

chapter 6

6. moving goods - the growing freight task

The movement of goods around Melbourne is vitally important for the city's economy and for the quality of life and wellbeing of Melburnians. From an imported container on the back of a B-double truck carrying the latest consumer goods from China to a load of fresh vegetables from the Werribee market gardens making its way to the wholesale food market, freight transport is a critical part of the supply chain of every business in Melbourne – and has an impact on the daily routine of every household in the city.

Without freight transport, the city's supermarket shelves would be empty, offices and businesses would be unable to function, buildings and homes could not be constructed, and factories and assembly lines would grind to a halt. In short, freight is absolutely essential to the functioning of a modern, growing city.

But the movement of goods in Melbourne is much more than just a truck moving from a warehouse to a store. Every movement is an 'economic journey' and, increasingly, these journeys extend beyond Australia's national boundaries. Victoria is the location for a number of important international freight gateways, such as the Ports of Melbourne, Geelong, Hastings and Portland, and Melbourne's International Airport at Tullamarine and the supporting airports of Essendon and Avalon.

These gateways generate substantial volumes of freight that move from, to and through Melbourne. The efficient movement of freight through these gateways is essential to sustaining Melbourne's position as the central hub of Victoria's freight network and the largest centre for freight operations in Australia – and to underpinning a transport, distribution and logistics sector that contributes around \$21 billion annually to the Victorian Gross State Product (GSP) or 8.9 per cent.¹

As Melbourne's economy and population grows, so too does the amount of freight being moved around the city (the freight task). Most of this freight is moved by road and – when coupled with the projected growth in car traffic – the city faces considerable challenges in reducing the impact of traffic congestion on the freight task and ensuring that freight moves around Melbourne as efficiently as possible.

6.1 Melbourne's growing freight task

Along with other Australian cities, Melbourne's freight task reflects industry and demographic changes, as well as global and national trends in freight transport. As Melbourne's transport network comes under growing pressure, there are adverse impacts on the efficient, reliable and cost-effective movement of goods around the city.

People using the network for personal trips often overlook the fact that the transport network also exists to serve the needs of industry. The routes used to move goods around Melbourne are also popular routes for moving people. As the demand for freight and personal travel grows, these routes are becoming increasingly congested, affecting the reliability of freight movements. Over time – as well as responding to changes in personal travel – Melbourne's transport network needs to respond to economic and industry changes to ensure that it does not become a constraint, effectively undoing the work being undertaken by local industry to reduce costs and improve competitiveness.

6.1.1 The urban freight task

The nature of the freight task in Australian cities is growing and changing, as standards of living rise and the economy becomes more oriented towards services and knowledge based activities. Essentially, the freight task in the nation's large cities now falls into five main categories:

- Urban goods that are moving from docks to warehouses and then on to retailers and consumers
- Courier parcel services and mail deliveries
- Bulk materials associated with building and construction and waste management
- The urban component of long distance intercity freight transport
- Primary produce (such as grains and dairy products) that are passing through the city to ports for export.²

1. ABS (2005), Yearbook Australia 2005, Commonwealth of Australia, Canberra

2. See BITRE (2006b), *Report 112: Freight measurement and modelling in Australia*, p.29

As the BITRE and others have noted, economic growth invariably flows through to increased demand for urban freight. Some commentators have expressed the view that the shift to a services economy may ‘decouple’ freight growth from overall economic activity, leading to fewer freight movements. In fact, the opposite appears to be occurring – and several factors are emerging that are likely to ensure a continuing increase in the demand for freight capacity in Australian cities.

Increasingly, people expect a greater choice and variety in the type and range of products they purchase. The dramatic increase in e-commerce has led to more home deliveries – and more frequent deliveries – of goods and services.

Changes in industry production processes also mean that many firms no longer store supplies of materials and rely instead on a larger number of ‘just-in-time’ freight deliveries. The relative decline in domestic manufacturing also means that more imports are coming into cities – goods that then have to be dispersed.

Another trend is the growth of large scale warehousing and distribution centres, which consolidate freight (either from the one large company or similar goods from different firms and sources), and use state-of-the-art technologies to manage and track these goods across a wide (often national) area.

Many of these trends generate more freight movements and place pressure on the urban transport network to deliver goods quickly, reliably and cost-effectively.

Currently, these attributes are offered by road transport, with the result that the vast majority of metropolitan freight in Australia’s cities is carried by road – a situation that is likely to continue into the foreseeable future. As the National Transport Commission has observed:

“Although interstate rail volumes are expected to grow as track infrastructure investment ramps up, road transport is likely to handle the brunt of [Australia’s] freight growth.”³

This dominance reflects road transport’s advantage in being able to offer door-to-door pick-up and delivery, as well as the intensely competitive nature of the road transport industry that has seen real road freight rates fall by over 44 per cent since 1971.⁴ However, as urban congestion increases, particularly in Sydney and Melbourne, demand by firms is growing for more intermodal terminals (combining road and rail transport) located alongside key industrial/warehousing nodes.

National freight trends

Changes in Melbourne’s freight task reflect national trends. The BITRE has identified trends between 2003 and 2020 as including:

- An increase in non-bulk freight of 82 per cent in tonne-kilometre terms
- A slight increase in road’s share of national non-bulk freight (from 74 per cent to 76 per cent) and a decline in the rail share (from 21 per cent to 17 per cent)
- Average growth in capital city freight tonne-kilometres of 3 per cent a year
- Rail to remain the largest mode in shipping bulk freight (46 per cent share in 2003, 45 per cent in 2020), followed by sea freight (30 per cent and 29 per cent)

Other national trends having an impact in Melbourne’s freight task include:

- Increases in truck lengths and load carrying capacity
- Bigger ships operating in Victorian ports
- Longer interstate trains and double stacking of containerised freight.

6.1.2 Melbourne’s freight network

The main freight routes in Melbourne’s road network are identified in Figures 74 and 75, which show the main routes used by commercial vehicles in Melbourne in 2006 and likely to be used in 2031. These figures show the important current and future roles played by the West Gate Freeway, Western Ring Road, the Hume Highway, the Princes Freeway (west) and the Monash Freeway in moving freight around Melbourne.

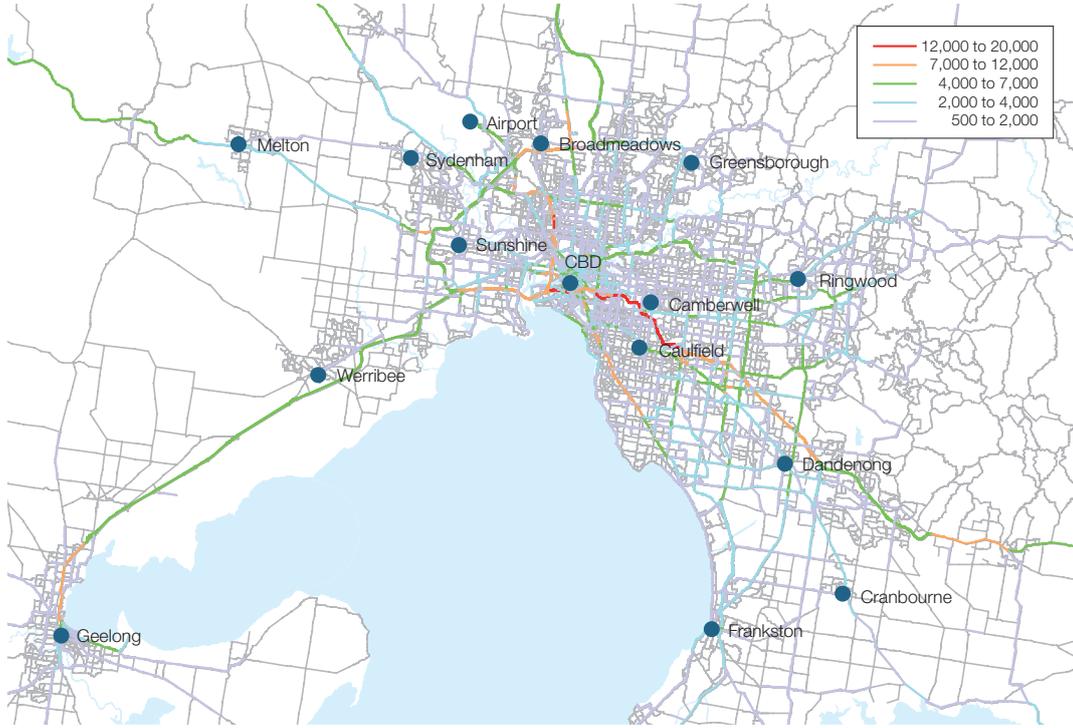
These figures also show that freight traffic in Melbourne will continue to be concentrated around three key areas: the Port of Melbourne and related industrial areas, the north and north western corridor along the Western Ring Road and around Somerton, and the south and south eastern corridor, centred on Dandenong.

Freight hubs are becoming an important element in the metropolitan freight task and are increasingly recognised as playing a key role in reducing congestion and managing the growing freight task. As businesses aim to reduce costs by improving the efficiency of their supply chain, large distribution centres with cross-docking facilities are starting to take over from smaller warehouses. In Melbourne, such centres are developing in and around Somerton (in the city’s north) and in Altona, Spotswood, the Dynon precinct, Swanson Dock and Dandenong.

