REVIEW OF PORT PLANNING: DRAFT REPORT

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Review of Port Planning: Draft Report
25 July 2007 the Minister for Finance under section 41 of the *Essential Services Commission Act 2001*, directed the Essential Services Commission (the Commission) to undertake a review of the impact of port planning on competition in the provision of container stevedoring and related services in Victorian ports (the Review).

The Commission issued a letter to stakeholders in notifying them of the Review and inviting submissions, and a public notice of the Review was published on the Commission’s website in July 2007 and was also published in *The Age* and Government Gazette in early August. In August, the Commission also published an Issues Paper which sought comment on the main matters that the Commission needed to consider during the course of the Review. In response to the request for submissions, the Commission received 16 written submissions. The Commission has also held meetings with several stakeholders.

Taking into account the views and evidence presented in the submissions and at the meetings with stakeholders, as well as its own research and analysis, the Commission has now reached provisional conclusions on the matters that are the subject of the Review. These conclusions, and the reasoning that has led the Commission to them, are set out in this Draft Report.

The Commission invites written comment on the Draft Report. As it did with submissions made in response the Issues Paper, the Commission will place all comments on the Commission’s website. Should interested parties not wish commercial-in-confidence information to be made publicly available then such information should be provided under separate cover and clearly marked commercial-in-confidence or confidential. The Commission requests that all comments be submitted, in hard copy or by electronic means, no later than Wednesday 28 November 2007. When finalising the Report, the Commission will consider all submissions received by stakeholders on or before this date.

Submissions can be sent electronically to: portsconsultations@esc.vic.gov.au or by mail to:

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EXECUTIVE SUMMARY

Inquiry background and scope

Under s 41 of the ESC Act the government has directed the Essential Services Commission (the Commission) to undertake a review of the impact of port planning on competition in the provision of container stevedoring and related services in Victorian ports.

This follows from the Commonwealth of Australian Governments entering into the Competition and Infrastructure Reform Agreement (CIRA), which, among other things, requires each jurisdiction to undertake a review of port competition and regulation.

The Review covers:

• the Port of Melbourne and, in relation to potential new container service providers, the Port of Hastings.

• container stevedoring, container handling and storage, container transport (road and rail) and intermodal services.

The Commission has been asked to:

• examine whether there are any restrictions on entry or other barriers to competition in the provision of stevedoring and related services in current port planning frameworks

• if it finds that there are restrictions to competitive entry, make an assessment of the costs and benefits of such restrictions

• assess whether the market structure for stevedoring services impacts on competition and the efficiency of container handling, storage, transport and intermodal services, and how the market structure for container stevedoring and related services impacts on: the achievement of the Government’s objectives, particularly the target for rail to have a 30% share of port freight; land-side interface efficiency; and achievement of the Government’s other relevant objectives.

In going about this Review the Commission has firstly defined and examined the structure of the markets for the relevant services and formed an assessment of the market power of the incumbent stevedores. This provides relevant background information on the port sector in Victoria and forms the basis for consideration of aspects of the terms of reference, such as the relationship between market structure and both the efficiency of the land-side interface of the port and achievement of the Government’s policy objectives. The assessment of the market power of incumbent stevedores is also relevant to the assessment of the cost and benefits of any entry restrictions.
To address the aspects of the terms of reference relevant to the impact of the port planning frameworks on entry, the Commission has firstly identified what constitutes the port planning frameworks and what are the key elements of the frameworks. Potential restrictions on new entrants within the port planning frameworks are then identified and assessed against relevant criteria for testing restrictions on entry.

In order to make an assessment of the materiality of any port planning framework restrictions identified, other barriers to entry are assessed, and the level of trade and the capacity of the port, which will also have implications for the timing of new entry.

In accordance with the terms of reference, the costs and benefits of possible entry constraints that have been identified in the port planning frameworks have been modelled. Then, consistent with the approach taken in National Competition Reviews of regulations that restrict competition, alternatives to the entry restrictions identified in the port planning frameworks are examined.

Items (e) and (f) of the terms of reference, relating to the land-side interface of the port, are then approached in two ways. In order to assess the impact of market structure on land-side efficiency and the achievement of the port rail mode share target, it is necessary to first have an understanding of the factors necessary for these objectives to be met. Having established the key factors for achieving these objectives, how the market structure of stevedoring and related land side services affects the achievement of these objectives was then undertaken.

**Ports, port related services and market structure**

**Port of Melbourne**

The Port of Melbourne is Australia’s largest container port, handling 39 per cent of Australia’s container trade. It is the only Victorian port that regularly handles container trade. While it also services a range of other cargo types, the container trade is its main source of income.

The container trade is principally served by two four-berth international container terminals at Swanson Dock. There is also land for future container terminal development at Webb Dock, which is at present primarily used for motor vehicles and the Tasmania Trade. It does not at present have the capability of servicing international container ships.

The Port of Melbourne Corporation (PoMC) is a “landlord” port, which primarily provides shipping channels, berth infrastructure and serviced sites within the port precincts to long-term tenants, and also maintains some common user facilities. Other port services are provided by stevedores and other private operators.

**Port of Hastings**

The port of Hastings is currently used for break bulk and liquid bulk cargoes but has been identified as a future container port.
The port is presently operated under a management agreement by Patrick Ports (formerly Toll WesternPort), a division of Asciano, which also provides stevedoring services at the port.

**Services subject to this Review**

The services to be considered in this Review are stevedoring services, container handling, storage, transport and intermodal services. The Commission has not identified any other relevant port or port related services under clause (d) of the specific terms of reference.

**Port service providers**

The primary roles of container stevedores are to load and unload ships but they also typically provide other related services such as temporary storage, maintenance and repositioning of containers, and services that facilitate the movement of containers from the wharf to land transport links. The two stevedores at the port of Melbourne are DP World and Asciano.

Container handling and storage services are provided by the stevedores at the port, and off-terminal container park services are provided by a number of parties.

Transport services include road and rail. More than 80 per cent of containerised port trade is moved by road transport. There are an estimated 250 wharf cartage companies servicing the Melbourne terminals, with the 10 largest of these operators thought to command around 65% of the activity. Rail services to the port include interstate (mainly to/from Adelaide) and intrastate (from regional Victoria). Asciano is the dominant provider of these services.

In addition to rail terminals within the port operated by Asciano (Patrick) and P&O Trans Australia (POTA) there are intermodal terminals located outside the port in the Dynon precinct. The largest, South Dynon, is operated by Pacific National under a long-term lease. Other terminals within the Melbourne area are located at Somerton (operated by POTA), Altona (CRT) and Laverton (SCT).

**Market power of stevedores**

To enable it to address the issues of competition and market structure of container stevedoring under the Review, the Commission has assessed the market power and competitive behaviour of the container stevedores at the port of Melbourne.

The stevedoring market has been defined to include the container stevedoring services and land-side interface services provided by the stevedores, which constitute the service of moving containers to/from ships to land transport operators. This market includes the unloading and loading of ships, container handling, storage and land-side interface services within Victoria.

The Commission has used two broad approaches to assess whether the stevedores have market power, and whether there has been any significant increase in the degree of market power in recent years.
**Identifying market power**

The first approach is based on an assessment of market concentration, barriers to entry, countervailing power, availability of substitutes, vertical integration and prices/profit margins. If a number of these factors are present there is likely to be market power.

As the only international container stevedores at the Port of Melbourne are Patrick (Asciano) and DP World, market concentration is high by any standard measures. Furthermore, as the development of a new container terminal at the port of Melbourne will take a number of years, there is effectively a barrier to entry, and the threat of competitive entry may not represent a significant constraint at present.

Although the stevedores’ principal customers, the shipping lines, appear to be able to exert some countervailing power, substitution possibilities are limited for most of the port’s throughput because the distance between ports is too great to allow competitive land-bridging of containers between ports.

The Commission’s analysis also suggests that the demand for stevedoring services is highly inelastic, primarily because charges by stevedores are only a small proportion of the value of container trade. Hence demand sensitivity is not likely to be a constraining factor that will inhibit the exercise of market power. For these reasons the stevedores are considered to have a significant degree of market power.

The second approach is to assess whether there have been increase in the exercise of market power using two different methodologies – one uses a framework developed by Kauffmann, and the second examines changes in the Lerner Index (a measure of price-cost margins). These two methods provide mixed results as to whether there has been an increase in the application of market power.

**Overview of port planning frameworks**

Port land use planning addresses the implications of trade growth on port infrastructure capacity requirements, the most appropriate timing and staging of new port developments, port performance, the adjoining transportation system and neighbouring communities.

The main elements in Victoria’s port planning frameworks and strategies starting at the State level are:

- the *Planning and Environment Act 1987 (P&EA)* which establishes the framework for planning, use and development of land in Victoria
- the *Victorian Planning Provisions (VPP)* under the P&EA, which provide a framework for planning schemes and streamlined processes, and require the development of planning schemes by municipalities (including the Port of Melbourne)
- the *State Planning Policy Framework (SPPF)* contained within the VPP and including transport and freight objectives. The port objectives in the SPPF relate
to access terminal and depot areas, protection of land resources adjacent to
ports, buffers between port and urban areas, and environmental quality.

At the Melbourne level the Government’s planning strategy for Melbourne,
Melbourne 2030, provides for a freight and logistics strategy, port strategic land
management plans, transformation of the Port of Melbourne/Dynon rail precinct
into an intermodal freight terminal and an increase in the rail share of freight to
ports.

At the port-specific level, there are:
• the Ports Services Act 1995 (PSA) and, under it, port corporations and their
  planning functions
• the Victorian Ports Strategic Framework (VPSF) that broadly sets out the
  sequence for future port developments: Swanson Dock (with developments to
  maximise capacity), Westgate-Webb Dock and later Hastings
• Melbourne Port@L, the Government’s concept for development of the Dynon
  precinct, including a draft strategy for a new Metropolitan Intermodal Terminal.
• individual port development plans (PDPs).

The report also discusses a number of other planning and strategic initiatives with
less direct implications for this inquiry.

**Competitive impacts of port planning frameworks**

The Commission’s analysis of the potential impacts of the current port planning
frameworks on competitive entry of stevedores has focussed on the following
areas:
• the policy of sequential development of container terminals contained in the
  VPSF and the SPPF
• the application of local government planning schemes
• the rail mode share target
• land availability constraints
• the conduct of the ports in the implementation of the (draft) port plans.

*Policy of sequential development*

The VPSF outlines a preferred development path for container terminals within
Port of Melbourne initially, followed by development of Port of Hastings in the
longer term.

It is not clear whether the sequential development approach has prevented
commercially viable entry by new operators or whether previous development
proposals failed for other reasons. However, several possible avenues have been
identified through which such a restriction could occur in the future.

First, the fact that the draft port plans have been developed to reflect the VPSF.
However, submissions suggest that in their final form there may be a greater
degree of flexibility in some of these plans.
Second, through permit approval processes for proposed container terminal developments. At the port of Melbourne a container terminal development at Webb Dock will require a permit, and at the port of Hastings any port terminal development will require a permit. The responsible authority for approving planning permits may have regard to the VPSF and the port plans, which suggests that it is a potential influence on planning decisions that will in turn affect the feasibility of entry.

Where a planning permit is sought at the port of Hastings, the responsible authority must take the SPPF into account. As the SPPF also envisages a role for the Port of Hastings once the port of Melbourne reaches its capacity, this consideration could potentially restrict new entry at that port.

Third, both PoMC and POHC are government business enterprises, and as such, any capital expenditure that they propose to undertake over a threshold of $10 million is subject to a review process. One of the matters that may be considered as part of this process is ‘strategic fit’ with government policies. Hence regard could be had to the VPSF through this process, and this could affect potential container terminal projects.

Fourth, the government is a potential contributor to the funding of infrastructure on which any new port terminal may depend, such as land-side transport links. The VPSF indicates that to some extent the government envisages that its funding role may be directed to achieving the objectives set out in the framework. Hence this is another potential avenue through which the VPSF might affect competitive entry decisions.

In summary, the Commission’s preliminary view is that the policy of sequential development in the VPSF and SPPF are a potential constraint on entry.

**Local government planning schemes**

Local Council planning decisions can have a significant impact on development both in and around the port.

Submissions suggest that in some instances the local planning schemes have not been effective in obliging parties undertaking activities located near the port to take into account the impact on the port. Such activities can in principle affect the feasibility of new entry. The Minister for Planning has established an advisory committee to develop a Port Environs Plan which could reduce these risks.

Clear and transparent local government planning schemes and approvals processes can facilitate the entry of new service providers but can also impose barriers to entry. The barriers act to balance the benefits of unfettered port development against the non-market costs of development.

On balance, local government planning schemes and approvals processes are not considered by the Commission to be a potential restriction to competition.

**Modal share target**

The rail mode share target adopted by the government is a potential restriction on competition to the extent it resulted in the imposition of costly capital works or operational obligations to be met by a new entrant, and advantaged some
stevedores over others. PoMC considers that it is likely that a condition of any lease for new terminal development will be the construction of on-port rail capacity.

Land availability

The availability of suitable land is a natural barrier to entry. Planning frameworks may also impose another layer of restrictions if they limit the availability of land for certain purposes. On the other hand the planning framework can facilitate entry by alleviating port land restrictions.

There are significant land constraints at the port of Melbourne and some land ownership constraints at the port of Hastings. However, these do not appear to arise due to port planning frameworks.

Implementation of port plans

Port plans can facilitate market entry by providing clarity about development, or impede it if used to discourage port development opportunities such as out-of-sequence initiatives.

A port corporation’s approach to implementing a port plan, including the degree of flexibility it allows, the role of the port in future developments and the process by which development sites are made available (such as through open tender) will affect the potential for new entry.

Based on the submissions made to this Review it is apparent that PoMC and PoHC intend to run open tender processes to make sites available and that there is strong support amongst stakeholders for this approach. However, the draft PDP and PLUTS Consultation Draft do not explicitly address this issue. Nor is it clear what criteria will be used to evaluate proposals.

To enhance transparency and to facilitate a more competitive process, the planning frameworks should require the port corporation to explicitly advise the market of how they intend to:

• identify the timing of a competitive tender for a new site (that is, the timing of incumbent stevedores approaching minimum efficient scale)
• consider the benefits of competition when assessing terminal development proposals presented to them.

Preliminary conclusions

The Commission has identified two main potential barriers to entry that may arise from the port planning frameworks. These are:

• the policy of sequential development contained in the VPSF and SPPF
• possible impacts on the terminal development options and/or the cost of entry arising from the rail mode share target.

The Commission has also made recommendations on improving the planning in relation to the transparency of tender processes.

Economic barriers to entry and capacity requirements
The questions as to whether there are economic barriers to entry, and of the timing of future additional capacity requirements, are both relevant to the question of materiality of any restrictions to entry contained in port planning frameworks. For example, if there are strong economic barriers to entry, then restrictions contained in planning frameworks may have no effect. If additional terminal capacity has to be developed in the short term, then any planning framework restrictions to entry are likely to be of short duration.

**Economic barriers**

Economic barriers to entry in the stevedoring industry include long-term leases of incumbent stevedores and expansion opportunities at these sites, and economies of scale and the minimum efficient scale that an entrant must be able to achieve.

As the two terminals are not at present operating at maximum capacity, volume increases would be expected to improve productivity and reduce average costs. The capacity of existing terminal operators to expand throughput in the short run may also represent an economic barrier to entry as it will be relatively more difficult for a new terminal operator to achieve an efficient scale of operation.

The stevedoring industry has a reasonably high fixed cost structure; fixed capital costs, fixed leasing costs, and semi-fixed costs such as labour. There are economies of scale in stevedoring, and a minimum efficient scale of operation.

Available information in relation to the minimum efficient scale suggests that, as Swanson Dock handled approximately 1.8 million TEU in 2006-07, it would not minimise costs at the present time to have a third stevedore (not taking into account any other benefits such as innovation and greater competition). However, by 2015, it is forecast that international and mainland container trade will reach 2.8 million TEU. At that time the market may be sufficient to support three terminals.

The incumbent stevedores both operate nationally, which may benefit shipping lines as transaction costs may be reduced and volume discounts offered. Hence a third stevedore may need to be two or more ports concurrently, which is more difficult than establishing a single terminal.

**Restriction of access by the port**

The entry of a new service provider may require the port authority to make capacity investments, for example in new berths and/or cargo marshalling stands or short term storage facilities - with a stranding risk for existing facilities. By diverting cargo from existing terminals, a new entrant may make it difficult for the port authority to fully recover its costs from those terminals. However with strong container trade forecasts for the port of Melbourne, any entry deterrence incentives are unlikely to be strong.

**Adequacy of capacity at Swanson Dock**

The adequacy of the container handling capacity to meet expected container growth at the Port of Melbourne will affect the timing of new terminal developments, and potential entry of a third stevedore.

Because lead times for developing a new container terminal are around six years, the Commission’s capacity analysis suggests that the process for developing new
container stevedoring facilities will need to commence as early as 2008-09, as additional terminal capacity may be needed around 2014-15. This timing is somewhat earlier than in the draft PDP.

This conclusion suggests that potential entry constraints in planning frameworks are not likely to be of material importance in practical terms – as the opportunity for competitive entry through the development of a new terminal will need to commence in the relatively near term.

**Cost benefit analysis**

A model was developed to assess the costs and benefits of the potential entry restrictions identified in the port planning frameworks.

The model quantified the costs and benefits of the restrictions by comparing base cases with the restrictions, to scenarios that may arise without the restrictions.

While it is not possible to fully quantify all potential costs and benefits, the results suggest there:

- may be a net cost from imposing a specified sequence of development at the Port of Melbourne
- is a net benefit in the sequence of development that applies to the Port of Hastings (i.e. as an overflow port)
- is a small net benefit from the potential restriction arising from the rail mode share target.

**Alternatives to intervention**

Although the subject of this review is planning framework restrictions, it has similarities to National Competition Policy (NCP) reviews of legislative or regulatory restrictions on competition. The NCP Guideline indicates that, even where the benefit of an intervention exceeds the costs, alternatives to intervention should if sought and if possible adopted in preference to intervention.

**Strategic planning approaches**

The VPSF vision includes competition between ports for non-containerised trades and ‘managed competition’ between the government-owned ports for container trade. It sets out a sequence of development for container trade facilities although the sequence is not immutable.

The VPSF view on duplication of infrastructure is also somewhat prescriptive. Wasteful duplication is to be avoided, but over-zealous application of the principle could become a barrier to entry. Generally in the Australian economy competitors have the opportunity to enter the market irrespective of the investment decisions that others have made.

The government’s broader objectives and the port corporations’ commercial objectives are not always aligned. Government involvement and approval roles in
planning may provide some means of aligning port and government objectives in relation to the provision of key infrastructure.

Various studies and inquiries have emphasised the importance of the government role. The emphasis is on ensuring the supporting infrastructure will be put in place to meet demand, that there is integration in planning activities either side of the port boundary and that there are appropriate overarching principles. Ports then prepare detailed infrastructure plans within the overarching framework.

There are long lead times and port planning processes require knowledge of shipping markets, competitive strategies, project costs and risks. Decentralised decision making is often useful to manage these risks.

There is potential for tension between the strategic planning approach given effect through the VPSF and principles of corporate governance that apply to GBEs, including independence and clear profit-focussed objectives. For example, the sequencing provisions limit the degree to which the government-owned PoHC can compete with government-owned PoMC.

Promoting competition

Controls over competition, and entry or exit are forms of economic regulation. Because such controls tend to enhance the market power of port operators or stevedores, the need for regulatory intervention, such as oversight of market conduct or pricing, becomes greater.

There are also benefits from avoiding barriers to the initiation of new regional port projects.

There can be trade-offs between land-side congestion and economies of scale at the port. For example, fragmented port capacity may diversify truck routes and mitigate congestion, but mean that rail services lose critical mass.

Draft recommendations

There may be benefit in less reliance on specifying the precise sequence of port developments within the overarching state-wide ports strategic framework and permitting a greater degree of reliance on market opportunities that arise for the ports, and for the merits of specific port terminal developments to be directly assessed against one another in the context of detailed feasibility assessments and commercial processes.

The statutory port corporations would benefit from greater clarity in relation to how these general COAG competition objectives translate into specific responsibilities of port management. To address this, the legislation governing the functions of PoMC and PoHC could make it clear that when carrying out their functions the port corporations should have regard to the benefits of competition among port service providers.

The Commission has also observed that the there is merit in the ports having greater clarity in relation to their obligations to prepare strategic land use plans. There may be benefit to establish a clearer obligation that each commercial port must prepare a port land use plan, and the processes for consultation, government approval and for revising these plans. For example, this could be established in the
VPP, or in Part 6A of the PSA (where the obligations to prepare safety and environmental management plans are established).

**Landside efficiency & rail mode share**

Items (e) and (f) of the terms of reference require the Commission to undertake an analysis and assessment of the relationship between the market structure of container stevedoring and of landside services, and:

- the impact on competition and efficiency in the provision of land-side services
- the achievement of the Government’s policy objectives, including the 30% rail mode share target.

The relevant Government policy objectives include the efficiency of the land-side interface linking Victorian industry with the ports.

In order to address these requirements it is useful to examine some of the key considerations in relation to achieving improvements in the efficiency of the land-side interface of the port, and in achieving the 30% rail mode share target. The assessment of the impact of market structure on these objectives can then be informed by how it may impact on these critical success factors.

Improvement in truck efficiency is of key importance to improving land-side efficiency and minimising the impact of the port on nearby communities, as 80% of container movements to and from the port of Melbourne are moved by road transport. There are two key measures of efficiency: truck utilisation (average number of containers per truck), and truck turnaround time at the port terminal. Truck firms and stevedores have a cost incentive to improve these, but there are measures, beyond what the firms can do themselves, that could help.

A number of possible improvements have been proposed by industry participants and these suggest that PoMC could play a more active role in improving truck efficiency. While no submissions identified a current restriction on competition or inequity in the operation of the 1-Stop vehicle booking system (VBS) jointly operated by the stevedores, several industry participants proposed that PoMC have a monitoring or oversight role in relation to this system to ensure equity. Based on the submissions, it appears that the following are important:

- PoMC should examine the feasibility of developing a truck marshalling facility at the port.
- PoMC should have an oversight and monitoring role in relation to the 1-Stop vehicle booking system (VBS).
- In this context, the stevedores should pursue, and PoMC should seek to facilitate, a number of specific improvements to the VBS recommended by stakeholders.
- There is merit in development of systems for container visibility and tracking – which may represent a further development of the 1-stop platform.
Differential pricing

Some submitters have suggested that preferred access to the port terminals could be provided to trucks that are better utilised (e.g. back loaded). Some suggested that stevedores should increase pricing for vehicle slots in peak periods and reduce it in off-peak periods to encourage a more even distribution of truck traffic. Another proposal is for the port to impose a peak period access charge (potentially much larger than the stevedore option) to reduce congestion inside and outside the port, with the proceeds used for rail infrastructure and terminal improvements. However port slot costs are a small proportion of container transport costs, and much of the peaking problem is caused by limited operating hours at customers’ premises and freight terminals. A port imposed peak charge may not be the ideal instrument for improving truck efficiency.

The Commission’s impression is that a strong time-of-use price signal through a port imposed peak period access charge does not appear to have a demonstrated net benefit at present. However, in relation to VBS slot charges, some form of discount could be offered where a truck operator books adjacent/coincident slots for the purposes of back-loading.

There are initiatives being pursued by the logistics industry for better coordinating logistics, such as reducing mismatches in operating hours between ports and inland logistics facilities that will also be important for efficiency improvement.

Some needed improvements to the road network have been identified in other studies and are among the issues being addressed by the East-West Link Needs Assessment (Eddington) study. The Commission observes that previous studies have indicated necessary improvements to the road network include improvements to Dock Link Road and a longer term need to divert traffic from Footscray Road.

Rail Mode Share Target

The Government’s 30% rail mode share target for port-related freight by 2010, was established in Growing Victoria Together and Melbourne 2030.

Although the rail mode share objective is not necessarily consistent with the supply chain and land-side interface efficiency objective, most submissions reviews have supported the objective, which tends to suggest that there is no conflict between the objectives of efficiency and of generally facilitating an increase in the rail share from the present 15-19%.

The rail share for containers with origins or destinations in non-metropolitan areas is substantial (from 40% to over 90% depending on distance) but for those moved to/from the greater Melbourne it is close to zero. It follows that most of the increase in rail freight needed to achieve the 30% target would need to come from capturing a part of the freight task within the greater Melbourne area.

In addition to submissions, the Commission has reviewed several studies into this question. The preliminary conclusion is that achieving the rail mode share target of 30% would require a very large share of containerised freight transported to and from Melbourne’s outer industrial areas to be carried by rail ‘port shuttles’.
As there is some uncertainty about the future of some of the current longer distance port-related rail freight tasks – such as interstate containers to/from Adelaide – this adds emphasis to the role of port shuttles for achieving the mode share target.

In submissions reviewed in this draft report, doubts have been expressed by some railway industry participants, including the Australian Rail Track Corporation (ARTC), Asciano and QRNational, and the Melbourne Port Shuttle Group, who have indicated that the problems with making rail shuttles competitive include relatively costly port handling arrangements, a need for double handling, and track congestion.

Some of the key issues that will need to be addressed before port shuttles could become effective include:

**Rail network works**

An integrated broad gauge network: At present the combination of broad gauge and standard gauge track on the Victorian network is a constraint to the development of port shuttles, and some dual gauging works would be required to ensure that port shuttles can access broad gauge track throughout their journey between intermodal terminals and the port.

Improving the rail connections and removing bottlenecks in and around the port to the port could help improve rail share. The rail projects currently being carried out, or being put forward, for this purpose should remove the bottlenecks.

The limited availability of new freight train paths on passenger lines might not be consistent with achieving the required level of port shuttle operations. As currently contemplated, port shuttles will have operating speeds and other operating characteristics similar to passenger trains so that they can have scheduled train paths between passenger train paths. However, as the access provider on the metropolitan network faces strong financial penalties for underperformance on passenger train reliability, there may be significant constraints to freight train path availability without further rail infrastructure investment.

Therefore metropolitan freight links need to be considered in conjunction with upgrades to the metropolitan rail network that are currently planned to meet increased passenger demand; including in the project design of the Dandenong rail corridor upgrade.

A full analysis of the current and future capacity of the rail system will be required in the context of considering the emergence of increased port shuttle use. In view of the importance that accurate forecasting will have on the timing of infrastructure expenditure, a process of more regular data updating is required.

**Intermodal terminals**

Development of outer-urban intermodal freight terminals, which operate as distribution hubs, could help the rail share. An effective network of such terminals is, of course, a precondition for the port shuttle concept.
Terminals are already established in the south western industrial areas of Altona and Laverton, and in northern industrial area at Somerton. A terminal has not yet been established in the Dandenong area, although there are several proposals. If these prove to have inadequate capacity as freight grows there may be benefit in ensuring that Government planning frameworks provide for sufficient land to be appropriately zoned.

Intermodal terminals will tend to have localised market power, so (light handed) access regimes for intermodal terminals are relevant, and would be a better regulatory response than trying to control ownership. Indeed, vertical integration of terminal ownership, rail operations and intermodal terminal operation may help develop shuttle train operations.

There are a number of critical success factors for the successful development and operation of the urban intermodal hubs.

- They need to have a substantial scale and have a wider scope of operations than only urban freight movements. The successfully established hubs are located adjacent to interstate rail lines and are used or usable by interstate rail services.
- They need to establish a wide range of container related services and other value adding activities on site. The management of empty containers through intermodal terminal sites will also be important to the economics of port shuttles, as it will enable better train utilisation, through the management of the imbalance of import and export containers.

On-dock rail terminals

Submissions and studies have indicated that the current rail terminal configuration is the reason for a cost differential that currently exists between rail and road for the handling of boxes at the port terminal. However, Asciano has stated that it is modifying its operations and planning investments to reduce the costs associated with directly loading onto rail at the port, which should improve the cost competitiveness of rail versus road.

There remain issues concerning whether the stevedore on-dock terminals are designed to efficiently accommodate port shuttles and whether there are some constraints to terminal capacity, for example at East Swanson, which would limit the ability of these terminals to be used for this purpose.

To address such issues, one objective of Melbourne Port@L is to ensure that the Melbourne Intermodal Terminal (MIT) is developed as an efficient intermodal terminal. The concept is for port shuttles to operate from the proposed MIT. The design concept for the terminal and the economic feasibility of the loading and unloading of port shuttles at the proposed location north of Footscray road are yet to be finalised. They should be addressed within a wide context which would include the question of whether the existing rail terminals at the port represent an efficient configuration.

Subsidies

Some submitters have proposed that the operation of rail shuttles be supported by either price controls on loading/unloading, or direct subsidies.
The proposed prices controls would restrict the stevedores from charging different prices for loading/unloading containers from road and rail vehicles at the port terminal. Price controls do not currently apply to stevedores, and to achieve road-rail parity in port loading costs would force a cross-subsidy between road and rail transport.

Alternatively, it has been suggested that port shuttles will need to be supported through direct subsidies if they are to be viable. For example, these might be subsidies during the start-up period and ongoing subsidies to reflect externalities.

These proposals demonstrate that the achievement of the 30% rail mode share could require inefficient structures to be imposed, resulting in higher supply chain costs. Governments have rarely chosen to subsidise to compensate for externalities, and it is not clear that a subsidy aligned externalities would be sufficient to bring about establishment of rail shuttles. Private investors normally cover ramp up costs, and governments are normally wary of operating subsidies which in practice can turn out to be opened ended.

The Commission does not recommend the use of subsidies to support rail shuttles, and instead emphasises the rail infrastructure works that would facilitate the port shuttle concept, and the actions to facilitate intermodal hub networks, including in urban planning.

**Conclusions on rail mode share**

The 30% rail mode share target has an important status in the application of the Victorian planning framework. There is a risk that planning authorities could place onerous obligations on any new container terminal development in terms of the rail mode share it should be designed to achieve. It is therefore important that the requirements on new terminal developments should be comparable to those that apply to the incumbent stevedores.

Reaching the 30% mode share target would be heavily dependent on the successful development of rail shuttle services, which in turn are dependent on several infrastructure developments that are only at initial stages and are unlikely to be achieved by 2010. Rail operators’ response to the infrastructure improvements currently under way will be an indication of what can be achieved without levying charges on trucks. This experience will provide a much firmer basis than is now available for determining what rail market share might ultimately be achieved.

**Market structure - implications**

The assessment of the interaction between the market structure for container stevedoring and related services and the objectives in regard to supply chain efficiency and the rail mode share is based on an examination of the market structure, conduct and performance characteristics.

**Land-side services - market structure**

The land-side container logistics markets or services include transportation, container handling, storage and related services, intermodal services, and freight...
forwarding. The two container stevedores at the port of Melbourne are partially vertically integrated into these services:

- Asciano owns the dominant rail operators on the intrastate and interstate corridors (Pacific National and Patrick PortLink). It also owns Patrick Port Services which supplies wide range of container related services. However, the recent de-merger of Toll and Asciano, has placed the road transport business with Toll. The two businesses may retain close relationship for a time.
- DP World owns 50% of POTA, which is a road haulier, rail operator, intermodal terminal operator, and provider of container related services.

**Container transportation**

Road and rail modes compete, driven by commercial and practical issues. Rail is less flexible than road – rail services depend on terminal location and, for containers, usually involve double handling. Rail compensates for these adverse characteristics by offering price advantages, particularly for longer hauls.

The road transport market is both competitive (with many operators and no dominant operators) and contestable (with low barriers to entry). Although there has been a significant degree of consolidation in the industry, with the top 10 operators believed to account for around 65% pf the market, the Commission is not aware of any evidence of any impact on freight prices or efficiency as a result of road operator consolidation. The road market is characterised by low margins and low barriers to entry, with a high amount of entry and exit at the lower end of the market.

Conversely, competition within the rail sector for containerised freight is very low, with one main operator, Asciano, servicing the intrastate rail sector. Asciano (through its arm Pacific National) is also the dominant interstate rail operator.

Nevertheless, barriers to entry are low, especially with the reacquisition by the Victorian government of the regional rail network which has improved the incentive to provide access, and taken pressure off the access regime which itself had been strengthened. Already there is a competitive operator of grain trains. However, in relation to containers, a new operator is unlikely to be able to obtain enough freight to establish a competitive service to Asciano at the few locations where rail terminals exist or can be developed at reasonable cost. The threat of future competition, together with road freight, disciplines Asciano’s price and service offerings. The QRNational train from Adelaide is the only substantial port-related non-Asciano service.

Rail operators in Victoria are essentially ‘price takers’, with prices determined in the road transport market. Hence the relatively high degree of concentration in the rail transport market does not usually provide market power.

**Container related services**

A range of operators, both integrated and independent provide container related services. There are relatively low barriers to entry, and shipping lines are in good position to negotiate commercial arrangements with these companies.
Intermodal terminals

The Dyon terminals are used to unload/load interstate and intrastate trains. The ‘on-dock’ terminals, relatively newly developed by the stevedores and the PoMC, enable trains to move directly to the port terminals. There is no shortage of overall terminal capacity for the foreseeable rail traffic in the area. The Dyon Intermodal Terminal has spare capacity. The Asciano on-port terminal is used more than the DP World terminal. DP World has less ability to match Asciano’s service offering to the rail-using market, as it is not aligned with any rail operator.

In regard to outer-urban intermodal terminals, the existing terminals are operated by interstate rail transporters or port terminal operators, including POTA, CRT/QRNational, and SCT. Prospective developments are associated with Asciano and Westgate Ports. There is therefore a significant degree of vertical integration in this activity.

Freight forwarding

While there are freight forwarders who are vertically integrated along the supply chain, there appears to be a high level of competition in this sector.

Market conduct

Asciano’s rail business (is affiliated with its stevedoring operations, and if there were competing rail operators seeking to access its on-dock rail terminal as in NSW then there might be tension in the allocation of terminal access ‘windows’. An issue raised by stakeholders is the differential between road access and rail access charges, but no information has been provided to the Commission as to why the current market structure would produce this outcome, given that one of the stevedores has an affiliated rail transport business.

The road access control of the stevedores at the interface is not seen by the industry as a problem in itself, but there are concerns regarding the effectiveness of the booking system and its revenue raising capacity. For such reasons, users have proposed that PoMC have an oversight role, as discussed.

Land-side interface performance

The industry has been trying to reduce empty running and improve the ratio of truck trips to containers carried. However the stronger growth in imports than in exports has resulted in a growing proportion of empty movements. Queuing and unpredictability remain a major source of frustration for carriers, yet overall freight customers and warehouses demonstrate an unwillingness to spread demand over the full 24 hour period of each day to minimise congestion costs.

Road works planned for the port environs will contribute to overall travel time efficiency, along with the performance of the overall urban road network. However, it appears that the costs of congestion are not yet being taken into account by enough road hauliers, and reflected in variable rates, to drive change.

With regard to rail service efficiency, the establishment of on-dock terminals has led to direct cost reductions for the operator, Asciano. It is not clear whether these efficiency gains have resulted in cost reductions to rail customers (given the price taking behaviour of rail operators).
Land-side efficiency

Aside from the basic issues of the port duopoly itself, the efficiency or inefficiency of supply chains derives more from the lack of co-ordination between industry participants and from the constraints discussed in the previous section, than from any lack of competitive pressures at specific points in the logistics chain. As PoMC says

*It is arguable that… stevedores have some opportunity to use … means (for instance, improved information exchange) to encourage higher truck utilisation in related carriers. …*

*If recent developments in Europe are any guide, vertical integration of terminal ownership, rail operations and intermodal terminal operation may be an effective way to develop shuttle train operations that can effectively compete with road.*

However, the level of competition between the vertically integrated logistics businesses (including the stevedores) and the other participants in each part of the supply chain remains substantial, and this is given further impetus by the scale of major customer contracts and the range of logistics structures available for each company to attract these major customers. For these reasons concerns are unlikely to arise in the foreseeable suture in relation to the degree of contestability or market concentration.

The role of rail in these supply chains is not, at the present stage, substantial in relation to either competition or overall efficiency, and while it is important for some rural businesses, rail is not yet showing any capacity to offer efficient solutions to urban import/export customers. The vertical integration of the stevedores is, if anything, a driver of efficiency in this sector.

For the foreseeable future there is unlikely to be any impact of the market structure of container stevedoring on the prices or service terms offered for container handling and related services and other markets in the supply chain. While the current stevedoring duopoly is associated with a degree of market power this has not been paralleled in the landside supply chains, where there is strong competition in the road freight, freight forwarding and container handling markets. Above-rail competition is more limited, but there is substantial pressure on the rail operators in regard to price and service quality from road transport.

Rail freight share target

The future development of port shuttles will not be possible at the frequency required to make them viable if existing port terminal sidings are to be used. A port shuttle service would eventually require a dedicated purpose built rail terminal. As mentioned above, a feasibility assessment of shuttles and possible port rail terminal alternatives is yet to be carried out.

The future container terminal sites at Webb Dock and Hastings have good road connections, though they would need to be upgraded if there were major port developments. While it is possible that commissioning of a third container stevedoring terminal could dilute rail traffic between three terminals instead of two, there is doubt as to whether Webb Dock will be a competitive alternative for rail
freight services. Hastings is arguably more favoured for rail; it has an existing rail link, and a new more direct link could be provided via Dandenong. However, the good road connections will challenge the competitiveness of rail.

Hence the development of new container terminals will not necessarily favour the rail mode share target. Rail services to new container terminals are more likely if a new stevedore has a close relationship with rail operator(s). This may enhance Asciano’s ability to compete for the stevedoring lease at Webb Dock depending on the relative weighting given to the benefits of stevedoring competition and the rail mode share.

**Conclusions and Options**

There does not appear to be a competitive problem in the port supply chains. The stevedores’ roles in these markets may be viewed as enhancing the competitiveness of these markets rather than the reverse. There do not appear to be barriers to entry to container stevedoring entry arising from the market structure of the land-side.

There is a case for more integration between port planning and general urban freight planning activity, and a greater PoMC role as discussed above.

The integration of the dominant rail service with a single stevedore may have some impacts on overall rail market share through sub-optimal use of available on-dock terminal space. The economics of short haul or low density rail services will also cap utilisation.

There is scope for an increased transport chain role by PoMC, including:

- overseeing the operation of the VBS at each terminal, and sponsoring improvements to its operation including the queuing issue (as discussed above)
- similarly, participation in or oversight of the system of allocating rail access windows – especially if port shuttle services were to be introduced into existing terminal sidings within the port precinct
- possibly a more active role in relation to the extended supply chains outside its boundaries, including inland terminals as in Europe and New Zealand
- encouragement of 24 hour operation throughout the transport chain.
1 INTRODUCTION

On 25 July 2007 the Minister for Finance (the Minister), under section 41 of the Essential Services Commission Act 2001 (the ESC Act), directed the Essential Services Commission (the Commission) to undertake a review of the impact of port planning on competition in the provision of container stevedoring and related services in Victorian ports.

1.1 Background

At the 10 February 2006 meeting of the Council of Australian Governments (COAG), the Commonwealth, State and Territory Governments signed the Competition and Infrastructure Reform Agreement (the CIRA), which, among other things, requires each jurisdiction to undertake a review of port competition and regulation.

The CIRA includes principles to guide regulation of ports, including a clear preference for commercial outcomes, light handed regulation if regulation is necessary and, only as a last resort, more interventionist regulation. The Council of Australian Governments, in their 10 February 2006 meeting communiqué, described the agreement’s objectives in the following terms.

COAG endorsed a new National Competition Policy (NCP) reform agenda aimed at providing a supportive market and regulatory framework for productive investment in energy, transport and other export-oriented infrastructure, and its efficient use, by improving pricing and investment signals and establishing competitive markets. …

COAG signed a Competition and Infrastructure Reform Agreement to provide for a simpler and consistent national system of economic regulation for nationally-significant infrastructure, including for ports, railways and other export-related infrastructure. The agreed reforms aim to reduce regulatory uncertainty and compliance costs for owners, users and investors in significant infrastructure and to support the efficient use of national infrastructure.

Section 4 of the CIRA sets out the scope of the review of ports agreed to by COAG¹. Several of the requirements in section 4 of the CIRA have already been

¹ Section 4 of the CIRA is reproduced in Attachment A of the Terms of Reference, Review of the Impact of Port Planning on Competition in Container Stevedoring and Related Services in Victorian Ports, in Appendix A.
addressed in prior reviews. In order to avoid duplication, the Minister has stated that the purpose of the review is to address Victoria’s requirements under clauses 4.2(a) and 4.3 of the CIRA, and other related matters that the Government has identified.

Sections 4.2(a) and 4.3 of the CIRA state:

4.2 The Parties agree to allow for competition in the provision of port and related infrastructure facility services, unless a transparent public review by the relevant Party indicates that the benefits of restricting competition outweigh the costs to the community, including through the implementation of the following:
   a. port planning should, consistent with the efficient use of port infrastructure, facilitate the entry of new suppliers of port and related infrastructure services;
   ...

4.3 Each Party will review the regulation of ports and port authority, handling and storage facility operations at significant ports within its jurisdiction to ensure they are consistent with the principles set out in clauses 4.1 and 4.2.

Significant ports include:
   i. Major capital city ports and port facilities at these ports;
   ii. Major bulk commodity export ports and port facilities, except those considered part of integrated production processes; and
   iii. Major regional ports catering to agricultural and other exports

The Minister considers that the requirements of section 4.3 have been met except in respect of section 4.2(a) as it applies to the Port of Melbourne, as a significant port, and Hastings in relation to its potential role in container stevedoring and related services.

The Review is being conducted under s.41 of the ESC Act. Section 41(3)(d) of the ESC Act allows the Minister to give the Commission specific directions in respect of the conduct of the inquiry.

The Minister has directed that in conducting the review, that the Commission will also have regard to its objectives under s.8 of the ESC Act. As part of its statutory objectives under the ESC Act the Commission must:
   • protect the long term interests of Victorian consumers with regard to the price, quality and reliability of essential services (s8(1));
   • facilitate efficiency in regulated industries and the incentive for efficient long-term investment (s8(2)(a));
   • facilitate the financial viability of regulated industries (s8(2)(b));

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• ensure that the misuse of monopoly or non-transitory market power is prevented (s8(2)(c));
• facilitate effective competition and promote competitive market conduct (s8(2)(d));
• ensure that regulatory decision making has regard to the relevant health, safety, environmental and social legislation applying to the regulated industry (s8(2)(e));
• ensure that users and consumers benefit from the gains from competition and efficiency (s8(2)(f)); and
• promote consistency in regulation between States and on a national basis (s8(2)(g)).

1.2 Terms of Reference

The reference from the Minister entitled the Essential Services Commission Act 2001 Part 5 Inquiry and Report: Notice of reference – Port Planning (the Review) is reproduced in Appendix 1. It includes background information to the review and a discussion of the CIRA and which aspects of the CIRA have already been addressed in previous inquiries, and how the present Review is to be conducted (see section 1.3 below).

For the purposes of undertaking and guiding this Review, the Commission considers that the sections ‘ports and services to be reviewed’ and ‘specific terms of reference’ respectively, are most relevant in defining the scope of the Review. These sections are reproduced below:

Ports and Services to be Reviewed
For the purposes of the CIRA, the main focus of the Review is the Port of Melbourne. However, particularly in relation to the container trade, the impact of current Victorian port planning on competition in the provision of services also extends to the Port of Hastings, which has been earmarked as the preferred overflow port for container handling once Melbourne reaches full capacity sometime beyond 2030. Therefore, the Review will also consider the potential role of the Port of Hastings in facilitating the entry of new service providers to the container trade.

The particular port and port related services to be reviewed in this context are:
• Container stevedoring services
• Container handling and storage services
• Container transport (road and rail) and intermodal services

In addition, where it is considered that competition for or in the market for other port or port related services is being adversely impacted by current planning frameworks, these services may also be included in the Review.
Specific Terms of Reference

The Review will examine and report on, and make recommendations in relation to, the interaction between Victorian port planning frameworks and competition in the provision of key port services, particularly container stevedoring and related handling and transport services in the Port of Melbourne (and the Port of Hastings, where appropriate), including consideration of the following matters:

(a) An analysis and assessment of the extent to which, and the manner in which, the current planning frameworks impact on the entry of a new provider(s) of stevedoring services;

(b) To the extent that these frameworks restrict entry to the stevedoring market, an assessment of the costs and benefits of such restriction in terms of the efficient use of port infrastructure and whether the benefits of restricting entry outweigh the costs to the community;

(c) Consideration of the matters set out in (a) and (b) above in relation to related container handling, storage, transport and intermodal services;

(d) Consideration of the matters set out in (a) and (b) above in relation to other relevant port or port related services identified during the course of the Review;

(e) An analysis and assessment of the relationship between the current market structure for container stevedoring services and the provision of container handling, storage, transport and intermodal services which form the land-side interface of the port, particularly in terms of impact on competition and efficiency in the provision of these latter services;

(f) An analysis and assessment of the relationship between the current market structure for the provision of container stevedoring and related land-side services and the achievement of the Government’s policy objectives, including the 30% port rail mode share target; and

(g) Any other matters that may be considered relevant by the Commission and are agreed with the Minister for Finance in consultation with the Minister for Roads and Ports."

The terms of reference indicate that the ports that are the subject of the Review are the Port of Melbourne and, in relation to the potential entry of new service providers to the container trade, the Port of Hastings.

Ports provide services to ships and to freight. Services to ships include such activities as towage, pilotage, and mooring. There are four broad freight categories – container, break bulk, liquid bulk and dry bulk; the focus of this Review is on services provided to container freight. Specifically, the Commission’s focus is container stevedoring, container handling and storage, and container transport (road and rail) and intermodal services. However, it is open to the Commission to include other related services in the Review, where it has identified that
competition in the provision of these services is being adversely affected by current planning frameworks.

For these ports and services, the terms of reference direct the Commission to consider a range of matters. These matters broadly fall into two broad categories:

- Restrictions on entry or other barriers to competition in the provision of stevedoring and related services in current planning frameworks, and an assessment of the costs and benefits of such restrictions. The Commission understands that planning frameworks are not only those established by the Victorian Government, but also other parties such as the port authorities themselves\(^3\) and local councils.

- How the market structure for stevedoring services impacts on competition and the efficiency of container handling, storage, transport and intermodal services, and how the market structure for container stevedoring and related services impacts on the achievement of the Government’s objectives, particularly the target for rail to have a 30% share of port freight. Given the overall focus of the Review on port planning, as well as its possible impact on competition in port services, the effect of the current planning frameworks on the efficiency of the land-side interface and achievement of the Government’s objectives is also relevant.

The Commission is required (under item (g) of the ‘specific terms of reference’) to include any other matters it considers relevant to the Review, subject to prior agreement by the Minister for Finance in consultation with Minister for Roads and Ports. The Commission has not identified any such matters in preparing the Draft Report.

### 1.3 Review timetable

As noted previously, the direction from the Minister was made on 25 July 2007. The Commission issued a letter to stakeholders (dated 26 July 2007) notifying them of the Review and inviting submissions, and a public notice of the Review was published on the Commission’s website on 31 July 2007. The public notice was also published in The Age on 2 August 2007, and in the Government Gazette on 2 August 2007. In order to facilitate stakeholder submissions, the Commission released the *Review of Port Planning: Issues Paper* (the Issues Paper) on 10 August 2007.

Consistent with the Minister’s expectations regarding the review process, and the timelines established by the Minister, the remaining key milestones of the Review are as follows:

- Public submissions to this Draft Report may be made in writing to the Commission by Wednesday 28 November 2007.

- A public hearing will be held at the Commission’s Offices (35 Spring Street, Melbourne) on Thursday 22 November 2007 at 2 pm. This hearing is open to all interested parties.

\(^3\) Specifically, the Port of Melbourne Corporation and Port of Hastings Corporation.
• The Commission must present its final report to the Minister by 31 December 2007.

1.4 Making a submission

Submissions in response to this Draft Report must be made by Wednesday 28 November 2007. Submissions can be sent electronically to: portsconsultations@esc.vic.gov.au or by mail to:

Ports Consultations
Essential Services Commission
Level 2, 35 Spring St
Melbourne VIC 3000

The Commission will make submissions available to the public on its website, with the exception of any commercially sensitive or confidential information which has been identified as such in the submission.

Please direct any queries about this Draft Report to Michael Cunningham on (03) 9651 0247 (or michael.cunningham@esc.vic.gov.au).

1.5 Structure of this report

This Draft Report is structured as follows:
• Chapter 2 provides information on ports including their structure and the different types of port and related land-side interface provided, and the main service providers and structure of the markets.
• Chapter 3 contains an assessment of the market power of the two container stevedores.
• Chapter 4 provides an overview of the port planning frameworks that are the subject of this Review, including the statutory and regulatory framework within which all land use planning is carried out, the specific government policies and strategies relevant to ports, freight and logistics planning, and planning activities of the port corporations of Melbourne and Hastings which are the subject of this Review.
• Chapter 5 contains the Commission’s assessment of whether the planning frameworks affect the potential for entry of competing stevedores.
• Chapter 6 addresses the question of other barriers to entry, such as economic barriers to entry, which is relevant to the materiality of any barriers contained in planning frameworks.
• Chapter 7 contains the Commission’s cost benefit analysis of any potential restrictions on the entry of competing stevedores, which is based on work carried out by Booz Allen Hamilton.
• Chapter 8 identifies any alternatives to restrictions that may inhibit the entry of competing stevedores, and considers the overall aims of port planning frameworks in this context.
• Chapter 9 discusses the key factors relevant to the efficiency of the port landside interface and to rail’s share of port freight.

• Chapter 10 contains the Commission’s assessment of whether the market structure for container stevedoring services affects the efficiency of the port landside interface, or whether this market structure affects the achievement of the government’s targeted rail mode share of port related freight movements of 30% by 2010.
PART 1 – MARKETS

Part 1 of the Draft Report sets out the port services covered by this Review, provides information on structure of the markets for these services (Chapter 2) and an assessment of the market power of the incumbent stevedores (Chapter 3). In doing so Part 1 addresses the following aspects of the specific terms of reference:

- the definition of stevedoring services (clause (a)) and of related container handling, storage, transport and intermodal services (clause (c))
- identifies any other relevant services (clause (d)).

The information on market structure is intended to provide relevant background information on the port sector in Victoria to assist readers of the Draft Report and to form the basis for consideration of other aspects of the terms of reference. In particular, it is relevant to the requirement in the terms of reference for the Commission to assess the relationship between market structure and both the efficiency of the land-side interface of the port (clause (e)) and achievement of the Government’s policy objectives, including the rail mode share target (clause (f)). The relevance of the market structure to these issues are addressed in Part 3 of this Draft Report.

The assessment of the market power of incumbent stevedores in Chapter 3 is relevant to the assessment of the cost and benefits of any entry restrictions (as required by clauses (b), (c) and (d) of the specific terms of reference), which are assessed in Part 2, Chapter 7.
2 PORT SERVICES AND MARKET STRUCTURE

The terms of reference for this review direct the Commission to examine the interaction of planning frameworks and competition in the provision of certain services (particularly container stevedoring and related handling and transport services) at certain ports (the Port of Melbourne and, where relevant, the Port of Hastings). In this context, the purpose of this chapter is to:

- provide an overview of the ports which are the subject of this Review, and the role of the port corporations that manage these ports (section 2.1),
- identify and present relevant background information on the port and related services that are covered by this review (section 2.2)
- identify the relevant providers of the services and the market structure (sections 2.2 and 2.3).

2.1 Ports

Ports are an important part of freight transportation networks, providing for the transfer of cargos between ships and overland transportation.

Although port authorities differ widely in the range of services and facilities they provide, a key element common to all port authorities is the provision and management of the basic infrastructure required for the safe and efficient transfer of freight or passengers between the land and the sea. This infrastructure includes facilities for the berthing of ships and loading cargo; as well as navigation infrastructure, such as shipping channels, to provide for the safe access of ships to the berths.

Ports also provide land in the vicinity of the berths on which cargoes can be assembled for loading or placed temporarily following unloading, as well as road and rail access and other services within the ports environs.

In addition, many port authorities provide complementary infrastructure and superstructure, such as cargo storage facilities or specialised cargo handling equipment. Port authorities in other jurisdictions also provide services to ships such as pilotage, towage, mooring and ship repair, and carry out stevedoring activities. While there are some exceptions, in Victorian ports these activities are for the most part carried out by other service and facility providers although the port still plays a “landlord” role through the provision of land and, in some cases, the underlying infrastructure (for example, common user terminals) to the service providers.

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4 In the ports of Geelong and Hastings, Toll Ports is the port manager and also provides most stevedoring services.
2.1.1 Port of Melbourne

The Port of Melbourne is Australia’s largest container port, handling 39 per cent of Australia’s container trade. It is the only Victorian port that regularly handles container trade.

The port is managed by the Port of Melbourne Corporation (PoMC) which was established on 1 July 2003. All land within the port boundaries is owned by PoMC, while the channels are owned by the Government and licensed to PoMC.

The Port of Melbourne currently has 34 commercial berths at five major docks, wharves in the Yarra and Maribyrnong rivers, and piers in Williamstown and Port Melbourne. The container trade is served by two four-berth international container terminals. According to the PoMC, forty-two container shipping lines, as well as a number of other general cargo carriers, make around 3200 ship calls a year to Melbourne.

The port is serviced by more than 100 nautical miles of shipping channels and fairways between the Port Phillip Heads and the berths on the Yarra River, at Williamstown and Station Pier, Port Melbourne.

Freight volumes for port of Melbourne

The volume and composition of freight has important implications for both port capacity (and hence the need for additional stevedoring capacity) and transport needs. Container trade is the most significant type of cargo handled at the Port of Melbourne. This is likely to continue to be the case as future growth in container trade is expected to be strong and at a higher rate than non-containerised trade at the port.

Total trade at the Port of Melbourne was 27.8 million mass tonnes in 2005-06, a decline of 0.3% on the level reached in 2004-05. In 2004-05, 58% was import trade and 42% export trade, with containers representing 65% of the total trade (measured in terms of mass tonnes) through the port (Figure 2.1). As indicated in Figure 2.1, containers make up a much higher proportion of the export trade than

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5 http://www.portofmelbourne.com/business/aboutport/
6 The PoMC was formed from the Melbourne Port Corporation, which ceased operations on 30 June 2003, and, from 3 November 2003, the Victorian Channels Authority in relation to the channels and port waters of the Port of Melbourne.
7 http://www.portofmelbourne.com/business/aboutport/
8 http://www.portofmelbourne.com/business/aboutport/. The main channel used by cargo ships – the South Channel – is 45 nautical miles in length.
9 Mass tonnes is a quantity measure based on the weight of the cargo. Trade shares (across the different cargo types) can also be analysed in terms of ‘revenue tonnes’ which is a quantity measure based on the greater of weight in mass tonnes and volume in cubic metres.
of the import trade (with liquid bulk and, to a lesser extent dry bulk being the other significant components of imports).\(^ {10} \)

Figure 2.1: **Port of Melbourne export/ import shares (% of mass tonnes) - 2004-05**

- Container imports, 30%
- Container exports, 35%
- Other imports, 28%
- Other exports, 7%

Source: PoMC (data provided for the Commission’s *Port’s Monitoring Report 2005-06*).

The Port of Melbourne’s port development plan includes forecasts up to 2035 for trade at the port. These forecasts are discussed in Appendix B.

**Role of PoMC**

PoMC’s role can be described as conforming to the “landlord” model. Under this model, the port corporation provides services relating to core activities with other ‘non-core’ activities provided by private operators.

The services provided by the PoMC include:
- the provision and maintenance of shipping channels, navigation aids and associated information systems;
- shipping control services carried out by the Harbour Master;
- provision of berths, cargo marshalling areas, and short term storage facilities;
- provision of road and rail infrastructure within the port boundaries;
- management of property and leasing sites to tenants;

\(^ {10} \) Further details on the composition of trade at the Port of Melbourne (and other Victorian ports, including the Port of Hastings) are available in the Commission’s Ports Monitoring Report 2005-06 (available on the Commission’s website).
• direct management and maintenance of common user berths and associated facilities;
• coordinating safety and environmental plans for the port and facilitating port tenants’ and service providers’ compliance with safety and environmental protection regulations;
• port promotion and marketing;
• trade facilitation; and
• strategic planning of the port.

Other services within the port are provided to shipping and freight operators by private sector companies operating under long-term leases with the PoMC (see section 2.2 below).

2.1.2 Port of Hastings

The port of Hastings, in Western Port Bay is owned by the Port of Hastings Corporation (PoHC), which is a statutory corporation, established in January 2004 under the Port Services Act 1995 (PSA).

The port of Hastings has five berths at three separate locations. The main products handled are petroleum products (exports of crude oil and LPG and imports of refined products) and steel.

PoHC administers the Port Management Agreement (Port of Hastings) (the PMA) which provides for the daily operation, including the stevedoring services, of the existing facilities of the port to be undertaken by Patrick Ports (formerly Toll WesternPort), a division of Asciano. The term of the PMA was ten years (commencing June 1997) with two further options of five years each available to the operator.\(^\text{11}\) PoHC retains responsibility for planning future port infrastructure requirements.

Under the PMA, Patrick Ports is required to maintain the condition of the property and infrastructure within the Port of Hastings. There is an agreed 5 year maintenance program which is reviewed annually by PoHC. Patrick Ports has a “Channel Operating Agreement” with the Victorian Regional Channels Authority which requires it to operate and maintain the channels.

While there is no container trade at the Port of Hastings, the port has been identified by the Victorian Government as its preferred site for future container development, once capacity at the Port of Melbourne has been reached.\(^\text{12}\) Planning frameworks are discussed further in Chapter 4 of this Draft Report.

2.2 Port services and service providers

2.2.1 Container stevedoring services

The primary roles of container stevedores are to load and unload ships, but they also typically provide other related services such as temporary storage, maintenance and repositioning of containers, and services that facilitate the movement of containers from the wharf to land transport links. In the process, stevedores control access to their terminals by land transport operators (part of the landside interface).

Container freight and stevedoring services at the Port of Melbourne

Containerised freight is cargo carried in shipping containers. The main containerised commodity exports are miscellaneous manufactures, dairy products, cereal grains and beverages; while the main imports are miscellaneous manufactures, paper and newsprint, electrical equipment and furniture. Compared to other freight types, handling of container cargoes require large marshalling areas and expensive specialised gantry cranes. The large fixed costs involved encourage concentration, as large throughputs are needed for container terminals to be viable.

Container trade at the Port of Melbourne is primarily handled by the two international container terminal operators at Swanson Dock operated by separate stevedoring companies. Both terminals are serviced by rail and are adjacent to container parks and other logistics facilities.

The stevedores operating facilities at Swanson Dock are DP World (formerly P&O) and Patrick (which is in turn owned by Asciano). Patrick operates Swanson Dock East, and DP World operates Swanson Dock West. Each terminal has four berths and operates seven days a week.

The Port of Melbourne 2005/06 Customer Handbook also indicates that there is land for container cargo at Webb Dock East (which is primarily used for motor vehicles) and at Appleton Dock (albeit with ‘limited capabilities’ to handle containers). Overall, only a ‘small amount’ of international container trade is handled at Webb Dock.

The two stevedores at Swanson Dock have long term leases which are of similar duration. Asciano has indicated that it has a 21 year lease (from 1993 to 2013) for berths 1 to 4 Swanson Dock East with a further 21 year option.

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14 PoMC (2006), Port of Melbourne Corporation Annual Report 2005/06, p.23
16 PoMC (2005), 2005/06 Customer Handbook, pp.9-10
18 Toll Holdings Limited (2007), Restructure Scheme Book, p.152
The stevedores manage the immediate landside interface of the container terminals, such as truck and train management and loading. The efficiency with which these services are carried out has an impact on their competitive position.

Figure 2.2: Swanson Dock stevedore and rail terminals

2.2.2 Other stevedoring services

While the terms of reference relate particularly to container stevedoring and related services, they also invite the Commission to consider the impact of planning frameworks on entry into other port or port related services – for example stevedoring for Ro Ro or non-containerised freight.

PoMC typically distinguishes Bass Strait or Tasmanian trade from other cargo types. Tasmanian trade includes container, breakbulk and new motor vehicles. Patrick (Asciano), Toll Shipping and ANL Limited all participate in this trade, although Toll Ports (now part of Asciano) provides the stevedoring for ANL. 19

The bulk of the Tasmanian trade is handled at the roll-on roll-off facilities in Webb Dock.

At the time of the merger of Toll and Patrick in 2006, Toll and Patrick subsidiaries were the two largest of the four operators providing Bass Strait shipping services.

