storage of empty containers and ancillary services such as container cleaning and repairs.
Electronic Data Interchange (EDI)	The electronic communication or exchange of business information from company-to-company. EDI, Electronic Delivery Order (EDO) and Electronic Import Delivery Order (EIDO) are used interchangeably in the report.
Evacuation	The process of transporting surplus empty containers to the port for return to their origin port. Also known as repatriation of empty containers.
Dehire	The discharge of empty containers at terminals or ECPs by transport operators.
Detention	Fees charged by shipping lines when containers are held <i>outside</i> the terminal longer than the agreed free time. This is different to demurrage which refers to fees applied when containers are left <i>inside</i> the terminal longer than the agreed free time.
Dwell time	The amount of a time a container spends within a terminal or ECP.
Free time period	The time period provided for cargo owners to collect, unload and return containers. “Detention period”, “dehire period” and “free time period” can be used interchangeably.
Full Container Load (FCL)	Container shipping option where a container is exclusively used for a single shipment and the costs are borne by one party.
Less than Container Load (LCL)	Container shipping option where cargo shipments share the same container as well as the container shipping costs.
Notification	Vehicle booking for ECPs. It is conducted through Containerchain and in order to gain access to the ECP for dehire or export pick up, transport operators must display their “Notification” number and arrive within their “Notification window”. “Notifications”, “bookings”, “window” and “slots” can be used interchangeably.
Pre-Receipt Advice (PRA)	A form that provides a detailed description of a container which advises the terminal that a container will be dropped off for export.
Redirections	The instruction to dehire empty containers at a location other than the original designated location.
Staging	The concept of transporting containers (empty or full) through shuttle service from the terminal or customer via the transport operator’s freight depot/distribution centres.
Stack run	A bulk shipment of containers (empty or full) which are bundled together for transport from one location to another – usually from ECPs to the stevedore terminal for evacuation. “Bulk run” and “stack run” can be used interchangeably.
Twenty-foot Equivalent Unit (TEU)	The standard unit of capacity in the container industry. Usually refers to a container of 20ft in length.
Vehicle Booking System (VBS)	Stevedore terminal booking system which allows road transport operators to organise the pickup and delivery of shipping containers to/from the wharf.

A grayscale photograph of a shipping yard. In the foreground, a forklift is positioned on the left, with its mast raised. To the right, several stacks of shipping containers are visible, some stacked high. The background shows a large, open area with a fence and a cloudy sky. A green horizontal bar is overlaid across the middle of the image, containing the text.

## | Appendix B – List of stakeholders engaged

## List of stakeholders engaged as part of this Review

<b>1</b>	Port of Melbourne (PoM)	<b>13</b>	Vantrans Container Transport
<b>2</b>	DP World	<b>14</b>	CHS Broadbent
<b>3</b>	Patrick Terminals and Cargolink	<b>15</b>	SCT Logistics
<b>4</b>	Victoria International Container Terminal (VICT)	<b>16</b>	Container Transport Alliance Australia (CTAA)
<b>5</b>	Westlink Container Park	<b>17</b>	Shipping Australia Limited (SAL)
<b>6</b>	Port Melbourne Containers (PMC)	<b>18</b>	International Forwarders and Customers Brokers Association of Australia (IFCBAA)
<b>7</b>	Medlog Container Park	<b>19</b>	Victorian Transport Association (VTA)
<b>8</b>	ACFS	<b>20</b>	Freight and Trade Alliance (FTA)/Australian Peak Shippers Association (APSA)
<b>9</b>	Qube	<b>21</b>	ContainerChain
<b>10</b>	Rocke Bros/Silk Contract Logistics	<b>22</b>	CMA CGM ANL & ANL Container Park
<b>11</b>	Butler Freight Services	<b>23</b>	MatchBox Exchange
<b>12</b>	Allied Freight Services		

*Note: COSCO and OCS Container Park declined the opportunity for an interview but provided written feedback that has been incorporated into this Review.*



