A Discussion Paper

Shaping Melbourne's Freight Future

Proposals for an intermodal solution to service Melbourne's growing containerised freight task

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Contents

Glossary of Terms

ARTC: Australian Rail Track Corporation. Controls the standard gauge National interstate rail network.

Broad Gauge Track: The Melbourne metropolitan rail network, as well as the majority of the regional rail network, is comprised of broad gauge (i.e. 5' 3" gauge) track.

COAG: Council of Australian Governments.

FAC: Freight Activity Centres. First described in *Freight Futures* (2008), the FAC concept defines a node where intense freight and logistics activity takes place. Freight Activity Centres are connected by the Principal Freight Network.

FPA: Fremantle Ports Authority.

HPFV: High Productivity Freight Vehicle. Specialised truck and trailer combinations that provide the ability to shift more freight more efficiently with the spin-off of greater environmental and safety performance.

Hybrid MFTN: A network design based on a combination of rail-road and road-road terminals.

ICT: Information Communication Technology.

Intermodal solution: Combined use of rail and road modes for the transport of containerised freight, with rail generally carrying out the longer distance 'line-haul' leg of the journey and road undertaking the shorter 'pick up and delivery' leg at each end. For the purposes of this Discussion Paper, the 'line-haul' leg of the intermodal freight journey may be undertaken by either a train or a HPFV.

ITV: Internal Transfer Vehicle. Specialised heavy road vehicles used to move containers within port and terminal precincts (i.e. off the public road network).

LCV: Light Commercial Vehicles. Defined by the Australian Bureau of Statistics as: 'Vehicles primarily constructed for the carriage of goods, and which are less than or equal to 3.5 tonnes GVM'.

Line-haul: The long, high capacity transport leg an intermodal freight journey, typically between the port and a MFT.

Melbourne Port System: A project of the PoMC to describe and analyse the port land side logistics supply chain.

MFT: Metropolitan Freight Terminal. A terminal in an outer urban area that acts as a distribution point for a major industrial centre and collects freight for transport via the Principal Freight Network to the Port.

MFTN: Metropolitan Freight Terminal Network. First described in *Freight Futures* (2008), the MFTN comprises a network of road and rail terminals in Melbourne's major industrial areas, connected by high capacity road and rail links to the Port.

Metrol: Metropolitan Train Control. The Metrol centre coordinates train services across the majority of Melbourne's train system.

MTM: Metro Trains Melbourne. Current franchise operator of Melbourne's metropolitan passenger railway network.

Off-peak: Refers to times between the day-time peak periods (i.e. 6-9am & 4-7pm) and night-time on both the rail and road networks.

PFN: Principal Freight Network. First described in *Freight Futures* (2008), the PFN is the part of the larger transport network over which heavier movements of freight will be concentrated.

PoMC: Port of Melbourne Corporation.

PUD: Pick Up and Delivery. The short transport leg in an intermodal freight journey, typically between a MFT and the customer.

QR: QR National (formerly Queensland Rail).

Rolling Stock: Rolling stock encompasses all vehicles that move on rail, both powered and unpowered (e.g. locomotives and wagons).

SPC: Sydney Port Corporation.

Shuttle Train: A relatively short, high powered, train used for undertaking the line-haul task between the Port and MFTs.

Standard Gauge Track: The interstate rail network, as well as some of the regional rail network, is comprised of standard gauge (i.e. 4' 8.5" gauge) track.

TEU: Twenty Foot Equivalent Unit. A standard sized shipping container used as the basis for measuring and comparing container volumes.

VicTrack: Victorian Rail Track Corporation. A Victorian Government rail agency whose charter is to operate commercially in adding value to the state's public transport (primarily rail) assets and to support the delivery of public transport services in a safe and efficient manner.


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Ministers' Message

Melbourne is currently growing at a rate of more than 1,500 new residents every week. This growth is expected to continue to a point where the city's population passes five million people by 2030 and reaches seven million around 2050. Over half of these new residents will be accommodated with increased densities in Melbourne's existing suburbs, generating increased demand for public and private transport on our shared transport networks.

Population and economic growth will also drive demand for freight and Melbourne's increased freight traffic will need to fit efficiently, safely and sustainably into this denser urban environment.

The metropolitan freight task is complex and diverse. However, this Discussion Paper focuses on one particular aspect of the urban freight task – the import and export container task through the Port of Melbourne, which is growing even faster than the general freight task, with container numbers predicted to quadruple by 2035.

In many senses, planning for Melbourne's freight future is now at a cross roads. Either we continue to rely on the existing methods of metropolitan freight distribution, or we act now to develop and implement alternative, complementary solutions which will provide greater capacity, flexibility and more sustainable outcomes in the future.

In *The Victorian Transport Plan, Freight Futures* and *Port Futures*, the Government proposed the development of a Metropolitan Freight Terminal Network (the MFTN) – an integrated system of freight terminals in each of Melbourne's major industrial areas and at the Port of Melbourne, linked by efficient, high capacity rail and road shuttle services.

This Discussion Paper contains the Government's more developed thinking about "how to do" the MFTN. In outlining twelve "key design propositions" the Government is seeking to stimulate discussion and debate.

We welcome constructive comment, critique and suggestions in response to the Discussion Paper to help us more clearly identify the needs of freight transport users; access the knowledge and insights of the transport industry; and understand the issues which concern the wider community.

A key feature of the MFTN as proposed in the Discussion Paper is the intention that it operate on shared networks – both road and rail – through the metropolitan area. This means that both passenger and freight operations will need to be carefully coordinated and managed and that MFTN trains and trucks will be need to be quiet and meet contemporary environmental standards.

In this context, the Government sees the challenge of achieving an efficient, viable and sustainable MFTN for Melbourne as one which needs the attention and strong support of both the Public Transport and Roads and Ports portfolios, and we jointly give this important initiative our fullest backing.

After carefully considering the feedback on the Discussion Paper, the Government will release a final policy statement which will form the blueprint for moving forward with implementation of the MFTN in partnership with the private sector and the community.

We are pleased to place before you the Government's further thinking on the MFTN and look forward to receiving your feedback.

Tim Pallas
Minister for Roads and Ports

Martin Pakula
Minister for Public Transport


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Executive Summary

Introduction

Melbourne faces many challenges as a major city to remain efficient, competitive and prosperous – and a great place to live – as its population and economy continue to grow.

For the movement of freight, the challenge lies in the rapid growth of the task and its increasing exposure to congestion around the central port/city area and on the major connecting road arterials, like the M1. It also lies in the increasing concerns of residents in inner suburban areas about the impact of trucks on their amenity.

The Port of Melbourne Corporation (PoMC) predicts that, as total port container throughput rises from just over two million TEUs per annum in 2007 to eight million TEUs by 2035, the metropolitan container distribution task will increase from about 1.6 million TEUs per annum to some six million TEUs. This equates to an increase from the current level of about 6,000 truck trips per day to 12,000 trips per day to and from the Port (*Melbourne Intermodal System Study* 2008).

Planning for Melbourne's freight future has now reached a critical stage. Either an exclusive road only approach for all metropolitan freight distribution can be continued, or action can be taken to develop and implement alternative, complementary solutions which will provide greater capacity, flexibility and more sustainable outcomes in the future.

Purpose and scope

The purpose of this Discussion Paper is to put forward proposals for a new 'intermodal' approach to moving port related containerised freight around Melbourne.

Although the scope of these proposals does not extend specifically to other major containerised freight markets – such as regional exports and interstate domestic trade – the network infrastructure and systems developed are likely to have significant utility over time for these other markets.

Policy context

Like many modern cities, Melbourne has grown up around its port, the major gateway for its trade with the outside world. Naturally enough, over the ensuing 150 years much of the investment in infrastructure to service the handling and transport of freight has been focused in and around the port precinct.

A number of social and economic factors and trends have influenced the evolution and spatial distribution of Melbourne's freight and logistics activities over the years and, more recently, some key Government policy documents have addressed Melbourne's emerging freight challenges in this context. These include:

- *The Victorian Transport Plan* (2008), which sets out an ambitious strategy and infrastructure investment program to meet the transport needs of Victoria and a rapidly growing Melbourne;
- *Freight Futures (2008), The Victorian Freight Network Strategy,* Victoria's first comprehensive freight network plan, released as a companion document to The VTP; and
- *Port Futures* (2009), which updates the Government's high level policy and strategy settings for Victoria's ports and highlights the importance of improving landside access and efficiency, particularly for the Port of Melbourne.

The case for a metropolitan intermodal solution

The need to act

The challenges associated with Melbourne's rapidly growing freight task are real. If the current 'road direct' model remains the only method of servicing this task, truck numbers accessing the central port/Dynon area will increase rapidly and the efficiency and reliability of freight movements will be affected by exposure to increasing congestion.

The external costs of truck use – greenhouse gas and particulate emissions, noise, accidents, loss of amenity – will also progressively escalate.

These developments will in turn impact on the competitiveness and 'liveability' of Melbourne as freight costs increase and are reflected in higher costs of goods to consumers and heavy truck traffic becomes a more dominant presence in the fabric of the city.

Why an 'intermodal solution'?

A new 'intermodal' approach, to complement rather than replace the current road-direct model, is proposed as a solution to this scenario.

In essence, the 'intermodal solution' aims to reduce the number of truck trips in and around the central port/Dynon area and on key arterial roads to and from the Port and to improve overall efficiency and environmental performance by:

- splitting freight journeys into a longer 'line-haul' leg and a local 'pick up and delivery' (PUD) leg;
- utilising more productive, efficient and environmentally friendly road and rail vehicles on the longer line-haul leg; and
- managing a network of terminals, line-haul and PUD transport services, moving full and empty containers, as an integrated system.

The potential benefits of an intermodal solution for metropolitan Melbourne are substantial and represent a combination of:

- aggregation benefits encouraged by complementary land use policies and practices, resulting in lower total truck kilometres travelled for the same task;
- productivity benefits gained by utilising higher productivity trucks and trains instead of conventional trucks for the line-haul legs of the task; and
- efficiency benefits gained by optimising the movement of empty containers between terminals, the Port and empty container parks.

Modelling work undertaken by the PoMC for the "Melbourne Port System" project indicates that an intermodal solution could:

- reduce truck distance travelled by up to 35%;
- reduce diesel fuel use by up to 17%;
- reduce carbon emissions by up to 17%;
- reduce transport costs by approximately 10%;
- increase the average number of containers per truck entering/exiting the Port from 1.2 to approximately 2.0; and
- reduce the average number of trucks entering/exiting the Port each day by up to 48%.

This work independently confirms the outcome of earlier modelling undertaken for the Department of Transport (*Melbourne Intermodal System Study* 2008) which concluded that adoption of an intermodal system could generate positive economic benefits and reduce truck trips to and from the Port from an estimated 12,000 trips per day in 2035 to 6,000 trips per day.

These and other studies have consistently demonstrated significant potential demand for intermodal service solutions and their likely viability, subject to some Government support through a 'start up' period, providing such solutions can be effectively designed and implemented.

Lessons learnt in Melbourne and elsewhere to date

In reviewing previous unsuccessful attempts to develop intermodal services in Melbourne, the key conclusion is that the design and implementation of such systems must involve more active participation by the Government, in partnership with private sector freight operators.

In terms of interstate and international experience, it is concluded that:

- There are few, if any, fully operational examples of intermodal networks servicing primarily metropolitan port freight distribution;
- Australian cities, notably Sydney and Perth, offer the most relevant examples for Melbourne; and
- Ultimately any solutions will need to be customised to serve Melbourne's unique freight task and socio-economic requirements.

What sort of 'intermodal solution'?

Whilst a number of different approaches to MFTN design can be considered, the preferred 'hybrid network' option is essentially a combination of the other main options.

It involves the establishment of three principal rail-road intermodal terminals to the west, north and south-east, plus a number of complementary road-road terminals sited to take advantage of concentrations of freight activity which are less accessible to rail. The rail-road terminals would also be accessible to the HPFV network and flexibly designed to accommodate road-road transfers (between HPFVs and conventional trucks).

This option also involves coordinated application of a package of complementary regulatory and pricing levers by the Government to support the establishment and operation of the network.

In general, it is more flexible and robust than the other options, combining their benefits and mitigating most of their risks. It incorporates the efficiency and sustainability benefits of both HPFVs and rail without being totally reliant on either. Importantly, it allows for a progressive transition to rail from road, as HPFVs can be used to grow line-haul volume before shuttle trains are introduced.

A high level economic evaluation of this option prepared for the Department (*Melbourne Intermodal System Study* 2008) concluded that:

- including externality benefits, the overall system would generate positive net benefits by its fourth year of operation; and
- excluding externality benefits, it would achieve commercial viability by year eight.

The system would require support during a start up period of some years as market share and volumes are grown. This could take various forms, including some level of capital and/or operating subsidy, the latter of which could be phased out as commercial viability is achieved.

Propositions underpinning a hybrid MFTN

Twelve key design propositions, which underpin the preferred 'hybrid MFTN' system, are set out below. Each of them is open to discussion and debate and it is expected that they will be refined and improved through this Discussion Paper process.

Proposition 1 *– The MFTN should be structured to provide an integrated port to door service offering, comparable with the ancillary/hire and reward road offering*

Proposition 2 *– The principal MFTN terminals should be designed to operate as fully integrated 'inland ports' with customs and quarantine status, allowing direct consignment of containers from other ports to and from these locations*

Proposition 3 *– The MFTN terminals should be located within larger, clearly defined 'freight precincts' which operate 24/7 and are planned and regulated to encourage major freight customers to locate nearby*

Proposition 4 *– The MFTN line-haul task between the port and inland terminals should utilise a combination of road and rail modes*

Proposition 5 *– The MFTN container shuttle trains should operate on a single common gauge across the network, initially broad gauge, with flexibility to change to standard gauge should this become an option available to all principal rail-road terminals in the future*

Proposition 6 *– The MFTN line-haul operations should primarily utilise off-peak road and rail capacity*

Proposition 7 *– The MFTN line-haul operations should utilise specialised rolling stock for rail and next generation HPFVs for road*

Proposition 8 *– As far as possible, the MFTN line-haul container shuttle trains should be controlled by METROL, the control centre for MTM's electric passenger trains operating on the metropolitan shared rail network*

Proposition 9 *– The MFTN operations should be coordinated through a single integrated ICT operating system*

Proposition 10 *– The MFTN operations should be based on Government ownership of terminal land with terminal and associated PUD operations contracted to the private sector*

Proposition 11 *– The MFTN line-haul operations, both road and rail, should be contracted or franchised to a single integrated operator*

Proposition 12 *– The MFTN should be oversighted by a single Government owned authority with an appropriate mandate and powers to undertake all necessary landlord and service contract/franchise management functions and to be responsible for the overall development and effective coordination of the network*

Start up and staging issues

These propositions describe an ultimate 'hybrid MFTN' vision for Melbourne and should be seen as providing a working template to guide the way forward – a template that is almost certain to be regularly revisited and revised as experience is gained.

It will be important to establish a practical starting point and realistic staging strategies which will enable the progressive implementation of the new system and testing and refinement of its key concepts, without undercutting the ultimate vision.

Some considerations and suggested approaches which might be adopted in the early stages of implementation include:

- **Rail-road versus road-road terminals** – the initial focus should be on the establishment of the three key rail-road terminals in the west, north and south-east;
- **A terminal in the west** – an early stage of implementation could involve consideration of utilisation of one of the existing private terminals in the Altona area;
- **A terminal in the north** – similarly, an early stage of implementation could involve consideration of utilisation of the existing private Somerton terminal;
- **A terminal in the south-east** – initial MFTN implementation activities to the south-east should focus on selection of a preferred terminal site and the initiation of both road-road and rail-road line-haul operations; and
- **The Port interface** – this function may be best managed by a single entity, which could be contracted for this task through a competitive tendering process.

Government's role and related policy, planning and regulatory issues

In addition to the range of possible infrastructure investment and service procurement activities which the Government might undertake in partnership with the private sector to initiate and develop the MFTN, the preferred 'hybrid MFTN' option incorporates a number of potential 'policy levers' which could be exercised by the Government to support the activities of the MFTN. These include targeted approaches to:

- Design and implementation of a Freight Infrastructure Charge;
- Development of National road user pricing;
- Metropolitan rail access policy, pricing and practices;
- Structuring of charges for Government owned MFTN assets; and
- Terminal site selection and land use planning.

Processes for stakeholder engagement and delivery

It is vital that the engagement and procurement processes adopted by the Government in developing and delivering the MFTN are effective and productive. Key success factors will include:

- conduct of processes in an open and equitable manner;
- optimising the respective roles of Government and the private sector;
- achieving the desired outcomes at minimum cost and risk to the participants;
- delivering outcomes in the shortest possible timeframe without jeopardising probity, equity or effective management of risk; and ultimately
- achieving an efficient, viable and sustainable MFTN.

A key means of filling information gaps and testing propositions is to expose the Government's thinking to wide comment and debate. The Government is, therefore, seeking readers' comments on the overall approach set out in this Discussion Paper, the 12 specific propositions put forward and any other relevant matters.

The Government also proposes to test its thinking by conducting a series of workshops which will offer an opportunity for an interactive discussion with a wide variety of stakeholders. At this stage, it is anticipated that these workshops would be run in mid 2010.

Feedback from these consultation processes will be used to inform the completion of a final Government policy statement on the implementation of the MFTN, to be completed during 2011.

Subject to further refinement, the overall consultation and procurement process could follow the following general sequence:

- Release of Discussion Paper
- Stakeholder workshops
- Submissions received
- Refinement and finalisation of MFTN proposals
- Release of final MFTN Strategy
- Registrations of Interest
- Discussion with registrants/further refinement of proposals
- Formal tendering process
- Letting of contracts/franchises
- Delivery of agreed infrastructure
- Commencement of MFTN operations

The closing date for written submissions in response to the Discussion Paper is **30 September 2010.**

Part A – Setting the scene

1 Introduction

1.1 Melbourne's freight challenge

As Melbourne's population and economy continue to grow, it faces challenges as a city to remain not only efficient, competitive and prosperous, but also a great place for its citizens to live, work and recreate, with a clean environment and high amenity values.

Many of these challenges are common to other large cities around the world, some are more particular to the Australian context and others are quite specific to Melbourne.

For the movement of freight, the key challenge lies more in the future than in the present. It relates to the suitability of our current freight distribution infrastructure and methods to accommodate rapidly growing freight volumes in an efficient and sustainable manner, compatible with the needs and aspirations of a much larger population within metropolitan Melbourne.

This challenge is already at a critical point in many large international cities and in Sydney, Australia's largest city. However, the urban freight challenge is only now becoming evident in Melbourne.

It can be seen emerging in the increasing road congestion around the central city area, including around the port and rail precincts, and on the major radial road arterials like the M1.

Its presence is reinforced by the escalating concerns of residents in inner suburban areas about the impact of truck traffic on their amenity.

Freight Futures, the Victorian Freight Network Strategy released by the Government in December 2008, documents Victoria's broader freight task. It also describes the challenges which will need to be addressed in planning, building and managing Victoria's freight network over the next three decades, to balance *"...the needs of the growing Victorian economy and population with the quality of life aspirations of the Victorian community" (Freight Futures* 2008, p4*)* in an efficient and sustainable manner.

In relation to metropolitan Melbourne, *Freight Futures* (2008) reports that:

- The current freight task of over 200 million tonnes or 12 billion tonne kilometres is carried almost exclusively by road and is growing at roughly 3 per cent per annum, projected to double by 2030;
- Freight traffic accounts for approximately 15% of total vehicle kilometres travelled, but this proportion is increasing and is expected to reach 20% by 2020;
- LCVs (less than 3.5 tonnes) account for the majority of freight kilometres travelled (11% of total vehicle kilometres), but rigid and articulated trucks (4% of total vehicle kilometres) carry most of the load;
- Truck movements within the metropolitan area are estimated to average 170,000 trips per day, with a further 40,000 trips per day entering or leaving Melbourne;
- The economic cost of road congestion to all users, currently estimated at between $1.3 billion and $2.6 billion per annum, is projected to double by 2020 without substantial intervention.

Major Metropolitan freight flows

Source: DoT 2007

Freight Futures (2008) notes that although there are larger numbers of LCVs, they move in similar dispersed patterns to private cars, whereas heavier freight vehicle journeys tend to follow more concentrated and predictable paths.

In focusing on these heavier freight movements, *Freight Futures* (2008, p32) highlights in particular the challenge of transporting international containers between the Port of Melbourne and the three key industrial areas in Melbourne's west, north and south-east:

"The number of containers moved through the port every year is forecast to grow from the current level of just over two million TEUs to approximately eight million TEUs in 2035, a fourfold increase. Further, by 2035 it is expected that over 80 percent of these eight million TEUs will be heading through inner suburban Melbourne to and from locations within the metropolitan area, rather than points outside Melbourne. This will predominantly involve movements to and from Melbourne's urban fringe where most industrial development is forecast to occur."

More recent forecasts by the Port of Melbourne Corporation for all major container trade segments passing through the Port confirm the magnitude and distribution of this task.

Specifically, the PoMC predicts that the metropolitan container distribution task will increase from about 1.6 million TEUs per annum in 2007 to almost six million TEUs per annum in 2035.

The figures below show how the Port's total container throughput (Figure 1) is projected to be split across the interstate, regional and metropolitan markets (Figure 2) and how the metropolitan market is spatially distributed between the inner Melbourne, west, north and south-eastern suburbs (Figure 3).