3. National Transport Commission website: www.ntc.gov.au

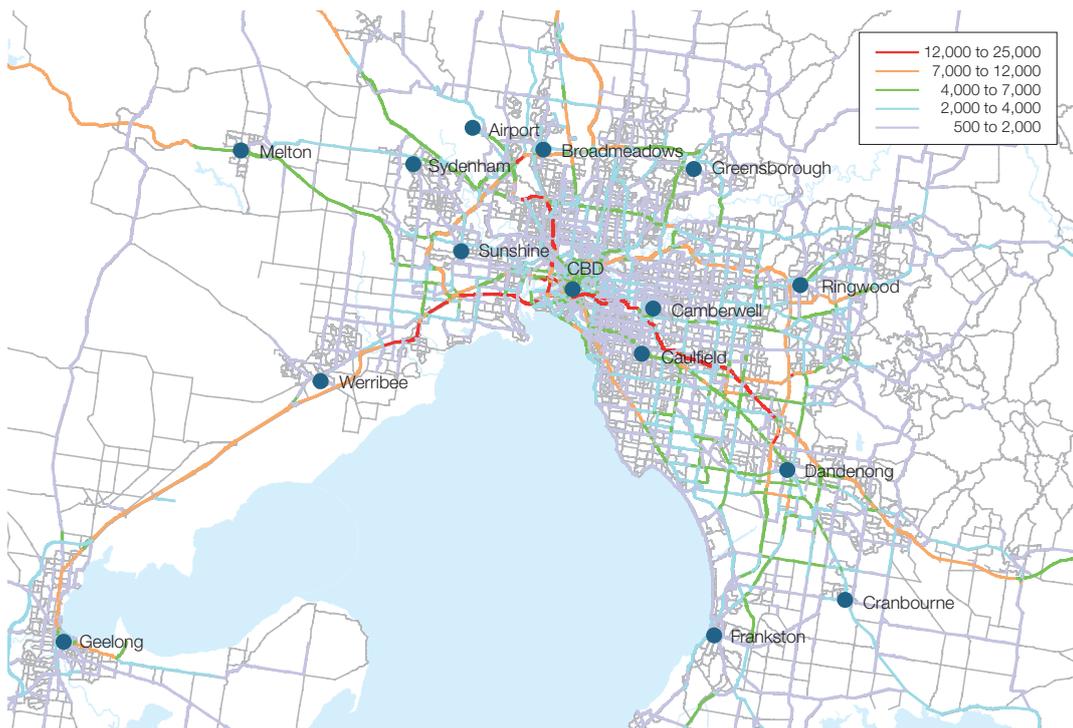
4. BITRE (2004b), *Working Paper 60: An Overview of the Australian Road Freight Industry*, Commonwealth of Australia, Canberra, p.6

Figure 74 – Metropolitan commercial vehicle movements, all day, 2006



Source: EWLNA (Veitch Lister)

Figure 75 – Metropolitan commercial vehicle movements, all day, 2031



Source: EWLNA (Veitch Lister)

Melbourne also has three freight airports – Melbourne Airport (Tullamarine), Essendon Airport and Avalon Airport. Melbourne Airport handles around 30 per cent of Australia’s air freight, making it the nation’s second largest airfreight hub. More than 350,000 tonnes of freight pass through the airport each year, with 21 dedicated freight services arriving and departing from Melbourne each week⁵. While the amount of freight handled by these airports is relatively small, this freight is usually valuable or perishable – and timely delivery is especially important. All freight to and from these airports is moved by road.

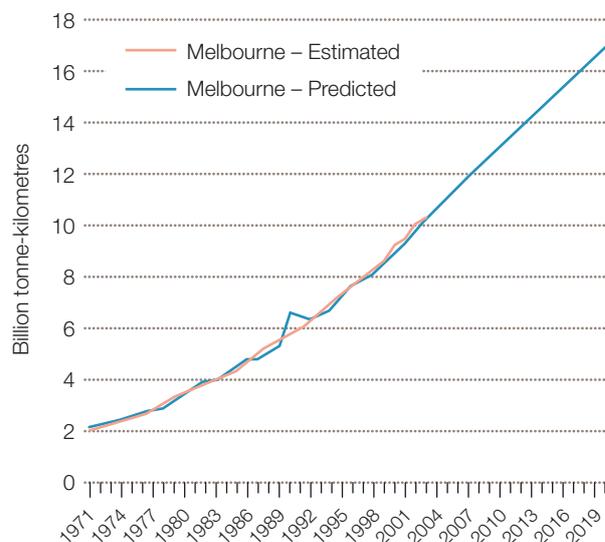
6.1.3 The size and nature of the freight task

The size of Melbourne’s freight task is increasing rapidly – and has been growing at a faster rate than the economy and the population.

The BITRE estimates that the freight task in Melbourne has grown by an average of nearly 5 per cent a year over the last 20 years and will continue to grow by an average of 3 per cent a year from now until 2020 (see Figure 76).⁶ If this growth occurs, Melbourne’s road freight task will grow from around 11 billion tonne kilometres today to around 17 billion tonne kilometres by 2020 – an increase of more than 50 per cent.

Growth in the freight task will be accompanied by a number of changes in the dynamics of the transport, distribution and logistics industry, including a significant increase in the use of light commercial vehicles (LCVs) in the city and more and larger articulated trucks on regional routes.

Figure 76 – Estimated and predicted urban freight task, Melbourne, 1971 to 2020



Source: BITRE (2006b)

5. Melbourne Airport website: www.melbourneairport.com.au
6. BITRE (2006b), *Report 112: Freight measurement and modelling in Australia*, Commonwealth of Australia, Canberra; and BITRE (2007), *Working Paper 71: Estimating urban traffic and congestion cost trends for Australian cities*, pp.41 and 42

Most freight in Melbourne is carried by heavy trucks and the numbers of trucks operating in the city are increasing. However, while most Melburnians are aware of the trucks using the city’s freeways and arterial roads, these trucks actually make up a relatively small share of the urban traffic stream (around 6 per cent). Combined with the fact that a large proportion of truck movements are scheduled outside peak periods, trucks generally do not have a great impact on traffic congestion in Melbourne – other than in localised areas (where they can have a significant impact on congestion and neighbourhood amenity) and along routes such as the M1.⁷

While trucks are getting larger in general, new types of high productivity trucks are also becoming more prevalent. These vehicles use innovative design and technology to deliver productivity benefits through small increases in length (using self-steering axles), small increases in width or more axles and better load distribution. The introduction of high productivity vehicles across Australia is being facilitated through national Performance Based Standards (PBS), which have been endorsed by the Council of Australian Governments.⁸

The freight task in Melbourne is also characterised by the rapidly growing number of light commercial vehicles (LCVs) on the city’s roads. LCVs are now the most common way in which freight is moved around the city and make up around 15 per cent of the traffic stream.⁹

The 2006 VCEC inquiry noted that “the number of light commercial vehicles on the road [in Melbourne] is growing faster than the number of cars and trucks”¹⁰ and that this growth has an impact on congestion, especially around retail centres.

The BITRE’s work on the future freight task in Melbourne indicates that by 2020, cars will account for almost 80 per cent of the total kilometres travelled in metropolitan Melbourne. Freight vehicles will make up most of the remainder, with the strongest growth occurring in LCVs (as shown in Figure 77).

Forecasts by VicRoads support these figures and also show a very substantial increase in freight carried by LCVs. However, it is important to note that freight growth from LCVs will come mainly from increased vehicle numbers and distances travelled, while growth from articulated trucks will come from the volume carried and the distance travelled.¹¹

Trucks currently make up just 4 per cent of traffic on the Eastern Freeway – although the City of Melbourne and others have argued that the completion of EastLink will lead to an increase in freight traffic along the freeway, and through the central city corridor to CityLink and the Port of Melbourne. Predicted commercial vehicle movements (see Figure 75) provide support for these views.

7. *Ibid*, p.30

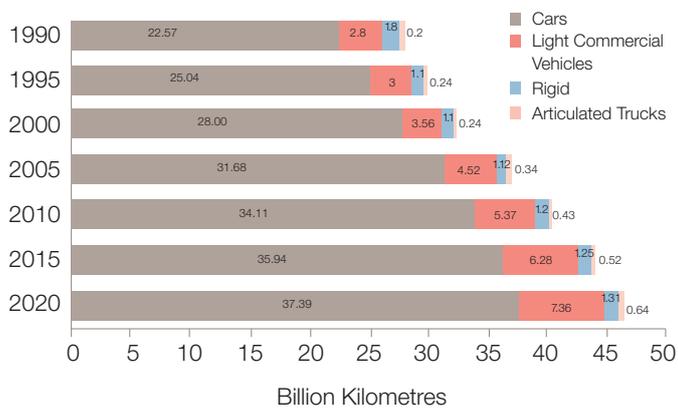
8. Details on the PBS reform can be found at the National Transport Commission’s website: www.ntc.gov.au

9. *Ibid*, p.30

10. VCEC (2006), p.xxxii

11. VCEC (2006), p.48

Figure 77 – Contribution to Melbourne traffic (1990 to 2020)



Source: BITRE (2004)

Table 14 – Commercial vehicle growth on key routes, 2006 to 2031

Route	Commercial vehicle growth
West Gate Bridge	55%
Princes Freeway (west of the Western Ring Road)	98%
Princes Highway (Geelong Road) in the west	200%
Princes Highway (Smithfield Road)	61%
Dynon Road over the Maribyrnong River	37%
Footscray Road over the Maribyrnong River	68%
CityLink / Monash Freeway	53%
Alexandra Parade	23%

Source: EWLNA (Veitch Lister)

6.1.4 The Port of Melbourne

The Port of Melbourne is Australia's leading container port and one of Victoria's most important assets – contributing more than \$5.4 billion to the state's economy each year and directly providing jobs for more than 18,000 people.¹²

The port has experienced 13 consecutive years of growth in trade – a trend that is expected to continue over the next 20 years. The Port of Melbourne Corporation (POMC) has noted that by 2035:

“While it is unlikely that the size of the port will greatly exceed the current 500 hectares, it will be handling more than four times the number of containers, more than three times the volume of Bass Strait trade, more than two and a half times the number of new motor vehicles ... and double the quantity of bulk products.”¹³

This very significant increase in trade volumes will not only generate infrastructure and operational issues at the port; it will also increase the pressure on surrounding landside infrastructure and the broader road and rail network.

As shown in Table 15, the port is managing strong growth in almost all classes of trade and most of this growth is being accommodated by the road network.

Overall, around 80 per cent of freight moving into the port is transported by road, generating around 1.2 million truck visits to the port each year.¹⁴ While the growth of freight movement through the port has an impact on the broader road network, it has particular implications for local streets near the port, the West Gate Bridge and the West Gate Freeway and associated road links to industrial areas and logistics facilities in the west. It also has an impact on amenity in residential areas adjacent to the port.

Around 77 per cent of international containers that pass through the Port of Melbourne have origins/destinations within the Melbourne metropolitan area. This figure is expected to increase to 84 per cent by 2035.¹⁵ At present, every single container leaving the port with a city destination is carried by road – confirming the impact on the city's road network of the port's growth.

12. Port of Melbourne Corporation (2006), *Port Development Plan 2006-2035*, Melbourne, Victoria, p.4

13. POMC (2006), p.22

14. VCEC (2006), p.317

15. DOI (2006), *Melbourne Port@L Strategy: Consultation Draft*, State of Victoria, Melbourne

Table 15 – Port of Melbourne trade growth and transport arrangements¹⁶

Commodity classification	Volume (2006)	Average Annual Growth Rate (1996 to 2006)	Landside transport arrangements
International containers and interstate containers on international ships	Approx 1.7 million TEU	7.9%	79% road 21% rail
Tasmanian trade	Approx 434,000 TEU equivalents (consisting of containers, motor vehicles, breakbulk and Wheeled Cargo Carrying Units)	5.5%	Virtually 100% landside movements by road
Motor vehicles	286,000 equivalent units	10.8%	Virtually 100% by road from the port. A few move interstate by rail to/from Dynon.
Break bulk (mostly timber, iron and steel)	840,000 mass tonnes	2.9%	Most landside freight by road
Dry bulk (eg cement, grain, fertiliser, sugar, gypsum, stockfeeds)	Around 3.13 million mass tonnes	3.9%, excluding new grain trade commencing in the analysis period	Mainly handled by conveyors and pipelines within the port area, with some distribution to end users by rail but mostly by road. Exception is export grain, which is moved mainly by rail.
Liquid bulk (petroleum products, chemicals)	Around 4.1 million mass tonnes	-1.7%	Nearly all handled by pipeline between the port and depots and then distributed almost exclusively by road tankers to end consumers (eg petrol stations) across the city and country Victoria

Source: EWLNA (Veitch Lister)

A 2003 study conducted for the Department of Infrastructure¹⁷ identified the most important locations where import containers are unpacked (accounting for nearly two thirds of all import containers):

- South East (Dandenong)
- Altona – Laverton North
- Broadmeadows – Somerton.