19 Toll is contracted to the ANL trans-Bass Strait trade providing general and container stevedoring services at Appleton dock (http://www.tollports.com.au/).
Similarly, Toll and Patrick companies held a high market share for freight forwarding services for this trade. To address Australian Competition and Consumer Commission (ACCC) concerns regarding the competition implications of the merger, Toll undertook to divest the Patrick Bass Strait Shipping and Patrick Tasmanian Freight Forwarding businesses. The divesture of these businesses occurred in February 2007 to a Tasmanian consortium (the Chas Kelly consortium)\textsuperscript{20}. They appear to account for around 30% of the Bass Strait container trade.\textsuperscript{21}

Breakbulk (or general) cargo is non-bulk cargo that is not containerised. It includes timber, paper, steel, vehicles and vehicle components. Handling of these cargoes typically requires relatively less port infrastructure and simple cranes or forklifts, compared to the requirements of container terminals.

Motor vehicle terminals are operated by Patrick (at Webb Dock East) and Australian Amalgamated Terminals (AAT)\textsuperscript{22}. AAT operates the Webb Dock West motor vehicle terminal as a multi user facility for stevedores and pre-delivery inspection operators.

The PoMC PDP states that Webb Dock will continue in its current use until around 2015, and that in the long term displaced motor vehicle and breakbulk will be relocated to general cargo facilities elsewhere in the port or to another Victorian port.\textsuperscript{23}

Other Breakbulk is principally handled by DP World or by Westgate Ports\textsuperscript{24} at common user facilities, such as Appleton Dock.

Liquid bulk includes crude oil, refined petroleum products and chemicals. Dry bulk includes cement, fertiliser and grain. Dry bulk often requires specialised bulk handling and loading equipment, while liquid bulk cargoes are pumped via pipelines to holding tanks. Although liquid and dry bulk cargoes are handled at common user facilities, the companies using these facilities may have related storage or processing facilities on adjacent land or pipeline connections to facilities outside the port.

\textsuperscript{20} Toll Group (7 February 2007), Media Release, \textit{Divestment of Patrick Shipping and Tasmanian Freight Forwarding businesses}.

\textsuperscript{21} Toll Holdings Limited (undated), \textit{Patrick Bass Strait Shipping, Patrick Tasmanian Freight Forwarding: Invitation to Register an Expression of Interest}, p. 3 indicates that its two ships, which are used specifically in the Bass Strait trade, are forecast to transport 93,000 TEU in the year ending September 2006. PoMC’s 2005-06 Annual Report indicates that the coastal trade in 2005-06 was 404,000 TEU (p.23) and shipments to and from Tasmania represent approximately 76% of this trade (p.26).

\textsuperscript{22} AAT is owned by Asciano (50%), DP World (25.5% effective share) and Kaplan Funds Management (24.5%).


\textsuperscript{24} The acquisition of Westgate’s logistics operation by Linfox was reported on 24 July 2007 in the media. However, the acquisition did not include Westgate Ports.
2.2.3 Container handling, storage and transport services

The ACCC has noted that landside transfer capacity – that is, the movement of cargo from the stevedoring terminal to road and rail – is an important aspect of port capacity and the entire logistics chain more generally.\textsuperscript{25}

_container handling and storage_

Container handling and storage encompasses the following services and facilities:

- handling of containers, including: transfer of incoming (export) containers by rail to a terminal (by road), repositioning of containers within the terminal, and the transfer of outgoing containers from the terminal/storage area to road/rail
- container tracking and control
- empty container storage

\textsuperscript{25} ACCC (2006), \textit{Container Stevedoring Monitoring Report No.8}, p.36
- full container short term holding\textsuperscript{26}
- container repair, fumigation and cleaning.

Storage space and facilities are distributed throughout the port, including at the stevedoring terminals. The main container storage areas are Swanson Dock and Webb Dock with a smaller storage capacity at Appleton Dock. There are also cold and food storage facilities at Victoria Dock, and container storage at South Wharf precinct. The PoMC has also noted that off-port container parks are becoming increasingly important to the operation of the port\textsuperscript{27}.

Providers of these services at the Port include:

- P\&O Trans Australia (POTA) a logistics business, principally operating from the West Swanson Intermodal Terminal, which, in addition to providing rail, transport services, and pack/unpack services, provides container storage services\textsuperscript{28} POTA is 50\% owned by DP World (and 50\% by Kaplan Diversified Infrastructure and Logistics Fund);

- Patrick Port Services (owned by Asciano) which, in addition to land transport and import/export pack and unpack operations services, provides container cleaning and preparation services, empty container storage and ancillary services and container distribution services; and\textsuperscript{29}

- DP World, which, in addition to stevedoring services, import/export pack and unpack operations, and Adelaide land bridging services \textsuperscript{30}.

In total, there are 13 container parks and depots in Melbourne, mostly neighbouring the Melbourne port area and the Maribyrnong-Yarraville area (see Figure 2.4). These businesses provide a range of services for shipping lines in relation to dehire, storage, cleaning, treatment and repair of shipping containers. They are located close to port primarily for convenience in regard to ‘stack runs’ to the berths for international repositioning via ship after an import move, and to minimise the cost to shipping lines of these moves.

Container park operators have contracts with shipping lines for provision of these basic services. The independent businesses tend to work daylight hours only in line with operating hours at most container freight customers. The parks associated with POTA and Patrick have the capacity to operate on a 24 hour basis when required (e.g. for empty container runs, or to meet customer contracts).

\textsuperscript{26} At the port, import containers are held on site for up to 3 days without charge, awaiting collection by the customer’s road transport operator or are placed in stacks for loading to rail. Export containers are received up to 4 days in advance of ship’s arrival and held in stacks prior to loading.

\textsuperscript{27} PoMC (2006), \textit{Port Development Plan 2006-2035 Consultation Draft August 2006}, p.103

\textsuperscript{28} DP World Melbourne (2007), \textit{Essential Services Commission – Port Planning}, p.1

\textsuperscript{29} Asciano (2007), \textit{ESC Review of Port Planning}, Submission, pp.13-14

\textsuperscript{30} Ibid, p.14
Transport services

Land transport operators move container (and other) freight to or from stevedore terminals and container parks and to or from exporters and importers.

The stevedoring companies control the movement of containers between the stevedoring terminal and road and rail. In relation to the road interface, stevedores operate vehicle booking systems (VBS)\(^{31}\), which provide timeslots for selection by individual road transport operators.

The costs of loading and unloading containers from trucks are included in the basic terminal services charges. To secure a timeslot the truck must pay a booking fee, and loading and unloading from rail is charged separately. The fee for handling containers onto or from land transport services varies by mode — that is, the fee applicable to shipping containers delivered or collected by truck and the stevedore shipping container handling fee applicable to shipping containers delivered or collected by rail are different.\(^{32}\)

\(^{31}\) The VBS systems are independently administered, but jointly developed through a joint venture called ‘1-stop.

Road services (wharf cartage)

According to PoMC, more than 80 per cent of containerised port trade is moved by road transport\(^33\). As noted above, stevedores manage access to the terminal by transport operators. Work practices of the road transport companies and their clients determine the times at which they seek access.

The November 2000 report ‘Aspects of the greater Melbourne freight task’ stated that there were over 300 road transport carriers servicing the Port of Melbourne\(^34\). However, according to the Victorian Transport Association (VTA)\(^35\) consolidation has been occurring in the Melbourne road transport market, with the top 25 road transport companies having a total market share of containerised trade through the Port of Melbourne of between 70 and 80%.\(^36\) Asciano notes in its submission that there ‘are fewer road transport operators in the Port of Melbourne than in other ports such as Port Botany and this improves efficiency of the port land transport interface’\(^36\).

Consistent with this, the Commission has been advised that there are an estimated 250 wharf cartage companies servicing the Melbourne terminals, with the 10 largest of these operators are thought to command around 65% of the activity, with the dominant Melbourne cartage companies being POTA and Toll, with an estimated combined market share of 20%.\(^37\) These companies range from large corporate entities affiliated with the stevedores to single vehicle businesses.

Wharf cartage companies operate from depots and bases either in the port environs, nearby industrial suburbs, or in outer suburban industrial zones. The larger companies have depots close to the port. Typical depots consist of administration centres, yards for holding loaded and unloaded vehicles, hardstand areas for short term storage of containers (between customer and port terminal) and vehicle maintenance activity. POTA and Toll have substantial depots adjacent or close to the terminals in the port environs and operate major container parks in their own right.

Smaller operators do not operate their own depots, but simply park vehicles on suitable land or property in their suburban or regional base, and out-source the servicing of their vehicles.

As noted previously, the two main stevedores at the Port of Melbourne are Patrick and DP World. Patrick used to be part of the Toll group. However, in June 2007 Toll’s infrastructure assets were spun-off to Asciano, while the logistics and


\(^35\) Victorian Transport Association (VTA) (2007), Submission to IPART, *RE: Review of the Interface between the Land Transport*, p.4

\(^36\) Asciano (2007) *ESC review of port planning: Submission*, p.14

\(^37\) Based on information provided to the Commission by Strategic design and Development.
transport services remained with Toll. Toll and Asciano are required, as part of undertakings to the ACCC, to remain separate and unrelated companies.\textsuperscript{38}

Nevertheless, as noted by PoMC, Asciano still has some vertical integration with the land-side interface:

\textit{Patrick provides port-related rail services and rail-based freight forwarding services through its PortLink operating division and a wide range of land-based, port-related transport services to shipping lines, freight forwarding agents, customs brokers, importers and exporters, including container park facilities through its Port Services Division.}\textsuperscript{39}

DP World owns a 50% stake of P\&O Trans Australia which operates a land transport business. Container services provided by P\&O Trans Australia include the metropolitan transportation of full and empty containers by road and rail, bonding and fumigation, survey, repair and storage, pack/unpack and freight station operations\textsuperscript{40}. DP World therefore has an affiliated land transport business, although according to the VTA they ‘…operate on an arm’s length commercial relationship basis.’\textsuperscript{41}

Rail services

Rail service and facility operators within the port are\textsuperscript{42}:

- Pacific National Limited and the Patrick PortLink Division (both subsidiaries of Asciano), and
- Australian Railroad Group (\textbf{ARG}), CRT Group Pty Ltd, QRNational (all subsidiaries of Queensland Rail), and, in the future, El Zorro.

The types of train operations that service the port are:

- interstate trains
- intrastate trains, and
- until recently, port shuttles (intra urban services designed to transport containers between the port and major distribution centres).

The major market sectors are regional agricultural export producers from around Victoria and southern NSW, and interstate land-bridging and repositioning of empty containers. Land-bridging involves the transfer of loaded containers from the port at which they land to another city (or the reverse in the case of exports). This

\textsuperscript{38} ACCC (18 April 2007), \textit{News Release, ACCC requires “clean break” between Toll Logistics and infrastructure companies.}

\textsuperscript{39} PoMC (2007), \textit{ESC Review of Port Planning}, p.37

\textsuperscript{40} PoMC (2007), \textit{ESC Review of Port Planning}, p.37

\textsuperscript{41} VTA (2007), Submission to IPART, \textit{RE: Review of the Interface between the Land Transport}, p.6

mostly occurs between cities not on common shipping schedules, such as between Adelaide and Melbourne. Repositioning of empty containers utilises spare slots on the train and is done at reduced charge. Between ports that do have good shipping schedules such as Melbourne/Sydney/Brisbane, containers are usually repositioned by ship.

Pacific National is the major provider of interstate and intrastate train services, currently operating all regional freight services in Victoria and with a market share (by volume) of over 80% of interstate services43.

While Pacific National operates the majority of long distance intermodal trains, SCT operates between Melbourne/Adelaide/Perth and QRNational operates between Brisbane/Sydney/Melbourne and operates a land-bridging service through its Adelaide-Melbourne train. This land-bridging service carries wine, paper and car parts exports from South Australia and general retail imports in the other direction from Melbourne. SCT rails interstate freight to and from its Laverton terminal and provides distribution services from this terminal.

Pacific National operates regional (intrastate) export services more or less daily from six Victorian regional hubs and are capable of being handled at several terminal areas in Dynon and Swanson Dock. On 22 August 2007, El Zorro announced a rail freight agreement with AWB GrainFlow to deliver grains to Port Kembla, Port of Melbourne and the Port of Geelong. It is estimated that El Zorro will deliver around 15-20% of the total Victorian rail grain task for the new season (commencing November 2007).

The intrastate services are contestable as the below rail track access is provided on competitively neutral terms by V/Line Passenger under the Victorian Rail Access Regime. Similarly, the interstate services are operated on the ARTC network which is also subject to an access regime.

According to PoMC’s submission to the Review, the PortLink Division provides port-related rail services and rail-based freight forwarding services.44 Hence, Asciano is vertically integrated in the provision of rail and stevedoring services to the Port of Melbourne. However, PoMC, in its submission to the Review notes:

Even though Asciano has a substantial presence in the Victorian port-related rail market, there is some evidence of a number of competitors. Queensland Rail (QR) currently operates interstate (standard gauge) trains into the [P&O Trans Australia] terminal at West Swanson Dock. Other rail operators such as El Zorro, SCT, and the Australian Railroad Group are also in the market providing line haul services to ports around the country.45

The third category of rail services are port shuttles, designed to haul intra-urban freight between the port terminals and suburban industrial hubs. Until February

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43 Based on information provided to the Commission by Strategic design and Development.
44 PoMC (2007), ESC Review of Port Planning, p.37
45 ibid, p.38
2007, CRT Group Pty Ltd (a QRNational affiliate) operated shuttle trains to the port from its terminal in Altona North.

**Rail and Road Infrastructure providers**

**Road infrastructure**

PoMC is responsible for the road network within the port boundary. VicRoads is the Victorian Government statutory corporation responsible for managing the Victorian road network including road management and construction. VicRoads also has safety, licensing and registration functions. VicRoads issues guidance on maximum weights for differing vehicle specifications. In 2004, 89% of Victoria’s main roads were approved for use by B-doubles and higher mass limit vehicles (although the use of Super B-doubles, B-triples and other specialised trucks is mainly limited to the port road network).

**Rail infrastructure**

Rail access to the port is provided through the inner western rail corridor and through the Dynon rail terminals to the north of the port. The port links to both the interstate and intrastate rail networks and all within-port rail are constructed as dual gauge.

In order to access the port (or an intermodal terminal outside the port) rail operators need to gain access not only to the interstate or intrastate rail lines, but may also need to access to parts of the metropolitan (passenger) network. Passenger trains have priority on the intrastate and metropolitan networks, which can delay the movement of freight trains.

Control of the various networks is split across several parties:

- Victorian interstate rail lines to Sydney (Southern Cross Station to Albury) and to Adelaide (Tottenham to Wolseley on the SA border) are leased to the Australian Rail Track Corporation (ARTC). ARTC is responsible for selling access to train operators, capital investment in the corridors, management of the network and maintenance.

- Since May 2007, V/Line Passenger Pty Ltd (V/Line) has managed the Victorian intrastate network. V/Line is responsible for the provision of access to freight and passenger train operators (and also operates above rail passenger services) on the network. This includes some non-electrified, broad gauge freight-only lines in and around Melbourne including the Port of Melbourne. VicTrack develops and manages certain other rail sites and facilities.

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47 PoMC (2006), Port Development Plan 2006-2035: Consultation Draft August 2006, p.85. However, VicRoads carries out normal heavy vehicle enforcement on port roads while Victoria Police enforces the standard road regulations, including speeding.

48 ibid, p.84

49 http://www.artc.com.au/about/about.htm
• Connex is responsible for the maintenance of the electrified suburban train network in Melbourne. Connex also operates the train control centre for all movements over the electrified metropolitan rail network.50

• Rail track/sidings not leased to another operator (Connex, V/Line or ARTC) are managed by VicTrack. These track sidings are in the sidings in the Dynon, Somerton and Cresco precincts.

PoMC owns a rail siding to Appleton Dock, Swanson Dock East connecting into the Patrick siding and the Australian Bulk Alliance siding and Swanson Dock West connecting to the DP World siding. Operations of the sidings are managed by ARTC.

Figure 2.2 illustrates the location of the Patrick rail terminal and the POTA intermodal terminal (which also includes export storage)51. Only at the Asciano international container terminal is there on-dock (dual gauge) rail access.52 DP World’s rail siding is located at the West Swanson Intermodal Terminal, adjacent to its dock, and containers are delivered between them by truck.53 There is also a broad gauge rail connection from Dynon terminal to properties to the west of the Maribyrnong River, with one container park in the area using rail. There is no current rail connection to Webb Dock, but land has been reserved to allow a link to be constructed in the future; a new bridge would also be needed.

As part of the first stage of the Victoria Dock development being undertaken by Westgate Ports, there will be a rail link to Westgate Port’s Altona terminal.54 According to the Melbourne Metropolitan Port Shuttle Group, this development will provide dual gauge access to Victoria Dock and has the potential to be used for metropolitan port shuttle services. It is expected to be completed by May/June 2009.55

Regional export services are now largely unloaded and reloaded at Asciano’s East Swanson Dock rail terminal. Asciano handles this traffic with its own lifting gear and staff, transferring export containers to its own storage pads, as well as moving containers to be exported by DP World via an internal road transfer operation.

DP World’s siding on West Swanson Dock does not currently accommodate any Pacific National trains, but services the daily QR National Adelaide train.56

51 Essential Services Commission (2004), Amendment of the Price Determination of the Port of Melbourne, p.28
52 PoMC (2005), Port of Melbourne Safety & Environment Management Plan, Appendix B
54 PoMC (2006), Port Development Plan 2006-2035 Consultation Draft August 2006, p.91
56 ibid, p.8
Intermodal infrastructure

The South Dynon and Dynon intermodal terminals are located north of the port.

South Dynon is the largest terminal and is the hub for Melbourne's interstate freight. It is operated by Pacific National under a long-term lease. This terminal services long distance intermodal freight for Melbourne and Victoria, with a small proportion of port-related land-bridging traffic57.

Dynon Terminal is managed by VicTrack. On an interim basis, handling services for this terminal are provided by P&O Trans Australia. Dynon Terminal traditionally serviced regional export containers, however increasingly this freight moves directly into the Swanson Docks. However, Pacific National regional export trains still use the Dynon terminal when there is congestion at the Asciano siding in the port.

Other terminals within the Melbourne area are located at Somerton (AusTrack), Altona (CRT) and Laverton (SCT). According to the Melbourne Metropolitan Port Shuttle Group, Westgate Ports is constructing intermodal terminals at Altona and Lyndhurst which are expected to be completed in 2010.58

Outside of metropolitan Melbourne, PoMC states that the regional intermodal terminals are all operated by commercial entities on land leased from VicTrack. PoMC notes that these terminals contribute a significant part of the port's rail volume.59

2.2.4 Other services and providers

Clause (d) of the specific terms of reference invites the Commission to consider the impact of planning frameworks on entry into other relevant port or port related services identified during the course of the Review.

Other key service providers involved in moving containers through the port include shipping lines, freight forwarders and customs brokers. Shipping lines own (or charter) and operate vessels which transport freight by sea. They also own or lease the freight containers, allocate them to users and manage them through the supply chain. Freight forwarders market container space and act as agents for exporters and importers to coordinate the movement of freight. As part of this, they book space on ships, organise container pick-up and delivery and arrange for the return of empty containers to terminals.60 Customs brokers act on behalf of importers to arrange clearances through customs and quarantine.

Shipping services facilitate the safe movement of commercial shipping through the port. Shipping services include:

57 Based on information provided to the Commission by Strategic design and Development.
58 Melbourne Metropolitan Port Shuttle Group, Letter to Rail Freight Network Review (August 2007), RE: Victorian Rail Freight Network Review, p.8
59 PoMC (2007), ESC Review of Port Planning, p.39
• shipping management: PoMC’s Melbourne Shipping Management Centre and the Point Lonsdale Signal Station control the movement of shipping within port waters. As part of this, PoMC coordinates port services, and can organise berth allocation, tugs, linesmen, lines boats and pilots for shipping agents.

• pilotage: pilotage is compulsory for commercial shipping and is provided by Port Phillip Sea Pilots Pty Ltd.

• towage: towage is ordered through PoMC’s Shipping Management Centre. There are two towage operators at the port – Svitzer Australia (previously Adsteam Marine Pty Ltd) and Australian Maritime Services.61

• ancillary services: ancillary services include mooring and unmooring of ships, and quarantine and waste collections services. Skilled Maritime Services Pty Ltd and Ausport Marine provide ancillary services at the port62.

• maintenance services, and engineering and marine services. Skilled Maritime Services Pty Ltd is a provider of these services.63

There is a range of other miscellaneous services provided at the port. These include:

• Distribution and related services: warehousing, packaging, consolidation of loads, and pre-delivery and inspection services (services provided to overseas manufactured cars before the vehicles can be delivered to dealerships)

• Equipment services: maintenance, cleaning, storage depots for piles and marine equipment

• Other services: safety and security services, information and communications services, quality control, and customs and quarantine services (by the Australian Customs Service and the Australian Quarantine and Inspection Service respectively).

PoMC was the only stakeholder that addressed the issue of whether there should be any other services (under clause (d) of the specific terms of reference) considered by the Commission in this Review. PoMC stated:

The services that may be affected by port planning (to varying degrees) include tugs, line boats, mooring service providers, emergency response providers and marine maintenance services. The ESC should consider the market structures in these particular service areas prior to coming to a conclusion on the relative impact of port planning on entry of new service providers.64

In noting these services, PoMC commented that the current planning frameworks limit, to some extent, the availability of land for new service providers. This appears to relate to PoMC’s general point in its submission to the Review, that the draft Port

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61 Shipping Australia Limited (2007), Submission by Shipping Australia Limited to the Review of the Impact of Port Planning on Competition, p.2
62 http://www.portofmelbourne.com/shipping/services/ancilliary.asp
63 http://www.portofmelbourne.com/shipping/services/
64 PoMC (2007), ESC Review of Port Planning, p.20
Development Plan, by allocating sites to specific uses places a limit on the number of possible competitors.

That is, PoMC in identifying the other above services, has not identified that there are any barriers to entry in the port planning frameworks specific to these services. Moreover, no provider or (other) users of these services have raised any concerns through a submission to this Review, or identified any barriers to entry, regarding the provision of tug, line boats, mooring, emergency response and marine maintenance services.

For these reasons, the Commission does not consider that these services should be considered by the Review under clause (d) of the specific terms of reference. The Commission notes that any general barriers to entry to the provision of port services contained in the port planning frameworks will be assessed under clauses (a) and (c), concerning barriers to entry for the provision of stevedoring, container handling, storage and intermodal services.

Freight forwarding

While not necessarily carried out at the port, another important service in the logistics chain is carried out by freight forwarders.

Freight forwarders are agencies which provide international logistics arrangements including brokering, customs and quarantine and other barrier clearance, and shipping for freight customers. Some also provide warehousing. Major exporters and importers are increasingly incorporating their own freight forwarding capability in house, while small-medium businesses continue to out-source these services to these agencies.

There are around 95 Victorian members of the peak industry body for this sector. Many of the largest freight forwarders are international firms such as DHL, Panalpina World Transport, Schenka Australia, and Kuehne & Nagal. Toll is also a national rail, road and sea freight forwarder, and provides warehousing and distribution of goods.

2.3 Market structure overview

It is clear from the above discussion of port service providers that the market for landside interface services at the Port of Melbourne container terminals is complex and multi-faceted. It consists of a broad range of businesses operating either in specific market segments (such as road transport or empty container services) or in partially or fully integrated operations stretching across the supply chains. Integration of some companies’ sphere of operations is both horizontal (among competing service providers in a segment) and vertical (stretching between sequential services in a supply chain).

The hubs upon which all of these containerised freight supply chains are based are the two Swanson Dock port terminals operated by Patrick (Asciano) and DP World. Each of these terminals offers access to its services for import and export containers by both road and rail connections. Each terminal also has close operating relationships with associated businesses offering wharf cartage and empty container management (DP World with POTA and Patrick with Patrick Port
Services, Patrick PortLink and arguably Toll\(^65\)). Asciano also operates regional and interstate intermodal rail freight services. There are, however, considerable numbers of non-aligned road freight operators, container parks and freight forwarders catering to specific market sectors and creating chains between the port terminals and the freight end-users.

The market for all these land-side services can be defined as the Victorian import/export containerised freight-using industrial community, although there are some users based outside the state, including primary producer exporters in Southern NSW and customers of long distance rail freight services used for land-bridging containers between ports.

This market consists of a very wide range of customers, from major retailers importing up to 100,000 TEUs per year to small manufacturers or producers exporting 100 forty foot containers annually. The breakdown of this market, and the differing service needs, is illustrated below (Figure 2.5).

Figure 2.5: **Import/ export container market breakdown**

As can be seen, the supply chain requirements of end-users at each end of the curve vary. As a result, there are a broad range of wharf cartage companies and associated businesses with different service offerings in the sector.

\(^{65}\) Notwithstanding the demerger, to the extent that there remain contractual relationships at the present time, then there will remain a strong relationship between the entities.
2.4 Preliminary Conclusions - port services

The services to be considered in this Review are stevedoring services, container handling, storage, transport and intermodal services. The Commission has not identified any other relevant port or port related services under clause (d) of the specific terms of reference.

Container handling and storage services include loading/unloading containers from trucks and trains, transfer of incoming (export) containers from the on-dock rail terminal, repositioning of containers within the terminal, the transfer of outgoing containers from the terminal/storage area to road/rail, container tracking and control, temporary storage on the cargo marshalling area, and storage facilities for containers (including for empty containers) either within the stevedoring terminal or off-terminal (including at intermodal terminals).

Transport services include road and rail transport services, and the provision of road and rail infrastructure both within and outside the port.
The purpose of this chapter is to assess the level of competitive behaviour between current stevedores at the port of Melbourne. This is directly relevant to the potential benefits from increased competition, through entry of a new stevedore.

An approach the Commission has previously adopted to assessing the level of market power is to:

- define the market;
- define what is meant by market power; and
- given these first two steps, identify the existence of market power.66

### 3.1 The stevedoring market

Defining the market appropriately is important for assessing the degree of market power in an industry, since it defines the relevant arena for competition. Too narrow a definition could result in a conclusion that suppliers have more market power than they actually possess. Conversely, too wide a definition of the market could imply the absence of market power when in fact it is substantial.

A market is a ‘field of actual and potential transactions between buyers and sellers amongst whom there can be strong substitution, at least in the long run, if given a sufficient price incentive’.67 Four possible dimensions of the market are product, geographic, functional and time. Each of these is discussed in turn.

**Product**

A ‘market’ consists of buyers and sellers of the same or similar goods/services, or with other goods/services that are effective substitutes. The substitutability of goods/services depends on the degree to which they can be used by the consumer to meet the same need or purpose.

The ‘products’ which are the subject of this Review are set out in Chapter 2. Previously, the Commission has found that the port terminals serving each of the main ‘pack types’ such as dry bulk, liquid bulk, motor vehicles, other break bulk and containers, are all specialised and for the greater part, unsuited to providing cargo handling services to other pack types. For this reason, each pack type can be seen as a separate and distinct freight handling service.

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66 This was the approach adopted in the Commission’s report on *The Supply of Bottled LPG in Victorian, Final Report* (2002).

The primary role of container stevedores is to load and unload ships. However, stevedores also typically provide other related services such as temporary storage, maintenance and repositioning of containers, and services that facilitate the movement of containers from the wharf to land transport links (land-side interface services).

There are therefore two broad products provided by stevedores (or affiliates) – container stevedoring services and land-side interface services.

Geographic

The geographical extent of a market is limited to the area within which suppliers or consumers can exert an influence over prices in that market.

There is little competition in Australia between container ports, due to the distance between ports being too great to allow landbridging of containers between ports to be competitive with shipping.\(^6\) The exception is Adelaide which has about 25% of its containers shipped through Melbourne rather than Port Adelaide, as containers to and from North Asia and North America to Adelaide cannot be directly shipped as shipping services to these regions do not call at Adelaide. However, this represents only around 4.5% of the volumes forecast for the Port of Melbourne.

Within Victoria, the Port of Melbourne is the only port that regularly handles container trade. It handles over 95% of all containers with origins or destinations within Victoria.

The Victorian Government has identified the Port of Hastings as its preferred site for future container development. While its future role is currently seen as complementing rather than competing with the Port of Melbourne, this nevertheless indicates that there is potential for competition with the Port of Melbourne within Victoria. Partly, this is because Hastings is close to Melbourne, with good road links, and approximately 80% of Victoria’s containerised trade has origins and destinations within the Melbourne metropolitan area.

Therefore, the appropriate geographical extent of the market for container stevedoring is Victoria.

This is also true for container handling, storage and other land-side interface services, which would be part of any other container development, either within the Port of Melbourne or at another location in Victoria, such as Hastings. Moreover, some of the activities are also currently provided outside of the port environs. As noted in Chapter 2, there are currently 12 container parks and depots in Melbourne that provide services for empty containers. Moreover, the lifting and handling of containers from trains occurs both within the port as well as the Dynon terminals.

In summary, the appropriate geographic location is Victoria.

Functional

The functional dimension of defining the market requires consideration of the extent to which the relevant stages of production should be included in order to identify the area of competition. As noted in the ACCC Merger guidelines:

\(^6\) Menrick and Associates (2007), *International and Domestic Shipping and Ports Study*, p.56
Delineation of the relevant functional market requires identification of the vertical stages of production and/or distribution which comprise the relevant arena of competition. This involves consideration of both the efficiencies of vertical integration, commercial reality and substitution possibilities at adjacent vertical stages.

Where there are overwhelming efficiencies of vertical integration between two (or more stages), it is appropriate to define separate function markets.\(^6^9\)

Stevedoring and land-side activities at the port are one part of a supply chain that starts from the place of products manufacture (either in Australia or overseas), which is then packaged and moved to port, shipped to another port and then distributed to an ultimate customer (typically outside the port).

As noted previously, stevedores accept, store and release containers via interfaces with land transport operators. Handling containers within the container terminal is also an intrinsic part of the service the stevedores provide to their customers. As the stevedores control the site within which their operations take place, these services of storing and despatching containers from the marshalling areas cannot be efficiently unbundled from ship loading/unloading activities at the present time, and are not charged as a separate service.

Therefore the relevant market is that of providing a single integrated service of moving containers to/from ships to land transport operators, and includes the unloading and loading of ships, container handling, storage and land-side interface services. However, there is a sub market for services such as storage, which can be undertaken at another part of the supply chain (e.g. containers can be stored outside of the port).

**Time**

The time dimension of the market refers to the period over which substitution possibilities which would provide a constraint on the exercise of market power should be considered. For example, if substitution between products takes a considerable time, then price signals and demand responses will only be observed over the longer term.

Substitution possibilities for container stevedoring services at the Port of Melbourne can arise over a short period of time — for example, substitution between the two current stevedores by shipping lines (they usually contract for five years) — as well as over a long period of time, where substitution is from the existing suppliers to a new entrant. The development of any new container facilities will require a significant lead time, as discussed in Chapter 6.

**Conclusion**

The market in which container stevedores operate has been defined as the market for container stevedoring, handling, storage and land-side interface services within Victoria, considered over a long time frame.

\(^{69}\) ACCC (1999), *Merger guidelines*, p.38
3.2 Definition of market power

Market power exists when a supplier has the ability to maintain prices above competitive levels, or above the economic cost of supplying the good or service. The ACCC defines market power as:

> the ability of a firm to divert prices, quality, variety, service or innovation from their competitive levels for a significant period of time.\(^7^0\)

In a competitive market prices are set at a level that is just sufficient to cover the costs of supply, including a risk adjusted rate of return on invested capital, because pricing above that level will result in loss of market share to competitors. “Effective competition” is a degree of competition that delivers an outcome which approximates the results expected from a competitive market. Effective competition may be said to exist if none of the participants in the relevant market can exercise substantial market power – that is impose and sustain prices significantly above the competitive level without losing market share to competitors.

3.3 Identifying Market Power

Identifying the existence of market power involves examining whether market conditions and outcomes are inconsistent with those expected in the presence of effective competition.

The effectiveness of competition can be usefully analysed in terms of the structure of the relevant market and the conduct of suppliers and customers and the resulting performance of the market in terms of price, cost and service quality outcomes.

In assessing the competitive effects of mergers, the ACCC has regard to a number of factors which are potentially relevant to the exercise of market power\(^7^1\). These include:

- market concentration (the number and size distribution of competing suppliers);
- barriers to entry;
- countervailing power;
- availability of substitutes;
- vertical integration; and
- prices and profit margins.

None of these factors alone are sufficient as indicators of market power. Testing for market power using ‘market analysis’ of this type, typically involves establishing that a number of these factors are present, which taken in combination, would support a conclusion that suppliers are able to sustain prices significantly above

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\(^7^0\) ACCC (1999), *Merger guidelines*, p.23

\(^7^1\) Ibid, *Merger guidelines*, pp.43-60
efficient costs without losing market share to other competitors (if any) or to substitute products.

These factors will be assessed below, as will the views of submissions to this Review, a framework developed by Kaufmann to assess whether there are any changes in the exercise of market power and analysis by the ACCC.

3.3.1 Stakeholder views

Both Anglo Ports and the Habitat Trust noted data on rates of return for Australian stevedores contained in ACCC stevedoring monitoring reports. For example, Anglo Ports stated:

Each year since 1999/2000 profits and rates of return at container terminals in Australia have risen substantially and in 2005/6 the rate of return on assets of Australian stevedores was either four times or twice that of other comparable stevedores (Container Stevedoring Monitoring report no 8...)

...It is submitted that if the planning frameworks had been managed as Anglo Ports submit...there would already be a container port at Hastings, there would be competitive pressure to reduce the charges of the duopoly.72

While not directly addressing the issue of the market power of incumbent stevedores, Hutchison Port Holdings identified a need to increase competition:

HPH believes there is a compelling case to support increased competition in the stevedoring industry in Victoria and Australia.73

Asciano contrasted trends in stevedoring charges (under a duopoly) with land side costs:

Strong investment within the port has delivered benefits to importers and exporters by driving lower real unit costs. It is interesting to note, in an industry where a number of operators participate, land side costs have increased.74

3.3.2 Market analysis

Concentration

Concentration of market shares in the hands of a small number of large firms is often used as an important indicator of the presence of market power.

74 Asciano (2007), ESC Review of Port Planning, Submission, p.6
The ACCC provides the following reasons why concentration may be a relevant factor.\textsuperscript{75}

- It may indicate that a firm has unilateral market power which allows it to ‘give less and charge more’ without being threatened by competitors. For undifferentiated products this requires the firm to control a substantial portion of capacity, to enable smaller reductions in its own output to achieve a given price increase. This factor is exacerbated for differentiated products, as brand loyalty may inhibit smaller rivals from preventing the unilateral exercise of market power.

- The smaller the number of firms operating in a market the greater the scope for coordinated conduct, including overt and tacit collusion. With a small number of firms it is easier to reach agreement on the terms of coordination, to signal intentions to other market participants and to monitor behaviour.

- Evenly balanced market shares may increase the commonality of interest between market participants in some circumstances. Alternatively, having one firm with a large market share may increase the likelihood of price leadership.

- Where the level of concentration has been stable for a long period, this may suggest that there are barriers to the entry of new market participants.

However, while a concentrated market is likely to be a necessary condition for the exercise of market power it is not a sufficient condition. For example, tacit or explicit collusion among concentrated sellers will be more difficult when new competitors can enter the market relatively easily, products and services are differentiated, when cost conditions differ significantly between sellers or when rapid technological innovation is occurring.

In assessing a merger, the approach of the ACCC is, if the merger will result in a:

\textit{combined market share of the four (or fewer) largest firms (CR4) of 75 per cent or more and the merged firm will supply at least 15 per cent of the relevant market, the [ACCC] will want to give further consideration to a merger proposal before being satisfied that it will not result in a substantial lessening of competition. In any event, if the merged firm will supply 40 per cent or more of the market the Commission will want to give the merger further consideration. The twofold thresholds reflect concerns with the potential exercise of both coordinated market power and unilateral market power.}\textsuperscript{76}

The measure of concentration used by the ACCC is a “concentration ratio”, which is the aggregate market share of the n largest firms in a market. The four- firm concentration ratio (CR4) is the combined market share of the four largest firms in the market, and the two-firm concentration ratio (CR2) is the combined market share of the two largest firms in the market. Empirical studies have found that CR2 is a better indicator of market power.\textsuperscript{77}

\textsuperscript{75} ACCC (1999), \textit{Merger guidelines}, p.43
\textsuperscript{76} Ibid, p.44
\textsuperscript{77} Martin S. (1993), \textit{Advanced Industrial Economics}, p.171
An alternative measure of concentration is the Hirschman-Herfindahl Index (HHI). It is calculated as the sum of the market share of each firm. In the United States, the HHI is used to evaluate the potential effects of a merger on market concentration. For example, the US Horizontal Merger Guidelines use thresholds for evaluating a horizontal merger and its potential to generate market power and reduce competition. The Guidelines define the pre-merger market as being:

- unconcentrated if the HHI is less than 1,000,
- moderately concentrated if the HHI is between 1,000 and 1,800, and
- concentrated if the HHI is above 1,800.

For a moderately concentrated market, if the merger increases the HHI by more than 100 points, or in a concentrated market, by more than 50, the merger is further evaluated to determine the effect on competition. The European Union has a similar approach with the (post-merger) thresholds where a significant increase in the HHI is of concern starting at 1,000 (as per the US). The significant correlations, found in a wide range of studies, between price-cost margins and measures of concentration, indicate that industry concentration is a relevant consideration in assessing the presence of market power. However the relatively weak explanatory power of industry concentration found in those studies suggests that it is only one of a number of factors that may be relevant to market power. The greater explanatory power of the CR2 measure, compared to concentration ratios defined for more firms, suggests that markets generally need to be highly concentrated before significant market power emerges.

As the only international container stevedores at the Port of Melbourne are Patrick (Asciano) and DP World, the concentration ratio, either measured as CR2 or CR4 is 100% for stevedoring services, as well as for some of the land-side services (such as services provided through the VBS). Similarly, the HHI for Australian stevedores is high, at around 5000, which is a ‘concentrated’ industry under the US merger guidelines. For other services, such as empty container storage, there are alternatives, such as container parks located off port. In the case of handling of containers to/from rail services, the major terminal outside the port is the South Dynon terminal, which is operated by Pacific National, a subsidiary of Asciano.

This suggests that concentration is at levels consistent with the existence of market power.

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78 For example for two firms with a market share each of 50% it is equal to 0.50^2 + 0.50^2 = 0.5. Alternatively, it is sometimes calculated (e.g. in the US) as 50^2 + 50^2 = 5000.

79 The discussion on the US and European use of the HHI was taken from ict regulation toolkit, http://www.ictregulationtoolkit.org/en/PracticeNote.aspx?id=2880


81 Based on the ACCC’s observation that the market share held by these two companies varies over time, but tends to fluctuate between 45% to 55% - ACCC (2006), *Container stevedoring Monitoring Report No.8*, p.7
**Barriers to entry**

Where a market is characterised by low barriers to entry, the threat of new entry, and therefore potential competition, may lead the incumbents to act in a manner consistent with competitive market outcomes. However, where there are significant barriers to the entry of new service providers, this discipline is less likely to exist.

Church and Ware note that estimates of the link between barriers to entry and profitability are more robust and significant than those for concentration.82

The potential for competitive entry is suggested by a number of submitters that are potential competitors, but have to date not been able to establish a commercial operation in Victoria. The reasons, and the question as to whether there are barriers to entry through planning frameworks or land availability, are discussed in Chapter 5 and other barriers to entry in Chapter 6.

In any event, the development of a new container terminal will take a number of years. On the other hand, the ACCC merger guidelines indicate that ‘…effective entry is that which is likely to have a market impact within a two year period, either by deterring or defeating the attempted exercise of significant market power…’ 83 Hence the threat of competitive entry may not represent a significant constraint at the present time.

**Countervailing power**

Countervailing power arises where a supplier faces a buyer with market power (or which can credibly threaten to bypass the supplier either through vertical integration or the use of imports.)84

The stevedores’ principal customers are the shipping lines. The Commission’s 2004 report, *Regulation of the Victorian Ports, Final Report* noted that most of Australia’s containerised trade is handled by major shipping lines and consortia, and that typically a small number of shipping lines and consortia account for most of the containers carried in each trade lane. This is supported by Toll, which stated that through the ongoing process of consolidation among the major shipping lines ‘…it is now estimated that the top five lines (Maersk, MSC, CMA-CGM, Evergreen and Hapag-Lloyd) control over 40% of the market.’85

Similarly, the ACCC notes that some Australian ports may be served by a small number of liner groupings, with each potentially representing a substantial proportion of throughput at a given port.86 As a result the loss of a particular line’s business can be potentially significant for a stevedore. However, the ACCC notes that:

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83 ACCC (1999), *Merger guidelines*, p.50
84 Ibid, p.51
85 Toll Holdings Limited (2007), *Restructure Scheme Book*, p.50
86 ACCC (2006), *Container stevedoring Monitoring Report No. 8*, p.52
The extent to which shipping lines can switch stevedores and exert countervailing power may be restricted by contractual obligations with their current provider of stevedoring services. The ACCC understands that this countervailing power may also be constrained in the short term as the stevedores have limited capacity to service significantly higher levels of business (especially during periods of peak demand).\(^{87}\)

Capacity constraints can be exacerbated by movements in market share, since this can result in congestion at the port as ships seek to access the more constrained terminal, thereby increasing waiting times. The ACCC has indicated that the market share of DP World and Asciano varies over time, but tends to lie between 45% and 55% at each port.\(^{88}\) Assuming equal berth capacity, a market share split of 45/55% compared to an even 50% for each company will require 10% more capacity. This highlights the constraints that short term capacity availability can impose on the scope for competitive substitution between terminals. As discussed in Chapter 6, there are likely to be future pressures on capacity at the port of Melbourne in the medium term.

Nevertheless the ACCC also notes that:

> The ACCC understands that shipping lines have, in the past, switched stevedores which suggest some sensitivity to prices charged by stevedores.\(^{89}\)

On balance, these factors suggest that shipping lines do exert some countervailing power on stevedores.

**Substitutes**

As the distance between ports being too great to allow landbridging of containers between ports to be competitive, there is little substitution between ports. Therefore, substitution possibilities are limited, except for trade sourced from areas on the border of two ports ‘catchment’ area. However, as noted in the Commission’s 2004 Ports report:

> The port of Melbourne draws containers from southern NSW and from South Australia. These contestable international containers account for a relevantly small part of the total container movements at the port of Melbourne. In 2002, 18% of the port of Melbourne’s international container trade had its origins or destinations in other States – around 10% from/to South Australia, and 5% from/to NSW.\(^{90}\)

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\(^{87}\) ACCC (2006), *Container stevedoring Monitoring Report No.8*, p.52

\(^{88}\) Ibid, p.7

\(^{89}\) Ibid, p.53

Despite this, substitutes are unlikely to provide a substantial constraint on the exercise of market power by the stevedores.

**Vertical integration**

In the context of consideration of the competition impacts of mergers, the ACCC notes:

> Vertical relationships and vertical mergers will raise concerns only if there is a concentrated industrial structure at one or more of the related or integrated stages of production or distribution.

> …However, when considering the level of concentration it is also necessary to consider whether rivals are vertically independent of the merged firm.\(^9\)

Both Patrick (Asciano) and DP World (or their affiliates) have vertical relationships along the land-side supply chain, and the competition between the two chains is strong. However, Patrick’s (Asciano) rail terminal is currently well utilised and may be handling as much of the regional and interstate export task carried by Pacific National (an Asciano subsidiary) as it can efficiently manage. In contrast, DP World is not aligned with a rail operator and is less able to match Asciano’s offering of rail services. Asciano operates the major near-port intermodal terminal at South Dynon under a long term lease. Further discussion of the market structure of land-side services is in Chapter 10.

These factors suggest that vertical integration gives Asciano a competitive advantage in regard to rail land-side services at the Port of Melbourne. However, the extent to which this translates into market power depends on the intensity of competition between modes.

**Elasticity of Demand**

Another potential factor that can mitigate market power is the extent to which consumer demand is sensitive to changes in price. The ability to raise prices may be limited, even where there is a monopoly supplier, if demand is highly elastic (that is, sensitive to price).

The demand for stevedoring services (and other port services) is derived from the domestic demand for imports and overseas demand for Australian exports. That is, stevedoring services are not demanded of themselves but rather as a means of transporting traded goods. As they are a derived demand, their own price elasticity of demand\(^9\) is a product of:

- the elasticity of demand and the elasticity of supply for container exports and imports; and
- the importance of charges by the stevedores in the final price of the exported and imported goods.

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\(^9\) ACCC (1999), *Merger guidelines*, p.55

\(^9\) Defined as the change in demand for a service for a small change in the price of that service.
The price elasticity of demand for channel services can be derived from the formula:

\[(\text{Equation 3.1}) \quad \eta = \frac{p}{v} \cdot \varepsilon \]

Where:
- \(\eta\) is the elasticity of demand for stevedoring services with respect to their own price,
- \(p\) is the price of the services provided by the stevedores (in $ per TEU),
- \(v\) is the value of the final product, traded goods (in $ per TEU), and
- \(\varepsilon\) is the elasticity of demand for traded goods with respect to their own price.

The average unit revenue (price) from stevedoring services in 2005-06 at the ports monitored by the ACCC was $180 per TEU.

There is no data available on the average value of an export or import container. However, it is possible to derive approximate values (per TEU) based on value of liner trade. According to the BTRE, a liner ship does not include bulk cargo, or general cargo carried on charter services such as car carriers, or tramp shipping, but includes most containerised, ro-ro94 and general cargo freight shipping services. To derive an estimate, the value of (import/export) liner trade was scaled down by the share of motor vehicle trade (in revenue tonnes) in combined container and motor vehicle trade. This was then divided by estimates of the number of import/export containers (in TEU terms).95

Based on this approach, the average value of an import container is $21,000 per TEU and for an export container, $16,000 per TEU. This suggests that the ‘\(p/v\)’ ratio in formula 2 is 0.8% for an import container and 1.1% for an export container, as shown in Table 3.1.

<table>
<thead>
<tr>
<th>Container value ($/TEU)</th>
<th>Import 21,000</th>
<th>Export 16,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stevedore charges ($/TEU)</td>
<td>180</td>
<td>180</td>
</tr>
<tr>
<td><strong>Total ($/TEU)</strong></td>
<td><strong>21,180</strong></td>
<td><strong>16,180</strong></td>
</tr>
<tr>
<td><strong>Stevedore charges (% of total)</strong></td>
<td><strong>0.8%</strong></td>
<td><strong>1.1%</strong></td>
</tr>
</tbody>
</table>

93 Implicitly this model assumes that changes in stevedoring charges are fully passed through to customers and not absorbed by the exporter. It also assumes that there are no substitute services.

94 Roll-on, roll-off.

95 Based on the draft PDP forecasts for container trade and BTRE estimates of the split between full and empty containers for both the export and import trade.
The Commission is not aware of any estimates of the own price elasticity for container exports and imports. However, related elasticity estimates that may be suitable proxies include the following.

- The BTRE Working Paper estimates that the elasticity of full container exports and imports from/to Melbourne to changes in the exchange rate is \(-0.136\) and \(0.026\) respectively.\(^96\)

- The Commission’s 2004 Ports Review estimated the own price elasticity of Australian general cargo exports (which included container exports but excluded bulk exports) at \(-1.05\) and the own price elasticity of non-petroleum imports at \(-1.45\).

Based on these proxy estimates of the own price elasticity for container exports and imports, it is possible to estimate a range for the own price elasticity of container stevedore services, as shown in Table 3.2.

<table>
<thead>
<tr>
<th></th>
<th>Import</th>
<th>Export</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Low</td>
<td>High</td>
</tr>
<tr>
<td>Own price container elasticity (1)</td>
<td>-0.026%</td>
<td>-1.45%</td>
</tr>
<tr>
<td>Share of stevedore charges (2)</td>
<td>0.8%</td>
<td>0.8%</td>
</tr>
<tr>
<td>Own price elasticity - stevedoring (1) x (3)</td>
<td>-0.0002%</td>
<td>-0.0123%</td>
</tr>
</tbody>
</table>

This analysis suggests that the demand for stevedoring services is highly inelastic primarily because charges by stevedores are only a small proportion of the value of container trade. As a result, sensitivity of demand to changes in the level of prices for the services provided by stevedores is not likely to be a constraining factor that will inhibit the exercise of market power.

**Prices and profit margins**

Prices and profits which are sustained above competitive levels are a manifestation of the factors discussed above.

ACCC monitoring reports provide data on the rates of return of Australian stevedores and a sample of overseas port operators.\(^97\) Rate of return is defined as earnings before interest and tax over average (accounting) assets. This is shown in

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\(^96\) Use of these estimates assumed that exporters (in Australia and overseas exporters to Australia) fully pass through exchange rate changes to importers (that is they maintain a constant price in their own domestic currency terms).

\(^97\) The comparators are overseas port authorities that also conduct stevedoring activities: PSA Corporation (Singapore), and the New Zealand port companies of South Port Ltd, Port Otago Ltd, Lyttelton Port Co Ltd and Ports of Auckland Ltd.
Figure 3.1 both for Australian stevedores and a simple average of the returns of overseas stevedores.

Figure 3.1: **Container Stevedore rates of return**

![Rate of return graph](image)

Source: ACCC, *Container Stevedoring Monitoring Report No. 8*.

On this basis, the rate of return of Australian stevedores rose significantly between 1998-99 and 2003-04, and has since declined, but is still well above the overseas comparators selected by the ACCC.

There are, however, several problems associated with the use of accounting returns as such as EBIT/assets. As noted by Feeney and Rogers:

> An accounting measure of the rate of return is an average measure of the firm’s rate of return which is based on the firm’s specific mix of past and present investment strategy over a given period. The most obvious implication is that a negative rate of return, as calculated from financial accounts, does not necessarily mean that the company has a negative economic rate of return. Instead it may be that the company is in the initial stages of a major investment, which is not expected to provide returns until after some time…Therefore since accounts are not based on a forward-looking evaluation of the net present value, they may deviate from the economic rates of return.98

Illustrating this point, the ACCC notes that the recent decline has been influenced by a substantial increase in asset values, reflecting the first significant period of additional investment since 2000-01.99

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99 ACCC (2006), *Container stevedoring Monitoring Report No. 8*, p.28
Feeney and Rogers also note that the treatment of depreciation, treatment of investment in human capital and the use of the historic values can also bias accounting rates of return away from economic rates of return.

An additional issue is that any assessment of the returns made by a company or industry should be on the basis of risk adjusted returns. The ACCC also publishes the average return of the ASX/S&P 200 index companies\(^{100}\), which is well below that of Australian stevedores in 2004-05 and 2005-06. However, the exposure to market or undiversifiable risk of stevedoring relative to the activities of the ASX/S&P 200 companies is unclear. The use of firms in the same industry potentially addresses this, and the port operators in the ACCC sample all conduct stevedoring operations.

A measure of market power is the Lerner index (LI)\(^{101}\), which is based on the ratio of marginal cost of supply (MC) and the price charged (P). It is defined as:

\[
LI = \frac{P - MC}{P} = 1 - \frac{MC}{P}
\]

In a perfectly competitive market the index is zero, while the closer the index is to one, then the greater the level of market power that is indicated.

It is possible to estimate the Lerner Index by making some assumptions. Firstly, it is assumed that average variable costs are a suitable proxy for marginal cost (see below for discussion of comparative study). Secondly, to estimate average variable cost, it is assumed that the two stevedores have the same cost structures and that the variable costs are assumed to be 100% of labour costs and 50% of ‘other’ costs; so the fixed costs comprise equipment, property costs, the levy and the remaining 50% of ‘other costs’\(^{102}\). Under these assumptions the Lerner Index for the stevedores nationally in 2005-06 was:

\[
LI = \frac{180.1 - 86.1}{180.1} = 0.52
\]

A 1999 paper by Rogers\(^{103}\) estimated the price-cost margin for a range of industries and for firms of different size. The price-cost margin was estimated as an approximation to the Lerner Index and it was based on the assumption that average variable cost is a proxy for marginal cost (similar to the calculation above). The estimated price-cost margin for the ‘services to transport’ industry classification, was estimated to be 0.24 for small-to-medium enterprises and 0.35 for large enterprises. The ‘services to transport’ sector includes stevedoring.

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\(^{100}\) Excluding financial institutions.

\(^{101}\) Church J., Ware R. (2000), Industrial Organisation, A Strategic Approach, p.36

\(^{102}\) The variable cost share on this basis was calculated using confidential information provided to the Commission.

services as well as a range of other services in the air and road transport industries and other services such as freight forwarding.\textsuperscript{104}

As noted above, a Lerner Index value above zero indicates some level of market power. The estimated Lerner Index value for Australian stevedores of around 0.5 therefore is consistent with the stevedores having a degree of market power. Moreover, the degree of market power appears to be higher than the general industry sector it is part of.

Further discussion of changes in prices and profitability are in sections 1.4.3 and 1.4.4 below.

\textit{Preliminary Conclusions}

The level of market concentration, the existence of barriers to entry, the level of prices and profits, the absence of substitutes, the low elasticity of demand for changes in the price of stevedoring services, and vertical integration within the sector, are all consistent with the incumbent container stevedores having market power. Offsetting this to some extent, there is evidence that the shipping lines provide some countervailing power. On balance, however, the analysis of market power based on the structure of the market indicates that the incumbent stevedores have a significant degree of market power at the present time.

\subsection*{3.3.3 ACCC Monitoring Reports}

The Australian Competition and Consumer Commission (ACCC) monitors the prices, costs and profits of container terminal operator companies at the ports of Adelaide, Brisbane, Burnie, Fremantle, Melbourne and Sydney.

The ACCC’s most recent monitoring report, \textit{Container stevedoring, Monitoring report no. 8 (2006 ACCC Monitoring Report)}, was released in November 2006. It includes data in relation to stevedoring company prices, costs, profits and productivity up to 2005-06. The 2006 Monitoring Report observed:

\textit{Important findings from this year’s monitoring program are that:}

- Unit costs increased for the third consecutive year
- Unit revenues rose for the fourth consecutive year
- Investment in assets increased for the second consecutive year
- Productivity levels are generally lower
- Profitability remained strong.

\ldots Profitability continues to be strong in the face of rising costs and falling productivity. Accounting profits and rates of return have risen substantially since monitoring began in 1999-2000 and are considerably higher than measures of average returns for other companies…

\textsuperscript{104} Australian Bureau of Statistics (1993), 1292.0 - \textit{Australian and New Zealand Standard Industrial Classification}. 
Apparent price increases for stevedoring services and the persistence of strong profitability reported by stevedores raises questions regarding the intensity of competition between the stevedores and incentives for investment.105

These observations, however, relate to the average results for the ports monitored by the ACCC, and are not specific to the Port of Melbourne. At two of the ports (Adelaide, and Burnie) there is only one stevedore, although at all the other ports there are two (Patrick (Asciano) and DP World).

The data and analysis presented in the ACCC monitoring reports are further discussed below.

### 3.3.4 Index analysis

**Kaufmann Framework**

A paper by Kaufmann, *Performance Indicators and Price Monitoring: Assessing Market Power*106 provides one possible framework in which to assess the market power of the two incumbent container stevedores at the Port of Melbourne.

Kaufmann establishes a framework for assessing whether firms are exercising substantial market power, assuming that there is a period when profits were normal as the basis for comparison.

According to Kaufmann, market power is exercised when a firm raises its price (or equivalently reduces service quality) by restricting its output. Essentially, this involves a company increasing its welfare at the expense of its customer’s welfare. On this basis, Kaufmann considers that a necessary condition for demonstrating increased use of market power is that company welfare is rising and that consumer welfare is declining. While consumer welfare is measured in terms of prices or service quality, price is considered to provide a clearer signal as quality is more likely to be affected by random factors outside the firm’s control.

Kaufmann notes that changes in a firm’s total factor productivity (TFP)107 will be reflected in a combination of changes to prices, profits, and service quality. As there are four factors, there are sixteen possible scenarios. The framework identifies, for each scenario, whether there has been a change in the exercise of market power or not, or if it is ambiguous. The matrix in the Kaufmann paper is reproduced below, in Figure 3.2.

---

105 ACCC (2006), *Container stevedoring Monitoring Report No. 8*, p.28
107 TFP is an index of all outputs produced by a firm relative to an index of all inputs used to produce those outputs. It differs from partial productivity measures which typically only measure the productivity of one factor (e.g. labour).
Figure 3.2: Kaufmann Framework for Assessing Market Power

Table 1: Performance indicators and market power assessment: evaluation of specific scenarios

<table>
<thead>
<tr>
<th>Scenario</th>
<th>TFP</th>
<th>Price</th>
<th>Quality</th>
<th>Profit</th>
<th>Customer welfare</th>
<th>Company welfare</th>
<th>Market power abuse?</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>+</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>No</td>
</tr>
<tr>
<td>2</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>?</td>
</tr>
<tr>
<td>3</td>
<td>+</td>
<td>-</td>
<td>+</td>
<td>-</td>
<td>+</td>
<td>-</td>
<td>No</td>
</tr>
<tr>
<td>4</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>?</td>
<td>-</td>
<td>No</td>
</tr>
<tr>
<td>5</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>?</td>
<td>+</td>
<td>Probably yes</td>
</tr>
<tr>
<td>6</td>
<td>+</td>
<td>+</td>
<td>-</td>
<td>+</td>
<td>-</td>
<td>+</td>
<td>Yes</td>
</tr>
<tr>
<td>7</td>
<td>+</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>?</td>
<td>-</td>
<td>No</td>
</tr>
<tr>
<td>8</td>
<td>+</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>No</td>
</tr>
<tr>
<td>9</td>
<td>-</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>No</td>
</tr>
<tr>
<td>10</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>+</td>
<td>?</td>
<td>+</td>
<td>?</td>
</tr>
<tr>
<td>11</td>
<td>-</td>
<td>-</td>
<td>+</td>
<td>-</td>
<td>+</td>
<td>-</td>
<td>No</td>
</tr>
<tr>
<td>12</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>+</td>
<td>?</td>
<td>-</td>
<td>No</td>
</tr>
<tr>
<td>13</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>?</td>
<td>+</td>
<td>?</td>
</tr>
<tr>
<td>14</td>
<td>-</td>
<td>+</td>
<td>-</td>
<td>+</td>
<td>-</td>
<td>+</td>
<td>Yes</td>
</tr>
<tr>
<td>15</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>-</td>
<td>?</td>
<td>-</td>
<td>No</td>
</tr>
<tr>
<td>16</td>
<td>-</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>No</td>
</tr>
</tbody>
</table>

Source: Kaufmann (2007), p.4

To assess the exercise of market power at the Port of Melbourne using the Kaufmann framework, the Commission has considered pricing, profit, productivity and service quality data published by the ACCC and BTRE.

Productivity

A 2002 report by Meyrick & Associates, *Distributing the Gains from Waterfront Productivity Improvements* (Meyrick Productivity Report), included an estimate for TFP at West Swanson Dock (now DP World). TFP was estimated to increase by 18% over the period 1997 to 2001. Similar to Kaufmann, the Meyrick Productivity Report used an indexing approach to explain changes in return on capital (profit) through changes in productivity, price changes and growth in firm size.

The Meyrick Productivity Report found that shipping lines had received 67% of the productivity improvements (in the form of lower real stevedoring prices) and labour (and other inputs) had received 25% of the gains. Regarding the returns to stevedores, the Meyrick Productivity Report noted that returns to the stevedores did not keep pace with the increase in the size of their operations up to 2000, but due to a pick-up in 2001, they ended up with an 8% share of the benefits of the productivity improvement over 1997 to 2001.

As noted previously, the ACCC has expressed concerns about the intensity of competition between stevedores at Australian ports. These concerns, in part,
related to changes in costs, revenue and productivity over the last 3 to 4 years. That is, the concerns related to the time period after the Meyrick Productivity Report. The ACCC also noted growth in (accounting) returns since 1999-00. The Meyrick Productivity Report slightly overlaps with this period, however, 2001 was the year that it found an increase in returns to the stevedores.

Given this, there is therefore a need to consider data since the Meyrick Productivity Report. The Commission is not aware of any more recent estimates of TFP at the Port of Melbourne (or at other Australian ports). However, as the results of the framework are not particularly sensitive to TFP, the Commission has assessed partial productivity measures as a proxy. The only differences between the scenarios where TFP is positive compared to those where it is negative are for scenario 5 (which probably indicates market power abuse) and scenario 13 (where it is uncertain). For all other scenarios, changes in prices, quality and profits are the relevant factors.