Figure 1: Port of Melbourne container forecasts (TEU)

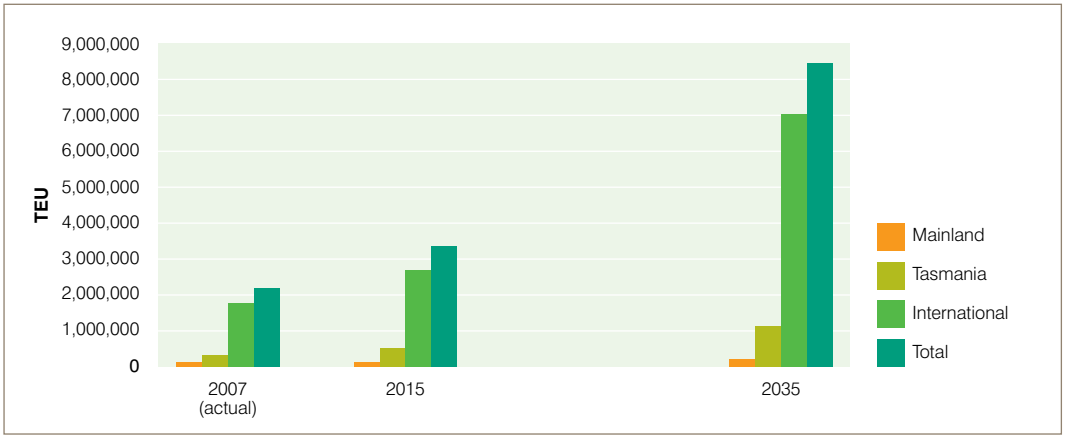


Figure 2: Origin/destination of import & export containers (2007/2035)

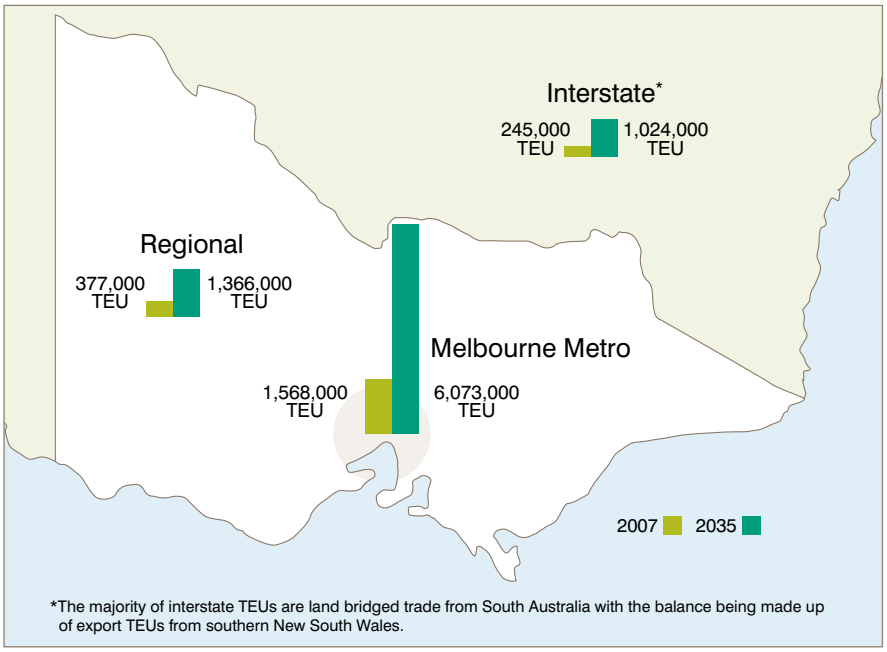
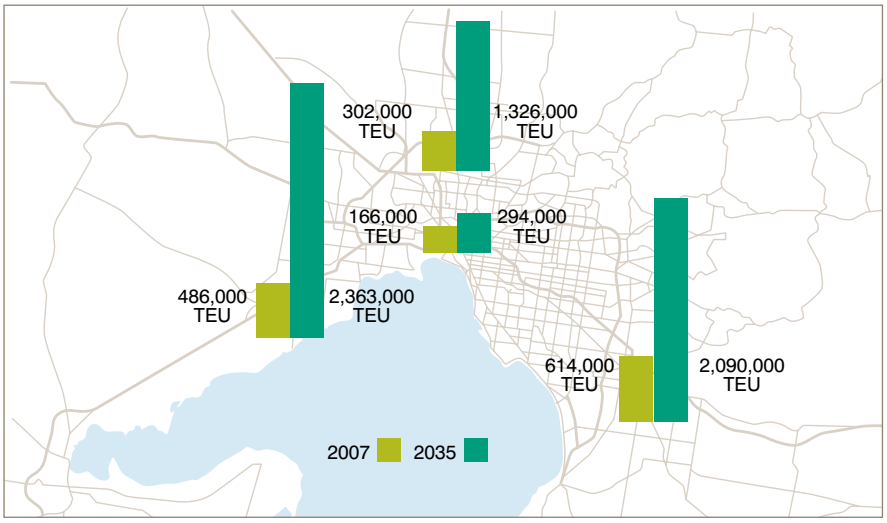


Figure 3: Melbourne Metropolitan container distribution (2007/2035)

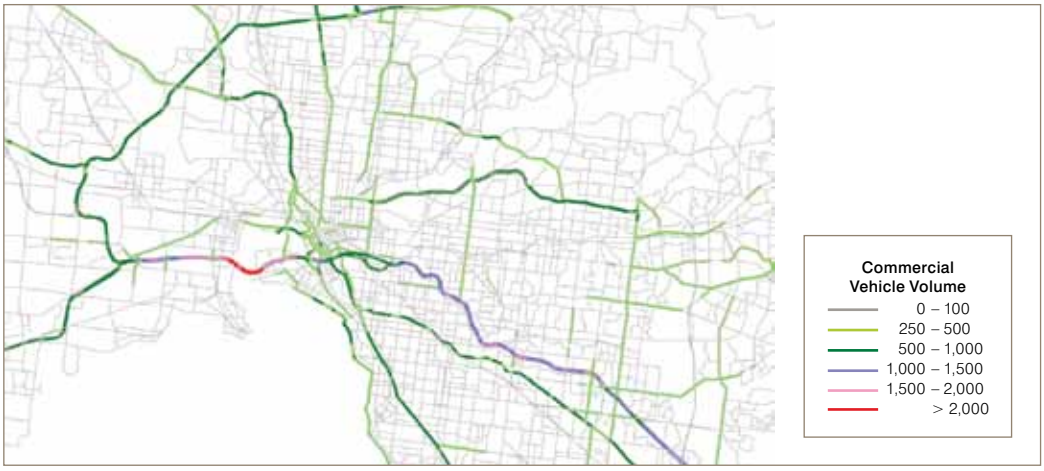


In terms of port related truck movements, this equates to an increase from 6,000 trips per day to 12,000 trips per day if significant changes to the logistics model used to handle this task are not implemented, even allowing for generalised improvements in truck productivity.

This represents a significant and rapidly growing component of the larger freight task to be absorbed by Melbourne's road network, which is already under pressure from general traffic congestion. The situation is worsened by the pattern of the current road dominated supply chain, which necessitates many heavy truck movements on Melbourne's arterial road network during peak periods, competing for capacity with passenger vehicles.

The maps below model current and projected heavy truck movements in the morning peak on Melbourne's arterial road network, assuming no major changes to the network are implemented.

Heavy Truck Traffic volumes AM Peak (7am – 9am), Melbourne 2006



Source: DoT 2007

Heavy truck traffic volumes AM peak (7am – 9am), Melbourne 2030

Source: DoT 2007

Melbourne is currently growing at a rate of more than 1,500 new residents every week, and this growth is expected to continue to a point where the city's population passes five million people by around 2030. Over half of these new residents will be accommodated with increased densities in Melbourne's existing suburbs, inevitably generating increased demand for public and private transport on the shared road network. Melbourne's freight traffic will need to fit efficiently, safely and sustainably into this environment.

Therefore, in many senses planning for Melbourne's freight future is now at a critical point. Either the exclusive 'road direct' method for metropolitan freight distribution can be continued with, competing as it does for peak period capacity on Melbourne's arterial road network, or action can be taken now to develop and implement alternative, complementary solutions which will provide greater capacity, flexibility and more sustainable outcomes in the future.

1.2 Purpose and objectives of the Discussion Paper

The broad purpose of this Discussion Paper is to put forward for discussion and comment proposals for a new 'intermodal' approach to moving rapidly growing volumes of containerised freight around Melbourne.

Such an approach is described in broad terms in the form of the Metropolitan Freight Terminal Network (MFTN) in Direction 4 of *Freight Futures* (2008, pp32-39).

The proposals in this Discussion Paper represent a next step in the definition of the MFTN as it applies, in particular, to the movement of port related freight with origins and destinations in the metropolitan area.

The specific objectives of the Discussion Paper are to:

- explain why the Government believes there is a need for a new approach to moving port related freight in the metropolitan area;
- explain the benefits of 'intermodal' approaches as a means of complementing the existing road direct method;
- propose a form of 'intermodal' system which might be most suitable for Melbourne, including a number of specific design propositions which would underpin this system;
- propose some mechanisms and processes which the Government could adopt to commence implementation of a preferred intermodal solution, in partnership with the private sector;
- stimulate comment and feedback from a range of stakeholders on these proposals for incorporation into a final Government position; and
- provide a basis for an initial sounding of interest from the market place for possible participation in a future MFTN for Melbourne.

1.3 Scope of the Discussion Paper

The primary focus of the proposals in this Discussion Paper is on the metropolitan collection and distribution of shipping containers passing through the Port of Melbourne.

Although, in terms of total trips generated, this market represents a relatively small proportion of the total metropolitan freight task, it is concentrated around the sensitive central city/port area; it is growing more rapidly than other components of the task; and it provides sufficient immediate scale and freight density to form the basis for establishing a metropolitan intermodal system.

Consequently, the scope of the proposals does not extend specifically to the other major containerised freight markets – the regional export trade and interstate inter-capital market – nor does it attempt to deal with the plethora of other domestic freight moves within Melbourne and Victoria, which are quite distinct in their characteristics.

Nevertheless, it is important to note that an MFTN servicing the port related freight task is also likely to have significant utility over time for these other markets, as Melbourne and its total freight task grows, and should be developed with a view to appropriately supporting them.

If well designed, an MFTN should ultimately form an essential network infrastructure platform for the efficient movement of freight generally in the metropolitan area, providing well defined high capacity freight pathways for heavier movements, connecting to strategically located freight activity centres which provide the focus for local pick up and delivery operations.

1.4 Structure of the Discussion Paper

Part A of the Discussion Paper sets the scene by providing an overview of Melbourne's freight challenge; some historical and policy context; and brief descriptions of the three key intermodal markets in Victoria.

Parts B and C set out the general case for an intermodal solution to address Melbourne's future freight challenge, including clearer definition of the problem to be addressed; the benefits of an intermodal approach; evidence of demand for and viability of such an approach; and information about efforts to date to move down this path in Melbourne and other Australian and international jurisdictions.

Parts D and E assess some high level options for an MFTN and identify the sort of intermodal system which the Government believes is best for Melbourne. Twelve key design propositions underpinning this preferred system are then set out with an explanation of the rationale for the approach proposed, an outline of possible alternative approaches and discussion of the issues and implications arising. Some key issues in relation to staging of implementation of such a system and the role of Government are also discussed.

Part F puts forward proposals for processes to engage stakeholder and market interest in developing and operating the MFTN.

2 Historical and policy context

2.1 Historical context

Melbourne has grown up around its port, the key point of arrival and departure of its early citizens and the major gateway for its trade with the outside world. In fact, Melbourne's location was selected at the point on the Yarra where ships could navigate up-river in salt water, reaching the point where fresh water flowed down the river.

Much of the investment in infrastructure over the ensuing 150 years to service the handling and transport of freight has been focused in and around the port precinct, including extensive rail and road facilities and connections.

Progressive decentralisation of industrial activity

Initially, most industrial activity also developed in the inner city areas, in close proximity to the port, rail and other facilities.

Since that time, as Melbourne's population has grown and competition for scarce inner city land has become more intense, much of this industrial activity has progressively relocated to cheaper undeveloped land in new industrial estates on the outskirts of Melbourne, facilitated by major road development in these areas (e.g. the Western Ring Road).

This spatial redistribution of industrial land use has been encouraged by Government planning policies over the past fifty years. For example, one of the seminal planning documents of this period, the 1954 *Melbourne Metropolitan Planning Scheme* (1953, p6), stated that:

"The dominant feature of the present industrial pattern is the concentration of 60% of industrial employment within three miles [4.8km] of the Central Post Office and 85% in this central area and the northern and western districts. The zoning proposals of the Scheme are designed to encourage decentralisation of industry and bring about a better distribution throughout the outer suburbs, nearer to the homes of workers".

Development of a radial transport network

As a result of its geography, the Port and the City of Melbourne sit relatively centrally within the broader metropolitan area, with extensive urban development from the south-west around to the south-east and Port Phillip Bay sitting to the south. To service this pattern of development, the transport networks, both road and rail, have developed in a radial fashion around the central port and commercial hub.

As progressive decentralisation of industrial activity has occurred, the port and major rail freight facilities have remained centrally located. If anything this has reinforced the radial nature of the transport network. International freight to and from the port and domestic freight to and from the adjacent interstate rail terminals are transported by road through mixed commercial/residential areas to freight handling facilities on the outskirts of Melbourne.

Development of relatively discrete inland industrial hubs

The structured approach adopted by Government to land use supply and designation in Melbourne's expanding growth corridors has created relatively discrete geographical concentrations of industrial activity rather than a more dispersed pattern which could otherwise have evolved.

These industrial concentrations, or hubs, to the west, north and south-east of the city, have become focal areas for freight activity and encompass the points of origin and destination for much of the freight moving in the metropolitan area.

Concentration of port freight in the broader metropolitan area

The great majority (nearly 80%) of international freight moving through the Port of Melbourne, which is the largest container and general port in Australia, has origins and destinations in the broader metropolitan area, within a radius of about 60 km of the port.

Although Melbourne does serve as the trade gateway for agricultural exports from regional Victoria and southern NSW and provides a transhipment function for Tasmanian trade, it does not service significant inland population centres like many North American and European ports do and land bridging to other capital city ports is limited.

Significant flows of interstate domestic freight from the west and north

Flows of interstate domestic freight are carried on the interstate road and rail networks from Brisbane and Sydney to the north and Perth and Adelaide to the west into the metropolitan networks.

Interstate rail freight generally arrives and departs from the major interstate rail terminals located in the Dynon precinct, adjacent to the port.

Road freight connects direct to freight forwarding and warehousing facilities in the major industrial precincts to the west, north and south-east of the city, often utilising 'ring road' links which have been put in place in the past 20-30 years to take pressure off the central city network.

The advent of containerisation and intermodalism

The rapid growth of containerisation of freight since the 1960s, particularly in the context of international shipping, led to the development of 'intermodalism', involving the use of multiple modes of transport during the one freight journey from supplier to final customer.

The use of standard dimension containers enabled the development of standardised equipment and processes which in turn allowed the more efficient transfer of freight from one mode to another, particularly between sea and land transport modes (i.e. ship and road or rail) and between different land transport modes (i.e. road and rail).

As the efficiency of these intermodal transfer operations improved and relative costs decreased, the potential for freight operators to utilise the strengths of the different modes and to optimise their combined application over the length of the supply chain also improved.

The dominance of road freight

Despite these intermodal improvements, rail had lost most of the short distance freight traffic in Australia by the 1980s, with road trucks possessing the flexibility required for shorter distance pick up and delivery operations servicing the final customer direct.

Over the past three decades, with further advances in road vehicle technology (particularly larger truck configurations, such as B-Doubles), expanded reach and quality of the road network and national harmonisation of road regulation, trucks have also captured significant shares of rail's long line-haul markets – the interstate domestic and regional export markets.

The decline of metropolitan rail freight

In the relatively recent past, Melbourne's suburban rail system carried significant volumes of freight in addition to passenger commuter trains and longer distance freight trains travelling to country destinations.

As late as the 1960s and 1970s, most suburban railway stations had goods yards which acted as local distribution points for huge quantities of brown coal briquettes and firewood, at a time when these were the principal forms of industrial and domestic heating, in addition to other general freight. Transport of brown coal briquettes by rail peaked in 1960/61, when 1.7 million tons were moved within Victoria, second only to the wheat harvest in volume (Lee 2007).

Suburban freight trains operated during the off-peak and at night, in between electric passenger trains. In the late 1920s the Victorian Railways introduced a fleet of electric suburban goods locomotives which operated throughout Melbourne for the next 60 years.

An electrically hauled metropolitan freight train travels through Flinders Street Station in 1937

The replacement of solid fuel by oil, natural gas and electricity as sources of industrial and domestic heating, and the rise of efficient door to door road transport in the suburban general freight market, saw the cessation of suburban rail freight operations by the late 1980s.

A possible resurgence of rail freight

More recently, a range of factors, such as higher fuel costs, congestion, emissions, changes to driver hours regulations, safety, amenity and community concerns about trucks have added to the cost of road transport and created the conditions for a potential resurgence in the utilisation of rail for the line-haul component of freight journeys.

In general, as relative road costs increase, the length of the line-haul leg for which intermodal rail may become competitive with road decreases.

The impact of these emerging factors is yet to play out in the methods adopted to move freight in Victoria and the Melbourne metropolitan area, but they are likely to be key in shaping the next chapter of the freight story.

2.2 Policy context

The Victorian Transport Plan and Melbourne @ 5 million

In December 2008, the Victorian Government released two key planning documents which will be central to influencing the future shape of Melbourne as it grows rapidly over the coming decades.

Melbourne 2030: a Planning Update – Melbourne @ 5 million resets the population growth projections for Melbourne at significantly higher levels than previously estimated and provides an updated land use framework for accommodating this growth.

The Victorian Transport Plan (The VTP) sets out an ambitious strategy and infrastructure investment program designed to meet the transport needs of Victoria and a rapidly growing Melbourne.

Both documents clearly acknowledge the critical interdependence of land use and transport planning and the need to effectively integrate these activities to optimise efficiency and sustainability outcomes.

Freight Futures

In December 2008, the Victorian Government also released *Freight Futures – Victorian Freight Network Strategy*, as a companion document to The VTP. *Freight Futures* is Victoria's first comprehensive freight network plan and the first such plan produced by any Australian jurisdiction.

Like The VTP, *Freight Futures* stresses the importance of the mutual interdependence of land use and transport and the need to consider the spatial distribution of freight activity and other land uses in designing efficient, sustainable freight transport solutions.

In Direction 4, *Freight Futures* proposes the development of a Metropolitan Freight Terminal Network (MFTN) as a means of promoting a more efficient and sustainable pattern of freight distribution within the Melbourne metropolitan area as the freight task continues to grow rapidly over the coming decades.

Freight Futures (2008, p35) proposed that *"To be successful... the MFTN must be planned, implemented and managed as an integrated system… with appropriate involvement from both Government and the private sector"* with a process of *"...testing the market for interest in participating in/operating various components of the MFTN"*

Freight Futures (2008 p35) concluded that *"Managed as an integrated system, the MFTN is expected to generate a range of benefits, including improved transport reliability and transit times, more efficient management of empty containers, improved urban amenity and safety, and lower liquid fuel consumption and greenhouse gas emissions per unit of freight moved"*

Port Futures

In August 2009, the Government released *Port Futures,* along with a package of four strategic development plans for each of Victoria's commercial trading ports – Melbourne, Hastings, Geelong and Portland.

In updating the Government's high level policy and strategy settings for Victoria's ports, *Port Futures* highlights the importance of improving landside access and efficiency to all of the ports, but particularly to the Port of Melbourne, Australia's largest container and general port.

Priorities for action in this regard identified in *Port Futures* include:

- Measures to improve the productivity of truck movements servicing the port;
- Introduction of a 'road freight access charge' for trucks picking up and delivering containers to the port; and
- Promoting the introduction of more efficient, next generation HPFVs and rail shuttles to service the port through the progressive development of the MFTN.

3 Intermodal freight markets in Victoria

In response to the need to contain increasing costs, the freight industry is continually searching for more efficient ways of moving freight from origin to destination.

One response, especially internationally, has been the trend towards intermodal solutions which can deliver service benefits to customers and reduce growth in road freight movements and the associated negative impacts on the broader community.

In Australia, intermodal terminals already play an important role in the national freight network. The extension of their role is recognised as being critical to delivering on the key objectives of improving freight efficiency and reducing traffic congestion by increasing the share of freight carried by rail.

In terms of containerised freight, which has the greatest potential for the application of intermodal solutions, Victoria has three distinct markets. The key characteristics of these markets are summarised in Table 1 below and the issues associated with them and approaches being taken to developing them are discussed in the following sections.

3.1 The interstate (inter-capital city) market

This market is comprised mainly of domestic freight being moved to and from Melbourne and Sydney and Brisbane to the north and Adelaide and Perth to the west.

Inter-capital freight has traditionally been the most suitable for the adoption of intermodal approaches in competition with road only solutions.

Generally speaking, the longer the line-haul leg between capital cities, the higher the capture of market share by the above-rail operators, who generally operate both the intermodal trains and terminals. This is because the relative efficiency of the long line-haul rail movement can at least offset the additional costs of transferring containers between road and rail at the intermodal terminals.

Line-haul distances in this market range from 800 to 2000+kms.

Rail freight mode shares on these corridors currently range from less than 10 per cent (Sydney-Melbourne) to over 80 per cent (Perth-Melbourne), related largely to distance and price.

These shares are now projected to grow significantly over the coming decades as investment in more efficient rail and intermodal terminal infrastructure reduces costs and increases reliability and the factors militating against road use continue to intensify.

Table 1

Containerised Rail Freight Markets	
The Inter-capital Rail Freight Market is: › Only 18% port related › Open access, standard gauge, ARTC track ownership & train control › Long trains, long distances, modest average operating needs › Strong growth potential **The Regional Rail Freight Market is:** › Port related, mostly agricultural exports › Mostly on broad gauge, V/Line train control › Medium length trains › Growth limited at present	Current
The Metropolitan Rail Freight Market *is likely to* be: › Dedicated port related import/export › Short haul distances, short trains › Initially on broad gauge, METROL train control › Huge growth (x4) potential	Future

The main rail terminals for the receipt and dispatch of interstate trains in Melbourne are located centrally in the Dynon precinct, adjacent and immediately to the north of the Port of Melbourne.

The South Dynon Intermodal Terminal, operated by Pacific National, is by far the largest, handling over 500,000 TEUs per annum. Another major operator, QR, currently operates out of the Dynon Intermodal Terminal.

Freight Futures (2008) noted that although Victoria's intermodal facilities serving the interstate domestic market are, for historical reasons, located centrally in the Melbourne metropolitan area adjacent to the Port of Melbourne, they have very little functional connection with the Port.

Freight Futures (2008, p38-39) proposed that this function be decentralised through the establishment of a major new interstate terminal to the north, in the Donnybrook/Beveridge area. This would release scarce land and network capacity in the central Dynon area for more appropriate freight and transport functions.

Work is proceeding, in conjunction with key rail industry stakeholders, on planning for this relocation project. This is likely to involve a move initially to a new terminal in the Wyndham area to the west, followed by the development of a new northern terminal in the longer term.

A submission to this effect has recently been made by the Victorian Government to Infrastructure Australia and further feasibility work and the development of a business case is currently underway.

3.2 The regional (export) market

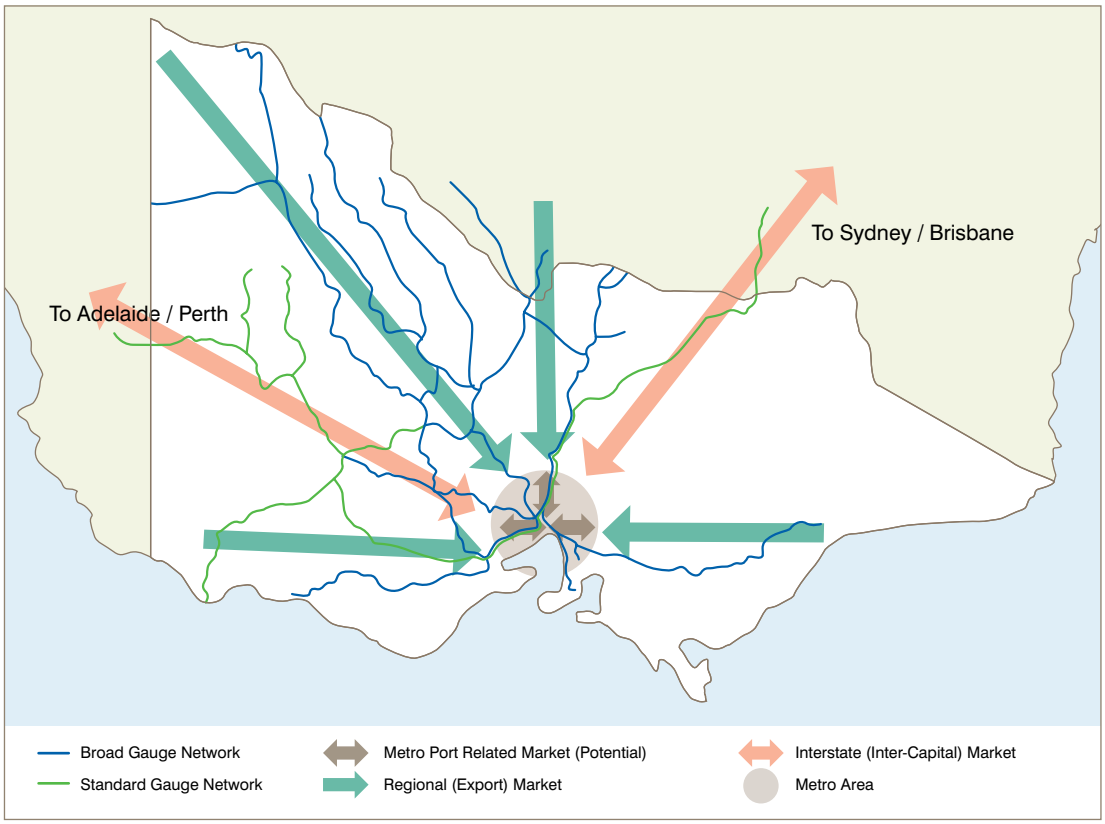
The regional Victorian and southern NSW rail freight task, is focused on Victoria's ports. It can be over five million tonnes per annum, including up to 1.8 million tonnes of containers in a non-drought year, nearly all exported.

Intermodal rail services play a significant role in handling these containerised exports into the Port of Melbourne, although the shorter line-haul distances involved (between 200 – 700 km) mean that these services remain under constant pressure from competing road freight operators.

Regional intermodal terminals have a longstanding role in supporting export related economic activity. They enable larger and heavier loadings to be moved, support the viability of regional industries and allow value adding to be co-located with logistics services and transport.

Current Government policy supports the growth of regional rail freight by strategically investing in the intrastate rail network and working with local Councils and the Commonwealth Government to develop/ upgrade regional terminals, including terminals at Shepparton, Dooen, West Warrnambool, Merbein, Donald, Hopetoun, Hamilton and in Gippsland.

Victoria's intermodal freight markets



3.3 The metropolitan port related market

This is by far the largest and fastest growing of any of the containerised markets. However, apart from some unsuccessful attempts to establish rail shuttle services between the port and terminals in industrial areas to the west and north of the city in the early 2000s, intermodalism has played no role in the metropolitan distribution of port freight or the internal movement of domestic freight within the metropolitan area.