Development patterns since 2003 suggest that these areas would account now for an even higher proportion of unloading destinations.

The loading locations for export containers are much more dispersed, with the most important locations being:

- Western Victoria (nearly one third)
- Inner Melbourne and the port (around one fifth)
- Altona – Laverton North (one tenth)
- South East Dandenong (one tenth)
- NSW (predominantly the Riverina) (one tenth).

Around 11 per cent of container moves are to and from container parks, located in the inner and outer western suburbs and near the port.

16. Figures provided by the Port of Melbourne Corporation

17. SKM (2003), *Port of Melbourne Container Origin Destination Study*, Department of Infrastructure, State of Victoria, Melbourne

The 2003 study also found that only one quarter of containers move directly between exporter and the port – or between the port and importer – with the balance moving via various interim locations. On average, containers are estimated to make eight separate journeys between departing the port as an import box and arriving back as an export box (three journeys from port to importer; one journey to and one from a container park, and three more journeys from exporter to port).

Unfortunately, more recent data is not available regarding container origins and destinations. In its 2007 Review of Port Planning, the Essential Services Commission (ESC) pointed out the importance of having ready access to data about freight trends. The ESC noted the “considerable reliance” on the 2003 study for estimating container movements and stated that the study “needs to be updated”.

The ESC also made the observation that:

“...a better database may also be an important element in facilitating supply chain efficiency and increasing the mode share of rail.”¹⁸

The Study Team endorses these comments.

Melbourne Port@L

The Port of Melbourne and the adjacent Dynon rail precinct are being integrated into a single intermodal hub through the Victorian Government’s Melbourne Port@L strategy.

The strategy aims to improve road and rail links from the port and support the development of outer urban intermodal facilities by:

- Improving rail and road access to and between rail and shipping terminals
- Using information and communications technology to improve supply chain performance
- Reducing road congestion around the port
- Freeing up land around the port for freight-related activities
- Encouraging outer metropolitan intermodal terminals to service the Port
- Increasing the port’s capacity, including its container terminal capacity at Swanson Dock.

The Port@L strategy includes the relocation of the Melbourne Wholesale Markets from their Footscray Road location and the removal of at-grade crossings to allow longer trains to operate in the port and eliminate traffic delays on Footscray Road.

6.1.5 Managing the freight task

Managing the growth in urban freight – and the strong growth in trade through the Port of Melbourne – raises many challenges for the city and its transport network.

The issues holding back greater freight efficiency in Melbourne can be summarised as:

- Congestion along key freight routes, especially the M1 and the Western Ring Road
- The growing demand for car travel that leaves commercial vehicles competing for road space
- Deteriorating and volatile journey times
- Truck size restrictions and inefficient use of trucks
- Local curfews and restrictions in residential areas
- Driver shortages.

A number of measures are being undertaken to address these issues. For example, to minimise the number of port trucks on Melbourne’s roads, the Port of Melbourne Corporation and the freight industry are encouraging a significant increase in truck utilisation by:

- Increasing the number of high productivity trucks
- Encouraging more efficient stevedoring systems and practices
- Integrating supply chain logistics to ensure that the proportion of loaded inbound trucks with an outbound load (and vice versa) is increasing.

The POMC and the Victorian Government are also undertaking changes to improve the capacity and efficiency of the road network within and surrounding the port.

The Government has also indicated its support for moving a greater amount of urban freight by rail, including the development of a network of intermodal hubs across the city (see Chapter 6.2).

A number of industry stakeholders expressed their frustration to the EWLNA Study Team that Victoria does not have a Freight and Logistics Strategy. These stakeholders argued that Victoria does not appear to have a clear policy for action on planning for future freight corridors, the siting and protecting of intermodal hubs, or making land reservations to secure freight-related developments and transport initiatives.

18. Essential Services Commission (2007), *Review of Port Planning: Final Report*, Melbourne, p.242

The Victorian Freight and Logistics Council (VFLC) has noted that, while draft strategic land use studies have been developed for the state's commercial ports, "there are no state level provisions for buffering of these vital assets".¹⁹ The EWLNA Study Team understands that the Department of Infrastructure is currently undertaking a study into the freight network and intermodal freight options, which is expected to report in the first half of 2008.

The VFLC has also pointed out that Melbourne's west currently undertakes a large share of freight management for the eastern and south-eastern suburbs. The Council believes that – for the foreseeable future – there will be a sizeable freight task moving west to east across Melbourne because of the availability of distribution centres, depots and warehouses in the western suburbs.²⁰

A number of submissions to the EWLNA also argued that 'high productivity' trucks are an important element in managing the growth in the metropolitan freight task. While recognising community concerns about 'bigger trucks', the Study Team's view is that high productivity vehicles operating on designated routes offer the real prospect of reducing the number of trucks on Melbourne's roads (relative to the growth in the freight task). For example, the National Transport Commission has noted that:

"If an inter-capital network for B-triples was established on the Australian mainland beyond road train routes modelling shows a national linehaul truck operator with 60 B-double and semi-trailer trucks could:

- ***reduce the number of trips by one in four***
- ***save 3.7 million kilometres of truck travel annually***
- ***reduce operating costs by 22 per cent***
- ***reduce the fleet to 42 trucks (30 per cent fewer)."***²¹

Regardless of these positive developments in managing the freight task, there will still be a significant increase in the amount of freight traffic carried on Melbourne's roads in the short to medium term. In other words, the vast majority of the goods needed and used by Melburnians will be moved around the city by road for many years to come – and at increasing levels. The Study Team believes that this reality needs to be accepted by Melburnians and by the various tiers of government, with solutions to maintain and improve road freight efficiency developed accordingly.

6.1.6 Industry concerns

Consultations undertaken by the Study Team revealed several specific industry concerns relating to the freight task in Melbourne.

- ***Congestion concerns*** – industry noted the growing congestion on Melbourne's roads and the negative impact on freight transport. The consequence of congestion for industry is not only increased travel time, it is also the unreliability of travel time. Increasingly, businesses plan their logistics operations around tightly controlled access windows and delivery schedules. Where journey times are unreliable, industry's response is to increase the assumed journey time. This has the effect of 'building-in' the effects of congestion even on days when it is not present.

One major Victorian producer and exporter told the Study Team that it had formally increased the assumed journey time for its daily deliveries from the east of Melbourne by 30 minutes in order to ensure reliable arrival time. Similarly, in its submission to the VCEC congestion inquiry in 2006, Coles Myer noted that it had to allow for additional journey times as a result of a 9 per cent increase in the average turnaround time for deliveries across metropolitan Melbourne over the preceding three to four years.²²

Clearly, where travel times are reliable, industry is able to schedule its transport and logistics activities in the most efficient manner.

- ***Supply chain management*** – An important point made by industry is the increasing importance of supply chain management. This management recognises the 'chain' of materials and goods from all ends of the product lifecycle and aims to reduce the total cost to business of the product lifecycle (of which transport is only one cost). This approach changes thinking about some transport related decisions. For example, it might be more efficient to build a state-of-the-art logistics centre on the other side of the city in order to improve inventory control and industrial relations than to locate different parts of the same business in close geographic proximity.

These changes have had the effect of spreading activities geographically and have contributed to the significant increase in transport and logistics centres located in the north and west of Melbourne. Such locations are also on major interstate freight routes and provide better connections to and from the Melbourne 'city-gate'.

19. Victorian Freight and Logistics Council submission to the EWLNA (2007), p.4

20. Ibid, p.7

21. National Transport Commission (2007), *COAG backs B-triple network*, Fact Sheet, Canberra, accessed at www.ntc.com.au

22. VCEC (2006), p.60

- *Higher productivity trucks* – Industry also noted that high productivity trucks have the potential to reduce the growth in truck numbers and significantly improve the efficiency of freight transport. Industry stakeholders expressed their frustration with the Victorian Government’s failure to approve suitable routes for the operation of these vehicles in Victoria.

In its submission to the EWLNA, the Victorian Transport Association stated that growth in freight being ‘soaked up’ by the use of more productive trucks has stalled, “with authorities less keen to approve more productive designs” such as the adoption of High Efficiency Container Transporters and High Cube freight vehicles. The VTA noted that productivity improvements “can be done with next to no cost and very quickly” and that the Victorian Government could approve the use of high productivity vehicles “today without additional infrastructure investment”.²³

- *Shifting to the freeways* – The Study Team notes that there is a high level of acceptance in the transport industry for measures that reduce congestion and improve travel times and reliability, including pricing for road use and charging for initiatives that complement industry efforts to improve productivity and efficiency. In its submission to the EWLNA, Transurban pointed out that commercial vehicle traffic is growing fastest on CityLink and strongly on the city’s freeways, while declining on the arterial road network – indicating a preference by freight operators for using (and paying for) higher quality roads.²⁴

The Victorian Transport Association’s submission reinforced this point, noting that “freeways are the preferred mode for freight” and that truck use of freeways in Melbourne has increased by 40 per cent in the last 10 years.²⁵

Study Team Findings

Melbourne’s overall freight task will continue to grow by an annual average of 3 per cent from now until 2020, leading to a 50 per cent increase in the road freight task (measured in tonne kilometres).

The vast majority of Melbourne’s freight will continue to be carried by road, with the biggest increase in freight vehicles on Melbourne’s streets being Light Commercial Vehicles.

Industry generally prefers to have trucks using freeways (rather than arterial roads) and has demonstrated a willingness to pay for the use of freeways.

The opening of EastLink is likely to result in increased truck numbers on the Eastern Freeway as trucks travelling between Melbourne’s south-east and the north look to bypass the city centre.

There is significant potential to reduce future growth in the number of trucks on Melbourne’s roads by increasing the use of high productivity vehicles.

Without action taken to improve management of the freight task, industry will face significant additional costs from increased travel times and unreliable travel times.

23. Victorian Transport Association submission to the EWLNA (2007), Supporting material accompanying submission

24. Transurban submission to the EWLNA (2007), p.11

25. Victorian Transport Association submission to the EWLNA (2007), Supporting material accompanying submission

Some typical freight journeys

Every day, a vast range of freight is moved around Melbourne – from clothing and food to furniture and whitegoods; from cars and building materials to office supplies and household waste; from the smallest electronic components to massive pieces of factory machinery.