The BTRE publishes several measures of productivity. These include:

- a measure of crane productivity – the crane rate – given cranes are an important element of the capital equipment at a port, and the BTRE describes this as a measure of capital productivity109;
- a measure of labour productivity – the vessel working rate110, and
- a measure that combines crane and labour productivity – the ship rate111.

The two most recent BTRE Waterline publications (issues no. 41 and 42) published landside performance indicators. These indicators include container turnaround time and truck turnaround time which the BTRE considers to be measures of (landside) efficiency. While these measures relate to aspects of the market being assessed, only two quarters of data are available which is not sufficient to identify any trends. Therefore, the crane rate, vessel working rate, and ship rate have been used as the measures of productivity.

Figure 3.3 shows the trends in these productivity measures since late 1998. All measures show an increase in productivity between September 1998 and December 2006. However, since early 2004, the crane rate has declined slightly. As a result the ship rate, notwithstanding an up-turn in the last two quarters, has been broadly flat, neither indicating a decline or growth in productivity.

Conceptually, the ship rate is the productivity measure closest to TFP as it is a measure of both capital and labour productivity.

---

109 BTRE (2007), Waterline, Issue No. 42, p.24. The crane rate is defined as total containers handled divided by elapsed crane time (the latter is defined at total allocated crane hours less operational and non-operational delays).

110 Total containers handled divided by the elapsed labour time (the elapsed labour time is the difference between the time when workers first board the ship and the time when they last leave the ship, less time non worked for whatever reason).

111 Equal to the crane rate times crane intensity, where the latter is defined is the total number of allocated crane hours/elapsed labour time.
Service quality

A service quality measure adopted by PoMC in its draft PDP is wait time to ship time. The BTRE publishes measures of waterfront reliability which includes factors contributing to ship waiting time. The data published by the BTRE included, until recently, data on berth availability, pilotage, towage and other ship waiting time incidents. The data on other ship waiting time incidents was for the five mainland capital city ports and data specific to the Port of Melbourne was not published.

The berth availability indicator measures the proportion of ship arrivals where a berth is available within four hours of scheduled arrival, and the performance of this measure at the Port of Melbourne between the September 1998 and December 2005 quarters\(^\text{112}\) is shown in Figure 3.4 (as the series ‘availability within 4 hours’). Data published by the BTRE also shows a breakdown of the length of delays (from no delay up to 20+ hours), and this has been used to construct an alternative measure showing the proportion of ship arrivals for which there was no delay in berth availability.

\(^{112}\) Due to small sample size this series was not published in more recent BTRE Waterline publications.
The BTRE berth availability measure suggests that there may have been a slight decline in service quality since 2000. This trend is more evident in the series which shows availability with no delay, which shows a clear downward trend since 2000-01.

There is an absence of data showing service quality in relation to container handling, storage and the land-side interface. As noted above, the BTRE has recently started publishing some landside performance indicators, and they are considered to be measures of efficiency, customers may also consider them to be relevant service quality measures — in particular, the turnaround time for a truck. One of the landside interface services provided by the stevedore is management of the truck gate, which is done through the VBS. Asciano noted in its submission:

*The introduction of VBS to all transport operators has decreased truck turnaround time dramatically and increased efficiency in land transport at the port including alleviating truck congestion at the ports.*

Prices

The ACCC’s monitoring report provides unit revenue data in both nominal terms and real terms. Unit revenue is defined as total revenue (across all the ports monitored by the ACCC) divided by the number of TEUs. As such, it is a measure of average stevedoring charges per TEU.

---

113 Asciano (2007), ESC Review of Port Planning, Submission, p.14
114 To derive real unit revenue, nominal unit revenue is divided by the GDP chain price index.
Unit revenue data is presented for all activities undertaken by stevedores (‘unit revenue’) and unit revenues for the core stevedoring activities of lifting container boxes on/off ships (‘unit stevedoring revenue’). Other revenue sources include break bulk, storage, container repositioning, asset sales and vehicle booking systems.

The unit revenue and unit stevedoring revenue are shown in nominal and real terms in Figures 3.5 (a) and (b) respectively. As can be seen in Figure 3.5(a), nominal prices have been increasing since 2002-03 for unit revenue, and since 2003-04 for unit stevedoring revenue, with the latter increasing by a smaller amount (only 3% between 2003-04 and 2005-06). In real terms, however, has been a decline.

Figure 3.5: **Australian stevedores: unit revenue**

(a) Nominal  
(b) Real

Source: ACCC, *Container Stevedoring Monitoring Report No.8*. Real stevedoring unit revenues derived using the same deflator as applied to unit revenues.

The unit revenue data includes services which are part of the market being assessed (which includes both stevedoring and landside services). However, the unit stevedoring revenue is directly related to the productivity and service quality measures noted above. In any event, the trends of the two series are broadly similar.

The Kaufmann paper does not specify which of real or nominal prices are most relevant. However, the approach underlying the framework is an assessment of changes in welfare (either the firm’s or consumers). Changes in nominal prices are not a good measure of consumer welfare, as they do not indicate the opportunity cost of the services being purchased (i.e. what is being given up to purchase the stevedoring services).

For these reasons, real unit revenue is the relevant measure to use in the Kaufmann framework, and it indicates a negative trend. While this is a measure across several ports, it is assumed to hold for the Port of Melbourne.

**Profits**

Kaufmann defines profit as the ratio of a revenue index to a cost index. Using ACCC unit revenue and cost information it is possible to derive a similar measure,
as shown in Figure 3.6 in the series indicated as ‘total profit margin’ and ‘stevedoring profit margin’.

Figure 3.6: Ports - ratio of revenue to costs

![Figure 3.6: Ports - ratio of revenue to costs](image)

On this basis, profits for all stevedoring activities in Australian ports have increased since 1998-99, but have been relatively steady since 2002-03. A similar trend is evident for core stevedoring activities, except that the flattening out of profit (on this measure) started a year earlier.

However, the concept of cost in the Kaufman paper is economic cost, which includes a (competitive) return on capital, such that in a fully competitive market revenues equal costs (and there is zero profit). The ACCC’s unit cost data does not include a return on capital. The Commission has estimated a cost of capital (per TEU), which is added to unit costs to derive the profit margin shown in the series ‘total profit margin (incl. cost of cap)’ in Figure 3.6. The cost of capital has been estimated using the following approach.

- The average asset base (on a per TEU basis) was inferred from the difference between unit revenue and unit cost (EBIT per TEU) and the EBIT/average asset data provided in the ACCC monitoring reports.

- A pre-tax nominal weighted average cost of capital (WACC) was applied to the asset base in each year. The risk free rate adopted was the 10 year rate on Commonwealth Government bonds, and the debt premium was set at the average debt premium determined by regulators since 1998-99.\footnote{Specifically, Australian regulatory decisions regarding gas distribution businesses. For years where there were no estimates available, an average of the year before and after was used.} The gearing ratio was set at 60% based on Asciano’s level of gearing\footnote{The Grant Samuel independent experts report in Toll Holdings Limited (2007), Restructure Scheme Book (2007), p.228 indicates that Asciano’s gearing was 58.6%.}, and the equity beta...
at 1.375 based on AGSM data for Patrick\textsuperscript{117}. Consistent with previous Commission decisions, the market risk premium was set at 6%, gamma at 0.5 and the effective (company) tax rate at 30%.

Including an estimated (unit) cost of capital does not change the trends identified by the ACCC unit cost and revenue data, although it does further reinforce the levelling off in the profit margin since 2002-03.

Preliminary Conclusions

Table 3.3 applies the Kaufmann framework for two time periods – since 1998-99 and more recently (the last three to four years). The signs ascribed to the trends in productivity, price, service quality and profit are either ‘+’ (increasing), ‘-’ (decreasing) or ‘.’ (neither increasing or decreasing).

Table 3.3 \textbf{Use of market power - Kaufmann framework}

<table>
<thead>
<tr>
<th>Trend over</th>
<th>1998-99 to 2005-06</th>
<th>Last 3-4 years</th>
</tr>
</thead>
<tbody>
<tr>
<td>Productivity</td>
<td>+</td>
<td>..</td>
</tr>
<tr>
<td>Price</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Quality</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Profit</td>
<td>+</td>
<td>..</td>
</tr>
<tr>
<td>Scenario</td>
<td>Scenario 2</td>
<td>Scenarios 2, 4, 10 &amp; 12</td>
</tr>
<tr>
<td>Market power</td>
<td>?</td>
<td>No or ?</td>
</tr>
</tbody>
</table>

Over the period since 1998-99 the trends for each of the parameters are relatively clear, and the picture they present correlates to scenario 2. Under this scenario it is unclear or ambiguous whether there has been an increase in the exercise of market power. Over the more recent period, the situation is less clear, as productivity and profitability measures have been relatively flat. There are four scenarios which cover a situation where both service quality and price is declining. For two of these scenarios the Kaufmann framework suggests that there has been no increase in market power and for the remaining two it indicates that it is ambiguous.

\textit{Alternative framework - Lerner Index}

A paper by Biggar\textsuperscript{118} is critical of the Kaufmann framework because of problems associated with measuring profits in industries with sunk costs, and in relation to the definition of market power adopted. Biggar notes that it is possible for prices to rise and quantities supplied to fall at the same time for reasons other than the

\textsuperscript{117} Average of June quarter AGSM Risk Measurement Service data for the period 2002 to 2005. Over this period, the estimated beta ranged from 1.34 to 1.39 indicating a stable beta.

\textsuperscript{118} Biggar D. (2007), \textit{“Performance Indicators and Price Monitoring: Assessing Market Power” A Response}
exercise of market power (for example, due to input price increases). Putting aside the issue of profit measurement, Biggar considers that the Lerner Index (see section 3.3.2) is a more appropriate measure of market power.

Figure 3.7 shows the movements in the Lerner Index, calculated in the manner described in section 3.3.2.

**Figure 3.7: Lerner Index - Australian Stevedores**

The change in the Lerner Index suggests that since 1998-99 there has been an increase in the exercise of market power by Australian stevedores, although there has been a levelling off of the index since 2002-03.

**Preliminary Conclusions**

The Biggar paper gives emphasis to a measure of market power drawn directly from economic theory (the Lerner Index). It suggests that since 1998-99 there has been an increase in the market power exercised by Australian stevedores. Also, a comparison of the Lerner Index for Australian stevedoring with wider industry averages indicates that market power is relatively high in stevedoring.

The Kaufmann approach contains an evaluation framework which is based on the welfare positions of producers and consumers and only considers an exercise of market power to be significant if there is an unambiguous detriment to consumers and at the same time an unambiguous benefit to producers. As such it contains within it a concept for taking into account the significance of trends in the indices for output and input prices, profits, and productivity. The Kaufmann evaluation framework indicates that no clear conclusions can be draw as to whether there has been a significant increase in the degree of market power exercised by the container stevedores since 1998-99.
3.3.5 Preliminary Conclusions - extent of market power

Index-based analysis of changes in the productivity, prices, costs, quality of service, and profit margins since 1998-99 present mixed results about whether there has been an increase in the exercise of market power over the last decade.

However, there are a number of features of the structure of the market, such as the high level of market concentration and the level of stevedoring profits, that indicate the incumbent container stevedores retain a significant degree of market power at present.
PART 2 – PLANNING FRAMEWORKS AND ENTRY BARRIERS

Part 2 of the Draft Report addresses the requirements in the terms of reference to:

- identify, for the services subject to the Review (as set out in Part 1), the extent to which the port planning frameworks impact on the entry of new service providers (clauses (a), (c) and (d))
- undertake an assessment of the costs of benefits of any restrictions identified in terms of the efficient use of the port and whether the benefits of restricting entry outweigh the costs to the community (clauses (b), (c) and (d))
- Make recommendations in relation to these matters.

To address these issues it is necessary to identify what constitutes the port planning frameworks and what are the key elements of the frameworks (Chapter 4). Potential restrictions on new entrants within the port planning frameworks are identified and assessed against relevant criteria for testing restrictions on entry (Chapter 5).

In order to make an assessment of the materiality of any port planning framework restrictions identified other barriers to entry are assessed in Chapter 6. Similarly, the level of trade and the capacity of the port will also have implications for the timing of new entry, and this is also discussed in Chapter 6.

The costs and benefits of the entry restrictions identified in the port planning frameworks are discussed in Chapter 7, while alternatives to of these restrictions are assessed in Chapter 8.
4 OVERVIEW OF PORT PLANNING FRAMEWORKS

The terms of reference state that:

*The Review will examine and report on, and make recommendations in relation to, the interaction between Victorian port planning frameworks and competition in the provision of key port services, particularly container stevedoring and related handling and transport services in the Port of Melbourne (and the Port of Hastings, where appropriate)*

4.1 Introduction and Structure

Many port industry participants undertake planning of business sites and are involved in and affected by port land-use planning. In this Review the Commission’s interest is in port land use planning. Land use planning moderates the operations of the property market by establishing rules for development in order to limit the impacts of incompatible land uses, ensure preservation of assets valued by the community, and to maximise the effectiveness of the land subject to planning.

Port land use planning is intended to satisfactorily address the implications of strong international trade growth on port infrastructure capacity requirements (and the most appropriate timing and staging of new port developments) and port performance. Port planning also addresses the need to manage the impacts of port cargo growth on the adjoining transportation system, and on neighbouring communities. At a strategic level, port plans are intended to facilitate the integrated or co-ordinated development of the port with the land-side interface infrastructure.

This chapter provides an overview of the port planning frameworks and related government strategies; the following chapter assesses their competitive impact. The structure of the chapter is broadly from the high level downwards – national planning, broad Victorian planning frameworks and strategies, local planning, and then planning at the port level. Collectively the frameworks are complex, so the chapter concludes with a summary of the key elements relevant to this inquiry.

At the highest level planning frameworks include national planning strategies entered into by the State, At the State level, planning frameworks include state-wide planning frameworks which can also include requirements and principles directly relevant to Victorian ports. For example, the *Planning and Environment Act 1987 (P&EA)* establishes the framework for planning, use and development of land in Victoria, with the Victorian Planning Provisions (VPP), made under the PE&A, require the development of planning schemes by municipalities (including the Port of Melbourne).
State Government documents or statements also can include strategic level planning, encompassing broader transport considerations such as the interrelationship of the port with other elements of the transport system. Examples include the documents that make up the Government’s Freight and Logistics Strategy (including the Victorian Ports Strategic Framework), Growing Victoria Together and Melbourne 2030. Some, but not all, of these documents are required by the VPP to be taken into account in developing local planning schemes.

At the next level down are the internal port planning documents (port development plans), these documents are not only the outcome of the higher level planning requirements and principles, but also represent the port’s approach to planning.

Given the important linkages between these levels of planning, the Commission interprets ‘port planning frameworks’ to be a broad reference to these different levels of planning, and to encompass each of the relevant documents. That is, it is not feasible to completely separate the ‘framework’ from the planning documents themselves.

This chapter outlines the planning frameworks applying to the development of the ports of Melbourne and Hastings, including the relevant Acts, planning provisions, and Government policies which govern planning, as well as the port plans. The port corporations’ planning roles are also discussed.

### 4.2 National planning charter

The 2003 National Charter of Integrated Land Use and Transport Planning (the Charter) is a high level agreement between transport and planning Ministers committing to an agreed set of good planning practices and committing to working together to achieve better outcomes. It is designed to support existing and future planning mechanisms by providing a national commitment to a framework for responsive planning, consistent decision-making and good design and management. It has been developed by all states, territories and the Commonwealth in collaboration, with each jurisdiction responsible for implementation.

The objective of the Charter is to achieve greater integration of land use planning and transport planning across agencies, jurisdictions and levels of government to facilitate effective and sustainable urban and regional development across Australia. The Charter identifies a number of aims, including: integrated and inclusive planning processes; linked investment decisions; making better use of existing and future infrastructure and urban land; and protecting and enhancing transport corridors.

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119 Further details on these frameworks are in sections 2 and 3 of PoMC (2006), Port Development Plan 2006-2035: Consultation Draft August 2006, and in Volume 3, Attachment 2 of PoMC (2007), Supplementary Environmental Effects Statement.
4.3 **Victorian planning: integrating land use and transport**

In August 2006 the Victorian Government established the Office of Coordinator-General, Infrastructure.

The new role was a response to the need for greater coordination across the Victorian Government departments and agencies, as well as across federal, state and local government with responsibilities for transport and land use policy and funding. The number of agencies involved in planning, including those described in this Chapter, adds to the complexity of achieving a coordinated approach to transport and land use planning. The Government has stated that the ‘focus of the Office is on transport and land use policy, planning, strategy, review and coordination between the transport and planning portfolios’.120

Most recently, in October 2007, the Government has released the first consultation paper in its review of the legislative framework for transport — primarily the current Transport Act 1983.

> As Victoria’s population has grown, the way in which transport integrates with land uses is more important for sustainable planning. Victoria’s ongoing economic growth and increasing freight activity create new challenges for decision makers to consider. Government policy is also seeking to deliver a fairer and more socially inclusive state where transport plays an important role in connecting the community to employment, services and facilities.121

While this Act is not directly relevant to the planning framework for ports (which is found in the P&EA and the Ports Services Act 1995), its replacement legislation is likely impact on planning and transport project development in the ports. The Government’s discussion paper seeks public comment on the whether proposed objectives ought to be included in transport legislation and if so, how it should be framed. The proposed objectives are:

- an integrated and coordinated system
- a safe and secure system
- an efficient and reliable system
- a system that provides value-for-money
- a system that supports economic growth
- an equitable, accessible and socially-inclusive system
- a healthy system, and
- an environmentally sensitive system.

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121 Ibid.
4.4 Planning provisions and requirements

The P&EA establishes the framework for planning, use and development of land in Victoria. In carrying out their planning roles the ports must comply with statutory requirements in the P&EA, government planning policies and relevant planning provisions. The Department of Sustainability and the Environment (DSE) had until recently administered the Act, but this role has recently been transferred to the Department of Planning and Community Development. The responsible Minister is the Minister for Planning.

The Victorian Planning Provisions (VPP) are made by the Minister for Planning pursuant to Part 1A of the P&EA. The VPP is a document containing a comprehensive set of standard planning provisions for Victoria, and is a central element of the Victorian planning framework. The aim of the VPP is to provide a consistent and co-ordinated framework for planning schemes in Victoria, and to streamline planning processes. Under the VPP there are state and local level planning instruments applicable to land use developments.

The Minister is given the power to prepare a planning scheme for any municipal district or other area of Victoria or amendments to any provision of a planning scheme. The Minister may also authorize a municipal council to prepare an amendment to a planning scheme. The Minister and those municipal councils whom the Minister has authorized to prepare amendments to planning schemes are called “planning authorities”.

All municipal councils in Victoria have a planning scheme for that local area, which sets out current and future land use and developments. In 1996, the provisions in the P&EA relating to planning schemes were amended by the Planning and Environment (Planning Schemes) Act 1996 (Vic). Among other things, the P&EA was amended to enable the Minister to prepare and approve the VPP. The amendments required municipal councils to prepare new planning schemes in accordance with the new provisions. These new post-1996 planning schemes had to include the VPP. An exception was made for the Port of Melbourne, for which a new planning scheme did not have to be prepared and whose existing scheme was preserved.

All Victorian municipal councils now have planning schemes in the new post-1996 format that includes the VPP. The Port of Hastings is covered by the Mornington Peninsula Planning Scheme.

The Port of Melbourne has its own planning scheme, the Port of Melbourne Planning Scheme. This planning scheme is in the old format and does not include the VPP. Although the Port of Melbourne lies within four municipalities, the port is subject exclusively to the Port of Melbourne Planning Scheme.

A planning scheme divides the land covered by the scheme into several zones. For each zone, the planning scheme specifies three categories of land uses:

- uses that do not require a permit;
- uses that require a permit; and
- uses that are prohibited.
Each planning scheme has a “responsible authority”, who is required to administer and enforce the planning scheme. The responsible authority is the relevant municipal council, or someone else whom the planning scheme specifies as the responsible authority. The responsible authority for the Port of Melbourne Planning Scheme is the Minister for Planning and for the Mornington Peninsula Planning Scheme it is the Mornington Shire Council.

4.4.1 State Planning Policy Framework

The State Planning Policy Framework (SPPF) is contained within the VPP (clause 10), and comprises a statement of general principles for land use and development planning, as well as specific policies dealing with sectoral issues. The clauses of the SPPF are consistent with other major policy documents including Melbourne 2030 (see section 3.1.2).

The SPPF contains seven statements of general principles that elaborate on the objectives of planning in Victoria and describe the factors that influence good decision making in land use and development planning – including in the areas of settlement; environment; management of resources; infrastructure; economic wellbeing; social needs; and regional cooperation.

Specific transport and freight objectives and strategies for Metropolitan Melbourne (Clause 12.04) include to:

- identify and protect options for access to, and future development at, the ports of Melbourne, Geelong and Hastings;
- ensure port areas are protected by adequate buffers to minimise land-use conflict;
- improve rail freight access to ports;
- retain the port of Hastings as a long-term option for future port development should the port of Melbourne and Geelong no longer meet the State’s needs;
- ensure that planning and development of the Fishermens Bend precinct does not jeopardise the needs of the port of Melbourne as a working port;
- ensure suitable sites for intermodal freight terminals at key locations around metropolitan Melbourne including Tottenham, Somerton, Dandenong are protected; and
- optimise the freight and logistics network for freight handling.

The specific objectives in relation to ports (clause 18.05) are:

- to recognise the importance to Victoria of economically sustainable major ports (i.e. Melbourne, Geelong, Portland, Hastings) by planning for appropriate access areas, terminal and depot areas; and
- to plan the land resources adjacent to ports to facilitate the efficient operation of the port and port-related uses and minimise adverse impacts.

SPPF implementation and geographic strategies for the ports include:

- **Land resources adjacent to ports should be protected to preserve their values for uses which depend upon or gain**
significant economic advantage from proximity to the ports’ particular shipping operations.

- Port and industrial development should be physically separated from sensitive urban development by the establishment of appropriate buffers which reduce the impact of vibration, intrusive lighting, noise and air emissions from port activities.

- Planning for the use of land adjacent to ports should aim to achieve and maintain a high standard of environmental quality, be integrated with policies for the protection of the environment generally and of marine environments in particular and take into account planning for adjacent areas for the relevant catchments.

- Planning for future development of the Hastings port industrial area is to be undertaken in accordance with the Hastings Port Industrial Area Land Use Structure Plan.

To take account of local requirements, each municipality is required to prepare a Planning Scheme for that local area, which sets out current and future land use and developments. The Planning Scheme is to incorporate all policies from the SPPF that are relevant.

Clause 12.09 (Geographic Strategies) requires decision making by planning and responsible authorities to have regard to the policy documents listed in that clause. Among others, these include:

- *Growing Victoria Together* (Department of Premier and Cabinet 2001)

- *Melbourne 2030 – Planning for Sustainable Growth* (Department of Infrastructure 2002)


### 4.4.2 Relevant geographic strategies

PoMC and PoHC must have regard to the policy documents listed as relevant geographic strategies within the SPPF.

*Growing Victoria Together*

*Growing Victoria Together (GVT)* is a policy outlining the government’s overall vision, and its key performance areas, first published in 2001 and since updated in 2005. It sets out a range action plans, and details how economic, social and environmental goals will be balanced throughout the implementation of these plans in order to ensure common prosperity. As part of the policy of ‘growing and linking all of Victoria’, it includes the target of increasing the share of rail freight to and from Victoria’s ports from 10% in 1999 to 30% by 2010. It also includes the aim of better linking Victoria’s ports with the industrial and agricultural centres in the State.
Melbourne 2030

Melbourne 2030 is the Government’s urban planning strategy for Melbourne produced in 2002. The plan seeks to manage the competing challenges of population growth, environmental sustainability and economic development. It contains strategies relating to freight, including some specific strategies relating to ports, port interfaces, and road and rail use. The Department of Infrastructure (DOI) is the lead agency with respect to these aspects of the strategy.

The implementation tasks of the strategy to be carried out by DOI include:

- develop a Victorian Freight and Logistics Strategy (described in section 3.2) to ‘provide a framework for infrastructure investment, management, policy and pricing decisions over a 20 to 30 year horizon’. This would examine, among other things, ‘the role for Government in freight and logistics’ and ‘development of effective project evaluation and future investment strategies’;
- ensure that each port develops a strategic land-management plan which will meet higher safety and environmental management standards, and ensure that ‘the ports are properly planned, structured and empowered, for commercial operation and in the broader public interest’;
- establish a new organisation for the Port of Melbourne which integrates land and water side functions;
- review the role of the Port of Hastings to prepare for its future role; and carry out a detailed investigation of channel deepening at the Port of Melbourne.
- plan for ‘the transformation of the Port of Melbourne/Dynon rail precinct into a world-class intermodal freight terminal’; and
- achieve better use of existing infrastructure and better integration between transport modes, and increase the rail share of freight to ports. Projects under this arm of the strategy included:
  - the reinstatement of rail to West Swanson Dock
  - calling for expressions of interest for redeveloping Victoria Dock, including a rail terminal
  - investigations into the feasibility of reinstating rail to Webb Dock
  - defining a role for government in the development of metropolitan and regional intermodal freight terminals - linking Victorian industries to rail, ports and world markets.
- protect options for access to, and future development at, the ports of Melbourne, Geelong and Hastings, and ensure all port areas are protected by adequate buffer areas to prevent land use conflicts at the perimeter. In particular, the policy states:
  - protecting Victoria’s competitive position, the Port of Hastings offers a long-term option for future port development. However, it is not intended to undertake any major development at Hastings while the ports of Melbourne and Geelong continue to meet the State’s needs, and any future consideration must include
Many of these strategies have already been discussed, as they are now completed or substantially completed.

**Victorian Coastal Strategy**

Under the provisions of the *Coastal Management Act 1995 (CMA)*, the Victorian Coastal Council has responsibility to prepare a Victorian Coastal Strategy (VCS). Section 15 of the CMA requires the VCS:

- to ensure the protection of significant environmental features of the coast; and
- to provide clear direction for the future use of the coast including the marine environment; and
- to identify suitable development areas and development opportunities on the coast; and
- to ensure the sustainable use of natural coastal resources.

The VCS\(^{123}\), published in 2002, sets out a hierarchy of principles for coastal planning and management including:

1. provide for the protection of significant environmental features;
2. ensure the sustainable use of natural coastal resources;
3. undertake integrated planning and provide direction for the future; and
4. when the above principles have been met, facilitate suitable development on the coast within existing modified and resilient environments where the demand for services is evident and requires management.

### 4.4.3 Relevant local planning schemes

The Port of Melbourne is situated within the municipalities of Melbourne, Hobsons Bay, Port Phillip and Maribyrnong. In contrast, the Port of Hastings is wholly within the Mornington Peninsula Shire. Each municipal council publishes its own statement and planning provisions which relates to the planning, development and land use within their jurisdictions. However, these municipal planning schemes do not apply to the port of Melbourne, which has a separate 'Port of Melbourne Planning Scheme'.

The Port of Melbourne Planning Scheme zones the majority of the port as Special Use – Port Zone\(^{124}\), and PoMC is not required to obtain planning permits for most

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\(^{122}\) Department of Sustainability and Environment (2002), *Melbourne 2030*, p77

\(^{123}\) Victorian Coastal Council (2002), *Victorian Coastal Strategy*, p.20

\(^{124}\) In this paper references are to the draft Port of Melbourne Planning Scheme. (The existing scheme uses the term 'Special Use – Port Areas'.)
port-related developments or uses within this zone (although new terminal developments at Webb Dock and Victoria Dock would require a permit).

PoMC states that:

PoMC is not a planning authority. Due to the significance of the port to the state, the Minister for Planning is the planning authority for the Port of Melbourne Planning Scheme. The Department of Sustainability and Environment administers the Port of Melbourne Planning Scheme on behalf of the Minister. In practice, however, PoMC has responsibilities for undertaking the strategic planning of the port.125

The port of Hastings falls within the Mornington Peninsula Shire Planning Scheme. The details of the planning schemes applying to the ports of Melbourne and Hastings are discussed in Chapter 5.

The ports are required have regard to their impacts on adjacent communities and urban areas. According to PoMC, Council planning decisions can have a significant impact on the development both in and around the ports.126 Each relevant Municipal planning scheme contains the VPP, and must have regard to the SPPF and the relevant geographic strategies outlined above. In this way, municipal planning should be compatible with the future activities of the port.

4.4.4 Port Environs Plan

In November 2004, the Minister for Planning announced the establishment of an advisory committee to provide input on the planning controls to apply to the municipalities surrounding the Port of Melbourne. The committee’s terms of reference included the preparation of a Port Environs Plan which is to act as ‘...a buffer control to protect the viability and future operations of the port by preventing the encroachment of inappropriate uses...’ 127

PoMC notes that the Port Environs Plan is still being developed and that it:

...seeks to better reflect the intent of the SPPF (VPP) geographic strategies for ports in the planning schemes of the municipalities close to the port …

...The Port Environs Framework seeks to manage the needs of a working port with the expectations of the community in terms of amenity, environment, recreational and open space, and port

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126 See PoMC (2006), Port Development Plan 2006-2035: Consultation Draft August 2006, p.11 for a discussion of some of the issues regarding local planning schemes at the Port of Melbourne.
127 Minister for Planning (23 November 2004), Media Release, Port of Melbourne Environs Plan Announced
heritage. The PEF seeks to identify land use issues around the port and examine how they are being managed. Planning policy and development control mechanisms are proposed to strengthen the planning framework for both the port and its environs.128

4.5  Government Freight and Logistics Strategies

The Government’s Freight and Logistics Strategy is contained in a number of policy documents such as the Victorian Ports Strategic Framework (2004), Ports Agenda (2004), Linking Victoria (1999), Linking Melbourne: Melbourne Transport Plan (2004), and Meeting our Transport Challenges (2006). DOI is the lead agency for the strategy, and is also responsible for coordinating the Victorian Freight and Logistics Council (VFLC) and the Melbourne Port@L Board.

4.5.1 Victorian Ports Strategic Framework

In 2004, the Government released the Victorian Ports Strategic Framework (VPSF). The VPSF articulates the Government’s vision for the major ports – Melbourne, Geelong, Hastings and Portland. The vision is based on three key directions:

• building on existing capabilities and competitive strengths;
• anticipating and planning for future land, access and infrastructure needs; and
• providing the right regulatory and institutional settings for a sustainable port system.

The VPSF sets out the sequence for future port developments. Underpinning this is the objective of maximising the use of existing private and public investment in infrastructure before new infrastructure is necessary.

The policy indicates that:

• the Swanson Dock area should continue as the primary site for international container handling until these facilities are substantially utilised. The Government supports developments to maximise the capacity of these terminals, which when fully developed will have the capacity to handle a throughput of 3 to 4 million TEUs per year;
• when further capacity for container handling is required to meet demand for container services in the medium to long term, the Westgate-Webb Dock precinct will be developed (which is expected to be able to manage a similar level of throughput to Swanson Dock);
• the future opportunity to develop the Port of Hastings as a container port is to be protected to provide additional capacity in the long-term, supplementing capacity at the Port of Melbourne when this becomes necessary. Hence the Port of Hastings would complement rather than replace the Port of Melbourne, and the two ports would operate in parallel; and

128 PoMC (2007), ESC Review of Port Planning, pp.11, 22
market forces will be allowed to determine the location of the break bulk and coastal trades, including motor vehicles and the trans-Tasman container trade, recognising that the regional ports may be able to develop capabilities to handle these cargoes.

Other policies in the VPSF that apply to all four commercial ports are to:

- invest to improve road and rail infrastructure to provide improved access and connectivity between ports;
- ensure that pre-planning is undertaken to ensure that adequate transport corridors are reserved;
- promote and facilitate integrated and innovative solutions to improve productivity and competitiveness;
- ensure that Port Strategic Land Use Plans are prepared by each trading port consultatively, in collaboration with relevant state and local government authorities, with effective communication with local communities, and supported, where necessary, with funding or other assistance; and
- use the Port Strategic Land Use Plans to inform and reinforce protections for ports in state level strategic frameworks (including the SPPF – see section 3.1.1) and work to ensure that agreed plan outcomes are implemented in local planning schemes.

Consistent with its status, the VPSF articulates a broad vision and general planning priorities rather than detailed proposals. The PoMC and PoHC strategic land use planning take account of these priorities.

### 4.5.2 Melbourne Port@L

Melbourne Port@L is the government’s concept for the development of the Dynon precinct into an integrated intermodal freight hub, and for improving the road and rail links from the port, while at the same time meeting the long-term infrastructure needs of east-west transport through the area.

A Melbourne Port@L Board has been established, which is chaired by the Executive Director of the Freight Logistics and Marine Division of the Victorian Department of Infrastructure, and includes Chief Executives of PoMC, VicRoads and VicTrack. The Government has indicated that where appropriate it will invest in Melbourne Port@L projects. The Board will identify such opportunities.

The [Melbourne Port@L Strategy Consultation Draft](#) was released in 2006. The draft Port@L strategy includes the proposed development of a new Metropolitan Intermodal Terminal (MIT) on the site currently occupied by the Melbourne Wholesale Markets. The project aims to integrate the port, Dynon rail precinct, and other rail terminals used for collection and distribution of containers, into a single intermodal ‘freight hub’.

The draft Port@L Strategy goes beyond the development of the Dynon precinct, and seeks to ensure that port development and planning activities can be integrated with the broader metropolitan transport priorities (including the suburbs
bounding the port environs) that will attend the expected growth in freight volumes. Its roles include:\textsuperscript{129}

- providing a clear policy and planning framework to deal with development issues as they arise,
- providing a rational basis for prioritising and staging infrastructure initiatives,
- providing clarity of direction necessary to leverage private sector investment in the port and freight network,
- promoting improved efficiency of port road freight movements and a higher proportion of total port freight moved by rail.

Element 1 of the draft Port@L strategy is to establish initiatives associated with giving priority, in the short to medium term, to the further development of Swanson Dock – consistent with the plan in the \textit{Victorian Ports Strategic Framework}. These initiatives include:

- extending Swanson Dock northwards to create greater quay length and to accommodate larger, deeper draft ships,
- improving the efficiency of container operations at Swanson Dock through implementation of best practice container handling technology and freight management systems,
- progressively allocating adequate land adjacent to the docks to core container handling operations (stevedoring, marshalling and intermodal operations).

Element 2 of the draft Port@L Strategy is to progressively decentralise non-core container handling activities, and Element 3 is to progressively direct growth in domestic freight handling operations to outer suburban locations. These initiatives will include:

- promoting the development of a network of intermodal terminals in outer urban industrial centres with efficient rail and road links to the Swanson Dynon precinct, and
- encouraging container storage, packing and other value adding activities to be progressively located at or near these outer-urban terminals, away from the central port precinct.

In summary, the draft Port@L Strategy aims to integrate development of the port with road and rail projects to improve the efficiency of freight supply chains.

\textsuperscript{129} \textit{Melbourne Port@L Strategy: Consultation Draft} (August 2006), p.8
4.5.3 Transport, Distribution and Logistics (TDL) Action Plan 2002

The Transport, Distribution and Logistics Action Plan (TDL Action Plan) was the result of the strategic audit that was carried out in 2002. The plan contains several elements that are relevant to Victoria’s port planning framework. Some of the key strategies include the strengthening of the consultative mechanisms, improving supply chain practices and facilitating the development of inter-modal hub proposals and planning requirements. The plan is desired to support the whole-of-government approach that has been established in relation to freight logistics and strategy. The Victorian Supply Chain Excellence Action Plan 2006 has since built on these agendas.

4.6 PoMC and PoHC port planning

Relationship to Government

Both the PoMC and PoHC have been established under the ‘structural reform of public monopolies’ principles contained in clause 4 of the Competition Principles Agreement whereby the governance arrangements are designed to mimic the pressures and disciplines inherent in private businesses. These arrangements require the government business to have:

- clear and non-conflicting objectives,
- managerial responsibility, authority and autonomy,
- effective performance monitoring by the owner-government,
- effective reward and sanctions related to performance, and
- effective natural monopoly regulation.

The ports are statutory authorities. They are ‘subject to the general direction and control of the Minister’ and must respond to specific direction of the Minister under sections 30(1), (2) and (3) of the Port Services Act 1995 (PSA). They may also be directed by the Minister to undertake non-commercial functions for which they may be compensated under section 38(1) of the PSA.

Port Planning

The PSA establishes that PoMC and PoHC each have planning functions. The functions of these ports are specified in sections 13 and 17D of the PSA, and these include, among other things:

- to plan for the development and operation of the port,
- to develop, or enable and control the development by others of, the whole or any part of the port, and
- to facilitate the integration of infrastructure and logistics systems in the port with relevant systems outside the port.

The PSA also establishes objectives for the PoMC and PoHC (sections 12 and 17C respectively) which include that the integration of the ports with other infrastructure systems outside of the port, and growth of trade through the port, be undertaken in co-operation with other relevant responsible bodies.
These two publicly-owned ports are also required\textsuperscript{130} to carry out their functions in a manner that is safe and secure; and is environmentally sustainable; and is effective and efficient; is commercially sound; and has regard for the persons living or working in the immediate neighbourhood of the port.

The Commission considers that the terms of reference seek an examination of the impact of land use planning for the ports, and not corporate planning or other purpose-specific planning by the port authorities. The Commission notes however that each of PoMC and PoHC must have a safety management plan and an environmental management plan (section 91C of the PSA). The PSA requires that the plans be certified by an environmental auditor appointed under section 53S of the \textit{Environment Protection Act 1970}\textsuperscript{131}. These management plans are likely to impact on land use planning.

\subsection*{4.6.1 Port Strategic Land Use Plans}

The key elements of the planning framework for the ports of Melbourne and Hastings are their Strategic Land Use Plans. The requirement for port strategic land use plans is expressed in the \textit{Victorian Ports Strategic Framework (VPSF)}\textsuperscript{132}.

\textit{The Government considers a key instrument in achieving its objectives for planning and longer term development of port infrastructure is the Port Strategic Land Use Plan. …. The Government will work with the ports and local councils to ensure Port Strategic Land Use Plans are prepared for each commercial trading port.}\textsuperscript{133}

These plans should include:\textsuperscript{134}

- identification of key assets that support the port (including transport corridors) and environmental values that will require protection
- consideration of land use planning objectives in adjacent areas
- appropriate buffers around port infrastructure and their transport corridors, and
- identification of land use and development issues requiring further action.

There must be effective consultation in the development of the plans, and ‘the outcomes and implications must be clearly communicated to neighbouring communities’\textsuperscript{135}.

\begin{footnotesize}
\begin{itemize}
\item \textsuperscript{130} \textit{Port Services Act 1995 ss 13(2) and 17D(2)}.
\item \textsuperscript{131} PoMC’s Safety & Environment Management Plan was introduced on 1 July 2005.
\item \textsuperscript{132} \textit{Melbourne 2030} also requires that each port develop a strategic land-management plan.
\item \textsuperscript{133} Department of Infrastructure (2004), \textit{Victorian Ports Strategic Framework}, p.24
\item \textsuperscript{134} ibid, p.24
\item \textsuperscript{135} ibid, p.6
\end{itemize}
\end{footnotesize}
Both PoMC and PoHC have developed and consulted on draft port land use plans, which will, when finalised, replace existing land use plans. These plans have been developed in close consultation with the Department of Infrastructure.

The PoMC’s *Port Development Plan 2006-2035: Consultation Draft* (draft PDP), and the Port of Hasting’s Corporation’s *Report on the Port of Hastings Land Use and Transport Strategy: Consultation Draft* (draft PLUTS) were released in the second half of 2006 for community consultation. Public consultation on these plans is now completed, but in each case the plans are yet to be finalised. PoHC has also established a Community Reference Group to advise it in relation to its plan.

### 4.6.2 Port of Melbourne’s land use plans

*Port of Melbourne Land Use Plan*

The 2002 PoMC Land Use Plan covers all of the land owned by PoMC and provides a 20 year strategic planning framework for land use, transport infrastructure and environmental management in the port. It identifies a wide range of strategies that need to be implemented in order to address the issues required to ensure the efficient use of land and transport infrastructure at the port.

These strategies include improvements to the access arrangements for roads and increased cooperation with local councils on matters concerning the use of land or transport infrastructure. The Land Use Plan indicates that at all stages of the development of the port PoMC will engage in extensive consultation with the relevant government and community groups in order to ensure that all community and environmental obligations are sufficiently satisfied.

While the PoMC Land Use Plan is to be superseded by the draft PDP (discussed below), it is the plan that is referenced in the PoMC planning scheme. The draft PoMC planning scheme (new format) notes that any changes that result from the PDP will be considered as part of a separate amendment process or at the three year review of the PoMC planning scheme.

*Draft Port Development Plan (PDP)*

The Port of Melbourne draft PDP sets out PoMC’s broad strategy through to 2035, which is consistent with the framework articulated in the Government’s 2004 VPSF. In developing the draft PDP, the PoMC set itself the following development objectives:

1. to give certainty to investors, shipping lines, government stakeholders, stevedores and other stakeholders on the future development of the port by:
   
   (a) accommodating the forecast growth in trade;
   
   (b) attracting a range of investment that maximizes the potential of the port and reflects the trade needs of port users;
   
   (c) providing timely cost efficient and appropriately financed infrastructure;
(d) providing a business environment which allows the PoMC’s business partners to develop and grow their businesses in accordance with their shareholders’ objectives;
(e) ensuring developments are consistent with the PDP and VPSF

2. Integrate environmental, social and economic considerations for the benefit of the overall performance of the port involving working closely with all stakeholders to ensure the long term sustainability of the port

3. Embrace improvements in technology and or work practices that enhance the capacity of the port.

4. Maximise the use of the existing port resources.

The draft PDP provides a more detailed timeline for the priorities outlined in the VPSF 2004. For example, this includes:

- grade separation of rail and road connections into the Swanson Dock precinct between 2006 and 2010
- in the period 2010-2015, a 120 metre extension of Swanson Dock and associated northward extensions of the East and West Swanson Dock container terminals
- between 2015 and 2035 international container terminal facilities will be established and operations commenced at Webb Dock.

The draft PDP notes, however, that the delivery of developments is contingent on attainment of relevant environmental approvals and funding. With respect to Webb Dock, the draft PDP notes that development of the container stevedoring site may be brought forward if Swanson Dock is unable to provide sufficient capacity, service levels of incumbent stevedores are unsatisfactory, or if there are commercial considerations to justify an earlier development.

The draft PDP states that:

PoMC will continuously monitor the development and implementation of the strategies and achievement of the objectives. Monitoring activities may include … review of the PDP every two years …

4.6.3 Port of Hastings’ land use plans

Hastings Port Industrial Area Land Use Structural Plan

The Hastings Port Industrial Area Land Use Structural Plan was established in 1996. While still the current land use plan applicable for the Port of Hastings, and currently referenced in the SPPF (see section 4.1.1), in practical terms future planning will be determined by the Land Use and Transport Strategy being developed, as development of the port will await its finalisation. As noted by PoHC:

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A number of potential investors have already approached the POHC with a view to participating in the development of the expanded port. However these new entrants need to wait until the strategic planning process (PLUTS) is complete and endorsed by Government.137

**Draft Land Use and Transport Strategy**

The port of Hastings draft PLUTS involves:

- once the port of Melbourne reaches capacity, develop the Long Island Precinct into a container terminal. This area is situated north east of Hastings township, and includes the existing BHP Steel wharves, as well as the Tyabb Reclamation Area to the north of the BHP site, and
- establish a new transport access corridor for road and rail, with four alternative routes currently being considered.

### 4.6.4 Safety and Environment Management Plans

**Ministerial guidelines**

The *Ministerial Guidelines – Port Safety and Environment Management Plans* are a supplement to the provisions of the PSA which came into effect in 2004 in response to the Russell review of port reforms in the mid-1990’s. These provisions require all ports to have in place a Safety Management Plan and an Environment Management Plan appropriate to the scale and nature of port operations. This requirement was intended to address concerns raised about a fragmented approach to land and marine based safety and environment management and accountability.

The PSA provides that the Minister may issue Guidelines in relation to the management plans. These Ministerial Guidelines are broadly structured around the relevant provisions of the Act. They are intended to represent a key element in the process of implementing an integrated system for managing and improving the environmental and safety performance of Victoria’s ports. The Guidelines are developed to assist port managers develop detailed proposals specific to individual ports.

**Port of Melbourne Safety & Environment Management Plan 2005**

The *Port of Melbourne Safety and Environment Management Plan* (SEMP) was developed in order to apply a ‘whole-of-port’ approach to improving safety and environmental performance of all operations within the jurisdiction of PoMC. The plan provides a well-organised mechanism for influencing the safety and environmental performance of all of the businesses operating within the port and enables the alignment of both existing and future safety and environmental management systems.

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The SEMP was developed through extensive consultation with a wide range of different port stakeholders as well as using existing risk management documentation and knowledge both inside and outside of the PoMC. The underlying principle of the plan is to reduce safety and environmental risk within the port’s operations to a level that is ‘As Low As Reasonably Practicable’ (ALARP).

4.7 Key port planning authorities

Land use planning, by definition, imposes limits upon market operation, and potentially, on the scope for competition in markets dependent upon the availability of suitable land, such as port operations. The framework for land use planning of ports incorporate key planning documents for which key authorities are responsible.

The Minister for Planning is responsible for the Planning and Environment Act 1987 and for the standard Victorian Planning Provisions within it.

The VPP are required to be included in all planning schemes with the exception of the port of Melbourne. The VPP requires (as part of the State Planning Policy Framework) specific policies to be followed in planning schemes — for the port of Hastings as a long-term option for future port development, and for its development to be undertaken in accordance with the Hastings Port Industrial Area Land Use Structure Plan, for example. Responsible authorities must also take into account certain policy documents in developing local planning schemes — Melbourne 2030 requires projects at port of Melbourne to increase the rail share of freight and states port of Hastings future port development is not intended while the ports of Melbourne and Geelong ‘continue to meet the State’s needs’. Importantly, Melbourne 2030 also requires the Department of Infrastructure to ensure all commercial trading ports (Melbourne, Hastings, Geelong and Portland) to develop strategic land-management plans.

The Mornington Shire Council is the responsible authority for the Mornington Peninsula Planning Scheme covering the port of Hastings. The scheme includes the VPP. The Minister is the responsible authority for the Port of Melbourne Planning Scheme. The Minister for Planning may also prepare or amend a planning scheme for any area of Victoria. The Minister has commenced preparation of a Port Environs Plan to provide input on the planning controls to apply to the municipalities surrounding the port of Melbourne.

The Victorian Government’s vision for the commercial trading ports is set out in the Victorian Ports Strategic Framework. It is administered by the Department of Infrastructure and was developed after consultation with the commercial trading ports. Relevant to this Review, the Framework sets out a preferred sequence for future container port developments at Melbourne and Hastings. The role of this document, as part of the Government’s overall freight and logistics strategy, is to describe whole-of-State planning priorities and to indicate the Government’s transport infrastructure project development and funding priorities. The Melbourne Port@L Board provides a mechanism for the Government to identify specific infrastructure investment opportunities. The infrastructure funding priorities of Government are a key driver for the land use planning undertaken by the ports.
The VPSF also reinforces the VPP requirement that each commercial trading port prepare Port Strategic Land Use Plans, to inform and reinforce protections for ports in state level strategic frameworks (including the port-specific VPP requirements). The 1996 Hastings Port Industrial Area Land Use Structural Plan is the current plan applicable for the port of Hastings and is referenced in the SPPF. The Hastings Land Use and Transport Strategy, that is yet to be finalised, will determine future planning. Likewise, while the 2002 Port of Melbourne Corporation Land Use Plan is referenced in the current planning scheme, the draft Port Development Plan is expected to supersede it, once finalised. In each case, these draft plans are consistent with the 2004 VPSF and set out more detailed timelines for project development priorities. They have been developed in consultation with the Government.

These draft Strategic Land Use Plans are therefore the key elements of the planning framework for the ports of Melbourne and Hastings.

4.8 Summary

The main elements in Victoria's port planning frameworks and strategies are:

- The Planning and Environment Act 1987 (P&EA)
- The Victorian Planning Provisions (VPP) under the P&EA, which provide a framework for planning schemes and streamlined processes
- State Planning Policy Framework (SPPF) contained within the VPP and including transport and freight objectives. The port objectives in the SPPF relate to access terminal and depot areas, protection of land resources adjacent to ports, buffers between port and urban areas, and environmental quality
- Melbourne 2030, the Government's planning strategy for Melbourne, which provides for a freight and logistics strategy, port strategic land management plans, transformation of the Port of Melbourne/Dynon rail precinct into an intermodal freight terminal and an increase in the rail share of freight to ports
- The Ports Services Act 1995 (PSA) and, under it, port corporations and their planning functions
- The Victorian Ports Strategic Framework (VPSF) that broadly sets out the sequence for future port developments: Swanson Dock (with developments to maximise capacity), Westgate-Webb Dock and later Hastings
- Melbourne Port@L, the Government's concept for development of the Dynon precinct, including a draft strategy for a new Metropolitan Intermodal Terminal.

Other planning elements relevant to this inquiry, although less directly, include the National Charter of Integrated Land Use and Transport Planning; the Victorian Office of the Coordinator-General, Infrastructure; an October 2007
government consultation paper on its review of the legislative framework for transport; the Government policy statement Growing Victoria Together; local planning schemes; ports environs plans; and the Transport, Distribution and Logistics (TDL) Action Plan.
The terms of reference require the Commission to undertake an analysis and assessment of the extent to which, and the manner in which, the current planning frameworks impact on the entry of new providers of:

- stevedoring services;
- related container handling, storage, transport and intermodal services; and
- other relevant port or port related services identified during the course of the Review.

To the extent that these frameworks restrict entry to any of these markets, the Commission will undertake an assessment of the costs and benefits of such restriction in terms of the efficient use of port infrastructure and whether the benefits of restricting entry outweigh the costs to the community.

In addressing these matters, the Commission will also be conscious of Clause 4.2(a) of the CIRA which, as noted in the Terms of Reference, is the subject of this Review. Clause 4.2(a) states that port planning:

\[
\text{should, consistent with the efficient use of port infrastructure, facilitate the entry of new suppliers of port and related infrastructure services.}^{138}
\]

Facilitation implies some positive actions such as encouragement or assistance, rather than simply an absence of restrictions on competition. However, as competition is not an end in itself (but a means to achieve other goals such as efficiency), implicit in this requirement is that it would only occur where efficient or socially desirable.

This chapter seeks to identify any restrictions in the planning frameworks on entry of a new container stevedoring service provider or a provider of related container services.

Potential issues that affect competition in this industry arising from Victorian planning frameworks that have been identified either in submissions to the Review or by the Commission relate to:

- the policy of sequential development of container terminals contained in the VPSF
- local government planning approvals and permits

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• the mode share target
• land availability, and
• the conduct of the ports in the implementation of the (draft) port plans.

Each of these potential issues is discussed in turn below, and assessed against the NCP criteria for restrictions on entry.

In Chapter 6 other potential barriers to entry are discussed as well as the adequacy of capacity at the Port of Melbourne. Both of these matters are relevant to the materiality of the effect of any planning framework restrictions on competitive entry.

The Competition and Infrastructure Reform Agreement (CIRA) provides that there should be competition in the provision of port and related services unless it can be demonstrated that the benefits of restricting competition outweigh the costs to the community. The costs and benefits of entry restrictions identified are discussed in Chapter 7.

Following the general NCP principles, even where there are net social benefits associated with a restriction on competition, the Commission will seek to identify and consider the merits of alternatives to interventions that restrict competition. This question is considered in Chapter 8.

5.1 The sequence of development in VPSF

The VPSF contains strategies aimed at:

- *Building on existing capabilities and competitive strengths*
- *Anticipating and planning for future land, access and infrastructure needs*
- *Providing the right regulatory and institutional settings for a sustainable port system*139

The VPSF articulates a “vision” for the ports, which includes:

*Individually, the ports will play to their strengths by building on their core trade competencies and exploiting their natural and commercial competitive advantages. They will build their own niches and have the opportunity to compete actively for contestable trades.*140

It also establishes a Framework Direction of ‘building on existing capability and competitive strengths’ (Framework Direction 1). This encompasses both fostering competition as well as optimising the use of existing port assets and infrastructure. This appears to be consistent with National Charter of Integrated Land Use and

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139 Department of Infrastructure (2004), Victorian Ports Strategic Framework, p.2
140 Ibid, p.7
Planning\textsuperscript{141}, which has as one of its aims, to maximise the use of existing infrastructure.

Framework Direction 1 of the VPSF contains (as Strategy 1\textsuperscript{142}) a policy of sequential development of container terminals in the Port of Melbourne and the Port of Hastings. Under this approach, the Victorian Government, as owner of both ports, can be interpreted as seeking its commercial ports to operate – at least with respect to container terminal developments – from a collective or portfolio-wide perspective to complement each other. This appears to be intended to make best use of existing investment within the port, and to gain maximum leverage of the transport infrastructure outside the commercial port areas.

Depending on how it is implemented and how binding it is, Strategy 1 may limit competition by restricting entry of competing stevedores.

The VPSF is also based on a planning presumption that there is a logical sequence of port terminal and freight transport development. This presumption is to be revalidated periodically as commercial and other changes occur.\textsuperscript{143} It is also based on the aim of taking advantage of potential economies of scale and scope, in existing infrastructure before new infrastructure is necessary.

With respect to non-container trades, the approach in the VPSF allows ports to compete with each other for these cargoes, although the four Victorian commercial trading ports are expected to focus on particular market segments to which they are best suited.\textsuperscript{144}

The sequential development envisaged for container terminal developments in the VPSF\textsuperscript{145} is to provide additional capacity for anticipated growth in demand for container handling services in the short to medium term through capital works at the existing container handling terminals at East and West Swanson Docks. Significant investment by both PoMC and stevedoring operators is regarded as necessary to ensure the precinct has the ability to service the international and mainland container trade needs for approximately the next 10 years.

Sometime before Swanson Dock reaches its ultimate capacity, additional international container terminal facilities will be developed at Westgate-Webb Dock, with other trades progressively relocated elsewhere in Port of Melbourne or to another Victorian port. With the majority of the existing leases over Webb Dock expiring in 2017, it is envisaged that Westgate-Webb Dock will be progressively converted to an international container terminal after this time.


\textsuperscript{142} Department of Infrastructure (2004), Victorian Ports Strategic Framework, p.11

\textsuperscript{143} Ibid, p. 9

\textsuperscript{144} Ibid, p. 9

As part of this approach, VPSF protects the future option to reconnect the rail link to Westgate-Webb Dock. PoMC’s draft PDP notes that this will be progressed when there is a strong business case to do so and environmental clearances are obtained.\footnote{146}

While capacity expansion of existing container terminals at the port of Melbourne is given preference, it identifies that there will likely be a need for new container handling and storage facilities at the port of Hastings beyond 2030, given the total container trade forecasts and capacities of Swanson and Westgate-Webb Docks. According to the VPSF, the port of Hastings is the preferred site for future container development once the port of Melbourne has reached capacity. To ensure that it is able to perform this role when the time comes, the VPSF includes the strategy of:\footnote{147}

\begin{itemize}
  \item[(b)] protecting the future potential of the Port of Hastings to allow container trade to be accommodated in the longer term when the Port of Melbourne is fully utilised (noting that Hastings would supplement rather than replace the role of Melbourne).
\end{itemize}

### 5.1.1 Stakeholder comments

PoMC considers that there is a need to strike ‘a balance between the need to encourage competition and the need to ensure that existing infrastructure is efficiently used.’\footnote{148} According to PoMC, the draft PDP recognises the importance of competitive discipline by making provision, and providing indicative timing, for an additional container terminal at Webb Dock. In regard to the timing of new infrastructure at the port, PoMC’s submission considers that the draft PDP is not a prescriptive plan but rather a guide to long-term port development and, noting the proposed biennial review of the PDP, states that:

\begin{itemize}
  \item …there is substantial flexibility within the draft PDP to revise or amend the development strategy when circumstances change or when opportunities to introduce competition present themselves.\footnote{149}
\end{itemize}

Consistent with this, PoMC’s submission flags that the final PDP will ‘more explicitly incorporate flexibility in terms of the timing of delivery of specific infrastructure,’\footnote{150} and will not include specific anticipated development dates for either Swanson Dock or Webb Dock, with the timing of development of these facilities to be guided by trade growth, service levels and private investment.

\footnotesize
\begin{footnotes}
\item[146] PoMC, Port Development Plan 2006-2035, Consultation Draft August 2006, p. 89
\item[147] Department of Infrastructure, Victorian Ports Strategic Framework, November 2004, p.9-10
\item[148] PoMC (2007), Port of Melbourne Corporation, ESC Review of Port Planning, p.5
\item[149] Ibid, p.28
\item[150] Ibid, p.26
\end{footnotes}
Moreover, PoMC indicates that is ‘has an open and responsive position’\textsuperscript{151} with respect to inquiries regarding interest in new stevedoring capacity.

Notwithstanding this flexibility, PoMC indicates that the PDP will be implemented in a manner consistent with the sequential development principle in the VPSF. Specifically, PoMC’s submission states that:

\begin{quote}
PoMC’s focus in planning for container terminal development in the draft PDP has been on providing a framework within which the full benefit can be gained from the State’s extensive investment in existing infrastructure while providing the opportunity to develop additional terminals as and when they become necessary.
\end{quote}

\begin{quote}
PoMC…in general, has sought to facilitate additional capacity by making more intensive use of existing facilities and ensuring that they are fully exploited before investing in major new infrastructure.\textsuperscript{152}
\end{quote}

PoMC considers that development rights to any new container terminal development should be allocated through an open bidding process, and that this requires a conscious decision of how often and when to test market interest. Despite the Corporation’s planning functions, the PoMC also notes that the Government may determine development timing in response to its broader objectives, and may review the VPSF so as to require PoMC to test the market\textsuperscript{153} (alternatively it could direct PoMC’s Board to commence a tender process).

Asciano considered that the government’s role in port planning, and the plan itself, does not restrict new port entrants, stating:

\begin{quote}
The Government’s role in port planning, or the plan itself, does not restrict new port entrants it is rather the size of the market and the high cost of capital that determines the viable entry of a third operator. This is demonstrated by the failure of the Westgate terminal proposal.
\end{quote}

\begin{quote}
The planning framework does not restrict competition and is consistent with the NCP Review Guidelines. The framework’s purpose is to ensure that the use of existing private and public investment in infrastructure is maximised before new infrastructure is required.\textsuperscript{154}
\end{quote}

Asciano further notes that the planning frameworks have been developed in consultation with various stakeholders and reflect a fair evaluation of stakeholder interests.

In contrast, Hutchison Port Holdings considers that:

\begin{itemize}
\item \textsuperscript{151} Ibid, p.28
\item \textsuperscript{152} Ibid, p.13
\item \textsuperscript{153} Ibid, p.16
\item \textsuperscript{154} Asciano (September 2007), \textit{ESC Review of Port Planning Submission}, p.7
\end{itemize}
Within the current policy settings preventing consideration of new developments at the port of Melbourne until 2017, Victoria has been denied access to the container terminal development opportunities available in the Australian and global market.155

Anglo Ports (who, in 2005, proposed to develop a site at the port of Hastings for container handling) also consider that the port planning frameworks have had an anti-competitive affect, preventing the entry of a competitor to the existing stevedoring duopoly. In relation to the approach to sequential development Anglo Ports states:

Plans for the sequential development of infrastructure, such as the proposal for Hastings to become a container port when Melbourne reaches capacity after 2030, should not of themselves be used to prevent port development at Hastings if in fact road and rail routes are developed in tandem with the growth or port traffic.156

Rather, it considered that there should be an ‘immediate opening up of the process of allowing port development within the overall long term plan’.157

The Mornington Peninsula Shire noted that the VPSF policy regarding complementary development of Port of Melbourne and Port of Hastings has created some uncertainty regarding the future relationship between the ports, namely whether they are to be competitively or co-operatively managed. It considered that the frameworks lacked clarity regarding how reliance on competition between ports will ensure or even encourage the sequence of development set out in the VPSF.

**5.1.2 Assessment of competition impacts**

By articulating a preferred path of development that is sequential and complementary rather than competitive, the planning frameworks tend to restrict competition in the container handling port services both between ports of Melbourne and Hastings, as well as within the port of Melbourne between existing terminal operators and the potential operators of new terminals that are subject to staged development. As such, it potentially inhibits or distorts both intra and inter-port competition. Only once Hastings has been developed (some time after 2030 according to the VPSF) would direct competition be possible.

By potentially affecting competition between stevedores, these restrictions also potentially impact on competition and entry in related container handling, transport and intermodal services. This is because the demand for these services is derived from the demand for container stevedoring, and the degree of competition in related markets may be affected by the market power of stevedores – not only

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157 Ibid, p.7
through vertical ownership relationships, or alliances, but also by established buyer/seller relationships. As such, a change in the number of stevedores could affect the market structure of container-related handling and transport services.