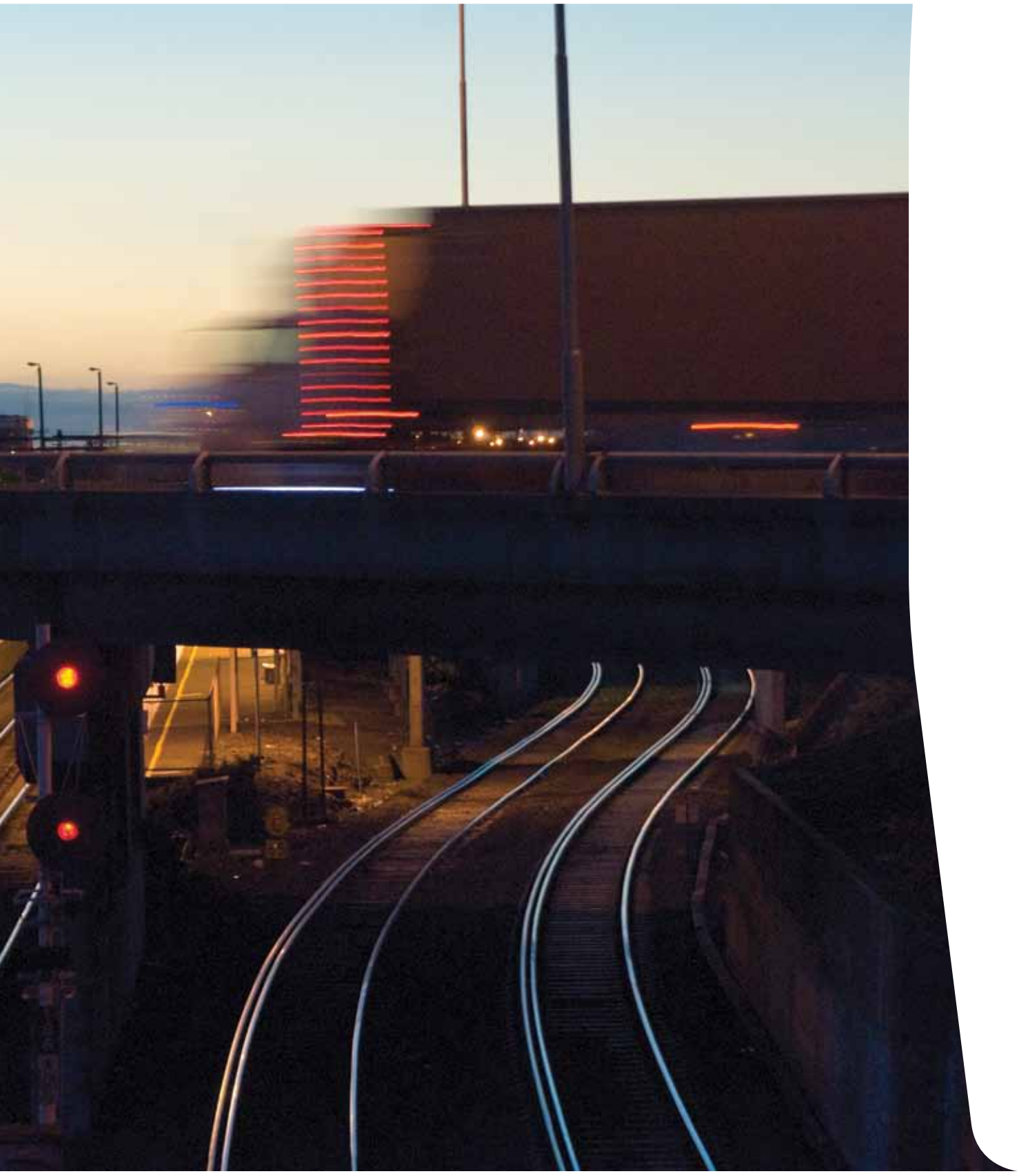
It is this sector which *Freight Futures* (2008) identifies as a key priority for Government as Melbourne's population grows to five million and beyond, the Port container task quadruples and the need to reduce carbon emissions, fuel use, pollution and congestion increases over the coming decades. The market currently involves nearly 80% of just over 2 million twenty foot equivalent container units (TEUs) passing through the Port annually.

Volumes in this market are projected to rise from about 1.6 million TEUs to over 6 millions TEUs as total port volumes quadruple to 8 million by 2035. Most of this freight is being transported through Melbourne's inner and middle suburbs to the major peripheral industrial and logistics areas in the west, north and south-east. It is currently handled exclusively by trucks on the metropolitan road network, often competing with commuters for peak period road capacity.

This sector is the focus of this Discussion Paper.

Key conclusions about intermodal freight services in Victoria:

- Rail-road intermodal solutions are becoming increasingly relevant to the Victorian freight task as fuel costs rise, road congestion in metropolitan areas intensifies and other externalities of road use, including truck emissions, noise and amenity impacts, increase;
- Intermodal rail has significant market share in the longer line-haul interstate (inter-capital city) freight market, particularly the east-west route to Perth, and has strong growth potential in the north-south routes as the benefits of investment in track and terminal infrastructure and improved regulatory approaches are realised;
- Intermodal rail also has significant market share in the regional export market, although this is a more marginal intermodal business due to seasonal fluctuations in export volumes and shorter line-haul distances tending to favour road solutions; and
- There has been no effective intermodal penetration of the metropolitan port related freight market to date, despite this being the largest potential market in terms of container volumes and a critical challenge as Melbourne's population grows to five million and beyond, the port container task quadruples and the need to reduce carbon emissions and fuel use increases over the coming two decades.



Part B – The case for a metropolitan intermodal solution

4 Potential benefits of an intermodal solution

Freight Futures (2008) sets out the broader drivers and benefits of a metropolitan intermodal system for the future sustainability of a growing Melbourne. A number of studies over the past few years have also attempted to ascertain the likely demand for and viability of a metropolitan intermodal system to service port freight.

This chapter explains what is meant by an intermodal solution, examines in more detail the problem to be addressed in terms of the movement of freight in the metropolitan area and identifies the potential benefits of an intermodal solution.

4.1 What is meant by an 'intermodal solution'?

The most basic definition of an intermodal solution is simply one that involves the use of more than one transport mode for a single freight journey. This definition is potentially so broad as to be not very helpful.

The more common practical interpretation of an intermodal solution is one that involves the combined use of rail and road modes for the transport of containerised freight, with rail carrying out the longer distance 'line-haul' leg of the journey and road undertaking the shorter 'pick up and delivery' (PUD) leg at each end.

For the purposes of this Discussion Paper, this common definition has been extended to allow for the 'line-haul' leg of the intermodal freight journey to be undertaken by either a train or a specialised 'high productivity road freight vehicle' (HPFV).

In other words, the intermodal transfer aspect of the journey could involve either transfer between a train and a conventional road vehicle (e.g. a rigid truck or semi-trailer), or between a HPFV (e.g. a B-Double or a Super B-Double) and a conventional road vehicle.

The major point of distinction between an intermodal solution as proposed in this Paper and the current method of metropolitan port freight distribution – involving transfer exclusively by road from the port stevedoring terminal to the customer – is that the intermodal solution involves a deliberate decision to segment the freight journey into: a) a higher capacity, more efficient 'line-haul' leg between the port and a designated metropolitan freight terminal (MFT); and b) a shorter PUD leg using conventional trucks between the terminal and the customer.

Although there are currently no 'rail-road' intermodal services operating in the metropolitan freight market, a form of 'road-road' intermodal operation has emerged, whereby many transport operators stage container transfers via nearby transport depots for subsequent delivery to customers.

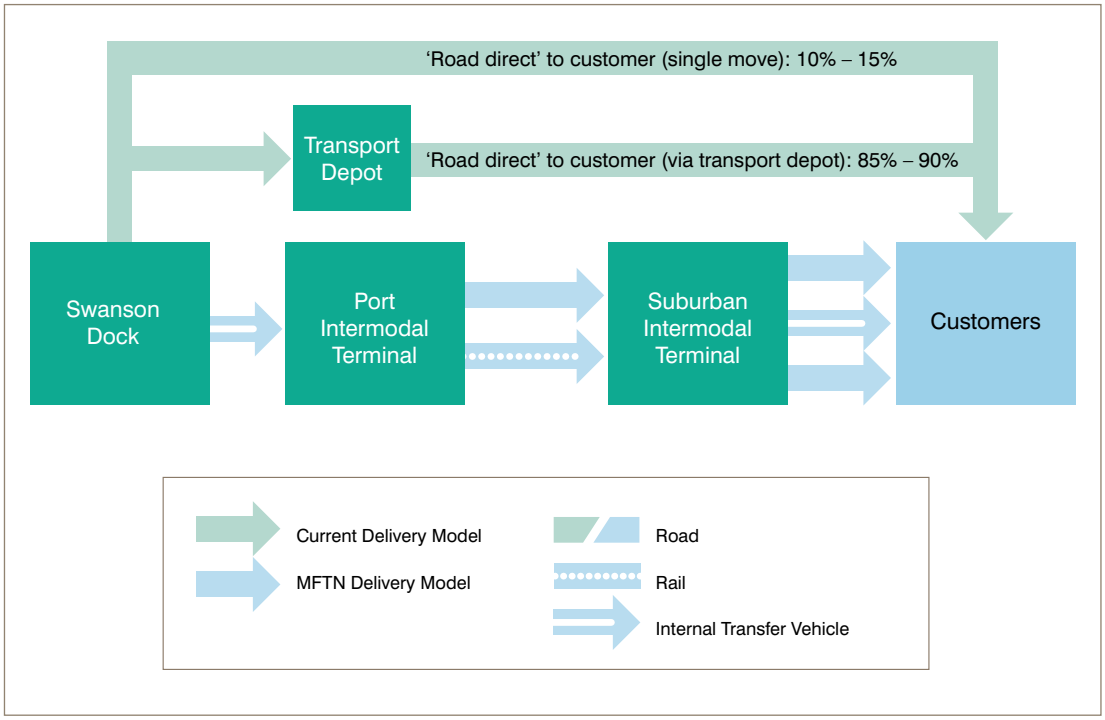
A number of larger operators utilise HPFVs to undertake 'bulk runs' for this purpose, often at night, for transfer and subsequent delivery by conventional trucks during daytime hours. Data obtained from the *Melbourne Port Container Origin Destination Study* (2003) indicates that 85 to 90 per cent of containers are staged in some way between the Port and customers.

However, for a number of reasons, this method of operation does not effectively comply with the definition of an intermodal solution described above.

In particular, the initial transfer leg to the transport depot is typically shorter than the final delivery leg (that is, it doesn't equate to a 'line-haul' operation) and the location of the intermodal transfer operation is governed more by the convenience of the transport operator than by proximity to the end customer.

For the purposes of this Discussion Paper, these various existing combinations of road based container transport from port to customer are all referred to as the 'road direct' method, to contrast them with the proposed 'intermodal' method.

Figure 4: Current 'road direct' methods and alternative 'intermodal' solution for an import TEU



4.2 The need to act – keeping Melbourne prosperous and liveable beyond five million

Over the next 20 to 30 years Melbourne's general freight task will at least double and the more specific port related freight task will quadruple.

The proportion of freight vehicles on our roads will progressively increase from the present level of 15% to well above 20%.

Over this same period, without significant intervention, the cost of road congestion will more than double to over $5 billion per annum, with much of this cost being expressed in the form of less efficient and reliable freight movements, translating to higher export costs and costs of goods for consumers.

The Port of Melbourne is Australia's largest container and general port and, together with its associated transport, logistics and industry activities, is a vital contributor to Victoria's economic prosperity and standard of living.

In 2007/08, prior to the impact of the Global Financial Crisis, the Port handled 2.256 million containers (TEUs), representing around 36 per cent of the Australian task and $85 billion worth of cargo.

More than 13,700 jobs were directly linked to port activities and the Port contributed over $2.5 billion annually to the national economy.

Direct movements to and from the Port of Melbourne account for some five per cent of all metropolitan truck movements (*Freight Futures* 2008, p84).

These movements are highly concentrated, radial (i.e. focused on the corridors between the Port precinct and Melbourne's key industrial areas) and growing rapidly. They are, therefore, potentially suited to a more efficient solution.

Furthermore, because the timing of the road movements on the arterial network is determined by the time the client is prepared to accept delivery – most often during normal daytime working hours – many of these movements are competing for peak capacity on the road network.

If a new approach is not implemented, there are likely to be significant implications for Melbourne's economy and liveability in future years. Quoting extensive modelling commissioned by the Department of Transport, *Freight Futures* (2008, p87) warned that:

"Forecast strong growth in freight and private car journeys means that, without any significant intervention, by 2020 much of Melbourne's core arterial network will be congested during peak hours. Looking further ahead to 2030, and again assuming no significant interventions, ... most major arterials will be congested, not only during the peaks but throughout most of the day as the peaks spread and inter-peak capacity is consumed. This will result in significant numbers of freight vehicles switching to alternative routes, such as minor arterials, leading to increasingly inefficient and unreliable freight movements."

In addition to increasing inefficiency and rising direct costs of freight movement which will arise from greater road congestion as Melbourne grows, there are many "external" costs – in other words, costs borne by the community which are not reflected in transport costs faced directly by operators or users – which will also increase. These are summarised in table 2 below.

Table 2

Externality	Description
Accident	additional costs of medical care, economic production losses and suffering
Noise	damages (opportunity costs and land value) and human health
Air pollution	damages of human health, material/building and crop losses
Climate change	damages (opportunity costs) of global warming
Nature and landscape	additional costs to repair damages, compensation costs
Urban separation	time losses of pedestrians
Up/down stream processes	additional environmental costs (lifecycle – production/disposal
Crash costs	human, vehicle and general costs associated with incident
Congestion	external additional time and operating costs

In terms of exposure to congestion costs and the generation of negative externalities, road freight is the most vulnerable and performs poorly compared with other modes.

After reviewing the considerable volume of research and debate on the subject, Sd+D (*Melbourne Intermodal System Study* 2008, p11) adopted monetary costs based on conservative Australian Transport Council values to compare the external costs of freight transport using 'road direct' and 'rail' modes on Melbourne's three key international container transport corridors:

Table 3

Externality costs ($/TEU)		
	Road Direct	Rail
North	21	8
West	16	7
South-East	49	12

Effective management of Melbourne's freight task to date has been favoured by the central location of its port relative to freight origins and destinations and by its access to a high quality radial arterial road network.

However, given the increasing road congestion and externality costs which will inevitably come with Melbourne's rapidly growing population, Melbourne's position amongst the world's most liveable cities may be in jeopardy by 2050 unless a new approach to the movement of freight in the metropolitan area is developed.

4.3 The general benefits of aggregation of freight activity

Freight Futures (2008, p65) documented modelling by the Department of Transport which indicated that reductions in the order of 5-6 per cent in kilometres travelled, fuel use and emissions across Melbourne's total freight task could be achieved if the growth in freight activity could be effectively concentrated into a limited number of freight precincts around outer Melbourne.

The work, since published as a paper (Ramsay and Alford 2009), utilised the Department's Freight Movement Model (FMM) to compare a 'business as usual' scenario with two alternative scenarios involving greater concentration of freight activities around a series of either three or eight freight hubs. Both alternative scenarios produced significant benefits over the 'business as usual' approach.

The key point arising from this modelling work is that for Melbourne, a freight system based around a central core (including the CBD and the Port/Dynon precinct) and a small number of strategically located freight hubs on the periphery of the metropolitan area, which concentrate freight activities and therefore freight journeys, is inherently more efficient and sustainable than a less structured, more dispersed system.

Although the paper is not specific about how this more structured approach to the spatial distribution of freight activity in Melbourne should be achieved, it is suggested here that there are two principal mechanisms.

The first involves the continued strategic application of the State's statutory planning system to concentrate industrial and other freight generating land uses in discrete geographical areas around the outskirts of Melbourne, to create hubs of freight activity.

The second involves the deliberate planning and development of the Principal Freight Network (PFN) and key Freight Activity Centres (FACs) in a way that directs and focuses efficient freight journeys on these designated freight hubs.

The development of an intermodal solution for Melbourne, with its emphasis on efficient 'line-haul' trips from the port to MFTs in designated freight hubs to the west, north and south-east of the city, is totally consistent with encouraging this more efficient 'shaping' of the freight task.

It is important to note that the modelling work reported in the paper does not attempt to capture the additional benefits that would flow from an intermodal solution through the use of more efficient HPFVs and rail shuttles. These are additional to the benefits arising from a reduction in total freight distance travelled due to the concentration of freight activities in designated hubs.

4.4 The particular benefits of an intermodal solution

The PoMC's "Melbourne Port System" project has used a 'port system model' developed in-house to compare the performance of alternative port intermodal system scenarios on key parameters against the 'business as usual' scenario in 2015.

The three alternative scenarios of most interest involve servicing the port freight task with:

- a network of three rail-road only freight terminals in the in the west, north and south-east;
- a network of strategically located road-road only terminals; and
- a hybrid network of rail-road and road-road terminals (i.e. a combination of the above).

In effect, these alternative scenarios span the full range of possible 'intermodal solutions' as defined earlier in this chapter and, therefore, their performance against the 'business as usual' base case should provide a good, high level indication of the likely benefits of such a solution.

The model outputs show that, by 2015, adoption of one of these intermodal scenarios for the port task would:

- reduce truck distance travelled by 24 – 35%;
- reduce diesel fuel use by 10 – 17%; and
- reduce carbon emissions by 10 – 17%

However, in terms of the total cost of the land transport task, only the last two scenarios produce positive benefits. Adoption of either of these scenarios would:

- reduce transport costs by approximately 10%;
- increase the average number of containers per truck entering/exiting the Port from 1.2 to approximately 2.0; and
- reduce the average number of trucks entering/exiting the Port each day by 42 – 48%

These potential benefits of an intermodal solution for metropolitan Melbourne are substantial and represent a combination of the aggregation benefits described earlier, resulting in lower total truck kilometres travelled for the same task, and the efficiency benefits gained by utilising higher productivity trucks and trains instead of conventional trucks for the 'line-haul' legs of the task.

The Sd+D Study (*Melbourne Intermodal System Study* 2008, p8) for DOT also concluded that adoption of such a system would generate positive economic benefits and that *"with an intermodal system, about 6,000 truck trips per day (as semis and B-Doubles) would be generated by 2035 to and from the port, a reduction from the estimated 12,000 daily truck trips that would occur otherwise".*

Both the "Melbourne Port System" work and the Sd+D Study also highlight the potential benefits of an intermodal solution in facilitating the more efficient handling of empty containers within the port supply chain.

For example, currently most empty import containers are returned by truck from the importer's outer suburban location to container parks in or close to the Port. When required for export, another truck picks up the empty from the centrally located container park and delivers it to the exporter's outer suburban location, where it is filled and then returned to the Port for shipping.

This convoluted approach to the handling of empty containers is driven largely by the desire of the shipping lines, which own the containers, to have a ready store of empty containers close to the Port. This means they can be more closely controlled and readily repositioned to other ports as required (noting that Melbourne is a net exporter of empty containers).

However, this approach is also clearly inefficient in terms of the additional truck trips it creates and the unnecessary costs generated in the port logistics chain, which are borne by Victorian importers and exporters.

By enabling secure storage of empty containers at suburban freight terminals and establishing reliable, well coordinated arrangements for returning containers to the Port as and when required by the shipping lines, an intermodal solution can effectively decentralise much of the empty container storage task and eliminate many unnecessary truck trips to and from the central Port/Dynon area.

Apart from the "Melbourne Port System" work and the Sd+D study, a number of earlier studies have also attempted to identify and estimate the potential benefits of introducing a port intermodal system for Melbourne. Whilst these studies have used varying methodologies and assumptions, they have consistently pointed to significant benefits to be gained if an effective intermodal solution were to be implemented.

For example, Booz Allen Hamilton (*Improving Rail Modal Share at the Port of Melbourne* 2006, p39) estimated the total benefits of an efficient intermodal system based on shuttle trains between the Port and three major rail-road terminals in the west, north and south-east (capturing 30% of the market) would have been $183 million in 2009/10, made up of $116 million in operating cost savings and $67 million in externality savings.

Key conclusions about the problem and potential benefits:

- The problems associated with Melbourne's rapidly growing freight task are real and involve the need to manage: a) the risks of reduced freight efficiency and reliability and higher costs associated with road congestion; and b) the impacts of higher external costs of freight movement on the environment and community which pose a significant threat to the city's 'liveability'; and
- There are significant benefits to be derived from the development and implementation of an alternative, complementary intermodal solution for the collection and distribution of full and empty port containers in the Melbourne metropolitan area.

5 Evidence of likely demand and viability

As noted in the previous section, a number of studies have examined the case for the introduction of intermodal type solutions to assist in the management of Melbourne's rapidly growing freight task.

As well as looking at the case for and potential benefits of an intermodal solution, these studies have typically attempted to estimate likely market demand for intermodal services on a geographical basis and to assess their commercial viability.

5.1 The Sd+D Melbourne Intermodal System Study (2008)

The purpose of the Sd+D Study was to:

- assess whether an intermodal system for Melbourne is warranted and viable and, if so,
- determine an implementation strategy and appropriate staging of activities towards the development of such a system.

The Sd+D Study noted that the Port of Melbourne was (at the time) forecast to handle 2.06 million international containers in 2010, of which 1.6 million would be transported to or from the Melbourne metropolitan area.

Container throughput was projected to increase at an annualised rate of 5.7% initially, slowing to 4.7% by 2035. On this basis the urban container task was projected to be over 5.5 million TEUs by 2035.

In order to distribute the forecast container transport demand by geography and mode, the Sd+D study:

- segmented the forecast demand for import/export international containers into smaller geographical areas; and then
- estimated the market shares for discrete modal types, i.e. road direct, road-road intermodal and rail-road intermodal systems.

The first task used data from the *Melbourne Port Container Origin Destination Study* (2003); the 2006, 2021 and 2031 manufacturing, wholesale and transport employment forecasts and the Department's Freight Movement Model (FMM) to provide a view of the origin and destination of demand.

The analysis was conducted at the Statistical Local Area (SLA) level which provided 75 spatial zones within the metropolitan area. It re-confirmed the presence of the three dominant freight generation clusters, estimating that in 2010, 46% of the demand would be in the south-east, 19% in the north, 22% in the west and 13% in the inner port area.

Determination of the modal share for each SLA was based on a direct comparison of the estimated transport costs for each modal pathway and a set of assumptions about the relationship between cost and modal choice. This analysis assumed that:

- a 'mature' intermodal system existed (basically as later specified in *Freight Futures*);
- customers in each SLA make a choice between a rail-based intermodal solution and the best choice road option, which is the least cost of:
  - road direct from port to customer or vice-versa
  - B-Double line-haul to an intermodal terminal followed by delivery to customer or vice versa; and
- even at cost parity, modal choice will be significantly biased towards road.

The modelling estimated that of the 1.6 million TEU total metropolitan demand in 2010, 392,000 TEUs would be available to the rail-served terminals; a further 483,000 TEUs would be available to be carried to terminals by HPFVs; and the residual 730,000 TEUs would continue to be carried by road direct trucking.

This would give the combined rail-road and road-road intermodal system (referred to by Sd+D as the 'hybrid' system) a 54% share of the total market, with rail-served intermodal terminals capturing 24%.

By 2035, based on a much larger total demand of 5.5 million TEUs, Sd+D's modelling estimated a 59% market share for the 'hybrid' system, with 28% utilising rail for the line-haul task. This represents an average annual growth rate for rail of 5.6% to 1.5 million TEUs. Road delivered volumes were projected to increase at an annual rate of 4.6% over the same period.

Overall, the report concluded that:

- an intermodal system using a combination of high capacity rail and road transport to a combination of rail-road terminals and subsidiary road-road only terminals is warranted and can be viable for port-related freight; and
- an efficient and sustainable intermodal system can only be achieved through a holistic, co-ordinated effort involving public sector agencies and private sector businesses.

5.2 The PoMC "Melbourne Port System" project

The "Melbourne Port System" project is being developed to guide the PoMC's understanding, involvement and investment in the future development of the Port's containerised sea-logistics system. In initiating the project, PoMC recognised the need to:

- integrate port activity with the physical movement of goods along commercially constructed supply chains;
- be involved in the long term planning to facilitate the efficiency of the 'port system'; and
- identify solutions to meet the needs of an expanding international containerised sea-freight task.