For many Melburnians, the appearance of goods in shops, supermarkets and mail boxes is taken for granted. But the production, sale and distribution of these goods can involve different vehicle types (such as heavy trucks, light commercial vehicles and tractors), different modes of transport (air, sea, rail and road) and various forms of transport infrastructure (rural and city roads, ports and intermodal terminals).

The Study Team has explored some typical freight journeys to give a sense of the complexity of the freight task and the importance of maintaining a freight network that is as flexible and efficient as possible. Two examples of these journeys are illustrated in Figures 78a and 78b.

For more detail about these and other freight journeys, see the Transport and the Economy report prepared for the EWLNA.

Figure 78a – A tub of butter - from farmer to supermarket

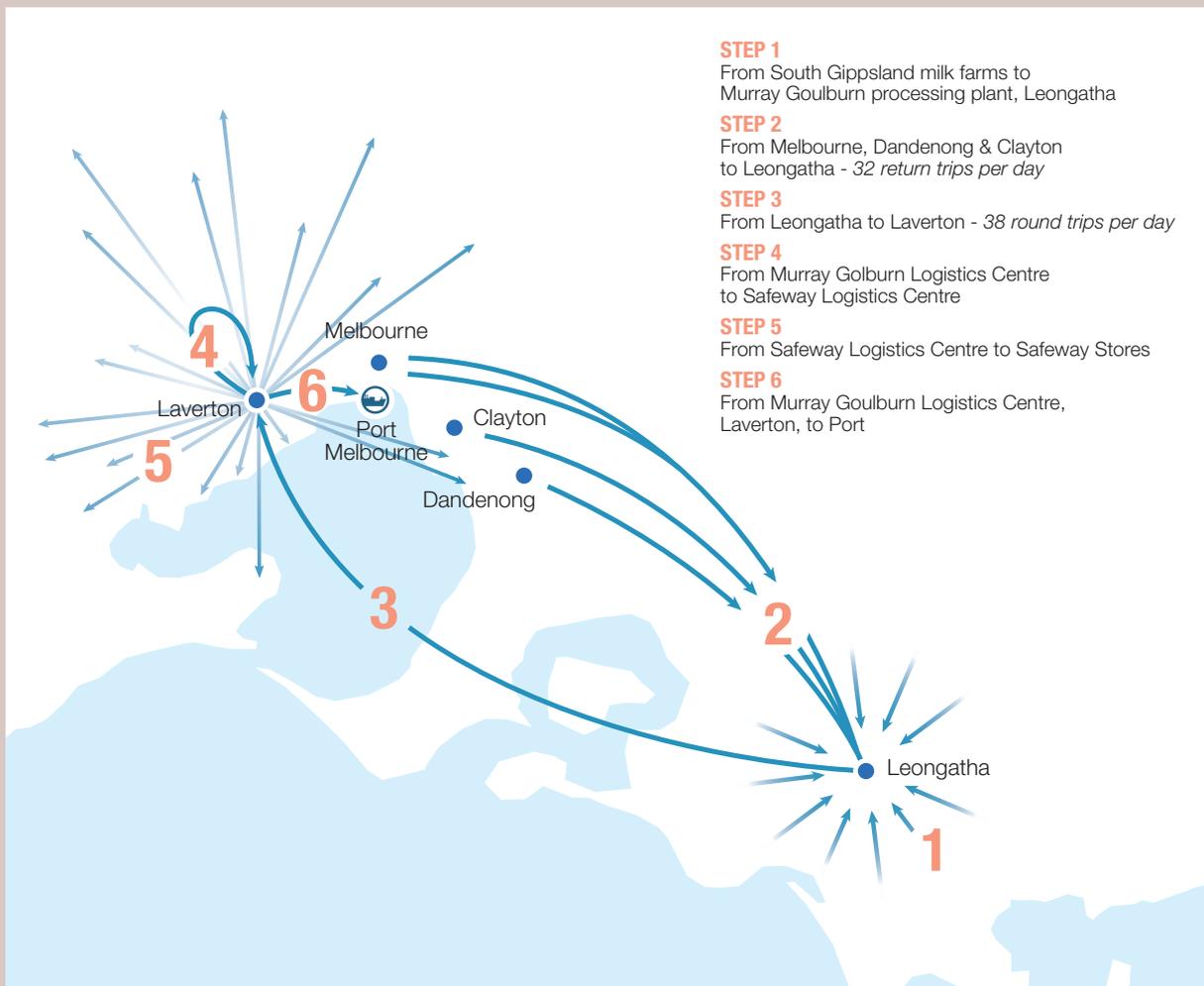
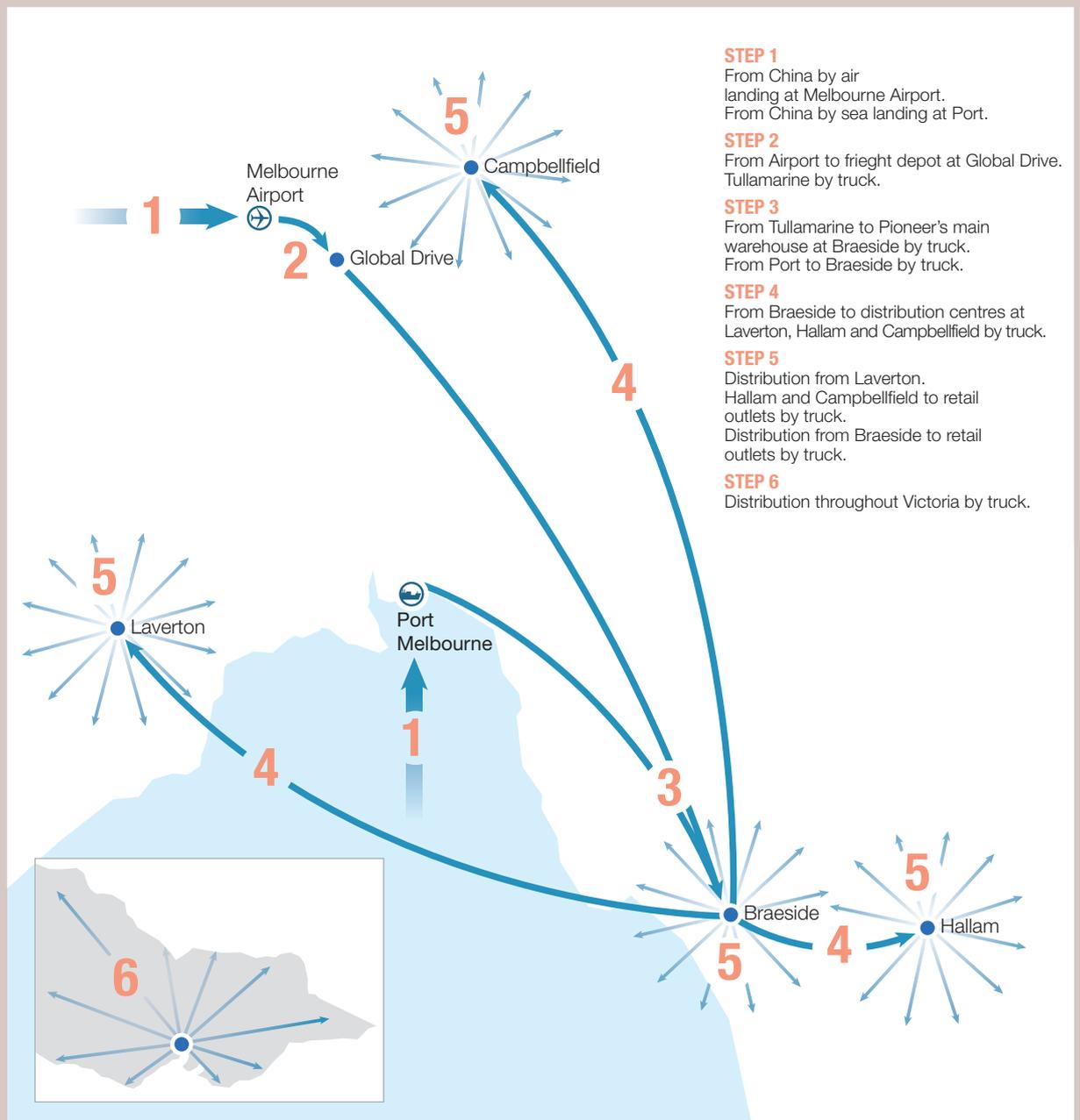


Figure 78b – A Pioneer plasma TV - from manufacturer to living room



Source: EWLNA

There are several other road trips associated with this journey, including returning the empty container from the Braeside warehouse to a container park and moving waste packaging to a recycler.

6.2 Rail freight – part of the answer, but no silver bullet

Many people see getting more freight off trucks and onto rail as the solution to reducing the growing number of trucks on Melbourne's roads. With just 16 per cent of port-related freight in Victoria moved by rail,²⁶ increasing rail's share of freight is clearly a highly desirable goal. The Victorian Government has acknowledged the importance of this goal by setting a target of moving 30 per cent of freight from and to all ports by rail by 2010 (known as the 30/2010 target).

Public submissions to the EWLNA showed a very high level of support for transporting more urban freight by rail, particularly to and from Melbourne's major freight centres in the west (Altona/Laverton), south-east (Dandenong) and north (Somerton). To meet this objective, submissions and consultations gave strong support to the development of intermodal hubs in these centres – with the aim of moving significant amounts of freight by rail between the port and the intermodal hubs, greatly reducing the number of trucks on roads around the port and in Melbourne's inner suburbs.

But a few cautionary observations must be made before discussing what is needed to boost rail's share of freight transport.

For a start, the nature of rail is fixed. This means that rail is 'good' at moving large volumes of freight from one fixed location to another fixed location. With its high proportion of 'below wheel' fixed costs, the economics of rail transport mean that, typically, the longer the distance the better. Accordingly, rail lends itself well to interstate freight movements and regional freight movements.

However, in urban areas, freight movements are shorter and do not necessarily run between two fixed points: an efficient metropolitan freight movement usually involves multiple pick-up and drop-off points that the rail network simply cannot reach. Given these characteristics, it's not surprising that all metropolitan freight movements in Melbourne are made by truck.

Despite these limitations, there are clear opportunities to increase rail's share of freight generally, without compromising freight efficiency and in a way that reduces heavy truck movements in and out of central Melbourne.

Winning market share on the massive Melbourne to Sydney corridor is rail's biggest opportunity and biggest challenge. Even a small increase in such a large market will deliver substantial reductions in trucks on the Hume Highway and substantial increases in the rail task. To support the large investments planned by the Australian Rail Track Corporation (ARTC) along this corridor, Victoria needs to adopt a strategy that shifts major interstate rail intermodal operations away from South Dynon in the centre of Melbourne to a state-of-the-art facility that maximises rail efficiency north of Melbourne, positioned on the corridor itself. By taking this action, an increase in rail's share of freight transport will not have the perverse effect of bringing more trucks to the railhead in central Melbourne and it will allow Melbourne's landside port development plans to be facilitated.

