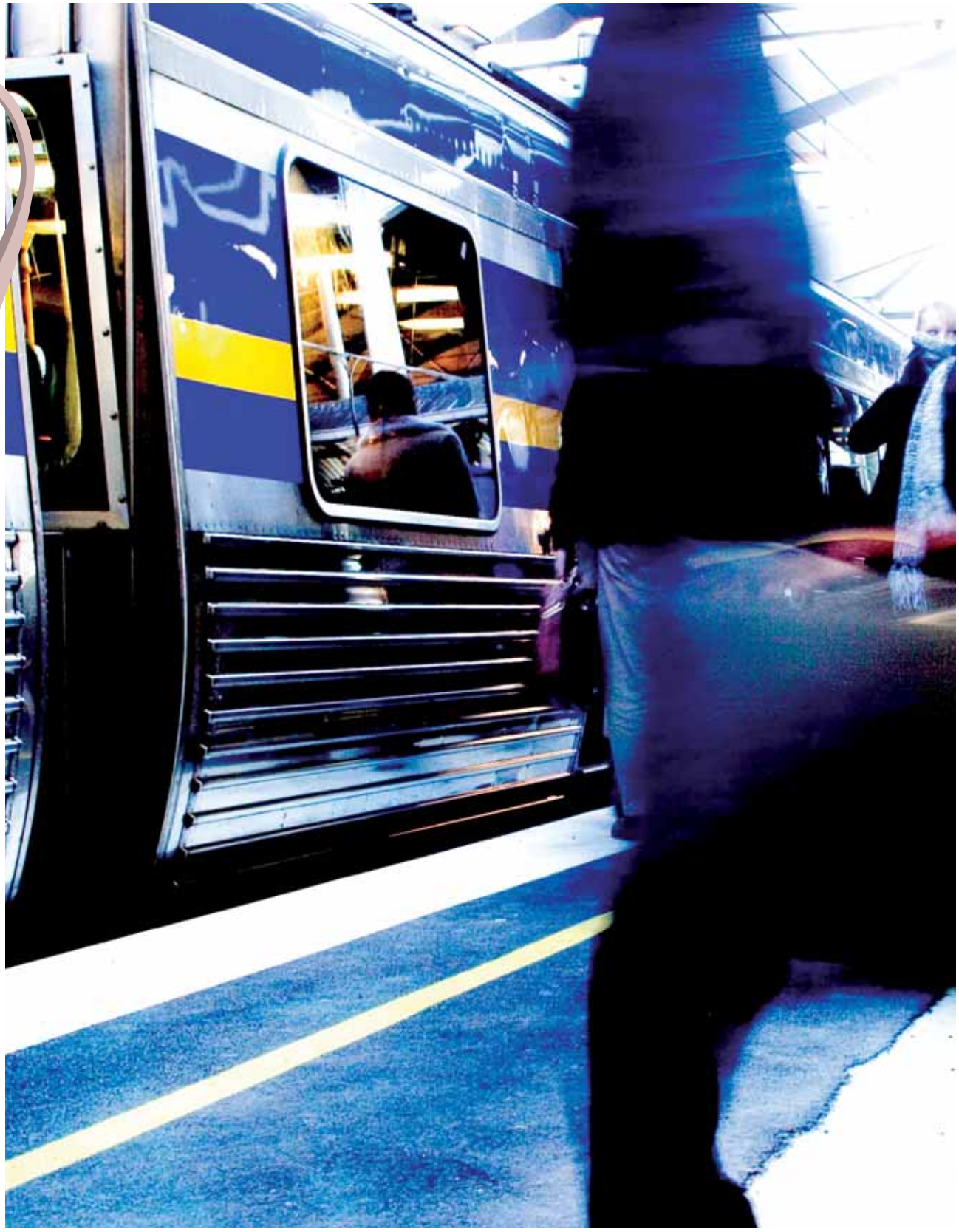
investing in transport

OVERVIEW East West Link Needs Assessment March 2008



The Hon. John Brumby MP
Premier of Victoria
1 Treasury Place
Melbourne VIC 3000

Dear Premier,

In 2006, I was asked by the Victorian Government to conduct an investigation into the best transport solutions for connecting Melbourne's eastern and western suburbs. I accepted this challenge because I am very conscious of the importance of a modern, quality transport network to the future prosperity of Melbourne and Victoria. As a resident of Melbourne, I am also passionate about making sure that our city remains an attractive, liveable and successful place as it continues to grow.