In order to consider whether port planning and land allocation practices are actually constrained to conform to the strategy contained in the VPSF it is necessary to consider the specific decisions that it does or could influence, and the degree to which it has influence in those circumstances.

It is important to clarify the status of the VPSF. It is a policy statement, but not a reference document within the State Planning Policy Framework (within the Victorian Planning Provisions). Therefore the responsible authorities are not obliged to comply with its policies as a matter of planning law. The completed Strategic Port Land Use Plans or Port Development Plans also have no particular status under the Victorian Planning Provisions.

The Commission has identified a number of processes through which the VPSF might constrain the ports, including:

- the development of port plans
- obtaining permits for developing port terminals
- obtaining government approval for capital expenditures, and
- the process of seeking government contributions to the funding of port or other logistics infrastructure related to the port.

### 5.1.3 Development of port plans

In the first instance, the VPSF influences the port when it is preparing its Port Strategic Land Use Plan. The VPSF emphasises the need for ports to establish a Port Strategic Land Use Plan which:

- identifies key assets that support the port – such as transport corridors – and environmental values that will require protection
- take account of land use planning objectives in adjacent areas
- define appropriate buffers around the port infrastructure and their transport corridors
- inform and identify land use and development issues requiring further action, including recognition in state and local planning policy frameworks and implementation in planning schemes.
The draft PDP and the Port of Hastings draft PLUTS each appear to be consistent with the VPSF. For example, the Port of Hastings draft PLUTS includes the principle to:\textsuperscript{158}

\textit{Protect the future potential for the Port of Hastings to accommodate container handling facilities and other port development once development capacity at the Port of Melbourne is reached (in line with VPSF).}

In support of this approach, the PoHC plans to progressively develop the Long Island precinct to accommodate container related trade once Port of Melbourne reaches capacity.

However, the question as to when the port of Melbourne will reach capacity remains highly uncertain, since this will depend not only on the effectiveness of PoMC’s planning, but also on investment projects for which feasibility assessments, Board decisions and Government approvals are yet to be made. It will also depend critically on investments to be made by the stevedores. Perhaps for these reasons, the draft PLUTS provides for container terminal construction at the Port of Hastings some time in the period 2015 to 2035.

In the draft PDP for the port of Melbourne there is a much more precise sequencing of development, which is consistent with the VPSF. PoMC has stated that the VPSF ‘provided crucial guidance to PoMC in articulating the draft PDP.’\textsuperscript{159}

In its submission, PoMC further indicates that in its final form the PDP will be less specific about the timing of developments\textsuperscript{160} and that PoMC is not necessarily committed to the sequence of development indicated, and may adopt a different sequence.\textsuperscript{161} But it also states that:

\textit{PoMC has developed the draft PDP to support the government’s Victorian Ports Strategic Framework (VPSF).}

\textit{A key strategy of the VPSF and shareholder investment considerations guides PoMC towards maximising the use of Swanson Dock container facilities prior to considering the development of other locations in the Webb Dock precinct for containers.}\textsuperscript{162}

These observations tend to suggest that for both ports the strategic land use plans, when finalised, may possibly contain a degree of flexibility that appears to be greater than a narrow reading of the VPSF might suggest. Hence, the plans themselves may, once completed, establish a plan for development that provides

\textsuperscript{158} PoHC (2006), \textit{Report on the Port of Hastings Land Use and Transport Strategy – Consultation Draft}, p.5-7
\textsuperscript{159} Port of Melbourne Corporation (2007), \textit{ESC Review of Port Planning}, p.10
\textsuperscript{160} Ibid, p.26
\textsuperscript{161} Ibid, p.28
\textsuperscript{162} Ibid, p.29
considerable room either for varying the plan, or for the adoption of different development strategies within the context of the flexible elements of the plan.

The port development plans are unlikely to bind the ports, and hence the reflection of the VPSF in those plans need not be restrictive in terms of imposing that sequence of development on the ports. The plans do not have any legislative basis, and are akin to “vision” statements that can in future be amended by the port authorities if they choose.

While the VPSF may not be binding, the statements made by both ports indicate that the VPSF – including the approach of sequential development – does guide the development of the port plans. In addition, while the port plans may be easily amended, their provisions (and the VPSF) will impact the planning decisions of existing port operators and of potential entrants’ perceptions of entry opportunities. In certain circumstances a court might prevent a port from acting contrary to its port development plan where a third party has placed reliance on the plan, for example, by basing a major investment decision on it.

The port land use plans are discussed further in section 5.5.

5.1.4 Planning permit approval

Another way in which the VPSF might affect entry is by binding a relevant authority when (and if) making a decision in relation to a planning permit application. The planning legislation sets out a procedure for applying for permits required by planning schemes. If the relevant planning scheme requires a permit to be obtained for a container terminal development, an application for the permit must be made by the landowner, or with the knowledge of the landowner, to the responsible authority. The responsible authority must consider the Victorian Planning Provisions (VPP) in making a decision whether or not to grant the permit.

PoMC owns the land within its port and is therefore the applicant for planning permits in the port. The Minister for Planning is the responsible authority in relation to applications for permits made by PoMC under the Port of Melbourne Planning Scheme.

POHC is in a somewhat different situation as it does not currently own the main parcels of land on which it proposes to develop new facilities. The relevant sites, which are either Crown Land or owned by Bluescope Steel or Esso-BHPB, are discussed in section 5.4. Only once the relevant land is acquired by the State and transferred to POHC, will POHC be the owner of the relevant land and therefore the applicant for permits. The responsible authority for applications made by POHC for planning permits is the Mornington Peninsula Shire.

The P&EA (s60(1)) requires that when deciding an application a responsible authority must consider:

- the relevant planning scheme

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163 Planning and Environment Act 1987, section 48(1)

164 At the present time, the Port of Melbourne Planning Scheme is in the old form, and does not refer to the VPP. Hence it would not be mandatory to have regard to the VPP when...
The VPP – which is contained in each planning scheme (with the exception of the current planning scheme for the port of Melbourne) – provides that the responsible authority must have regard to various geographical strategies (notably Melbourne 2030). Port-specific policies stated in the State Planning Policy Framework and Melbourne 2030 are described in sections 4.2.1 and 4.2.2 of Chapter 4.

Where a responsible authority must consider a matter, this means that while they must be given significant weight, strict compliance with them is not necessary.

On the other hand, s60(1A) provides that the responsible authority may consider any other relevant matter, particularly:

- any significant social or economic effects of the proposal,
- any approved regional strategy plan or adopted amendment under Part 3A or Part 3C of the Act (the Upper Yarra Valley and Dandenong Ranges Strategy Plan and the Melbourne Airport Environs Strategy Plan),
- any relevant State environment protection policy,
- any other strategic plan, policy statement, code or guideline adopted by a Minister, government department, public authority or municipal council, [our emphasis]
- any amendment to the planning scheme which has been adopted by the planning authority but is not yet in force,
- any ‘section 173 agreement’ affecting the land, or
- any other relevant matter.

approving a permit at the present time. A draft Port of Melbourne Planning Scheme in the new form, which contains a reference to the VPP, has been prepared. The draft Port of Melbourne Planning Scheme contains a Port Strategic Statement which sets out future development plans and options, but it is based on the existing Port of Melbourne Land Use Plan and does not reflect the draft PDP. Thus, while it contains a reference to the VPP, some of the development plans and options differ from those of the draft PDP. One important difference is the concept for the development of the Westgate-Webb Dock precinct. The draft Port of Melbourne Planning Scheme envisions firstly the development of the Westgate terminal site as a stand alone terminal, and subsequently Webb Dock West for increased container capacity. It is also stated that PoMC obtained EES approval for this development in 1998.
As examples of other strategic plans and policy statements, Melbourne 2030 has given rise to a number of documents that government departments have prepared in response to initiatives in Melbourne 2030. The most important of these is the VPSF.

Where a matter may be considered by a responsible authority, it would not be mandatory for planning decisions to have regard to these matters (such as these other strategy documents), but they may be considered.¹⁶⁵ There will also be other considerations that are relevant, for example, social or economic effects of the proposal are relevant and these may include effects on the catchment area for containerised freight into the port, or State-wide, regional or local economies.

In short, the sequence of terminal development container in the VPSF is not a matter that a responsible authority must have regard to. Although it is potentially a relevant consideration, there are other considerations that may also be considered relevant (such as social or economic implications of the proposal).

Nevertheless, the VPSF is a clear policy statement concerning the Government’s vision for port development and as the ports are government-owned, it is difficult to conceive circumstances in which the desired policy of sequential development would not be a factor in the decision to grant a development permit. This is particularly the case for the Port of Melbourne where the Minister of Planning is the responsible authority.

Planning scheme - Port of Hastings

As mentioned, the relevant planning scheme is a mandatory consideration when approving a planning permit. When a planning scheme is prepared or amended the relevant planning authority must have regard to the VPP.

The Mornington Peninsula Planning Scheme places the Port of Hastings within Special Use Zone 1: Port Related Uses (SUZ1). The areas that are within that zone are shown in Figure 5.1. A proposed wharf (including a container terminal) within the SUZ1 zone constitutes a use that requires a permit, for which an application must be made to the Mornington Peninsula Shire Council.
Figure 5.1  Port of Hastings - Special Use Zone 1
The Mornington Peninsula Planning Scheme incorporates the VPP, which includes the SPPF. Clause 10 of the VPP provides that the SPPF "must be taken into account" when making decisions under the planning scheme.

The SPPF sets out various objectives and strategies, which the Mornington Shire Council must consider. One strategy set out in the SPPF is to ensure "port areas are protected by adequate buffers to minimize land-use conflict" (clause 12.04). A proposed container terminal would need to be protected by a suitable buffer which may limit the permissible location of a container terminal development. Another strategy is to retain “the Port of Hastings as a long-term option for future port development should the ports of Melbourne and Geelong no longer meet the State’s needs” (clause 12.04). This strategy may require a container terminal at the Port of Hastings to be delayed until such time as the ports of Melbourne and Geelong no longer have capacity for one. In this way, the SPPF can restrict the timing of a container terminal development at the Port of Hastings.

**Planning scheme - Port of Melbourne**

The current Port of Melbourne Planning Scheme divides the port into seven zones (in addition to reserved land and open space):

- Special Use – Port Areas;
- Light Industrial Zone;
- Transportation Zone;
- Marine Engineering Zone;
- Special Use Zone No 5;
- Comprehensive Development Zone 1; and
- Comprehensive Development Zone 2.

By far the biggest zone is the “Special Use – Port Areas” zone. This covers most of the port. Within the zone a wharf does not require a permit, and a “transport terminal (other than wharf)” also does not require a permit, but in this case there are various conditions for a permit not to be required.\(^{166}\)

As a container terminal appears to fall within the definition of a wharf, a permit does not appear to be required for a container terminal development within most of the areas under the Special Use – Port Areas zone. However, there are two important exceptions: Webb Dock Precinct and Victoria Dock Precinct, for which the Planning Scheme contains specific clauses.\(^{167}\) The effect of these clauses is that a planning permit is required for a terminal development at these two sites. With respect to Webb Dock, the planning scheme states:

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\(^{166}\) In the remaining zones within the port a permit is required for a terminal development, with the exception of Comprehensive Development Zone 2, which does not require a permit for a transport terminal or wharf provided certain conditions are satisfied, otherwise a permit may be required.

\(^{167}\) Clauses 121 and 120 respectively of the Port of Melbourne Planning Scheme.
The Webb Dock precinct has been identified as a key development precinct to cater for the future needs of the port of Melbourne. The redevelopment of the precinct was the subject of an Environmental Effects Statement (EES) which was completed in 1998. During the EES process, a conceptual development plan for the Precinct was considered. The Webb Dock Conceptual Development Plan forms part of this policy and illustrates the primary areas for development within the Precinct which are:

- **Westgate Terminal**, a large land parcel situated to the north of Williamstown Road
- **Berths at Webb Dock West**
- **Webb Dock East** which is substantially developed but has land for expansion at its southern end.
- **East Dockside** incorporating three land parcels situated around the intersection of Dockside Road and Williamstown Road.

The Minister’s Assessment accepted the recommendation of the EES for the preparation of an Environmental Management Plan to guide the development of industry within the Webb Dock Precinct. The Environmental Management Plan for Webb Dock Precinct will specify measures to be implemented at the design, construction and operational stages of development in order to ensure that any potential environmental and amenity impacts are appropriately managed.¹⁶⁸

A permit is required to use the land, or to construct a building or carry out works. Before deciding on an application to use the land or construct a building or carry out works, the responsible authority must consider the Webb Dock Conceptual Plan (see Figure 5.2), and any Environmental Management Plan prepared for Webb Dock. A subsequent permit is not required for buildings and works to construct a terminal, provided certain conditions are met. For example there are conditions relating to the visual impact of any development at the site, including, among other things, that in the “visually critical areas” stored goods (including containers) must not exceed 9 metres above ground level.

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¹⁶⁸ Port of Melbourne Planning Scheme, clause 121.
The VPP does not constrain the timing and location of container terminal developments at the port where no permit is needed. Where a permit is required, the VPP may have an impact on such developments to the extent that the Minister chooses to consider the VPP as part of his decision making process. As mentioned, under the current planning scheme the VPP is not part of the Port of Melbourne Planning Scheme, and hence the Minister would not be required to consider the VPP when deciding whether to grant a permit. But the Minister may consider “any other strategic plan, policy statement, code or guideline which has been adopted by a Minister, government department, public authority or municipal council” and “any other relevant matter”. These provisions enable the Minister to consider the VPP and VPSF voluntarily. If the Minister does so, the VPP has the
potential to restrict the timing and location of container terminal developments at
the Port of Melbourne. However, unlike the port of Hastings, the VPP does not
contain specific provisions relevant to the sequence of container terminal
development at the port of Melbourne. The source of this, the VPSF, is a matter
that the Minister may consider, although presumably it would be considered
relevant.

As mentioned, the current Port of Melbourne Planning Scheme is not in the new
format. A draft new planning scheme in the new format has been prepared for the
Port of Melbourne. Aside from the inclusion of the VPP, the Commission
understands that the draft Planning Scheme is largely a neutral translation of the
existing planning scheme into the new format. The draft Port of Melbourne
Planning Scheme encompasses a Port Strategic Statement, which provides an
overview of port facilities, an assessment of key influences likely to challenge the
port's future development (e.g. land use and environmental issues), a strategic
vision for land use and port development and an overview of objectives, strategies
and implementation measures. The draft Planning Scheme also addresses
transport and infrastructure needs and environmental management issues. It also
includes a Schedule (Special Use Zone) specifying which uses require a permit
and which do not. The new planning scheme has not yet been approved under the
P&EA, and it is unclear when it will be approved.

Concluding comments

The foregoing suggest that while the VPSF is not a mandatory consideration, it will
be one of several relevant considerations that a responsible authority will need to
have regard to when deciding whether to approve a planning permit application.

Moreover, in the case of the port of Hastings the SPPF envisages that the port is a
long-term option for future development should the ports of Melbourne and
Geelong not be sufficient for the States needs. The SPPF must be taken into
account when making decisions under the planning scheme.

5.1.5 Investment approval processes

Both PoMC and POHC are Government Business Enterprises (GBEs). As such
they are subject to controls over investment expenditure through the Department of
Infrastructure’s Project Review Committee processes in relation to any investment
to be undertaken by the port that is over $10 million.

When Government assesses projects there are three main areas to be
assessed:169

- Strategic fit. This involves considering whether the project not only meets the
  business needs, but is also consistent with government policies and strategies,
  and whether there are positive or negative synergies between projects.

169 See Maunsell, AECOM (2006), Investigation of Potential Bias between Modes in the
Project Evaluation Process, prepared for the (VCEC)
- Options assessment. This involves ensuring that all if the relevant alternatives have been identified, each properly examined, and the best option found. This includes the economic appraisal of each option, and risk assessment.

- Business case. This should include a scoping of the project, a detailed cost benefit analysis, the implementation strategy, risk assessments, governance arrangements and stakeholder impacts.

This review process implies that port planning processes for the government-owned ports should address each of these requirements. Hence ports will need to have regard to Government policies and strategies, but will also need to carry out detailed feasibility assessments in identifying a preferred development. To some extent there may not be consistency between these requirements. Therefore, it will not always be possible for the port to develop plans that are fully in harmony with government plans and strategies if those strategies are not consistent with the economic criteria for evaluating the best option.

The Project Review Committee process will also apply to projects that are Public Private Partnerships and in circumstances where port developments do not involve investment by the port, such as a Build, Own, Operate and Transfer (BOOT) type of project which is fully funded by a third party. In addition, major within-port development often requires supporting transport infrastructure investment outside the port area. This investment, proposed by the Department of Infrastructure for example, must comply with Project Review Committee processes, including its strategic fit with the policy set out in the VPSF.

The Project Review Committee process for approving projects is another avenue through which the VPSF may impact on the sequence of port infrastructure developments, and hence could impact on competitive entry in stevedoring.

### 5.1.6 Decision making in relation to subsidies

A number of projects in the ports and logistics sector are dependent on government contributions. For example, the current Dynon Port Rail Link is funded by the Federal Government through Auslink, and the State Government. Other road and rail links to the ports are likely to involve Government contributions. However, there is little precedent in recent times for contributions from Consolidated Revenue to commercial trading port infrastructure within port precincts in Victoria. These are generally funded by ports or by port tenants. This would include, for example, rail terminals within the port boundary.

The Mornington Peninsula Shire has indicated that:

> it is apparent that the development of the Port of Hastings will require very substantial public investment both in the provision of port facilities (berth facilities etc) and the transport infrastructure necessary to support port activities.\(^{170}\)

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In particular, as discussed below, there is a significant amount of land at Tyabb which will need to be acquired before the POHC could proceed with its port development plan, and this will presumably need to be purchased by the State and transferred to POHC.

The VPSF indicates that to some extent the Government envisages that its funding role may be directed to achieving the objectives set out in the framework:

*The Government will consider investment, directly or through Partnership Victoria arrangements, in port and Intermodal infrastructure supporting commercial trading port operations where it considers such investment to be consistent with the efficient pattern of development set out in this Framework.*

The Government's participation in infrastructure projects generally, and its role in sometimes providing capital to government-owned ports, as well as its role in contributing to specific projects that are vital to ports, may, as foreshadowed in the VPSF, be directed to ensuring that these infrastructure projects support the sequence of port infrastructure developments set out in the VPSF, and by doing so could impact on competitive entry in stevedoring.

5.1.7 Preliminary Conclusions

The VPSF clearly outlines a preferred development path (within Port of Melbourne initially, followed by development of Port of Hastings in the longer term). The SPPF also envisages a similar sequence for the Port of Hastings.

The potential for the VPSF to inhibit new market entry depends on its influence on the consideration and approval of emerging opportunities. In this regard it is the practical application of the planning framework and the weighting given to the VPSF that will determine whether it restricts or prevents inter port and intra port competition.

PoMC argues that the draft PDP is flexible and it will continue to review the optimum time at which the market should be tested for interest in the right to develop any new container terminal. However, there is a very clear direction in the VPSF that the Port of Melbourne will be fully developed and this implies that container stevedoring entry should initially occur at Port of Melbourne.

Submissions provide some evidence that proposed port developments have not proceeded, raising the question whether this was due to the weight given to the VPSF in the planning framework. Anglo Ports argued that the planning framework impeded its Tyabb development proposal at the Port of Hastings and that this has been anti-competitive. However, POHC submitted that any lost development opportunities to date reflect the fact that its strategic planning process is not yet finalised and that any potential new entrants must wait until its strategic planning process is complete and endorsed by government. If this is the case, this would not necessarily reflect an anti-competitive planning framework per se, but rather simply that the planning framework is incomplete. Furthermore, it may also imply that

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POHC considers that once the final version of the PLUTS is approved there will be more flexibility in relation to development options.

Other information suggests that PoMC may have refused proposals to develop a third terminal. However, while the port’s decision to not proceed with a development may have reflected its own view of consistency with the VPSF, it may also reflect other factors. For example, the port will need to conduct a tender process for probity reasons (resulting in a preference to wait until there is sufficient number of interested parties) and in specific circumstances it may have commercial reasons for rejecting an offer based on its details. Thus, it is difficult to form a view on whether the sequential development approach in the VPSF has to date acted as planning constraint, based on the limited information available to the Commission.

In conclusion, while the sequential development approach embedded in various planning frameworks, and in particular the VPSF, does have the potential to restrict competition in container stevedoring, it is not clear whether the existence of these policies has to date prevented commercially viable entry by new operators or whether previous development proposals failed for other reasons.

The other important question is whether the policy of sequential development is likely to restrict competitive entry in the future.

Firstly, the fact that the draft port plans reflect the VPSF, and any responsible authority for approving planning permits may have regard to the VPSF and the port plans, suggests that it is a potential influence on planning decisions that will in turn affect the feasibility of entry. Neither the ports of Melbourne or Hastings have yet to finalise their strategic land use plans. The degree to which they will reflect the VPSF is therefore not known at the present time. However, if the draft plans are useful guides to the final plans, in adopting a defined sequence of development as set out in the VPSF, even with some degree of flexibility, the plans themselves may restrict entry. This is discussed further in section 5.5 below.

Secondly, where a planning permit is sought at the port of Hastings for a new container terminal development, the responsible authority must take the SPPF into account, and as the SPPF describes the role of the port of Hastings once the port of Melbourne reaches capacity, this consideration could potentially restrict new entry at that port which does not reflect the expected sequence of development in the VPSF and SPPF.

For these reasons, the Commission’s preliminary view is that the policy of sequential development in the VPSF and SPPF are a potential constraint on entry.

5.2 Local government planning approvals and permits

The Port of Melbourne is situated within four municipalities – Melbourne, Hobsons Bay, Port Phillip and Maribyrnong. In contrast, the Port of Hastings is wholly within the Mornington Peninsula Shire. Each municipal council publishes its own planning scheme – the statement and planning provisions that relate to the planning, development and land use within their jurisdictions.
The ports are required to have regard to their impacts on adjacent communities and urban areas. Furthermore, according to PoMC, Council planning decisions can have a significant impact on development both in and around the port.\textsuperscript{172} The key issue is whether local government planning schemes located in the vicinity of a port can restrict competition in a port zone.

Some of the relevant features of the local government planning schemes are as follows.

The City of Melbourne municipal strategic statement (MSS) acknowledges the importance of the port to the state and local economy. It recognises port interface and development issues for affected precincts. For example, for Fishermans Bend, it recognises the need to avoid conflict with port operations and supports future rail improvements to the docks, including the Webb Dock rail line. It also supports the redevelopment of the Dyon rail terminals. Land use issues and expectations regarding amenity are addressed through the proposed ‘amenity principles’ which would, for example, require noise attenuation measures for development with a frontage to a major transport corridor.

The City of Port Phillip MSS recognises the importance of Webb Dock to the economy while also taking account of the impact of expansion on the adjacent residential and recreational land uses. A number of MSS objectives relate to protecting Port Phillip foreshore and the Fisherman's Bend industrial area. Station Pier is recognised as a major tourist activity area. It also states that the Garden City and Beacon Cove areas need to be protected from port traffic.

The City of Hobsons Bay MSS focuses on coastal and industrial development. It is relatively silent on port operations, other than to address the need to avoid transport issues affecting residential amenity.

The City of Maribyrnong’s MSS is focused on improving the Maribyrnong River amenity and the encouragement of industry. It includes consideration of access and transportation issues and recognises the port and major activity centres.

The Mornington Peninsula Planning Scheme was developed with the main objective of improving the processes for making critical land-use planning decisions in order to maximise the potential of the peninsula’s asset base, whilst also reconciling the competing values and strategic objectives of the relevant stakeholders. Effective planning is regarded as essential to the sustainable and balanced development of land use in the region and also the maintenance of long-term economic, social and environmental values. The most significant strategic directions to be undertaken by this planning scheme are identifying areas available for port development whilst also maintaining separation between port development and township areas.

\textsuperscript{172} See PoMC (2006), \textit{Port Development Plan 2006-2035: Consultation Draft August 2006}, p.11 for a discussion of some of the issues regarding local planning schemes at the Port of Melbourne.
5.2.1 Stakeholder comments

PoHC commented that:

Local planning schemes impact on the timing of new developments and may hinder progress if applications for approval are delayed; conditions are onerous or too restrictive. This may in turn hinder competitive processes if potential providers of services are unable or unwilling to wait for planning scheme outcomes.\(^{173}\)

The Mornington Peninsula Shire (MPS) argued that there was no evidence that the current port planning framework had limited entry of other port service companies. Its submission sought to distinguish the situation at the Port of Hastings from the Port of Melbourne:

...Council would oppose a simplistic translation of SUZ 1 [Special Use Zone 1 – Port Related Uses] to a Special Use Zone similar to that which exists around the Port of Melbourne...as [the] purpose of the zones is significantly different. The PoM Zone applies to an area where the infrastructure framework is already well established and is limited to the immediate port area whereas the Port of Hastings is still to be developed and the zone extends to a much broader area. While there may be some argument for the PoHC to be exempt from routine planning approvals once port facilities are established there is no basis to exempt the corporation at this stage...\(^{174}\).

Anglo Ports argued that the system of planning permits should apply equally to existing and new ports:

Planning permits should be administered even handedly for new ports and for the existing ports of DP World and Asciano. Thus the proponents of new ports, who are able to meet reasonable conditions of operation, should have an expectation of the timely grant of permits.\(^{175}\)

Anglo-Ports also considered that the environmental impacts of increased throughput at existing ports of DP World and Asciano should be subject to planning permits. In its supplementary submission, Anglo Ports clarified the issues it considered to be relevant to applying permits even-handedly. In summary, it highlighted a lack transparency with the Port of Melbourne planning process, and the need for incumbent stevedores to comply with the terms of any permits for their operations.

\(^{173}\) PoHC (2007), Re: Review of the Impact of Port Planning on Competition, p.2


\(^{175}\) Anglo Ports Pty Ltd (2007), Review of Port Planning By the Essential Services Commission, Submission on the Issues Paper, p.1
PoMC stated that the local planning schemes in some of the adjoining municipalities do not properly reflect the VPSF, particularly in relation to approval of land uses adjacent to the port, stating that:

*PoMC have found that local planning schemes, Municipal Strategic Statements (MSS) and Municipal Planning Schemes (MPS), do not always reflect Victorian Planning Policy and the Victorian Port Strategic Framework and there remain a number of tensions. As a result, competitive opportunities may be compromised.*

*PoMC is forced to continually monitor developments within the areas adjacent to the port and ensure that developments do not place unreasonable pressure on the port’s operations. Any potential changes to land uses in the area have the potential to impose significant constraints on current and future port operations and expansion.*\(^{176}\)

However, PoMC noted that there are initiatives that may ameliorate these concerns including the preparation of a Port Environs Framework and a Memorandum of Understanding established with the City of Maribyrnong.

The Custom Brokers and Forwarders Council of Australia Inc (CBFCA) raised similar concerns, noting increasing pressure on ports from urban and light commercial development, and stating that:

*Those councils with planning powers over port precincts and intermodal facility areas should amend their planning schemes to reserve relevant areas for important port and other infrastructure developments.*\(^{177}\)

### 5.2.2 Assessment of competition impacts

**Zoning of land and approval of port developments**

As discussed previously, at the Port of Melbourne local governments have no responsibilities in relation to developments that might occur within the port. At the port of Hastings, land zoned for port purposes is established in the municipal planning scheme and port terminal developments are subject to approval by the Mornington Peninsula Shire.

Local government planning schemes might act as a barrier to entry to the development of port facilities if they did not provide adequate zoning protection for land suitable for future port use, or if development approval processes were likely to impose a barrier by preventing or placing conditions on the right to develop port or related infrastructure facility services, thus affecting the possibility and timing of entry. However, an outright barrier to port developments does not appear to exist in

\(^{176}\) PoMC (2007), *Port of Melbourne Corporation, ESC Review of Port Planning*, p.21

the local government planning framework administered by the Mornington Peninsula Shire, which zones a large area as ‘SUZ1 – Port Related Purposes’. On the other hand the permit approval process may impose conditions on specific developments, and this process could affect entry.

Under the National Competition Policy principles, restrictions on competition are allowed provided the benefits of restricting competition outweigh the costs. As discussed in Chapter 4, land use planning moderates the operations of the property market by establishing rules for development in order to limit the impacts of incompatible land uses, ensure preservation of assets valued by the community, and to maximise the effectiveness of the land subject to planning. From an economic perspective, unfettered port development will not be socially desirable if there are non-market benefits and costs not taken into account by the developer of port facilities. Examples of non-market costs include damage to the environment, noise and other amenity impacts on the neighbouring community and increased transport externalities along existing transport corridors including accidents, pollution and congestion.

Planning frameworks are intended to balance these costs against the benefits of increased economic activity through port development. Land use planning is ubiquitous in Australian jurisdictions, and views from submissions suggest that a transparent permit approval process may not represent an impediment for port development. Moreover, the focus of this Review is on port planning frameworks, rather than the generic planning arrangements established under legislation and which have already been the subject of a national competition policy legislation review.\(^{178}\) In any event, as noted above, because the costs of inappropriate development can have significant costs for the environment and on other dimensions of community well-being, there is likely to be a net benefit in land-use planning and approval processes.

Entry into the stevedoring and port related services market can actually be facilitated by clear and transparent regulatory approval processes. A transparent planning and assessment process is important in providing new entrants with the certainty required to commit to investment and the assurances they need that incumbents will not be favoured by the planning process. The submission from Anglo Ports states that the planning scheme for the Port of Hastings provides certainty in terms of where a planning permit is required to enter, and the process for approval.\(^ {179}\) Anglo Ports argues that the availability of the Mornington Planning Scheme compares favourably to the port of Melbourne, claiming that the planning scheme for the latter is not publicly available. Investigation by the Commission has found that the Port of Melbourne Planning Scheme cannot be obtained through the Planning Schemes Online service provided by the Victorian Department of Planning and Community Development.\(^ {180}\)

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\(^{178}\) The Department of Treasury and Finance website (www.dtf.vic.gov.au) indicates that the Planning and Environment Act 1987 has been the subject of such a review.

\(^{179}\) Anglo Ports, Supplementary Submission, p. 1.

There was no evidence that the permit approvals process would provide a disincentive to new entrants, although the submission by the Mornington Peninsula Shire did note that there were many potential and existing environmental constraints.

**Incompatible land use**

The other issue raised in submissions in respect of local government planning schemes is the increased cost of port activities when incompatible land use is allowed to develop adjacent to the port or causes congestion to transport corridors servicing the port. The issues raised by PoMC suggest that the local planning schemes have not been effective in obliging parties undertaking activities located near the port to take into account the non-market costs their activities impose on the port in their development decisions.

Economic efficiency is achieved when the non-market costs are included (or internalised) in land use decisions. The local government planning framework is the mechanism that is used to manage non-market costs imposed by land uses on other land uses.

The issues raised by PoMC concern the efficiency of the planning process in managing non-market costs, and the possibility of urban encroachment, for example in areas adjacent to future potential container terminal sites. PoMC’s concerns that the local planning schemes do not always properly reflect the VPSF and VPP relate to the implementation of the planning frameworks rather than with the frameworks *per se*. Nevertheless, the examples provided by PoMC suggest that options relating to the proposed Webb Dock Rail Link may be potentially affected by planning approval decisions adjacent to the port. As stated by PoMC:

> … the evolution of the Municipal Planning Schemes and any decisions to allow inappropriate sensitive uses by the adjoining municipalities could have a significant impact on the development of Webb Dock and its transport connections.¹⁸¹

PoMC has noted that the Minister for Planning has established an advisory committee to develop a Port Environs Plan which seeks to better reflect the SPPF (VPP) geographic strategies for ports in the planning schemes of near port municipalities, and which would assist in reducing these risks.

### 5.2.3 Preliminary conclusion

Clear and transparent local government planning schemes and approvals processes can facilitate port development and the entry of new service providers but can also impose barriers. The barriers act to balance the benefits of unfettered port development against the non-market costs of development.

Concerns regarding approval for incompatible land use adjacent to the port reflect issues with the implementation of the port planning frameworks rather than the frameworks *per se*.

¹⁸¹ PoMC (2007), *Port of Melbourne Corporation, ESC Review of Port Planning*, p.11
On balance, local government planning schemes and approvals processes are not a potential restriction to competition.

5.3 Modal share target

The Terms of Reference also require an analysis and assessment of the relationship between the current market structure for the provision of container stevedoring and related land-side services and the achievement of the Government’s policy objectives. This includes the Victorian Government’s target to achieve 30 per cent of port-related freight by rail by 2010. The target is referred to in a number of planning documents and accordingly will be a relevant consideration in port planning and strategies and actions under such plans.

A number of actions are proposed by PoMC to achieve the modal share target, including the following initiatives:

- supporting the development of on-port rail terminals through appropriate land allocation and provision of efficient rail links between the external network and terminal boundaries;
- engaging the ARTC to provide management services for rail operations within the port that maximise the use of available track capacity;
- promoting the further integration of rail operations within stevedoring operations;
- actively supporting the concept of common-user access to on-port rail terminals under acceptable commercial arrangements;
- gaining a better understanding of the critical elements of the business models underpinning rail operations servicing the port; and
- working with various industry bodies to develop rail based logistics links between the port and outer urban areas.

Key factors for achieving the rail mode share are discussed in detail in Chapter 9.

The POHC Land Use and Transport Strategy has a stretch target modal share of 50 per cent for rail. The strategy proposes utilising and expanding the capacity of an existing rail corridor (such as the Frankston rail corridor) until 2020. Strategic land use planning will incorporate rail corridor expansion and development.

5.3.1 Stakeholder comments

No stakeholder submissions specifically identified the Government’s 30% rail freight share target as a barrier to entry to service providers at either the Port of Melbourne or the Port of Hastings.

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183 PoMC (2006), Port Development Plan 2006-2035: consultation draft, p 87
Several stakeholders (Asciano, ARTC, and QRNational) noted that rail investment identified within planning documents for the Port of Melbourne will be necessary to increase the relative competitiveness of rail with road transport.

PoMC note that it and stevedores are investing heavily in rail infrastructure within the Port. Further, in relation to any new terminal development at Webb Dock, PoMC states that:

*The draft PDP proposes that the next international container terminal will be at Webb Dock. In support of this development, PoMC is planning to recommission the Webb Dock rail link. It is likely that the provision of on-port rail capacity aligned with government objectives is likely to be a condition of any new lease relating to container terminal development.*

Similarly, the Mornington Peninsula Shire notes, in relation to the Port of Hastings draft PLUTS objective of a 50% rail share:

...the ability to achieve a 30% let alone 50% modal split, will be dependent on providing a new rail corridor.

The Mornington Peninsula Shire also considers that achievement of the Government’s rail freight share target will require more planning/direction of trades and activities:

*It is likely that achieving the aspirational mode distributions will be dependent on the State Government taking a much more active role in directing particular trades/activities to specific ports, to both recognise existing infrastructure limitations/opportunities and to provide the economic security required for substantial investments. In other words, there is a need to manage Victoria’s ports and transport systems in a more, if not fully, integrated manner.*

Asciano states that PoMC can increase rail share through its port planning, including through specific initiatives such as accelerating development of the MIT, negotiating with Pacific National for the relocation of the Melbourne Steel Terminal, and by providing certainty for current port operators to invest and a commitment – supported by leadership and funds – to support inland terminals.

### 5.3.2 Assessment of competition impacts

The market share of rail and road operators is primarily determined by the price and non-price attributes (such as timeliness and convenience) of each mode’s service offering.

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184 PoMC (2007), *ESC Review of Port Planning*, p.38
186 Ibid, p.3
187 Asciano (September 2007), *ESC Review of Port Planning Submission*, p.15
The mode share target adopted by the government is a potential restriction on competition to the extent it creates (or translates into) new or higher barriers to entry for the entry of competing stevedores. While no submissions raised this as an issue, as noted in section 5.3.1, PoMC considers that it is likely that the condition of any lease for new terminal development will require the construction of on-port rail capacity. While the source of this requirement is not stated, it is consistent with the mode share target and the draft PDP indicates that PoMC is attempting to facilitate achievement of this target.

To the extent that a requirement to invest in rail infrastructure at future terminal developments reduces the commercial viability of the project, then this could represent a barrier to entry.

There are several uncertainties in relation to the implications of the mode share target for future container terminal developments.

Of particular concern would be a situation where new entrants to stevedoring face higher entry costs where mode share targets translate to more stringent requirements for new terminal development than those that apply to existing terminals. However it is difficult to assess the impact on competition given the structure of charges faced by the incumbent stevedores and the cargo owners in using their facilities at the time of infrastructure development feeding into Swanson Dock, and the final approach to funding that may result from negotiations between the PoMC and a new entrant now. The structure of funding could mitigate the barrier to entry imposed by planning requirements to provide for rail access into a new terminal.

If a new terminal was required to achieve a specific mode share for rail through a planning approval condition or lease agreement, then this again could be detrimental to an entrant as existing stevedores have an advantageous location in relation to the interstate mainlines and major rail hubs. In addition, it may not be possible for a new terminal operator to ensure that a train operator will be prepared to service its site (at present, the only above rail operator in Victoria for containerised freight is Asciano). However, there is no indication in the planning frameworks that such an obligation is being proposed (or if it were, how it would be enforced).188

At the extreme, the mode share target could impact on the feasibility of some container terminal development options if rail connection or use at the site is infeasible or uneconomic.

Capital subsidies, or other advantages, for on-port rail facilities could also impact competition. However, as noted in section 4.1 there is little recent precedent in

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188 Commercial leasehold agreements may give a considerable emphasis to the rail mode share target. For example, at the time that Westgate Ports entered into a lease over Victoria Dock in 2004 – which included a contribution of $37m by PoMC to the $80m cost of developing the site – it was also announced that Westgate Ports would establish rail sidings at the port, an inland port at Altona, and that it aimed to transport more than half of the terminal’s freight by rail. Statements by the Government emphasised that the development would reduce road congestion.
Victoria for Government contributions to infrastructure within port precincts. These are generally funded by ports or by port tenants. Consistent with this, the port of Melbourne planning framework does not appear to be premised on government funding of rail freight infrastructure, although there is some Commonwealth Government funding for rail investment under the AusLink program and the economic case for government funding or other interventions to support rail has been examined in a recent Productivity Commission Inquiry.  

There is no clear framework for the allocation of Victorian Government funds for infrastructure investments that support the mode share target, and this could advantage some terminals. For example, some of the major rail projects proposed as part of the draft Melbourne Port@L plan, such as the Melbourne Intermodal Terminal, are centred on Swanson Dock and will presumably widen the modal choices of users of those terminals.

From a perspective of competition, it is important to recognise that the costs that an entrant faces will have a large impact on market prices in the stevedoring market. To the extent that a new entrant faces materially higher costs than incumbents, it must be expected that the incumbents will be able to increase their prices over time, especially as port capacity becomes constrained.

5.3.3 Preliminary conclusion

For the reasons outlined, the mode share target is a potential constraint on competitive entry as it may result in the imposition of costly capital works or operational obligations to be met by a new entrant, and could advantage incumbent stevedores over others.

5.4 Land availability

The availability of suitable land for port-related development is limited largely due to geographic factors as well as urban development. This represents a natural barrier to entry. Planning frameworks may also impose another layer of restrictions by determining the availability of land and development sites for port uses within particular ports or outside existing port precincts, as well as availability of land for intermodal terminals, port-related activities and transport corridors.

The draft Melbourne Port@L strategy incorporates a policy of progressive decentralisation of non-core container handling activities to other suitable locations within the Dynon area and to industrial hubs remote from the port, but with access to intermodal facilities connecting with the port. Implementation of this planning framework will influence the location of particular businesses within and outside the port.

In addition, through the identification of preferred development sites for particular trades, planning frameworks will also determine the type of service provider that

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189 Productivity Commission (2006), Road and Rail Freight Infrastructure Pricing, Report no. 41, p.XXXI
may locate in particular sites, whether container handling, break bulk, liquid bulk or general cargo.

The PoMC draft PDP and the POHC draft PLUTS set out the future use(s) of specific areas within the respective ports. By allocating sites within ports and setting them aside for specific uses, the respective port plans do effectively set limits on the availability of land and, hence, the potential for new operators or development to occur. This affects all trades at the port. For container trades, it determines the future expansion path both within Port of Melbourne and between commercial ports and by implication will limit the number of operators in the container stevedoring market and in the market for related container handling, storage, transport and intermodal services.

5.4.1 Stakeholder comments

In relation to the availability of land for terminal developments, PoMC stated:

…by allocating sites within the port to specific uses, the draft PDP does, in a sense, set some limits to competition. Acting in conformity with the plan may place an upper limit on the number of competitors that can develop facilities to cater for particular trade segments.

Notwithstanding this, PoMC did not consider the planning framework, in this regard, to be the source of a restriction to entry:

…the real source of limitation is the natural scarcity of suitable development sites, not the planning framework itself.

Further, PoMC argued that the planning framework can work to facilitate entry by identifying the development sites that will permit new development, ensuring the necessary complementary infrastructure is provided and signalling this to the market, and through allocating development sites in order to minimise environmental concerns.

PoMC also considered that the Melbourne Port@I concept of decentralisation of non-core container related services away from the port precinct ‘…has the potential to encourage competition by providing greater opportunities for new entrants.’

CBFCA also submitted that the availability of space to store and move empty containers is a restraint on port operations, noting the need to expedite measures to assist the handling and clearance of empty container parks, including providing land for this purpose, and the need for planning reforms in areas other than adjoining port precincts.

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190 Land availability will also be determined by the duration of leases with existing service providers. This is not a planning-related barrier to entry, however it will nevertheless have an impact on competition at the ports.
192 Ibid, p.30
193 Ibid, p.16
More generally, the CBFCA notes the limited availability of land as one of the ‘natural barriers’ to entry. CBFCA suggested that these should be addressed as part of competition and planning initiatives, including the consideration of financial incentives.

In relation to the Port of Hastings, Mornington Peninsula Shire notes two different restrictions on availability of land:

...although there are large areas of land designated under the planning scheme for future Port Related Uses there are in fact many existing and potential environmental constraints, particularly affecting Western Port Bay and the adjoining coastal areas.

A second major constraint on land availability results from the current pattern of land ownership. There is an urgent need for Department of Infrastructure and the PoHC to reach agreement with Bluescope Steel on access to the proposed reclamation area, which is critical to the feasibility of the PoH strategy.194

The Mornington Peninsula Shire also noted concerns that current proposals at Crib Point appear to undermine possible future port access by other potential users.

5.4.2 Assessment of competition impacts

Land availability for container terminals

Access to suitable sites is an essential requirement for entry into the stevedoring market and the related land-side interface activities. The amount of land available at ports is limited, although at both the Port of Melbourne and the Port of Hastings vacant sites are currently available. By allocating scarce sites to particular uses as part of planning processes, the port plans will affect the ability of new service providers to enter the market.

This is an inevitable consequence of planning for optimal use of limited land resources, which must take into account the range of conflicting land uses, needs of different trades, environmental issues, amenity of local communities and complementary infrastructure requirements. Planning provides a framework to take into account the costs and benefits accruing to all affected parties as a result of different development options.

At the port of Melbourne there are significant land constraints that impact on the availability of sites for new stevedores, and on the ability to expand capacity at existing sites.

- The capacity of Swanson Dock is limited by the width of the Dock, and the resulting congestion as larger ships use the port. It is also constrained on the landside by of its proximity to Footscray Road. Long-term options to expand the terminal may be constrained by the Yarra River itself, which potentially constrains shipping movements to the Dock, as it is a one way channel.

• Victoria Dock is a relatively undeveloped site currently used for general cargo. It is planned to establish a rail siding to the terminal in 2008. The current plans for the terminal are primarily as a site for cross-dock consolidation, container packing and unpacking, warehousing and cool stores. It has potential as a small 1 or 2 berth terminal which might be used by small ships. However, it would require considerable development to restore berths.

• The Webb Dock area appears to have two main areas for development. The Westgate terminal site is a vacant area of 50ha, which is considered suitable for the development of an international container terminal with 2 or 3 river berths. Webb Dock East – another site for a future container terminal – is under lease to Asciano until 2017. This site is currently used for Ro Ro cargoes – primarily containers for the Tasmanian Trade and cars. PoMC is not planning to develop the area as a container terminal until after 2107. It currently has two alternate development concepts. One option (in the draft new Port of Melbourne Planning Scheme) is to develop the two areas separately and sequentially. The other (in the draft PDP) is to extend Webb Dock to the north of Williamstown Road, and thereby create a single terminal using both sites.

There are also land constraints at the port of Hastings.

• At the proposed site of the Stage 1 development - a multipurpose terminal for bulk and break bulk trades and some containers - the foreshore land is currently Crown Land held by the Department of Sustainability and the Environment (DSE). This is known as the “Old Tyabb Reclamation Area” (see Figure 5.1). The Commission understands that this land is to be transferred to POHC following the finalisation of its PLUTS. This is the site for which Anglo Ports made an application in 2005. Most of the land behind the foreshore at this site is owned by Esso/BHPB. The Stage 1 development is unlikely to be reliant on acquiring land from Esso/BHPB.

• The offshore area which is the site of the proposed Stages 2 and 3 international container terminal developments, which is known as the ‘Tyabb Reclamation Area’, is owned by Bluescope Steel. This land would need to be acquired by the State and transferred to POHC before it could commence the Stages 2 and 3 developments. On the landside, most of the land site owned by Bluescope Steel. Some of this land may need to be acquired to support the development of the proposed container terminal at Tyabb.

These observations show that if the Government were to retain certain land and not transfer it to POHC and/or if it does not acquire certain land from Bluescope Steel, it could potentially constrain the development of the port. The Government’s intentions in relation to acquiring the ‘Tyabb Reclamation Area’ from Bluescope Steel are not known at this stage. ‘Strategy 1’ of the VPSF includes protecting the future potential of the Port of Hastings to accommodate container trade. However, if the government were not to acquire or transfer the land this may not represent a restriction of entry arising out of the port planning framework itself. The municipal planning scheme may leave open the possibility of Bluescope Steel or another party developing the site as a port terminal.

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195 Contained in the draft Port of Melbourne Planning Scheme and the draft PDP.
Land availability for related port services

Port planning frameworks will also affect the development of related container handling services, such as storage, transport and intermodal services, within the port precinct. The natural scarcity of land within port boundaries makes sites for these services valuable and, as such, plans regarding availability of land for particular uses will have an impact on the number and size of such service providers within the port.

In this regard, CBFCA noted that the availability of space to store and move empty containers is a constraint on terminal operations. Again, these land constraints are a natural barrier to entry, and attempts through planning frameworks to optimise usage of scarce land are an attempt to manage this issue. Consequently, while the provisions in planning frameworks for the availability of land will affect the market for container-related services, it cannot necessarily be concluded that the planning frameworks themselves are anti-competitive. The planning frameworks will only add an extra barrier on top of that arising from the inherent land constraints, if they are inflexible in how they allocate land.

For a ‘brownfields’ site such as Port of Melbourne, external factors including transport access and surrounding development will have a significant impact in determining viable land usage. In this case, future land uses will be as much constrained by current usage and land scarcity than the planning framework per se. Nevertheless, PoMC has indicated that there is a degree of flexibility:

However, it is important to note that the draft PDP is not a prescriptive plan but a strategic guide to long term port development. If it becomes evident that there is scope for additional entry in some sectors, whilst anticipated requirements for additional sites in others are unlikely to materialise, then the draft PDP will be adjusted accordingly. [196]

For a ‘greenfields’ site, there may be more scope for flexibility in allocating land for particular uses. In this case, if the planning framework is non-binding and is sufficiently flexible to respond to new development opportunities as they arise, then land availability will be less of a competitive restriction in practice.

The planning principle of decentralisation in the draft Melbourne Port@ strategy will potentially increase competitive opportunities for other port-related services as it potentially relieves the constraint of scarce land within the port itself, opening up access to industrial sites away from the port via transport links. This potentially allows greater scope for firms to innovate and differentiate products.

However, this strategy will be affected by the application of relevant local council and shire planning schemes. PoMC emphasised the need to adopt a ‘port system’ strategic approach, noting that the success of this decentralisation strategy will depend on the extent to which it is supported by effective land use planning. In particular, there may need to be greater emphasis on ensuring land is appropriately zoned in areas that are potential Intermodal terminal locations.

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[196] PoMC (2007), Port of Melbourne Corporation, ESC Review of Port Planning, p.28
5.4.3 Preliminary conclusion

Land availability is a natural restriction to competition, and the impact of this depends to an extent on government decisions and provisions in port plans on allocating scarce land. However, the constraints on the availability of sites for potential container terminal developments do not appear to be primarily due to the effect of port planning frameworks.

5.5 Implementation of port plans

Planning can facilitate market entry by providing clarity for development of port facilities and indicating the priorities of the port manager. Equally important as the content of the plan is a clear statement by the port manager on how they propose to implement the plan.

As discussed previously there are a number of potential restrictions on competition inherent in the current approach to the development of Victorian container ports which potentially dissuade new entrants. It is likely that future entry will require at least a competitively neutral approach to implementation of port plans given the strong market position of the incumbent stevedores.

A pro-competitive implementation approach would include:
- willingness to consider out-of-sequence initiatives;
- competitive tendering; and
- transparent criteria for evaluating proposals.

The various planning frameworks reviewed as part of this report tend to reflect quite high level strategies to be implemented over a long period of time (with a planning horizon of up to the year 2035). Of necessity, some of the plans are relatively vague in regard to the timing of future planned developments. This reflects the uncertainty inherent in making such long term plans and the need for flexibility to accommodate new opportunities or changed circumstances.

While the port development plans are a response to the VPSF, they are also effectively a statement about how each port corporation will exercise its powers and functions under the Port Services Act.

As discussed in section 5.1, the preferred development path for incremental stevedoring capacity in PoMC’s draft PDP favours the incumbents by facilitating expansion at existing facilities, with new facilities to be developed at a later stage. This reflects the broader VPSF strategy of making use of existing facilities before investing in new facilities. In accordance with the landlord port model, PoMC commits to provide the ‘infrastructure backbone’ necessary to support the private investment required to enable PoMC to continue to satisfy trading needs of the state. PoMC also notes that it will grant leases to new investor operators ‘commensurate with the level of new investment in developments that are consistent with this PDP’. Also in its commercial dealings and allocation of land, it
will ‘have regard to its obligation under the Trade Practices Act 1974 and the benefits of competition to the operation of the port’. 197

At present the port development plans are only in draft form. However, the form of the draft PLUTS, and statements made by PoMC in its submission to this Review, suggest that the final form of these plans will contain a significant degree of flexibility.

The port development plans, once finalised, do not appear to bind the port corporations. This is because the functions and powers of the port corporations flow from the PSA and the general law (for example, each port corporation has the rights the general law gives to an owner of land). Having said that, where:

• a party, to the knowledge of the port corporation, relies on a representation in the port corporation’s port development plan (for example, by making a major investment decision); and

• the port corporation later seeks to act contrary to its port development plan; then

• the party may be able to press some claim against the port.

Although both port development plans have a disclaimer that says that the plan “may change over time” and that no reliance should be placed on it, this may not fully remove this risk.

Once a port manager decides to go ahead with the planned development of a particular site, the process by which the use of the site is allocated will also be important from a competition perspective. An open competitive tendering process that enables alternative uses to be proposed is likely to be most effective in facilitating competition and new entrants.

5.5.1 Stakeholder comments

Mornington Peninsula Shire submitted that there is no clear explanation of how reliance on competition between ports will ensure or encourage development to follow the sequence set out in the VPSF. In this context, it was concerned that potential port users may ‘free ride’ on public infrastructure investment or effectively shift costs on to local communities, such as through increased road maintenance costs and loss of amenity.

Anglo Ports considered that plans for sequential development should not of themselves be used to prevent port development at Hastings if road and rail corridors are developed in tandem with the growth of port traffic. Anglo Ports noted that establishment of complementary infrastructure takes time and is more justifiable if done on a staged basis.

Submissions by PoMC, PoHC and Shipping Australia Limited generally supported land/development site releases undertaken by port corporations to be done through open competitive tendering processes, for example. Anglo Ports considered that port land should be made available either on request or by tender. The MUA stated that consideration be given to inviting additional stevedores using

197 PoMC, Port Development Plan 2006-2035, Consultation Draft August 2006, p.108
an open tender process if the benchmark for a viable third stevedore (around 3 million TEU on its analysis) is being approached. Otherwise, it considered that additional wharf space ‘might be contracted to existing stevedores.’

5.5.2 Assessment of competition impacts

A port corporation can control the timing of potential entry of new service providers through the timing of its release of new land or its investment in necessary complementary port infrastructure. As timing of port developments is likely to be an important element of the competitive strategy of an entrant, this will affect the likelihood entry to the market of container stevedoring as well as associated container handling and transport within port precincts.

Section 5.1 identified the potential for competition impacts to arise from the planning framework presumption of a sequence of development at Port of Melbourne and Port of Hastings. A critical factor in whether this occurs is the flexibility of the planning frameworks and the ability to respond to changing market circumstances. Where port planning frameworks are flexible enough to bring forward planned development to meet demand, there will be less (if any) impact on competition.

As noted previously, the form of the draft PLUTS, and PoMC’s submission to this Review, suggest that the final form of these plans will contain a significant degree of flexibility. The Commission notes that the potential competition impact of the development priorities reflected in the plans would be minimised if the extent to which the planning assumptions are to be tested, and means by which interested port operators may propose development contrary to those priorities was set out in the plan. In addition, the port corporation may describe the intended process of implementing the plan, including the safeguards for competitive factors in the project development process.

The process by which port development sites are made available to new market entrants will also have an impact on competition in these markets. The practice of conducting open tenders for access to development sites is likely to be beneficial in terms of fostering competition in the market for container handling and related services.

However, the port corporation should take into account both the price offered as well as any benefits to the market in terms of increased competition consistent with their statutory objectives to manage and develop the port ‘in an economically, socially and environmentally sustainable manner’ and to ensure that essential port services are ‘available and cost effective’. That is, the port corporation should take account of the incentive for incumbent operators to offer a higher price to secure new leases to exclude a competitor from the market. Accordingly, it is important that the criteria for such assessments are clarified and that these criteria give explicit weight to the benefits of competition.

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198 Maritime Union of Australia (2007), Submission to the Essential Services Commission Review of Port Planning, Competition in Container Stevedoring, p.6
199 Port Services Act 1995, section 12
For example, in early 2007 the port of Brisbane selected a preferred terminal operator for two new berths at its Fisherman’s Island facility and used the following key selection criteria:

- **Capacity to manage growth**
- **Ability to attract new business**
- **Impact on competition**
- **Resources and experience, and**
- **Financial capacity/capability.**

Based on the submissions made to this Review it is apparent that PoMC and PoHC intend to run open tender processes to make land available and that there is strong support amongst stakeholders for this approach. However, the draft PDP and draft PLUTS do not explicitly address this issue. Nor is it clear what criteria will be used to evaluate proposals, although PoMC refers to ‘...an open and transparent bidding process.’

Also relevant will be the specific role that the port decides to play in a new container development. Two of the alternative approaches that the port might take include:

- The port builds the berths and hardstands and offers a concession to operate the terminal. Under this approach the operator would provide the superstructure (e.g. cranes), equipment and other capital. This approach is similar to that taken by the Port of Brisbane for berths 11 and 12, and being undertaken by Sydney Ports with respect to the third terminal at Brotherson Dock North.
- A build, own, operate and transfer (BOOT) model, in which the selected operator would carry out all capital works to construct the terminal (including the berths and hardstands), and would operate the terminal independently of the port during the concession period. At the end of the period, the terminal is transferred to the port. This appears to have been the model chosen by the port of Melbourne when seeking a party to develop the Westgate Terminal in 2002.

There are a wide range of approaches to port management taken by successful ports around the world, and no one approach is considered uniquely preferable. The former approach is broadly consistent with the “West Coast Model” of ports in California. Under this model the port authority ‘undertakes the planning and finances the development of container terminals up to ground level’. Under this model the port will recover the costs of its investment through lease payments or port charges such as wharfage.

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201 PoMC (2007), *Port of Melbourne Corporation, ESC Review of Port Planning*, p.15

In the second model, the terminal developer is a private terminal operator with an important difference, in that the terminal would be owned by the operator during the concession period, rather than leased. This approach is now increasingly common in Europe and is the basic approach used in Hong Kong. Under this approach, the concession may be aligned to the terminal’s very long asset life, or incorporate reversion clauses enabling the concession to be tendered to market more frequently. The latter approach provides greater opportunity for entry by alternative terminal operators.

These two options have different implications for an entrant in terms of scale of investment, risks and returns. The precise scope of the operator’s obligations under this approach in relation to capital works at the land side interface can also be important. Hence, the entrant will generally value these two approaches differently, and may find one approach to be a better corporate ‘strategic fit’ than the other. Hence the choice of approach taken by the port may also affect the potential for entry.

5.5.3 Preliminary conclusion

A port corporation’s approach to implementing a port plan, including the degree of flexibility they allow, the role of the port in future developments and the process by which development sites are made available (such as through open tender) will affect the potential for new entry. Assessment against criteria for testing restrictions on entry

The NCP Reviews Guideline provides some relevant criteria that can be considered by the Commission in relation to whether planning frameworks constrain competitive entry. These are summarised in Box 5.1 and an assessment against each of these criteria are provided below.
Box 5.1  **NCP Reviews Guideline criteria**

The NCP Reviews Guideline contains a set of criteria for testing whether there are restrictions on competition:

- Does the legislation (or, in the context of this Review, planning frameworks) reduce the ease with which new firms may enter and secure a viable market?
- Does it result in higher costs for prospective entrants?
- Does it limit the number of firms that can participate in the industry or have the effect of conferring monopoly or oligopoly powers on existing suppliers or allow only one purchaser of a product?
- Does it affect the size distribution of firms in the industry or the degree of concentration?
- Does it give firms extra functions or restrict independence across the supply chain?
- Are incumbent firms provided with market information or research not available to new entrants?
- Does it limit the ability of firms to innovate, to introduce new technology, to differentiate between products or to advertise their products?

Source: Department of Premier and Cabinet (1996), Guidelines for the Review of Legislative Restrictions on Competition.

**Ease of entry**

The first of the NCP Guideline criteria is whether the ease of entry is reduced by the planning frameworks. If the planning policy is binding on ports, then, to the extent it has precluded otherwise commercially viable entry by a new operator (e.g. through specifying a sequence of development), then it supports the market power of incumbents and potentially reduces the ease of entry in future.

**Impact on costs of entrants**

The impact of planning requirements on entrants’ costs can affect competition where it raises the entrants’ costs relative to existing operators. For example, this will occur when planning requirements result in higher cost operating practices that are imposed on entrants. No clear evidence of such restrictions has been found, however, the mode share target could result in requirements with this effect.

**Limits to number of firms that can participate**

This type of restriction can result from administrative determinations in planning frameworks on the number of firms that can compete (presumably based on a view of the minimum efficient scale) or regulatory requirements on firms entering the market, e.g. through licensing conditions. It is the former consideration which is implicit in the Victorian planning framework, where the addition of a third container stevedoring operator once existing terminals are at capacity appears to be the only entry scenario contemplated by the planning framework.
Impacts on size distribution of firms or concentration

This form of restriction involves planning requirements that prescribe the size of participants in the market or the scope of activities that they are to undertake. This does not appear to be applicable in the present context.

Extra functions

The policy of sequential or complementary development does not confer extra functions on existing stevedores. However, the development of rail terminals, particularly near container terminals where access is controlled by existing operators or associated entities, may restrict competition across the supply chain. A vertically integrated provider will have an incentive to favour related businesses, however, this would typically be addressed through regulation of conduct. There is no evidence that port planning frameworks have this effect.

Are incumbents provided with more information than entrants?

The transparency of the individual port planning frameworks, which have included extensive public consultation, does not suggest that incumbent firms are provided with information that is not available to new entrants. PoMC supports this in its submission, noting that no market information or research is provided to incumbent service providers not available to new entrants. Implementation of the plan – especially the means by which the port corporation identifies the timing of a site offer – will also need to be transparent to limit adverse impacts on future competition.

Impacts on innovation

To the extent the planning policy of sequential development has inhibited within, and between, port competition in container stevedoring, it will limit the incentives for firms to innovate and provide a differentiated service. However, Asciano states that the framework provided by the planning framework has encouraged it to commit to investments at the Port of Melbourne. Some of these investments involve innovation in container handling processes – particularly yard management – to improve efficiency and enhance capacity.