To provide further support to this opportunity, the interstate rail network should ultimately be directly linked to Melbourne's south-east, to enable interstate freight originating from Dandenong (and eventually the Port of Hastings) to stay on rail and avoid metropolitan truck movements wherever possible.

As the Chairman of the recent *Victorian Rail Freight Network Review*, former Deputy Prime Minister Tim Fischer AM, has pointed out, investing in rail freight requires 'nerves of steel'. If rail succeeds in winning decent market share on the Melbourne to Sydney corridor, critical mass will begin to emerge for rail freight and attract the confidence of logistics managers. From this point, rail can begin to compete with road for freight share in regional Victoria and metropolitan Melbourne.

26. Figure provided by Department of Infrastructure's Freight Logistics and Marine Division

6.2.1 Port shuttles and the 30/2010 target

The main initiative put forward by submissions to the EWLNA to increase metropolitan freight movements is the concept of port shuttles. Port shuttles involve regular rail freight movements between the Port of Melbourne and intermodal terminals in the suburbs, from where trucks would then be used to make local movements.

Today, the amount of metropolitan port freight moved by rail is so negligible, it is effectively zero. Any port freight that is carried by rail has a regional or interstate origin or destination.

Currently, 77 per cent of international containers moving to and from the Port of Melbourne has an origin or destination within 40 km of the centre of Melbourne – in other words, it is metropolitan, not regional, freight.²⁷ The port predicts that this trend will grow over the next 20 years. While a regular service between two fixed points is consistent with rail's strengths, the relatively short lengths of these journeys (and a perceived lack of critical mass) make it very difficult for rail to be competitive with road when transporting metropolitan freight.

In any discussion of port shuttles, it is also important to appreciate that there are around 9,000 daily truck movements into and out of the port (including the Webb Dock area).²⁸ The number of commercial vehicle movements each day across Melbourne is around 500,000. In other words, any shift from trucks to trains into and out of the port, while welcome and desirable, is addressing a localised issue that involves a very small proportion of total commercial traffic. It is not the single 'silver bullet' solution to issues across the broader urban freight transport network.

With the aim of facilitating port shuttles and rail freight generally, the Victorian Government has already proposed an enhanced network of intermodal terminals to assist in managing the forecast growth in trade and projected congestion on the metropolitan road network. At this stage, the enhanced network will include terminals at three intermodal precincts (Altona/Laverton, Dandenong and Somerton). These terminals will be linked to major interstate regional rail corridors and have the potential to be supplied by shuttle trains from Asciano's South Dynon Rail Terminal and/or the adjacent Dynon/North Dynon Rail Terminal in the Port of Melbourne precinct.

Victorian Rail Freight Network Review

Following its 'buy back' of the country rail network in 2007, the Victorian Government commissioned former Deputy Prime Minister Tim Fischer AM to lead a panel of experts to review and recommend a future strategy for Victoria's intrastate country rail freight network.

The result was the Victorian Rail Freight Review, with the panel's final report being handed to the Government in December 2007.

The panel's work mainly focused on country Victoria, making recommendations for a targeted investment program to rehabilitate neglected rail assets in a methodical, prioritised manner and to address issues affecting rail's relative competitiveness, such as certainty of network access for operators, network access pricing and access to rolling stock.

The Review was conducted at a time when drought has severely affected the grain-dominated rail freight task, leading to the main operator Pacific National announcing it was ending its intrastate Victorian operations.

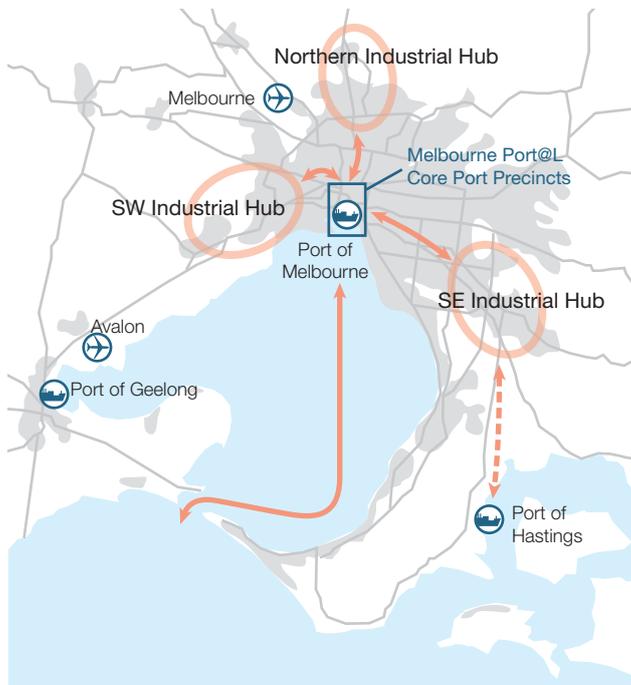
The Review did venture into urban freight issues, encouraging the development of metropolitan freight hubs in Melbourne's key industrial areas and calling for broad and standard gauge access to the Port of Hastings when it is developed. It also supported recent and planned moves to improve the port-to-rail interface at Melbourne Port.

The EWLNA Study Team notes that the Fischer Review's observations in relation to metropolitan rail freight are in broad agreement with the EWLNA findings.

27. DOI (2006)

28. Ibid. A truck entering the port is counted as one movement. When the truck leaves the port, it is counted as another movement.

Figure 78c – Melbourne's intermodal network



Source: DOI (2006)

In addition to serving local industrial catchments, the metropolitan terminals will facilitate freight movements out of Melbourne to interstate destinations. The transfer of containers to and from trucks will occur at these terminals – resulting in reduced congestion in inner Melbourne and at the port, generating land use, environmental and amenity benefits.

While this is a sound approach – and will assist in meeting the Victorian Government's future rail freight target – experience to date shows that rail has not been able to compete with trucks over the short distances involved in metropolitan freight movements.

Currently, the amount of port freight carried by rail is around 16 per cent, consisting entirely of intrastate or interstate freight movements.²⁹ A summary of rail freight movements is outlined in Tables 16, 17 and 18, including estimates of the amount of freight required to be moved by rail in metropolitan areas if the Government's 30 per cent rail freight target is to be achieved.³⁰

The figures for 2008 paint an even gloomier picture for metropolitan rail freight. Since the cessation of the CRT rail shuttle from Altona in early 2007, not a single container of metropolitan freight is moved by rail. Every container leaving the port with a Melbourne metropolitan destination is moved by truck, and all containers moved from Melbourne's suburbs to the port are moved by truck.

A brief examination of the CRT port rail shuttle, which operated between the port and the CRT terminal in Altona, highlights the problems facing metropolitan rail freight.

The shuttle, which was capable of moving 60,000 containers a year, ceased operating in early 2007 due to the rising costs of operating a rail service to the port compared with road transport. CRT told the Study Team that the difference between transporting a container by road and rail from the Altona depot to the port was \$53 per container in favour of road. According to CRT, the increased stevedoring charges foreshadowed at the end of 2006 effectively ended the rail shuttle, although other factors such as the inability to guarantee train paths into the port also contributed to its closure. CRT acknowledge that Patrick attempted to support the 30/2010 target by offering the same booking fee for containers arriving by road (with certain conditions that were unable to be met commercially).

Some industry stakeholders contend that the reliability of train paths into the port at guaranteed times (to provide certainty for stevedores) is a more important issue than differential pricing for trucks and trains.

In making general observations about the viability of port shuttle services, CRT has asserted that:

“The expensive lesson learned from the now defunct Melbourne port shuttle operation is that the general marketplace will not support metropolitan port shuttle rail services when road transport is a much cheaper alternative, principally as a result of the differential charges levied on shipping containers at the port, and in part due to the service provider.

What CRT's experience has shown is that a level playing field must be created for the transport of freight by road and rail for short haul rail to be a financially viable transport alternative.”³¹

A port shuttle has been proposed by Austrak from its intermodal facility in Somerton, which has a throughput capacity of 600,000 containers per year. The 114-hectare facility has attracted some large tenants including Coles Myer, Linfox, Kraft, Visy and Masterfoods. The general manager of Austrak, Bill Green, told the Study Team that the Government's 30 per cent target is both 'sensible and achievable' and that industry is voting 'with its feet' by locating at intermodal facilities with high standard rail facilities.

29. Figure provided by Department of Infrastructure's Freight Logistics and Marine Division

30. Note: these tables show a slightly higher rail share than the current situation.

31. CRT Group (2007), Submission to the Review of the Interface between the Land Transport Industries and the Stevedores at Port Botany, Independent Pricing and Regulatory Tribunal of New South Wales, p.4, accessed at www.ipart.nsw.gov.au

Table 16 – Port related containerised freight by rail, 2006

Origin / Destination	TEU	% of Total
Interstate	212,000	63.5%
Regional	114,000	34.1%
Metropolitan	8,000	2.4%
Total	334,000	100%

Table 17 – Containerised port freight task, 2006

	2006		Required					
			20%	22%	24%	26%	28%	30%
Total containerised freight task	1,878,000							
Estimated TEU on rail	17.8%	334,000	375,600	413,160	450,720	488,280	525,840	563,400
Inter / Intrastate	17.4%	326,000	326,000	326,000	326,000	326,000	326,000	326,000
Metropolitan (TEU)	0.4%	8,000	49,600	87,160	124,720	162,280	199,840	237,400
Metropolitan (% of total freight task)			2.6%	2.6%	4.6%	8.6%	10.6%	12.6%

Table 18 – Forecast containerised port freight task, 2010

	2010		Required					
			20%	22%	24%	26%	28%	30%
Total containerised freight task	2,434,000							
Estimated TEU on rail	30%	730,200	486,800	535,480	584,160	632,840	681,520	730,200
Inter / Intrastate	CAGR	3.0%	367,000	367,000	367,000	367,000	367,000	367,000
Metropolitan (TEU)			119,800	168,480	217,160	265,840	314,520	363,200
Metropolitan (% of total freight task)			4.9%	6.9%	8.9%	10.9%	12.9%	14.9%

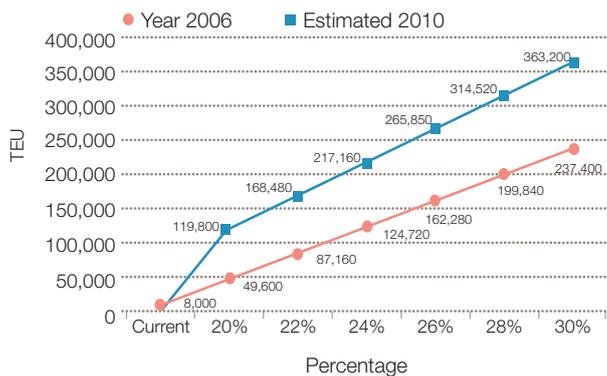
NB: Interstate and intrastate freight on rail is assumed to grow at 3 per cent CAGR between 2006 and 2010.
Source for Tables 16, 17 and 18: VFLC (2007)

6.2.2 Making the shift to rail

The Study Team notes that notwithstanding strong support within the community, the Victorian Government's stated commitment to rail freight and the push from some industry figures, the current amount of metropolitan freight carried by rail is effectively zero.