I am very pleased to present my report – Investing in Transport – to you and the government.

I have set out my recommendations – and the evidence supporting them – in my extensive main report. I am also releasing an Overview document that summarises my findings and recommendations. In addition, I am making available online a number of very detailed supporting documents and reports.

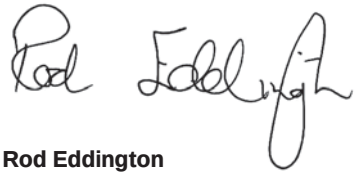
I would like to extend my personal thanks and appreciation to the Study Team that has so capably and enthusiastically supported me throughout this investigation:

Andrea Brown	Kristy Heaney	Matt Phelan
Tony Canavan	Mark Knudsen	Geoff Rayner
Jacqueline Flitcroft	Andrew Korr	Leanne Seddon
Graham Gosby	John Matthews	

I would also like to thank the many individuals, organisations, community groups and local councils who made submissions to the study – as well as those who gave their time to assist me during site visits and consultations. I particularly thank the Victorian Government Inner Agency Advisory Group and its chair, Alf Smith, for their valuable contribution, and the specialist consultants and other advisors who provided important input to the study.

The recommendations contained in this report are my own. I know that the major transport infrastructure projects are both expensive and disruptive, but cities with inadequate transport networks pay a high economic and social cost. I hope everyone recognises that as they debate my recommendations.

I trust you will find my report informative, and a useful contribution to future transport investment in Melbourne.



Rod Eddington
Melbourne
March 2008

This Overview presents a summary of the key findings, analysis and modelling undertaken by the East West Link Needs Assessment (EWLNA), as well as recommendations made by the EWLNA to the Victorian Government. A comprehensive discussion of these issues is contained in the EWLNA main report and in specialist consultant reports prepared for the EWLNA. These reports are available from the EWLNA website at www.doi.vic.gov.au/eastwest

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introduction: sir rod eddington

The Melbourne of today is a successful city. That success is built in part on the transport decisions and investments made by previous generations – and it is a legacy that has served Melbourne well.

Making the right decisions about the future of Melbourne's transport network is about much more than predicting and providing for greater travel movements over the coming decades. It is about the significant economic, social and environmental benefits that will be generated by the appropriate transport infrastructure. It is also about investing in the transport connections needed to support the development of a more innovative, competitive and sustainable city.

In 2006, the Victorian Government asked me to investigate the best solutions for improving transport connections across Melbourne's east-west corridor. In meeting this request, I have taken the view that the East West Link Needs Assessment (EWLNA) should be more than another transport planning study. That is why I have adopted an approach that explores not only existing and future travel patterns, but also the economic and structural changes influencing those patterns and the types of journeys that will drive Melbourne's economy and shape the future of the city.

I have identified a number of factors that will be critical to Melbourne's growth and prosperity over the next 30 years:

- Melbourne's strong economic and population growth means that there will be a very substantial increase in demand for travel – by public transport and by private motor vehicles. It also means substantial growth in the volume of freight being moved around Melbourne and to and from the city's ports and airports.
- The nature of Melbourne's economy is changing. The city's economic success is increasingly less dependent upon traditional industries such as manufacturing and more dependent upon 'knowledge' and 'business' services. This shift to a services economy is generating different patterns of travel to ensure good access to skilled workers, to other services, to business clients and to national and international markets.
- Networked cities are the cities of the future. In the years ahead, Melbourne will need a flexible, fully connected transport network to reduce road and rail congestion and to support the economic journeys that are critical to a modern economy.
- The vibrancy and strength of central Melbourne will continue to be critical to Victoria's prosperity. Many high income, highly sought after jobs will continue to be located in the CBD and inner urban region (including growing precincts such as Parkville and Docklands). This will place further pressure on peak period transport connections to the central city.
- Melbourne's density is an important factor in its future success. More dense and compact cities generate less demand for travel and save on infrastructure costs – savings that translate into improved competitiveness and stronger economic growth.
- Melbourne's long-term prosperity will require the city to find new ways to succeed and grow in a carbon-constrained world. Higher levels of investment in public transport are vital, as is the development of urban areas that are conducive to walking and cycling. However, the evidence is clear that the number of trips made by car in Melbourne will increase by a substantial amount for the foreseeable future – and the city's road network must be able to cope with this increasing demand in an efficient and sustainable manner.

These 'future signposts' provide guidance about where transport investments will generate the most value for Melbourne. They also have specific implications for the EWLNA. In particular, I have taken the view that any transport proposals put forward by the study must make a substantial contribution to:

- Improving opportunities in Melbourne's west and supporting the strong population growth taking place in the west. As analysis undertaken for this study shows, Melbourne is a city with a significant east-west divide. Aside from historic issues of social disadvantage, this divide leads to reduced opportunities for jobs and business growth in the west.
- Supporting the growth and consolidation of Melbourne's 'knowledge centre' around Carlton and the Parkville precinct. This area, with its unique concentration of world class research institutes, teaching hospitals and universities, will be critical to Victoria's leadership in industries such as biotechnology, medical research, health services and education.

I am very conscious that this report comes at a time of heightened interest in, and awareness of, climate change. My strong view is that we must move towards a situation where substantial cuts in emissions are made by the transport sector and where transport users meet all their external environmental costs. The full range of measures needed to achieve this goal is beyond the scope of this study; however, I share the views of the Stern Review and others that the significant social and economic benefits of transport must be acknowledged in assessing how, where and when emissions reductions should occur.

The EWLNA Study Team has also assessed the environmental impacts of all options considered by the study, as well as giving close attention to issues of community and neighbourhood amenity.

As required by my terms of reference, the Study Team has fully explored the existing and potential demand for travel across Melbourne and within the Study Area. I have taken into account the characteristics valued by Melburnians as they move around the city: reduced travel times, reliability in travel times, reasonable costs, comfort, safety and security. I have endeavoured to strike a balance between the high value Melburnians place on their personal mobility and the economic, social and environmental factors that will secure Melbourne's future success.

I want to make clear that I do not support – and I have not adopted – a 'road versus rail' approach to transport planning. I do not consider this to be a helpful or realistic distinction. Instead, I have examined which modes of transport best fit the journeys that are important to Melburnians: for example, rail services are clearly effective at getting large numbers of people to and from workplaces in the central city, but are much less effective at meeting other travel needs. Instead of favouring one mode over another, I have looked for the right combination of modes that offer the best options for meeting Melbourne's east-west transport needs over the next 30 years. For these reasons, I have focused strongly on increasing access to the central city by public transport.

I have made two major infrastructure recommendations:

- A new 17 kilometre rail tunnel linking Melbourne's fast-growing western and south-eastern suburbs – a generational 'step-up' in the city's rail capacity and Melbourne's first 'metro' style passenger line
- A new 18 kilometre cross city road corridor that provides a much-needed alternative to the West Gate Bridge, while also delivering substantial economic, transport and amenity benefits to Melbourne.

I have also recommended a number of smaller initiatives that will help to address transport issues in the east-west corridor.

In making these recommendations, I have developed options that focus first on solving current transport problems, but that will also contribute to fixing future problems. I have also aimed to develop options that make better use of Melbourne's existing transport infrastructure and that leave open opportunities to build further on that infrastructure in the future.