PoMC developed detailed trade forecasts for all major trade segments as key inputs to the project, including full and empty import and export containers passing through the port.

The spatial distribution of this demand was derived from data from the *Melbourne Port Container Origin Destination Study* (2003) (which was reviewed and updated in 2008) and forecasts were prepared for 2015 and 2035.

Five scenarios were modelled, as follows:

1. Base case (current situation)
2. A single northern metropolitan rail freight terminal
3. Three rail only freight terminals
4. Multiple road only freight terminals
5. Multiple rail-road and road-road freight terminals

These scenarios were assessed against six evaluation criteria:

1. System efficiency & integration
2. Financial viability
3. Growth capacity & flexibility
4. Environmental & social outcomes
5. Stakeholder collaboration & partnerships
6. Planning certainty

The preliminary conclusions reached are that:

- Scenario 1 (Base case) is unacceptable in terms of social amenity and environmental objectives, Government policy fit and commercial reality;
- Scenarios 2 and 3 are unacceptable, primarily due to unrealistic train volumes generated and high transport costs; and
- Scenarios 4 and 5 provide very similar results and are acceptable against all evaluation criteria.

The modelling indicates that the intermodal solutions constituted by Scenarios 4 and 5 should have access to sufficient demand and provide sufficient cost advantages over the status quo road direct model to be potentially commercially viable.

They also provide significant external benefits in the form of reduced carbon emissions.

The Scenario 5 is conceptually similar to the 'hybrid' model developed by Sd+D – a combination of principal terminals served by both road and rail and secondary terminals served, initially at least, by road only.

5.3 Conclusions

It is noteworthy that these two key studies, conducted independently of each other, have reached similar conclusions about the potential demand for and viability of intermodal solutions for Melbourne's port related freight task.

In both cases these solutions are based around a network of strategically located rail-road and road-road terminals (although the PoMC work also concluded that road-road terminals alone would also be viable).

A common feature of these and other port logistics studies over the past five years has been their reliance on future port container trade forecasts and the findings of the *Melbourne Port Container Origin Destination Study* (2003) as a basis for distributing demand across the metropolitan area.

The studies have then used different assumptions and methods for modelling the share of total demand which might be captured by the various intermodal systems proposed.

It is difficult for today's freight clients to speculate on the degree to which they might utilise intermodal services which do not currently exist and of which they have no experience.

It is therefore necessary to construct the most logical cases possible for the likely level of demand for the service offering which would become available following implementation of the sorts of proposals set out in this Discussion Paper.

Ultimately, the most important test of the likely demand for and viability of the MFTN may be the willingness of the private sector to participate and invest in the network.

Whilst the Government can play an important role in creating an attractive investment climate by establishing appropriate policy settings; planning and investing in the connecting freight networks; and establishing appropriate land-use zonings and protections, the private sector will be expected to take a significant share of the associated business risk by investing in the terminals and related infrastructure and operating systems.

Key conclusions about evidence of likely demand and viability:

- Based on the two key studies described, there is clearly significant potential demand for intermodal service solutions for the movement of containerised port freight in the metropolitan area, providing such solutions can be effectively designed and implemented; and
- Ultimately, the willingness of the private sector to participate, invest and take business risk in the MFTN will also be a strong indicator of its likely viability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Part C – Local, interstate and international experience

6 The Melbourne intermodal experience to date

6.1 *Growing Victoria Together* (2001) – the 30% port rail mode share target

The Victorian Port Strategic Study (2000) provided a comprehensive assessment of the land use and infrastructure requirements of the major commercial ports in Victoria.

The Study identified strong container trade growth forecasts for the Port of Melbourne and emphasised the important role to be played by inland intermodal terminals in the future in handling this growth.

The Study estimated the mode share of rail in the transfer of port related freight at that time to be approximately 10% and predicted a progressive modal shift to rail.

Growing Victoria Together (2001) set out priority issues of importance to Victorians and the measures to be used to track progress in addressing them.

In relation to the State's ports and rail systems, it announced an aspirational target that would see the proportion of freight transported to and from ports by rail increase from 10% to 30% by the end of the decade (i.e. 2010).

Since that time, the Government has worked with industry to improve rail connections to the ports and regional rail freight links. Some major infrastructure projects, including the Dynon Port Rail Link and other freight rail improvements in the Dynon area, were also completed.

A number of private sector interests became involved in efforts to develop rail shuttle services to the Port of Melbourne. Some invested considerable time and resources in attempting to establish such services.

Despite these efforts, the establishment of viable port shuttle services in Melbourne has not occurred to date and as a result, significant progress against the 30% port rail mode share target has not been possible.

In place of this target, the Government has developed more comprehensive freight and ports strategies designed to promote the broad objective of increasing the use of rail for moving freight to and from the ports.

This section briefly reviews some of the relevant experiences in Melbourne to date in this regard and attempts to draw out some key conclusions and lessons for the future.

6.2 Port shuttle attempts to the CRT terminal at Altona

The only port shuttle trains to have operated for a reasonable length of time in Melbourne ran between 2003 and 2006, between the privately owned CRT terminal in Altona and the Port of Melbourne, a rail journey of about 22 km.

CRT had been attempting to operate port-rail shuttles since 2000 in a way which reflected successful Sydney operations.

In 2004/05, CRT's Port Shuttle service transported 13,000 TEUs to and from the Port, which would otherwise have been transported using over 4,000 road truck movements via the West Gate Bridge.

However, during this period, import utilisation of the service was only 42 per cent of capacity and export utilisation was 58 per cent, compared with CRT's goal of 85 percent utilisation. (*Inquiry into Managing Transport Congestion*, 2005).

Due to the priority given to interstate freight trains, which provide the ARTC's main revenue, the Port Shuttle service suffered some network delays, affecting service performance and making reliable operation of two trips per day impossible.

In addition, because the short shuttle trains occupied the same effective path space on the ARTC network as a long interstate freight train, CRT was charged access fees on the same basis as those paid by interstate operators.

The Port Shuttle service also faced far higher port handling charges – reportedly up to $72 per forty foot container compared with $3 for containers delivered by road trucks. As a result of these and other factors, the Port Shuttle service was discontinued.

CRT/QR reactivated the port-rail shuttles in 2005 through a contract with PN to provide the service with conventional 350 metre trains. The operation failed again, for much the same reasons – the unreliability and cost of train paths, high port interface costs and operational complexity of servicing separate stevedores by splitting the trains at the port.

The impediments faced by the CRT Port Shuttle service were particularly damaging on the Port-Altona corridor as the road distance on this corridor is far shorter than the rail distance (the standard gauge rail line takes a circuitous route via Newport, Brooklyn and Tottenham). Overall, the Port-Altona route is the shortest of the three main intermodal corridors in Melbourne, and conditions would need to be favourable for it to be viable.

6.3 Port shuttle attempts to the Austrack terminal and 'freight village' at Somerton

Austrack commenced development of the Somerton terminal in 1998, with the terminal itself occupying 21ha within a larger "freight village".

The development attracted major clients, such as Coles, Visy, Mars Snackfoods, Linfox, Kraft, Labelmakers and Barret Burston Malting. These companies entered into long-term tenancies to be co-located at a rail head with access to interstate and port rail services. In 2004, Austrak/GPT entered into a long term lease with P&O Ports (POTA) as the terminal and container park operator.

Part of the "freight village" site offering is higher mass limit private roads within the development, which would allow heavier weight limits on rail to be exploited between this terminal and the port, or to interstate terminals such as Minto, in Sydney's south.

The Somerton intermodal terminal includes four 750 metre dual gauge rail sidings, connected to the main standard gauge Sydney line and the broad gauge Victorian track to Seymour, Shepparton and Tocumwal. These terminal connections are to and from the north only, showing expectations of interstate rail movements.

While the terminal operation works well as a road-only shuttle terminal, several unsuccessful attempts have been made to initiate port rail shuttles.

Under available start-up volumes and operational arrangements, the cost of rail shuttles appears to have been competitive with road haulage – until the train arrives at the on-dock rail terminals. At the docks, the same high rail transfer charges faced by CRT were levied, which then rendered the rail service substantially less competitive.

Other contributory issues included lack of rail track connections to the south, requiring port trains to shunt and have the locomotive change ends immediately north of the Somerton terminal; difficulty justifying the capital cost of a train set dedicated solely to the Dynon-Somerton corridor; and poor train cycle times dictated by the timetables proposed by ARTC, which made generous allowance for possible delays due to conflicts with long-distance interstate freight trains.

Subsequent analysis undertaken for the Department of Transport (*Melbourne Intermodal System Study* 2008) indicates that the Somerton route is the next most marginal after the Altona corridor, suggesting that all cost and operational factors need to be optimised for it to be viable.

6.4 Lessons from the Altona and Somerton experience

Despite considerable effort devoted by Government to establishing appropriate policy settings and by the private sector in attempting to operate metropolitan intermodal services in Melbourne, success has not been achieved to date.

Whilst there appears to have been a desire on the part of the private sector to operate port shuttles and on the part of customers to use the service when competitive, a range of factors have militated against the establishment of such services.

These have included:

- Prevailing access pricing and priorities which favoured large, long-distance interstate trains over port shuttle trains;
- Lack of certainty in securing train pathways;
- An inability to defray rail capital and operating costs across a metropolitan-wide port-shuttle network, resulting in poor utilisation of available container slots on the trains and higher costs than road;
- Poorer service levels and higher charges for containers handled by rail at the port interface compared with road;
- Inefficient port interface arrangements due to inadequate rail track infrastructure and stevedoring practices; and
- Road trucks being able to avoid City Link tolls by using local roads

(Inquiry into Managing Transport Congestion 2005)
(Melbourne Intermodal System Study 2008)

Furthermore, it is notable that the Dandenong corridor, despite being considered by Sd+D (*Melbourne Intermodal System Study* 2008) to be the most conducive to a viable rail shuttle operation and the existence of some private sector interest, has never been tested.

This has also meant that the prospective strength of the Dandenong corridor has never been leveraged to assist in achieving viability on the apparently weaker Altona and Somerton corridors.

The proposals detailed later in this Discussion Paper are in part framed in recognition of the lessons learnt from previous attempts to establish port shuttles in Melbourne.

Key conclusions about the Victorian experience:

- Previous Government policy settings and targets for intermodal freight have been based on a limited understanding of the different rail freight markets operating in Victoria and the particular challenges of making short haul shuttle trains viable in the metropolitan context;
- Private sector companies which have attempted to implement metropolitan intermodal shuttle services in Melbourne have, by their nature, not had the span of control necessary to manage the wide range of key system variables required to implement and operate a reliable, cost effective service;
- To be successful in the future, port shuttles must be implemented and operated as part of an integrated system of terminals and connecting line-haul services; and
- The design and implementation of such a metropolitan intermodal system must involve more active participation by the Government in partnership with private sector freight operators.

7 Interstate and international intermodal experience

Typically, port cities around the world are struggling to balance the pressures of rapid trade volume growth with the need to move freight efficiently to consumer markets, avoiding bottlenecks and adverse urban amenity impacts.

Port freight systems and the application of intermodal solutions vary significantly from country to country, determined largely by the geographical structure of the markets they are serving and the extent of Government intervention in related transport and land use planning activities and decision making.

As can be seen below, the structure of port freight supply chains in Australian capital cities is quite different to those in North America and Europe where ports generally serve as gateways, not only to local and regional markets, but also to national and international markets.

Australian capital city ports, on the other hand, tend to be import dominated and primarily servicing populations in the immediate metropolitan area surrounding the port.

A review of international and interstate experience doesn't reveal any ready 'off the shelf' intermodal system models which Victoria could adopt to address Melbourne's port freight challenge.

However, despite the differences, experiences elsewhere can provide valuable lessons about the conditions and settings which are either conducive or unhelpful to the successful operation of intermodal solutions.

7.1 Australasian experience

Sydney and Port Botany

As Sydney continues to grow, so does the demand for imports and exports and the associated distribution and delivery of these goods. Sydney's 'freight challenge' has reached a critical point earlier than in Melbourne. This is due to a range of factors including Sydney's more constrained urban structure; higher inner-urban population densities; narrow and complex arterial road network; and the severence effect of geographic features, such as the Harbour, bays, inlets and ridges, on road transport connectivity.

Container trade through Sydney has been growing at an average of 7.5 percent per year over the past 25 years. Forecasts indicate this growth is expected to continue at between 5 and 7 percent a year for the next 20 years.

85 percent of port containers originate from or are bound for destinations within 40 km of Port Botany. This is very similar to Melbourne's situation where around 80 percent of port containers originate from or are bound for destinations within the Melbourne metropolitan area.

Metropolitan and short haul rail-based intermodal systems have been progressively developing in Sydney since 1997 and have increasingly been given policy support by NSW Government and Sydney Ports Corporation (SPC).

While initial rail volumes through Port Botany related to regional exports of commodities, volume growth over the past five years has been driven by the development of metropolitan terminals, such as Minto, Yennora, Camellia and Villawood.

The current approach to intermodalism in Sydney has its foundations in reform programs implemented through the Freight Rail Corporation (FreightCorp) around 1996/8.

At that time, the movement of containers to and from Port Botany by rail incurred substantial commercial losses as a result of excessive fixed costs; poor utilisation of assets; one-way loading; poor pricing and weak 'power' relationships with customers and port operators.

Unable to withdraw from the sector due to Government policy, FreightCorp adopted a deliberate strategy of expanding its market share in an attempt to earn additional revenue and lower its unit operating costs.

FreightCorp engaged with road transport and terminal operators to assemble 'bundled' rail-road services under the marketing banner of FreightCorp 'PortLink'. This included commercial arrangements with BHP Transport, the CRT Group, Seatons Transport, MCS Transport and, later, Bowport Allroads.

The alliance with Bowport led to joint investment in the 'greenfields' Minto terminal, in contrast to other metropolitan terminal developments which mainly involved the conversion of 'brownfields' facilities.

The essence of the PortLink strategies was to leverage surplus capacity and assets to facilitate 'proof of concept' rather than undertake significant new investments.

By 1999, volume of intermodal rail traffic had grown from 60,000 to around 150,000 TEUs per annum. FreightCorp had achieved reasonable market share and operating critical mass and had demonstrated the benefits to Government.

New players, including Patrick and P&O Trans Australia, had also entered the port-rail market seeking to leverage their role as stevedores and to offer integrated services for their shipping clients. Other rail operators, including Lachlan Valley Rail and Austrak Rail, also entered the market.

Although currently only 22 percent of port containers are moved by rail, the NSW Government and SPC have an objective to move 40 percent of port freight by rail by 2016. The NSW Department of Transport and Infrastructure proposes to release a 25 year 'freight strategy' in 2010, which will include measures aimed at supporting attainment of the target.

It has been determined that a network of intermodal terminals is critical for the movement of containers by rail. Sydney has an existing network of intermodal terminals which service inner-metro freight catchments. However these existing terminals are generally not close to the emerging freight catchments in Sydney's west and are not capable of providing the capacity required to move 40 percent of containers by rail.

New terminals are therefore being planned as part of the freight strategy to provide the extra capacity needed and to reduce delivery times and costs.

Enfield is one such terminal which is about to be built to serve a major import/export catchment in Sydney's inner-west. Other terminals are being planned in the western growth corridors of Moorebank and Eastern Creek.

Several different rail operators currently compete to provide rail shuttle services for the 22 percent of port freight moved by rail. Volume, critical mass and an acceptable risk profile are essential for investment to occur, but the highly competitive nature of the rail freight industry in Sydney and low margins involved make it difficult for operators to invest in new equipment and rolling stock.

Like Melbourne, the Sydney metropolitan rail network has a mix of dedicated passenger and freight lines and shared passenger/freight lines, although in the case of Sydney there is only one gauge to deal with (i.e. standard gauge). Where freight trains share the network with passenger trains, priority is given to passenger services.

SPC is working with the ARTC and rail operators to model the optimum length and configuration of port rail shuttles to work with the 1,800 metre interstate block trains and within the public passenger transport network. 600 metre trains are likely to be the standard configuration for port shuttles.

Perth Region and Fremantle Harbour, WA

Fremantle Harbour handles container and break bulk freight, with approximately 450,000 TEUs of loaded containers moving through the Port each year.

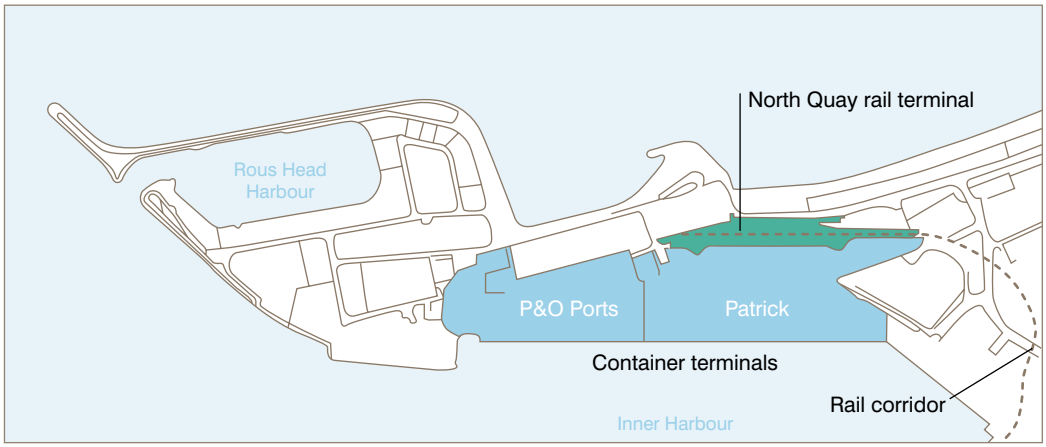
These containers are predominantly transported to and from the port by road but, in the 2008/9 year, about 15 per cent of the containers were transported by rail. The main metropolitan corridor used is from Forrestfield/ Kewdale to Fremantle Inner Harbour.

The development of an intermodal system for the Perth metropolitan area has been actively pursued for some years by the WA Government and the Fremantle Ports Authority (FPA), which have progressively invested in port intermodal infrastructure, including the North Quay rail terminal.

This terminal has been developed by FPA and is managed by an independent terminal operator. Trains arrive and depart according to agreed operating windows and containers are transferred to the stevedores' facilities by 'internal transfer vehicles' (ITVs), or by road vehicles in the case of the DP World terminal.

The terminal operator, in conjunction with the track authority and train operators, determines the timing and configuration of rail shuttle operations.

Schematic layout of Fremantle Inner Harbour port and rail terminals



Source: Fremantle Ports

Management of the North Quay rail terminal is similar to that of the Port of Brisbane Multimodal Terminal at Fisherman Islands, which is undertaken by the Brisbane Port Corporation and allows trains to arrive/depart without being impeded by stevedore terminal operating priorities.

This model is also similar to the proposal for the Melbourne International Freight Terminal at Dynon, to provide the interface between the MFTN and the Port of Melbourne stevedores.

The WA Government has also recognised the need to support the start-up costs associated with the Perth intermodal system. The Fremantle Harbour rail service is supported by an operating subsidy of $45 per full TEU and $90 per full 'forty foot' container for freight moved to and from the port on rail. This subsidy is administered by the WA Department of Transport.

The North Quay terminal operation contract is due for renewal in July 2010. The FPA is planning to upgrade the terminal to receive 600 metre shuttle trains from the inland intermodal terminals without the need to break up and shunt as at present.

Although there is currently sufficient intermodal capacity for international containers, the WA Government intends to further develop Perth's intermodal network to operate as an integral part of the container freight distribution system.

Where possible, terminals will be co-located with warehousing and associated logistics functions, servicing their catchments for port and possibly interstate container freight. The facilitation of 'freight villages' will form an integral part of the planning process.

The network may ultimately comprise a central intermodal terminal at Fremantle Harbour linked to suburban terminals to the north, east and south of the metropolitan area by dedicated rail shuttles. The suburban terminals may also service trains from regional areas.

The Ports of Auckland and the Wiri Inland Port, NZ

The Ports of Auckland (owned by the Auckland Regional Council) operates in three locations in the Auckland region – New Zealand's economic hub. The Auckland seaport is New Zealand's largest container port, handling more than 840,000 TEUs per annum, or 36 per cent of New Zealand's total container trade.

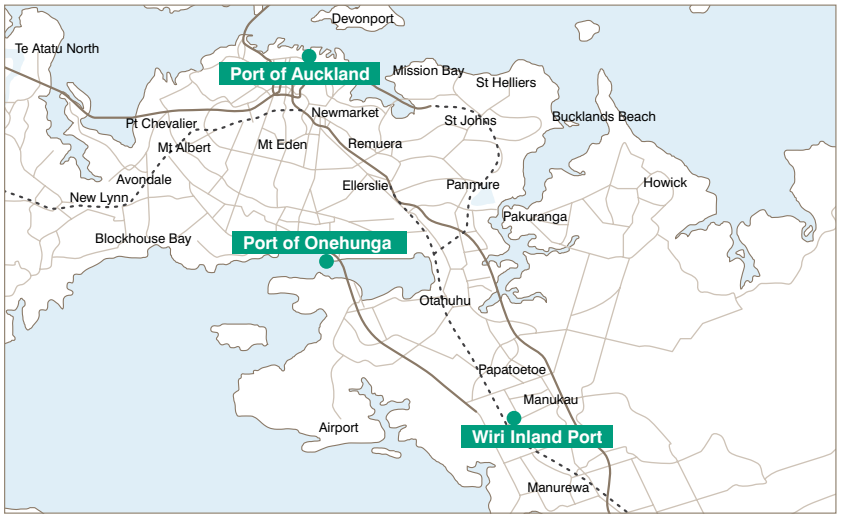
The Wiri inland port commenced operation as a road only terminal in 2005. About 25 kms from the Port of Auckland, the inland port is strategically located with about 70 per cent of the containers transiting the Auckland seaport having origins/destinations within a 10 km radius of Wiri.

Although Wiri is only handling modest volumes at present (approx. 30,000 TEUs per annum) there has been significant growth in volumes transiting through the facility. With the recent opening of a new rail link (March 2010), Wiri Inland Port now offers rail as well as road connection to the Ports of Auckland.

The Ports of Auckland estimate that Wiri (once fully operational) could save around 100,000 inner city truck trips – or 2.5 million truck kms – per annum. These savings would create significant community and environmental benefits.

Ports of Auckland, in conjunction with NZL Group, has established a new subsidiary company to operate the Wiri facility. An overriding objective of the Wiri project is to ensure that cargo handled through the inland port is carried in the most efficient way possible, whether by rail or road.

Port of Auckland and Wiri Inland Port



Source: Axis–International

7.2 International experience

United States of America (US)

Freight movement in the US, like freight movement anywhere, is influenced by historical patterns of infrastructure development; prevailing geographic and demographic realities; and to varying degrees, by Government policy interventions.

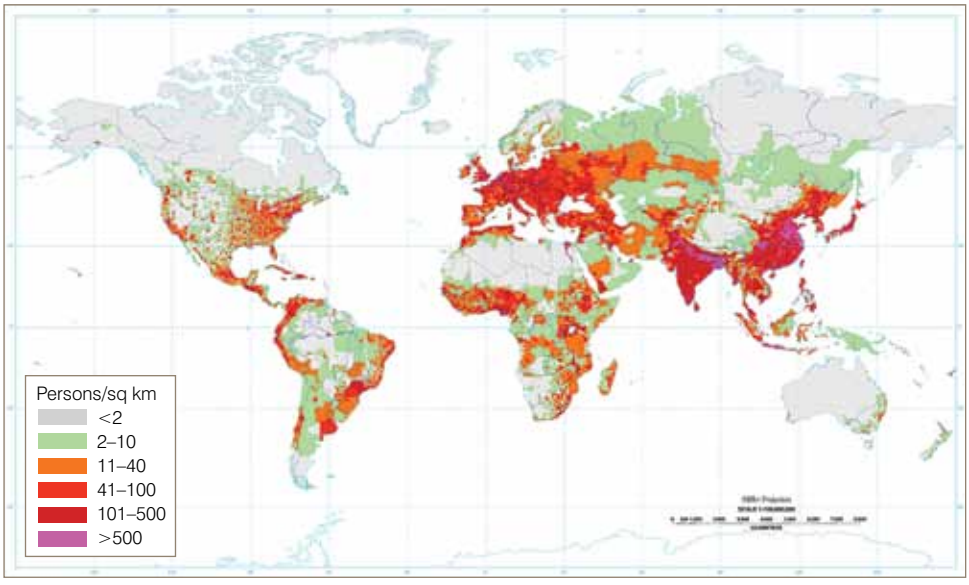
With a large population – approximately 300 million – widely distributed across an equally large territorial land mass (9.8 million square kms), the US freight task is characterised by long supply chains, beginning at the seaboard ports and stretching into and through the interior.