Based on current forecasts for container trade, more than 360,000 containers would need to be moved by rail to metropolitan hubs by 2010 to achieve the Government's target for rail freight. While the 30/2010 target is a laudable policy objective, the Study Team's view is that it cannot be met.

Figure 78d – Estimated port container modal shift required to achieve 30/2010 target (in TEU)



Source: VFLC (2007)

But issues associated with achieving the 30/2010 target should not be confused with the overall need to increase rail's share of port freight in the longer term. As discussed in more detail below, when future port volumes are taken into account, it is critical that rail is used in conjunction with road to move the growing number of containers coming through the port. It is clear that the volumes of freight will be so large that road alone should not continue to carry the entire metropolitan load.

Recent developments in the intermodal sector give cause for optimism. The Federal Government is investing significant funds from its national AusLink program into the Victorian rail freight network, including metropolitan and regional intermodal hubs and improved rail connections into the Port of Melbourne and the Port of Geelong. Importantly, funding of \$80 million has been allocated to the network of intermodal hubs in metropolitan Melbourne at Altona/Laverton, Dandenong and Somerton.

The Victorian freight network strategy (currently in development) is expected to provide further direction on the development of intermodal hubs. However, the Study Team believes that further initiatives can be taken by the Victorian Government and that the key driver necessary for change is government action to facilitate and/or regulate the development of intermodal hubs and to provide the necessary infrastructure to allow the movement of metropolitan freight by rail.

Some supporters of port shuttles have argued that government intervention may require some form of public subsidy or underwriting to support rail until it can compete with road transport. While this option has been proposed by some intermodal operators and was discussed during consultations with the Study Team, the Essential Services Commission in its draft Review of Port Planning rejected this option. The ESC concluded that subsidies would impose inefficient structures on industry and instead emphasised the need for rail infrastructure to support port shuttles and actions to facilitate intermodal hubs.

A number of practical issues also impede metropolitan rail freight, including a lack of guaranteed train paths due to competition with passenger trains and community amenity issues. Previous strategies have identified train paths and noise impacts from freight trains as key issues to resolve.

Other states, particularly New South Wales, are wrestling with the same dilemma. In Sydney, the Australian Rail Track Corporation (ARTC) is soon to start construction of the \$192 million Southern Sydney Freight Line – a new 35 kilometre single track dedicated line for freight services between Sydney and Melbourne, Adelaide and southern NSW and between Port Botany and south western metropolitan intermodal terminals. The line will be built alongside the existing tracks used by CityRail for passenger services. While some noise walls will be provided as part of the project, noise continues to be a contentious issue as freight trains will be running within the existing rail reservation close to residential communities.

Similar issues will need to be addressed if regular port shuttles were to operate along existing suburban passenger rail corridors in Melbourne. For example, an intermodal terminal in Dandenong may give rise to a number of costly grade separations and – possibly – the installation of noise walls to protect residents from noise generated by large numbers of freight trains.

Establishing an intermodal terminal in Dandenong will be critical to the success of a network of hubs across Melbourne – but it also appears the most problematic location. The Dandenong rail line is already one of the most congested passenger lines in Melbourne and is experiencing strong patronage growth. It also crosses a significant number of major arterial roads and runs adjacent to a number of residential communities.

As noted by the Essential Services Commission in its review of the impact of port planning on competition, the Government's 30/2010 rail share target is heavily dependent on the operation of port shuttles from areas such as Dandenong, which in turn are heavily dependent on major infrastructure projects that cannot be completed by 2010.³² As stated above, the only sensible conclusion in the face of these issues and difficulties is that the Government's rail target will not be met.

While not criticising the notion of setting a mode share target, the Study Team believes that the target should be re-evaluated by the Government. This re-evaluation should be accompanied by a comprehensive plan to move more freight by rail.

While remaining optimistic about the future for rail freight, some industry leaders are critical of the lack of a clear policy framework to guide the establishment of hubs. The Victorian Freight and Logistics Council's *Toolkit for the Development of Intermodal Hubs in Victoria* has outlined industry concerns:

“There is no intermodal hub policy at present which enables industry to comprehend a consistent scenario of government support and investment within which the private sector can develop these hubs.”³³

For intermodal hubs to receive the focus and resources they need, the Study Team's view is that a government 'sponsor' or lead agency should be given the role of implementing a network of hubs. The Victorian Freight and Logistics Council has suggested that the Port of Melbourne Corporation could assume this responsibility. Given that the operation of port shuttles to suburban hubs would form an integral part of the landside port network, as well as being essential to managing and meeting the port's own growth projections, this appears a sensible suggestion. This change to port governance arrangements could include responsibility for achieving a new target for port rail freight.

In addition to the measures outlined above, the Government needs to make planning decisions about possible future sites for metropolitan hubs. This will protect development opportunities for intermodal hubs before the remaining appropriate sites are acquired and/or developed by private interests or for other industrial uses. Given the scale of the hubs, their rail and road access requirements and community amenity issues, there will only be a limited number of appropriate sites in any geographic location.

6.2.3 Rail freight network issues

The Study Team has mainly focussed on physical transport infrastructure issues that will facilitate and stimulate growth in rail's share of freight.

Victoria's main rail freight facilities are South Dynon Rail Terminal and Dynon/North Dynon Rail Terminal, both located at the Dynon precinct directly adjacent to the port. Trains carrying freight to and from Sydney, Adelaide/Perth and regional Victoria operate from these facilities.

Despite its proximity to the port, at least 70 per cent of rail freight going through Dynon is not related to the port at all – it is domestic freight.³⁴

While rail enjoys strong market share from Melbourne to Adelaide/Perth (around 80 per cent³⁵), on Australia's most important trade route between Melbourne and Sydney, rail only has 10 per cent market share.³⁶ With a total land transport market of around 12 million tonnes, increasing market share on the Melbourne to Sydney route is rail's biggest opportunity and also its biggest challenge.

To this end, the Australian Rail Track Corporation (ARTC) is investing \$1.3 billion on the Melbourne/Sydney corridor in a bid to match the efficiency of road transport with quicker journey times, longer trains and faster turnarounds. The ARTC is aiming to boost rail's market share from 10 to 30 per cent over the next five years. With the overall freight task always growing, such an outcome would mean a massive increase for the rail freight task.

Because of the large market between Melbourne and Sydney, any incremental improvement in rail's market share takes many trucks off the road: a 1 per cent increase in rail's market share on this route would take around 5,000 trucks per year off the Hume Highway. But perversely – and highlighting the complexity of this issue – because of the location of key rail facilities at Dynon, this modal shift will also lead to more truck movements into the heart of Melbourne and adjacent to the Port of Melbourne, as drop-offs and pick-ups from interstate trains increase.

The South Dynon Rail Terminal handles virtually all interstate rail freight. While its location immediately adjacent to the port appears ideal, the reality is that more than 70 per cent of freight handled at the terminal has nothing to do with the port. Apart from attracting more truck movements into central Melbourne, the terminal's location also brings more freight train movements right into central Melbourne – alongside commuter trains and local residents.

32. Essential Services Commission (2007)

33. VFLC (2007), *A Toolkit for the Development of Intermodal Hubs in Victoria*, Melbourne, p.7

34. Figure provided by Department of Infrastructure's Freight Logistics and Marine Division

35. Figure provided by Department of Infrastructure's Freight Logistics and Marine Division

36. Figure provided by Department of Infrastructure's Freight Logistics and Marine Division

Despite the rail terminal's close proximity to the port, the port is not ideally configured to streamline the loading of trains with port freight. For this reason, the Port Development Plan and Melbourne Port@I strategy suggest an expansion of port landside property to absorb the Melbourne Wholesale Food Market and the Dynon rail area.

Moving the main non-port rail activity elsewhere creates an opportunity to use this area to re-configure rail's interaction with the port to enhance efficiency and give port shuttles a chance of success.

However, the main benefit of relocating the interstate rail terminal is the opportunity to create a terminal on the Melbourne to Sydney corridor that maximises rail efficiency and improves competitiveness on that corridor.

The other key element in the rail freight story is Melbourne's south-east. Dandenong (and, in the future, the Port of Hastings) is the origin and destination of large freight volumes, but it is the only major freight location in Melbourne without a standard gauge connection. Ideally, more freight originating from Dandenong that is not bound for metropolitan Melbourne should travel by rail. To achieve this, a standard gauge rail connection for freight is needed, connecting Dandenong and ultimately the Port of Hastings to the interstate standard gauge network. The Study Team's view is that this connection should be built into all future transport plans.

Such a connection will not be easy to achieve. Strong population growth in the south-east means increasing train patronage. Melbourne's suburban trains travel on broad gauge tracks, not standard gauge tracks. Rail capacity set aside for freight is capacity not available for passengers.

The EWLNA's recommendation to construct a passenger rail tunnel creates an opportunity to accommodate the long-term passenger and freight needs on the Dandenong line. This means that the track triplication announced in *Meeting Our Transport Challenges* must proceed, but by taking two passenger tracks underground at Caulfield, freight trains can share this corridor in the future.

The timing of a connection between Hastings and the standard gauge network has not been considered by the Study Team. That is a function of demand and freight policy generally. However, in framing its recommendations, the Study Team has 'planned in' this long-term requirement in the belief that rail freight to Dandenong and Hastings, both port-related and non-port-related, has a great opportunity for success in the future.

6.2.4 Future actions

A new interstate and intermodal freight terminal

The Study Team believes that the establishment of a single, large, common user, interstate and intermodal freight terminal, located away from the port and on the national standard gauge rail network would be an extremely positive development. The terminal would need to be connected to Melbourne's arterial (preferably freeway) road network. Ideally, the terminal would be located north of Melbourne on the Melbourne to Sydney rail corridor.

Locating such a terminal in the city's south-east (as suggested by some observers) is not a preferred option, as it would draw trains and trucks unnecessarily to that area and across Melbourne.