General observations

The key potential constraints that have been identified are:

• possible restrictions to the number of firms that can participate in the market through the policy of sequential development contained in the VPSF (and in part in the SPPF), and
• possible constraints on terminal development options or impacts on cost structures of new terminals arising from the rail mode share target.

On the other hand, the planning framework more generally, and the sequential development policy in particular, may provide the necessary certainty to underpin investments in greater capacity, even if it also limits new entry. The question of whether expansions to stevedoring capacity are most efficiently provided by

203 PoMC (2007), Port of Melbourne Corporation, ESC Review of Port Planning, p.30
increased productivity of existing facilities or by investment in new facilities is complex. One consideration is whether a new entrant could enter the market on a commercially sustainable basis – that is, without direct subsidy. This issue was recognised by the ACCC:

A range of approaches to capacity management in Australian container stevedoring has been observed. Some of these approaches emphasise capacity expansion through investments aimed at increasing the productivity of existing terminals. Other approaches emphasise the creation of new quayline and terminal space. These broad approaches are not necessarily mutually exclusive – efficient capacity management may involve a combination of approaches.

In summary, the sequential development approach in planning frameworks has the potential to limit competition and may favour incumbent operators. This will occur if potential commercial developments that are ‘non-conforming’ are not allowed to proceed, or proceed on less favourable terms and conditions (and hence, higher costs) than that of incumbents. This indicates that it is how these policies are applied that is critical.

To some extent, this is an inevitable result of any planning framework that must attempt to reconcile a range of potentially conflicting land uses and investment strategies. This is exacerbated in the port context by natural limitations on suitable land. The flexibility of existing frameworks, including the ability of ports and potential developers to respond to changing market circumstances and new commercial opportunities, will be critical to whether the policy is unduly restrictive and results in net economic benefits or costs.

There is likely to be a trade off between the benefits of certainty provided by a longer term planning framework, which can improve information in the market and underpin investment and the benefits in having the flexibility to respond to new opportunities and changing market circumstances. The fact that PoMC’s draft PDP provides for development of facilities for a new container stevedoring service provider at Webb Dock in the future, and the PoHC draft PLUTS provides for a future Hastings development, may permit a pragmatic assessment of the desirable combination of approaches referred to by the ACCC for providing new capacity increments.

There may be an inherent conflict between the commercial incentives of individual ports to attract new entrants and the VPSF policy of sequential development. It is not apparent from the planning frameworks how this conflict will be managed in practice.

It may be desirable that the planning frameworks more explicitly acknowledge the potential benefits of competition and clarify how this will be taken into account in

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204 Although noting the benefits that are provided by complementary investment by port corporations.

205 ACCC (2006), Container stevedoring Monitoring report no. 8, p.33
port and responsible planning authority decisions regarding development proposals and in the Government’s decisions to support investment in infrastructure that may support that port development. This is particularly important given the multiple roles of the Victorian Government in this situation - that is, as owner of potentially competing ports, as the key planning authority, as proponent of public infrastructure, and in oversight of competition policy. Enhanced clarity may be achieved through explicit direction on this matter in port governance arrangements, in particular the PSA, as well as greater clarity of the status of key planning documents within the Victorian planning frameworks (such as the status of the VPSF and individual port development plans in the VPP).

Specifically, to enhance transparency and to facilitate a more competitive process, the planning frameworks should require the port corporation to explicitly advise the market of how they intend to:

- identify the timing of a competitive tender for a new site (that is, the timing of incumbent stevedores approaching minimum efficient scale), and
- consider the benefits of competition when assessing terminal development proposals presented to them.

Greater clarity in the port corporations’ approach is required given the current status of the key port planning documents.

The VPSF is not a reference document within the VPP and therefore the responsible authorities are not obliged to comply with its policies as a matter of planning law, but they may consider it relevant. Certain elements of the sequential development policy relating to the port of Hastings are contained in the VPP (as part of the SPPF), and hence are a matter that responsible authorities must have regard to. Notwithstanding these observations, in practice, the VPSF and the sequential development policy will influence port corporation decisions to approve a potential development. Without sufficient flexibility to accommodate changing market circumstances in their application of the VPSF in the port strategic plans and port development decisions, the VPSF may have a more material impact on competition in the market.

5.6 Preliminary Conclusions

The Commission has identified two main potential barriers to entry that may arise from the port planning frameworks. These are:

- the policy of sequential development contained in the VPSF and SPPF, and
- possible impacts on the terminal development options and/or the cost of entry arising from the rail mode share target.

However, there are economic characteristics of stevedoring that will be relevant to the degree of competition and the effectiveness of the threat of entry in the stevedoring industry. These economic barriers to entry are discussed in chapter 6. At the conclusion of chapter 6 the materiality of the two planning framework restrictions identified are again considered taking into account the impact of these economic, environmental and structural factors.
The Commission has also considered whether there are any entry restrictions that arise out of the local government planning schemes and land availability related to port planning frameworks.

Local government planning schemes have placed a considerable emphasis on ensuring adequate areas are zoned and reserved for port development purposes. Submitters have also noted the potential implications of incompatible land use in areas neighbouring the port. However, the issues raised essentially concern the implementation of the port planning frameworks rather than the framework requirements and these issues are planned to be resolved through the development of the Port Environs Plan.

In principle, planning frameworks can impose an additional barrier by determining the uses to which available land will be put. The more flexible is the planning framework then the less likely is it to impose an additional restriction on entry. A key land constraint at the port of Hastings is the private ownership of the land earmarked as the site for a future container terminal development, although the PoHC draft PLUTS assumes that this land will be purchased from Bluescope Steel.

The submissions from the ports indicate that the final port plans will have a significant degree of flexibility (at least to the extent possible given the policy of sequential development). The Commission has also noted the importance of how plans are implemented, including the process. A pro-competition approach would include a willingness to consider a different sequence of developments from that proposed in port plans, competitive tendering and transparent criteria for evaluating proposals.
This chapter considers whether there are barriers to entry other than barriers due to port planning frameworks, which were the subject of chapter 5. It is useful to identify the potential non-planning barriers to entry of port service providers to enable the Commission to distinguish these from restrictions due to port planning.

In particular, this chapter considers whether there are economic barriers to entry. It also considers the port’s planning requirements in relation to terminal capacity and the timing of new port developments. These questions are directly relevant to any assessment of the materiality of any planning framework constraints on the entry of competing stevedores.

The subject of economic barriers to entry is addressed in section 6.1. Economic barriers to entry need to be distinguished from restrictions on entry due to the conduct of the port authority. For example, this could arise where the port authority is also a provider of the port services in question, and is in direct competition with a third party service provider. Or the port authority may have other commercial incentives to restrict access, or entry could be inhibited due to other sources of competitive non-neutrality such as favourable terms and conditions of leasehold being provided to incumbent stevedores. These issues are discussed in section 6.2.

The capacity needs of the port, and the timing of new terminal developments necessary to ensure sufficient capacity, will also be important determinants of the timing of opportunities for entry. The question of port capacity forecasts is addressed in section 6.3.

### 6.1 Economic barriers to entry

Entry and exit costs are important determinants of the degree of contestability in an industry. Higher entry costs will limit the potential for new entrants in the market, thereby undermining the impact of potential “contestability” on the behaviour of incumbents. Identified economic barriers to entry in the stevedoring industry include, long-term leases of incumbent stevedores and expansion opportunities at these sites, and economies of scale and the minimum efficient scale that an entrant must be able to achieve.
6.1.1 Ability to expand capacity

The two container stevedores at the port of Melbourne lease the Swanson Dock terminal sites from the port under exclusive long term leases of between 20 and 40 years (see also section 2.2.1).

As the two terminals are not at present operating at their maximum capacity levels, volume increases would be expected to improve productivity and reduce average costs. Ability to readily expand supply in oligopoly markets is often seen as a potential means of deterring entry, as it increases the risk for the entrant that incumbent firms might adopt an aggressive post-entry response.

The capacity of existing terminal operators to expand throughput in the short run may also represent a barrier to entry as it will be relatively more difficult for a new terminal operator to achieve an efficient scale of operation. However, there may be no such advantage where a “lumpy” investment (such as increased land space, or additional cranes) is required to handle additional volume, and incremental continuous performance improvements are no longer sufficient to handle additional volume. In these circumstances an operator may not be able to expand throughput at lower cost than a new entrant.

6.1.2 Economies of scale

The stevedoring industry has a reasonably high fixed cost structure; fixed capital costs, fixed leasing costs, and semi-fixed costs such as labour. Furthermore, an efficient container terminal will require a site with sufficient area. For such reasons, it is usually considered that there are economies of scale in stevedoring, and a minimum efficient scale of operation. Economies of scale may represent a barrier to entry.

This is a view that has been expressed by Toll Group:

*The future competitive landscape is likely to be significantly influenced by the ability of the port industry to provide sufficient capacity to meet projected trade growth. … The introduction of a proposed third stevedore into the industry may have an impact on the dynamics of the Australian stevedoring task. The economies of scale inherent in the existing operations, and the high level of investment required to meet current service expectations are potentially significant issues for a new entrant.*

This statement by Toll Holdings highlights the need for any new terminal development to be of adequate scale, if it is to effectively provide competition to the existing stevedores. The scale of operations at which average costs fall to the efficient level is termed the Minimum Efficient Scale (MES).

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206 ACCC (2006), *Container Stevedoring Monitoring Report No. 8*, p.48
208 Toll Holdings Limited (April 2007), *Restructure Scheme Booklet*, p.50
It has been argued that introducing a third terminal operator may result in higher costs to shipping lines, due to the higher costs of the new terminal (if it is below the MES) and the resulting loss of economies of scale. For example, Professor Robinson has maintained:

*Competition is not an end in itself; it is a means to achieving efficient market outcomes. We seek competitive markets in order to ensure efficient outcomes. Adding container handling capacity or container terminals in the Port of Melbourne – or any other port – at the ‘wrong’ time will deliver inefficient allocation of resources, higher prices than necessary and higher costs to users.*

*Entry into the container terminals market in the Port of Melbourne – or the expansion of capacity – would be best timed when average costs for present terminals are being pushed towards their lowest point (MES) when the cost penalties of excess capacity are avoided and before the cost penalties of diseconomies of scale – or too little capacity – are incurred.*

Thus, a new terminal should have capacity to achieve the MES, and the scale of the existing terminals – after entry – should also be no lower than the MES.

PoMC has stated that in its planned extensions of Swanson Dock, the ‘new terminal developments will be nominally based on two-berth/25 hectare modules’. This may be indicative of a minimum efficient scale. Such a module may have a capacity of approximately 0.8 to 1.1 million TEU (assuming 650 metres of quay, and quayline productivity of 1300 to 1700 TEU per metre).

Other information suggests that the MES may be lower than this. In a submission to the Port Botany Commission of Inquiry, P&O Ports presented information from Drewry Shipping Consultants (Drewry) which is shown in Figure 6.1. Drewry interpreted this information as follows:

*From Drewry’s sample there is some evidence that terminals handling less than 0.5 million teu perform less well than those handling more than 0.5 million teu. As the figure illustrates no terminal handling less than 0.5 million teu achieved quayline performance in excess of 1,000 teu per metre of quay in 2003. However, the performance of terminals handling more than 0.5 million teu varied between 252 teu per metre of quay in Shekou, and 4,296 teu per metre of quay in Hong Kong. It would seem that other factors outweigh the economies of scale.*

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210 Ibid, p.11

On the other hand the observations shown in Figure 6.1 could be used to support an estimate of the MES in the range of 0.5 to 1 million TEU. This is consistent with commonly held views about container terminal MES, although evidence from recent concession contracts in Europe suggests that in large markets with highly competitive port systems the MES may be higher.\textsuperscript{212}

Figure 6.1: \textbf{Relationship between quayline performance and terminal throughput, 2003}

\begin{figure}[h]
\centering
\includegraphics[width=0.8\textwidth]{figure6_1.png}
\caption{Relationship between quayline performance and terminal throughput, 2003}
\end{figure}

Source: Drewry Shipping Consultants Ltd


The foregoing observations in relation to the minimum efficient scale suggests that – as Swanson Dock handled approximately 1.8 million TEU in 2006-07 – it would not minimise costs, at the present time, to have a third stevedore (not taking into account any benefits to users from greater competition). The scale of the market at the present time is unlikely to be able to support three terminals at MES. However, by 2015, it is forecast that international and mainland container trade with reach 2.8 million TEU. At that time the market may be sufficient to support three MES terminals.

\textsuperscript{212} Notteboom, presentation to ACCC Regulatory Conference, 26-27 July 2007
6.1.3 Complementary terminal developments

It is also a commonly held industry view\textsuperscript{213} that a new entrant into the container stevedoring industry would not be viable if it has a presence in only one major port in Australia. Australia’s container trade is characterised by relatively ‘thin’ trade volumes compared to overseas ports, with fewer containers exchanged at each port, and with shipping lines stopping in a number of ports in order to collect a full cargo.

The two incumbent stevedores both operate nationally, which may be of benefit to shipping lines as transaction costs may be reduced through the ability of a shipping company to deal with a single stevedore and its systems rather than a different operator in each port. Furthermore, a national provider may be able to offer volume discounts to shippers. Hence a third stevedore may need to be able to establish terminals at several ports concurrently, which is likely to be more difficult than establishing a single terminal. An entrant may be uncompetitive if it enters the market on a single port basis.

Consistent with this, the ACCC observed that while a new entrant may not require a multi-port presence to be financially viable, a multi-port presence could affect the degree to which that new entrant represents a vigorous and effective competitor. In this context, the ACCC is of the view that there could be benefits derived from the port authorities aligning the timing of their investment strategies.\textsuperscript{214}

The projected national increase in trade has necessitated that Australian port authorities look at options for expanding their capacity. Over the next 15 years each of the major ports is expected to expand its berth capacity as shown in Table 6.1. New capacity in the ports of Brisbane and Botany has either been tendered or is soon to be tendered. The Port of Brisbane has awarded the tender for Berths 11 and 12 to Hutchison Port Holdings (HPH) – an international stevedoring firm. In NSW, the Port of Botany tender process may provide a further opportunity for a third container stevedore to enter the national market, and increase the competitiveness of the stevedoring industry.

\textsuperscript{213} For example, see quoted comments of Mr G Martin of Sydney Ports Corporation in Commission of Inquiry for Environment & Planning, Proposed Port Botany Expansion, p.57

\textsuperscript{214} ACCC (2006), Container Stevedoring Monitoring Report No.8, p.35
Table 6.1  Scheduled development of new container terminals

<table>
<thead>
<tr>
<th>Port</th>
<th>Proposed Commissioning Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Port of Brisbane</td>
<td>Berths 11 &amp; 12 – 2011 &amp; 2013</td>
</tr>
<tr>
<td>Port Botany</td>
<td>2011</td>
</tr>
<tr>
<td>Fremantle</td>
<td>2016</td>
</tr>
<tr>
<td>Port of Melbourne</td>
<td>2015-2035</td>
</tr>
<tr>
<td>Port of Hastings</td>
<td>2030 or beyond</td>
</tr>
</tbody>
</table>

Source: ACCC, PoMC, and PoHC.

To the extent that it will be important for a new stevedore to have a national or multi-port presence, then interest in development of a new terminal in Victoria by an entrant may materialise prior to the currently scheduled development of Webb Dock and Hastings.

It is argued that a new container terminal operator will need to have terminals in at least two of, and ideally all three of, the major ports on the east coast (i.e. Brisbane, Sydney and Melbourne). PoMC (and potentially PoHC) will need to take a strategic view about a third terminal operator – noting that for the foregoing considerations, there will be advantages in achieving a broad alignment with other ports in terms of the timing of making the third terminal available to the market for development or operation.

The competitive advantage of a port is to a significant degree driven by the reach provided by the liner shipping services that call at the port. The breadth and depth of the network of destinations reached by the port is determined by these services.

In recent years there has been an increasing tendency for cross-ownership or alliance relationships to develop between terminal operators and shipping line. Other trends include increasing concentration of terminal operator worldwide networks.215

It is therefore possible that the introduction of a third new terminal operator could affect the number and nature of the shipping liner services that call at the port, and thereby the network of destinations directly reached by the port. This can in principle affect the relative competitive position of the port, and hence its trade throughput.

It is argued by industry participants that if the ports of Brisbane and Botany introduce a third stevedore, and the Port of Melbourne does not, then this may be detrimental to competitiveness and acceptability of the port of Melbourne to the shipping industry, and it may lose ground to the other two ports. This highlights the need for State-based ports to also plan within a national perspective.

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6.2 Restriction of access by the port

The port authority may restrict access in ways not directly related to the port planning it undertakes and implements.

In many cases the entry of a new service provider will require the port authority to make capacity investments, for example in new berths and/or cargo marshalling stands or short term storage facilities. The port authority will seek to achieve a return on its capital improvements.

There is often some risk sharing between the port and operator in the pricing structure. For example, payments to the port authority may comprise some fixed payments, as well as payments that relate to the throughput achieved at the terminal. Fixed payments may include direct payment by the entrant for capital works undertaken, as well as lease payments for the site. However, some of the port’s costs may also be recovered through wharfage charges which are based on cargo throughput at the port. That is, there is some sharing of the demand risk by the port for which it would seek an appropriate return. These pricing structures are typically embodied in long term contracts.

In the 2002 Westgate Terminal process, the Port of Melbourne Corporation wanted the developer/operator to fund the terminal capital costs and to pay wharfage. In its submission PoMC emphasises that it:

> Has no current intention to modify its established practice of charging the same wharfage on all cargo of a particular type passing through the port, irrespective of which particular wharf the cargo passes over. … it is difficult to see how wharfage charges provide an advantage or disadvantage to existing container services over a new entrant.\(^{216}\)

Wharfage is a fee for service intended to recover the terminal infrastructure costs of the port authority (channel and navigation costs are recovered through channel usage charges.) Hence the port must either: (i) undertake all of the works up to ground level and recover costs through wharfage or (ii) if the proponent carries out all of the works then it should not pay the port wharfage during the concession period (unless the tender is structured so that the bidders offer a wharfage charge in return for the concession and there is a positive value to the concession.).

Depending on the structuring of its commercial arrangements, the port may have a commercial interest in deterring entry and accordingly a consideration for the port authority is the impact on entry of stranding its existing investments. By diverting cargo from existing terminals, a new entrant may make it difficult for the port authority to fully recover its costs from those terminals. In other words, expansion carries with it the increased risk that existing investments are stranded as a result of trade diversion to the new operator and compensation from the entrant may not offset this loss of revenue. Unless existing port infrastructure contracts have anticipated stranding risk in infrastructure charges, the port authority may have an

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\(^{216}\) PoMC (2007), Port of Melbourne Corporation, ESC Review of Port Planning, p.32
incentive to deter entry. However, with the strong container trade forecasts for the Port of Melbourne the entry deterrence incentives are unlikely to be strong.

The pricing approach applied by a port authority to a new entrant would need to consider the possibility of stranding risk for existing facilities. However, this is not in and of itself a reason for differentiated charging to be applied. As is the case with other infrastructure industries differential charges can create competitive advantages which will be reflected in final prices to end users.

The cost allocation process for a port will be complex. However, so long as the port is able to recover the incremental costs that the entrant imposes on the port, then there is a strong case for uniform wharfage charges to apply with a broadly consistent infrastructure service offering being provided to competing stevedores.

6.3 Adequacy of Capacity at Swanson Dock

The adequacy of the container handling capacity to meet expected container growth at the Port of Melbourne will affect the timing of new terminal developments, and therefore the potential for, and timing of, entry of a third stevedore. Depending on the timing, this can affect the assessment of the materiality of any entry barriers in the planning frameworks, including costs and benefits of entry barriers identified in Chapter 5. For example, the sooner capacity is reached then the sooner development of Webb Dock or Hastings or other sites will be needed. Given the lags in developing container terminal facilities within the Port then, at the extreme, this may mean there is no barrier to entry in practical terms.

The draft Port of Melbourne Planning Scheme states that:

A key objective of PoMC is to ensure that port facilities have the capacity to meet projected long term trade growth requirements.217

Port capacity can be limited by channel capacity, berth capacity, yard capacity and the capacity of land transport to move containers to/from the port. These factors are discussed below. Land-side capacity constraints are discussed in Chapter 9.

6.3.1 Container forecasts

PoMC’s draft PDP includes forecasts, prepared by Meyrick and Associates, for trade at the port up to 2034-35.218 The forecasts include a ‘most likely’ category and an ‘upper limit’ (up to 2014-15). The ‘upper limit’ forecast is used by the Port of Melbourne as the basis for its short to medium planning, and the ‘likely forecast’ for planning to 2034-35.219 These forecasts are used in this chapter as the basis for assessing the adequacy of container terminal capacity over the planning period. Appendix C contains a more detailed description of the PoMC trade forecast in comparison with other relevant forecasts.

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217 Draft Port Strategic Statement, Clause 21
218 Developed by Meyrick and Associates Pty Ltd.
219 PoMC (2006), Port Development Plan 2006-2035 Consultation Draft August 2006, p.27
6.3.2 Port of Melbourne - Swanson Docks capacity

The capacity of a port, which can be expressed in terms of tonnes or TEU of throughput, can be affected by constraints at a number of different areas of the port. These include:

- channel capacity – the number of ships or vessels that can access the port;
- berth capacity – the amount of cargo which can be handled on or off ships at the berths;
- terminal capacity – the amount of cargo that can handled in the yard areas (including storage areas) of the port; and
- land transport capacity – the amount of cargo that road and rail transport, and intermodal terminals, can manage.

Another important consideration in assessing port capacity is that while it can be measured in terms of design or physical capacity, it can also reflect an assessment of what level of delay or congestion is acceptable. The draft PDP defines capacity as:

... the maximum cargo throughput which can be achieved at an acceptable level of service.\textsuperscript{220}

Given that the primary focus of this Review is on container stevedoring and the land-side interface, this section will primarily focus on berth capacity (i.e. stevedoring capacity). While yard capacity is also relevant to the terms of reference (particularly in relation to container storage), it is less likely to be a critical factor in determining port capacity. As noted by DP World:

PoMC has focussed on berth productivity as the principal capacity limiting factor of the container terminals...We concur with this focus on berth productivity as there are multiple solutions for delivering additional terminal yard capacity\textsuperscript{221}

For example, storage problems can be addressed through higher stacking, using off port facilities, and by increasing storage pricing to reduce dwell time.

Channel capacity at the Port of Melbourne will be affected by the outcome of the Channel Deepening project, which still requires environmental related approvals for it to proceed.\textsuperscript{222} A 2006 report by Maunsell concludes that the ‘base case’ (dredging of the South Channel to allow two-way shipping) will lead to acceptable port operations (but if the South Channel were limited to one-way shipping there would be unacceptable delays, even at below expected 2035 shipping levels).\textsuperscript{223}

\textsuperscript{220} Maunsell McIntyre (2000), Victorian Ports Strategic Study, Final Report, p.C20
\textsuperscript{221} DP World Melbourne (2007), Essential Services Commission – Port Planning, p.2
\textsuperscript{222} PoMC (6 July 2007), Media Release, Port Begins Preliminary Preparation for Proposed Channel Deepening, p.1
**Swanson dock berth capacity**

To accommodate the expected growth in international and mainland container trade over the next 10-15 years at Swanson Dock, the PoMC draft PDP envisions productivity improvements and capital expenditure. Assumptions made relating to Swanson Dock include:

- 14 metre draught Post Panamax ships can be accommodated on at least 50% of the berth, and 14 metre Panamax ships on the remainder of the berth (post Channel Deepening)
- An increase in crane density to one per 100 metres of berth (this will require an increase the number of cranes from 16 at present to 20 or 21 at full development)
- An increase in crane rates from 29 to 32 lifts per hour
- An increase in berth occupation to 62.5%, consistent with a waiting time to service ratio of 0.1
- An increase in the percentage of 40 foot containers from 36% to 40%, and
- An increase in berth length of 120 metres on each side of the Dock.\(^{224}\)

The draft PDP predicts that by 2015 to 2020 the combined capacity of the Swanson Dock terminals will be in the range of 3.4 and 4.0 million TEU using the best of current technology.\(^{225}\) According to PoMC, of this capacity, the Swanson Dock extension accounts for 0.3 to 0.4 million TEU per annum\(^{226}\).

The draft PDP also references a 2004 study by Maunsell Australia and Drewry Shipping Consultants as indicating that an extended Swanson Dock has a potential capacity of 3.4 million.\(^{227}\) This corresponds to approximately 1,640 TEU/metre of berth.

The apparent discrepancy between the estimated potential capacity of 3.4 million TEU and the range of 3.4 to 4.0 million TEU is not explained in the draft PDP. However, in its submission to the Review, PoMC noted:

> Planning capacity for Swanson Dock (extended) was estimated to be around 3.4 million TEU/yr. This provides for a 15 per cent capacity buffer for competition and trade imbalance between operators.\(^{228}\)

\(^{224}\) PoMC (2006), *Port Development Plan 2006-2035 Consultation Draft August 2006*, p.41. PoMC’s submission to the Review states that the final PDP will remove reference to specific anticipated development dates for the Swanson and Webb Dock precincts, and that the extension of Swanson Dock could be deferred (and development of a new terminal at Webb Dock brought forward) – PoMC, *Port of Melbourne Corporation, ESC Review of Port Planning*, pp.14-15. Nevertheless, as the estimates of capacity in the draft PDP are on the basis of an extension of Swanson Dock, this will be assumption adopted for this Chapter.


\(^{228}\) PoMC (2007), *Port of Melbourne Corporation, ESC Review of Port Planning*, p.24
This suggests that PoMC has assumed an ultimate capacity at Swanson Dock of 4.0 million TEU, which is reduced to 3.4 million TEU after allowing for a 15% capacity buffer. That is, the figure of 3.4 million TEU is equivalent to around 4.0 million TEU theoretical capacity before providing for a buffer. This is consistent with a further statement made in its submission:

…PoMC assumes that between 2005 and 2035...international container terminal berth productivity will increase from 850 TEU/metre to almost 2000 TEU/metre. 229

PoMC explains that the purpose of the 15% buffer is to take into account the potential for imbalance between the market shares of the two stevedores. 230 Thus, if, for example, the market shares are 55% and 45%, then there is an implied additional capacity requirement of 10% (associated with the largest stevedore’s requirements) to achieve the nominated ship service levels – assuming both stevedores are symmetrical in terms of their capacity.

In summary, the draft PDP appears to be based on an estimate of theoretical capacity at Swanson Dock of 4.0 million TEU, but for planning purposes PoMC assume a capacity of 3.4 million TEU.

Stakeholder submissions

Asciano (Patrick Terminals) indicates that it plans to invest over $200 million up to 2010, and that this will increase capacity to 1.6 million TEU at East Swanson Dock. It also states that additional investments after 2010 will increase capacity to over 2 million TEU. However, Asciano notes that alterations to the current policy framework could lead to these investments being reconsidered. 231

DP World states that the capacity benchmark under current methods is 1,200 TEU per metre and that potential capacity is 1,700 TEU per metre. 232 In support of these observations, DP World stated that:

• a benchmark of 1,200 TEU per metre is supported by a Drewry Shipping Consultants benchmarking exercise of existing terminals worldwide;

• productivity of 2,000 TEU/metre has already been exceeded at a number of container terminals operated by DP World, which are both smaller than West Swanson Terminal and do not attract significant transhipment volumes;

• on this basis a benchmark of 1,700 TEU per metre is a prudent estimate of potential capacity at West Swanson Terminal, recognising local issues;

• this has been confirmed through sophisticated modelling techniques; and

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229 Ibid, p.25
231 Asciano (2007), ESC Review of Port Planning, Submission, p.5
• the proportion of 40-foot containers is expected to increase from 40% to at least 50% from the current 40% (thereby increasing berth productivity measured in TEU).

According to DP World the most important factor in increasing berth productivity will be additional quay cranes. It notes that West Swanson Terminal recently took delivery of two new Post-Panamax quay cranes and currently operates eight quay cranes. Increasing the number of cranes to 11, together with the estimated change in the TEU to container ratio, would increase capacity to 1,350 TEU per metre. To increase capacity to 1,700 TEU/metre by 2020 will require an additional 1.5% annual productivity increase, which DP World considers is a ‘…relatively modest target that will be assisted by the increasing average ship size and increasing average number of containers exchanged at each vessel call.’

Shipping Australia Limited, however, considers that the assumptions underpinning the draft PDP’s capacity estimates for international container terminals are ‘a little optimistic’. In particular, it considers that, while both are possible, the assumed increase in crane rates from 29 to 32 lifts per hour and the assumed berth occupancy of 62.5% (for a maximum waiting time to service time ratio of 0.1) may not be achieved or are on the high side. It notes problems with comparisons, even with container terminals having similar vessels and exchanges, as they do ‘not always meet with the ship’s sailing schedule problems that often occur in Australia given that we are at the end of long-line hauls’.

However, Shipping Australia Limited notes that:

The Terminal operators at both East and West Swanson Dock have demonstrated their capabilities and preparedness to progressively inject more capital to meet the demand.

Discussion

There appears to be some differences in the projections of PoMC and the stevedores:

• DPW provides a forecast of berth productivity at West Swanson Dock in 2020 of 1700 TEU/metre. If this is relevant to the whole of the Swanson Dock then the implied total capacity in 2020 is 3.5 million TEU before taking into account any buffer.

• Asciano states that its capacity will increase to 1.6 million TEU by 2010 and 2.0 million TEU sometime after this, implying a productivity of approximately 2000 TEU/metre, which is 18% higher than that assumed by DPW for 2020.

234 Shipping Australia Limited (undated), Port of Melbourne Draft Port Development Plan, p.1
235 Shipping Australia Limited (undated), Port of Melbourne Draft Port Development Plan, p.1
236 Shipping Australia Limited (2007), Submission by Shipping Australia Limited to the Review of the Impact of Port Planning on Competition, p.3
PoMC’s forecast of maximum capacity appears to exceed those of the stevedores as it assumes that both stevedores will achieve 2000 TEU/metre of berth some time in the period 2015 to 2020.

These productivity assumptions are significantly higher than those adopted by the 2005 Commission of Inquiry into the Port Botany Expansion. In that Inquiry Sydney Ports Corporation held a widely different view of future productivity potential compared to the stevedores – including the feasibility of an intense use of Rail Mounted Gantry (RMGs) given the trade mix and vessel distribution at that port.

PoMC’s view of the future capacity of Swanson Dock is based on a 2004 study by Maunsell and Drewry which estimated the capacity of these based on best available technology and most efficient operations. That study found a notional berth capacity range to be between 3.3 and 4.1 million TEU.

DPW’s assumed productivity of 1700 TEU/metre by 2020 appears to be the most plausible of the estimates presented. When compared to the Maunsell/Drewry report, PoMC and Asciano’s assumptions appear to be at the high extreme of the range of estimates available.

DPW’s productivity growth rate of 1.5% per annum implies that its forecast productivity in 2015 of approximately 1580 TEU/metre, or 3.3 million TEU in 2015 before taking into account any buffer.

### 6.3.3 Risk of under capacity

The draft Port Development Plan aims to ensure that there is at least a 15% capacity buffer (or excess capacity) maintained within the port at all times, in order to allow for any imbalance in the market share of operators and for competition reasons.\(^ {237}\)

Further, to limit the risk of underdevelopment, the draft PDP states that infrastructure needs were assessed for a scenario where trade growth was at the ‘upper limit’ and there were limited productivity improvements.\(^ {238}\)

The ‘upper limit risk matrix’ in the draft PDP is reproduced below in Table 6.2.

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\(^{238}\) Ibid, p.41
Table 6.2  **Upper limit risk matrix**

<table>
<thead>
<tr>
<th>Capacity</th>
<th>Trade growth</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Lower than</td>
</tr>
<tr>
<td></td>
<td>forecast</td>
</tr>
<tr>
<td></td>
<td>As forecast</td>
</tr>
<tr>
<td></td>
<td>Higher than</td>
</tr>
<tr>
<td></td>
<td>forecast</td>
</tr>
<tr>
<td>No increase</td>
<td>No congestion</td>
</tr>
<tr>
<td></td>
<td>Congestion</td>
</tr>
<tr>
<td></td>
<td>Severe</td>
</tr>
<tr>
<td></td>
<td>congestion</td>
</tr>
<tr>
<td>As forecast</td>
<td>No congestion</td>
</tr>
<tr>
<td></td>
<td>No</td>
</tr>
<tr>
<td></td>
<td>congestion</td>
</tr>
<tr>
<td></td>
<td>congestion</td>
</tr>
<tr>
<td>Higher than</td>
<td>No congestion</td>
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<tr>
<td>forecast</td>
<td>No</td>
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<tr>
<td></td>
<td>congestion</td>
</tr>
<tr>
<td></td>
<td>congestion</td>
</tr>
</tbody>
</table>

Source: PoMC (2006), draft PDP, p.77

Because of the risk of congestion – particularly in a situation where trade grows more strongly than predicted and capacity less strongly – the draft PDP sets out a contingency strategy. The strategy includes acceleration of crane investment and bringing forward the 120 metre dock expansion. The option of bringing forward the Webb Dock development is also listed as an option.239

6.3.4 Lead times

An important factor in determining capacity are the lead times involved in new projects – that is the time taken from the time a project is initiated to when it is completed. This time will include project design and construction as well as the time involved in gaining all the necessary approvals, including planning and environmental. The lead time is likely to change according to the nature and size of a project.

The draft PDP states that ‘lead times associated with new developments may be up to five years’.240 Stakeholders have expressed differing points of view about the reasonableness of a five year lead time assumption. For example, Shipping Australia Limited considered that the ‘development works’ needed to develop Webb Dock to handle container trade should commence in 2010, to enable operations to commence in 2015 – that is, a period of five years.241

In contrast, the Habitat Trust stated:

> …a longer view is required based on upper limit forecasts if we are to successfully manage the bigger issues of urban congestion which require longer than a five year lead time to resolve.242

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239 Ibid, p.77
240 Ibid, p.77
241 Shipping Australia Limited (undated), *Port of Melbourne Draft Port Development Plan*, p.2
242 Attachment to Habitat Trust Submission to *Review of Port Planning – 2006 - Submission to Melbourne Portal Board*, p.2
While not making an estimate of the lead time for future projects, the Meyrick 2007 Study notes that lead times have been increasing:

…it is becoming increasingly apparent that the ability of ports and industry to fast-track new or upgrade infrastructure…is rapidly diminishing as project lead-times increase due to the need to deal with more stringent and time-consuming regulatory, community and environmental requirements…

This situation is further complicated by the commercial competition for land-use in the coastal areas and the lack of integrated, long-term land-use planning between the various federal and state governmental agencies…The overall affect has been to increase the start-to-finish time for new port infrastructure projects by one or more years...  

Examples of lead times for the construction of new container terminal facilities include:

- In August 2006 the Port of Brisbane issued tender documents for the operation of a new container terminal (i.e. berths 11 and 12). In April 2007 it announced that work had already commenced on the construction of the berths and would take place over a five year period. Berth 11 is expected to be operational in mid-2012 and berth 12 in mid-2014. This suggests a lead time of 6 years.

- The decision to approve the expansion of Port Botany by building a third terminal at Brotherson Dock North was announced in October 2005 after two years of community consultation, environmental effects assessment, and a Commission of Inquiry. The tender process for design and construction commenced in September 2006. The terminal is planned to commence commissioning in 2011. This represents a project lead time of at least 6 years.

These factors, taken together, would suggest that the lead time for development of a new international container terminal at the Port of Melbourne is at least six years.

6.3.5 Implications of trade forecasts and capacity estimates

As noted previously, PoMC states that it aims to ensure there is at least a 15% excess capacity. Figure 6.2 shows PoMC’s base case (the ‘most likely’ forecast) as well as, for any given year, the maximum of either the base case plus 15%, or PoMC’s upper limit forecast. This is compared to capacity at Swanson Dock, which is based on the estimate of current capacity of 2.2 million TEU and capacity by 2014-15 of 3.3 million. Between these two periods, capacity is assumed to grow at a steady rate except when Swanson Dock is extended at which point it increases by 0.3 million TEU (consistent with the PoMC’s estimate of between 0.3 and 0.4 million). The proposed timing of the extension in the draft PDP is between 2010 and 2015, and in Figure 6.2 it has been assumed to occur in 2011-12.244

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244 This is based on figure 13 of the draft PDP, which shows a dip in productivity in 2011-12, suggesting the addition of extra capacity.
The chart suggests that assuming Asciano and DP World invest in additional capacity as forecast, then capacity may be an issue in 2010-11 and in 2014-15. In 2014-15 the ‘upper limit’ forecast exceeds the estimated capacity (based on DPW’s forecast of productivity). This is broadly consistent with PoMC’s risk matrix which indicates that a combination of capacity increasing as planned, but higher than expected trade growth, will lead to congestion at the port. This would suggest that there is a risk that the timing of capacity additional to Swanson Dock may need to be brought forward from the timing in the draft PDP.

Figure 6.2  **Capacity and trade growth - Swanson Dock**

With project lead times of six years, this suggests the possibility that commencement of the Webb Dock development may need to start as early as 2008-09.

An additional risk is that, as acknowledged in the draft PDP, capacity growth at Swanson Dock is largely outside PoMC’s control\(^\text{245}\), as it is almost entirely based on assumed investments undertaken by the stevedores, and therefore outside the direct control of the port. However, potentially mitigating this risk, the draft PDP indicates that:

PoMC indicated in its submission to the Review that the final PDP would allow more flexibility in terms of the timing of infrastructure developments, including allowing the possibility of the development of a new terminal at Webb Dock being brought forward and the extension of Swanson Dock deferred\textsuperscript{247}. The above analysis suggests that this would be highly unlikely, as it would probably entail capacity falling below the 15% planning buffer in 2011-12 for at least several years.

Instead, the foregoing analysis suggests that both the Swanson Dock extension remains necessary, and that a new terminal development (for example the Webb Dock development) may need to brought forward when compared to the timing suggested in the draft PDP. Furthermore, given the extended lead times associated with new terminal developments, these two projects will both need to be commenced in the relatively short term and progressed in parallel rather than sequentially. To the extent that there is a risk that the stevedores do not undertake the capacity increases outlined in their submissions, as foreshadowed by Asciano, then this weighs toward an early commencement of the new terminal development rather than its deferral.

### 6.3.6 Preliminary Conclusions – Adequacy of Capacity

As noted at the start of the Chapter, trade forecasts and expected capacity are relevant to the Review because the adequacy of the container handling capacity to meet expected container growth at the Port of Melbourne will affect the timing of new terminal developments and, therefore, potentially new entrants.

Given PoMC’s stated approach of planning its facilities over the immediate 10 year horizon on the basis of the ‘upper limit’ forecasts in the draft PDP, then even with expansion of Swanson Dock, it is likely that new container facilities will be required by 2014-15. As the lead time for developing such facilities is commonly around six years, then it is possible that the process for developing new container stevedoring facilities will need to commence as early as 2008-09. If this were to occur then, to the extent that there is a restriction or delay on entry in the current port planning frameworks, the delay may not be a significant one in practical terms.

While, PoMC has indicated that the final PDP will provide greater flexibility regarding the timing of the Swanson Dock and Webb Dock developments, based on current trade estimates a change to the sequence of developments is unlikely, as it could well lead to capacity falling below planning requirements.

\textsuperscript{246} PoMC (2006), \textit{Port Development Plan 2006-2035 Consultation Draft August 2006}, p.75

6.4 Preliminary conclusions

A preliminary assessment of PoMC’s throughput forecasts and planning criteria, and an assessment of the various capacity forecasts made by the port and the stevedores suggest that the proposed Swanson Dock extension may be needed at an earlier date than currently planned, and that additional terminal capacity may need to be planned for around 2014-15. Given the extended lead times that must be allowed for such developments, which the Commission estimates to be typically around 6 years, this implies that the initiation of tenders for design, construction and/or operation, and approvals processes, may need to commence within the next two years or so.

A preliminary assessment of the MES for container terminals suggests that the level of throughput for Melbourne in 2014-2015 – which is forecast to be close to 3 million TEU – is likely to be sufficient to support three terminals at that time.

These considerations suggest that, since the processes to commence the development of a third container terminal are likely to be required within a relatively short term, the materiality of any constraints to entry contained in the planning frameworks appears to be minimal.
The Terms of reference for this Review require that where an entry restriction is identified in the port planning frameworks, then an assessment of the costs and benefits of the restriction, in terms of the efficient use of port infrastructure and whether the benefits of restricting entry outweigh the costs to the community, be undertaken.

This chapter assesses the costs and benefits of the key potential entry restrictions identified in Chapter 5. The approach and key assumptions underpinning this analysis are also set out.

However, the Commission has also taken the approach that, where a restriction is required, then alternatives to that intervention need to be identified and considered, notwithstanding the outcomes of the cost benefit analysis. This is the approach taken in the NCP Guideline and this forms the basis of the considerations in Chapter 8.

### 7.1 Stakeholder comments

A benefit from entry restrictions (or no new stevedoring entry) raised in several submissions is that of fully utilising existing infrastructure and deriving the associated economies of scale. For example, the MUA states:

> …there are overwhelming benefits to the community associated with restrictive entry for new stevedoring firms. The cost of not restricting entry are significant and revolve around the following factors:

- *Artificially limiting the economies of scale that stevedores might achieve, which will impact on strategies that produce flow through benefits in terms of port efficiency as well as into capital and labour productivity;*

- *Disaggregation of investment capacity which restricts investment in best practice technologies and restricts adoption of cyclical port superstructure replacement strategies (for cranes etc).*

Similarly, Shipping Australia Limited states:

> The Terminal operators at both East and West Swanson Dock have demonstrated their capabilities and preparedness to progressively inject more capital to meet the demand. This should

---

be encouraged in order for the complexes to reach optimal efficiency both logistically and achieve economies of scale. In this way, the interests of the terminal operators and their clients are protected.249

The MUA also considers that stevedores will manage excess capacity by using a casual workforce which it considers leads to lower productivity.

Some submitters also saw a benefit in the planning frameworks in that they provide a more certain environment which facilitates investment. For example, Asciano stated:

Asciano believes that the Victorian Government’s existing port planning frameworks provides certainty to port operators and encourages the level of private investment required to maintain the Port of Melbourne’s position as Australia’s leading port.

… These reports have provided stakeholders with a clear understanding of the Victorian Government’s policy position and planning framework for the future. This has provided certainty for Patrick and been a determining factor in its decision to commit $200 million dollars in the development of its East Swanson Dock Terminal. Pacific National has also been encouraged to invest considerably in its terminals and rolling stock as a result of this certainty.250

Submissions from the MUA and Asciano argued that new stevedores don’t bring additional shipping contracts or increase port volumes.

Other potential benefits from restricting entry identified by the MUA, is that it enables stevedores to exercise market power in their arrangements with shipping lines and to adopt optimal port pricing strategies, an unchanged number of locations for pick up or delivery of containers which is better for truck efficiency; and that new entry would reduce the capacity of the stevedores to develop vertically integrated supply chains. PoMC made a similar comment regarding vertically integrated supply chains.

PoMC also stated that the consolidation of container stevedoring in the 1980s and early 1990s ‘fostered significant investment in the two terminals, and it is now generally regarded as a necessary step towards developing world-class container handling operations in Melbourne.’251 The MUA and Asciano made similar points.

Several submissions noted the benefit of a new entrant in terms of competitive discipline on the existing operators and encouraging innovation. For example, HPH stated:

249 Shipping Australia Limited, Submission by Shipping Australia Limited to the Review of the Impact of Port Planning on Competition, p.3
250 Asciano (2007), ESC Review of Port Planning Submission, p.4
251 PoMC (2007), Port of Melbourne Corporation, ESC Review of Port Planning, pp.26-27
We believe an independent third operator will deliver many benefits, including:

- Improving value for money in customer service;
- Increasing competitive tension on pricing;
- Stimulating additional investment in efficient modern equipment and information technology systems;
- Providing access to new customers;
- Increasing employment opportunities, boosting the local economy; and
- Boosting downstream industries – especially in ground transport.252

PoMC also noted some benefits from competition:

the draft PDP, the document also recognises the importance of a new entrant in imposing competitive discipline on the behaviour of existing operators and encouraging innovation in the provision of container terminal services.

and

…the contribution that intensified competition can make to ensuring that services are provided in a cost effective way.253

7.2 General Approach

In order to rigorously assess the costs and benefits of the entry restrictions identified, the Commission engaged Booz Allen Hamilton (BAH) to build a cost-benefit model consistent with relevant guidelines.

The model estimates the costs that will arise from the current planning approach (the base case) as well as a range of scenarios that may eventuate if the restrictions were eased. The difference between the present value of the base case cost estimates and the present value of the scenarios without the restrictions is therefore an estimate of the costs/benefits of the restriction. The present value is estimated by using a discount factor to estimate, in today’s dollars (2007), the total value of the costs/benefits. The costs and benefits modelled using this approach are set out in section 7.3.

It is not possible to quantify all costs and benefits. Some of the unquantifiable costs/benefits are briefly discussed in section 7.4.

253 PoMC (2007), Port of Melbourne Corporation, ESC Review of Port Planning, pp.14, 31
The relevant guidelines are the 2006 Australian Transport Council National Guidelines for Transport System Management in Australia (ATC Guidelines). These guidelines have been endorsed by COAG. However, where these Guidelines do not provide guidance, or defer to ‘local’ values, use is made of other relevant guidelines, including guidelines established by DOI.

**Base case and scenarios**

In formulating the scenarios to be tested, the Commission has based its approach on the preliminary conclusion that the key potential restrictions to competitive entry within the Victorian ports planning framework are:

(a) The sequence of development which requires the extension of Swanson Dock to precede the development of Webb Dock

(b) The sequence of development which requires the port of Melbourne to be developed to capacity before developing the port of Hastings, and

(c) The requirement that port developments facilitate the achievement of the Government’s objective of 30% of port related freight on rail.

The scenarios have been chosen to test each of these potential constraints.

The Base Case is the program of development set out in PoMC’s draft PDP, including the Swanson Dock extension after 2010, and the Webb Dock development after 2017. The timing of development at Hastings is set according to the point at which PoMC’s planning buffer requirement is met (and therefore consistent with the notion of Hastings as an overflow port).

A Modified Base Case has been defined which keeps the same sequence of development, but brings these forward to ensure there is adequate capacity to meet the ‘upper limit’ trade forecast (see discussion in Chapter 6). Under this scenario, Webb Dock would be brought forward by two years and commence in 2014-15.

The first of the above constraints (that is, (a)) is tested by examining the costs and benefits of bringing the development of Webb Dock forward to precede the Swanson Dock extension – Scenario A.

The second constraint (item (b)) is tested by examining the costs and benefits of developing Hastings as an international container terminal prior to developing Webb Dock – Scenario B.

In each of these scenarios a rail mode share of 18% is assumed which is the current rail mode share of containerised freight at the port of Melbourne. This is assumed for each terminal and over the whole forecast period (2005 to 2038).

The final constraint (item (c)) is tested through sensitivity analysis, with a scenario that excludes the Webb Dock Rail Link – and involves no rail transport from Webb Dock – and a scenario that involves a higher rail mode share from the port of Hastings – Scenario C with additional rail infrastructure investment.

These different scenarios are summarised in Table 7.1. The table shows the order of development of new container capacity in each scenario, the year at which the
capacity is expected to come on stream, and the assumed rail freight share. In all cases it is assumed that stevedoring terminals at both Webb Dock and Hastings will be operated by a new stevedore.

The development plans for each port assume that new terminal facilities – at Webb Dock and Hastings – will be brought on in stages. Consistent with this there are assumed to be two modules for each of Webb Dock and Hastings, and, to accommodate the different timing possibilities, there are two different options under Scenario A (scenarios A1 and A2) and similarly for Scenario B (scenarios B1 and B2).

Table 7.1: **Scenario details - timing and mode share**

<table>
<thead>
<tr>
<th></th>
<th>Order of development (year)</th>
<th>Mode share</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Scenario C1</td>
<td>As per Scenario A2</td>
<td>but excluding rail related capex</td>
</tr>
<tr>
<td>Scenario C2</td>
<td>As per Scenario B2</td>
<td>plus additional capex</td>
</tr>
</tbody>
</table>

Timing of capacity increments

In determining the year at which development comes on under each scenario (apart from the base case) the approach has been to bring on capacity at the point in which capacity falls below a set level of excess capacity. In each year capacity must be in excess of the draft PDP ‘most likely’ trade forecasts by at least 15% and
in excess of the ‘upper limit’ forecast. In 2014-15 the capacity requirement is imposed by the ‘upper limit’ forecast, which is 19% higher than the ‘most likely’ forecast in that year. This implies an “excess capacity” requirement in 2014-15 of 19%, which (as upper limit forecasts are not available beyond 2014-15) is also adopted for the remainder of the modelling period. While any rule of this nature is necessarily arbitrary, it is required in order to limit the number of scenarios considered in the cost-benefit analysis to a reasonable level and also to limit the analysis to realistic scenarios.

**Terminal productivity**

For all scenarios, it is assumed that all terminals have equal productivity – expressed in TEU per metre. This is assumed to increase to 1,550 TEU per metre in 2015 and thereafter by 1.5% until 2020 (to 1,670 TEU/metre) at which point it is held constant until 2038.

**Assumed market shares of terminals**

Each terminal is assumed to ultimately have a share of total throughput equal to its share of total berth length (which is used as a proxy for capacity). However, when a new terminal first comes on stream there is likely to be a period of time in which its market share is below this level as it seeks to attract business away from its competitors. To reflect this, it is assumed that there is a ‘ramp-up period of four years before any new terminal reaches its long-run share of trade. The ramp-up assumption adopted is set out in Table 7.2.

<table>
<thead>
<tr>
<th>Year of operation</th>
<th>Proportion of long-run trade share</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>20%</td>
</tr>
<tr>
<td>2</td>
<td>60%</td>
</tr>
<tr>
<td>3</td>
<td>90%</td>
</tr>
<tr>
<td>4</td>
<td>100%</td>
</tr>
</tbody>
</table>

**Trade forecasts**

The trade forecasts adopted are the ‘most likely’ forecasts in PoMC’s draft PDP, up to 2035, with growth for the remaining three years extrapolated using the trend rate of growth in preceding years.

**Discount rate**

The modelling horizon adopted for the model was 2005 to 2038. As discussed previously, each of the costs and benefits are estimated for each year of the forecast horizon and are converted to a single present value figure (in 2007 prices) using a common discount rate. Discounting takes into account the time value of money – that is, a dollar benefit today has higher value than a dollar benefit tomorrow. The ATC guidelines recommend that the discount rate used be that
nominated by each jurisdiction. In Victoria, the discount rate set in the DOI ‘Guidelines for Cost-Benefit Analysis’ is 6.5% on a real basis.

### 7.3 Summary of Costs and benefits

The costs and benefits that were identified and incorporated in the analysis included:

(a) **Project costs.** This includes the capital expenditure undertaken by the port to develop terminals, as well as capital expenditure by the terminal developer or stevedore on hardstands, cranes, yard equipment etc. The expenditure of government agencies on road and rail infrastructure connections at the port interface is also included.

(b) **Terminal operating costs.** These are the costs incurred by the stevedore in operating the container terminal, not including capital expenditure or return on capital expenditure.

(c) **Economic rents.** The benefits of increased competition flow to port users – typically freight owners – in the form of reduced costs for port handling services. These benefits are economic rents captured by the stevedores when the market is not effectively competitive, but which flow to customers when the market is effectively competitive.

(d) **Ship navigation and delay time.** The costs of accessing port terminals by ships depend on the comparative distances to be travelled to those terminals from the high seas. They also depend on the congestion at the port terminal and the waiting time to access berths.

(e) **Land transport costs.** This is the cost to the freight owner of transporting containerised freight between the port and the origins and destinations of the freight, such as a warehouse. This depends on the costs of road and rail transportation and the relative shares of each mode.

(f) **Land transport externalities.** Road and rail transport gives rise to external costs, including pollution and noise.

(g) **Land transport congestion costs.** Road transport gives rise costs of congestion, which are primarily the costs of reduced amenity and increased travel time borne by other road users.

Further discussion of each of these different categories of costs/benefits, and the approach to modelling each category are set out in this section. The costs/benefits for each scenario, given this methodology, are then discussed in section 7.5.

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7.3.1 Project costs

If entry were to occur outside of the sequence of development envisaged in the VPSF, then this would be manifested in a bringing forward of capital expenditure. If there are no offsetting benefits – or delays in other capital expenditure – then a bringing forward of capital expenditure will represent a net cost. The way the scenarios are structured, a bringing forward of one development affects the timing of other developments. However, as the various capacity expansion options have different costs, then there will be a difference in the total discounted capital costs.

The issue of economies of scale raised in several submissions is also relevant to the level of operating costs, which is discussed in the next section.

Project costs include:

- Terminal capital costs: The capital cost of construction new terminal infrastructure such as berths, berth dredging, the provision of services, road and rail infrastructure within the port precinct and other infrastructure. These costs are often incurred by the port or by the tenant.

- Stevedore capital costs: The cost of hardstands, cranes, yard equipment, on-dock rail terminals, buildings and other superstructure at the terminal which are normally financed by the terminal developer or operator.

- Road and rail capital costs: The capital costs associated with the land-side interface of the port, including developing rail and road infrastructure outside the port precincts but directly servicing the port site. These capital works are usually financed by agencies owned by the Government.

Assumed capital costs for each terminal expansion options are summarised in Table 7.3. The costs have been developed by BAH based on a variety of published and unpublished sources and BAH’s own analysis of the capital cost of a model ‘greenfield’ terminal.

Table 7.3  Project Cost Assumptions  ($ million, 2007 prices)

<table>
<thead>
<tr>
<th></th>
<th>Swanson Dock Extension</th>
<th>Webb Dock Module 1</th>
<th>Webb Dock Module 2</th>
<th>Hastings module 1</th>
<th>Hastings module 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Terminal Capital Cost</td>
<td></td>
<td></td>
<td></td>
<td>306</td>
<td>306</td>
</tr>
<tr>
<td>Stevedore Capital Cost</td>
<td></td>
<td>60</td>
<td>170</td>
<td>255</td>
<td>170</td>
</tr>
<tr>
<td>Road infrastructure</td>
<td></td>
<td>10</td>
<td>69</td>
<td>0</td>
<td>55</td>
</tr>
<tr>
<td>Rail infrastructure</td>
<td></td>
<td>0</td>
<td>120</td>
<td>0</td>
<td>218</td>
</tr>
<tr>
<td>Note: berth length (metres)</td>
<td></td>
<td>240</td>
<td>650</td>
<td>975</td>
<td>650</td>
</tr>
</tbody>
</table>

Source: Booz Allen Hamilton
In each scenario and for each terminal development, these capital costs are assumed to be incurred over a period of four to five years immediately preceding the terminal being commissioned. The capital expenditure profile is shown in Table 7.4.

<table>
<thead>
<tr>
<th>Year prior to commissioning of development</th>
<th>Swanson Dock</th>
<th>Webb Dock and Hastings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Year - 5</td>
<td></td>
<td>15%</td>
</tr>
<tr>
<td>Year - 4</td>
<td>20%</td>
<td>25%</td>
</tr>
<tr>
<td>Year - 3</td>
<td>30%</td>
<td>30%</td>
</tr>
<tr>
<td>Year - 2</td>
<td>40%</td>
<td>20%</td>
</tr>
<tr>
<td>Year - 1</td>
<td>10%</td>
<td>10%</td>
</tr>
</tbody>
</table>

Source: Booz Allen Hamilton

For each terminal, there is also assumed to be an ongoing capital expenditure program for equipment replacement. For each of the Webb Dock and Hastings modules this is assumed to be $5 million per annum. At Swanson Dock an estimate has been based on confidential information provided to the Commission relating to one of the Swanson Dock terminals.

7.3.2 Terminal Operating Costs

Booz Allen has estimated the following operating cost function for a model terminal single berth module of 350 metres, with a 10 ha yard and operating at 1200 TEU per metre of berth:

\[
\text{Operating cost} = 15.3 \text{ million} + 83.88 \times \text{annual TEU throughput}
\]

(Equation 8.1) Operating cost = $15.3 million + $83.88 \times \text{annual TEU throughput}

The implied operating costs function is shown in Figure 7.1 showing the economies of scale implied.

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256 All dollar amounts refer to 2007 $. 
This model was used to derive the operating costs of new entrants through scaling up the fixed costs by the number of berths for each new terminal development. The model was also applied to the operations at Swanson Dock, although the level of fixed costs was set so that the average cost per TEU in 2006-07 was equal to the actual resource cost of the terminal.257

This form of operating cost relationship means that the issue raised by several stakeholders – the benefit of making use of existing infrastructure in order to gain the benefits of economies of scale – is taken into account.

7.3.3 Benefits of competition

Several approaches have been considered by the Commission for assessing the likely impact of competition on profit margins and prices.

Principles for estimating the impact of competition on prices

Contestability

The theory of contestable markets applies to monopolies or oligopolies in which competitive entry is unimpeded. In this notion of free entry, an entrant could in principle capture the whole market, or a large part of it, and would therefore not be

257 Based on confidential information received for one of the Swanson Dock terminals. Resource cost excludes various costs not relevant to cost-benefit analysis – principally depreciation (a non-cash cost).
disadvantaged by any economies of scale. It could also exit the market without cost, as it is assumed there are no sunk costs. This means that “hit and run” entry is possible. In these circumstances the incumbent monopolist or oligopolist is constrained to set prices at long-run average cost (LRAC). Any higher price would attract entry, and a lower price would not be financially sustainable.

In the Victorian ports, once a new competing terminal is introduced, the container stevedoring market could be viewed as contestable, since further expansion of the new terminal may be feasible, and so the entrant would have a real threat of capturing a greater market share. This suggests that the LRAC of the stevedores may be a useful guide to the post-entry level of average revenue.

The LRAC is a measure of economic cost which includes the cost of capital employed. The ACCC’s reported unit cost and implied asset values (derived from rate of return data reported for the stevedores) can be used to estimate the LRAC. In section 3.3 the Commission has estimated the cost of capital per TEU, which is added to unit costs to derive the fully absorbed economic costs or LRAC. The estimated rate of economic profit in 2005-06 is approximately 12%, with the LRAC around 11% below the prevailing unit revenue.

Cournot model

The Cournot model is a widely used model of oligopoly. In terms of game theory, it can be viewed as the outcome of a two-stage game in which, at the first stage, the oligopolists choose their capacity, and in the second stage prices are established by the balance of supply and demand, given the capacity constraints established in the first round.

The Cournot equilibrium for prices is summarised by the following equation:258

(Equation 8.2)

\[ L = \sum_{i} s_i \left( \frac{p - MC}{p} \right) = \frac{HHI}{\varepsilon} \]

Where L is the “Lerner Index”, \( s_i \) are the shares of the stevedores (indexed by i), p is the unit revenue, and MC is the marginal or variable cost, HHI is the Herfindahl-Hirschman Index, and \( \varepsilon \) is the own price elasticity of demand.

Applying this to stevedoring, it is assumed that the two stevedores have the same cost structures (the ACCC data suggests they are similar). The variable costs are assumed to be 100% of labour costs and 50% of ‘other’ costs; so the fixed costs comprise equipment, property costs, the levy and the remaining 50% of ‘other costs’. Under these assumptions the Lerner Index for the stevedores nationally in 2005-06 was:259

258 Church, J & Ware R (2000) Industrial Organisation, A Strategic Approach, p.239
259 Derived using confidential data provided to the Commission relating to the port of Melbourne and applying this to the average for all Australian ports. The calculation assumes that average variable cost is a suitable proxy for marginal cost. The price of
Estimation of the own price demand elasticity is problematic in the stevedoring industry. Demand for stevedoring services is derived from the demand for containerised freight. An own-price demand elasticity for import and export goods can be used to derive a demand for stevedoring services, using the share of stevedoring services in the total end value of the goods. This calculation results in a very low calculated demand elasticity (as discussed in chapter 3). However, stevedores are also subject to a degree of countervailing power from shipping lines. This countervailing power implies that shipping lines ultimately may have substitution opportunities, by shifting ports of call or altering shipping schedules, which might impact on container freight volumes at a specific port. Hence a demand elasticity calculated in the manner described may not fully capture the full potential response to movements in stevedore charges.

To the extent that the Cournot model is relevant, then an alternative approach to applying the Cournot model would be to use the implied elasticity value, given the values of the Lerner Index and the HHI. The ACCC notes that the market share held by Asciano and DP World varies over time, but tends to fluctuate between 45 to 55% at each port. Hence the HHI is in the range 0.50 to 0.505. Given the value of L stated above, and assuming the Cournot equilibrium is the relevant price solution, the implied elasticity is 0.97.