The map below illustrates the wide distribution of population across the US, Europe and other continents as compared to the narrow concentration of population on Australia's eastern seaboard.

The US has a long history of private railroad development with ownership and operation of most of the nation's rail and intermodal network infrastructure vested in a relatively small number of private sector rail companies. Governments in the US have generally adopted a non-interventionist approach to this sector, allowing it to develop and evolve primarily in response to commercial drivers.

Significantly, there is extensive and growing use of intermodal rail in the US to move containerised international freight though port cities to distant inland and trans-continental destinations and for long haul domestic moves between major cities. Indeed, intermodal rail has been the fastest growing major segment of the US rail industry for many years.

Global Population Distribution



Source: US Department of Agriculture

However, in the intra-urban context, the story in the US is quite different. The distribution of containerised freight within the extensive metropolitan areas of major US cities is undertaken almost exclusively by road trucks.

This absence of metropolitan intermodal services can be attributed to the generally accepted maxim that very short haul intermodal rail is not commercially viable and to the non-interventionist approach taken by government.

It may also be due, to some extent, to a relatively non-prescriptive approach to land use planning and allocation in US cities.

This has, at least in some significant cases (notably Los Angeles), resulted in a very dispersed pattern of freight generating land uses across the urban area.

This, in turn, is not conducive to intermodalism, which requires significant concentrations of freight customers close to terminal sites to be cost effective.

The dynamics present in the US context are further illustrated in the case study below.

Case Study: The Ports of Los Angeles and Long Beach

The Ports of Los Angeles and Long Beach are the largest container ports in the US, with a combined container trade of 14.2 million TEUs in 2008. Approximately 70 per cent of import containers passing through the two ports are freighted to destinations across the US, a task that is ideal for rail given the long line-haul distances involved.

The remaining 30 per cent of import containers entering the US through the ports are for consumption in the greater Los Angeles area. This is a significant number of containers, representing over 3 million TEUs per annum or, to put it in perspective, roughly double the current Port of Melbourne metropolitan freight distribution task.

Despite this volume and the extensive rail freight infrastructure already in place to service the ports, virtually none of this metropolitan freight utilises intermodal services. It is all carried by truck on the extensive LA freeway network.

This situation has generated considerable community concerns about the environmental and amenity impacts of truck traffic generated by the ports and has led to initiatives such as PierPass, designed to shift truck movements to the less congested night time hours.

The efforts of city transport planners have also been focussed on the progression of major road projects to provide greater capacity for the increasing number of trucks visiting the two ports each year to undertake the metropolitan container distribution task.

Only recently has any serious consideration been given to using shuttle trains to move containers for metropolitan distribution between the ports and major suburban logistics precincts, for local distribution by truck.

One such project has involved California's 'Inland Empire', located 80-110 kms away from the ports, where many giant transloading centres are located. To date, this project has not succeeded due to opposition from the local community to intensification of logistics activity in the Empire precinct and the difficulties involved in achieving reliable rail delivery times.

Port of Los Angeles

Source: Port of Los Angeles

Europe

Europe has an even larger population (731 million) than the US, spread across a similar land mass (10.2 million square kms), again resulting in long supply chains stretching into the interior.

In Europe, the use of intermodal solutions for long haul tasks is also growing rapidly, although a different model has emerged which has seen, for example, more use of rail shuttles on shared passenger rail networks, connecting to outlying intermodal terminals. Apart from obvious historical differences in patterns of settlement, differences in approach in Europe can be attributed to a significant degree to public ownership of the rail networks and a tendency to greater government intervention in the operation of freight markets.

The following case studies are indicative of the European intermodal model.

Case Study: Belgium, the National Rail Container Network (Narcon)

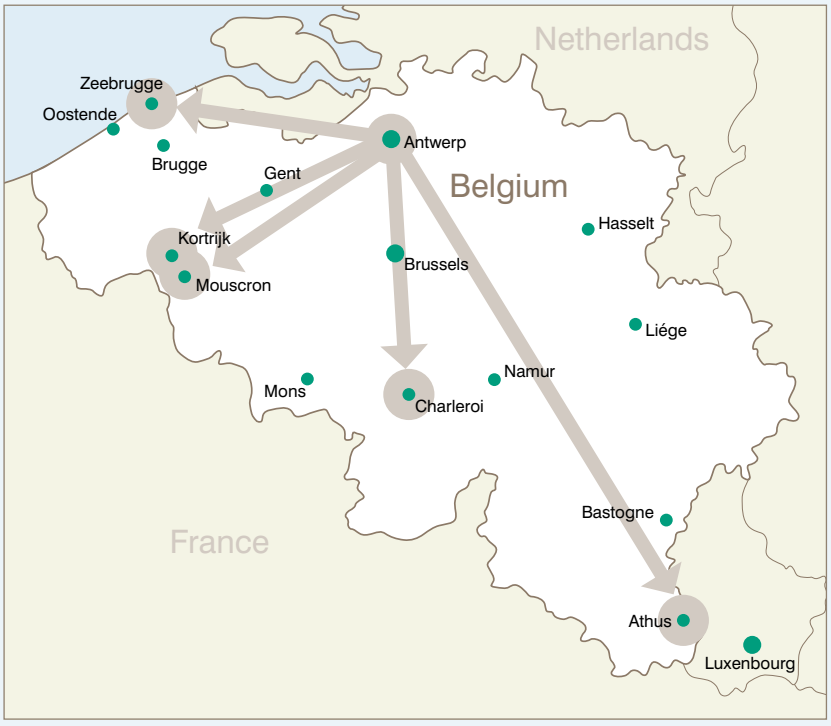
Belgium is one of Europe's key freight hubs. The country is home to the port of Antwerp, Europe's third largest (handling 8.6 million TEUs in 2008) behind Rotterdam and Hamburg. The country has an extensive rail network operated by the National Railway Company of Belgium (NMBS/SNCB) which is an autonomous Government owned company.

B-Cargo, a subsidiary of NMBS/SNCB recently established a National Rail Container Network (NARCON), providing daily national rail connections between the Ports of Antwerp (Mainhub) and Zeebrugge and four inland terminals strategically located to serve Flanders and the European hinterland: Kortrijk, Mouscron, Charleroi and Athus.

To date NARCON has proved successful, with the network moving 20,000 TEUs per month as of mid 2008 and able to claim 25 million truck kms per year shifted from road to rail. The Belgian Government has provided support to NARCON through a subsidy of €30 million per year.

The NARCON initiative is of particular interest to Melbourne as it appears to represent one of the closest examples internationally of an integrated short haul intermodal shuttle service designed primarily for local/regional distribution of port freight, with line-haul movements varying between 95 and 240 kilometres from the Port of Antwerp.

National Rail Container Network (NARCON)



Source: IFB

Case Study: Port of Gothenburg

Gothenburg is Scandinavia's largest port, handling over 800,000 TEUs in 2009. The port has been heavily involved in the development of the RAILPORT concept, offering daily rail shuttles between the port and inland terminals in order to strengthen competitiveness, increase service standards and reduce pollution costs.

Sweden's most important consumption and production centres are served daily by more than 70 trains providing 24 daily rail shuttles. The port aims to grow its rail service by two shuttles per year and to increase capacity on the existing shuttles.

RAILPORT also offers equipment and logistic services; information systems; cargo handling; and, customs services. About half of all container movements to and from the Port of Gothenburg are now undertaken by rail with RAILPORT, accounting for approximately 20% of all Swedish rail cargo.

Green Cargo electric shuttle train (Green Cargo is a government owned business)

Source: Port of Gothenburg

The Port of Gothenburg has been awarded Schenker's logistics prize twice, most recently in 2008, for the RAILPORT concept. The success of the RAILPORT initiative has been underpinned by co-operation between the infrastructure holder (Banverket), railway operators, the Government and the port itself.

Case Study: Switzerland, mixing passenger and freight rail

The Swiss railway network is one of the most densely concentrated in the world. Swiss Federal Railways (SBB-CFF-FFS) is the largest rail company in Switzerland and handles the majority of national and international traffic.

Swiss rail handles both long-haul trains to and from other European Union countries and short-haul freight trains operating within Switzerland on a busy shared rail network, amongst passenger trains.

The Swiss internal rail freight distribution system serves cities such as Zurich and Basel, with an average haulage distance of 30 to 50 kilometres, operating entirely on the shared rail network.

Freight trains do not exceed 750 metres in length and fit in between express, semi-fast and stopping passenger trains, operating at the same speeds as the semi-fast passenger trains.

The Swiss rail signalling system has been progressively upgraded to accommodate this style of rail operation, with the signalling system controlling the braking system on each train.

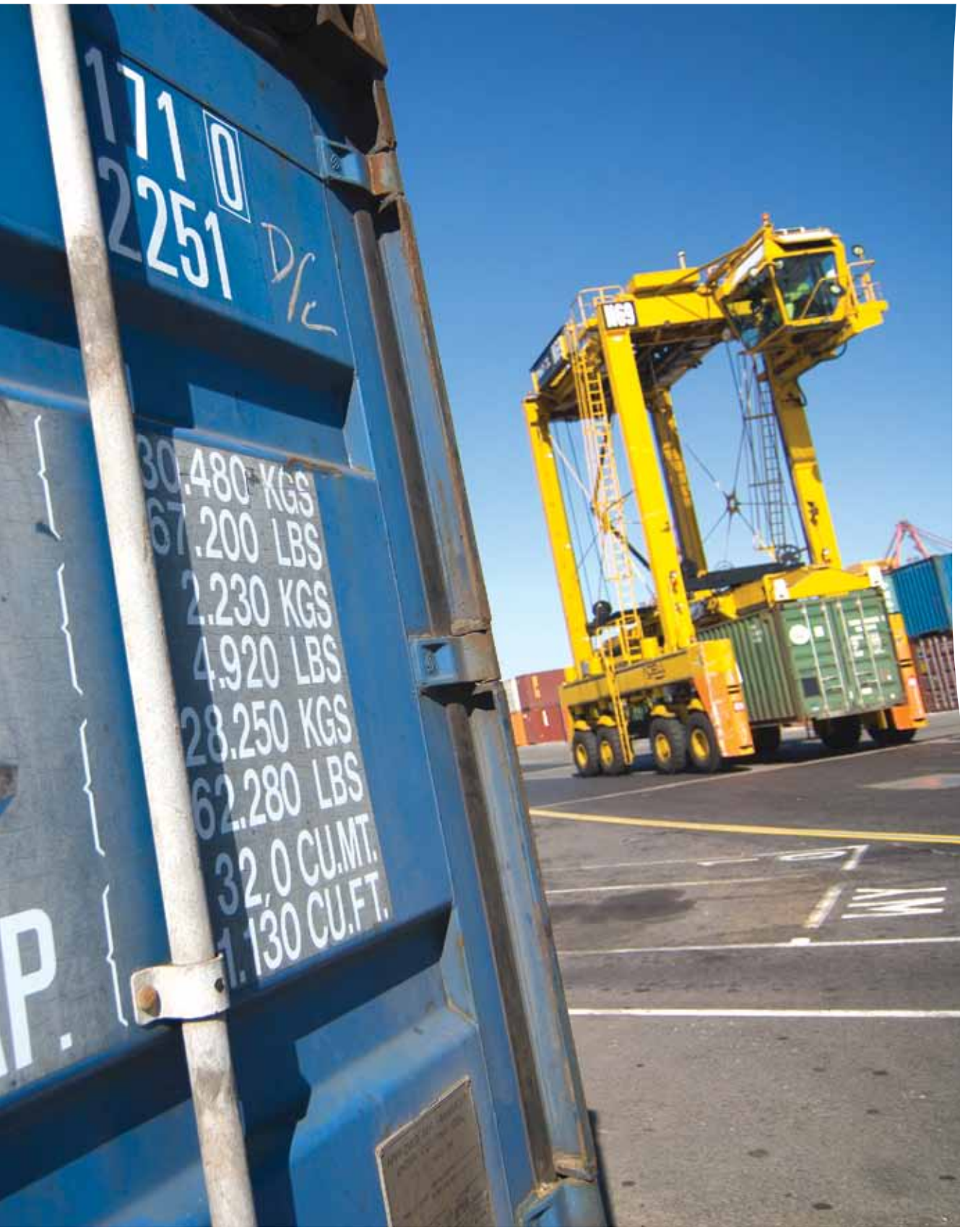
The Swiss model is of particular interest for Melbourne, given the likely requirement to operate freight shuttle trains amongst passenger trains on the busy metropolitan network.

Swiss electrically hauled freight train

Source: SBB Cargo

Key conclusions from interstate and international experience:

- Intermodal freight services in the US play a major role in the long-haul transport of international and domestic containers, but play virtually no role in the distribution of containers in metropolitan and regional areas around the ports and major cities;
- In Europe, in part due to greater Government intervention, there has been a more significant development of rail shuttle services connecting major ports to inland intermodal terminals servicing both regional and cross border (international) markets, operating on networks shared with passenger traffic;
- There appear to be few, if any, significant examples of intermodal networks servicing primarily metropolitan port freight distribution (the NARCON service in Belgium and RAILPORT in Gothenburg being perhaps the closest examples), although the Swiss railways offer a very good example of operating freight and passenger trains together on a very busy network;
- Australian cities, notably Sydney and Perth, offer the most relevant examples for Melbourne of attempts to develop intermodal solutions for the metropolitan distribution of port related freight; and
- Melbourne can usefully draw on the experiences of both interstate and international jurisdictions in designing its own intermodal freight solutions, but ultimately any solutions will need to be customised to serve our unique freight task and socio-economic requirements.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Part D – What sort of intermodal solution is best for Melbourne?

8 High level options for the Metropolitan Freight Terminal Network (MFTN)

The previous section of this Discussion Paper makes out a high level case for the need for a new approach to the management of Melbourne's rapidly growing port related containerised freight task.

This task, which is currently handled exclusively by trucks between the Port of Melbourne and the premises of metropolitan importers or exporters, is projected to increase from approximately 1.6 million TEUs to around 6 million TEUs by 2035.

If the current road direct model remains the only method of servicing this task, truck numbers in the already congested central Port/Dynon area will increase rapidly.

The efficiency and reliability of freight movements will suffer from exposure to increasing congestion on key radial arterial roads connecting the Port to concentrations of freight origins/destinations in industrial areas to the west, north and south-east of the city.

The external costs of truck use – greenhouse gas and particulate emissions, noise, accidents, loss of amenity – will also progressively escalate as the road task intensifies and trucks are increasingly forced off congested arterials onto suburban roads to find quicker routes to their destinations.

These developments could in turn erode the competitiveness of the Melbourne and Victorian economies as freight costs increase and are reflected in higher costs of goods to consumers; and undermine the 'liveability' of Melbourne as heavy truck traffic becomes a more dominant presence in the fabric of the City.

The new approach – proposed in the form of a generic 'intermodal solution' – is put forward as a complementary approach which is not intended to replace the current road direct model, but rather to supplement it and provide a viable alternative for suitable journeys.

In essence, the 'intermodal solution' aims to reduce the number of truck trips in and around the central Port/Dynon area and on key arterial roads to and from the Port and to improve overall efficiency and environmental performance by: a) splitting freight journeys into a long 'line-haul' leg and a local 'pick up and delivery' leg; and b) utilising more productive, efficient and environmentally friendly road and rail vehicles on the longer 'line-haul' leg, predominantly utilising available network capacity outside of peak periods.

The preceding analysis indicates that this broad approach, in conjunction with land use policies and practices which encourage aggregation and concentration of freight journeys around strategically located freight precincts or hubs in Melbourne's outer suburbs, can produce significant benefits for the overall efficient and sustainable management of the growing freight task.

If the need for an 'intermodal solution' to help manage Melbourne's growing port freight task is accepted, the question becomes one of identifying the best approach to design and implementation of such a solution for Melbourne's situation.

Four broad optional approaches to intermodal system design and implementation are described below.

8.1 A design led by the market with 'light handed' Government intervention

Description

Under this option, the timing and precise form of the MFTN cannot be predicted as these would be determined independently by private businesses operating in the commercial market place.

Government's role would be 'light handed' and restricted to the use of policy, information, coordination, regulatory, pricing and investment levers designed to 'level the playing field' for the emergence of an intermodal service alternative to compete with the existing road direct model.

The Government would not take an ownership stake in the MFTN and would not directly or indirectly manage or operate any of its service components, nor would it invest directly in intermodal terminal land, infrastructure or equipment.

It may, however, invest in a targeted manner in connecting road and/or rail infrastructure intended for use by private MFTN service providers.

This could involve, for example, investment in the Principle Freight Network (PFN) to allow HPFVs to directly access private intermodal terminals.

The Government could also introduce pricing mechanisms (such as the proposed Freight Infrastructure Charge for trucks accessing the Port of Melbourne, or mass distance charging for heavy vehicles currently being developed through the COAG Road Reform Program) designed to internalise the full costs of road freight movements and thereby improve the relative price competitiveness of intermodal HPFV and/or rail movements.

Government could also assist by:

- applying appropriate land use zonings to cover private terminal sites and associated freight activity precincts;
- providing better information about network capacity issues (e.g. train paths on the shared rail network);
- facilitating negotiation of satisfactory access arrangements; and
- reducing regulatory barriers to the use of the freight network by MFTN vehicles (both HPFVs and shuttle trains).

Advantages

The major advantage of this option is that it minimises the Government's investment and operational risk exposure to the MFTN and maximises private sector responsibility.

Rather than second guessing the market place in terms of optimal service design, it aims to remove impediments and create more favourable conditions necessary to 'kick start' and then, hopefully, sustain the operation of an MFTN developed primarily by the market.

Disadvantages

The key disadvantage of this option is that there is no guarantee that it will deliver a coherent or even partial MFTN solution in any given timeframe.

Simply 'levelling the playing field' by forcing the internalisation of road freight costs and adopting other 'light handed' policy and planning interventions may not be sufficient to 'kick start' the MFTN.

In fact, a major risk is that such approaches may simply increase the costs of freight movement and result in these costs being passed on to freight customers, without generating an alternative, more efficient intermodal response.

This outcome may occur because the option does not address one of the core problems identified through earlier attempts at intermodal service development in Melbourne, namely, that no one private sector company is likely to possess the span of control or range of skills and expertise necessary to deal with the complexity of putting together an effective, competitive intermodal service model.

This problem is exacerbated by the competitive market place within which potential intermodal service providers operate.

For this reason, even if the private sector did respond by developing individual terminal or corridor specific intermodal operations, it would seem unlikely that it could act in the coordinated and concerted manner necessary to draw together and manage all of the complex service elements and interfaces required to produce a fully integrated, city-wide 'intermodal system', as envisaged in *Freight Futures*.

Even if an intermodal service response did emerge, the form of the service solution may well be sub-optimal from a public and/or competition policy perspective.

Private ownership of terminal land and infrastructure will make 'open access' difficult to achieve, particularly where vertically integrated businesses are involved. Indeed, Government regulatory initiatives and investments in connecting transport infrastructure may have the perverse effect of reinforcing monopoly market power which could progressively accumulate to these businesses.

8.2 A design based on a network of road-road only terminals

Description

This option would involve the Government and the private sector working in partnership to establish a number of metropolitan freight terminals (MFTs) strategically located in areas of high concentration of freight activity in the western, northern, eastern and south-eastern suburbs of Melbourne.

The terminals would be designed specifically for the efficient road-road intermodal transfer of containers between HPFVs (undertaking the 'line-haul' leg between the Port and the terminal) and conventional trucks (carrying out the more localised PUD operations).

The terminal sites would need to be located with convenient access to a designated HPFV network servicing the Port and would vary in size (from say 5 to 150 hectares) depending on the need to accommodate complementary freight activities which, at a minimum, would include provision for empty container storage.

Government would take on an overall coordination role in developing and implementing the service and its involvement could extend to designation and/or ownership of terminal sites, delivery of necessary infrastructure and procurement of key service provision elements from private sector parties.

Under this option, there would be no provision for rail-road intermodal transfers and therefore no requirement for the terminals to be located on the rail network. In common with all 'intermodal solution' options, the road-road intermodal service would operate alongside the existing road direct model and would aim to capture freight suitable for 'next day' delivery to customers located in relatively close proximity to the terminal sites.

Advantages

The advantages of this option are that, according to the PoMC's "Melbourne Port System" analysis, it produces significant efficiency, congestion and environmental benefits compared with the status quo road-direct model.

It also recognises the proven commercial viability of road transport in the metropolitan area and isn't constrained by the need to connect to the rail network, nor the potential challenges of establishing efficient, reliable freight shuttle services on rail networks shared with other users.

Government's active coordination and investment role would also enable a significant degree of public control over the timing and form of intermodal service delivered under this option, including an ability to ensure 'open access' and other desirable characteristics.

Disadvantages

The key disadvantage of this option is that it would effectively preclude an initial or even future role for rail in the system.

If a decision is not made now to preserve rail network capacity for intermodal freight, particularly in the Dandenong corridor to the south-east, it is likely that all available capacity will be consumed by public transport users for the foreseeable future.

As a result, this option lacks inherent flexibility and robustness. It continues to rely totally on Melbourne's road network – albeit adapted to accommodate increased HPFV flows on key radial corridors – to accommodate the growing freight task.

This reliance in turn exposes it to some key risks, including the possibilities that:

- much more extensive utilisation of HPFVs, even on a clearly designated network, may not be acceptable to the Melbourne community;
- the HPFV network may not meet the required service levels for efficient operation; or
- that rapid rises in fuel prices or the cost of carbon emissions may significantly change the economics of the line-haul leg in favour of rail

Government's involvement also exposes it to significant capital and operational risk, including the risk of over investment or stranded investment if the intermodal service is not able to compete with the road-direct model in the longer term.

8.3 A design based on a network of rail-road only terminals

Description

This option would involve the establishment of a smaller number (say three) of major freight terminals to the west, north and south-east, linked to the port by rail and focusing exclusively on rail-road intermodal transfer operations.

As for the road-road terminal option, Government would take on an overall coordination, investment and procurement role in partnership with the private sector, which would focus on service delivery activities.

Location of the terminal sites in this option would be more constrained than for the road-road option by the need for direct connection to the fixed rail network and by the generally larger land requirements (say 100 to 200 hectares) to accommodate rail operations as well as road PUD, empty container storage and other complementary freight activities.

Advantages

According to the "Melbourne Port System" analysis, this option produces significant benefits when compared with the road direct base case in terms of fewer truck trips entering and exiting the Port, less total truck distance travelled, less total fuel consumed and less carbon emissions produced.

This option also does not rely on a successful roll out of the HPFV road network to all MFT sites and the need for community acceptance of a much more significant role for HPFVs.

It is also inherently more flexible than the road-road option in that it should be possible, with some additional investment, to incorporate road-road intermodal operations into these terminal sites at a future time, if required.

As for the road-road option, Government's active coordination and investment role would also enable a significant degree of public control over the timing and form of service outcomes under this option.

Disadvantages

The "Melbourne Port System" analysis indicates that this option is likely to be more costly on average to use and therefore less commercially viable than the road-road option, or even the base case road direct model.

This option also relies on a very large number train movements (of the order of 140 per day by 2015) into and out of the Port/Dynon precinct, which is unlikely to be achievable operationally or in the context of competing capacity demands from public transport and other freight users.

As for the road-road option, Government's involvement also exposes it to significant capital and operational risk, although in this case it is likely to be even greater due to the less favourable economics demonstrated by the modelling.

8.4 A design based on a hybrid network of rail-road and road-road terminals (preferred)

Description

This option is essentially a combination of the other three options. It involves the establishment of three principal rail-road intermodal terminals to the west, north and south-east, plus a number of complementary road-road terminals sited to take advantage of concentrations of freight activity which are less accessible to the rail-road terminals.

In addition to overall coordination, investment and procurement roles, developed in partnership with the private sector service providers, this option would also involve Government implementing a package of complementary policy, information, coordination, regulatory and pricing initiatives, similar to those discussed in the 'market led design' option, to further improve its chances of success.