It is important to understand that (as directed by my terms of reference) my report is not intended to be a list of transport priorities or a broad transport strategy for Melbourne or Victoria. My recommendations focus on new east-west connections within a defined Study Area and I believe there is a strong case for the initiatives I am proposing.

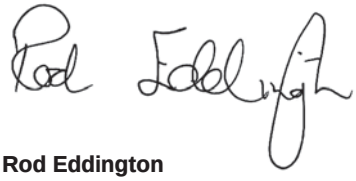
It should also be noted that the infrastructure projects I have recommended come with major construction impacts, something that is unavoidable when 'retro-fitting' large-scale transport projects into the middle of an established, modern city such as Melbourne. While most of these impacts are temporary, Melburnians need to make some critical decisions about whether they are prepared to endure this short-term disruption for the long-term benefits these projects will deliver.

The Victorian Government also needs to make critical funding decisions if it is to meet growing community demands for improved transport, particularly public transport. New sources of funding will need to be found – including increased state borrowing and other potential revenue options that I have identified in my report.

My recommendations are grounded in extensive research and modelling carried out by the Study Team and a group of expert consultants. They take into account the many submissions forwarded to me by individuals, local councils, community organisations and business groups. I thank all those who made submissions to the study and those who met with me or members of my team. I recognise that not everyone will agree with my recommendations, but I believe they deserve fair consideration as a balanced and measured response to tackling some of Melbourne's major transport dilemmas.

The evidence is clear: doing nothing is not an option. Melbourne needs better east-west transport connections to address core congestion problems within the transport network, to meet rapidly increasing travel demand, to support a growing population and to keep pace with the changes taking place in the city's economic and urban structure. The evidence is also clear that a failure to take action will undermine Melbourne's future prosperity and reduce the benefits being generated by the city's growth and development. Yes, the cost of improving these transport connections is substantial – but the cost of inaction is far greater.

Making transport decisions that extend well into the future requires bold thinking. I believe that my report reflects such thinking and planning – and that my recommendations represent the 'next generation' of transport investment needed to secure Melbourne's continuing success. I strongly believe that by taking these actions, we will not only ensure that Melbourne is much better placed to manage rapid growth and change – we will also create a very significant transport legacy for the city's future.



Rod Eddington
Melbourne
March 2008

a 'generational step-up' in transport

More people living in Melbourne means more people travelling around the city.

With at least 4.5 million people expected to call Melbourne home by 2031, there will be more cars making trips on the roads, more people using public transport, more commuters needing to get to work each morning, and more and more goods moving through the city. For Melbourne to remain an attractive, liveable and successful city, it needs a transport system that can keep up with this growth.

Melbourne's economy is also changing rapidly – shifting away from traditional areas such as manufacturing towards services industries and industries with a high-technology base. This shift is changing the trips that are important to Melburnians, with more emphasis on face-to-face business contacts, 24-hour service, fast and efficient international connections and the provision of services directly to customers in their homes and workplaces.

Melbourne's central city is enjoying a great period of residential, business and jobs growth, generating an increasing demand for travel to and from the CBD every day. Melbourne's west is also undergoing a major transition and is struggling to manage strong population growth with limited transport links to the central city, the eastern suburbs and the Port of Melbourne.

More people also means more goods needing to find their way to, from and across Melbourne, with very large increases forecast for freight movements within the city, the number of containers moving through the Port of Melbourne and the amount of freight being carried by road.

These changes raise many economic, social and environmental challenges. In particular, as Melbourne moves ahead at a rapid rate of growth and change, the city faces some difficult decisions about its transport future. Melbourne must make sure that its transport network continues to be a major asset for the city and Victoria, and does not become a hindrance or barrier to success.

For these reasons, in developing options for the east-west corridor, the East West Link Needs Assessment has combined extensive modelling of current and future travel demand with an assessment of the 'city shaping' power of new, large scale transport projects. The EWLNA has aimed first to identify and address current problems within the transport network. Secondly, the study has explored options that will also contribute to tackling future transport problems. Finally, the study has paid careful attention to how Melbourne and Victoria will 'earn a living' over the next 30 years and the cross city transport links that will do most to support the future drivers of Melbourne's liveability and prosperity.