For example, suppose an entrant captures 20% of the market and the incumbents each retain 40%. The HHI will then be 0.36, and the Lerner Index will be: $L = \frac{0.36}{0.97} = 0.37$. Solving for the unit revenue gives a price of $137.1$ per TEU, which is a 24% reduction over its present level of $180.1$ per TEU.

This calculation suggests that application of the Cournot equilibrium mode would imply a large impact on prices due to entry of a new stevedore. However, reductions of this magnitude would result in price decreases to below the LRAC, which would not be sustainable. This raises doubts about a simple application of the Cournot model.

Supply function equilibria

Another oligopoly pricing model is the Supply Function Equilibria approach. In this modelling approach each oligopolist offers an entire supply schedule to the market, so that the price charged to each user depends on the aggregate demand outcome. This approach is used to model electricity spot market bidding, but might be relevant to negotiations and contracting between stevedores and shipping lines. This theoretical approach has as its solution, that when an industry is close to capacity, price outcomes resemble a Cournot model, whereas in circumstances where there is considerable excess capacity they behave more like the Bertrand
model (i.e. prices close to marginal cost). Thus it is only as the supply side of the market moves towards its capacity limitations that sharp rises in prices are observed.

This characterisation appears to be directly relevant to the stevedoring industry. In 1992 the Industry Commission stated:

_The relationship between ship waiting time and berth utilisation has an important influence on the tariff level chargeable by a terminal operator. Until berth utilisation reaches the 50/60% level, ship queuing is insignificant. At that level a point of inflexion is reached and ship queuing increases rapidly. It is only beyond that level of utilisation that ship owners would be prepared to pay a premium to avoid waiting costs and to maintain shipping schedules._

Drewry (Global Container Terminals) similarly observes that:

_That there is a link between capacity, congestion and tariff levels is not in question. ... If authorities misjudge the CP [congestion point] and prematurely limit capacity, productivity will rise but tariffs will soar or need to be regulated._

These observations suggest that as the existing terminals move closer to capacity around 2015, the profit margins of the stevedores may be expected to increase, and could rise markedly if capacity constraints emerge that cannot be remedied quickly.

In these circumstances the Cournot model may become more relevant and the impact of entry on the excessive profit margins and prices may be much more pronounced.

**Empirical information**

There may also be some empirical information about the impact of competition on container terminal profit margins.

The ACCC reports benchmark rates of return for a sample of overseas stevedores – which have averaged around 13% over the last five years.

Given their current unit costs, the achievement of this benchmark return by the stevedores would imply a reduction in unit revenues of around 9%. In principle, this comparison may understate the impact of entry on prices because, firstly, the benchmark rates of return may be drawn from a range of competitive environments, and secondly, and more importantly, competitive entry may also put pressure on costs and result in a lower cost base.

Ferrari and Benacchio report some terminals earning average profit margins of $4 to $8 per TEU. They state that:

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Although the sample is far from being significant, and apart from local and institutional peculiarities (i.e. the fully privatized contest for UK ports), a general tendency can be outlined for which profit margins are somehow related to the competition level within the port (the higher is competition, the lower tariffs and therefore profits).

Preliminary conclusions on price impacts of competition

The above models of oligopoly and empirical benchmarks support the view that competitive entry is likely to result in strong pressures for reduced profit margins per TEU. However, the introduction of one additional stevedore is unlikely to result in perfect competition and the removal of all economic profits. Nevertheless, post-entry, the profits of the stevedores may depend more importantly on their ability to achieve superior cost efficiencies, differentiation of services and service standards, and benefits arising from integrated supply chain operations.

In undertaking the cost-benefit analysis, the Commission has assumed that the average return on average assets moves to around 13% once competition is introduced, as opposed to the current 21%, which represents a price decrease of around 9%. This level of return is equal to the average return benchmark returns for overseas ports for the five years to 2005-06 ports engaged in stevedoring activities and is broadly consistent with (and slightly higher than) the cost of capital estimated in chapter 3.

Welfare impacts of competition

In price inelastic markets the welfare impacts of price movements are predominantly wealth transfers between consumers and producers – rather than net welfare gains or losses.

However, the Terms of Reference direct the Commission to have regard to its objectives under s.8 of the Essential Services Commission Act 2001. The Commission’s primary objective is to protect the long-term interests of consumers with respect to price, reliability and quality of services. By implication, in a long-run analysis, the Commission is not indifferent to rent capture by producers from consumers in price inelastic markets – such as occurs when prices are held above the LRAC or economic cost of supply over a sustained period of time. The resulting loss of consumer surplus over the long-term, therefore needs to be treated as a cost. The benefit associated with introducing competition at an earlier date, which arises because of reduced prices compared to the situation without effective competition, reduces or removes this consumer economic welfare cost and gives rise to a benefit for the purpose of this cost benefit analysis.

Estimating benefits

To model the impact of this change, the Commission has applied the margin between current unit revenue and average stevedoring cost per TEU to forecast average stevedoring cost (per TEU) in each year of the forecast period. This

261 Ferrari C & Benacchio M (2007), Market structure in container terminal operations and port services, p.6
represents the price that would arise in the absence of a new stevedore. This estimated price is then reduced by 9% on entry of a third stevedore (i.e. at the time one of Webb Dock or Hastings is first developed). The difference between these two prices, when applied to the trade forecasts, equals the change in economic rents.

In practice, it may be expected that there will be more price pressure from having an additional stevedore at times of greatest excess capacity (i.e. following each new terminal development). However, the above approach has been adopted as a suitable proxy of the impact, on average, of the entry of a new stevedore over time. All scenarios – including the base case – assume a new stevedore enters either the port of Hastings or Melbourne, therefore the difference between the base case and the scenarios is the extent of the bring-forward of the benefit of extra competition.

7.3.4 Ship navigation and delay costs

For international container ships the opportunity cost of the time spent sailing to a berth, or waiting time to access a berth, are high. BAH have estimated the cost of delay for a 3,750 TEU container ship to be $1,284 per hour. In the cost benefit analysis, the costs associated with two types of ship delay are quantified:

- Differences in the navigation time taken to reach Swanson Dock, Webb Dock and the port of Hastings
- Waiting time due to increased congestion when berths have high rates of occupancy.

Ship Navigation Time

Different ship navigation costs are associated with the different distances between each of the ports and the high seas. BAH estimate a small difference between the pilotage fees for calling at either of the two ports.

BAH have estimated that on an average a vessel spends a total of approximately 8 hours under pilotage during a call to Swanson Dock. To access Webb Dock there will be a time saving of approximately 1.5 hours in total during a vessel call as compared to Swanson Dock. Navigation time in and out of the Port of Hastings represents approximately a 3 hour saving compared to Swanson Dock.

The cost per hour of delay used in this study is $1,284 per hour, which is consistent with a representative ship in the size range 3,501-4,000 TEU.

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263 Pilotage times were estimated by BAH from information in the Port Phillips sea pilots website – www.ppsp.com.au/Basic_Hist.htm
264 Derived from the vessel daily operating costs (in US$) in Appendix 4 to PoMC Supplementary Environmental Effects Statement, Meyrick and Associates (2007), *Channel Deepening: Benefit-Cost Analysis*, p.19, updated for more current fuel costs and exchange rates and with an allowance made for the difference in fuel consumption for a ship under pilotage as opposed to at sea.
Thus the cost of navigation per ship visit is therefore on average: $14,836 for each ship visiting Swanson Dock; $12,910 per ship visiting Webb Dock; and $10,870 per ship visiting the port of Hastings, including pilotage costs.

Ship Congestion delays

Ship delays arise as existing terminals become more congested. This is shown in Figure 7.2, which shows two different estimates of the delay time of ships in proportion to berth time as a function of the rate of berth utilisation at the Port of Melbourne (Swanson Dock).

Figure 7.2: **Ship delay and berth utilisation (4 effective berths)**


The line ‘Maunsell 2004’ is the estimated relationship between ship waiting time and berth utilisation in the Maunsell 2004 report. Maunsell (2004) set out this relationship for terminals with varying numbers of berths. This is reproduced in Table 7.5.

265 As reported in Maunsell/AECOM (August 2006), *Port of Melbourne Channel Capacity Simulation Model – Final Report*, p.80
Table 7.5  
Maunsell 2004: Ship delay and berth utilisation

<table>
<thead>
<tr>
<th>No. of Effective Berths</th>
<th>WT/ST Ratio 0.05</th>
<th>WT/ST Ratio 0.1</th>
<th>WT/ST Ratio 0.15</th>
<th>WT/ST Ratio 0.2</th>
<th>WT/ST Ratio 0.25</th>
<th>WT/ST Ratio 0.3</th>
<th>WT/ST Ratio 0.35</th>
<th>WT/ST Ratio 0.4</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.5</td>
<td>51.4%</td>
<td>59.0%</td>
<td>66.0%</td>
<td>70.0%</td>
<td>71.3%</td>
<td>73.9%</td>
<td>75.7%</td>
<td>76.9%</td>
</tr>
<tr>
<td>3.7</td>
<td>52.7%</td>
<td>61.0%</td>
<td>67.0%</td>
<td>70.0%</td>
<td>72.2%</td>
<td>74.7%</td>
<td>76.5%</td>
<td>78.0%</td>
</tr>
<tr>
<td>4.0</td>
<td>55.0%</td>
<td>63.0%</td>
<td>68.0%</td>
<td>72.0%</td>
<td>73.9%</td>
<td>76.4%</td>
<td>78.0%</td>
<td>79.2%</td>
</tr>
<tr>
<td>4.1</td>
<td>55.5%</td>
<td>63.5%</td>
<td>66.5%</td>
<td>72.3%</td>
<td>74.5%</td>
<td>76.7%</td>
<td>78.3%</td>
<td>79.7%</td>
</tr>
<tr>
<td>4.2</td>
<td>56.0%</td>
<td>64.2%</td>
<td>69.4%</td>
<td>72.5%</td>
<td>75.0%</td>
<td>76.9%</td>
<td>78.5%</td>
<td>79.9%</td>
</tr>
<tr>
<td>4.3</td>
<td>56.5%</td>
<td>64.5%</td>
<td>69.6%</td>
<td>73.0%</td>
<td>75.3%</td>
<td>77.2%</td>
<td>78.5%</td>
<td>80.0%</td>
</tr>
<tr>
<td>4.5</td>
<td>57.5%</td>
<td>65.4%</td>
<td>70.8%</td>
<td>73.8%</td>
<td>76.1%</td>
<td>77.8%</td>
<td>79.5%</td>
<td>80.8%</td>
</tr>
</tbody>
</table>

Source: As reported in Maunsell/AECOM (August 2006), Port of Melbourne Channel Capacity Simulation Model – Final Report, p.80 (Appendix 9 of PoMC SEES)

However, Maunsell/AECOM (2006) analysis undertaken as part of the channel deepening Supplementary Environmental Effects Statement (SEES)²⁶⁶ indicates a change in the relationship (the line ‘Maunsell/AECOM 2006’):

…the model predicting delays approximately 1.3 times those of the earlier study. This discrepancy is probably due to the fact the simulation model is taking into account many historical factors that could not be accounted for in the earlier study, which was based on best practice of other ports around the world.²⁶⁷

On this basis, the Maunsell 2004 study has been adjusted by a factor of 1.3.²⁶⁸ The number of berths is also a factor in the delay/utilisation relationship. For this analysis, Swanson Dock (East and West) is assumed to have four berths²⁶⁹, while the Hastings/Webb Dock modules have 3.5.

Berth utilisation is generally expressed as a percentage of Berth Occupancy to Berth Availability where:

\[
\text{Berth Occupancy} = \text{Vessel time at berth} \times \text{length of berth occupied} \\
\text{Berth Availability} = \text{Length of berth} \times \text{time available}
\]

These are measured as follows.

• Vessel time at berth is a function of:

²⁶⁶ Appendix 9 of SEES – Maunsell AECOM (August 2006), Port of Melbourne Channel Capacity Simulation Model – Final Report

²⁶⁷ Appendix 9 of SEES – Maunsell AECOM (August 2006), Port of Melbourne Channel Capacity Simulation Model – Final Report, p.80

²⁶⁸ Maunsell/AECOM also model a ‘post-panamax constraint’ which further increases the delay time for any given level of utilisation. However, this constraint was found not to start to apply until 2030 and was only applicable to Swanson Dock.

²⁶⁹ See discussion in Appendix C regarding the number of effective berths at Swanson Dock.
the average number of containers exchanged (i.e. the cargo exchange in TEU divided by the ‘TEU ratio’)
• the ‘vessel working rate’, which is the total number of containers handled divided by the Elapsed Labour Time (the time elapsed between labour first boarding the ship and labour last leaving, with some adjustment for non-operational delays), and
• average non-working time (assumed to be four hours – see discussion in Appendix C – plus a one hour window between ships).

• Length of berth occupied is derived from the average vessel length

• Length of berth (see Table 7.3).

Given this framework, berth utilisation was estimated given the assumed allocation of trade between terminal facilities (see section 7.2) and the parameter assumptions set out in Table 7.6.

Table 7.6: Berth utilisation – key parameters

<table>
<thead>
<tr>
<th>Year</th>
<th>Ship calls (number)</th>
<th>Average container exchange (TEU)</th>
<th>Mean LOA (metres)</th>
<th>Vessel working rate(containers/hour)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
<td>1,168</td>
<td>1,855</td>
<td>241</td>
<td>56.0</td>
</tr>
<tr>
<td>2015</td>
<td>1,271</td>
<td>2,232</td>
<td>243</td>
<td>62.6</td>
</tr>
<tr>
<td>2020</td>
<td>1,489</td>
<td>2,438</td>
<td>281</td>
<td>70.0</td>
</tr>
<tr>
<td>2025</td>
<td>1,695</td>
<td>2,741</td>
<td>294</td>
<td>71.0</td>
</tr>
<tr>
<td>2030</td>
<td>1,978</td>
<td>2,942</td>
<td>294</td>
<td>72.1</td>
</tr>
<tr>
<td>2035</td>
<td>2,308</td>
<td>3,157</td>
<td>294</td>
<td>73.2</td>
</tr>
</tbody>
</table>

Notes:


b. Derived from trade forecasts and number of ship calls

c. Per TEU - based on most recent BTRE (Waterline) data and then increased by 2.25% per annum until 2020 and thereafter by 0.30%, reflecting expected trend in berth capacity per metre of quay length.

PoMC’s estimates of available capacity in its draft PDP are based on notion of the minimum level of service, defined as a maximum waiting time to berth time ratio of 0.1. This is consistent with the assumption made by Maunsell (2004) regarding the point at which shipping lines will no longer absorb delay costs but pass on the costs through higher charges. The same assumption has been made in this Review.

270 The ship length (LOA) in 2035 in the study was 276 metres – however, a value of 294 metres was adopted equivalent to 2030 as the reduced length is associated with an increase in the width of the average vessel – but the modelling approach does not directly take into account the impact of the increase in width on the ‘tie down length’.
7.3.5 Land transport costs

The approach taken by BAH to estimating land transport costs is firstly to estimate the costs of road transporting containers from each port zone to each main industrial area – representing the origins and destinations of the freight. Secondly, BAH estimated the average cost advantages of using rail for transportation to each of the main industrial areas, based on an efficient rail operation. Finally, the mode share assumptions chosen for each scenario are then imposed.

Road transport

Road transport costs are primarily a function of time taken to transport goods, and much of this time is relatively fixed. It includes turnaround times through the port terminal, waiting times at container parks and customer warehouses and movements to and from the depot of the road haulier, and return of empty containers.

Table 7.7 summarises the costs estimated by BAH.

<table>
<thead>
<tr>
<th>Port terminal</th>
<th>Freight Node</th>
<th>Est. road kms</th>
<th>Truck cost 20' container</th>
<th>Truck cost 40' container</th>
<th>Truck cost Avg. per TEU</th>
</tr>
</thead>
<tbody>
<tr>
<td>Swanson</td>
<td>Dandenong</td>
<td>45</td>
<td>250.9</td>
<td>317.8</td>
<td>214.1</td>
</tr>
<tr>
<td></td>
<td>Somerton</td>
<td>25</td>
<td>225.4</td>
<td>292.3</td>
<td>193.7</td>
</tr>
<tr>
<td></td>
<td>Altona</td>
<td>20</td>
<td>219.0</td>
<td>286.0</td>
<td>188.6</td>
</tr>
<tr>
<td></td>
<td>Other</td>
<td>60</td>
<td>270.0</td>
<td>337.0</td>
<td>229.4</td>
</tr>
<tr>
<td></td>
<td>Average</td>
<td>47</td>
<td>253.1</td>
<td>320.0</td>
<td>215.8</td>
</tr>
<tr>
<td>Webb Dock</td>
<td>Dandenong</td>
<td>45</td>
<td>250.9</td>
<td>317.8</td>
<td>214.1</td>
</tr>
<tr>
<td></td>
<td>Somerton</td>
<td>30</td>
<td>214.8</td>
<td>281.7</td>
<td>185.2</td>
</tr>
<tr>
<td></td>
<td>Altona</td>
<td>17</td>
<td>231.8</td>
<td>298.7</td>
<td>198.8</td>
</tr>
<tr>
<td></td>
<td>Other</td>
<td>54</td>
<td>262.6</td>
<td>329.5</td>
<td>223.5</td>
</tr>
<tr>
<td></td>
<td>Average</td>
<td>44</td>
<td>249.6</td>
<td>316.5</td>
<td>213.0</td>
</tr>
<tr>
<td>Hastings</td>
<td>Dandenong</td>
<td>25</td>
<td>225.4</td>
<td>292.3</td>
<td>193.7</td>
</tr>
<tr>
<td></td>
<td>Somerton</td>
<td>45</td>
<td>250.9</td>
<td>317.8</td>
<td>214.1</td>
</tr>
<tr>
<td></td>
<td>Altona</td>
<td>40</td>
<td>244.5</td>
<td>311.5</td>
<td>209.0</td>
</tr>
<tr>
<td></td>
<td>Other</td>
<td>75</td>
<td>289.1</td>
<td>356.1</td>
<td>244.7</td>
</tr>
<tr>
<td></td>
<td>Average</td>
<td>53</td>
<td>261.4</td>
<td>328.4</td>
<td>222.5</td>
</tr>
</tbody>
</table>

Source: Booz Allen Hamilton

As mentioned, these cost estimates contain a relatively large component of fixed costs. The variable cost component of these estimates is related to the average distance from each port terminal to each freight node, the average speed of trucks (assumed to be 50 km per hour), and the average hourly operating cost per truck.
(assumed to be a resource cost of $63.75). The estimates assume that 40% of containers are 40’ containers.

The distances between each port terminal and each freight node were estimated by BAH based on data contained in the 2003 SKM Container Origin and Destination Study\(^{271}\). That study was also used to estimate the relative proportions of containerised freight with origins and destinations in different geographical regions (freight nodes). The distances between each port terminal and each of these origin/destination regions forms the basis of BAH’s estimate of the average transport distance associated with land transport of containers to and from each terminal.

**Rail transport**

BAH has assumed the following cost savings from using rail by freight node\(^{272}\):

- Dandenong – $40 per TEU
- Somerton – $34 per TEU
- Altona – $32 per TEU
- Other – $43 per TEU

### 7.3.6 Land transport environmental costs

The environmental externalities included in this analysis are all associated with land transport. Table 7.8 shows the environmental costs incurred by heavy trucks and by trains, for each net tonne kilometre (ntk)\(^{273}\) travelled based on the environmental costs recommended under the ATC Guideline. In all cases there are higher costs per ntk for road than for rail.

These values are applied to the freight task estimated for each terminal, and assuming travel distances (and origin/destination) as stated in Table 7.6. For the purpose of calculating net tonnes of freight it has been assumed that on average there are 12 tonnes per TEU (net basis).

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\(^{271}\) Sinclair Knight Merz (2003), *Melbourne Port Container Origin Destination Study*, Prepared for the Department of Infrastructure

\(^{272}\) Based on an ‘efficient’ rail operation (port shuttles) serving dedicated intermodal hubs.

\(^{273}\) Net tonne kilometres is a product of, the number of TEUs transported by a specific mode, the tonnes of freight per TEU, and the average distance transported. It is assumed that on average there are 12 tonnes per TEU. The number of TEU’s transported respectively by road and rail is determined, once again, by the total international container trade throughput, and the mode share assumptions. The distances transported are those in Figure 7.7.
Table 7.8  **Summary of land transport environmental costs (c/ntk)**

<table>
<thead>
<tr>
<th></th>
<th>Road</th>
<th>Rail</th>
</tr>
</thead>
<tbody>
<tr>
<td>Noise</td>
<td>0.26</td>
<td>0.14</td>
</tr>
<tr>
<td>Air pollution</td>
<td>0.97</td>
<td>0.33</td>
</tr>
<tr>
<td>Water pollution</td>
<td>0.10</td>
<td>0.01</td>
</tr>
<tr>
<td>Greenhouse</td>
<td>0.07</td>
<td>0.03</td>
</tr>
<tr>
<td>Nature &amp; landscape</td>
<td>0.26</td>
<td>0.08</td>
</tr>
<tr>
<td>Urban separation</td>
<td>0.22</td>
<td>0.08</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>1.88</strong></td>
<td><strong>0.67</strong></td>
</tr>
</tbody>
</table>

a Australian Transport Council (2006), *National Guidelines for Transport System Management in Australia*, pp.101,102. Road values are for heavy vehicles (urban) and rail values are also urban.

### 7.3.7 Landside congestion costs

Road congestion is an example of an externality associated with use of a public good, where incremental road uses do not incur a cost equal to the marginal social cost of congestion, in terms of the imposition of time delays on other road users.

These costs are likely to be high on congested areas in peak period times but are low on uncongested roads or on any road during off-peak times. This is shown in the DOI ‘Investment Appraisal and Evaluation Guidelines’\(^{274}\), which indicate that the following reference costs can be used in cost-benefit studies:

- on heavily congested roads in peak period times, a cost of 90 cents per vehicle kilometre (c/vkm)
- on moderately congested roads during peak period times; 60 c/vkm
- on all other roads and at all other times; 16 c/vkm.

In principle port development options can have quite different congestion costs associated with them. For example, at Webb Dock the road access to the dock has been highlighted as potentially involving a relatively high congestion because the road between the Westgate Bridge and the Domain Tunnel has one of the highest traffic volumes in the city.\(^{275}\) With Swanson Dock there are also significant constraints on Footscray Road as highlighted by PoMC in its submission to the VCEC congestion inquiry. On the other hand, the port of Hastings has a relatively direct road access via the Dandenong-Hastings Road to the main freeways circling around or passing through Melbourne. By shifting truck traffic onto different arterials, and different directions it could in principle lead to a reduction in truck congestion for a given freight task.

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\(^{274}\) DOI, *Investment Appraisal and Evaluation Guidelines for Cost-Benefit Analysis*, Table 4.2, p.72

\(^{275}\) Transurban submission to East West Needs Assessment Taskforce, p.8
On the other hand, there are significant measurability problems associated with congestion.

BAH considers that while the ports do not impose a significant degree of congestion other than in specific areas immediately contiguous to the port where port-related traffic is a substantial element of the overall traffic volume (e.g. around 30-50% of truck movements in 2020 on the Southern Link are expected to be port-related), its overall impact remains relatively small. For example, the Port of Melbourne currently generates the same number of trucks as 100 ha of industrial land, or 1% of Melbourne’s truck movements. BAH’s view is that in absolute terms, the truck generation at the Port is relatively small.

There are also existing upgrade projects and spare capacity which may be relevant.

BAH concluded that truck traffic generated by the ports will not have a significant impact on congestion because of the relatively small proportion of truck generation from the port in relation to other traffic, the possible increases in rail use and truck efficiency and the planned upgrades to the current freeway system. BAH has applied a ‘traffic congestion factor’ equal to 5% of all road transport costs and environmental externalities to reflect the modest congestion impacts that may accrue.

### 7.4 Unquantifiable benefits and costs

Two types of benefits and costs have been identified that are considered to be unquantifiable for the purposes of the present analysis.

Firstly, there are the dynamic benefits of competition, which are often the principal benefit emphasised by proponents of removing impediments to competition. In particular, competition can encourage firms to innovate through the process of trying to gain a competitive advantage. This process, over time, may lower the overall cost base, and generate benefits to freight owners. However, by its nature this type of effect is intangible, and not amenable to quantification.

Secondly, environmental costs associated with different port developments. These costs are largely unknown until detailed environmental assessments are carried out. Furthermore, in some sense the environment related costs that may be incurred in relation to a particular port development can be affected by the nature of the process in which project proponents engage community groups and come to satisfactory project design outcomes.

### 7.5 Modelling results

As set out in section 7.2, a range of scenarios were used to test the following potential port planning framework entry restrictions:

(a) The sequence of development which requires the extension of Swanson Dock to precede the development of Webb Dock – Scenarios A1 and A2
(b) The sequence of development which requires the port of Melbourne to be
developed to capacity before developing the port of Hastings – Scenarios B1
and B2, and

(c) The requirement that port developments facilitate the achievement of the
Government’s objective of 30% of port related freight on rail. In this respect the
impact on the benefit-cost assessment was made if:

   a. the Webb Dock rail link does not proceed (Scenario C1). This is to
      be compared against Scenario A2.

   b. the port of Hastings is able to achieve its ‘stretch target’ of a 50% rail mode share. This is for comparison against Scenario B2.

Two base cases were adopted to test these scenarios against. The first is the Base
Case which includes timing of new facilities consistent with PoMC’s draft PDP, and
the second is the Modified Base Case which has the same sequence of
development but the timing is changed to ensure there is adequate capacity to
meet the ‘upper limit’ trade forecast.

The net cost of each scenario – by cost category – relative to the Base Case for
scenarios A1 to B2, and for scenarios C1 and C2 relative to Scenarios A2 and B2
respectively, is shown in Table 7.9. These costs are all in present value terms.

<table>
<thead>
<tr>
<th>Cost category</th>
<th>A1</th>
<th>A2</th>
<th>B1</th>
<th>B2</th>
<th>C1a</th>
<th>C2b</th>
</tr>
</thead>
<tbody>
<tr>
<td>Land transport costs</td>
<td>-8</td>
<td>-10</td>
<td>30</td>
<td>50</td>
<td>92</td>
<td>-145</td>
</tr>
<tr>
<td>Externality costs</td>
<td>-2</td>
<td>-3</td>
<td>8</td>
<td>13</td>
<td>17</td>
<td>-26</td>
</tr>
<tr>
<td>Congestion costs</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>3</td>
<td>26</td>
<td>-34</td>
</tr>
<tr>
<td>Terminal operating costs</td>
<td>127</td>
<td>137</td>
<td>108</td>
<td>105</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Ship navigation and delay time costs</td>
<td>-65</td>
<td>-70</td>
<td>-67</td>
<td>-70</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Project capital costs</td>
<td>168</td>
<td>166</td>
<td>237</td>
<td>244</td>
<td>-117</td>
<td>153</td>
</tr>
<tr>
<td>Economic rent (price)</td>
<td>-175</td>
<td>-176</td>
<td>-91</td>
<td>-91</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>Total costs</strong></td>
<td><strong>44</strong></td>
<td><strong>43</strong></td>
<td><strong>225</strong></td>
<td><strong>253</strong></td>
<td><strong>18</strong></td>
<td><strong>-51</strong></td>
</tr>
</tbody>
</table>

a relative to Scenario A2
b relative to Scenario B2

The net cost relative to the Modified Base Case is shown in Table 7.10.
Table 7.10 **Net cost relative to Modified Base Case ($ million)**

<table>
<thead>
<tr>
<th>Cost category</th>
<th>Scenario</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>A1</td>
<td>A2</td>
<td>B1</td>
<td>B2</td>
</tr>
<tr>
<td>Land transport costs</td>
<td>-3</td>
<td>-5</td>
<td>35</td>
<td>55</td>
</tr>
<tr>
<td>Externality costs</td>
<td>-1</td>
<td>-1</td>
<td>9</td>
<td>14</td>
</tr>
<tr>
<td>Congestion costs</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Terminal operating costs</td>
<td>10</td>
<td>20</td>
<td>-9</td>
<td>-12</td>
</tr>
<tr>
<td>Ship navigation and delay time costs</td>
<td>3</td>
<td>-2</td>
<td>1</td>
<td>-1</td>
</tr>
<tr>
<td>Project capital costs</td>
<td>35</td>
<td>34</td>
<td>104</td>
<td>111</td>
</tr>
<tr>
<td>Economic rent (price)</td>
<td>-83</td>
<td>-84</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td><strong>Total costs</strong></td>
<td>-39</td>
<td>-40</td>
<td>143</td>
<td>171</td>
</tr>
</tbody>
</table>

7.5.1 **Comparison of the Base Case and Modified Base Case**

The Base Case is defined in terms of the sequence and timing of developments in the draft PDP. Since Webb Dock is not commissioned until 2018, Swanson Dock capacity in 2017 is only 5% above the base case forecast, which does not allow for imbalance between market shares of the stevedores or forecast error. The Base Case scenario differs from all of the other scenarios in that it does not meet the planning buffer requirement.

The Modified Base Case has therefore been formulated as the same sequence of development as the Base Case, but with Webb Dock stage 1 brought forward to 2015 in order to meet the planning buffer requirement. As shown in Table 7.11, the Modified Base Case involves higher project capital and terminal operating costs (an additional $250 in present value terms). This is only partly offset by reduced vessel delay costs, and is also partly offset by a benefit arising from bringing forward competitive entry. These two benefits do not outweigh the additional capital and operating costs of the Modified Base Case, resulting in an $82 million net cost.

The higher capital and operating costs under this scenario arise because – to satisfy the planning buffer requirement – there is more excess terminal capacity than under the Base Case. Capital costs and the fixed component of operating costs are capacity-related, rather than throughput-related, and hence there are higher fixed costs for the same level of throughput. In summary, the higher cost under the Modified Base Case is mainly due to the carrying cost of the excess capacity that would be required to satisfy the planning buffer.

As all of the other scenarios meet the planning buffer requirements, they also contain this carrying cost of the required excess capacity.
### Table 7.11  **Net cost relative to Base Case ($ million)**

<table>
<thead>
<tr>
<th>Cost category</th>
<th>Modified Base Case Scenario</th>
</tr>
</thead>
<tbody>
<tr>
<td>Land transport costs</td>
<td>-5</td>
</tr>
<tr>
<td>Externality costs</td>
<td>-1</td>
</tr>
<tr>
<td>Congestion costs</td>
<td>0</td>
</tr>
<tr>
<td>Terminal operating costs</td>
<td>117</td>
</tr>
<tr>
<td>Ship navigation and delay time costs</td>
<td>-68</td>
</tr>
<tr>
<td>Project capital costs</td>
<td>133</td>
</tr>
<tr>
<td>Economic rent (price)</td>
<td>-92</td>
</tr>
<tr>
<td><strong>Total costs</strong></td>
<td><strong>82</strong></td>
</tr>
</tbody>
</table>

#### 7.5.2 Sequence of development at Port of Melbourne

The two alternative scenarios for testing the sequence of development at the Port of Melbourne (compared to the base case as per the draft PDP) involve earlier development of Webb Dock stage 1 prior to the Swanson Dock extension (i.e. Scenario A1) or development of both stages of Webb Dock first (Scenario A2). Both of these scenarios have a net cost relative to the Base Case.

This is due to higher terminal operating costs and project capital costs. The higher operating and capital costs are only partly offset by:

- reduced economic rents to the incumbent stevedores (from lower prices) as competition is brought forward relative to the base case
- lower vessel costs – Webb Dock and Hastings have lower hours under pilotage and a bring forward of their development therefore has a positive impact. Similarly, bringing forward capacity eases the prospect of ship delays at the port, producing a cost saving.
- Lower land transport and externality costs, reflecting the different travel distance from Webb Dock to/from the destination/origin of international containers.\(^{276}\)

However, relative to the Modified Base, both scenarios A1 and A2 show a net benefit. This comparison shows that it was the bringing forward of capacity under scenarios A1 and A2 compared to the base case that generated most of the higher costs. This is shown by the fact that the relative disadvantages of scenarios A1 and A2 in relation to capital and operating costs are less pronounced relative to the Modified Base Case than the Base Case. Combined capital and operating costs are approximately $45 million higher (in present value terms) under scenario A1 compared to the Modified Base Case. The benefit from competition is also smaller

\(^{276}\) With land transport costs representing over 50% of total costs of the Base Case, proportionally this represents a small saving, consistent with the small differences in travel distances between Webb Dock and Swanson Dock.
when compared to the Modified Base Case than the Base Case. However, these benefits are approximately $83 million, and outweigh the higher project and operating costs.

This finding is consistent with PoMC’s analysis that proceeding with the Swanson Dock extension prior to the first stage of Webb Dock is the lower cost option. However, when an assessment is made that takes into account a wider range of benefits and costs, including the benefits of increased competition the relative merit order of these two options is reversed.

These findings suggest that there is not a demonstrated net benefit to the restriction on the sequence of port developments at the port of Melbourne which requires Swanson Dock to be developed prior to Webb Dock.

However, this conclusion needs to be tempered by the practical constraints that limit the available development options at the present time given the project lead times. Scenario A1 assumes that the first stage of Webb Dock becomes operational in 2001-12, but given the likely lead time required, this is unlikely to be feasible in practice. However, the Swanson Dock extension is assumed to have a shorter lead time. Hence the Swanson Dock extension prior to Webb Dock – if it is not already committed – appears to be necessary in order to ensure sufficient capacity until Webb Dock can be developed (see Figure 6.2).

### 7.5.3 Sequence of development of the Port of Hastings

There is a net cost involved in bringing forward the development of Hastings relative to the Base Case of over $200 million. While the net cost is lower relative to the Modified Base Case – for similar reasons to that of scenarios involving a bring forward of Webb Dock (scenarios A1 and A2), it is still over $140 million.

Scenarios B1 and B2 have a higher net cost relative to the Base Case because of the higher capital costs estimated for the Hastings developments, and longer travel distances (reflected in higher land transport and externality costs) from the port of Hastings to/from the destination/origin of international containers.277

These findings suggest that the costs of the restriction of port of Hastings to be developed once the port of Melbourne is at capacity do not outweigh the benefits.

### 7.5.4 Facilitating rail freight share

The possible impact of the rail mode share target was tested through two different scenarios.

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277 The assumption made is that the mix of trade – in terms of broad geographic origin/destination – is the same for each port. To the extent, however, that the Port of Hastings would be able to obtain a disproportionate share of container trade originating or destined for South East Melbourne/Dandenong, then the net cost of the Hastings bring forward scenarios would be lowered.
The first scenario – C1 – removed the construction of a rail link to Webb Dock (and rail infrastructure within the terminal\textsuperscript{278}). The rail freight share of the other terminals was maintained at the level in the Base Case (18%) but with Webb Dock solely being serviced by road transport. Overall there is a decline in rail’s share of freight to/from the ports.

The modelling suggests a small net cost from not having a rail link to the terminal (i.e. a net benefit of the potential restriction). The costs of this potential restriction are the capital costs of the rail infrastructure required to link Webb Dock to the rail network. The benefits are the savings in land transport and congestion costs, and lower externalities.

However, the net benefit of the restriction is small and therefore may change in the future as circumstances change (e.g. the level of trade, rail’s share of freight) or if the rail services and network are not operated efficiently. This suggests that the need for rail links to new port terminal developments is a matter that should be subject to ongoing review and consideration, including at the time that the decision is made to undertake a new container stevedoring terminal, rather than a requirement prescribed in advance.

The second scenario considered – C2 – adopted a different approach, whereby the impact of the Port of Hastings stretch target of a 50% rail mode share was assumed to be achieved in relation to container trade. However, to achieve this it was assumed that improved rail infrastructure was required, with a cost of $207 million. This estimated cost was based on the differential in the aggregate cost of the Port Phillip Corridor Route Option ($323 million) and the Western Port Corridor Route Option ($530 million) as estimated in the 2006 Port of Hastings Land Use and Strategic Transport Study.\textsuperscript{279}

As indicated in Table 7.9 there is a net benefit from increasing the rail mode share at the Port of Hastings to 50%. However, this conclusion needs to be tempered by the knowledge that the benefits – lower congestion and transport costs – may not be achieved (given that it is a ‘stretch’ target) whereas the costs are fixed regardless of whether the mode share target is achieved or not. Nevertheless, the results of this scenario are consistent with the finding that there is a net benefit from the potential restriction on entry arising from the rail mode share target.

7.6 Preliminary Conclusions

The Commission has used a cost-benefit model to assess the net benefits/costs of changing the potential entry restrictions relating to the sequence of development at the ports of Melbourne and Hastings, and the requirement that port developments facilitate the achievement of the Government’s objective of 30% of port related freight on rail. The modelling indicates that:

\textsuperscript{278} Rail infrastructure within the terminal area was part of ‘Terminal capital costs’ in Table 7.3, with an estimated cost of $10 million for each Webb Dock module.

\textsuperscript{279} Maunsell, AECOM (2006), Port of Hastings Land Use and Strategic Transport Study, Final Report, pp. 122, 125
There may be a net cost from imposing a specified sequence of development at the Port of Melbourne.

There is a net benefit in the sequence of development that applies to the Port of Hastings (i.e. as an overflow port).

There is a small net benefit from the potential restriction arising from the rail mode share target.

It is important to bear in mind the limitations of cost benefit modelling on which these results are based. As noted previously, the results exclude certain unquantifiable benefits and costs. Moreover, any modelling of this nature makes certain assumptions to simplify the modelling or regards to parameter values, the reasonableness of which are likely to change over time. For example, the cost estimates underpinning the analysis are drawn from high level estimates of the relevant projects. Therefore, the results are only approximate and subject to change as circumstances change. Any conclusions drawn from the results also need to be cognisant of the underlying assumptions. For example, the finding that there is a small benefit from the potential restriction arising from the rail mode share target, is likely to be highly dependent on the assumptions regarding the actual rail mode share and efficiency of rail operations being achieved.
8 ALTERNATIVES TO INTERVENTION

The 1996 Guidelines for the Review of Legislative Restrictions on Competition prepared by the Department of Premier and Cabinet (NCP Reviews Guideline) indicates that the following two principles of national competition policy are also relevant when making assessments of this kind. Firstly, the onus is on the proponent of the intervention to demonstrate that the benefits outweigh the costs (that is, to the extent that there is uncertainty in the findings of the analysis, this should weigh against the intervention rather than in its favour). Secondly, even if the benefits of the intervention outweigh the costs — other alternatives to intervention should be identified — and are generally to be preferred to intervention.

The Commission has taken the view that the Review has certain similarities in principle to NCP reviews of legislative or regulatory restrictions on competition, although here the subject is planning framework restrictions. In NCP reviews, the NCP Guideline indicates that, even where the benefit of an intervention exceeds the costs, alternatives to intervention should if sought and if possible adopted in preference to intervention. The Commission proposes to take a similar approach in this review. This chapter addresses that requirement.

8.1 Strategic planning approaches

The VPSF contains a vision for Victoria’s commercial ports that includes competition between ports for non-containerised trades and a process of ‘managed competition’ between the government-owned ports in relation to the container trade. This is consistent with the view that the container trade is the ‘jewel in the crown’ as the most important single port service.

At the same time, while the VPSF sets out a sequence of development for container trade facilities, the Commission has not sighted any analysis that has been undertaken to support the benefit of developing Webb Dock ahead of the port of Hastings.

The VPSF indicates that its objective is as follows:

The Government aims to ensure that the best possible use is made of investment that has already been made, by both the public and private sectors, in port infrastructure and connecting transport links. Avoiding duplication of expensive infrastructure is in the interests of all Victorians.280

However, the sequence of development set out in the VPSF is not immutable:

280 Department of Infrastructure (2004), Victorian Ports Strategic Framework, p.9
This sequence should be considered the presumption for planning purposes – a presumption which should be revalidated periodically as commercial and other changes occur.\textsuperscript{281}

This approach to strategic planning is somewhat more prescriptive than earlier approaches. For example, the Victorian Ports Strategic Study (VPSS) states that its purpose is to promote the long-term competitiveness of Victoria, particularly the port industry by:

- identifying the requirements of planning areas adjacent to the port and the land transport interface; and
- guiding Government land and transport planning decisions and informing public and private sector investment programs.

It states that:

\textit{in this ‘new’ [privatised/corporatised] environment the strategy recognises the prerogative of the individual ports to plan and operate their own ports to suit their own objectives and is therefore not unduly prescriptive.}\textsuperscript{282}

\textit{Further it is recognised that port companies and port corporations will make investments in infrastructure based on their own assessment of market demand.}\textsuperscript{283}

The VPSF view on duplication of infrastructure is also somewhat prescriptive. Wasteful duplication is to be avoided, but over-zealous application of the principle could become a barrier to entry. Generally in the Australian economy competitors have the opportunity to enter the market irrespective of the investment decisions that others have made. Some assets become obsolete before wearing out.

In practice, the objectives of the government and the port corporations are not always aligned, as the State has a broader set of objectives, and the objectives of port corporations are focussed on commercial objectives. The State’s role in relation to land use planning in principle should be the same for all commercial ports regardless of ownership. This role is quite distinct from its role as owner of some of the ports. In practice, government involvement and approval roles in relation to planning may be designed to provide some means of aligning port and government objectives in relation to the provision of key infrastructure – whether in ports, airports or similar industries.

Various studies and inquiries have emphasised the importance of government role in the strategic planning of export related infrastructure. For example, the Fisher Inquiry found:

\textit{In the absence of decisive policy action, significant infrastructure bottlenecks constraining Australia’s exports are likely to develop}

\textsuperscript{281} Ibid, p.9
\textsuperscript{283} Ibid, p.A.23
over the next five to ten years. The areas of principal concern are port channels, road and rail access to major ports and rail track … AusLink should be used to expedite joint planning processes, especially with respect to the port/rail/road interface.284

Recently SAHA International has promoted the idea that there should be special governance models adopted for managing “precincts of higher economic importance”, such as major ports, including:

A framework of high level planning principles and criteria [that would assist with co-ordinating the tasks, prioritising investment across projects and assessing the most suitable methods for funding development.285

SAHA International also argue that the planning framework should not stop at the boundaries of an individual asset, and there should be a governance framework for the precinct that will achieve the overall objectives and include the key stakeholders. Out of this may come the creation of an Advisory Board, Statutory Authority or Commission. SAHA suggest there should be a single responsible Government agency or some form of joint representation. Care would be needed because of the multiple non-port activities that take place outside the immediate port area – e.g. non-port traffic on adjacent roads, non-port rail traffic at the Dynon terminals. Formal coordination arrangements may thus be more appropriate than having a formal authority.

In these examples of the Fisher Inquiry and SAHA International’s report the recommendations fall short of prescribing the order in which port developments should proceed. The emphasis is more on ensuring the supporting infrastructure which interfaces with the port will be put in place to meet demand, that there is an appropriate degree of integration in planning activities of the relevant agencies and corporations, and that the appropriate overarching principles are clearly established. The specific port develop plans then take that overarching framework as the hypothesis, and test it against detailed feasibility assessments, and develop is it further in terms of detailed infrastructure plans.

One of the general difficulties with port planning is the lengthy lead times for port developments. Planning for new facilities needs to be carried out well before the existing facilities show any sign of capacity limitations or congestion, and projects to add additional capacity must again look forward to market circumstances many years ahead. A key consideration is to reduce costs to ships using the port, including waiting time, and to reduce the cost of freight movements at the landside interface, for the purpose of minimising total costs to freight owners. This in turn should facilitate trade through the port.

284 Fisher B., et.al. (2005), Australia’s Export Infrastructure: Report to the Prime Minister by the Exports and Infrastructure Taskforce, p.5
However, these planning processes require knowledge of shipping markets, including a detailed understanding of the competitive strategies of terminal operators, shipping lines and the ports, as well as knowledge of project costs and risks for port developments. For these reasons, decentralised decision making is often useful to ensure that the parties engaged in transactions and taking risks in relation to port projects are also those best placed to manage those risks.

On the other hand, a number of reasons may also be put forward for the involvement of central agencies in port planning and investment decisions. The Russell Review observed that:

*The influence of the ports in Victoria extends well beyond any port boundary, in terms of the economic activity and transport network impact. For this reason, regardless of the public or private ownership status of a port, government has a legitimate role to monitor and manage wider impacts generated by the port trade activity.*

The ports interface with publicly provided infrastructure and are also an important influence on a number of government objectives. The Russell Review concluded that a Statewide strategy for ports was vital because, for example, the government:

- has responsibility for planning related rail and road infrastructure, and the interface of the ports with the State’s transport and logistics policy, as well as for planning basic maritime infrastructure including shipping channels and navigation aids,
- is a significant investor in its own right through government owned port corporations, and
- has an interest in regional economic development and in metropolitan urban development strategy and land use planning, all of which will be significantly affected by port planning.

The Russell Review also had:

*received advice from the port industry and port users that during the mid-1990s, there was a failure of both the port corporations and the Government agencies to establish a strategic framework for the operation of the State’s ports that would encourage players to work towards a shared vision.*

The key requirements of a Statewide port strategy are set out in Box 8.1 below. The Review stated that this strategy should be embedded within the government’s broader freight and logistics strategy and have the objective of establishing:

*a clear and comprehensive framework which private investors, State agencies, local government and commercial and community groups could use to plan their own future developments,*

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287 Ibid, p.61
Box 8.1 **Key requirements of a Statewide ports strategy**

- Outcomes and goals specified
- Identifies future public investments
- Forward focus 10-20 years
- Transparent process and capacity to evolve
- Stakeholders involved in formulation
- Research based
- Provides as much certainty as possible to the private sector
- Harmonised with related strategies (freight, metro)
- Sign-off and commitment by Government.

Source: Russell Review, p.64

The recommendations of the Russell Review have since largely been given effect through the Victorian Ports Strategic Framework (VPSF) and the development by the ports of draft port development plans.

However, there is clearly some potential for tension between the statewide strategic planning approach and principles of corporate governance. This is highlighted by the fact that one of the effects of the sequence of container developments outlined in the VPSF is to limit the degree to which the government-owned PoHC can compete with government-owned PoMC. No similar constraints apply to the private ports. It also transparently limits the degree to which the state will fund supporting infrastructure required outside the port for certain lessee-funded port activities, whether for publicly-owned or private ports. As shareholder, the government will also have a view of whether it will fund businesses in its portfolio to compete in a way it views as speculative.

In most countries ports are either wholly or substantially government owned. This remains the case today, notwithstanding that there has been a trend toward greater privatisation of the ports in many countries. As part of the National competition policy reforms, state governments agreed to corporatise government business enterprises (GBEs), and adopt the principle of competitive neutrality under which they will operate. The fundamental aim of these reforms was economic efficiency. Competitive neutrality means, in part, that GBEs will be subject to the same rules and operate in the same way as private businesses.

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288 Ibid, p.64
Governance arrangements for corporatised GBEs were designed to mimic the pressures and disciplines inherent in private sector firms while retaining government ownership. Some of the key principles of GBE governance include:

- There is a clear separation of government’s shareholder, policy and regulatory roles;
- GBE boards and management seek to fulfil clear and non-conflicting, profit-focussed objectives;
- GBE management is autonomous and acts to achieve rewards related to business performance; and
- GBE board and management is subject to focussed and effective shareholder monitoring.

As there may be differences between the port and the government in relation to methodologies for assessing the balance between benefits and costs, the government has established guidelines for acceptable evaluation methodologies for significant public investment. It is also reasonable for the government to expect that port level planning will have regard to a certain degree of confidence that capacity will be available and supply constraints do not emerge as a result of forecast error. Planning guidelines also typically establish methodologies for evaluating and including non-market costs in the assessment of development options.

### 8.2 Promoting competition

Controls over competition, and entry or exit are forms of economic regulation. Because such controls tend to enhance the market power of port operators or stevedores, the need for regulatory intervention, such as oversight of market conduct or pricing, becomes greater. The World Bank, in its Port Reform Toolkit, has emphasised ‘restructuring the port sector to make it more conducive to regulation by competitive forces rather than government oversight’. This may involve strategies to induce competition. It states that ‘the anticipated benefits of free trade can be offset by inefficiencies of an improperly regulated and non-competitive port sector’.

The World Bank emphasises that the more the port system can be structured to allow entry at different levels, the more competitive pressure can be introduced to drive efficiency. However, port restructuring involves tradeoffs. Where economies of scale or scope exist it may be cheaper for a single port operator to produce and deliver two or more port services jointly rather than for separate entities to provide services individually. However, even in such cases the ‘gains from economies of scale and scope need to be weighed against benefits of cost-minimisation due to competitive pressures’.

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290 Ibid, p.274
291 Ibid, p.278
The ultimate strategy selected would logically reflect a balance between the need to promote operational efficiency (the planner’s perspective) and the need to avoid antitrust behaviour (the regulator’s perspective).292

This is the key trade-off to be made in assessing the competition impact of port planning.

Key actions a port may take to enhance competition would include introducing new berths or terminals. However, when introducing new terminals, concession periods will need to be adequate for full investment cost recovery. Short concession periods are not an efficient method of promoting competition, as it will discourage investment. Competition between government-owned ports

Within a competitive process each port will seek to foster its own growth in terms of physical development, trade expansion, and ultimately earnings, in part by capturing trade from the other ports. However the government will be primarily interested as a shareholder in its returns across its portfolio of port interests, and as an economic policy maker in trade growth and economic growth per se.

Unconstrained competition between the ports can promote the efficiency objectives of the government – where competition leads to efficiency in the cost structure, and consequential lower port costs encourage trade and benefit the economy. As the spill-over effects of port efficiency are demonstrated to be substantial, this is an important consideration.

These considerations will also be relevant to regional economic development, and ensuring that investment is directed efficiently and location choices are not distorted. Thus one objective will be:

> to encourage regional growth by ensuring that the lack of port facilities does not act as a barrier to the initiation of new projects and the development of new products within the region293

On the other hand, competition between ports will not always be beneficial if some ports have the ability to overcapitalise. One response would be controls to prevent overinvestment of this type, and these government controls over investment would inevitably draw the government into the detailed port planning process. Another response would be require government–owned ports to act as responsible corporations (GBEs) that only make investments that are expected to be economically sound; in this way, market forces provide the appropriate discipline.

There may also be complex considerations in relation to the supply chain infrastructure serving the ports. The government will typically be the party financing landside infrastructure. Port competitive processes will affect trade flows and hence utilisation of landside infrastructure in different localities. This can result in a trade-off between land-side congestion and economies of scale at the port. The

292 Ibid, p.281
impact of port developments on the efficiency of landside freight operations is complex. For example, fragmented port capacity may diversify truck routes and tend to mitigate congestion. On the other hand, fragmentation may mean that rail services lose critical mass and hence competitiveness.

8.3 Further observations

There are a number of difficult assessments to be made in relation to future port development options and the potentially competitive roles of PoMC and PoHC. There are also aspects of corporate governance to be clarified.

One of the observations made in this chapter is that there may be benefit in less reliance on specifying the precise sequence of port developments within the overarching state-wide ports strategic framework, permitting a greater degree of reliance on market opportunities that arise for the ports, and for the merits of specific port terminal developments to be directly assessed against one another in the context of detailed feasibility assessments and commercial processes. This greater flexibility may require some changes to relevant constraints within the port planning frameworks.

More generally, the CIRA gives greater emphasis to recognising the merits of competition between port services providers, but the Commission has observed that the statutory port corporations would benefit from greater clarity in relation to how these general COAG objectives translate into specific responsibilities of port management. To address this, the legislation governing the functions of PoMC and PoHC could make it clear that when carrying out their functions the port corporations should have regard to the benefits of competition among port service providers.

The Commission has also observed that there is merit in the ports having greater clarity in relation to their obligations to prepare strategic land use plans. There may be benefit to establish a clearer obligation that each commercial port must prepare a port land use plan, and the process for revising these plans from time to time. At present this obligation is really only a statement of Government policy, which has been voluntarily adhered to by all of the ports. However, while this process of cooperation has been effective to date, there is appears to be merit in clarifying the basis for the planning requirement, as well as the process for consultation and approval of the plans. For example, such an obligation could be established in the VPP, or in Part 6A of the Port Services Act (where the obligations to prepare safety and environmental management plans are established).
PART 3 - LAND SIDE INTERFACE

Part 3 of the Draft Report addresses items (e) and (f) of the terms of references, relating to the land-side interface of the port.

The market structure of container stevedoring and related land-side services was set out in Chapter 2, Part 1. In order to assess the impact of market structure on land-side efficiency and the achievement of the port rail mode share target, it is necessary to first have an understanding of the factors necessary for these objectives to be met. This is addressed in Chapter 9. Having established the key factors for achieving these objectives, how the market structure of stevedoring and related land side services affects the achievement of these objectives is undertaken in Chapter 10.
The Commission is directed to undertake:

- an analysis and assessment of the relationship between the current market structure for container stevedoring services and the provision of container handling, storage, transport and intermodal services which form the land-side interface of the port, particularly in terms of impact on competition and efficiency in the provision of these latter services;

- an analysis and assessment of the relationship between the current market structure for the provision of container stevedoring and related land-side services and the achievement of the Government’s policy objectives, including the 30% port rail mode share target.

This chapter addresses these issues – namely competition and efficiency and the achievement of the rail mode share target – in respect of the land-side interface of the port. The following chapter (Chapter 10) considers the implication of the current market structure for stevedoring services and land-side services for these issues.

Improving the efficiency and effectiveness of freight movements into and out of the port requires higher levels of productivity in cargo handling operations and associated port services, together with improvement of the road and rail interfaces of the port. The key strategies for improving the efficiency of the land-side interface and port and supply chain efficiency that are examined in this chapter are:

- increasing the utilisation of trucks (see section 9.1)
- improving the road network within, and connecting with, the port (see section 9.2), and
- locating container management functions, such as packing and unpacking, at the perimeter of the port and at suburban intermodal terminals (rather than in the port where there is limited space) (see section 9.3).

Issues surrounding the share of containers carried by rail, including likely ability to achieve the Government’s policy objective of a 30% port rail mode share are examined in section 9.4.

### 9.1 Improving the utilisation of trucks

As over 80% of container movements to and from the port of Melbourne are moved by road transport, improving the efficiency of managing truck movements within the port is a key factor in improving the efficiency of the land-side interface. This is also
important in order to minimise the impact of port activities on nearby communities – as truck movements are the most important source of these impacts.294

The Victorian Competition and Efficiency Commission (VCEC) has reported that daily truck movements to and from the port in November 2004 were over 10,012, of which 7,056 were container trucks. PoMC’s draft PDP reports a daily average of 6,692 container trucks in November 2005.

Under any scenario, the amount of containerised trade transported from the port by road will continue to increase strongly, thereby potentially generating significant urban road congestion and community concerns.

PoMC has not yet fully formed its strategies in this area. It states that:

"Extensive consultation will be held with the trucking industry, VicRoads, stevedores, government, local councils and other stakeholders to better define the road transport issues, identify initiatives that will reduce truck numbers and the impact of trucks on the community and to formulate action plans to implement the recommended changes."295

The draft PDP assumes that the 30% mode share for rail will be achieved, and also assumes improvements in truck utilisation, which combined, represent a most favourable scenario in terms of land-side impact. A number of studies and submissions have addressed the issue. Furthermore, the Victorian Freight and Logistics Council (VFLC) is currently running a ‘truck optimisation survey’ for the purpose of developing a Truck Optimisation Plan.

Truck firms have an incentive to improve turnaround time and utilisation because they bear the cost of idle truck and driver time while operating in competitive market. However there are measures, beyond what the firms can do themselves, that could help them improve their efficiency.

The remainder of this section briefly explains two key measures of efficiency in the road transport interface – truck utilisation and truck turnaround time. The section then examines options for improving efficiency. A range of approaches to improving truck utilisation and TTT have been put forward in submissions to the Commission, as well as in several reports. These can be grouped as follows:

• Firstly, there are possible improvements to systems and infrastructure to facilitate greater efficiency. The options considered include:
  • stevedore equipment and processes
  • truck marshalling facilities
  • vehicle booking systems
  • container visibility

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295 ibid, p.81
• Secondly, there are a set of options that involve providing preferential access or pricing measures. These include:
  • preferential access
  • time-of-use pricing
  • levy on peak period trucks

• Lastly, another set of options involve improving work practices to achieve better coordination between stevedores, transport and logistics service providers, clearance authorities etc.

### 9.1.1 Measures of truck utilisation & truck turnaround time

Two measures of the efficiency of the road transport interface are truck utilisation (which determines the number of trucks required to handle a given transport task), and truck turnaround time (the speed with which trucks are processed through the terminal).

#### Truck utilisation

PoMC has reported the average number of containers per vehicle movement to be only 1.17 TEU per vehicle movement in 2006 – which has increased from 1.05 in 2004. The Bureau of Transport and Regional Economics (BTRE) has reported an average of 2.2 TEU per truck, which is sourced from the stevedores’ VBS data. The difference between these data is that PoMC treats in-gate and ex-gate movements as two separate movements, whereas in the BTRE data, vehicles are measured as the number of trucks processed through the terminal. The large difference arises because only about 10% of trucks are backloaded.

PoMC’s target is 2.0 TEU/vehicle movement by 2035, which will involve ‘encouraging stevedore systems and practices that drive increased efficiency’ and ‘integrating supply chain logistics systems such that the proportion of loaded inbound trucks with an outbound load (and vice versa) is increasing’.

#### Truck Turnaround Time

Truck turnaround time (TTT) is published by the BTRE in Waterline. It is defined as the average time in minutes between a truck entering and exiting the terminal. It does not include time spent at the gate or queuing outside the gate. Over the six months ended December 2006 the average TTT at the port of Melbourne was 30.7 minutes. There is no historical data for this series.

SAL is of the view that different definitions of TTT are used in different ports and has recommended a standardised measure of truck turnaround time in all ports.

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296 PoMC (2007), *Port of Melbourne Corporation, ESC Review of Port Planning*, p.33
9.1.2 Improving systems and infrastructure

A range of possible improvements have been proposed by industry participants, as follows:

Stevedore equipment & processes

It has been suggested that there has been under investment in key stevedoring assets, which needs to be remedied if port productivity is to be improved. MUA argued that the TTT is significantly affected by the equipment employed by stevedores in the terminal:

One issue that can impact on truck turnaround times is the capability, performance and reliability of the terminal loading/unloading equipment. ... it is our assessment, based on the slowing rate of productivity growth at Australian ports, that capital investment in key stevedoring assets has lagged in recent years and that there will need to be significant investment in stevedoring assets (superstructure) and landside transport assets if port performance and port productivity are to be improved, and if port efficiencies are to be realised.300

New processes can also greatly improve productivity. SAL pointed out that in the Port of Brisbane, DP World has introduced a new Import Container Initiative which has greatly reduced TTT,301 and suggests this be further investigated for possible application at other ports.

Truck marshalling facility

Participants have recommended the establishment of a truck marshalling yard, in order to reduce congestion on nearby roads and improve the ability of truck operators to present vehicles on time. For example, DP World indicated: 'we believe there will be a requirement for a truck holding/processing area within the port precinct'.302 Marshalling yards may also facilitate back-loading as a truck that did not have aligned unloading and loading slots could return to the marshalling area and await a loading slot.

Vehicle booking system

The vehicle booking system (VBS) provides ‘a controlled vehicle arrival system to manage the efficient flow of trucks to and from the terminals and thus alleviate lengthy ranks at peak times’.303

300 Maritime Union of Australia (2007), Submission to the Essential Services Commission Review of Port Planning, Competition in Container Stevedoring, p.9
301 Shipping Australia Limited (2007), submission to IPART, Review of the Interface between the Land Transport Industries and the Stevedores of the Port of Botany, p.5
302 DP World Melbourne (2007), Essential Services Commission – Port Planning, p.4
303 CBFCA (2007), submission to IPART (appended to the submission to Review), Position Paper Independent Pricing and Regulatory Tribunal, p.18
DP World and Patrick have established ‘1-Stop’ – a joint venture company to provide a user interface to both stevedores. It is intended to provide ‘a common platform for accessing each of the stevedore’s systems with the aim of simplifying the booking process for carriers’.  

The Custom Brokers and Forwarders Council of Australia (CBFCA) reports:

*Feedback from CBFCA members subscribing to both stevedore VBS services indicates that both systems are technically functional. There is no perceived preference of one application over the other nor does there appear to be any particular demand for an integrated VBS across both stevedores.*  

The VTA has expressed similar views to the IPART inquiry. On the other hand, CBFCA maintains that there should be independent management of the VBS to provide greater transparency. VTA proposes there be one system, with visibility across both stevedores. Alternatively, the VFLC has recommended that PoMC have a quality assurance role in relation to the 1-Stop system.