A further key feature of this option is that the rail-road terminals would also be accessible to the HPFV network and flexibly designed to accommodate road-road transfers (between HPFVs and conventional trucks) as well as rail-road transfers.

Advantages

This option is more flexible and robust than the other options, combining all of their benefits and mitigating most of their risks.

It reduces truck trips to and from the central port area, increases truck utilisation, reduces total truck distance travelled, reduces fuel consumption and carbon emissions and, like the road-road terminal option, reduces land transport costs.

It incorporates the efficiency and sustainability benefits of both HPFVs and rail without being totally reliant on either. Importantly, it allows for a progressive transition to rail from road as HPFVs can be used to grow line-haul volumes before shuttle trains are introduced.

It also effectively manages the risk of stranded investment by being capable of operating as a purely road-road intermodal system if rail shuttle services fail to prove their viability.

Government's active coordination and investment role, combined with the judicious application of regulatory and pricing measures, should also enable the necessary degree of public control over the timing, staging and design of service outcomes for it to partner effectively with the private sector and allocate risk appropriately.

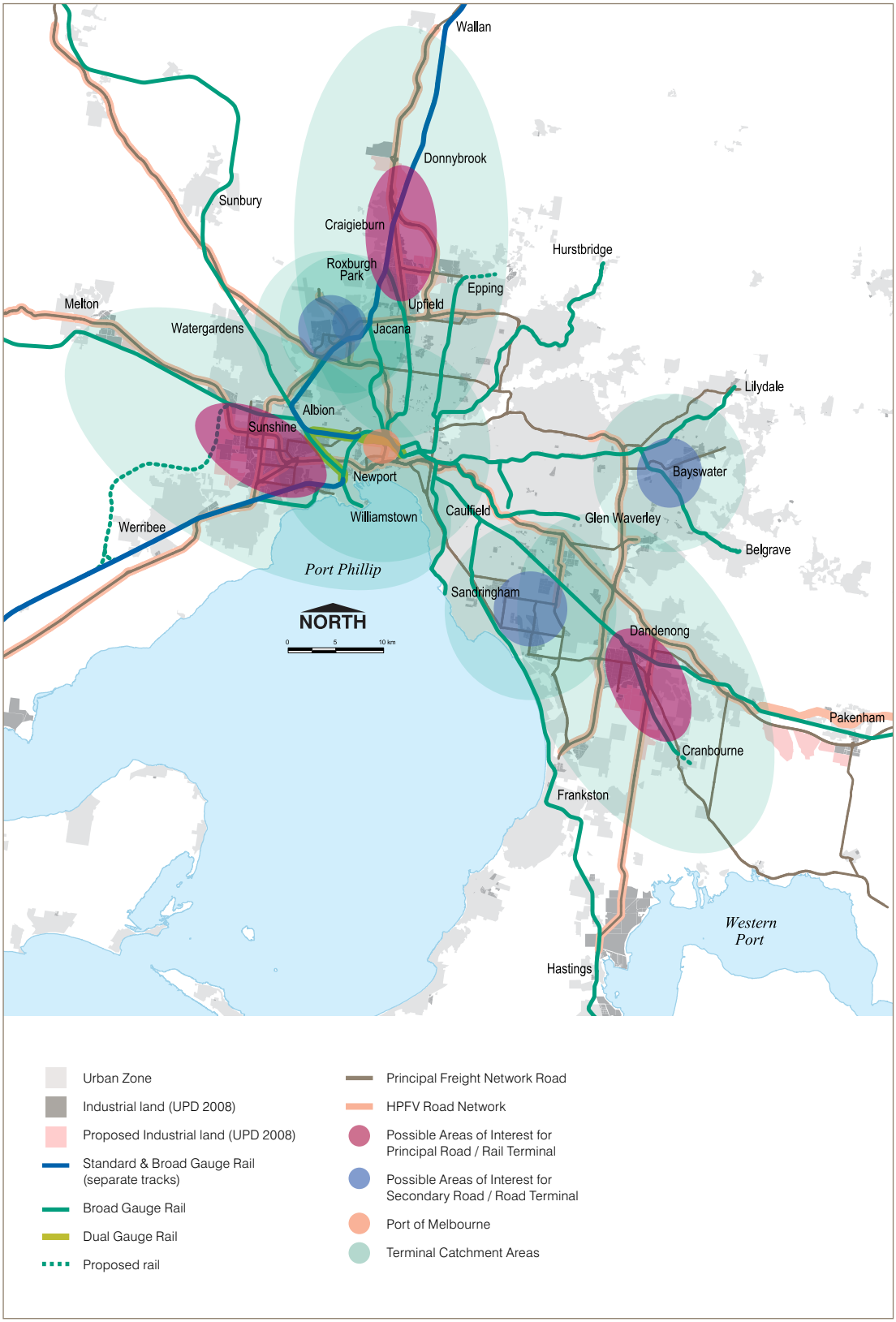
Disadvantages

There appears to be no fundamental weaknesses with this option, except that it relies on achieving higher productivity line-haul freight movements through the use of some combination of HPFVs and port shuttle trains.

These movements will need to occur when there is available capacity on key shared road and rail network corridors, often in off peak hours and at night. The potential impact of these higher intensity freight movements on adjacent communities will need to be minimised.

As for the road-road and rail-road options, there remains a degree of Government risk exposure, although this is better managed through the in-built availability of both road and rail line-haul modes and the coordinated application of regulatory and pricing to promote favourable intermodal outcomes.

Illustration of the preferred ‘hybrid MFTN’



8.5 Economic analysis of the preferred option

Based on the previous high level assessment, the "hybrid network of rail-road and road-road terminals" is the option preferred by the Government at this stage.

This option appears to offer the best combination of potential benefits and strategic flexibility. It is also considered to be the only option which meets three basic 'strategic fit' criteria which can be derived from existing high level Government policy statement and settings:

- a commitment to increasing rail's role in moving freight;
- a commitment to delivering an effective MFTN for Melbourne in active partnership with the private sector; and
- an imperative to manage Government's risk exposure judiciously.

For these reasons, for the purposes of this Discussion Paper, only the 'hybrid MTFN' option has been considered for further economic assessment at this point.

Sd+D (*Melbourne Intermodal System Study* 2009, p10) prepared a high level economic evaluation of this option which estimated that total capital expenditure of $686 million (phased over the period to 2025) would be required to fully implement this option,as follows:

Table 4

	($M)
Melbourne International Freight Terminal (to handle intermodal transfers at the Port)	155
Outer urban rail-road terminals	231
Outer urban road-road terminals	100
Rail corridor enhancements	200
Total	**686**

(Note: General road corridor enhancements were excluded on the basis that they would be required with or without an intermodal system, however this may significantly underestimate some of the more specific upgrade requirements needed to achieve full HPFV network capability)

Based on these capital cost estimates and a range of other modelled inputs and assumptions dealing with likely demand, relative operating costs, externality benefits and the like, Sd+D (*Melbourne Intermodal System Study* 2009) reached the following conclusions:

- including externality benefits, the overall system would generate positive net benefits by its fourth year of operation;
- excluding externality benefits, it would achieve commercial viability by year eight;
- the results vary for the different components of the system, with services to the north becoming cost effective first, followed by services to the south-east and lastly to the west, which struggles to generate net benefits due to the shorter road line-haul distance;
- if all capital investment is regarded as sunk and discounted from the analysis, overall economic and commercial benefits are realised almost immediately, although the western service remains marginal; and
- the NPV of the system (using 10% discount rate over 25 years) ranges from approximately $480 million (including all capital costs) to around $900 million (excluding capital costs and allowing for higher externality benefits).

8.6 Conclusion

The hybrid network of rail-road and road-road terminals, as described above, is the preferred 'intermodal solution' proposed for further examination in this Discussion Paper.

This is the most flexible and robust intermodal system option and generates a range of benefits with a relatively low risk exposure to Government. Over time it generates significant economic and commercial benefits relative to the base case (i.e. a continuation of the road-direct model).

The system is, however, likely to require Government support during a start up phase as market share and volumes are grown. This could take the form of some level of capital and/or operating subsidy, the latter of which could be phased out as commercial viability is achieved.

It is noted that, subject to feedback on this Discussion Paper and further consideration by the Government, additional economic analysis may be required of other high level options set out in this chapter, or of variations of these options, as a basis for developing a full business case for investment in an intermodal system for Melbourne.

9 A ‘hybrid MFTN’ for Melbourne – key design propositions

9.1 What could a ‘hybrid MFTN’ look like?

This section attempts to paint a picture of what the mature ‘hybrid MFTN’ system might look like operating in Melbourne by 2035.

Melbourne’s population has recently passed the 5 million mark. It is a thriving international city which remains amongst the most ‘liveable’ in the world.

Melbourne’s outward spread has been slowed over the past few decades and it has become a more efficient, denser, multi-centred city with a number of major commercial activity centres dispersed around the metropolitan area, taking some of the focus off the CBD.

The Port of Melbourne remains the largest container port in Australia and is now functioning at near full capacity, handling 8 million TEUs per year. A new container terminal has recently been commissioned at the Port of Hastings to provide the next major tranche of capacity for Victoria’s international trade, which continues to grow steadily.

Of the 6 million TEUs passing through the Port with origins or destinations in the metropolitan area, around 3.5 million (nearly 60%) are handled through the highly successful Melbourne MFTN System. The balance of containers are transported in the traditional way, direct by truck from the stevedoring terminals to the end customers.

The MFTN System uses a combination of HPFVs and shuttle trains to move containers rapidly between the central Melbourne International Freight Terminal (MIFT), located to the north of Footscray Road, and a network of rail-road and road-road intermodal terminals located in major industrial/freight precincts in the outer western, northern and south-eastern suburbs.

Full and empty containers using the MFTN System are transferred efficiently on internal transfer vehicles (ITVs) between the stevedoring yards and the MIFT under Footscray Road, which has been grade separated, for loading onto shuttle trains or HPFVs. Volumes are split fairly evenly between the two line-haul modes.

Rail shuttle services, utilising state of the art, quiet, efficient electric freight trains up to 400 metres long arrive and depart the MIFT on scheduled services, 24 hours a day, with greater frequencies in the inter-peak and late evening periods. Similarly, HPFV line-haul runs are focused on inter-peak and night time operations, when they are given priority lanes on the HPFV network connecting to the terminals.

The MFTN System is oversighted by a Government owned MFTN Corporation, which owns the key terminal sites and contracts terminal operations, including the option of local pick up and delivery, to private operators.

The MFTN Corporation is also responsible for franchising the line-haul operations (rail and road), between the MIFT and the suburban terminals, to a single private operator.The franchise has recently been re-tendered and won by a private above rail operator, who sub-contracts the HPFV operations to a number of major trucking companies.

The MFTN System is coordinated and marketed as an integrated service package through a cooperative effort between the MFTN Corporation, the terminal operators and the line-haul franchisee.

After a gradual start up period, the MFTN System has rapidly gained market share and become a commercially viable business in its own right .

As Melbourne’s population and freight needs continue to grow, the MFTN System is seen be playing a critical role, along with some other key infrastructure projects, in relieving congestion and amenity pressures in the Port/Inner City area by keeping the number of truck trips to manageable levels.

It is also widely acknowledged as having provided a reliable and efficient alternative service offering for importers and exporters, helping to keep freight costs at reasonable levels in the face of a range of external pressures, including higher fuel and carbon emission costs, the introduction of a port truck access charge and new road congestion pricing measures in the central city area.

In short, the MFTN System has become an essential part of the fabric of Melbourne, helping to ensure its economy has remained strong and competitive and that it has remained one of the world’s most liveable cities.

The following sections put forward a series of specific design propositions which would underpin this vision of the preferred 'hybrid MFTN' system. These propositions are open to discussion and debate and it is expected that they will be refined and improved through this Discussion Paper process.

9.2 The business model

Proposition 1 *– The MFTN should be structured to provide an integrated 'port to door' service offering, comparable with the ancillary/hire and reward road offering.*

Rationale

The MFTN will need to provide a service offering in an urban freight transport marketplace which is currently the exclusive preserve of road trucks offering, in various ways, a 'port to door' service.

To be successful in changing transport behaviour, the MFTN must provide a comparable or better level of service at a competitive price.

For a potential MFTN customer to be able to make a rational choice between the two alternatives – the MFTN and road direct – they need to be identical in scope and easily comparable on price.

Alternatives

- The MFTN might not provide 'pick up and delivery' (PUD) services from the suburban terminals – this would be the responsibility of the customers;
- Customers might be required to separately arrange other elements of the service, e.g. 'line-haul' services from the Port to the terminal.

Discussion

It is not intended that the MFTN will be a monopoly service provider in the urban logistics market. The MFTN service offering will provide an additional option in the marketplace and will operate in open competition with the existing road-direct service model.

If the MFTN does not offer a scope of service comparable with road direct, there is some likelihood that many potential customers will be deterred from even testing the offering.

This implies that the different elements of the MFTN service are best bundled together and offered as an integrated package, allowing comparability and relieving customers of the administrative burden and uncertainty of dealing with different service elements.

Under the proposed model, the terminal operator will be the 'shop front' for the MFTN service, marketing the MFTN service offering, developing the business, arranging all elements of the logistics chain from the Port gate to the customer and charging a single price for this service package.

This also means that the terminal operator will effectively be accountable for customers' containers from the moment they are released from the stevedores' terminals to the moment they are delivered to the customer's premises.

Although the MFTN line-haul operation will, wherever possible, utilise available off-peak road and rail network capacity, the terminals will operate 24 hours per day and the optional PUD service will deliver at times to suit the customer.

Whilst it is important that the MFTN be able to offer PUD services as part of an integrated service package to enable comparability with existing road direct services, it is suggested that this element should be made optional, to allow choice for clients who wish to arrange their own PUD movement.

This approach would also ensure that the MFTN terminals were effectively 'open access' facilities for both customers and transport companies wishing to participate in local PUD operations.

Proposition 2 *– The principal MFTN terminals should be designed to operate as fully integrated 'inland ports' with customs and quarantine status, allowing direct consignment of containers from other ports to and from these locations.*

Rationale

A fundamental intention of the intermodal system is to decentralise the 'port gate' to as close as possible to where the customers or end users are located.

The ultimate development of the decentralised 'port gate' concept is the 'inland port', with metropolitan terminals functioning as internationally recognised 'end destinations' and offering the full range of logistics services currently available at the Port of Melbourne, including customs and quarantine inspections and clearance.

Alternatives

- Full inland port status is not be sought for the terminals, which would offer services such as container storage, cleaning and repair but not customs and quarantine inspections and clearance.

Discussion

The present situation, where customers are required to arrange for their freight consignments to be transported to and from the central Port/Dynon area, could be seen as analogous to Australia Post requiring all of its customers to do their business at a GPO in the city.

Of course, this does not happen, and Australia Post operates an extensive system of Post Offices close to where the customers are located.

Achievement of full 'inland port' status for the metropolitan terminals – allowing, for example, containers to be consigned direct from Shanghai to Dandenong – is seen as a desirable long term objective for the MFTN, which would further reinforce the relevance and competitiveness of the intermodal solution.

However, it is noted that attainment of effective 'inland port' functionality may take some time to achieve.

It would, for example, require the building of substantial sustainable container throughput volumes to justify investment in necessary infrastructure and the negotiation of complex agreements with the shipping lines and the Commonwealth Customs and Quarantine Inspections agencies (noting that the paramount duty of these latter agencies is to maintain the integrity of Australia's border control against import of illegal goods and dangerous diseases).

Proposition 3 *– The MFTN terminals should be located within larger, clearly defined 'freight precincts' which operate 24/7 and are planned and regulated to encourage major freight customers to locate nearby.*

Rationale

Encouraging high volume customers to locate adjacent to the MFTN terminals within a planned, 24/7 'freight precinct' will:

- provide a base load of volume for the terminal operator;
- facilitate efficient, high mass/volume internal transfers within the 'freight precinct';
- reduce road truck delivery movements on the public road system;
- reduce the overall time and cost involved in PUD movements; and
- enable the sharing and better utilisation of expensive container handling equipment and labour between clients located within the 'freight precinct'.

Alternatives

- The MFTN model could be based on stand alone terminals, located independently of freight precincts.

Discussion

Grouping the highest volume users around a freight terminal effectively translates into the freight and logistics sector the principles of 'transit oriented development', which have become accepted practice in the public passenger transport sector.

In the passenger transport sector, major demand generators, such as shopping malls, educational institutions, office complexes and high density residential precincts, are now obliged to locate adjacent to the railway stations and tram lines.

This logic is equally valid in the freight sector where major distribution centres, warehouses, volume manufacturers and value-adding and reprocessing industries would be ideal candidates to locate in a freight terminal precinct.

Other key candidates would be businesses associated with the logistics supply chain, such as container cleaning and repair, truck repair and refuelling and transport driver services and accommodation.

Although the MFTN's 'line-haul' costs will usually be lower than the road direct alternative, the MFTN system will generally incur additional container handling costs, particularly at the suburban terminal end, plus any PUD costs to reach the end user.

Reducing or removing this PUD cost from the supply chain is a key to achieving a competitive MFTN service offering.

Movements of containers will still be necessary within the 'terminal precinct', but these will be short and efficient and can be accomplished without venturing onto public roads, using technologies such as reach stackers or very high mass limited 'internal transfer vehicles'.

Grouping high volume freight and logistics activities adjacent to the MFTs in a designated 'freight precinct' also facilitates separation from incompatible residential and community land use activities, enabling 24 hour per day operations by the terminal and by businesses locating within the terminal's freight precinct.

Importantly, grouping large users in precincts around the terminals will provide the base container volumes necessary to initiate MFTN operations and enable them to progress more quickly towards financial viability.

This approach also offers the potential to capture and transfer land value increases in the precincts into terminal infrastructure investments.

The MFTN public/private partnership model will be instrumental in encouraging maximum uptake by freight and logistics businesses of sites within the terminal precincts.

Under this proposition, the Government would facilitate the set-up of the terminal precincts by ensuring appropriate site configuration, zoning and buffering. More specifically, this could involve:

- where necessary, assisting in the land acquisition process to ensure that the terminal precinct site is of optimum location, size and configuration;
- ensuring that the terminal precinct is zoned to permit conforming businesses to establish 'as of right' under the planning scheme and to prohibit non-conforming land uses;
- ensuring appropriate buffering and separation from sensitive residential and community land uses to enable the terminal precinct to operate 24/7;
- ensuring 'as of right' access for HPFVs to the terminal freight precinct and the road network within the precinct to facilitate the efficiency of internal transfers; and
- working with the private sector to build awareness of the MTFN's overall service offering and benefits.

9.3 The operating model

Proposition 4 *– The MFTN line-haul task between the port and inland terminals should utilise a combination of road and rail modes.*

Rationale

The ability to utilise a combination of road and rail modes for the line-haul task is a critical underpinning of the 'hybrid MFTN' option and is clearly necessary to allow road-road only terminals to form part of the model.

It also provides operational flexibility and inbuilt system contingency for the principal rail-road terminals; allows volumes to be progressively built on road prior to transitioning to rail operations; and enables the efficient allocation of containers between road and rail shuttle services on a daily and even hourly basis.

Alternatives

- The MFTN line-haul service to suburban terminals could be operated exclusively on rail;
- The MFTN line-haul service to suburban terminals could be operated exclusively on road.

Discussion

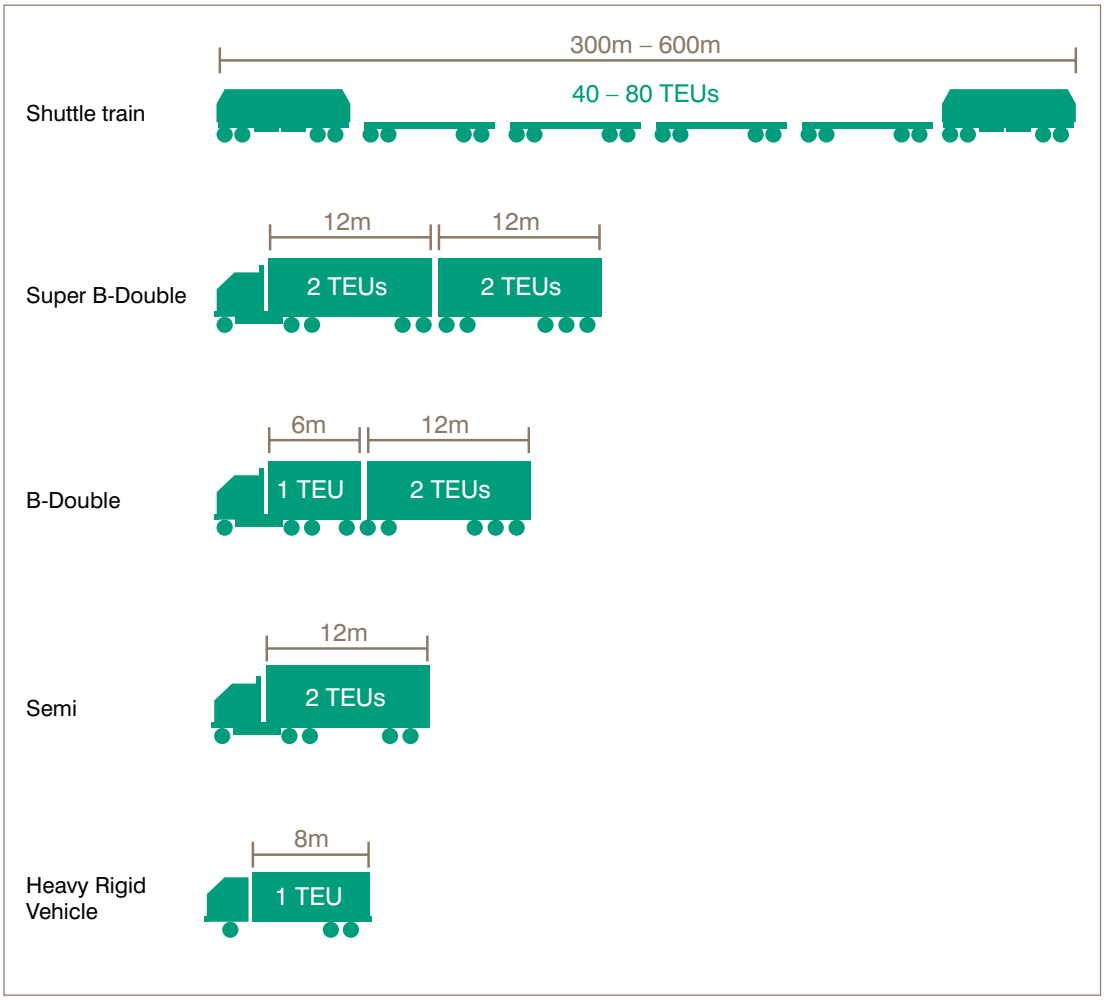
There is a range of different vehicle types and configurations which could be used for the line-haul task of transferring containers between the Port and the suburban MFTN terminals.

Generally, larger high productivity vehicles are needed to generate the economies of scale and cost savings necessary on this line-haul leg to offset the additional handling costs at the Port and terminal ends of the journey.

Figure 5 illustrates some of the choices of vehicle available for utilisation by the MFTN more generally, ranging from a small rigid truck limited to a single TEU to a train carrying up to 80 TEUs.

Of these, B-Doubles, Super B-Doubles (subject to network access) and shuttle trains are all considered to have applicability for the line-haul task. Rigids, semis and, in some circumstances, B-Doubles are more likely to be suited to PUD movements on the public road system in the vicinity of the terminals.

Figure 5: Intermodal system transport equipment configurations and capacities



Utilising a combination of road and rail modes minimises risk as it allows a scaleable, low capital expenditure start-up of the MFTN and offers a back-up mode for occasions when a mature MFTN might suffer a cessation of rail availability, due to major infrastructure works or rail system emergencies, such as a delay due to passenger illness on a commuter train.

Whilst B-Doubles already have general access to the arterial road network, commencement of MFTN operations utilising Super B-Double road trucks will require the completion of the HPFV network from the Port to each of the suburban MFTN terminals and VicRoads' permission for these vehicles to operate on this more specialised component of the Principal Freight Network (PFN).

Network enhancements, principally on the M1 freeway, will be required to allow operation of Super B-Doubles to the eastern suburbs, as will 'last kilometre' extensions from the network to the 'terminal gate' of most of the proposed suburban terminal sites.