## | Appendix C – List of ECPs in Melbourne

## List of ECPs in Melbourne

Empty Container Park	Location	Estimated Capacity (TEUs)	Operating Hours	Booking system
ACFS e-Depot Webb Dock	24 Kooringa Way, Port Melbourne VIC 3207	8,000	5am Monday to 12 noon Saturday	ContainerChain
ACFS e-Depot Link	101-117 Coode Road West Melbourne, Vic 3003	4,000	Monday to Friday: 6am to 4pm	ContainerChain
ACFS e-Rail	23 Appleton Dock Rd, West Melbourne VIC 3003	5,000	5am Monday to 12 noon Saturday	ContainerChain
Qube Dynon <sup>1</sup>	172-184 Dynon Rd, West Melbourne VIC 3003	3,500	N/A	ContainerChain
Qube Victoria Dock <sup>2</sup>	20 Enterprize Rd, West Melbourne VIC 3003	4,000	Monday to Friday, 7am to 4pm	ContainerChain
Port Melbourne Containers	37 Prohasky St, Port Melbourne VIC 3207	5,500	Monday to Friday: 7am to 6pm	ContainerChain
Westlink Container Park <sup>3</sup>	50 Modal Pl, Altona VIC 3018	5,500	Monday to Friday: 6am to 5:30pm	ContainerChain
ContainerSpace	465-467 Somerville Rd, Brooklyn VIC 3012	5,000	Monday to Friday: 5am to 5pm Saturday: 6am to 12:30pm	1-Stop

Note: 1) Qube have advised that Qube Dynon is currently used for hire and sales and not for empty container storage.

2) Qube have advised that Qube Victoria's total capacity (4,000 TEUs) depends on number of FCLs stored at the site.

3) Westlink Container Park has a sole commercial arrangement with Maersk/Hamburg-Sud to store containers at their site.

## List of ECPs in Melbourne

Empty Container Park	Location	Estimated Capacity (TEUs)	Operating Hours	Booking system
Victorian Container Management <sup>4</sup>	141- 159 Dohertys Road, Altona North, VIC 3025	8,000	Monday to Friday: 6am to 5pm	ContainerChain
Melbourne Container Park Pty Ltd	265/281 Sunshine Rd, Tottenham VIC 3012	4,500	Monday to Friday: 7am to 4pm	ContainerChain
CCIS ANL Australia <sup>5</sup>	11 – 21 Pinnacle Road, Altona North VIC 3025	5,800	Monday to Friday: 6am to 10pm	ContainerChain
Oceania Container Services	28 Jones Rd, Brooklyn VIC 3012	8,500	Monday to Saturday: 6am to 6am	ContainerChain
Medlog Australia Pty Ltd	2 Somerville Rd, Footscray VIC 3011	10,000	Monday to Friday: 6am to 10pm Saturday: 7am to 11:00am	ContainerChain
Allied Container Services	02 Olympia St, Tottenham VIC 3012	8,000	Monday to Friday: 7:30am to 4pm	ContainerChain
Lawson Container Park	160 Union Rd, Somerton VIC 3062	6,000	Monday to Friday, 6am to 6pm; Saturday, 6am to 2pm	ContainerChain
DPWL Melbourne Logistics Park (MLP) <sup>6</sup>	Dock Link Road, West Melbourne	6,000	Monday to Friday: 6am to 10pm	ContainerChain
<b>Total Fixed Capacity (TEUs)</b>		<b>97,300</b>		

4) The address provided for Victoria Container Management is for their new site. They are currently operating at a temporary site at their existing address (433A Somerville Road, Tottenham, VIC 3012).

5) CCIS ANL Australia (formerly known as ANL Container Park) has advised that they have recently acquired additional land for storage capacity (additional 1,000 TEUs). ANL is currently operating from 6am to 8pm however standard operating hours is from 6am to 10pm.

6) On 14 July, DP World Australia Logistics (DPWAL) notified Melbourne wharf carriers via Containerchain about the commencement of DPWAL's Melbourne Logistics Park from Monday, 2 August 2021 on the old West Swanson Intermodal Terminal (WIST) site adjacent to Swanson Dock.

Note: During this study, Qube and Port of Melbourne had a short-term agreement that provided an additional 9,000 TEUs capacity at the Qube Swanson Dock site to ease short-term capacity constraints and congestion.