* PoMC needs only to be satisfied that the system is fair and equitable and serves the needs of the carriers on behalf of importers and exporters.*  

The VTA has also recommended a number of changes to the VBS:

- Functionality that enhances truck utilisation, including the ability to match import and export slots not only in one terminal, but across both stevedores in the precinct
- Guaranteed slots for high volume carriers
- Upgraded service level agreements
- VBS functionality that encourages multiple container movements per vehicle, and two-way running (where possible)
- Incentives to increase the use of non peak slots  

The CBFCA has also criticised the excessive administrative costs to users of the VBS system.

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304 P&O Ports Limited (2005), submission to VCEC, *Inquiry into Managing Transport Congestion*, p.4  
305 CBFCA (2007), submission to IPART (appended to the submission to Review), *Position Paper Independent Pricing and Regulatory Tribunal*, p.18  
308 VTA (2007), submission to IPART, *Re Review of the Interface between the Land Transport Industries and the Stevedores of Port Botany – VTA submission*, pp.6-7
Container visibility

The VFLC and several others have recommended greater use of web-based systems to monitor container status and more accurately match demand and supply along the supply chain. Such systems should provide supply chain participants with information on, for example, ship arrival times; cargo availability dates; and the date empties must be returned.

Some initiatives in this area are being carried out by the Smart Freight Steering Committee, comprising industry and government representatives. The Smart Freight initiative is aimed at improving the efficiency of container movements in the port of Melbourne, by trialling and implementing communications and information based technologies, for example to improve container tracking, and provide real-time travel information for fleet owners and truck operators.309

VCEC, in its inquiry into managing Melbourne’s transport congestion,310 has recommended that an emphasis be given to the Smart Freight project and:

Develop realistic objectives for the various Smart Freight projects; monitor and publicly report on the performance of such projects against those objectives; and feed information back to stakeholders to help improve the efficiency and effectiveness of these (and future) projects.311

This recommendation was supported in principle by the Victorian Government. The CBFCA has also recommended a coordinated national approach.312 The VFLC has indicated to the Commission that it considers the ‘1-stop’ system to be a convenient platform for further development of these initiatives, which could now be most efficiently further progressed by industry.313

Preliminary Conclusions

The Commission observes that there appears to be some opportunities to improve the efficiency of the landside interface of the port by improving systems and infrastructure. The Commission supports further investigation of the following suggestions presented in submissions:

- PoMC should – as part of its port planning process - examine the feasibility of developing a truck marshalling facility at the port.
- There is merit in PoMC having an oversight and monitoring role in relation to the 1-Stop system. This would be directed to examining the system to ensure that there is equity between transporters. More generally, PoMC appears to have a

310 ibid, p.326
311 ibid, pp.327-328
312 CBFCA (2007), submission to IPART (appended to the submission to the Review), Position Paper Independent Pricing and Regulatory Tribunal, p.10
313 Personal communication
legitimate role in coordinating with the stevedores to encourage further improvements in the system that will aid supply chain efficiency.

- a number of improvements could be made to the VBS system that would benefit the efficiency of the land-side interface.
- electronic systems should be further developed for container visibility and tracking.

9.1.3 Access and pricing measures

DP World and Asciano each have different approaches to charging for vehicle slots within the VBS system. For example, the CBFCA submission presents details of the pricing structures used by the two stevedores at Port Botany. Patrick charges a fixed fee per slot booking and a monthly fee ($4 and $10 respectively), whereas DP World charges are fixed per annum subscription rates for carriers of different size (3 size classes are used). The basis for charging, slot availability, and opportunities for improving efficiency incentives within the VBS have been a matter of considerable public debate.

*preferential access*

Some argue that the road market is too fragmented. For example, P&O has stated:

> Typically our terminals provide access to over 200 Carriers, each often seeking access at the same time. In our view, this fragmented nature of the transport industry is an impediment to improving efficiencies in the interface and comes at a cost of greater environmental impact and pressure on existing road infrastructure.315

However, in this review Asciano observed:

> There are fewer road transport operators in the Port of Melbourne than in other ports such as Port Botany and this improves efficiency of the land transport interface. Larger trucking fleets can:

- effectively manage the fleet to increase truck utilisation (TEU/truck);
- increase incidence of back loading from port; and
- undertake bulk runs to reduce dwell time on ocean terminal.

VCEC received views from stakeholders such as P&O Ports and Raptour Systems Pty Ltd that to improve truck utilisation at the port, preferred access could be given (e.g. via the VBS) to trucks that are better utilised (e.g. back loaded). As noted

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315 P&O Ports Limited (2005), submission to VCEC, *Inquiry into Managing Transport Congestion*, p.4
previously, VTA considers that slots for high volume users should be guaranteed. PoMC considers that ‘there may be an opportunity for stevedores to further develop the VBS to encourage better utilised trucks’\(^{316}\).

However, VCEC noted concerns by P&O Ports that using the VBS system to increase truck back-loading may be contrary to competition law.\(^{317}\) Nevertheless, preferred terms and conditions for larger users would not be prohibited. Also, where a truck operator books two adjacent/coincident slots for container delivery and container pickup (i.e. backloading) then there would appear to be merit in providing a discount for the second slot – or including the opportunity to backload in the price of the first slot. Such a discount is defensible because it is cost-based.

*Time-of-use pricing*

An option recommended by VFLC, VTA and the Sea Freight Council of NSW is the adoption of differential pricing for vehicle slots in peak and off-peak hours to encourage a more even distribution of truck traffic. See Figure 9.1 for information on the time profile of vehicle slots.

**Figure 9.1** *Available VBS Slots*

![Available VBS Slots](image)

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Time-of-use pricing for slots may not have a strong incentive effect, as VBS slot costs are a very small component of the overall container transport cost (though are a larger portion of truck firms’ costs). However, it may complement other

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\(^{316}\) PoMC (2007), *Port of Melbourne Corporation, ESC Review of Port Planning*, p.33

initiatives. Since stevedore prices are not controlled by government, this change would need to be negotiated with the stevedores by users or the port authority.

Practical problems remain, such as how much of the overall problem relates to peaking; can the peak period be well defined; how to structure the charges to avoid bunching around the change points; and to what extent can a price instrument reduce a problem caused by other factors such as restricted opening hours at freight terminals?

**Levy on peak period trucks**

Another response is to impose a levy on all import and export (full) containers transported to and from the port by truck within designated peak hours. This type of levy is intended to advantage rail shuttles and off peak trucks. PoMC has indicated concerns over these types of measures as they increase the costs of using the port.\(^{318}\)

A proposal of this type has been considered in NSW (where congestion is arguably more severe) – the Freight Infrastructure Charge (FIC). The proposed FIC was $30 per TEU\(^{319}\), and revenues from the FIC were to be used to support the development of intermodal terminals. Recently the NSW Government has rejected the FIC proposal (but left open the option to use port access charges at a later date).

SAL considered that such a charge would:

> result in making New South Wales importers and exporters uncompetitive in relation to the charges applied in other capital city ports in Australia. The potential administrative costs associated with collecting and rebating the FIC with all of the different parties being involved in the chain is also of concern. We are of the view that a pricing differential system would only work when there are two efficient systems in existence. Rail in Australia has proved to be inefficient; therefore, reducing the ‘price’ to counter inefficiencies will not work.\(^{320}\)

This proposal is related to the proposals to subsidise rail port shuttles which are discussed in section 9.5 below. However, this proposal has the specific feature that the revenues raised to fund the subsidy come from peak period trucks using the port.

A charge has potentially two objectives:

- to reduce congestion in the port or just outside (e.g. Footscray Road) by shifting demand from peak to off-peak and/or to trains,

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\(^{318}\) PoMC (June 2006), *Submission to the Victorian Competition and Efficiency Commission Inquiry into Managing Transport Congestion*, p.4

\(^{319}\) As noted in CBFCA (2007), submission to IPART (appended to the submission to the Review), *Position Paper Independent Pricing and Regulatory Tribunal*, p.14

\(^{320}\) Shipping Australia Limited (2007), submission to IPART, *Review of the Interface between the Land Transport Industries and the Stevedores of the Port of Botany*, p.7
to reduce congestion on roads in the wider port area (e.g. in Yarraville) by shifting demand to trains. This objective recognizes the external costs imposed on residents. However the simple charge would be a blunt instrument. Not all trucks going to or from the port use the roads in question, and not all trucks on most roads go to or from the port.321

Preliminary Conclusions

Proposals have been made to improve the efficiency of the landside interface of the port through price signals:

• introducing a levy to create a strong time-of-use price signal and also generate revenue to fund selected projects. This does not appear to have a demonstrated net benefit at present (as would need to be the case for this kind of intervention). A related proposal is the time-of-use VBS slot charge (which would be small compared to the levy). To be effective, peak pricing would need to complement initiatives to extend operating hours at the customer/freight terminal end of the chain,

• a discount could be provided within the VBS system where a truck operator books adjacent/coincident slots for the purposes of back-loading.

The Commission notes that better access could be made available to the port terminal for road transporters at night.

9.1.4 Improving work practices

In its submission, CBFCA identified a number of work practices that could be improved to facilitate better truck turnaround times. These included inefficiencies in clearance systems and processes and unexplained constraints on slot availability via the VBS.

The VFLC’s Business Activity Harmonisation Study and other reviews have also examined in detail the issue of mismatch of operating hours of stevedores, transport and logistics service providers, government agencies and others. In summary, although the port largely operates on a 24/6 or 24/7 basis, most inland container facilities and related service providers operate on a single daytime shift basis, 5 days per week. This tends to result in concentration of slot demand at the port, and resulting delay costs due to congestion. According to P&O:

This creates an unnecessary peak burden on road infrastructure. This mismatch in operating hours often of course originates at the warehouse/depot of the importer/exporter.322

Some of the options that have been identified to ameliorate this include:

321 Eventually Australia and other countries may move to tailor made charges, reflecting the particular road used, the time of day, the size of truck etc, based on vehicle positioning technology, but this is likely to be many years away.

322 P&O Ports Limited (2005), submission to VCEC, Inquiry into Managing Transport Congestion, p.4
• efficient container staging. A survey currently being conducted by VFLC finds that there is increasing container storage capacity at road transporter depots, and that container staging is being increasingly used.

• greater flexibility in the hours of operation of container parks. It was not clear from the submissions how quickly this might occur. If it happens, peak period problems will ease and there will be less need to consider peak charging. However those making the decision may not face the full costs associated with peak period congestion, and reduced truck and driver utilisation, and hence may not have sufficient incentives to achieve a fully efficient outcome.

### 9.2 Improving the road network

According to Booz Allen Hamilton the road system adjacent to Swanson Dock is the most congested in the city.\(^{323}\)

Some of the requirements for road network improvements are currently being examined as part of the East-West Link Needs Assessment study chaired by Sir Rod Eddington. Among other things, the scope of the study includes:\(^{324}\)

- how to balance the needs of freight traffic with the needs of residents in areas adjacent to freight movements
- development of options to address capacity constraints and future demand, future needs of port and associated commercial traffic including the Government’s 30/2010 target, and opportunities for public transport in the corridor

This study is expected to develop options for improving the road network near the port. At this stage it is not clear that rail options will be developed, given the study’s terms of reference.

CBFCA observed that the 2007 report of the House of Representatives Standing Committee on Transport and Regional Services, *The Great Freight Task (Neville Report)* and other studies have identified a number of road and rail projects that need to be carried out to maximise efficiency at the port, and these should be expedited. The Neville Report highlighted that the Westgate Bridge is near capacity, and that Dock Link Road needs further work.

In addition to these observations, a longer term plan for diverting passenger traffic from Footscray Road needs to be formulated. Element 4 of the Port@l Strategy identifies Footscray Road in its current configuration and used for its current purpose as unsuitable:

> A new route across or around the Swanson-Dynon precinct for general traffic is required. Footscray Rd is unsuited at its western

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\(^{324}\) *East-West Link Needs Assessment: Study Overview by Sir Rod Eddington* (2007), p.3

\(^{325}\) *Melbourne Port@L Development Strategy Final Draft Report* (2005), p.19
end for heavy city-oriented car traffic flows and also tends to funnel heavy volumes of port-related freight into residential areas to the west of the port. As part of a port area buffering strategy, it is desirable to reduce freight traffic on all surrounding residential streets. … A new general traffic link across the north of the Swanson-Dynon precinct will effectively separate port related freight from car traffic.

However, as discussed later, improved roads will make it harder than otherwise to achieve rail market share of objectives.

Preliminary conclusions

Subject to plans to come out of the East West Needs Assessment study, the Commission observes that necessary improvements to the road network include improvements to Dock Link Road and that there is a longer term need for diverting traffic from Footscray Road.

9.3 Relocation of container-related services

Element 2 of the draft Melbourne Port@L strategy is to progressively decentralise container related services that do not need to be located near port container handling functions – for example, where these services can be located either within the Dynon precinct or at Intermodal hubs.

There is a range of container related services such as packing and unpacking containers, storage of containers in container depots, and ancillary services such as cleaning of containers; container repairs; hiring and de-hiring of containers. Many of these services are currently provided within port precincts by Patrick and POTA, but can be cost-effectively provided outside the port precincts. (See Figure 2.4 which shows the locations of existing container parks.) Other services within the port precincts that may be affected by this strategy include cool stores.

The strategy being employed by some logistics businesses is to co-locate some of these services with container parks or at staging posts, such as at intermodal hubs. Asciano has suggested that its future strategy for these services is oriented towards inland hubs. However, SAL argues that forcing empty containers to be moved from locations well away from the port may be inefficient. Importers may end up paying more than they do today under such an arrangement. SAL also maintains that empty container parks may be most efficiently located close to importers, rather than close to exporters.

9.4 Rail Mode Share Target

The Terms of Reference direct the Commission to examine factors that may affect the attainment of the Government’s 30% rail mode share target for port-related freight by 2010, which was established in the policy statements Growing Victoria

326 Toll Holdings Limited (2007), Restructure Scheme Booklet, p.62
The focus of this examination is on impediments arising from the market structure of stevedoring services or other port services.

This section examines a number of initiatives that could be used to promote rail use and achieve the rail share target (many of which are summarised in Element 5 of the Melbourne Portal strategy). The initiatives considered here include:

- on-dock rail infrastructure
- addressing rail bottlenecks in the Dynon precinct
- promoting urban intermodal terminals
- the operation of "port shuttle" trains between those terminals and the port
- infrastructure improvements to improve the connectivity of urban intermodal hubs through a broad gauge network
- the proposed development of the Melbourne Intermodal Terminal (MIT) (or 'Melbourne Freight Hub') on the site of the Melbourne Wholesale markets
- the Webb Dock development
- Footscray road barrier

First, however, some potential efficiency issues that arise from setting a rail mode share target are considered. Current rail mode shares are then presented, and compared to the Government’s target.

### 9.4.1 Efficiency of the mode share target

It is important in the first instance to recognise that the rail mode share objective need not necessarily be consistent with the objective of supply chain and land-side interface efficiency. For example, ARTC has emphasised its support for ‘holistic transport network planning, and efficient Intermodal interfaces driven by healthy competition’\(^{328}\), but raises concerns in the context about the feasibility of expectations in relation to the rail mode-share objective:

> … there should be a principle to use the most efficient and cost-effective form of transport available (taking into consideration the "triple bottom line" approach). A simple desire to increase (or decrease) the proportion of freight carried by particular transport mode may result in inefficient outcome for the transport system (and the wider community) as a whole.\(^{329}\)

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\(^{327}\) The original expression of this statement in the 2001 Growing Victoria Together was that ‘the proportion of freight transported to ports by rail’ will increase from 10% (in 1999) to 30%’. This was subsequently stated in Melbourne 2030 and the 2005 Growing Victoria Together statement to be ‘the proportion of freight transported to and from ports by rail will increase from 10 per cent to 30 per cent by 2010’.


\(^{329}\) ARTC (2006), *Melbourne Port@L Strategy Consultation Draft ARTC Submission*, p.5
The ARTC is also concerned about the possibility of shuttle trains causing congestion on some tracks in the Melbourne area used for long distance freight trains.  

The submission from the rail operator Asciano (incorporating the Pacific National and Patrick rail operations) is cautious on this issue. Although Asciano operates a successful port rail shuttle in NSW, this is integrated with rural export trains and is in a city with arguably greater road congestion. Asciano argues that it would be very difficult to economically run rail shuttles between ports and inland hubs 20km away in isolation of some complementary revenue source.  

The only rail port shuttle in Melbourne recently ceased operations, as explained in the Habitat Trust submission. The cost efficiency problems with making rail shuttles competitive include relatively costly port handling arrangements, a need for double handling, and track congestion.

Nevertheless, there have been various other reports on the subject of supply chain efficiency, including those by the VFLC and the Neville Report, and generally these studies are supportive of the objective of increasing the role of rail in delivering freight to and from the port and the overall strategy of developing Intermodal hubs. While there is some doubt about the specific target of 30%, there does not appear to be any conflict between cost-effective initiatives designed to facilitate a greater role for rail transport of containerised freight and the goal of supply chain efficiency.

9.4.2 Quantification of the target

The Government has reported that the share of freight transported to and from Victorian ports by rail was 15% in 2000-01, 17% in 2002, and 19% in both 2003-04 and 2004-05. This share reduced to 16% in 2005-06. PoMC’s estimates of rail’s share of containerised freight moving to and from the port are 17% in 2005 and approximately 18% in 2006. In terms of the application of this target to the container trade, PoMC has estimated:

In the calendar year 2006 container imports and exports handled at the Port and Dynon rail terminals totalled 334,000 teu –

331 Asciano communication to ESC
332 Victorian Government ‘2005-06 Budget Paper No. 3: Service Delivery’, p.335, and ‘2004-05 Budget Paper No. 3: Service Delivery’, p.319. Note however, that the ‘2006-07 Budget Paper No. 3: Service Delivery’, p.357, states that the rail modal share had been ‘stable at between 17 and 18 per cent’ over a three year period, and that a slight decrease from 2003-04 to 2004-05 was associated with fluctuating levels of agricultural production from year-to-year.
334 PoMC (2006), Port Development Plan 2006-2035: Consultation Draft August 2006, p.82
335 PoMC (2007), Port of Melbourne Corporation: Review of the Future of Rail Freight in Victoria Submission, p.5
approximately 18% of the port’s container throughput. Of this volume some 212,000 teu (or 62% of port rail total) were exchanged with interstate rail services and were carried by standard gauge rail services. The balance 120,000 teu was Victorian regional freight almost all carried by intrastate rail services operating on broad gauge.

The PDP forecast for total container trade in 2010 is 2.6 million TEU and in 2015 is 3.4 million TEU. For the 30% target to be achieved for the whole of the container trade, this means that 775,000 TEU will need to be transported by rail in 2010, and 1.0 million TEU by 2015. This represents an increase by 2010 of 450,000 TEU over the 2005 volume carried on rail, and by 2015, an additional 675,000 TEU compared to 2005.

As noted by the Melbourne Metropolitan Shuttle Group in its submission, this increase must come from freight movements within the metropolitan area, as:

"close to 80% of the international container trade at the port of Melbourne has its ultimate origin or destination within the Metropolitan area of Melbourne"

However, as shown in Table 9.1, rail currently carried virtually none of this freight task.

Table 9.1  Container Origin/ Destination Study 2003

<table>
<thead>
<tr>
<th>origin/destination</th>
<th>To Port/Dynon precinct:</th>
<th>From Port/Dynon Precinct to:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Rail</td>
<td>Road</td>
</tr>
<tr>
<td>Metro</td>
<td>2%</td>
<td>98%</td>
</tr>
<tr>
<td>Country Vic &lt;250km</td>
<td>46%</td>
<td>54%</td>
</tr>
<tr>
<td>Country Vic &gt;250km</td>
<td>92%</td>
<td>8%</td>
</tr>
<tr>
<td>Interstate</td>
<td>95%</td>
<td>5%</td>
</tr>
</tbody>
</table>

Source: SKM (2003), Melbourne Port Container Origin Destination Study, p.43

More specifically, the Melbourne Port Container Origin Destination Study found that:

- 90% of imported containers have destinations in the metropolitan area, and out of these 75% are transported to the outer industrial suburbs, namely Altona-Laverton, Broadmeadows-Somerton, and the Dandenong area (i.e. 68% of all imported containers); and

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336 Ibid, p.5
338 Sinclair Knight Merz (March 2003), Melbourne Port Container Origin Destination Study Final Report, Department of Infrastructure, p.48
• 60% of exported containers had origins in the metropolitan area, and out of these 60% originated from the outer industrial suburbs (i.e. 36% of total export moves originate from these suburbs).

Based on 2005-06 trade volumes, this means that 76% of containers handled at the port of Melbourne have origins or destinations in the metropolitan area, and 53% have origins or destinations in the outer industrial suburbs.

By implication, if these regional shares in container movements remain relevant in future, then approximately 1.4 million TEUs will have origins and destinations in the Melbourne outer industrial suburbs in 2010, and 1.8 million TEU by 2015. To increase the amount of containerised freight carried by rail to the levels indicated above, the rail mode share of freight transported to and from the outer industrial areas of Melbourne will need to exceed 30% by 2010 and approach 40% by 2015.

Preliminary conclusions

The findings of the 2003 Melbourne Port Container Origin Destination Study have been assumed by PoMC to remain relevant in framing the PDP. However, the study is now dated and given the degree of reliance placed on it, should be updated.

Achieving the rail mode share target of 30% will require a very large share of containerised freight transported to and from Melbourne’s outer industrial areas to be carried by rail ‘port shuttles’.

It is also noteworthy that there is also some uncertainty in relation to the two major rail tasks at the present time:
• The interstate rail services operating directly from Swanson Dock are primarily transporting containers to and from South Australia. Meyrick and Associates have noted that some of this freight is potentially exposed to the possibility of Adelaide gaining a direct shipping call to North Asia and North America, and that Flinders Ports is actively pursuing this strategy. On the other hand, international shipping companies have tended to reduce the number of ports they call at in Australia, which has worked to the disadvantage of Adelaide.

• Data submitted to the Commission by Pacific National during the Access Arrangement approval process showed that the volume of general and mixed freight on the Victorian intrastate rail network decreased from 1,789 MGTK in 2001-02 to 954 MGTK in 2005-06.

If either of these tasks decline then the required role of port shuttles to meet the 30% target would be greater again.

339 Meyrick and Associates (May 2007), International and Domestic Shipping and Ports Study, p.56
340 Year end estimate based on 9 months data.
9.4.3 On-Dock Rail

There may be on-dock developments that could improve the competitiveness of rail. Current consultations by IPART in its ‘Review of the Interface between the Land Transport Industries and the Stevedores at Port Botany are planning to adopt a different mode of operation whereby they will load trains and trucks at the same time, using Rail Mounted Gantry, in positions directly behind the main container yard, which is located directly behind the berths. Observations have been made by Booz Allen Hamilton in regard to the efficiency of the current rail loading operations at Swanson Dock, describing the rail-stevedore interface as ‘sub-optimal and costly’:

> The movement from train to stack at the docks can include two ‘lifts’ (e.g. one lift off the train to ground and one lift to stack awaiting vessel loading). The distances between rail sidings and stacks can involve distances greater than would be deemed suitable, particularly if significant volumes were involved.  

PoMC noted that one of the recommendations of a study of the port of Melbourne rail task, by Maunsell, was:

> Work proactively with P&O Ports and Patrick to optimise near dock rail at Swanson Dock West and East

The significance of this issue is indicated in Figure 9.2. This shows the comparative stevedore charges for containers loaded on and off trains versus trucks. There is a higher cost associated with loading onto or off trains, and this cost is largely driven by the ‘stevedoring costs’ component. This cost component may be higher for rail, in part, because of the cost of transporting containers from the cargo marshalling areas within the container terminal to the nearby rail terminals, and the associated double handling.

Asciano did not agree with the data contained in Figure 9.2 as accurately reflecting rail terminal costs. Nor does it, according to Asciano, take into account pick-up and delivery (PUD) costs, or costs associated with empty container relocation.

Several submissions to the Review identified the level of rail access charges as a significant barrier to the development of port shuttles services. For example, QRNational stated:

> While charges need to be reviewed along the whole logistics supply chain, the major impediment which prevented short haul (metropolitan port shuttle) rail from being a viable alternative to road transport in Melbourne was the difference between the stevedore VBS fee applicable to shipping containers delivered or collected by truck and the stevedore shipping container handling

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fee applicable to shipping containers delivered or collected by rail.\textsuperscript{343}

The VFLC notes that:

\begin{quote}
At present, Patrick has an optional pricing tariff which offers parity with road pricing. POTA has a rail charge which is set at a higher level than the road delivery charge direct to the wharves.\textsuperscript{344}
\end{quote}

However, the Commission understands that there are substantial penalties for late trains. Stakeholders have indicated that given the high risk of train delay\textsuperscript{345}, the effect is still that rail access is more expensive than road access to the port.

Asciano also indicated that:

\begin{quote}
Patrick is modifying operations and planning investment to reduce the costs associated with directly loading onto rail on the port. This should improve the cost competitiveness of rail versus road.\textsuperscript{346}
\end{quote}

The modifications appear to include the following:

- The consolidation of Victorian rural rail operations into Patrick PortLink,
- The greater use of Patrick’s rail terminal at East Swanson compared to the POTA terminal at West Swanson.

Patrick PortLink may be in a position to integrate rural rail operations with movements of import containers to metropolitan intermodal hubs to achieve competitive metropolitan rail freight movements.

\textit{Container dwell time penalties}

As the terminal moves closer towards capacity, container dwell time penalties may increase – and make it more attractive to move containers off the wharf to the rail terminals for relocation of the container to an intermodal hub. This could advantage rail, which has the capacity of moving large numbers of containers relatively quickly.

\textsuperscript{343} QRNational (2007), \textit{Review of Port Planning Issues Paper – Essential Services Commission}, p.4

\textsuperscript{344} Victorian Freight Logistics Council (2007), \textit{A Toolkit for the Development of Intermodal Hubs in Victoria}, p.12

\textsuperscript{345} PoMC states that ‘On time running for port related rail services is currently around 15 per cent.’ PoMC (2007), \textit{Port of Melbourne Corporation, ESC Review of Port Planning}, p.39

\textsuperscript{346} Asciano (2007), \textit{ESC Review of Port Planning Submission}, p.13
Proposed uniform stevedore charge

The Melbourne metropolitan Port Shuttle Group proposed that current port charges should be restructured to create a common fee for the handling of shipping containers regardless of whether the shipping container enters or leaves the port by road or rail. QRNational’s submission to the Review expressed a similar view.

To do this would require price controls which do not currently apply to stevedores, and would force a cross-subsidy to rail because the existing higher charges to rail reflect higher costs associated with more handling within the terminal due to the layout. This proposal to impose a uniform charge is a variation on the FIC discussed earlier as a form of cross subsidising rail using higher charges to road transporters. (If improvements could be made at the port as discussed above, the amount of cross subsidy would be less, but these observations would remain relevant unless port handling costs were reduced to the road freight level).

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347 Melbourne Metropolitan Port Shuttle Group (2007), email to Commission, Submission by Melb Metro Port Shuttle Group to ESC Port Planning Review

348 QRNational is the owner of CRT Group. QRNational media release (23 June 2005), CRT Group and QR – A New Way Forward announced that QRNational would purchase CRT effective 1 July 2005.
These policy options do not appear to be well directed toward improving economic efficiency. They raise the possibility that achievement of the 30% rail mode share could require inefficient structures to be imposed, resulting in higher supply chain costs.

The alternative would be some form of direct subsidy to rail. Presumably this would be directed specifically to port shuttles. For example, one argument for a subsidy relates to the start-up period. It is argued that a subsidy is required during the initial period of start-up and volume build-up. For example, subsidies might be related to externality benefits associated with rail transport. That is, the external costs that would otherwise have been imposed by trucks.

There are a number of counter arguments:

- externalities are widespread in the economy, and governments have rarely chosen to subsidise to compensate for them. For example, the Government has previously declined to subsidise rail shuttle services.\(^{349}\)
- only some of the displaced trucks impose significant externalities—depending on the route they take and the time of day
- on present information, it is not clear that a subsidy that aligned with estimated externalities would be sufficient to bring about establishment of rail shuttles or substantially shift freight to rail
- road improvements following the Eddington report may reduce truck externalities
- private investors normally cover ramp up costs—they judge that estimated future profits justify carrying short-term losses and they carry the risk (otherwise they do not proceed). Governments do not normally assume this risk (through subsidies)
- governments sometimes pay for new infrastructure but are normally wary of operating subsidies which in practice can turn out to be opened ended.

However, the Government does have an established role in providing infrastructure, and this is an area that needs a considerable amount of attention if an improvement in the rail mode share is to be actively pursued.

### 9.4.4 Rail bottlenecks at the port interface

Improving the rail connections to the port is seen as a key driver of improvements in the share of containers on rail. Rail connection to West Swanson Dock was restored in 2003, and during this period the share of rail increased. In the recent VCEC inquiry into port congestion, PoMC observed that rail capacity deficiencies have been a constraint on rail freight growth to date, but committed rail projects near the port are expected to remove this bottleneck.\(^{350}\)

The most important of these projects is the Dynon Port Rail Link (DPRL). This is a $116 million project involving the elevation of a section of Footscray Road; the

\(^{349}\) As noted in Habitat Trust (2007), Submission to the East – West Needs Assessment from the Habitat Trust

\(^{350}\) VCEC (2006), Making the right choices: Options for managing transport congestion Final Report, p.330
reconfiguration of the rail lines that serve East and West Swanson Dock; and the construction of two new dual gauge tracks between the new port junction and the main line north of Footscray Road (to Dock Link Road).

Other rail de-bottlenecking projects being undertaken by the ARTC involve:

- boosting capacity to the Dynon/Melbourne Port precinct by expanding and reconfiguring the Tottenham Junction to Dynon section;
- construction of a direct standard gauge bypass connection between Brooklyn and Sunshine in Melbourne to provide direct access between the North-South and East-West corridors.

These projects will benefit access to and from the port by removing congestion in Tottenham by ensuring trains destined directly North-South and East-West do not have to use Tottenham as they currently do. They will also allow bidirectional running in the Bunbury Street Tunnel.

ARTC is also seeking Auslink funding for three projects relating to access to the port of Melbourne. These are:

- a direct connection between the Patrick and DP World terminals,
- conversion of the Albion – Jacana broad gauge track to dual gauge, and the conversion of the Brooklyn – Newport broad gauge track to dual gauge including reconfiguration of Newport Junction

As part of the rail network buy-back there has also been a freeing up of certain tracks within the Dynon precinct that will improve the links between the Dynon terminals and the port. However, VCEC has suggested that some ‘missing links’ in the Dynon precinct may still remain. PoMC has also indicated that there is a lack of train stabling and marshalling facilities in the Dynon precinct for holding trains waiting to access the port.

QRNational has also proposed that trials be undertaken to test the use of double stacked container wagons through the Bunbury Street Tunnel.

9.4.5 Intermodal terminals

An important element of the Victorian Government’s freight strategy is to encourage the development of outer-urban intermodal freight terminals, which operate as distribution hubs. As previously highlighted, while this will be crucial to the achievement of the Government’s targeted 30% share of freight on rail, at present rail does not have a significant share of this market (refer Table 9.1).

Most of the Intermodal hubs developed to date have been associated with a specific rail service provider such as P&O at Somerton, CRT at Altona or SCT at

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351 ibid, p.333
Laverton. The terminals established to date mainly service interstate trains. Efforts to develop port shuttle services in Melbourne\(^\text{354}\) (e.g. from Altona and Somerton to the port of Melbourne) have so far been unsuccessful.

The development of a possible intermodal terminal (or terminals) at Dandenong is currently being evaluated. Three sites have been identified – Asciano’s ‘Dandenong Business Park’, VicTrack’s Green’s Road site, and the Melbourne Metropolitan Port Shuttle Group states that Westgate Ports is proposing to develop new intermodal terminals at Altona and Lyndhurst –to be completed in 2010\(^\text{355}\). It remains to be seen whether all of these sites will prove suitable to development as an intermodal terminal, or whether other sites will need to be identified that are best suited to the task.

P&O has suggested that:

> It is fairly generally accepted that Intermodal commercial viability requires a metropolitan Intermodal terminal to handle at least 100,000 TEU p.a. and ideally up to at least 500,000 TEU p.a., requiring about 20Ha of land, be located at least 15km from the port and that 80% of the Intermodal terminal’s metropolitan cargo should be destined to/originating from within a 10km radius of the Intermodal terminal. It is also accepted that dedicated freight rail access or access that is not unduly affected by prioritised passenger services is required. We believe that the commercial viability of these Intermodal terminals will be enhanced if access to a national freight rail network is also available. Each Intermodal terminal will also need to be able to provide the full range of ancillary services.\(^\text{356}\)

Notes on Neville Report

The Neville Report concluded that intermodal terminals will have an important role in improving the efficiency of the national freight network, but noted that ‘there are many examples of unsuitable or unsustainable proposed developments’\(^\text{357}\).

Some of the main benefits of intermodal terminals identified by the Neville Report are:

- efficiently operated, they can improve supply chain efficiency by increasing the modal options for freight movements, providing a staging post for improving the scheduling of container pick-up and delivery, as well as providing an alternative location for activities such as container packing/unpacking

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\(^{354}\) QR has a shuttle between the Port of Brisbane and the Acacia Ridge rail terminal. Asciano has a shuttle from Port Botany to Enfield (a terminal that is being upgraded).

\(^{355}\) Melbourne Metropolitan Port Shuttle Group (2007), attachment to submission to ESC, RE: Victorian Rail Freight Network Review, p.8

\(^{356}\) P&O Ports Limited (2005), submission to VCEC, Inquiry into Managing Transport Congestion, p.5

\(^{357}\) House of Representatives Standing Committee on Transport and Regional Services (2007), The Great Freight Task, p.168
they can reduce congestion on urban roads
they can be pro-competitive as by increasing logistics options for freight owners they “may reduce freight rates as more competition enters the industry”. However, they may need to have appropriate access arrangements to “maximise the terminal’s contribution to freight movement efficiencies”.

The Neville Report also highlighted the growing problem of managing empty containers and the potential benefits from intermodal terminals in terms of the ability to deliver large volumes of empty containers to ports at short notice.

Critical success factors in intermodal terminal design and operation are summarised in the Neville Report, including:

- be located strategically within a catchment area that will generate significant volumes, and without nearby intermodal terminals to saturate the market
- operate as a business entity and provide adequate financial returns to attract private investment and operators
- have appropriate access arrangements,
- in addition to core terminal functions, provide storage and value adding services, and
- have efficient connections to transport networks and ports.\(^{358}\)

*The Neville Report recommended Auslink funding for essential intermodal terminals, and in cases where private investment options have been exhausted, essential intermodal terminals should be funded up to 50% by the Commonwealth and 30% by the relevant State Government.*

On the other hand, it may be argued that there are a number of private hub developments in Victoria (when the proposed developments in Dandenong and Lyndhurst are included) and given the scale requirements of such facilities, these developments may represent an adequate supply of these facilities.

If not, then at there may be benefit in ensuring that Government planning frameworks provide for sufficient land to be appropriately zoned or set aside for future Intermodal terminal developments.

*Views from submissions*

There was general support in submissions for the freight strategy of facilitating the development of intermodal hubs. For example, the Mornington Peninsula Shire said:

*The ability of rail to compete for freight movements will depend in part on the point at which transfers to and from road based transport will occur. Intermodal hubs (or “inland ports”) play a critical role in facilitating the road rail split.*\(^{359}\)

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\(^{358}\) ibid, pp.170-171

The Habitat Trust also states that:

we would encourage PoMC to be an active investor in the establishment of the intermodal freight terminal hubs and container park systems to maximise efficiency of the existing port precinct by relocating some activities to the intermodal freight hub precincts.

Several submitters identified access issues as being important in relation to intermodal terminals. POHC stated that:

The market structure for container handling services is likely to be affected by owners and/or operators of intermodal hubs having preferred supplier contracts.\(^{360}\)

The Mornington Peninsula Shire referred to work of the Victorian Freight and Logistics Council indicating that:

The industry cannot achieve a sustainable hub network without a proper framework of government policy settings, strategic plans and regulation in place to provide reasonable security of investment\(^{361}\) (p. 4)

In its submission, the Habitat Trust has also referred to the need to address:

terminal governance, track access, operating protocols and other policy initiatives considered appropriate to encourage the use of rail shuttles from the port to outer-urban intermodal terminals\(^{362}\)

And ARTC states:

In relation to the export container markets, the focus will be on the degree of concentration in ownership/control in metropolitan markets … An example of this may be where a single entity is dominant in port services and intermodal terminal services in one or more capital cities.\(^{363}\)

Intermodal terminals will tend to have localised market power within a nearby “catchment area”. The degree of market power will depend on competitive alternatives. Control of these terminals by stevedores, or other major logistics chain service providers, may enable leveraging of market power to other elements of the supply chain. For this reason, access regimes for intermodal terminals are relevant, and would be a better regulatory response than trying to control ownership. Such an approach would be consistent with the issue raised by PoMC.

\(^{360}\) Port of Hastings Corporation (2007), RE: Review of the Impact of Port Planning on Competition, p.3

\(^{361}\) Mornington Peninsula Shire (2007), Review of Port Planning: Issues Paper, p.4

\(^{362}\) The Habitat Trust (2006), attachment to submission to ESC, Draft Melbourne Port@l Strategy / 30% Rail Share Target / Port Shuttle Trains, p.1

that ‘…there may be vertical integration of terminal ownership, rail operations and intermodal terminal operation may be an effective way to develop shuttle train operations that can effectively compete with road.’ An access regime would not preclude the benefits of vertical integration, but would still allow non-integrated operators to compete provided they can provide a more effective and competitive service.

**Preliminary conclusions**

Intermodal hubs will usually need to have a significant scale in order to be achieve efficiency, and hence may hold localised natural monopolies in their vicinity. For this reason, it will sometimes be appropriate that basic access arrangements should apply to such terminals.

With respect to an access regime that might apply to an Intermodal terminal, this might be a light handed form of undertaking such as is currently being contemplated for grain handling, which includes four elements:

- a fixed term
- a commitment to provide access on a non-discriminatory basis
- publication of terminal access prices
- a dispute resolution process involving mediation and arbitration, with the access provider bound to accept the decision of the arbitrator.

Municipal planning schemes may need to ensure that key sites in suitable areas are appropriately zoned to facilitate intermodal terminal developments and preserve the land for future intermodal terminals.

**9.4.6 Port Shuttles**

A number of success factors are required to facilitate the port shuttle idea:

- operational development of port shuttles from Swanson Dock to urban intermodal terminals
- providing sufficient train paths on the metropolitan network for between 30 and 40 train services per day, with enough track capacity to allow reliable and quick turn-around services (hence good utilisation of rolling stock and crew)
- re-orienting the port resources for the task
- the development of the MIT or equivalent to handle the increasing volumes at the port,
- appropriate cost structures.

Port shuttles would be approximately 500 to 600 metres in length and have a capacity of approximately 60 TEU. They would have operating speeds that would

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enable them to match the average speeds of passenger trains, so as to maximise the ability to find train paths on which they can operate on the passenger network.

The VFLC’s A Toolkit for the Development of Intermodal Hubs in Victoria (VFLC Toolkit) sets out calculations of the cost of operating port shuttles, based on a particular concept of how they may operate.

In one example it is envisaged that port shuttles would carry 60 TEU (at 80% capacity utilisation), and that each intermodal terminal would operate two port shuttles per day to and from the port – thus transporting 240 TEU per day. The implied capacity of each Intermodal terminal (assuming 300 days of operation per year) is 72,000 TEU. Hence four Intermodal terminals would generate 288,000 TEU per annum, which represents 11% of forecast 2010 PoMC container throughput, and 8.5% of forecast 2015 throughput. This would be just sufficient to keep the port rail mode share at 18-19% in total by 2015.

By implication under this scenario, port shuttles would use 16 train paths per day. However, achieving the 30% rail mode share target in 2010 would require 50% more services (i.e. about 24 services per day) and by 2015 would require almost 150% more (almost 40 services per day).

Views from submissions

CRT has suggested that rail access charges favour longer trains over shorter trains. While this is to some extent true on the interstate network, where the flag-fall charge is invariant to train length or mass (and accounts for approximately 30% of the cost), on the metropolitan network this is not true, as the charge is only based on mass and distance.

Asciano observed that:

_The more fundamental issue is the economics of running short shuttle trains through a shared network. It has been proven by the recent failure of the CRT train in Melbourne that port shuttle trains are not sustainable financially in their own right. Typically, for a train movement to be competitive against alternative modes and commercially viable, they must have either “density or distance”. Short distance shuttles of short trains clearly have neither. To date road has proven more competitive than rail due to high quality road infrastructure supporting the port of Melbourne and its central location._

QRNational also indicated that:

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365 CRT Group (2006), submission to Melbourne Port@l Board, Melbourne Port@l Strategy and CRT Port Shuttle, p.2
While rail is largely able to compete with road transport over regional and interstate distances, it cannot over the shorter distances of the metropolitan rail network.367

The Habitat Trust said:

Immediate priority needs to be given to addressing the key impediment to increased rail market share for port related containerised traffic as identified by Booz/Allen/Hamilton [sic] in its report to the recent Victorian Competition and Efficiency Commission Inquiry, i.e. “the current cost differential for short haul movements, which significantly favours road transport.” Booz/Allen/Hamilton reported this ‘gap’ to be between $50 and $113 per container for a port to Melbourne urban terminal trip depending on distance and other factors.368

Preliminary conclusions

Some of the key issues that will need to be addressed before port shuttles can become effective include:

• A broad gauge port shuttle network: The present combination of broad gauge and standard gauge track on the Victorian network will require some dual gauging works to ensure that port shuttles can access broad gauge track throughout their journey. (However for safety reasons broad gauge passenger trains do not operate, except in restricted circumstances, on dual gauge track).

• Availability of train paths on the metropolitan network: The limited number of spare paths on passenger lines would limit freight train capacity, and imply higher operating costs due to relatively low rolling-stock utilisation. As mentioned, the approach taken, for example in the VFLC ‘Toolkit’, to increasing the availability of train paths is to use port shuttles that have operating speeds and other operating characteristics similar to passenger trains – so that they can have scheduled train paths between passenger train paths. However, these trains would be relatively short, low capacity trains and may therefore not be as efficient in terms of operating costs. Furthermore, as the access provider on the metropolitan network faces strong financial penalties for underperformance on passenger train reliability, it may be expensive to compensate it for this additional risk associated with making freight train paths available. The alternative of dedicated freight lines would involve a substantial investment, especially where land acquisition was needed. Under either alternative, additional freight trains would add to community pressure for expensive grade separation of level crossings.

• Effective use of Intermodal terminals for staging imports, exports and empty containers: Because of the imbalance of import and export containers destined for and originating from the metropolitan area, port shuttles may be unable to fully ‘back load’ which would result in an inefficient degree of rolling stock

368 Habitat Trust letter to DOI dated 18 October 2006 (appended to submission), pp.1-2
Therefore some changes to the management of empty containers may be important to achieving minimum cost.

- Improving the on-dock rail interface: Port shuttles are planned to operate from the proposed MIT. This is some distance from the cargo marshalling areas, implying that some handling costs will be incurred to deliver boxes to the terminal. The design concept for the terminal at the port remains to be finalised and assessed. There may also be other options for improving the on-dock rail interface. See section 9.4.8 below for further discussion.

There are also potential competition issues in relation to the operation and operational control of port shuttles. For the reasons previously outlined, there may be very few operators that would have the capabilities to operate the port shuttles, and it may be the case that only one operator could efficiently operate. This may raise some competition issues where the port shuttle operator is vertically integrated with a port terminal operator, although trucks would continue to provide the main competitive discipline. Furthermore, in relation to operational control, P&O has argued that:

> optimum utilisation of the rail Intermodal network will be achieved by having the container terminals control all aspects of its operation. It is our experience that seeking to achieve this through commercial arrangements between the various stakeholders prevents the achievement of best overall outcomes.

These issues are discussed further in Chapter 10.

### 9.4.7 Rail infrastructure

The development and efficiency of Intermodal terminals will be critically dependent on the availability of train paths on a 24 hour basis to enable rolling stock and terminal capacity to be efficiently utilised. PoMC has indicated that the quantity and duration of available daily track access windows on both standard gauge and broad gauge systems is a constraint that needs to be addressed.

ARTC suggests that the Broad Gauge Network is best suited to the shuttle task.

>`Improving Rail connections between Dynon and the outer urban hubs should also consider the appropriate use of the broad gauge yards at Tottenham in addition to the broad gauge urban network. Capacity of the links between Dynon and the outer urban hubs needs detailed consideration and consultation if shuttle services are to operate efficiently.`

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369 This situation also applies to road vehicles at present.

370 P&O Ports submission to VCEC, p.5


372 ARTC (2006), *Melbourne Port@L Strategy Consultation Draft ARTC Submission*, p.7
ARTC’s view appears to be directed to minimising conflict between port shuttle services and interstate freight trains.

The Logistics Association of Australia notes its concern with the capabilities of the broad gauge network to support the shuttle concept:

>In terms of rail operations, there is currently significant congestion on the inner Melbourne rail network and planning work undertaken to date to increase rail freight services to and from the port is far from complete.

Parsons Brinkerhoff encapsulates the requirement to plan for both passenger as well as freight traffic on Melbourne’s broad gauge network:

>Metropolitan freight links need to be considered in conjunction with upgrades in infrastructure to meet increased passenger demand; the key example of this is the Dandenong rail corridor.

PoMC supported the development of dedicated freight lines:

>In assessing options to address capacity constraints, PoMC considers the development of dedicated rail tracks for freight services within the near metropolitan network as desirable improvements to the rail system.

Asciano also expressed the view that ‘dedicated freight lines (with 25 tonne axle loads and if possible double stacking provisions) to major Intermodal terminals’ should be considered.

ARTC indicated that:

>ARTC notes that there are currently numerous constraints on Melbourne metropolitan freight movements (eg midnight to 5am curfews on the BG metropolitan network, passenger train priority requirements) and these restrictions will need to be re-visited in line with the desired increased movement of freight onto rail.

Subsequent clarification with Connex indicated that while there is no policy of a curfew the maintenance on the metropolitan network is concentrated during those hours and train paths would be limited accordingly. Some freight trains are currently timetabled to operate during those hours.

Although the currently committed rail projects discussed in section 9.4.4 should alleviate some bottlenecks west of Dynon, train path availability for port shuttles

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373 Logistics Association of Australia (Vic) Inc (undated), Response to Melbourne Port@L, p. 2
374 Submission, p. 1
375 PoMC (August 2007), Review of the Future of Rail Freight in Victoria Submission, p. 14
376 ARTC (2006), Melbourne Port@L Strategy Consultation Draft ARTC Submission, p. 6
377 Communication 21 Sept 2007
may be constrained on the Melbourne to Somerton and Melbourne to Laverton corridors due to long sections of single track. A full analysis of the current and future capacity of the system is required in the context of the likelihood of the emergence of increased port shuttle use.

Freight train access to the proposed Dandenong Intermodal terminal may be limited by train path availability on the Melbourne-Dandenong line due to the priority of passenger services. The Victorian Government’s Dandenong Rail Corridor Project will add a third line to the Melbourne-Dandenong railway line, thereby alleviating capacity constraints in relation to passenger train services. This may facilitate freight train paths, although the premise of the capacity enhancements has been predicated on the basis of improving passenger services. This project is currently in the preliminary scoping stages.

Another issue associated with the use of port shuttles to hubs in industrial areas is the conflict with road traffic at level crossings. Booz Allen Hamilton observes that:

> An issue that may well emerge with increased rail market share for urban freight movements in Melbourne, in the context of congestion, is the impact of at-grade crossings of rail and road networks. Increased rail activity could lead to the need to eliminate a number of urban level crossings … Should rail freight shuttle services be developed to the south-east of Melbourne (where a significant proportion of import containers are destined), for example in Dandenong, the issue of level-crossing eliminations may become more important as a significant number exist along this corridor.\(^{378}\)

Hence there are a range of rail infrastructure works that would be vital to facilitating the port shuttle concept.

A full analysis of the current and future capacity of the rail system will be required in the context of considering the emergence of increased port shuttle use.

### 9.4.8 Melbourne Intermodal Terminal

One objective of Melbourne Port@L is to ensure that the MIT is developed as an efficient intermodal terminal. The Melbourne Port@L Board has been established (which is not a statutory body), and a Consultation Draft has been released on which submissions have been received by DOI. The next stage of the project is to produce a Development Strategy.

**Notes from submissions**

Few submitters commented on the proposed MIT.

The Melbourne Metropolitan Port Shuttle Group supports the development of the MIT to play ‘a pivotal role in the development of a co-ordinated network of outer-urban intermodal rail terminals, with close operational connections to container

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berths at the Port of Melbourne. However, it also notes ‘the opportunity to develop Victoria Dock to eventually provide dedicated space/stack at the port for the transfer of metropolitan port shuttle freight’, including terminal services to metro port shuttle trains.

The Habitat Trust indicates that on-dock rail terminals have limited capacity to service future demand. According to the Habitat Trust, Swanson Dock East has a theoretical capacity of 550,000 TEU/yr and Swanson Dock West a capacity of 320,000 TEU/yr.

Asciano suggests that:

\[ Speed\ the\ development\ of\ the\ MIT - \textit{the MIT will facilitate the movements of product to and from the port and this project needs to continue to the timeframes proposed}.\]

L Arthur Pty Ltd notes the requirement to double handle freight and doubts the economic rationality of the development of a road/rail terminal viz:

\[ L\ Arthur\ suggests\ that\ using\ the\ market\ site\ as\ an\ intermediate\ road\ hub\ and\ developing\ more\ efficient\ road\ delivery\ vehicles\ has\ a\ much\ stronger\ prima\ facie\ economic\ case.\]

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Discussion

The MIT concept has been publicly consulted on as a high level concept but is yet to be formulated as a detailed project concept and its feasibility and financial viability is yet to be assessed.

The information provided by the Habitat Trust suggests that there is a considerable amount of existing rail terminal capacity at the Swanson Dock terminals. This represents approximately 25% of the forecast capacity of the Swanson Docks in 2015 (i.e. 3.4m TEU/yr). This raises the question as to whether this capacity realisable if the sidings are used for handling port shuttles and whether there are any significant capacity constraints in relation to port rail terminals at the present time. Both these factors will be relevant to assessing the level of demand for the MIT.

Other issues that remain to be clarified include the impact on terminal efficiency (if any) of the operation of road vehicles in and around the terminal used to transfer freight to the MIT, and the how the costs of this handling will (if at all) impact on the economic competitiveness of rail shuttles.

A significant factor in improving the efficiency of rail and port interaction comes from operations north of Footscray Road. In regard to this site, there are questions

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380 Ibid

381 Asciano (2007), \textit{ESC Review of Port Planning Submission}, p.15

382 L Arthur Pty Ltd (9 October 2006), letter to Melbourne Port@l Board, p.4
in relation to planning frameworks and governance that will need to be addressed
to progress development of the site for it to most effectively complement port
operations and improve the efficiency of the land-side interface.

There are a number of authorities that have a role in relation to land use and
development applications within the precinct, including the local councils, PoMC
and VicTrack.

The City of Melbourne owns and controls a significant portion of the land north of
Footscray Road, including the Melbourne Wholesale Markets, the Dyon Road
Waste Transfer Facility, and other sites. VicTrack also controls considerable land
holdings, and some land is also owned by private persons. Together with long
term leaseholders the number of parties involved in the precinct’s planning may
slow development or compromise a fully efficient outcome. This will require an
emphasis on effective coordination and long term land appropriation.

As mentioned, the design concept for the MIT and its economic feasibility are yet to
be finalised. This should be addressed within a wide context which would include
the question of whether the existing rail terminals at the port represent an efficient
configuration.

9.4.9 Webb Dock Development

The port planning frameworks envisage that international container facilities will in
the future be developed at Webb Dock. A large commitment will be required to
significantly improve road and possibly reintroduce rail infrastructure to support
such a development.

The concerns included the impact of extra freight traffic (including rail if the rail link
is re-established) on the local community and marine traffic, limited land availability
for the transport infrastructure, the possibility (and practicality) of a rail bridge, and
problems with the existing rail alignment are some of the key issues.

Therefore, the development of Webb Dock could be constrained by land-side
transport connections unless early planning and effective land-side infrastructure
solutions are developed.

9.4.10 Preliminary conclusions on rail mode share

The 30% rail mode share target has an important status in the application of the
Victorian planning framework, because it is contained in Melbourne 2030, a
geographical strategy which planning authorities must give substantial weight to
when approving planning permits (including imposing conditions on planning
permits).

383 City of Melbourne (2006). City of Melbourne Response to the Draft Melbourne Port@l
Strategy and the Draft Port Development Plan, p. 6

384 For example, as noted in the submission by John B Arthur on the Melbourne Port@L
Strategy Draft (Arthur J. B. (2006), Re: Melbourne Port@L Strategy Consultation Draft)
For this reason it is important to give consideration to the feasibility of achieving this objective within the established timeframes. There is a risk that planning authorities could place onerous obligations on any new container terminal development in terms of the rail mode share it should be designed to achieve – which could be more demanding than the effective requirements applying to existing stevedores.

Furthermore, it is important to give consideration to some of the elements of the draft Melbourne Port@L strategy. This is because part of the ‘economies of scale and scope’ argument supporting concentration of development at Swanson Dock relates to the purported benefits of its location in relation to the Dynon rail precinct, and the synergies between the Swanson Dock and the proposed Melbourne Intermodal Terminal. However, a detailed feasibility assessment of this terminal is yet to be made.

It is the Commission’s view that reaching the 30% mode share target will be heavily dependent on the successful development of rail shuttle services between the Swanson/Dynon precinct and decentralised intermodal hubs within the main industrial areas of Melbourne. The draft Melbourne Port@L strategy is intended to facilitate the achievement of this target. However, at present it is in consultation stage and key initiatives of the strategy, such as a Dandenong intermodal terminal, and the proposed additional rail line between Melbourne and Dandenong, and potentially the Melbourne Intermodal Terminal, will take several years to establish. There will also be a range of other necessary infrastructure works and rolling stock investments. These could not be achieved within the targeted timeframe of 2010. Rail operators’ response to the infrastructure improvements discussed in the rest of this chapter will be an indication of what can be achieved without levying charges on trucks. This experience will provide a much firmer basis than is now available for determining what rail market share might ultimately be achieved.

Thus notwithstanding the considerable goodwill expressed by stakeholders in support of an increased mode share, when treated as a whole the submissions to this and other consultations suggest that the 30% target is unlikely to be achieved within the specified timeframe. It may therefore be desirable to reformulate this strategy – but in order to do so, a detailed appraisal is required of the costs and benefits of works programs directed towards achieving different mode share outcomes.

### 9.5 Data Completeness

In assessing the success of conceptual ideas the importance of having ready access to data about freight movements and industry trends is extremely important. For example, there has been considerable reliance on the 2003 SKM Container Origin Destination Study, however this study needs to be updated.

In view of the importance that accurate forecasting will have on the likely timing of infrastructure and the large expenditure, a process of more regular data updating is required. It is unlikely that detailed assessments and decision making could be effectively made by industry participants, for example in relation to Intermodal hub developments, without accurate data. Hence a better database may also be an
important element in facilitating supply chain efficiency and increasing the mode share of rail.
The Commission is required to undertake:

(e) An analysis and assessment of the relationship between the current market structure for container stevedoring services and the provision of container handling, storage, transport and intermodal services which form the land-side interface of the port, particularly in terms of impact on competition and efficiency in the provision of these latter services.

(f) An analysis and assessment of the relationship between the current market structure for the provision of container stevedoring and related land-side services and the achievement of the Government’s policy objectives, including the 30% port rail mode share target.

The previous chapter dealt with those aspects of these issues that did not relate to the stevedoring structure. This Chapter relates to those aspects that might be affected by the stevedoring structure. It identifies the impact of market structure and port planning activity on efficiency of the rail and road-based supply chains, achievement of the Government’s rail freight share objective, and the competitive circumstances of different sectors within these chains. The first parts of the chapter deal with general considerations of market characteristics and conduct, and the later parts with the specific issues of efficiency and the government’s 30% mode share objective.

10.1 Land-side services - market structure

The market structure of land-side container logistics services, as discussed in Chapter 2, consists of a broad range of businesses operating either in specific market segments (such as road transport or empty container services) or in partially or fully integrated operations stretching across the supply chains. The markets or services include:

- Transportation of containers by road or rail
- Container handling, storage and value adding services such as pack and unpack services, container repairs and so forth,
- Intermodal services, and
- Freight forwarding.

As mentioned, the two container stevedores at the port of Melbourne are partially vertically integrated into these services. DP World is primarily integrated through P&O Trans Australia (POTA), of which it owns 50%. POTA has a presence in all of the foregoing supply chain services. Patrick is integrated through three affiliated
businesses: Pacific National operates freight trains, primarily on interstate routes. Patrick PortLink also operates freight trains, but primarily for short-haul operations. Patrick Port Services operates container parks and container value adding services as well as transportation of empty containers to the port. Patrick may also retain a corporate relationship with Toll following the demerger.

Container transportation

The market for transporting international containers is often defined separately into road and rail markets. However, both rail and road modes service the same task – transport of import and export containers – although each has advantages over the other in different market sectors. Most regional exporters that are close to key towns have a choice between modes, although there is little mode choice for exporters in urban areas or for importers who typically use road transport. This can be seen in Table 9.1 which shows the level and shares of import/export TEU’s carried by distance. It indicates that the majority of movement of containers by rail are from longer distances such as regional exports and interstate containers.

Road and rail are not pure substitutes because usually rail transport involves a complementary road link via a regional terminal. There are no longer any point to point rail container services in Victoria.

Nevertheless road and rail modes do compete closely, and there are no structural or legal impediments on customer choice in regard to choice between modes. The only issues driving customer choice are related to commercial and practical issues:

• Rail is less flexible than road as trips are often at fixed daily times, whereas road transport times are far less constrained. Further, rail services are exposed to delays and incidents which can affect service reliability – recovery from incidents is slower than for road, and the scale of any incident is usually greater.

• Rail services depend on terminal location in relation to customer location. If the road connection distance is too great, the decision to use intermodal services is compromised. In areas without local terminals (relative to total haul distance) rail is not an option. Rail services now generally do not pick up or detach wagons at locations along a given route, due to the costs of shunting, maintenance of sidings at intermediate locations and the time involved. Thus the more distant locations (Mildura, Horsham, Swan Hill, Deniliquin) provide the vast majority of the Victorian rail volume.

• For containers, rail services usually involve double handling. The container is usually not loaded directly from the ship, but is transported from the wharf to the train by straddle carrier or a truck and lifted onto the train, and at the other end is transferred to a truck for delivery to the final destination. These pick up and delivery costs tend to make rail services uneconomic for short hauls, compared to trucks, which can take the container straight from the wharf to the final destination (although sometimes there is staging).

• Some customers are dissuaded from using rail due to the impact of multiple lifts on sensitive products being carried.

Rail compensates for these adverse characteristics in relation to road by offering price advantages, particularly for longer hauls. Rail services are typically provided on a continuing long term basis, and (for containers) cannot always be varied or
altered in response to short term demand issues. Rail transport uses price to stimulate sales volume in order to retain maximum rolling stock utilisation. The relationship between underlying cost and service price is not as direct as for road transport, as rail operators are essentially ‘price takers’.

Long distance rail operators compete directly with the road transport industry, more successfully on the longer east-west routes than on the north-south corridor down the east coast of Australia (however the East Coast line is currently being upgraded).

Port shuttles, if they are to be developed, will compete directly with urban point-to-point road transport. To be successful, shuttles will need to overcome the disadvantages of double- or treble-handling, wharf loading arrangements that are less efficient than for trucks, and the lack of flexibility in timing.

Road transport

As discussed in chapter 2, the market for road transport services is spread over a large number of suppliers and includes a broad range of types of businesses. There has been a trend towards consolidation of this market, particularly driven by the growth of the Toll, Patrick and Linfox businesses in particular. Consequently the largest 10 operators account for around 65% of the market. However, the consolidation of ownership has not necessarily been accompanied by the same degree of consolidation of control. For example, Toll’s growth by acquisitions over the last decade has consolidated capacity under the company name, but the affected businesses still operate under their own trading names on a competitive basis.