The alternative of an exclusively road operation to service the MFTN terminals would lose the benefit of very efficient, reliable rail transport, using off-peak capacity available on the shared rail network, whereas an exclusively rail operation would be inflexible and, as noted, would not be able to service the road-road terminals.

Proposition 5 *– The MFTN container shuttle trains should operate on a single common gauge across the network, initially broad gauge, with flexibility to change to standard gauge should this become an option available to all principal rail-road terminals in the future.*

Rationale

Operation of MFTN shuttle trains on a single gauge across all three suburban corridors will promote maximum utilisation of capital intensive rail rolling stock by allowing through running of trains to service any or all of the principal rail-road terminals in the network to the west, north and south-east.

Broad gauge is preferred for this purpose as it is the only gauge that currently serves all three industrial areas and because the Dandenong rail line – which could provide up to half of the total system traffic – is broad gauge only and likely to remain so for at least the next decade.

Alternatives

- Operate the Dandenong rail shuttles on broad gauge and the Somerton and western shuttles on standard gauge;
- Build a dedicated network of freight only lines, and operate the MFTN on this dedicated system.

Discussion

Mixed gauge operation would incur additional fleet capital and operating costs and prevent the through-running of trains across the network to achieve better utilisation of rolling stock and operational efficiencies, for example, in the re-positioning of empty containers between terminals.

The Dandenong corridor is likely to account for as much as half of the total MFTN rail volume, whereas the Somerton and western corridors are individually lower volume and will have difficulty in sustaining rail operations on their own.

Standard gauge operation in the west and north would necessitate access to the capacity constrained ARTC network and introduce significant involvement of ARTC train control (based in Adelaide) in addition to METROL (based at Jolimont in Melbourne).

The existing standard gauge freight lines are leased to and controlled by ARTC, with priority being accorded to long distance, lengthy interstate freight trains which inevitably would operate to less precise running time specifications, whereas the short-distance MFTN trains will need to operate very reliably to a strict timetable to maximise fleet utilisation.

The cost of new dedicated freight lines in urban areas is so great that the cost of access would make the MFTN rail operation unviable. The opportunity to use spare off-peak capacity on the shared metropolitan rail network – and add to this capacity incrementally with the cost being shared across all users – would be lost.

It is much cheaper to build new trains suitable for operations on the shared rail network than to build a dedicated freight rail network to accommodate the existing type of freight trains.

Because the core MFTN task is to distribute international Port-related containers, connection to the national standard gauge rail network is not imperative.

Although, as the interstate rail task grows, it may become more desirable that containers to and from interstate locations are moved within Melbourne using the MFTN, it is unlikely that it will prove to be efficient to break up the long interstate freight trains and re-marshal them to travel to Metropolitan Freight Terminals.

In summary, commencing operation on the broad gauge network enables:

- the use of spare off-peak capacity present in the broad gauge shared network and, thereby, avoids the very large capital and operating costs of a dedicated MFTN rail network;
- avoidance of the already capacity-constrained ARTC standard gauge network in Melbourne's west, and the long distance interstate freight trains which operate on these lines, (which are not compatible with the disciplined, frequent operation necessary for a successful MFTN rail shuttle service);
- the MFTN rail line-haul service to be operated as a single network, allowing economies in the use and maintenance of locomotives and rolling stock (a single fleet can be deployed across the network);
- through-working of trains between terminals (eg Dandenong to Somerton) to, for example, re-position empty containers, noting that effective management of empty containers is a key to the success of the MFTN; and
- earlier commencement of viable rail operations on the more lightly trafficked Somerton and western corridors, which are unlikely to be viable on their own, but could be if operated in conjunction with Dandenong which is likely to attract higher volumes.

Proposition 6 *– The MFTN line-haul operations should primarily utilise off-peak road and rail capacity.*

Rationale

A key service imperative relates to the time the customer requires delivery or pick up of international containers, a requirement that will typically fall during daytime business hours.

However, as the Metropolitan Freight Terminals will operate 24/7 and have the capacity to store containers until the end-user is ready to receive the PUD movement; 'line-haul' shuttle operations will not generally need to occur during peak hours, when broad gauge rail passenger operations are already operating at full capacity and the road network is heavily stressed.

As considerable capacity exists on the rail and road networks outside peak hours, 'line-haul' operations will tend to be concentrated between the daytime peaks and at night.

Alternatives

- Some peak MFTN road operations are allowed.

Discussion

By utilising off-peak periods when both the road and rail shared networks have adequate capacity, the need for new high cost, dedicated infrastructure for HPFVs and rail shuttles (e.g. dedicated road lanes, new rail lines, signalling, etc) is minimised or deferred.

The off-peak demands on Melbourne's shared roads and railways will generally always be lower than demand during the morning and evening peaks.

For many years into the future the least-cost method for maintaining capacity to accommodate off-peak MFTN container shuttle operations will be to augment the shared network in an incremental fashion.

Under this approach, metropolitan road and rail shared network enhancement programs could be scoped to allow adequate capacity for off-peak MFTN operations as overall passenger and freight travel demand grows.

This mode of operation will require that the Metropolitan Freight Terminals be open 24/7 to receive and dispatch trains and HPFVs operating line-haul services, and to organise containers for efficient PUD movement to meet customer requirements. 24/7 terminal operations will also encourage end-users to move toward extended operating hours, especially within the terminal precincts where no PUD movements on public roads are necessary.

Proposition 7 *– The MFTN line-haul operations should utilise specialised rolling stock for rail and next generation HPFVs for road.*

Rationale

Both road and rail MFTN fleet vehicles need to be capable of operating efficiently and quietly amongst passenger vehicles during off peak hours and at night on the shared networks.

Alternatives

- Use existing road trucks and freight train rolling stock and locomotives to service the MFTN.

Discussion

MFTN trains will need to be capable of reliably operating in between 10 minute electric passenger train services.

Departmental modelling indicates that, to achieve this, MFTN trains will need to be short – approximately 350 metres (carrying 45-50 TEU) – to minimise the time they use to pass through railway junctions and the time taken at terminals to unload and load.

They will need to be high powered; able to brake quickly to enable them to match the average performance of stopping electric passenger trains; and quiet to enable them to operate at night without disturbing suburban neighbourhoods adjacent to the rail system.

The existing rail freight fleet which could be applied to the MFTN is very old and would not meet the noise, reliability, acceleration and braking standards to operate in 10 minute "windows". Its performance is not an indication of how the new, modern technology MFTN trains would perform.

Although the 'first generation' of MFTN trains would most probably be powered by diesel locomotives, it is possible that at a later date electric locomotives could be used, as electric freight trains offer the highest performance and the quietest operation.

This option is a practical one as most of the broad gauge rail tracks which would be used by MFTN trains are already electrified for use by suburban passenger trains.

It is proposed that the MFTN rail operator or operators would be required to source their own rolling stock, in accordance with detailed specifications set out by the relevant Government authority.

However, if the private sector procurement of rolling stock proved to be problematic, consideration might also be given to providing the MFTN line-haul franchisee with the option of leasing specialised rail rolling stock procured by the Government.

Proposition 8 *– As far as possible, the MFTN line-haul container shuttle trains should be controlled by METROL, the control centre for MTM's electric passenger trains operating on the metropolitan shared rail network.*

Rationale

Each additional train control jurisdiction adds a complexity of decision making and greatly increases the risk of delays and timetable problems for both the freight and passenger services on the shared network.

Four bodies control trains in Victoria, managing individual trains on the network in accordance with the detailed 'working timetable' and dealing with eventualities, such as late running or special trains, fitted in to meet specific needs. The four train control agencies and their roles are:

- ARTC, located in Adelaide, controls the standard gauge main lines and dual (broad and standard) gauge tracks between the Victorian border and the Dynon Terminals;
- METROL, Metropolitan Train Control, operated by MTM and located at Jolimont, controls almost all of the broad gauge electrified network;
- VicTrack, controls the North Dynon Rail Terminal;
- V/Line, controls all other Victorian lines, predominantly the regional network, but also certain lines within the Dynon precinct and other broad gauge non-electrified lines within metropolitan Melbourne, including the entry to the Somerton intermodal terminal.

Although the metropolitan electric passenger service provided by MTM is almost exclusively controlled by METROL, freight trains typically involve management by multiple controllers during various stages of their journeys.

Alternatives

- Accept the current train control structure, which would involve multiple train control jurisdictions managing MFTN trains during each single journey.

Discussion

Ideally, a single operational regime would control both metropolitan freight and passenger trains throughout their journeys across the entire metropolitan network. This would help to ensure reliability and integrated train control, covering both passenger and freight trains.

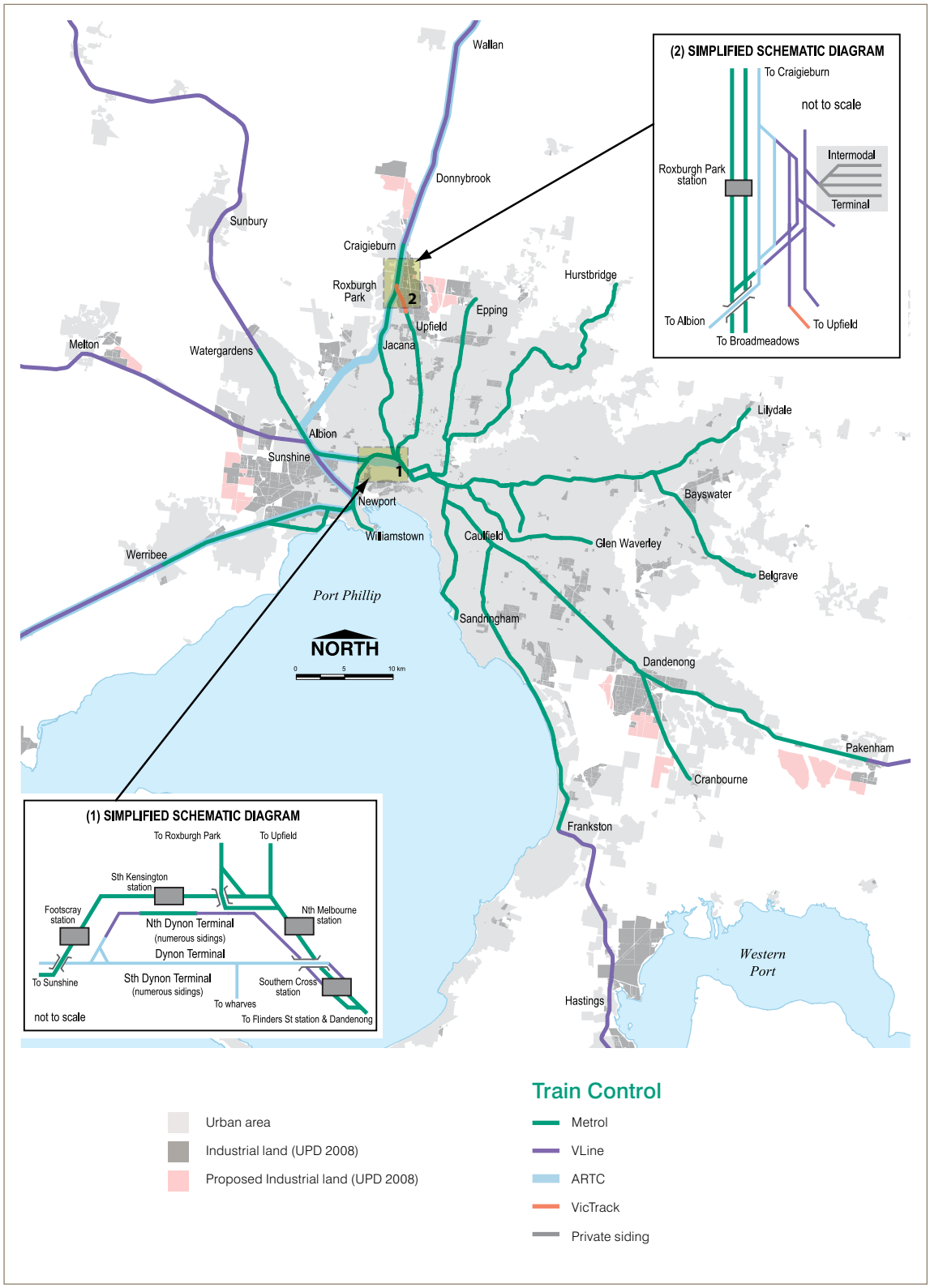
As, for the majority of the time, MFTN trains will be operating under METROL control, the ideal scenario would be for METROL to have exclusive control of all suburban train working – passenger and freight. In reality, this will not be universally possible, as MFTN trains will require ARTC approval to cross or operate on ARTC tracks, whilst V/Line Train Control has jurisdiction over line sections in the Dynon area.

However, unifying control under METROL is a worthy guiding objective, with departures from that objective being made only as absolutely necessary.

Therefore, all opportunities should be explored to minimise the number of jurisdictions involved in working MFTN trains.

Furthermore, the agreement of day to day "business rules", to ensure that METROL and ARTC accord MFTN trains the highest possible priority (recognising that passenger operations currently have legislated priority) and for ARTC control of MFTN trains, where this is unavoidable, will be necessary.

Train control juristictions



Source: Department of Transport

Proposition 9 *– The MFTN operations should be coordinated through a single integrated ICT operating system.*

Rationale

There are significant benefits to be gained from adoption of a unified ICT system shared by all participants, including customers, PUD operators, terminal operations, line-haul operators, access controllers, port-interface operators and stevedores.

Alternatives

- Terminal operators and transport providers might each choose their own preferred ICT systems.

Discussion

As noted in the discussion of Proposition 1, for the MFTN to be a successful alternative to the road-direct option, it must provide a level of service which is equivalent to or superior to road-direct.

The MFTN supply-chain is necessarily more complex than that of the road-direct mode, with multiple stages, operators, interfaces and use of external provider services. This exposes the MFTN to increased risk of poor co-ordination and interface issues which could adversely affect reliability.

A single, unified ICT system might include functionality enabling:

- accountable tracking of containers throughout their journey from "Port to door";
- the client to receive one quote and one invoice for a Port to door service offering;
- integrated management of MFTN supply chain operational segments, such as the port 'lift and stack', the line-haul movement, the MFT 'lift and stack' and the PUD movement (if any);
- efficient interface with major clients, such as distribution centres, warehouses and manufacturers, whether located within the terminal precinct or off-site; and
- efficient interface with key agencies, such as the Port of Melbourne Corporation, the stevedores, train control or VicRoads, (to, for example, pass on real-time information regarding MFTN train positioning to terminal operators).

9.4 The ownership and governance model

Proposition 10 *– The MFTN operations should be based on Government ownership of terminal land with terminal and associated PUD operations contracted to the private sector.*

Rationale

To provide an appropriate degree of public control and a contractable service package which delivers a cohesive local customer interface.

Alternatives

- Government ownership of the surrounding freight precinct land as well as the terminal;
- Private ownership of the terminal and surrounding freight precinct land;
- Structuring the terminal franchise as a 'build/ operate/transfer' or 'build/ own/operate/ transfer' arrangement.

Discussion

The Government already owns most of the components of the MFTN – Melbourne's rail and road networks, the Dynon rail terminals and the Port of Melbourne. This Discussion Paper proposes that the application of the "government landlord" model be extended to the remaining key component of the MFTN – Metropolitan Freight Terminals.

By 2035, the MFTN will effectively be an 'essential service', as in its absence Departmental modelling shows that key sections of the urban road system would become 'gridlocked', as is the case when the public passenger transport system does not operate. Further, the Government has a duty to ensure that the contracted terminal operators deliver an effective service and do not engage in monopoly pricing or behaviour.

The separate franchising of each terminal and associated PUD operations will provide "contractable" service packages which will help to deliver a cohesive local customer interface and permit benchmarking of performance between terminals.

A two-way relationship will exist between the MFTN terminal and the surrounding freight precinct – the presence of the terminal is likely to greatly enhance the value of the surrounding land. However, the capital costs of the terminal can only be commercially funded if some of this increased land value is transferred. Therefore, a mechanism to "capture the value" created by the MFTN in the land surrounding the terminals will be necessary.

Proposition 11 *– The MFTN line-haul operations, both road and rail, should be contracted or franchised to a single integrated operator.*

Rationale

To optimise train and truck fleet efficiency; ensure consistent, disciplined rail operations on the tightly timetabled shared metropolitan rail network (which is also franchised to a single operator); and promote efficient management of the movement of full and empty containers across the network.

Alternatives

- Franchise a single rail operator but not road operations (e.g. road operations could be managed separately, perhaps by each terminal operator);
- Retain the current un-franchised freight rail operating environment, whereby individual terminal operators, or individual clients, might be obliged to arrange their own rail services.

Discussion

Franchising a single rail operator would allow network efficiencies to be achieved by operating the minimum stock of locomotives and rolling stock necessary across the three corridors. It would also allow economies in train crew management, maintenance and the through working of trains to re-position empty containers.

A single MFTN rail operator is more likely to achieve an effective interface with the franchised suburban passenger operator, noting that this operator is responsible for train control and infrastructure maintenance across the suburban rail network.

Franchising a single MFTN line-haul operator – covering both road and rail – also appears to be the best way to optimise day-to-day and hour-by-hour container management (especially empty containers) on the MFTN. This type of intermodal container management is consistent with existing best practice in the freight and logistics industry.

Proposition 12 *– The MFTN should be oversighted by a single Government owned authority with an appropriate mandate and powers to undertake all necessary landlord and service contract/franchise management functions and to be responsible for the overall development and effective coordination of the network.*

Rationale

A single Government owned authority will bring a clear focus and sense to the establishment of the MFTN as a new public/private service and be in the best position to coordinate the many agencies, activities, powers and responsibilities required to achieve this.

This coordination task is a key factor in achieving a successful and sustainable MFTN and, therefore, a single agency would appear best placed to play the coordination role.

Alternatives

- Rely on the various existing Government agencies to cooperate and work with the private sector to plan, build and operate the MFTN;

Discussion

If it were the case that there was no role at all for Government in the MFTN, the Government would not be concerned with governance models which would be driven by the private sector.

However, a key conclusion from previous experience and other jurisdictions is that effective delivery of the MFTN in the Victorian context will require a significant degree of Government initiative and active cooperation between the public and private sectors. Very careful consideration of MFTN governance issues is therefore required.

This Discussion Paper invites comment on the proposition that a single agency is required to manage the Government's responsibilities in relation to the MFTN. If this proposition is supported, possible options in terms of the preferred agency or type of agency include but are not limited to, the following:

- the Department of Transport;
- Port of Melbourne Corporation (with powers extended as required);
- VicTrack (with powers extended as required);
- a new specific purpose joint venture or subsidiary of an existing agency; or
- a new specific purpose agency created by legislation.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Part E – Implementation issues

10 Start up and staging

The previous sections of this Discussion Paper set out a vision, underpinning propositions and rationales for what the 'hybrid MFTN' system for Melbourne could ultimately look like.

This provides a working template to guide implementation. However, this template will need to be regularly revisited and revised as lessons are learnt from early experiences with the new approach.

Importantly, it will be critical to establish a practical starting point and realistic staging strategy for the 'hybrid MFTN' which will enable the progressive start up of the new system and testing of its key concepts, without undercutting the ultimate vision.

Below are some considerations and suggested approaches which might be adopted in the early stages of the 'hybrid MFTN' implementation.

10.1 A 'proof of concept' staging approach

Despite all of the preceding discussion and analysis, the 'hybrid MFTN' remains, at this stage, a theoretical concept for Melbourne. As it also involves the potential commitment of significant Government and private sector funding to initiate and develop it over the next decade or so, implementation in a cautious, measured manner, without greater commitment of resources or assumption of risk than is necessary at any given stage, is warranted.

In the first instance, therefore, it is proposed that implementation activities involve Government formalising a process to seek out and negotiate with potential private sector partners prepared to participate in the piloting or trialling of agreed elements of the 'hybrid MFTN'.

This could involve, for example, the packaging and trialling of basic MFTN service elements between the Port and an existing terminal facility in one or more of the metropolitan freight corridors (to the west, north or south-east), initially operating independently of each other.

It is expected that these early trialling or 'start up' activities would require agreement to be reached between the relevant Government and private sector parties on the joint commitment of resources and allocation of risk prior to commencing. As well as agreement about planning and resource inputs, there would need to be clarity about shared objectives, timeframes, expected outputs/outcomes and decision criteria/pathways for proceeding to further stages of implementation.

The intent of this staged approach to early implementation is to both share and manage risk appropriately between the Government and the private sector and to prove the validity of key concepts and propositions underlying the 'hybrid MFTN' through real 'on the ground' application (and to revise them as necessary) prior to embarking more broad scale, resource intensive implementation.

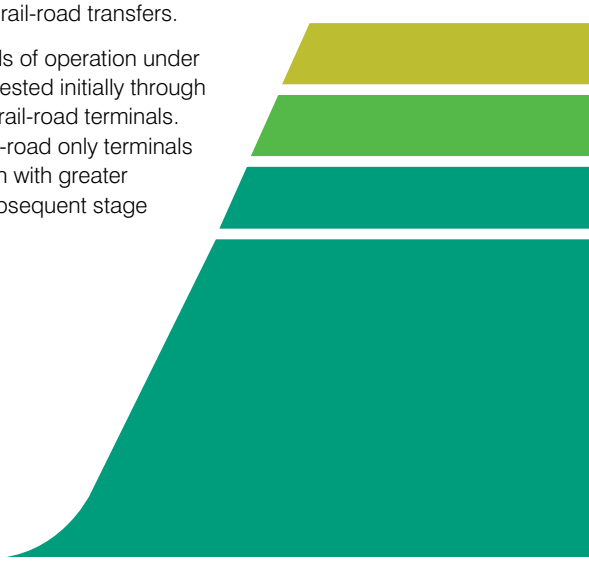
10.2 Rail-road versus road-road terminals

Although the 'hybrid MFTN' relies on both of these terminal types to generate full intermodal benefits and attract market share which would otherwise go to the traditional road-direct service model, it is proposed that the initial focus of attention should be on the establishment of the three key rail-road terminals in the west, north and south-east.

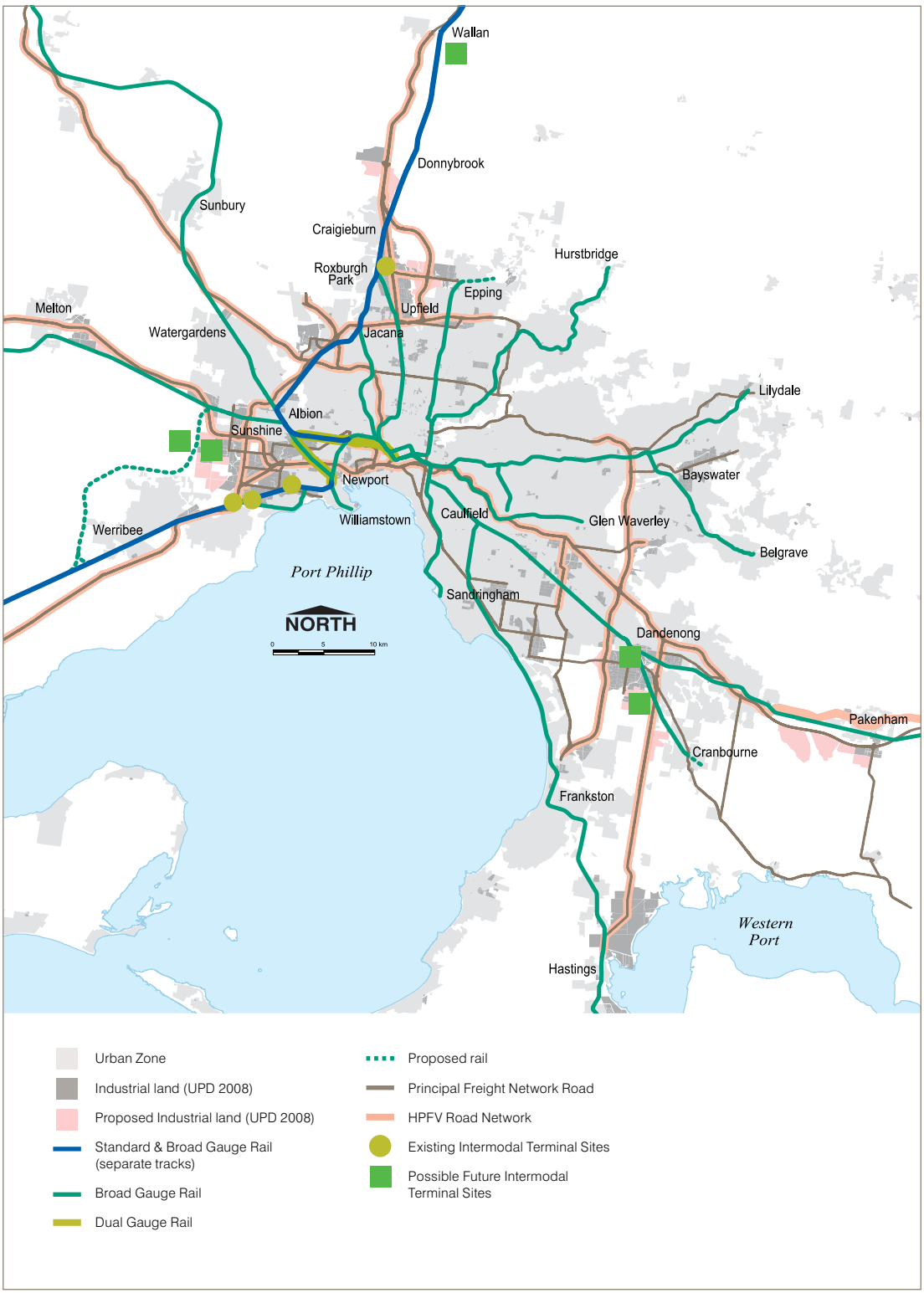
Because of their requirement for both rail and high capacity road connections to the Port and the larger land footprint needed to accommodate fixed rail as well as road operations, suitable sites for these terminals will be at a premium and need to be secured as early as possible. Road-road terminals will generally be smaller and easier to locate.