The development of such a terminal would be a positive development for the following reasons:

- It would remove the need for truck movements delivering non-port freight to and from the railhead to come into central Melbourne, the point of most congestion on the road network.
- It would stimulate greater efficiency for interstate rail operations in its competitive battle with road freight. The design of a new rail terminal would aim to maximise efficient train movements, minimising the need to break trains up below full length and minimising the need for shunting movements around the terminal. It would also include well-designed road connections to facilitate efficient road pick-up and drop-off. In making this recommendation, the Study Team notes that government should consider the extent to which a new terminal could build upon the investment already made by the private sector at the AusTrak Somerton intermodal terminal.
- It would remove the need for interstate and domestic freight trains carrying non-port freight to terminate in central Melbourne, where rail access paths are scarce and conflicts with passenger trains are prevalent.
- It would free up critical space in the Dynon area, creating the opportunity to re-configure the port area consistent with the long-term goals of the Melbourne Port@I initiative. This includes the opportunity to expand the landside capacity of the port, consistent with the goals of the Port Development Plan. It also creates the opportunity to re-design the rail to port interface in a way that improves rail freight efficiency, facilitating the introduction of rail port shuttles.

The interstate freight terminal would need to be common user. The viability of rail is strongly linked to critical mass. Because rail does best with long distances and large volumes, a single large interstate terminal stands a better chance (at least initially) of being successful in attracting market share than a number of separate terminals. For the terminal to succeed in a competitive rail market (and to lower potential barriers to entry for new rail freight operators), it must be open access for all operators of rail freight services.

Recent indications of possible changes in the main rail freight operators in Victoria further underscore the need to ensure any new terminal developed with public funds is open to different operators.

Standard gauge network to key metropolitan hubs

In addition to the establishment of an interstate freight terminal located away from the port, Melbourne must develop a standard gauge network connecting the interstate terminal and the interstate network to the key metropolitan hubs of Dynon (the port), Altona/Laverton (west), Somerton (north) and Dandenong/Hastings (south-east). Obviously, the interstate terminal and one of the metropolitan hubs could be the same facility. The timing of a south-east standard gauge connection would be determined by the level of demand for freight and can only occur after the development of a passenger rail tunnel from Footscray to Caulfield (as proposed by the Study Team).

The development of this network is important because it enables domestic (non-port) freight being generated in Melbourne's main industrial areas to connect to the national interstate network, providing an alternative to road and creating the opportunity for rail to compete with road by eliminating double handling caused by breaks in the gauge. Such a network would also connect port-related freight to both the main interstate network/terminal and the key metropolitan areas.

Of the three metropolitan areas, only the south-east connection is missing – and yet this is the most important. Dandenong is now the largest industrial zone in Australia and a major source and destination for freight. In addition, Victoria's Integrated Port Strategic Framework states that progressively from 2020 (but certainly from 2030), the Port of Hastings will begin handling large volumes of international containers.

There is no standard gauge connection to Melbourne's south-east. The Dandenong line is a broad gauge line that carries suburban electric trains and V/Line diesel trains to Traralgon and Bairnsdale. Considerable patronage growth is forecast for this corridor as Melbourne's population continues to expand.

One of the recommendations being made by the EWLNA Study Team is for a new passenger rail tunnel beneath central Melbourne connecting Footscray with Caulfield on the Dandenong line. Apart from providing much needed passenger capacity, the development of this tunnel creates the opportunity

to allocate space on the surface rail alignment for a future dedicated standard gauge freight line on the Dandenong line and to the Port of Hastings. It achieves this by removing two passenger lines from the surface and taking them underground. The triplication of passenger tracks on the Dandenong line announced in *Meeting Our Transport Challenges* would still need to proceed.

The Study Team notes that, due to the growing passenger demand it will not be possible to dedicate standard gauge tracks for the purposes of freight without the provision of new passenger lines.

The development of a new passenger rail tunnel creates the opportunity for a dedicated standard gauge freight line from Dandenong, but only as far as Richmond. Beyond that point, to connect to the interstate standard gauge network, freight trains need to travel through or under the city to connect at Dynon or further west.

The Study Team has identified several options for future consideration by the Victorian Government:

- A rail freight tunnel beneath the city from Richmond through to the west near Tottenham. A tunnel emerging near the port would be highly problematic due to extremely low gradients; as an alternative, it may be possible to move freight across the city using the EWLNA recommended passenger rail tunnel (with dual gauge) at night. However, a direct connection to the port would not be possible.
- Freeing up space on the rail viaduct between Flinders Street Station and Southern Cross Station by creating more capacity elsewhere for passenger trains currently using the viaduct (there is no spare capacity and all lines are broad gauge). This could be done by:
 - building another passenger rail tunnel in the future for the Werribee to Sandringham route (this also creates future opportunities to provide connectivity to the Docklands area); or
 - linking the existing Northern and Burnley Rail Groups in the existing underground loop and terminating Sandringham trains at Flinders Street Station.

The alternative to using the Dandenong line to provide the rail freight connection is to construct a new rail line through Melbourne's east. The new EastLink alignment is often mentioned in this context. Such an option would require extensive tunnelling, as there is no space for a freight line over much of the alignment. The line would then proceed from Ringwood along the Eastern Freeway or through Melbourne's north-east to link with the Melbourne to Sydney line to the north of Melbourne.

The Study Team has not analysed this alternative, but notes that such an investment for a rail freight-only functionality compared to using an existing alignment (such as the Dandenong line) appears extremely costly and unlikely.

Figure 79 – Potential freight connection – Dandenong line



Source: EWLNA

Developing port shuttles and optimising rail efficiency

As noted earlier, there are currently 9,000 daily truck movements in and out of the Port of Melbourne, with rail’s share of port-related traffic around 16 per cent.

Table 19 shows projections developed by the Study Team (based on the Port of Melbourne Corporation’s analysis) for truck movements in 2035 under a range of different scenarios.

As shown in the table, if there is no improvement to today’s rail share by 2035, there will be a truck entering or leaving Webb Dock every eight seconds – assuming 24-hour operations at Webb Dock and two containers per truck. If Webb Dock was restricted to 15 hour operations at Webb Dock (due to amenity issues in nearby residential areas), a truck would enter or leave the dock every five seconds.

Trucks accessing or leaving Webb Dock would use a newly constructed Todd Road connection to access the West Gate Freeway. Putting aside the obvious logistical issues created by such a truck volume at Webb Dock itself, significant traffic volumes would also be generated along the already congested West Gate Freeway (where traffic volumes are forecast to increase by more than 40 per cent from current levels by 2031 in the absence of investment to provide an alternative route for east-west traffic).

The situation at Footscray Road for trucks entering or leaving the Swanson and Appleton Dock area of the port is similar. If there is no improvement to the current rail share, by 2035 there will be a truck every ten seconds entering or leaving the port via Footscray Road (assuming 24-hour operations) – even more frequently if truck efficiency targets are not met.

Any expansion in the capacity of the Swanson/Appleton area above the 4 million containers assumed in the Port Development Plan would see this truck volume increase accordingly.

These are extremely large local volumes that present substantial challenges for local road connections, logistical arrangements within the port and the amenity of nearby residents and businesses. Should rail's share be permitted to decline, the situation will only deteriorate further.

The Study Team's view is that steps must be taken to ensure a substantial rail freight share for port traffic and that port rail shuttles represent the best opportunity for that to occur. The team's view is that a situation should not be permitted to develop where, because rail does not carry a material share of metropolitan port-related freight, there are massive volumes of trucks travelling in and out of the Swanson and Appleton Dock areas as well as the Webb Dock area, causing significant degradation of local amenity and disruption to local businesses.

Other efficiency improvements are being pursued to reduce overall truck movements in and out of the port, including steps to increase the average number of containers per truck (which has increased from 1.05 to 1.17 per truck since 2004³⁷). The Port of Melbourne Corporation aims to increase this to 2 containers per truck by 2035. Another efficiency measure is to reduce the number of empty trucks arriving or leaving the port: since 2004, this has reduced from 41 per cent to 36 per cent.³⁸

In addition to these measures, the Study Team believes the following actions are necessary:

- Should Webb Dock be developed in the future as an international container port, it must be configured from the outset to provide rail connections that maximise rail efficiency.
- The Victorian Government should use the opportunities generated by the relocation of non-port freight to a new interstate intermodal terminal (as recommended by the EWLNA) to free up land and redesign the Dynon area to improve rail freight efficiency and expand landside capacity generally.
- However, the development of Webb Dock means the effective 'splitting' of the port. Along with the obvious difficulties involved in providing a rail bridge or tunnel connection (such as interference with recreational marine craft and operational difficulties in running freight trains along such a bridge), this will make it difficult and expensive to achieve a high capacity, efficient rail connection. Accordingly, the Victorian Government should also consider the option of redeveloping the Swanson/Appleton area – therefore consolidating rail in one area – and then compare this option to Webb Dock before finalising its Webb dock plans. However, this does not suggest that redeveloping the Swanson/Appleton area is without problems.

- The rail connections into the Swanson/Appleton area should be re-configured to improve the efficiency and reliability of rail operations. This re-configuration has been proposed by the Victorian Government in its 2007 AusLink II submission to the Commonwealth Government.

The Study Team has not undertaken the detailed work required to recommend specific rail connection improvements into the port area at either Swanston/Appleton or Webb Dock. The Team notes that the timing of any such improvements is linked to the resolution of the pricing and practical issues discussed earlier. However, the Team's firm view is that strong and positive action needs to be taken if any progress is to be made towards significantly increasing rail's share of freight and significantly reducing truck traffic to and from the port.

Study Team Findings

The Victorian Government's target of increasing rail's share of port freight to 30 per cent by 2010 cannot be met. This target needs to be reviewed and a new strategy developed, in consultation with industry, to move more freight by rail.

As well as reviewing the 30/2010 target, the Government should take new actions to increase rail's share of freight generally. These new actions should include the establishment of a major new common user intermodal terminal, the development of a standard gauge rail network in Melbourne, and other steps to ensure that rail has a material share of port freight in the future.

The Port of Melbourne will be limited in its capacity to manage a fourfold growth in containers by 2035 without major improvements in neighbouring road and rail infrastructure.

Without port rail shuttles, the growth in container volumes will lead to higher truck volumes in the vicinity of the port.

Developing an urban intermodal network is critical to managing the growing volume of goods moving through the port.

For rail freight's share of port traffic to grow, effective and focused governance is needed. The Port of Melbourne Corporation is ideally suited to take on this responsibility.