The road transport sector in general is characterised by low margins and low barriers to entry and there is a high amount of entry and exit at the lower end of the market. This competitive environment ensures that a wide range of prices and service levels are available to customers throughout the market. Freight customers can usually choose between reliable high reputation hauliers with high performance standards, integrated IT systems and well presented vehicles, and smaller ‘no-frills’ carriers offering substantially cheaper rates, and operating their own trucks.

Thus the market is still both competitive (with many operators and no dominant operators) and contestable (with low barriers to entry). The Commission has not been made aware of any evidence of any impact on freight prices or efficiency as a result of operator consolidation. Prices have varied in response to changes in costs. Many customers are also contracted to transporters on confidential commercial terms which differ from published rates due to factors such as commitments of volume, operating hours, and warehouse access terms.

Rail transport

Competition within the rail sector for containerised freight is very low. As noted in Chapter 2, there is one main operator, Pacific National, servicing the intrastate rail
sector. There is somewhat more competition for Pacific National in the interstate sector, but it remains the dominant interstate rail operator.

Nevertheless, barriers to entry are low, especially with the reacquisition by the Victorian government of the regional rail network. This removed the vertical integration of freight services and improved the incentive to provide access, and took pressure off the access regime, which itself had been strengthened to facilitate access and address vertical integration. The implications of the access regime and the new ownership structure are that there are low barriers to entry. At times the rail industry has demonstrated this, particularly in mineral haulage markets. For example, in NSW following the introduction of a very open access model (with track remaining in government hands), there were to up to 10 new operators. This number has since reduced to five operators still involved in intrastate and inter-urban container services in NSW.

There are several factors, however, that will work against the entry of new rail freight operators in Victoria. Pacific National captures much of the available volume from the key regional production sectors with its daily service. Any organic increase in volume in these areas is likely to be captured through adding wagons to these existing services, or by increasing the utilisation rates on existing wagons. Growth of this nature is likely to be limited (at least in the short-term), due to the vagaries of climate and the need for producers to feed growing domestic markets ahead of increasing exports.

An exception to this is likely to be containerised grain, which will grow rapidly over the next 2 years as an outcome of the revised wheat marketing arrangements. The impact of the continuing drought and climate variability, may limit growth in this product, and with high variability from season to season.

In summary, a new operator is unlikely to be able to locate sufficient sources of volume to establish a competitive service to Pacific National at the few locations where rail terminals exist or can be developed at reasonable cost. However with low barriers to entry there remains a threat of future competition which, together with road freight, disciplines Pacific National’s price and service offerings. On its interstate traffic, Pacific National has competitors in QRNational and SCT, running services on some corridors of the national network, although these services are predominantly domestic freight rather than international shipping containers. At least one of the competitors depends on Pacific National to provide locomotive and crews under contract. The QRNational train from Adelaide is the only substantial port-related non-Pacific National service.

385 As noted in Chapter 2, El Zorro is expected to also start operating on the intrastate network in December 2007, although this will be in relation to transporting grain and not containerised freight. In 2006 it was announced that El Zorro would operate three trains a week between the Somerton Intermodal and the port. These services have not yet commenced.

386 Based on advice provided to the Commission by Strategic design and Development

387 Note that containerised wheat now does not come under the single desk and can be marketed independently.

388 Based on advice provided to the Commission by Strategic design and Development
Mitigating the lack of competition in the Victorian rail market is that the rail service is a component of the overall transport market, with competition coming from road transport. As a result, rail remains a ‘price-taker’ in most of these services.

**Container handling services**

A range of operators provide container handling and storage services from the affiliated or integrated entities such as POTA and Patrick Port Services, to the independent parks dotted through the industrial zone to the north and west of the port. The customers for these services are primarily the shipping lines (as the owners of containers), rather than the local importers and exporters themselves. Services offered by these facilities are based on the receipt of empty containers after use, and the preparation of them for their next use, either for a local export move or transfer to another customer by ship.

Prices for these services are considered to be fairly equivalent, and the shipping lines are in good position to negotiate commercial arrangements with these companies. The number of container parks has decreased from 28 in 1995, to 12, ten years later while the average annual throughput has quadrupled to over 120,000 TEU over the same time. Operators report declining profitability due to rising costs, static rates, international competition and as container park activities are relatively low value in comparison with some competing land uses in the port area, and there is some concern that they will be priced out of the areas where shipping lines prefer them to be located (close to the port terminals to minimise relocation costs).

**Intermodal terminals**

There are two main types of rail terminal currently servicing the port-related rail freight task. The Dynon terminals are used to unload/load interstate and intrastate trains, and in the past containers were transferred by road to and from the Swanson Dock terminals. These terminals were traditionally operated by rail companies to service their own trains in line with rail operational needs.

The ‘on-dock’ terminals, which are relatively newly developed by the stevedores and the PoMC, enable trains to move directly to the port terminals, thus eliminating the external road trucking connection. They still require internal transport to and from storage areas within the boundaries of the port terminal. These terminals are staffed by the stevedores and they essentially control the ‘access windows’ for the trains.

There is no shortage of overall terminal capacity for the foreseeable rail traffic in the area. The Dynon Intermodal Terminal, largely vacated by Pacific National trains, has substantial capacity for future growth. This terminal area, however, is in need of capital investment as its hardstand and facilities are degraded and it suffers a disadvantage against the on-dock terminals due to the road transfer connection required.

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389 Based on advice provided to the Commission by Strategic design and Development

390 VFLC (2006), *Business Activity Harmonisation Study*, p.45
At the on-port terminals, the Asciano terminal is well utilised handling interstate trains and the Pacific National regional export task, and its current uses make it unsuited to also providing access to port shuttles, should they eventuate. The DP World terminal, however, only accommodates the Adelaide train. This is a result of the ownership alignment between the Asciano terminal and PN and the market advantage that arises for Asciano from the use of the Asciano rail terminal for all its trains.

Thus there is some imbalance in the use of the two on-dock terminals, and DP World has less ability to match Asciano’s service offering to the rail-using market, as it is not aligned with any rail operator.

In regard to outer urban Intermodal terminals, the existing terminals do not at present have a significant port-related rail task. These terminals are operated by interstate rail transporters and/or port terminal operators such as POTA (at Somerton), CRT/QRNational (Altona), and SCT (Laverton). Prospective developments are associated with Asciano (Dandenong) and Westgate Ports (Altona and Lyndhurst). There is therefore a significant degree of vertical integration in this activity.

**Freight forwarding**

Freight forwarders are agencies which provide international logistics arrangements including brokering, customs and quarantine and other barrier clearance, and shipping for freight customers. As noted in Chapter 2, major exporters and importers are increasingly incorporating their own freight forwarding capability in house, while small-medium businesses continue to out-source these services to these agencies.

There are around 95 Victorian members of the peak industry body for this sector. Many of the largest freight forwarders are international firms such as DHL, Panalpina World Transport, Schenka Australia, and Kuehne & Nagal. Toll is also a national rail, road and sea freight forwarder, and provides warehousing and distribution of goods. Both Asciano and DP World or affiliated entities provide freight forwarding/transport logistics services. Therefore, while there are providers of freight forwarders who are vertically integrated along the supply chain, there appears to be a high level of competition in this sector.

The CBFCA, in a submission to IPART, identified a range of issues that affect customs brokers, freight forwarders and transport operators. These included issues relating to overseas supplier documentation; border security and customs systems and process; the mismatch of operating hours between stevedores, transport and logistics service providers; road transport processes including slot availability via the VBS at ports; and rail transport processes (including booking arrangements and transparency). Therefore, apart from sector specific issues relating to documentation and customs, the issues pertaining to efficiency for freight

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391 CBFCA (2007), submission to IPART (appended to the submission to Review), Position Paper Independent Pricing and Regulatory Tribunal., p.7
392 ibid, p.4
forwarding services are similar to those for land transport and container handling service providers and are addressed both in this chapter and chapter 9.

10.2 Market conduct

The port terminal companies exert a high degree of control over the terms and conditions of access by road and rail transport vehicles to their facilities. This control is exercised via direct control over the on-dock rail terminal operations, and for truck access, through the VBS systems and associated road transport interface facilities.

Rail access control

As previously discussed, the control of the rail terminals is a critical determinant of the operational activity of the rail operator. This does not disadvantage the affiliate Pacific National, as the main rail operator for regional export traffic. Thus the Asciano siding handles rail at least 16 hours per day and can move to 24 hour coverage if the cost is warranted by rail benefits.

If there were competing rail operators then there might be tension in the allocation of terminal access ‘windows’. This issue has been of considerable concern at Port Botany, where access windows are allocated between up to five operators, with some difficulties reported in relation to perceived equity in these arrangements. As discussed in section 9.5.4, an issue raised by stakeholders is the differential charges applied through the VBS for road access and rail access charges. QRNational considers that this reflects the market structure:

QRNational believes that the current market structure for stevedoring services has resulted in inequitable pricing of services between road and rail. For rail to address this matter and to increase its share to the 30% benchmark set by government policy, there will need to be significant improvements made in the economics of the provision of short haul rail services.393

However, no information has been provided to the Commission as to why the current market structure would produce this outcome, given that one of the stevedores has an affiliated rail transport business (Pacific National)394, and at the rail terminal of the other stevedore there is more limited use of its terminal.

Road access control

The development, control and use of the VBS by the port terminal companies is a source of some disquiet amongst some transport operators, agents and customers. The two port terminal companies pooled resources to develop the system, but use it to administer their own business activities separately. This is not seen by the

393 QRNational (2007), Review of Port Planning Issues Paper – Essential Services Commission, p.4
394 This may lead to a separate concern that affiliated and non-affiliated businesses are being charged different prices. Again, however, no evidence of this has been provided to the Commission.
industry as a problem in itself, but there are concerns regarding the effectiveness of the system and its revenue raising capacity. Some in the industry suspect the stevedores make a substantial cost recovery on the VBS operations.\footnote{CBFCA Australia, submission to IPART inquiry, included in submission to this enquiry, June 2007}

Each company has a different charging system under its VBS (see section 9.2.4). PoMC has taken a long term ‘hands off’ approach to the daily commercial activities of the stevedores. As noted by PoMC:

> Currently, PoMC has no involvement in the operation of these systems. Internationally, it is not uncommon for port authorities to be involved in, and indeed take a leadership role in the development of these systems. However, the practice in Australia is for terminal operators to manage their own systems.
>
> …At this stage, neither the State nor PoMC’s planning framework attempts to influence operational systems but rather, both focus on the physical infrastructure requirements.\footnote{PoMC (2007), *Port of Melbourne Corporation, ESC Review of Port Planning*, pp.18-19}

**Hours of operation – road access**

Port terminal companies are open for pick up and delivery 16 hours per day, with peak access demand in daylight hours. Nightshift is used by the stevedores to load ships and to re-organise pads and stacks after the day’s activity. They also use this time for ‘stack runs’ from their affiliated transport yards (POTA) or former affiliates (Toll), which provides substantial benefit to customers using these supply chains.\footnote{Sd+D advice}

Asciano indicates that this option is available to other, larger, operators:

> Where there are efficiency gains to be made by working closely with any of the larger transport operators (e.g. by utilising bulk runs), Patrick will work openly and transparently to achieve a solution that is acceptable to all parties.\footnote{Asciano (2007), *ESC Review of Port Planning*, Submission, p.14}

A typical such chain works as in Figure 10.1.
The importer gains access to its container in daylight, returns the empty to the near-port depot where it is held back until after hours. The company accumulates empty containers from its customers and then runs them in a rapid campaign into the stevedoring area. This saves the company the cost of delivering the empty container via the queue and the VBS as other carriers do.

### 10.3 Land-side interface performance

*Road freight efficiency*

The overall efficiency of the international container freight supply chain at the port is a function of the interaction of several interacting factors:

- growing freight volumes
- congestion on docks and at interfaces
- ship schedule performance
- underlying unit cost changes
- changing import/export balance
- transport modal share

Isolating the impact on supply chain efficiency of market structure and changes in competitive circumstances in the supply chain in the context of all these factors is challenging. Links between any such changes and any particular attributes of port planning activity would be equally difficult to establish. Part of the task, that of considering land-side efficiency impediments due to factors other than port market structure, was undertaken in chapter 9, helping narrow the focus in this chapter to port related issues.
There have been considerable efforts by the industry participants to improve the ratio of truck trips to container carried in response to observation of considerable empty running due to lack of co-ordination. Recent improvements are likely to be related to the increasing ability of the larger operators to match vehicle size and trips to demand, simply through scale. However, this may be more difficult for small operators, as they have fewer vehicles in their fleet. As the scale of the total task rises and the larger operators gain a higher share of total business, overall efficiency (by this measure at least) is likely to improve. This is one way in which consolidation in the market for transport services can lead to overall efficiency improvements. So long as there remains sufficient competitive pressure between the participants, these benefits will be reflected to customers through price savings.

While overall trade growth has trended fairly steadily at an average or around 7% per annum since 1994, there has been a significant change in the make-up of that growth, as shown in Figure 10.2.

Figure 10.2 - Break up of Melbourne container trade 1994-2006

There has been relatively stronger growth in imports than in exports, and in consequence, the proportion of total trade made up of empty export TEUs has increased fairly rapidly from around 10% between 1994 and 2001, to around 15% from 2002 to 2006. Between the same periods loaded export containers fell from 40% to 35%, again reflecting the increasing dominance of imports. This growing proportion of empty movements has an impact on overall chain efficiency, reducing the potential for exchange between import and export movements and probably increasing the number of truck movements in proportion to trade volumes.

399 BTRE Waterline time series
Evidence gathered for the VFLC’s Business Activity Harmonisation Study (BAHS) suggests that queuing and unpredictability remain a major source of frustration for carriers, yet overall the participants in the supply chain demonstrate an unwillingness to spread demand over the full 24 hour period of each day to minimise costs arising from congestion. POTA has introduced extended hours at its Sydney facility since March 2007, but has had limited response due to the unwillingness of freight customers and warehouses to accommodate night shift trucking activity. The cost of delays to trucks in daytime queues has not yet translated into effective customer demands for 24 hour activity, or a more even spread of activity over the typical operating hours of the port.

**Rail service efficiency**

The establishment of on-dock terminals has led to direct cost reductions for the operator, Pacific National, through greater efficiencies in the integrated operation with Asciano at the port. Whether these efficiency gains have resulted in cost reductions to rail customers is unclear. The nature of the pricing of rail services in this type of market would suggest that prices are set with regard to the competing road price. For this reason, pricing is not directly responsive to movements in the underlying cost base of service provision (with the possible exception of some contracts that include fuel cost surcharges similar to the road freight sector).

The Commission understands that anecdotal evidence suggests that there have been no significant price increase pressures in containerised rail freight since an initial 20% increase was applied when Freight Australia bought the V/Line Freight business in 1999. However, there is a perceived decline in service levels and a reduced performance of the rail operator in meeting on-time targets.400

**Port congestion costs and impacts**

Road works planned for the port environs, particularly new access arrangements to Appleton Dock and works aimed at improving the integration of the on-dock rail terminals with the port terminals will incrementally improve truck circulation in response to the ever-increasing task. The Dynon Port Rail Link, funded by AusLink, will also improve travel time for trucks on Footscray Rd. These initiatives will contribute to overall travel time efficiency, along with the performance of the overall urban road network.

The BAHS highlighted that a total supply chain effort would be required to make a substantial impact on congestion costs. Market forces currently provide insufficient impetus for a serious move by freight users and supply chain entities to expand operating hours in order to reduce congestion. In a market with over 250 road transport participants, the clear indication is that the costs of congestion are not yet being taken into account by enough companies, and adequately reflected in time-variable rates, to drive change.

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400 Based on advice provided to the Commission by Strategic design and Development.
10.4 Land-side efficiency

*Competition and the efficiency of supply chains*

There is no simple answer to the question as to the optimal level of competition in the port supply chain. There are different competitive markets at each stage of the supply chain, and the efficiency of the total supply chain is not necessarily related directly to contestability in any one of the stages. Aside from the basic issues regarding the port duopoly, the efficiency or inefficiency of supply chains derives more from the lack of systematic co-ordination between industry participants and from the constraints discussed in chapter 9, than from any lack of competitive pressures at specific points in the chain.

There are advantages observed in the efficiency of the supply chain from the vertical integration of the two stevedoring companies. These companies are in the best position to locate and exploit strategic advantages through their ability to influence whole-of-chain activities via the port terminal interface arrangements (including operating hours and the VBS). This view was supported in submissions to the Review by the MUA, PoMC and the ARTC. For example, PoMC states that:

> It is arguable that, because stevedores have some level of vertical integration along the "Port System" chain into the road transport industry, they have some opportunity to use other means (for instance, improved information exchange) to encourage higher truck utilisation in related carriers.

> …

> If recent developments in Europe are any guide, vertical integration of terminal ownership, rail operations and intermodal terminal operation may be an effective way to develop shuttle train operations that can effectively compete with road. 401

However, the level of competition between the vertically integrated supply chain service providers remains substantial due to the scale of the major customer contracts on offer, and the range of logistics structures available for each company to use to attract these major customers. For instance, there are different offerings available through the use of road or rail-based strategies, alliances between transporters and terminal operators, hub and spoke transport operators, and near port and outer urban distribution models. The innovative solutions for customers in an era of continual high growth means that contestability and market concentration are unlikely to become serious concerns to the customers in the foreseeable future.

*Rail competition*

The role of rail in the sea freight supply chain is a significant issue in general for the government and port planning processes, but is not substantial in relation to competition levels and overall efficiency. Rail remains of prime relevance to rural

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exports, but is not yet showing any capacity to offer solutions to urban import/export customers.

*Intermodal hubs*

The future location of container parks in Melbourne is tied to the prospective development of urban intermodal hubs. For these to operate efficiently, large container parks will need to be developed within or adjacent to any terminals. Similar terminals with associated container parks in Sydney and New Zealand are beginning to gain shipping line acceptance. If this trend is to develop in Victoria, it can be expected that the operators of urban Intermodal terminals will become key providers of container park capacity. In the meantime, however, there is unlikely to be any impact of the market structure of container stevedoring on the prices or service terms offered to container park customers in this sector.

*Competition between stevedores or ports in relation to other supply chain sectors*

Australian ports tend to be less competitive with each other than in most other countries, reflecting the distances between the ports and the associated costs of land-bridging. There are no existing competitive port options for the Melbourne urban import market other than the Port of Melbourne. While the current stevedoring duopoly is associated with a degree of market power (see Chapter 3) this has not been paralleled in the landside supply chains, where there is strong competition in the road freight, freight forwarding and container handling markets. Above-rail competition is more limited, but there is substantial pressure on the rail operators in regard to price and service quality from road transport.

In general, the narrow competitiveness at the port and stevedore level does not limit the extent of competition through out the supply chain, and does not reduce its efficiency. The inherently powerful positions of the two port terminals in their supply chains confer substantial benefits on their affiliated businesses operating in those markets, but this effect is not solely due to the duopoly market structure of stevedoring, as terminal owners in all types of transport systems tend to have significant power over their supply chain partners.

The constraints of land availability and lack of a clear implementation plan for reorganisation of the supply chain around outer urban hubs are more significant determinants of chain efficiency and community amenity.

**10.5 Rail freight share target**

*Development of port shuttles*

The future development of port shuttles will require some examination of the port terminal capacity situation to ensure that any such services have access to the most appropriate terminals. This will not be possible at the frequency required to make shuttles viable if existing port terminal sidings are to be used, which are well utilised with regional and interstate trains, potentially occupying the sidings for long periods between arrival and departure. A port shuttle service network will eventually require a dedicated purpose built rail terminal in order to achieve the volumes necessary for viability and attain a meaningful share of total port traffic.
Use of Dynon and on-dock terminals by PN

The development of on-dock terminals was undertaken by the stevedores in conjunction with PoMC in response to the general interest in improving rail share and the desire to eliminate the road transport leg from Dynon to the Swanson docks. While this has been achieved, it has also concentrated key rail assets under the control of the stevedoring companies. While, as previously discussed, this does not currently have any serious impacts on contestability in the transport market, it may limit the potential for government action to increase rail share in the future.

The investment and amplification of the Swanson terminals could reduce the practicality of a new independent terminal for port shuttles, as envisaged under the draft Melbourne Port@L strategy, being constructed close enough to the terminals to be cost-effective. The DP World siding, in particular, forms an east-west barrier to traffic between the docks and the rail terminal areas to the north of Footscray Road. This could be detrimental to the effectiveness of additional rail terminal infrastructure.

The concentration of control over rail activity, then, has been an incidental effect of reasonable efforts to improve the efficiency of the land-side interface of the port for rail transport. However, it highlights how planning activities can indirectly benefit the interests of tenants and raises the prospect that the relationship between PoMC and the long term stevedoring tenants can become more important in the achievement of the port’s objectives.

Planning frameworks – efficiency and rail share

In terms of landside transport options for the proposed Webb Dock and Hastings developments, there may be difficulty in sourcing operators to provide freight services for each of these new ports.

In relation to Webb Dock, the development will be well placed in regard to the major metropolitan freeways, and road connectivity to the suburban industrial zones will be excellent. On the other hand, the commissioning of a third container stevedoring terminal could possibly result in a dilution of the rail traffic between three terminals instead of two. However, since this current traffic is currently strongly linked to the Asciano terminal, there must be some doubt as to whether Webb Dock will be a competitive alternative for rail freight services.

In regard to Hastings, the same issues might apply, though the circumstances differ. Hastings, when developed as planned, could be serviced via a rail corridor as well as upgraded road links. The rail corridor may be the existing line via Frankston, currently carrying passenger services and infrequent steel freight trains, or it could be a new dedicated freight corridor into Dandenong. Again the ready connectivity of this port into the major arterials servicing the metropolitan area will challenge the competitiveness of rail in servicing this task.

Rail services to new container terminals are most likely to emerge if a new stevedoring operator has a close relationship with a rail operator(s) when the new terminal is commissioned. The dominant position of Asciano in this regard may have some influence on its ability to compete for the stevedoring lease at Webb Dock depending on the relative weighting given to stevedoring competition and the rail mode share. Thus the current dominance of Asciano in rail freight services...
might provide it with an advantage in a future terminal tender process. These considerations will need to be balanced against the objectives in the CIRA in relation to facilitating greater competition.

10.6 Options

There is scope for an increased role by the PoMC in overseeing and monitoring the operation of the VBS at each terminal, and in sponsoring improvements to its operation. This is consistent with its charter to facilitate the integration of the port with systems outside the port. The Corporation could not assume any price-regulatory role but could take on a monitoring role with the approval of the stevedores on behalf of all transporters and customers.

Through the lease agreements, the PoMC could assume a stronger role in overseeing the development of the systems and address the queuing issue in so doing. The aim of such involvement would be to ensure equitable treatment of all trucking operators and their customers in the development and implementation of the systems.

In regard to rail, PoMC has seen its role to date as facilitator and provider of rail track investment to allow trains more direct access to port terminals. Future growth of the rail market share may require a more holistic approach to management of rail systems by PoMC, including participation in or oversight of the system of allocating access windows. This would be particularly important if port shuttle services were to be introduced into existing terminal sidings.

**Role of the PoMC in promotion/implementation of rail freight target**

In its planning processes, the PoMC has attempted to facilitate rail use through its dealings with its tenants, through using ARTC to manage the rail track within the port, and in liaison with VicTrack. PoMC owns and manages (through ARTC) the rail track inside its boundaries. It has not, however, taken a planning and coordination role in relation to the extended supply chains outside its boundaries. While promoting the concept of intermodal hubs and the concentration of activity around them, it has no direct role in bringing them to fruition.

The establishment of rail-based supply chains requires co-ordination of land use, transport and ports policy and the developmental activities of the ports corporation can be pivotal. Inland ports can be key to the success of these ventures. PoMC has not sought to stimulate these developments as part of its planning process, leaving the market and other government agencies to initiate them if they are viable. This approach is in line with the passive planning role taken by most Australian ports on developments outside their direct environs, although Sydney Ports Corporation has been developing a type of inland port concept at Enfield. An alternative approach, in which the port corporation takes a more active role in developing inland terminals, is illustrated in Box 10.1 and illustrated in Figure 10.3. This example demonstrates the benefits of PoMC having a more active role in the land-side supply chain. PoMC does not have a similarly strong incentive to champion such a system, and the financial risks are greater in the urban Melbourne environment.
Box 10.1  **Port of Tauranga**

The Port of Tauranga in New Zealand offers an example of a more integrated supply chain development approach. The port is 200km to the east of Auckland, and was a regional bulk export facility, with an export container operation servicing the North Island dairy industry. A rail service supplied the export containers. Shipping lines seeking an alternative to Auckland Ports for importing containers for the southern Auckland industrial market stimulated the Tauranga Port to offer an integrated supply chain into that area, using the existing rail connection.

The port now operates an inland port in partnership with the rail operator, and acts as the customer for the rail service on behalf of all the shipping lines using it. Adjacent to the inland port, known as MetroPort, is an empty container park, also owned by the port authority and the rail company. This structure has allowed the Port of Tauranga to rapidly grow its import volume and the use of rail is critical to this success. The stimulus for the initiative was the port's competitive relationship with its neighbouring port, rather than any general government transport policy objective.

Figure 10.3  **Ports of Tauranga and Auckland**

Source: Strategic design and Development
Road transport efficiency

As noted previously, truck queuing is a source of inefficiency for road, yet the overall chain demonstrates an unwillingness to spread demand over the 24 hours available every day to reduce this. Differential charges for different periods of the day, for instance, might have some stimulating effect on trucking activity - though as discussed in chapter 9 it would be difficult to put into practice. This is an area where the PoMC could conceivably have some impact if it takes an oversight role in relation to the stevedores VBS.

10.7 Preliminary conclusions

The PoMC has tended to focus its efforts in facilitating efficiency through infrastructure provision and enhancement rather than systems or operations.

Port planning efforts have not generally included planning for overall supply chain efficiency, and downstream market contestability. There is a case for more integration between port planning and general urban freight planning activity.

Road and rail compete with each other for market share under very different operating conditions at the port interface. Competition in the rail sector is far less than in road, without having any major impact on overall industry efficiency. However, integration of dominant rail service with a single stevedore may have some impacts on overall rail market share through sub-optimal use of available on-dock terminal space. Fundamentally poor economics of short haul or low density rail services will also cap utilisation.

There does not appear to be a competitive problem in the port supply chains. The larger customers will achieve benefits from the more sophisticated integrated service offerings in comparison to the offerings available to smaller, non-integrated freight customers.

Continued annual freight growth potentially masks some market tightening impacts that might otherwise emerge. Truck congestion at the port associated with growth will tend to get worse until harmonisation of operating hours occurs due to commercial benefits observed throughout the supply chain.

Planning for ‘overflow’ container terminals at Webb Dock and Hastings needs to involve transport infrastructure investment under a defined transport management model.

Vertical relationships between the stevedores and other services providers within the supply chain do not at present impair the effective competition in the container handling and storage markets upstream of the port. The stevedores’ roles in these markets may be viewed as enhancing the competitiveness of these markets rather than the reverse. Furthermore, in the context of potential for the entry of the third container stevedore, there do not appear to be any barriers to entry which would restrict the new competitor to dealing with companies affiliated with the incumbent stevedores, except possibly in the case of rail where the dominant above rail operator is affiliated with one of the incumbent stevedores. Overall, there do not appear to be barriers to entry to container stevedoring entry arising from the market structure of the land-side.
There is scope for a more active role for PoMC in improving land-side interface efficiency, including an increased role in overseeing and monitoring the operation of the VBS at each terminal, and in sponsoring improvements to its operation. Similarly, PoMC could oversee the system of allocating access windows for on-dock rail terminals.

More broadly, PoMC has as part of its statutory charter, the effective integration of the port with other systems of infrastructure in the state and to facilitate trade, there is a general obligation to facilitate the efficiency of the land-side interface of the port. The port should identify targets and objectives in relation to the land-side interface for it to report its performance against – notwithstanding that it may have limited control over these performance indicators. This would encourage it to engage with industry and tenants and where possible establish efficient incentives within leases, so as to pursue this overall efficiency goal.
APPENDIX A  TERMS OF REFERENCE

Essential Services Commission Act 2001
Part 5 Inquiry and Report
Notice of Reference – Port Planning

Pursuant to section 41 of the Essential Services Commission Act 2001, I, Tim Holding MP, Minister for Finance, WorkCover and the Transport Accident Commission, hereby direct the Essential Services Commission (‘the Commission’) to conduct an inquiry into the impact of port planning on competition in the provision of container stevedoring and related services in Victorian ports.

Background

Competition and Infrastructure Reform Agreement (CIRA)

At the 10 February 2006 meeting of the Council of Australian Governments (COAG), the Commonwealth, State and Territory Governments signed the Competition and Infrastructure Reform Agreement (CIRA), which, among other things, requires each jurisdiction to undertake a review of port competition and regulation.

The CIRA includes principles to guide regulation of ports, including a preference for commercial outcomes, light handed regulation if regulation is necessary and, only as a last resort, more interventionist regulation.

The reviews are to “review the regulation of ports and port authority handling and storage facility operations at significant ports...to ensure they are consistent with the (agreed) principles” in the CIRA. The reviews are due to be completed by the end of 2007.

The full text of the CIRA, as endorsed by COAG, in relation to port competition and regulation is contained at Attachment A.

Competition in Container Stevedoring

The container trade is the largest and fastest growing segment of international trade. The Port of Melbourne is Australia’s largest container port. It accounts for almost 40% of the national market and has recently achieved the two million TEU (twenty-foot equivalent unit – standard measurement for shipping containers) throughput milestone.

Melbourne and the other key capital city ports are currently serviced by a duopoly of the two main stevedores, which has effectively been in place for many years. Victoria’s current policy position in relation to the entry of a new stevedoring
operator flows from pragmatic considerations, in terms of the durations of current stevedoring leases in the Port of Melbourne; experience, in terms of the failure of two processes in the last decade to produce a viable third entrant; and, more recently, the Government’s port strategic planning work. The latter, which has been consistently applied and reinforced through a number of Government policy documents, public statements and communications with potential new entrants over the past 3 years, emphasises the need for coordinated and integrated planning to ensure a sustainable future of Victoria’s commercial trading ports.

Specifically, the **Victorian Ports Strategic Framework (VPSF, 2004)** sets out a logical sequence of development for the Port of Melbourne and then the Port of Hastings to accommodate projected container trade growth over the next 30 years and beyond. The VPSF indicates that there is significant further capacity available at Swanson Dock (up to, say, 4 million international TEUs from the current 1.5 million TEUs) before needing to develop a new container terminal in the Westgate/Webb Dock precinct around 2015. This strategy implies that the two existing stevedore operators at Swanson Dock can accommodate container trade growth for several more years before it is necessary to go to the market place for development and operation of a new, third facility, probably in the Westgate/Webb Dock precinct. Coincidentally, the major existing leases at Webb Dock expire around 2017.

The VPSF position is reinforced by other public documents, including the Consultation Drafts of the **Melbourne Port@L Strategy** and PoMC’s **Port Development Plan 2006-2035 Consultation Draft** (both publicly released in August 2006).

**Scope**

As a result of comprehensive reviews of port regulation by the Essential Services Commission (ESC) in 2003 and 2004 and the Government’s positive response to these, including a shift to a more light handed monitoring approach, Victoria’s regulation of ports already broadly conforms to the CIRA principles. Under the PSA, a further review of port regulation by the ESC is also required to be conducted by 2009.

Rather than duplicate previous work, the subject of this review will be those sections of the CIRA that Victoria is yet to fully comply with, namely sections 4.2a and 4.3. The table in Attachment A outlines, section by section, how Victoria already complies with the remainder of the sections 4.1 and 4.2 of the CIRA.

Section 4.2a of the CIRA, the subject of this review, reflects agreement between the parties to allow for competition in the provision of port and related infrastructure facility services, unless a transparent public review by the relevant Party indicates that the benefits of restricting competition outweigh the costs to the community. Amongst other things, section 4.2a notes that “. . . port planning should, consistent with the efficient use of port infrastructure, facilitate the entry of new suppliers of port and related infrastructure services”.

Given the size and importance of the container trade and the current market structure for the provision of container services, the Review will focus primarily on container stevedoring and related handling and transport services. Consistent with
section 4.3 of the CIRA, the Review will consider these matters as they affect “significant ports”, which are deemed to be the Port of Melbourne and, given the Government’s position on future port development outlined in the VPSF, the Port of Hastings.

Ports and Services to be Reviewed

For the purposes of the CIRA, the main focus of the Review is the Port of Melbourne.

However, particularly in relation to the container trade, the impact of current Victorian port planning on competition in the provision of services also extends to the Port of Hastings, which has been earmarked as the preferred overflow port for container handling once Melbourne reaches full capacity sometime beyond 2030.

Therefore, the Review will also consider the potential role of the Port of Hastings in facilitating the entry of new service providers to the container trade.

The particular port and port related services to be reviewed in this context are:

- Container stevedoring services
- Container handling and storage services
- Container transport (road and rail) and intermodal services

In addition, where it is considered that competition for or in the market for other port or port related services is being adversely impacted by current planning frameworks, these services may also be included in the Review.

Specific Terms of Reference

The Review will examine and report on, and make recommendations in relation to, the interaction between Victorian port planning frameworks and competition in the provision of key port services, particularly container stevedoring and related handling and transport services in the Port of Melbourne (and the Port of Hastings, where appropriate), including consideration of the following matters:

(a) An analysis and assessment of the extent to which, and the manner in which, the current planning frameworks impact on the entry of a new provider(s) of stevedoring services;

(b) To the extent that these frameworks restrict entry to the stevedoring market, an assessment of the costs and benefits of such restriction in terms of the efficient use of port infrastructure and whether the benefits of restricting entry outweigh the costs to the community;

(c) Consideration of the matters set out in (a) and (b) above in relation to related container handling, storage, transport and intermodal services;

(d) Consideration of the matters set out in (a) and (b) above in relation to other relevant port or port related services identified during the course of the Review;

(e) An analysis and assessment of the relationship between the current market structure for container stevedoring services and the provision of container
handling, storage, transport and intermodal services which form the land-side interface of the port, particularly in terms of impact on competition and efficiency in the provision of these latter services;

(f) An analysis and assessment of the relationship between the current market structure for the provision of container stevedoring and related land-side services and the achievement of the Government’s policy objectives, including the 30% port rail mode share target; and

(g) Any other matters that may be considered relevant by the Commission and are agreed with the Minister for Finance in consultation with the Minister for Roads and Ports.

Review Process

The Review will be conducted independently by the Victorian Essential Services Commission (ESC) under s.41(1) of the Essential Services Commission Act 2001, which requires that: “The Commission must conduct an inquiry into any matter which the Minister by written notice refers to the Commission under this Part”.

In conducting the Review, the Commission will also have regard to the objectives under s.8 of the Essential Services Commission Act 2001.

The specific design and conduct of the review process will be determined by the ESC and publicised at the outset of the review. However, it is envisaged that the process will include the following key elements:

- Preparation and dissemination of a discussion/issues paper as a basis for informing stakeholders and the general public about the purpose and nature of the review and the key matters to be addressed;
- Invitation and receipt of written submissions;
- Preparation and dissemination of a draft report for public comment; and
- Preparation and submission of a final report and recommendations to the Minister for consideration by the Government.

6. Timetable

Review to commence by end July 2007
Draft report to be submitted by end October 2007
Final report to be submitted by end December 2007

TIM HOLDING MP
Minister for Finance, WorkCover
and the Transport Accident Commission.

Date: 25 July 2007
### Victoria’s existing compliance with the Competition and Infrastructure Reform Agreement

<table>
<thead>
<tr>
<th>Section of CIRA</th>
<th>Victoria’s compliance with this section</th>
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<tbody>
<tr>
<td>4.1 Parties agreed that:</td>
<td>Covered by ESC reviews:</td>
</tr>
<tr>
<td>a. Ports should only be subject to economic regulation where a clear need for it exists in the promotion of competition in upstream or downstream markets or to prevent the misuse of market power; and</td>
<td>• Inquiry into Port Channel Access in Victoria – Final Report (May 2003); and</td>
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<td></td>
<td>• Regulation of the Victorian Ports – Final Report (June 2004)</td>
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<td></td>
<td>The principles that informed these reviews included a preference for regulation only by exception.</td>
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</table>

| b. Where a Party decides that economic regulation of significant ports is warranted, it should conform to a consistent national approach based on the following principles: | Covered by 2003 and 2004 ESC reviews referenced above. |
| i. wherever possible, third party access to services provided by means of ports and related infrastructure facilities should be on the basis of terms and conditions agreed between the operator of the facility and the person seeking access; | |
| ii. where possible, commercial outcomes should be promoted by establishing competitive market | |

 Covered by 2003 and 2004 ESC reviews referenced above.
<table>
<thead>
<tr>
<th>Section of CIRA</th>
<th>Victoria’s compliance with this section</th>
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<td>frameworks that allow competition in and entry to port and related infrastructure services, including stevedoring, in preference to economic regulation;</td>
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<td>iii. where regulatory oversight of prices is warranted pursuant to clause 2.3, this should be undertaken by an independent body which publishes relevant information; and</td>
<td>Monitoring by the ESC is both independent and transparent.</td>
</tr>
<tr>
<td>iv. where access regimes are required, and to maximise consistency, those regimes should be certified in accordance with the Trade Practices Act 1974 and the Competition Principles Agreement.</td>
<td>Access regime(s) applicable to the ports will be certified prior to 2010 in accordance with cl 2.9 of the CIRA.</td>
</tr>
<tr>
<td>4.2 The Parties agree to allow for competition in the provision of port and related infrastructure facility services, unless a transparent public review by the relevant Party indicates that the benefits of restricting competition outweigh the costs to the community, including through the implementation of the following:</td>
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<tr>
<td>a. port planning should, consistent with the efficient use of port infrastructure, facilitate the entry of new suppliers of port and related infrastructure services;</td>
<td>This is the primary focus of the current 2007 ESC Review.</td>
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<tr>
<td>b. where third party access to port facilities is provided, that access should be provided on a competitively neutral basis;</td>
<td>Covered by 2003 and 2004 ESC reviews referenced above.</td>
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<tr>
<td>Section of CIRA</td>
<td>Victoria’s compliance with this section</td>
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<tr>
<td>c. <strong>commercial charters for port authorities should include guidance to seek</strong></td>
<td>The charters for the Victorian port corporations are contained in the Port Services Act 1995 and were amended in 2003 in response to the Russell Review of Port Reforms. These charters balance ‘commerciality’ with sustainability, efficiency and equity considerations.</td>
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<tr>
<td><strong>a commercial return while not exploiting monopoly powers; and</strong></td>
<td></td>
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<tr>
<td>d. <strong>any conflicts of interest between port owners, operators or service</strong></td>
<td>Covered by 2003 and 2004 ESC reviews referenced above in respect of port owners and operators subject to State regulation. Service providers generally subject to ACCC regulation.</td>
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<td><strong>providers as a result of vertically integrated structures should be</strong></td>
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<td><strong>addressed by the relevant Party on a case by case basis with a view to</strong></td>
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<td><strong>facilitating competition.</strong></td>
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<tr>
<td>4.3 <strong>Each Party will review the regulation of ports and port authority,</strong></td>
<td>Covered by 2003 and 2004 ESC reviews referenced above, except in respect of section 4.2a as it applies to the Ports of Melbourne and Hastings in relation to container stevedoring and related services (ie. the subject of the current 2007 ESC Review)</td>
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<tr>
<td><strong>handling and storage facility operations at significant ports within its</strong></td>
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<td><strong>jurisdiction to ensure they are consistent with the principles set out in</strong></td>
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<td><strong>clauses 4.1 and 4.2.</strong></td>
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<td><strong>Significant ports include:</strong></td>
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<tr>
<td>i. <strong>Major capital city ports and port facilities at these ports;</strong></td>
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<tr>
<td>ii. <strong>Major bulk commodity export ports and port facilities, except those</strong></td>
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<tr>
<td><strong>considered part of integrated production processes; and</strong></td>
<td></td>
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<tr>
<td>iii. <strong>Major regional ports catering to agricultural and other exports.</strong></td>
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</table>
This appendix briefly outlines PoMC’s international container throughput forecast and compares this to other relevant forecasts.

Port of Melbourne Corporation Forecast

PoMC’s draft PDP includes forecasts, prepared by Meyrick and Associates, for trade at the port up to 2034-35. The forecasts include a ‘most likely’ category and an ‘upper limit’ (up to 2014-15). The ‘upper limit’ forecast is used by the Port of Melbourne as the basis for its short to medium planning, and the ‘likely forecast’ for planning to 2034-35.

The very high growth rate of containerised trade, together with inevitable forecasting uncertainty, means that over the long planning horizon of 30 years there are a wide range of estimates for the port throughput at the end of this period. The VPSF noted forecasts of total container trade at the Port of Melbourne of between five and eight million TEU by 2030.

The draft PDP estimates that the ‘most likely’ growth in total container trade is from 1.9 million TEU in 2004-05, to 3.4 million in 2014-15 and to 8.4 million by 2034-35. This includes international, coastal and Tasmanian trade.

Swanson Dock handles the international and mainland container trades, whereas Webb Dock and Appleton Dock handle the Tasmanian trade. The international and mainland container trades are expected to grow from 1.6 million TEU in 2004-05 to 2.8 million TEU in 2014-15 and 7.3 million TEU by 2035, at an average annual growth rate of 5.9% and 5.2% respectively. The upper limit forecast indicates that annual growth could be as high as 7.8% up to 2014-15, with international and mainland container trade reaching 3.4 million TEU in 2014-15.

Other forecasts


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402 Developed by Meyrick and Associates Pty Ltd.
403 PoMC (2006), Port Development Plan 2006-2035 Consultation Draft August 2006, p.27
404 Twenty foot equivalent unit, a standardised measure of containers. One forty-foot long container is equivalent to two TEU.
405 Department of Infrastructure (2004), Victorian Ports Strategic Framework, p.9
movement at the national and port levels. The principal parameters in the models are real income (overseas GDP for exports and Australian gross national expenditure (GNE) for imports), and exchange rates.\textsuperscript{406}

Using this approach, the BTRE Working Paper forecasts in international container trade at the Port of Melbourne to reach 2.5 million TEU by 2014-15 at an annual average growth rate of 5.2%. By 2024-25 international container throughput is expected to be 3.9 million TEU, with annual average growth of 4.6% for the period 2014-15 to 2024-25.\textsuperscript{407}

The 2007 report \textit{International and Domestic Shipping and Ports Study}, prepared by Meyrick and Associates (\textit{Meyrick 2007 Study}) forecasts international container trade at the Port of Melbourne to grow from 1.5 million in 2004-05, to 2.8 million in 2015 and 3.7 million by 2020 – representing an average growth rate of 6.4% between 2004-05 and 2014-15, and 5.6% between 2014-15 and 2019-20.\textsuperscript{408} The Meyrick 2007 Study used a top down approach which estimated total container growth rather than building up a forecast from separate forecasts for each of the types of container trade. The forecasts were derived using estimates of world economic growth, the ‘openness ratio’ (the ratio of container trade growth to world economic growth), and the rate of containerisation to develop forecasts of world container growth. This was then converted to an estimate of Australian container growth trade.\textsuperscript{409}

According to the Meyrick 2007 Study, the BTRE Working Paper’s lower forecasts are likely to reflect different world economic growth forecasts, and the different modelling approaches adopted, including the use of the exchange rate by BTRE as a parameter.\textsuperscript{410}

\textsuperscript{406} Assumptions made for these parameters are: (i) Australian GNE to grow at an annual rate of 2.7% between 2004-05 to 2024-25, below the annual growth of 4.2% achieved between 1999-00 and 2004-05; (ii) overseas economic growth over the period 2004-05 to 2024-25 is expected to be broadly similar to that experienced between 1999-00 and 2004-05; and (iii) a trend decline in the Australian dollar / United States dollar exchange rate from 0.75 in 2005-06 to 0.59 in 2024-25.


\textsuperscript{408} Meyrick and Associates (2007), \textit{International and Domestic Shipping and Ports Study}, pp.49-57

\textsuperscript{409} Key assumptions made were: (i) world economic growth of 3.75% between 2005 and 2010, and then growth of 3.25% until 2020. This compares to average world economic growth (as defined in the Meyrick 2007 Study) over the last 30 years of 3.42; (ii) a ratio of world container trade growth to world economic growth of 1.35 (below the 50 year average of 1.6); (iii) a decline in the ratio of containerisation (ratio of container volume growth to trade growth) from 1.325 for the period 2005-10 to 1.275 over the period 2010-20, reflecting the limit to which cargoes can be converted from non-containerised forms to containers; and (iv) Australian container trade will grow at the same rate as the world container trade, in line with experience over the last decade.

\textsuperscript{410} Meyrick and Associates (2007), \textit{International and Domestic Shipping and Ports Study}, p.57
A comparison of PoMC’s forecast for international containers with the BTRE and Meyrick 2007 Study forecasts is shown in Figure B.1 for the medium term period to 2014-15. This shows that there is a reasonable degree of consensus between the forecasts over this period.

**Figure B.1  Forecast International container trade at the Port of Melbourne**

![Figure B.1 International container trade at the Port of Melbourne](image)


**Submissions**

While noting the difficulty of long-term forecasting, DP World, in its submission to the Review, states that it considers the ‘most likely’ forecast in the draft PDP to be reasonable. It also states that current year-on-year growth is around 5%.\(^{411}\)

However, several submissions to the Review considered that the forecasts of container trade growth were too low (either in the draft PDP or other port planning frameworks). This view is principally based on an extrapolation of historic growth rates. For example, Habitat Trust states:

> …total trade through the Port of Melbourne has increased consistently over the ten years prior to 2004/05, growing at an annual average rate of 7.1% per annum. During the same time, containerised trade…has continued to expand with annual growth of 7.5% per annum. We further note that container throughput

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increased by 11% in 2004/05 ...and that the trade growth targets for “Trade Revenue Growth – Containers (Full) (TEU)” published in the Port of Melbourne 2004/05 Annual Report for 2005/06, 2006/07 and 2007/08 were 11.8%, 9.4%, and 9.4%, respectively. Yet trade forecasts for international containers to 2035 are based on the following sliding scale of annual growth rates: 6.4% 2005-2010; 5.6% 2011-2015, 5.1% 2016-2025, and 4.7% 2025-2035. 412

Habitat Trust also notes a submission by Westgate Ports to the Victorian Competition and Efficiency Commission Inquiry into Managing Transport Congestion which states that if the rate of growth in total trade of 7.8% over the for the past 14 years continued, then by 2030 total trade would be 12.5 million TEU.413

Similarly, Shipping Australia Limited, in arguing for bringing forward the timing of the Webb Dock development states:

Trade growth through the port of Melbourne has indicated a sustained annual growth in excess of 7% over a period of 13 years. Subject to the required channel deepening proceeding, there is good reason to believe that trade will continue to burgeon.414

These concerns are, at least partially acknowledged by PoMC, which notes in its submission to the Review that:

Given actual trade performance over recent years, the assumptions of the draft [Port Development Plan] may be considered perhaps conservative and should be interpreted with some flexibility particularly in relation to the timings of specific infrastructure requirements.415

Discussion

It is not clear that strong conclusions regarding the robustness of forecasts made in the draft PoMC port plan can be drawn from recent actual data. Since the release of the draft PDP in August 2006, two years of actual trade data have become available, showing:

• an increase in total container trade of 1.0% (and 1.1% in international container trade) in 2005-06, and
• an increase of 8.5% in total container trade in 2006-07 and 10.6% in international container trade.

That is, between 2004-05 and 2006-07 there was actual average annual growth in international container trade of 5.7%, which is only slightly below the draft PDP’s

412 Attachment to Habitat Trust Submission to Review of Port Planning – 2006 Submission to Melbourne Portal Board, p.2
413 ibid p.3
414 Shipping Australia Limited (2007), Submission by Shipping Australia Limited to the Review of the Impact of Port Planning on Competition, p.3
415 PoMC (2007), Port of Melbourne Corporation, ESC Review of Port Planning, p.12
‘most likely’ forecast of average annual growth of 6.4% for international container trade over the period 2004-05 to 2009-10. This suggests that recent actual data is broadly consistent with the forecast in the draft PDP.

A long-term extrapolation of past growth rates suggested by some submitters is not a robust method of forecasting. Aside from the PoMC forecast, the most recent robust forecasts available were the Meyrick 2007 Study and the BTRE Working Paper, and although they have used quite different methodologies, these forecasts are broadly consistent with those in the draft PDP over the short to medium term.

The BTRE Working Paper and the Meyrick 2007 Study both suggest, albeit for different reasons, that future container trade growth is likely to be lower than in recent history:

- The BTRE Working Paper expects lower container growth primarily due to lower expected imports arising from lower growth in the Australian economy and the affect of an expected long-term depreciation of the Australian dollar against the US dollar.\textsuperscript{416}

- The Meyrick 2007 Study forecasts reflect an expected slow down in the rate of containerisation (reflecting that there is a limit to which there can be a conversion of trade to containers). The Meyrick 2007 Study forecasts also incorporate a slowdown in world economic growth.\textsuperscript{417}

**Forecast Risks**

The Meyrick 2007 Study also notes that while there is little inter port competition for international container trade in Australia, the exception is Adelaide which has about 25% of its containers shipped through Melbourne rather than Port Adelaide. This occurs because containers to and from North Asia and North America to Adelaide cannot be directly shipped as shipping services to these regions do not call at Adelaide. According to the Meyrick 2007 Study, if Adelaide was to handle trade to North Asia and North America then there would be an increase in container TEU’s at the port of around 160,000 by 2019-20.\textsuperscript{418} This represents around 4.5% of the volumes forecast for the Port of Melbourne.

While the Meyrick 2007 Study does not include any shift in this trade, it notes that ‘…Flinders Ports, which operates Port Adelaide, is using this “Melbourne re-capture” scenario as the basis for its long term planning.’\textsuperscript{419} according to the PoMC ‘this trade…is highly vulnerable to loss to the Port of Adelaide.’\textsuperscript{420} This, therefore, represents a potential downside risk, albeit relatively small, to forecasts of container growth at the Port of Melbourne.


\textsuperscript{417} Meyrick and Associates (2007), *International and Domestic Shipping and Ports Study*, p.53

\textsuperscript{418} ibid, p.56

\textsuperscript{419} ibid

\textsuperscript{420} PoMC (2007), *Port of Melbourne Corporation, ESC Review of Port Planning*, p.35
Upside risks may arise from the factors identified by BTRE and the Meyrick 2007 study as leading to a slow down in container trade growth below recent historical levels. If these factors either do not eventuate or are delayed then growth may be higher than expected. For example, BTRE’s forecasts a decline in the US dollar/Australian dollar exchange rate from 0.75 in 2005-06 to 0.59 in 2013-14. However, the current exchange rate is over 0.85\textsuperscript{421}.

As noted previously, the draft PDP includes a set of ‘upper limit’ forecasts up to 2014-15. They appear to represent a realistic upper limit, as they are even above the forecast that would be achieved simply by applying growth over the last ten years (or 7.8 per cent) to the 2006-07 actual result. This can be seen in Figure B.2. PoMC has advised the Commission that the upper limit forecast represents more than 95% confidence.

\section*{Figure B.2 Forecast International container trade at the Port of Melbourne - upside risks}

\begin{figure}
\centering
\includegraphics[width=\textwidth]{fig_b_2.png}
\caption{International container trade}
\end{figure}

\textit{Preliminary Conclusions}

There are several forecasts available of growth in container trade at the Port of Melbourne. The forecasts underlying the PoMC’s PDP are not significantly different to the forecasts in other published studies. While concern has been expressed based on historical growth rates and recent actual data that the PoMC forecasts are too conservative – a point accepted by the PoMC itself – actual trade growth results since the draft PDP was released do not suggest a significantly different outlook.

\textsuperscript{421} As at 26 September 2007.
Moreover, there are both upside and downside risks to the forecasts. The 'upper limit' forecasts in the draft PDP set a reasonable upper bound to any upside risks.
Berth capacity is a function of a large range of factors. It can be measured in terms of physical capacity, or, as noted previously, on the basis of capacity for an acceptable level of service.

The Victorian Ports Strategic Study Final Report (VPSS) prepared by Maunsell McIntyre in 2000, lists the following factors as being relevant to berth capacity:\(^ {422}\):

- ‘limiting berth occupancy’ which is the average level of berth occupancy before congestion reaches unacceptable levels. It is determined by the degree of scheduling of arrivals and by what is considered an acceptable level of ship waiting time;
- ‘vessel length’ which affects the effective number of berths (with higher average length reducing the effective berth number);
- ‘crane rate’ which is the rate at which containers are moved by a crane between ship and shore;
- ‘crane intensity’ which is the number of cranes used, on average, for each vessel (alternatively, intensity can be measured in terms of the ratio of cranes to quay space). The number of cranes and vessel length determine this ratio;
- Ratio of TEU to number of boxes which reflects the proportion of 40-foot (2 TEU) and 20-foot (1 TEU) containers used;
- ‘Non-working time’ the amount of time the ship is alongside the berth without containers being moved on/off;
- The number of ‘restows’ which relates to boxes that need to be moved to the quay and then back to the ship. The VPSS notes that in Melbourne, at the time of the study, there was negligible restow activity; and
- Average cargo exchange which is the number of containers handled per ship – the higher is this ratio the higher is capacity as the proportion of non-working time decreases for the same output.

These parameters, including possible parameter values, are discussed below.

**Average cargo exchange**

The BTRE Waterline publication includes data for TEU throughput and ships handled for container terminals at the Port of Melbourne. In 2005-06 the average TEU throughput per ship handled was 1,359.

Going forward, the average level of cargo exchange is likely to increase reflecting increased ship size. The Meyrick and Associates 2007 report, *Channel Deepening: Benefit-Cost Analysis*, forecasts an increase in average vessel size to 3,587 TEU

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in 2014-15. Assuming an unchanged ratio of average exchange to vessel size from current levels, suggests an average level of cargo exchange of around 2000 TEU.

Crane rate
As noted previously, the draft PDP assumes a current crane rate of 29 lifts per hour. The average crane rate achieved at the Port of Melbourne container terminals is shown in Figure C.1. The crane rate increased between 1999-00 and 2003-04 to 29.0 lifts per hour, before declining to 28.1 lifts per hour in 2005-06. However, the relevant factor for an assessment of capacity is what is achievable, and therefore 29 lifts per hour is the most relevant estimate for determining current capacity.

Figure C.1: Port of Melbourne Crane Rate

Looking forward, the draft PDP projects an increase in the crane rate (at an unspecified time) to 32 lifts per hour. As noted previously, Shipping Australia Limited, while considering such a rate could be achievable, has expressed concern that it may be on the high side. However, a crane rate of 32 by 2015 is consistent with the underlying trend in crane rates between 2001 and 2006.

Crane intensity
The average number of cranes per ship was 1.4 at the time of the VPSS,423 when there were 6 cranes at each of the Swanson docks (twelve in total). There are currently sixteen cranes in total, suggesting that, all other factors being equal, that crane intensity would have increased by around 33% to 1.87. However, the crane rate is also affected by vessel size which places a limit on crane intensity.

423 ibid, p.C24
The VPSS noted that there was a trend to reducing crane spacing at the quay to
about 100 metres (which would equate to 18 cranes at the present quay length),
and predicted that in the long term the number of cranes per ship would increase
from 1.4 at the time to 1.8. This would suggest that, with 16 cranes currently,
that crane intensity would be around 1.67, or an increase of around 19% on 2000
levels. This is broadly similar to the increase in the BTRE Waterline measure of
crane intensity between 1999-00 and 2005-06 of 16%.

As noted previously, the draft PDP assumes that in the future there will be a crane
density of one per 100 metres of berth. With a total quay length of 2068 metres
post the planned Swanson Dock expansion, this translates to 21 cranes. Using a
similar approach as above, this suggests crane intensity of 2.0.

**Non working time**

There is limited information available about non-working time. The VPSS estimated
average non-working time to be 6 hours, but with the potential to fall to 5 hours in
the short-medium term and 4 hours in the long-term. As the VPSS was a 2000
report, 5 hours is assumed to be the current (achievable) average non-working
time and 4 hours an achievable result in the future.

**TEU/container ratio**

The recent trend in the proportion of containers that are 40-foot (as opposed to 20-
foot or one TEU) is shown in Figure C.2. In 2005-06 the proportion was 41% which
represents a TEU/container ratio of 1.41.

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425 BTRE measures crane intensity as allocated crane hours/elapsed labour, where elapsed
labour time is the difference between the time when workers first board the ship and the
time when they last leave the ship, less the time when the workers have not worked for
whatever reason.
The draft PDP assumes an increase in the percentage of 40-foot containers from 36% to 40%. As indicated by Figure C.2, this has already been achieved. Over the six years to 2005-06, the average annual increase in the proportion of 40-foot containers was 3.9%. However, the BTRE Working Paper considers that recent growth rates won’t be maintained as 40-foot and 20-foot containers are not perfect substitutes, with heavier commodities more likely to be transported by 20-foot containers. Nevertheless, the BTRE forecasts an increase in the proportion of 40-foot containers to 46% in 2014-15 and 52% by 2024-25. This is similar to DP World’s expectation of an increase to at least 50%.

Limiting Berth Capacity

The VPSS indicated that for a typical semi-scheduled terminal, the limiting berth occupancy is around 60% for 3 berths and 65% for four berths, but notes that with an increasing trend towards fixed schedules this could increase to 70/75% for a three berth terminal. However, the assumption made in the draft PDP is that the limiting berth capacity is 62.5%, and, as noted previously, Shipping Australia Limited considers that even this (more modest) estimate may be on the high side. While future increases in vessel size would be expected to lead to downward pressure on the limiting berth capacity, the planned expansion of the berths at Swanson Dock may counteract this (noting that limiting berth capacity tends to be higher the greater the number of berths at a terminal).

Effective berths

Both Swanson Dock East and West have four berths (with an expansion to these berths by 120 metres planned for the future). However, in estimating capacity the

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more relevant factor is the effective number of berths, which reflects average vessel size. Based on confidential data provided to the Commission, and taking into account the expected vessel size underpinning the above estimate, suggests an effective number of berths in 2014-15 of around 7.9. An estimate for the current number of effective berths of 7.6 can be estimated by scaling back the estimate for 2014-15 by the ratio of the current berth length to the post dock expansion dock length, and making an adjustment for the smaller current vessel size.

Implications

Based on the above discussion, possible likely parameter values for the factors affecting berth capacity – both currently and into the future – are outlined in Table C.1. This suggests current capacity of around 2.3 million TEU per effective berth and future medium term capacity (post Swanson Dock expansion) of 3.4 million TEU in 2014-15.

Table C.1  Indicative capacity estimates - Swanson Dock, Port of Melbourne

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Units</th>
<th>Current</th>
<th>Future (2015)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average cargo exchange</td>
<td>TEU/vessel</td>
<td>1,359</td>
<td>2,000</td>
</tr>
<tr>
<td>Crane rate</td>
<td>Lifts/hour</td>
<td>29</td>
<td>32</td>
</tr>
<tr>
<td>Crane intensity</td>
<td>Cranes/ship</td>
<td>1.67</td>
<td>2.0</td>
</tr>
<tr>
<td>Non working time</td>
<td>hours</td>
<td>5</td>
<td>4</td>
</tr>
<tr>
<td>TEU/container</td>
<td>TEU/container</td>
<td>1.41</td>
<td>1.46</td>
</tr>
<tr>
<td>Limiting berth occupancy</td>
<td>%</td>
<td>62.5</td>
<td>62.5</td>
</tr>
<tr>
<td>Berth capacity<strong>427</strong></td>
<td>TEU/effective berth</td>
<td>298,805</td>
<td>431,033</td>
</tr>
<tr>
<td>Effective berths</td>
<td>No.</td>
<td>7.6</td>
<td>7.9</td>
</tr>
<tr>
<td>Capacity</td>
<td>Million TEU</td>
<td>2.3</td>
<td>3.4</td>
</tr>
</tbody>
</table>

As discussed in Chapter 6, DP World’s estimates suggest capacity of around 3.3 million by 2014-15, which is only marginally lower than the estimate presented in Table B.1. The estimate of 3.4 million is consistent with many of the assumptions in the draft PDP including crane rate, the number of cranes, and limiting berth capacity. In the case of the ratio of TEU’s per container, the assumed ratio is higher than in the draft PDP, increasing the estimate of berth capacity.

The current estimated capacity of 2.3 million TEU is also broadly similar to DP World’s capacity benchmark of 1,200 TEU/metre based on a Drewry Shipping Consultants benchmarking exercise of existing terminals worldwide (which would imply capacity of 2.2 million).

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427 The following formula is used: capacity = 365*24*limiting berth occ.*ave cargo exchange/(((ave cargo exchange/(crane rate * crane intensity * TEU Ratio)) + non working time)}