A further key advantage of commencing MFTN operations with rail-road terminals is the proposal that they be multi-functional, that is, able to handle road-road transfers as well as rail-road transfers.

This will enable both kinds of operation under the 'hybrid MFTN' to be tested initially through a smaller number of key rail-road terminals. Development of the road-road only terminals could then be undertaken with greater confidence through a subsequent stage of the MFTN roll out.



Existing and possible future suburban terminal sites



Source: Department of Transport

10.3 A terminal in the west

The Sd+D (*Melbourne Intermodal System Study* 2008) assessment indicated that establishing viable MFTN operations would be more difficult in the western suburbs, due primarily to the shorter road line-haul distances and, therefore, greater difficulty in competing with the conventional road-direct services.

Total volumes of port containers with origins/destinations in the west have, to date, also been lower than for the south-east, although the trend appears to be towards increasing flows to the west.

On the other hand, there are a number of existing private intermodal terminal facilities in the west, in the Altona area, which have the potential to host early start up MFTN operations.

These terminals are currently connected to the Port by standard gauge rail only, although they are adjacent to the broad gauge line and connections could relatively easily be established if required, subject to funding availability.

Planning is also underway for a major new intermodal terminal in the Wyndham area, further from the Port and more centrally located in relation to potential customers. However, this is a medium to longer term prospect and such a terminal is unlikely to be established and operational for some five to ten years.

Given these circumstances, an early stage of MFTN implementation could involve consideration of utilisation of one of the existing private terminals in the Altona area, subject to satisfactory resolution of 'open access' arrangements, rail gauge/track access issues and other initial MFTN system requirements.

10.4 A terminal in the north

Similar to the west, there is already a private intermodal facility established in the north, at Somerton. This facility has been planned along the lines of a 'freight village', consistent with the 'hybrid MFTN' vision, however it is currently only servicing road-road transfers as intermodal rail services have not proved viable to date.

A particular advantage of the Somerton terminal is that it has good access to both standard gauge and broad gauge rail track and could therefore be adapted readily to whichever gauge is ultimately selected for MFTN operation.

In the short term, it means that Somerton could either be paired with a new Dandenong terminal on the broad gauge network, or with one of the existing Altona terminals on the standard gauge network, to achieve efficient rolling stock utilisation for start up rail shuttle operations.

Although the line-haul distance from the Port to Somerton is slightly longer than to the existing western terminals, it is still relatively short meaning that the intermodal solution will be quite sensitive to competition from road-direct services. Early planning is underway for a major new intermodal terminal further to the north in the Donnybrook/Beveridge area, but this is an even longer term prospect than the proposed new western terminal.

It is therefore proposed that an early stage of MFTN implementation could also involve consideration of utilisation of the existing private Somerton terminal, subject to satisfactory resolution of 'open access' arrangements, rail gauge/track access issues and other initial MFTN system requirements.

As would be the case for the west, this would not preclude consideration of other terminal options in the north which may emerge through initial market sounding processes, although the fact that these private terminals already exist is clearly an advantage in terms of achieving early start up operations.

10.5 A terminal in the south-east

The situation to the south-east is significantly different to the west and the north.

According to the Sd+D (*Melbourne Intermodal System Study* 2008) analysis, a terminal in the Dandenong area to the south-east of Melbourne would have access to the largest volumes of port containers and would offer the greatest potential supply chain benefits over the current road-direct model, therefore having the greatest chance of achieving early commercial viability.

However, there is currently no established intermodal terminal in the Dandenong area (although a number of possible sites have been identified), meaning there would be a greater initial requirement for capital investment and possibly longer lead times required to start MFTN operations to this region than to the north or west.

The other key feature of the south-east is that it is currently only accessible on the broad gauge rail network. This is likely to remain the situation for the medium to longer term, until a case can be made for a dedicated standard gauge connection. This might be as a result, for example, of the need to connect an expanded Port of Hastings to regional and/or interstate networks.

Although it would be possible to initiate MFTN operations to a Dandenong terminal using HPFVs only, the opportunity also exists at a relatively early stage to trial broad gauge shuttle operations on the shared network, subject to acquisition of an appropriate train set and negotiation of train paths with the public transport access provider.

As noted, Dandenong MFTN operations also have the potential to be linked at an early stage to operations at Somerton, which also has a broad gauge connection.

It is therefore proposed that initial MFTN operations to the south-east focus on selection and establishment of a terminal site and the initiation of both road-road and road-rail line-haul operations.

10.6 The Port interface

In order to commence MFTN operations, it will be necessary to establish consistent, cost effective arrangements for transfer of containers between the stevedoring terminals at the Port and the line-haul services, either road or rail.

In the longer term, when volumes have grown and become sustainable, it is proposed that the Melbourne International Freight Terminal (MIFT) will be established on or near the current Wholesale Market site to the north of Footscray Road, to provide a single management and operational focus for intermodal transfers between the Port and line-haul rail and road operations.

In the interim, this task is most likely to be carried out utilising one or more of the existing 'on dock' terminals.

However, even during the start up phase of the MFTN operation, it is considered that this port interface function would be best managed by a single entity.

This entity could be contracted through a competitive tendering process and would take responsibility for negotiating transfer arrangements and pricing with relevant parties – in particular, the stevedores and the line-haul operator.

Establishment of practical port interface arrangements necessary to facilitate start up of MFTN operations to any or all of the suburban terminals will be a priority task in the early stages of implementation.

11 Government's role and related policy, planning, and regulatory issues

In addition to the range of possible infrastructure investment and service procurement activities which the Government might undertake in partnership with the private sector to initiate and develop the MFTN, the preferred 'hybrid MFTN' option incorporates a number of potential 'policy levers' which could be exercised by the Government to support it.

A consistent and conscious approach to the design and exercise of relevant, interacting policy initiatives may well be critical to the successful start up and ongoing viability of the MFTN.

Some key Government policy and planning initiatives and levers likely to be of relevance to MFTN implementation are set out below.

11.1 A freight infrastructure charge

Port Futures (2009) confirmed the Government's intention, first outlined in *Freight Futures* (2008, p63), to proceed with the design and implementation of a Freight Infrastructure Charge (referred to in *Port Futures* as a Road Freight Access Charge) to be applied to trucks accessing the stevedoring terminals at the Port of Melbourne.

This new access charge will effectively act as a road pricing mechanism, tightly focussed on the Port of Melbourne, with the twin aims of: a) contributing to public investment in improved transport network infrastructure to service the Port freight task; and b) encouraging more efficient and sustainable utilisation of this infrastructure.

It is expected that the design of the charge will be structured so as to encourage:

- better utilisation of trucks servicing the Port terminals;
- greater use of larger, more efficient trucks (HPFVs);
- greater use of rail; and, potentially;
- greater use of off peak and night time network capacity.

Clearly the design, quantum, manner and timing of implementation of the Freight Infrastructure Charge will have significant implications for the development and viability of the 'hybrid MFTN'. These two initiatives will require careful coordination.

11.2 National road user pricing reform

Freight Futures (2008, p65) states that the Victorian Government will *"support ongoing heavy vehicle national road pricing reform and implement these reforms progressively as they become available through national agreement by all jurisdictions"*.

The impending release of the Henry report into Australia's taxation regime may well also comment on and propose specific initiatives in this area.

Depending on the design of such initiatives, mass distance road pricing has the potential to improve the transparency and targeting of road charging across the broader road network and affect decision making with regard to the choice between road and rail. Within the road mode, it may promote the more efficient utilisation of road trucks for moving full and empty containers.

Again, such developments are likely to have significant implications for the development and viability of the 'hybrid MFTN' and will need to be closely monitored and coordinated.

11.3 Metropolitan rail access policy, pricing and practices

The cost and quality of the off-peak train paths required for MFTN container shuttles will be another key determinant of the viability of the rail operation and the take-up of this mode.

The MFTN will never be the main user of the metropolitan rail network, which is owned and funded by the Government. The need to cater for peak passenger demand will remain the primary determinant of the capacity and operational capability of the network.

The economic theory of pricing is that, in such circumstances, the lowest price of access for freight trains should be the marginal or incremental cost to the network provider – in other words, "what is the *additional* cost of operating a freight train in the off-peak?"

Commercial pricing practice would seek to recover a contribution toward the cost of the capital assets involved (e.g. the tracks, signalling, etc) and a margin of profit.

However, just as public transport services are initiated by the Government in pursuit of public policy objectives, such as improved urban efficiency, safety, amenity and sustainability, the Government may also have an interest in encouraging metropolitan rail freight. It might be argued that rail access pricing for MFTN trains should be determined in this light.

Priority for passenger operations on the rail network is established in Victorian legislation. However, policy judgements must still be made regarding the extent to which freight trains are granted access to the network.

It will be important for the Government to review metropolitan rail network pricing, access policy and practices to ensure that the cost to and priority for MFTN trains is consistent with Government transport and urban policies.

11.4 Structure of charges for Government owned MFTN assets

Under the proposed 'hybrid MFTN' model, the Government might own and supply certain components of the MFTN, such as the terminal sites. The Government agency responsible for the MFTN will wish to make a financial return on these assets, as a minimum to fund major periodic maintenance and asset renewal.

However, the Government is able to invest in such assets in recognition of the external community benefits which will flow from the MFTN, such as increased urban safety and amenity.

Therefore, the Government could consider structuring asset leasing charges in such a way as to provide early assistance to the start-up MFTN. This might involve structuring leasing charges based on utilisation, rather than a 'straight line' monthly cost of capital.

11.5 Terminal site selection and land use planning

Under the proposed MFTN model, there is clearly a key role for Government in identifying and securing outer suburban sites for the principal terminals which will form the basis for the system.

Once suitable sites have been determined, this will require the Government to secure them through a combination of appropriate zoning and, potentially, land acquisition processes.

Design Proposition 3 also indicates that the MFTN terminals should be located within larger, clearly defined freight precincts which are planned and regulated to promote the efficient provision of complementary freight services and to offer customers the option of co-location.

The extent to which this can be successfully achieved, by using the Government's power to plan land-use and the private sector's ability to attract appropriate tenants to locate within the terminal precincts, will have a very significant impact on the overall viability of the MFTN.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Part F – Processes for engagement and delivery

12 Consultation activities and procurement considerations

This Chapter outlines broad processes by which the Government proposes to:

- engage with key stakeholders – and, in particular, potential private sector partners – to test and verify the key design propositions detailed above; and
- move forward to secure effective partnerships with the private sector to deliver the MFTN.

Given the clear conclusion reached by a number of previous studies and this Discussion Paper that a partnership between Government and the private sector is essential to the achievement of an efficient and viable intermodal system in metropolitan Melbourne, it is vital that the engagement and procurement processes adopted by the Government are effective and productive.

Key success factors in this regard will include:

- conduct of the engagement and procurement processes in an equitable manner;
- optimising the respective roles of Government and the private sector in delivering the MFTN;
- achieving the desired outcomes at minimum cost and risk to the participants;
- delivery of outcomes in the shortest possible time without jeopardising probity, equity and the management of risk; and ultimately
- achieving an efficient, viable and sustainable MFTN.

The Government considers that stakeholder input on 'how to get there' is as important as input on the proposed design of the MFTN. For this reason readers' comments and suggestions are actively sought on the process proposals set out below.

12.1 Consultation on the Discussion Paper

The preceeding three chapters have outlined the current state of the Government's thinking on the design and operation of an MFTN for Melbourne.

A key means of filling information gaps and testing propositions is to expose the Government's thinking to wide comment and debate. The main purpose of this Discussion Paper is to act as a basis for this process of public consultation.

The Government is, therefore, asking for readers' comments on the overall approach set out, the 12 specific propositions put forward and any other relevant matter, including for instance, what the reader might consider to be important omissions from the Paper.

Another means by which the Government proposes to test its thinking is to conduct a series of workshops. These workshops will offer an opportunity for an interactive discussion of the 'Key Design Propositions' and related issues set out in the Discussion Paper with a wide variety of stakeholders.

These workshops will be targeted at particular audiences or stakeholder segments, for example:

- Outer metropolitan communities where freight terminals are likely to be located (e.g. broad participation workshops focussed on the Dandenong, Somerton or Altona/ Laverton areas);
- Transport and logistics industry stakeholders with an interest in the MFTN, either on a regional or Melbourne wide basis (which would be likely to focus more on technical issues); and
- Local government and other Government agencies (focusing on land use and transport planning and integration issues).

At this stage, it is anticipated that these workshops will be run in mid 2010.

The Government anticipates that readers' comments on the Discussion Paper, in combination with the workshop process, will assist in resolving key design issues and confirming areas where further technical research and development are required.

12.2 Finalisation of the MFTN strategy

This consultation and further development process will inform the completion of a final Government policy statement on the implementation of the MFTN.

The final MFTN Strategy document will coalesce all of the previous research, consultation and policy development and provide a clear statement about the design of the MFTN; the respective roles of the Government and private sector; and an implementation pathway and timetable.

This does not imply that further development of the MFTN concept, or amendments to it, will not be possible. On the contrary, the Government has in mind a process which will facilitate fine tuning of the MFTN program as it progresses toward becoming an operating reality.

12.3 Registrations of interest

To this end, following release of the MFTN Strategy, the Government, through the Department of Transport, will invite submissions through a broad based Registration of Interest (RoI) process from parties wishing to explore partnering with the Government to plan, build and operate the MFTN.

It is not proposed that this RoI will lead directly to shortlisting and selection of preferred operators. Rather, the process will be designed to ask "who's interested in talking to us about becoming involved in the MFTN?" The benefit for the Government and, therefore, the community, is that the widest possible sources of interested advice are identified. The advantage for the industry is that nobody is left out who might wish to explore – without commitment at this stage – the prospect of becoming involved in the MFTN.

Naturally, as discussions proceed, both the Government and private sector players will progressively increase their level of commitment. The Government will firm up both the design of the MFTN and the funding allocations which will be necessary for Government to meet its obligations under the partnership arrangement.

Similarly, the private sector parties will decide whether they wish to proceed further and some may decide to withdraw from the discussions. Those that remain engaged in the process will consider the nature of their involvement in building and operating the MFTN and the level of financial investment, reward and risk which they anticipate from their involvement.

12.4 Formal tendering processes

It is not until this stage that it is anticipated a more formal tendering process will occur, with proposals being sought for the various components of the MFTN implementation and operation (e.g. terminal development/operation, line-haul operations, ICT system development).

It is likely that this process will be run by the Government owned entity appointed to take responsibility for the MFTN, rather than the Department.

This process will deliver a short list of preferred MFTN operators with whom the Government will negotiate and, ultimately, firm contracts or franchises with the private sector to build and operate the MFTN.

Each of these contractual arrangements will have agreed performance targets, rewards and penalties with specific contract renewal or re-tendering provisions at their conclusion.

This is essential to give all parties a clear understanding of the periodic market-testing process which will ensure that, at regular intervals, freight clients and the community benefit from re-negotiation of the MFTN operating rights and an injection of new thinking and initiative into the management task.

12.5 Terminal locations

It is important to note that at the commencement of the above processes, the Government's view is that the MFTN will be based on a combination of rail-road terminals and road-road terminals. At this stage, the Government's primary interest is in the larger and more critical rail-roal terminals, of which, at least initially, there will be only one located in each of three outer metropolitan areas to the west, north and south-east.

The Government is aware of a number of potential sites in each of these areas but does not propose to finally settle the sites ahead of further engagement with the marketplace. Indeed, a key outcome of the above consultation and market sounding/testing processes will be the progressive shortlisting and ultimate confirmation of final sites for the principal rail-road intermodal terminals in each of the these areas.

12.6 Summary of key milestones

In summary proposed consultation and procurement process could be expected to follow the following general sequence:

- Release of Discussion Paper
- Stakeholder workshops
- Submissions received
- Refinement and finalisation of MFTN proposals
- Release of final MFTN Strategy
- Registrations of Interest
- Discussion with registrants/further refinement of proposals
- Formal tendering process
- Letting of contracts/franchises
- Delivery of agreed infrastructure
- Commencement of MFTN operations


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Conclusion

This Discussion Paper sets out the challenges facing Melbourne as its population and related freight task grows rapidly over the coming decades. It describes a new 'intermodal' approach to moving the growing volumes of port related containerised freight around Melbourne.

The approach proposed is not only new in the Melbourne metropolitan context but also unique in the broader national and international contexts. Consequently, some of the thinking it contains might be seen as contentious or as running counter to 'conventional wisdom' and some of the propositions and conclusions are necessarily untested and unproven.

Recognising this, the Government is keen to hear the views of interested stakeholders on key aspects of the Paper, including its factual basis, analysis, arguments and conclusions. Indeed, the main purpose of this Discussion Paper is to stimulate constructive comment and feedback on these matters.

The Government does not wish to be particularly prescriptive about the form that the feedback takes – verbal, email, written are all welcome. However, where possible, written submissions are likely to be of most use.

Whilst there is no formal template for making a written submission, the structure of the Discussion Paper – with parts A-C primarily dealing with background and scene setting and Parts D-F setting out options and proposals – suggests the following sorts of questions as a broad guide.

Questions to Consider

Parts A-C

Setting The Scene

- Do you think that the objectives and scope of the Discussion Paper are appropriate? If not, what would you change?

The Case For A Metropolitan Intermodal Solution

- Do you think that the need for an intermodal solution is adequately demonstrated?
- Do you think the benefits of an intermodal solution are adequately explained?
- Do you agree that there is potential market demand for an intermodal system in Melbourne?

Local, Interstate and International Experience

- Does the description of the Melbourne intermodal experience to date accord with your understanding?
- Are there any other examples of intermodal operation (either locally, nationally or internationally) that you think may be relevant?

Parts D-F

High Levels Options for the MFTN

- Do you agree that the 'hybrid MFTN' option is best?
- Do you think that one of the other high level options, or another option altogether, is preferable to the preferred option (i.e. the 'hybrid' option)?
- For each of the 12 key design propositions:
  - Do you find the rationales provided convincing?
  - Do you find any of the alternatives provided preferable to the proposition itself? Which ones and why?
  - Do you think the proposition is simply not feasible or unrealistic? Why?
- Do you think there are additional propositions that may be needed? What are they?

Implementation Issues

- Do you think that the 'proof of concept' staging approach outlined in the Paper is the right approach to MFTN start up?
- Do you have any comment regarding terminal site selection in the west, north and south-east?
- Do you have any comment about the Government policy and regulatory levers outlined in the Paper and how they might be used to facilitate the MFTN?
- Are there other policy levers available to Government not discussed in the Discussion Paper that you believe should be considered?

Processes for Engagement and Delivery

- Do you think that the consultation and engagement processes outlined in the Paper are appropriate?
- Do you think that the broad approach and sequence of steps relating to procurement and implementation of the MFTN are appropriate?

Written submissions should be lodged either electronically:

- freightfutures@transport.vic.gov.au

or by post:

- Department of Transport, Freight Logistics and Marine Division,
  Level 11, 121 Exhibition Street, Melbourne Vic 3001.

The closing date for submissions is **30 September 2010.**

As noted, in the intervening period, the Department intends to run a series of workshops with interested industry, community and government stakeholders to allow for clarification of issues and to stimulate further discussion and debate.

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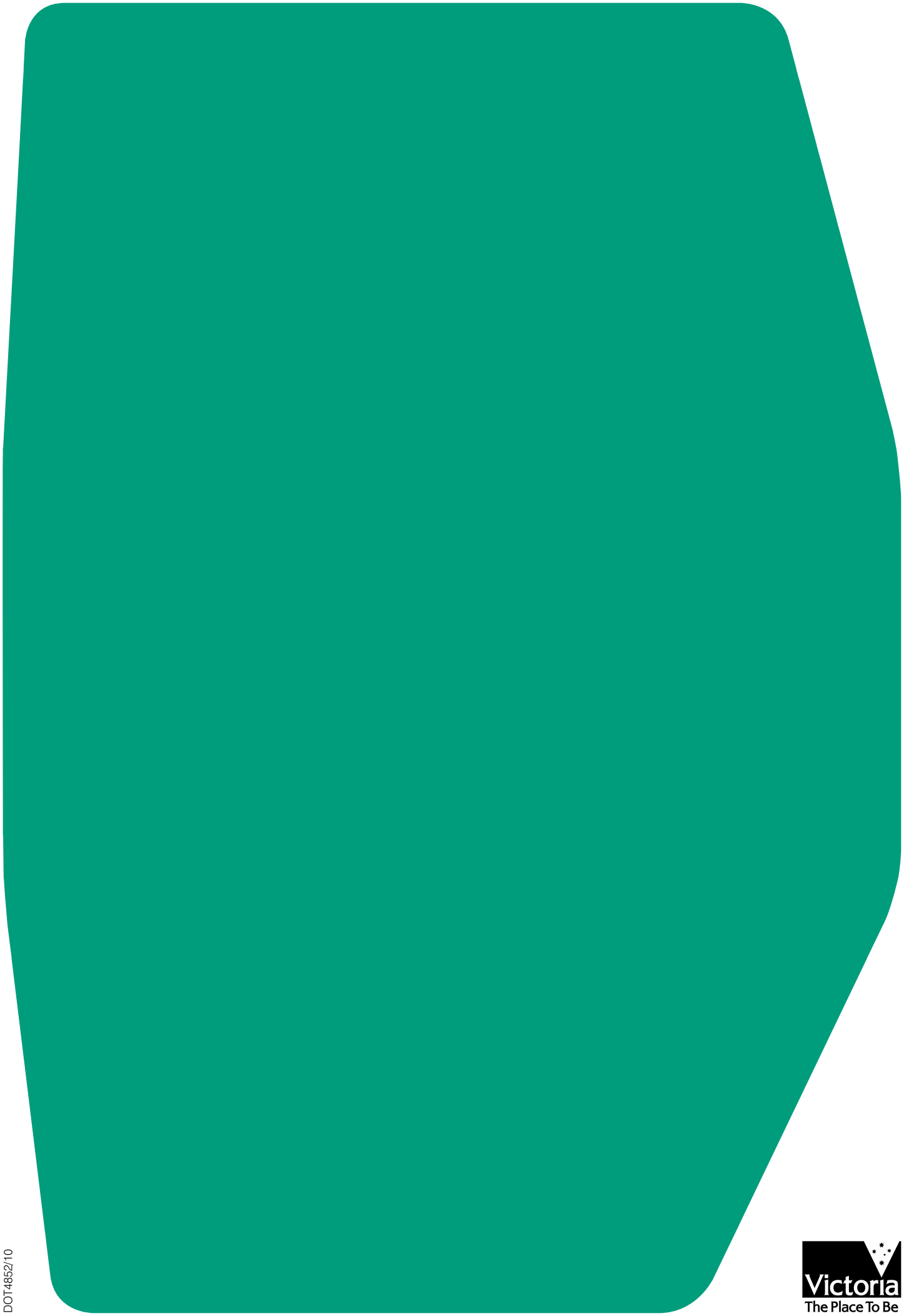

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