37. Figure provided by Department of Infrastructure's Freight Logistics and Marine Division

38. Figure provided by Department of Infrastructure's Freight Logistics and Marine Division

Table 19 – Forecast truck movements to and from the Port of Melbourne (2035)

Assuming two containers per truck (currently 1.17 per truck)

Scenarios	Truck movements per day – Webb Dock (Monash Freeway via Todd Road)	Truck movements per day – Swanson and Appleton (Footscray Road)	Total Truck Movements per day, assuming two containers per truck
16% rail share	10,000	8,500	18,500
20% rail share	9,500	8,000	17,500
30% rail share	8,500	7,000	15,500
No rail	12,000	11,000	23,000

Assuming 1.5 containers per truck (currently 1.17 per truck)

Scenarios	Truck movements per day - Webb Dock (Monash Freeway via Todd Road)	Truck movements per day - Swanson and Appleton (Footscray Road)	Total Truck Movements per day, assuming 1.5 containers per truck
16% rail share	13,000	11,000	24,000
20% rail share	12,500	10,000	22,500
30% rail share	11,000	9,000	20,000
No rail	16,000	13,500	29,500

Source: EWLNA

6.3 Uneasy neighbours – truck traffic and the inner west

As many submissions to the Study Team made clear, the issue of heavy vehicle traffic in the inner west has been an intractable and emotion-charged issue for more than a decade. Despite extensive consultation and community debate, culminating in the introduction of limited truck curfews in Yarraville, heavy freight traffic in residential areas remains a source of community concern and frustration.

Night time and weekend curfews operate along Francis Street and Somerville Road in Yarraville, prohibiting all non-local heavy vehicles. The Victorian Government also signed a Memorandum of Understanding with local petrochemical companies to reduce the number of trucks travelling on Francis Street each day, while VicRoads developed an education campaign to encourage freight operators to use the West Gate Freeway/Bolte Bridge for night time journeys to and from the Port of Melbourne and rail freight terminals. These measures have had limited success.

Annual truck counts conducted by VicRoads since 2002 show that the amount of heavy vehicle traffic has not diminished to any marked extent, with extremely large numbers of trucks continuing to use streets such as Francis Street and Somerville Road. In the area bounded by the Maribyrnong River in the east, Hudsons Road in the south (Spotswood), Geelong Road in the west and Buckley Street (Footscray) in the north, the number of truck movements has averaged 20,000 per day since the targeted VicRoads counts commenced. In 2007, the aggregated truck movements totalled around 20,200 in this area, with a concentration of around 7,000 trucks per day in Francis Street, Yarraville. Other streets with large numbers of trucks include Buckley Street, Somerville Road and Williamstown Road.

In its submission to the Study Team, the Maribyrnong Truck Action Group (MTAG) stated that the number of trucks escalated dramatically in the 1990s after the completion of major road projects:

“After the completion of the Western Ring Road in 1996 and CityLink in 1999, levels of truck traffic in the inner west increased dramatically. Currently in excess of 17,000 heavy trucks a day use residential streets in Maribyrnong. Francis Street Yarraville carries a great deal of this truck traffic (around 7000 trucks a day), it is a residential street lined on both sides with houses, it is also fronted by a community centre and a childcare centre, in addition there is a primary school less than 100 meters from the street.”³⁹

The reasons for the amount of heavy vehicle traffic are varied. While it should be noted that not all trucks moving through the area are port-related, the location of Yarraville between the port and major industrial centres further west is a major contributing factor. The West Gate Freeway/Williamstown Road/Francis Street route is seen by some operators as a shorter and more direct route to the port than the West Gate/Bolte Bridge route, with some smaller operators also using the route to avoid tolls on CityLink. As noted in the City of Maribyrnong’s submission:

“Much of this port related truck traffic is choosing to travel along streets through Yarraville and Footscray to avoid the congestion, costs and other constraints on the freeway network. Improved freeway access to the port or dedicated truck access is needed to cater for the expected truck traffic growth.”⁴⁰

The siting of container yards close to the port and residential areas is a further factor. Fourteen container yards are located within the City of Maribyrnong and the most direct routes from the yards to the port are via Somerville Road and Francis Street. While it is likely that container yards will slowly be forced out of the inner suburbs as the value of land in close proximity to the city becomes more attractive for residential uses, this is likely to be a gradual process as some yards have long-term leasing arrangements.

With the Port of Melbourne Corporation predicting a four-fold increase in container trade by 2035, the problem of heavy vehicles in the inner west will be further exacerbated unless direct intervention is taken to reduce the number of trucks in residential areas. While the development of intermodal hubs may assist in removing some trucks from the Yarraville area, the number of trucks will continue to increase in real terms as the overall size of the freight task rapidly increases.

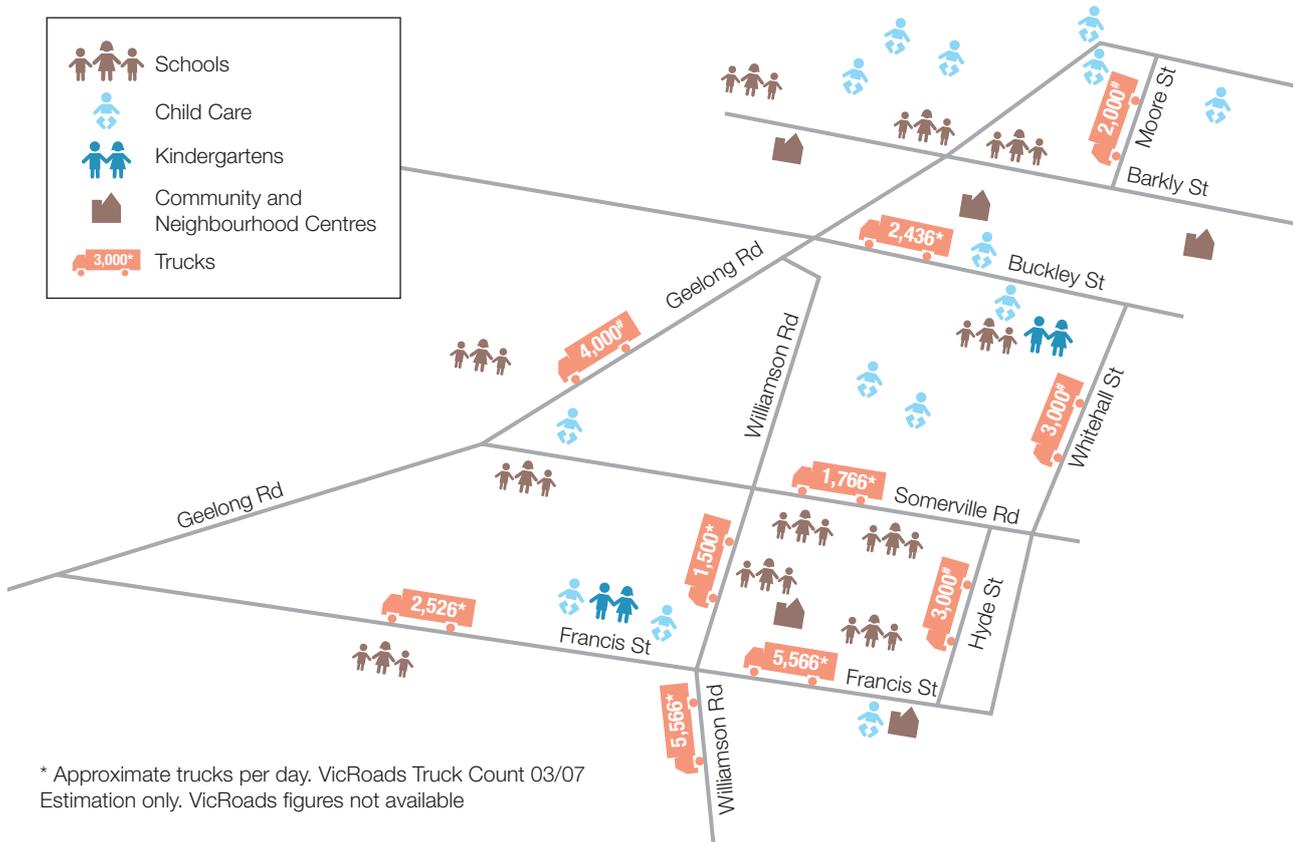
This point is reinforced by the Victorian Government’s draft Melbourne Port@I strategy, which highlights the growth in container trade with an origin/destination in metropolitan Melbourne (see Chapter 6.1).

When viewed alongside predicted strong population growth in the western region of Melbourne, the extent of the looming transport management problem in the inner west is profound.

39. Maribyrnong Truck Action Group submission to the EWLNA (2007), p.10

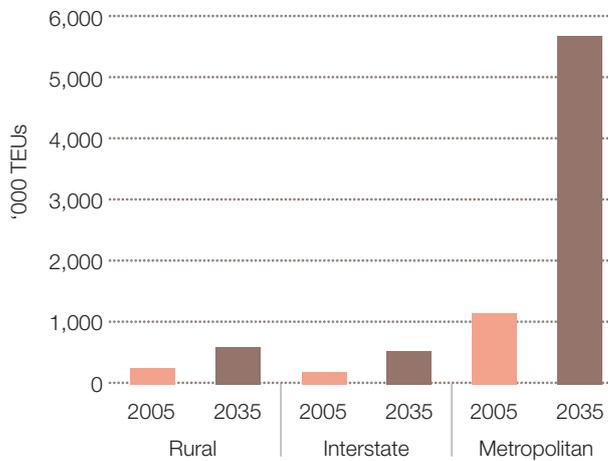
40. City of Maribyrnong submission to the EWLNA (2007), p.20

Figure 80 – Community activity in the inner west along current major freight routes



Source: MTAG

Figure 81 – Forecast growth in international container trade by origin/destination



Source: DOI (2006)

The Maribyrnong Truck Action Group (MTAG), the City of Maribyrnong, members of the former Francis Street Working Party and residents all suggested infrastructure and policy options to tackle the problem. The list of physical options included:

- A new link from the West Gate Freeway connecting to Whitehall Street and the port, effectively bypassing the eastern end of Francis Street (this option was opposed by the City of Hobsons Bay)
- New and improved north-south road links through Brooklyn/Tottenham to the West Gate Freeway to improve connections from industrial/warehouse/transport logistics sites in Tottenham and Brooklyn to the West Gate Freeway. The proposed alignment could include Tottenham Parade, Paramount Road and Dempster Street as a key north south truck route linking to Geelong Road–Millers Road and the Freeway
- A new bridge across the Maribyrnong River connecting Whitehall Street to MacKenzie Road on Coode Island. A new crossing of the Maribyrnong river south of Footscray road connecting Whitehall Street to MacKenzie Road would provide a good truck link into the port road network, linking to Coode Road and Dock Link Road
- Improved road connections between Footscray Road, Dynon Road and CityLink
- A Tunnel under Buckley Street/Napier Street between Geelong Road and Footscray Road. The City of Maribyrnong suggests such a tunnel would provide additional east-west road capacity from the western suburbs to Footscray Road; good connections with Geelong Road to the port, creating an attractive freight route for industry in the western suburbs; the separation of through traffic, including trucks, from local traffic accessing Footscray and Seddon along the route; reduced trip times; and an opportunity to maximise land value and amenity.

The Study Team has evaluated these and other options and made a number of recommendations to address this issue.

Study Team Finding

The level of truck traffic in Melbourne's inner west is unsustainable from a community amenity and safety point of view, and a solution should be sought to address the problem.

Projects recommended by the EWLNA should make a substantial contribution to addressing this issue.