The EWLNA has found that:

- As Melbourne grows, the demand for travel in the city will outstrip the existing and planned supply of transport infrastructure
- There is a substantial and growing demand for cross city travel by rail and road – and there is insufficient capacity on the rail and road network to meet this demand.
- The failure to meet this demand will have far-reaching and negative implications for the city and its residents.

The evidence is clear

As it faces the prospect of at least an additional 1 million residents over the next 25 years – perhaps as soon as 2020 – Melbourne has no choice but to make a 'generational step-up' in transport investment to secure the city's future.

doing nothing is not an option

One message came through loudly, clearly and constantly during the EWLNA consultations: do something.

This call to action is reinforced by the modelling, analysis and investigation conducted by the EWLNA, which found that the consequences of doing nothing to improve Melbourne's cross city transport connections would be significant. The EWLNA has identified the implications of a failure to take action as:

Constraints on economic development and jobs growth

Without an efficient, reliable, fully connected transport network, Melbourne's successful shift towards a knowledge-based services economy will be undermined. The failure to provide the connections Melburnians need to move around the city will have particularly negative consequences for maintaining strong business and jobs growth in the CBD and for generating new opportunities in the west. It will also affect Melbourne's ability to attract and retain skilled workers, as residents become tired of congested roads and overcrowded public transport.

A rail network that 'hits the wall' within a decade

Train travel in Melbourne is experiencing a major resurgence – one that is putting the city's rail network under great pressure during peak periods. Even if this recent growth slows down, moderate levels of growth will lead to systemic failures in the rail network, with more overcrowding and a further decline in reliability on the busiest lines. The failure to tackle this problem means that the city's busiest rail lines will 'hit the wall' (with demand outstripping available capacity) some time in the next 10 years. It will also constrain business growth in the central city, reduce the incentive for people to curtail their car travel and limit future opportunities to extend the rail network into new, high growth areas. As the city's population grows, the rail network must be expanded.

Shutting out the west

Melbourne's western suburbs face major challenges in supporting strong population growth with inadequate transport infrastructure. In addition, this population growth is not being matched by growth in local jobs, meaning that many residents have to travel further for work – placing increasing pressure on the limited routes available to travel from the west to the central city and across town. Doing nothing to improve connections to and from the west will further entrench Melbourne's significant east-west divide and severely constrain investment, business and employment opportunities in the city's western suburbs. In turn, this will have a negative, flow-on effect on the entire city economy.

An over-reliance on the West Gate Bridge

Melbourne cannot afford to continue its over-reliance on the West Gate Bridge. At present, the city's transport network is highly vulnerable to constraints and disruptions on the bridge. In the longer term, a major incident that renders the bridge unavailable for an extended period of time will have potentially catastrophic economic repercussions that would extend well beyond Melbourne. Growing congestion on the bridge during peak periods is also having negative economic and business impacts. There is a need for an alternative to the bridge.

More congestion on cross city routes

There is a strong and growing demand for trips across the city. If no action is taken to improve cross city road connections, there will be much higher levels of congestion on the city's major east-west arterial roads, generating substantial additional costs for business and industry and causing delays, unreliability and slow travel times for commuters. The efficiency of some of the city's most important economic journeys will be jeopardised, reducing Melbourne's competitive edge and ultimately constraining economic growth and development across the city. Local communities will also suffer reduced amenity as 'rat running' to avoid congested cross city routes leads to more cars and trucks on suburban streets.

More costly, less efficient freight movements

Unless action is taken to manage Melbourne's rapidly growing freight task more efficiently, significantly higher costs will be incurred by business in moving goods around the city, as well as nationally and internationally. A less efficient freight network will have a highly negative impact on Melbourne's and Victoria's competitiveness. It will also result in more trucks using local streets, leading to declining community amenity.

More GHG emissions

The transport sector will continue to make a significant – and escalating – contribution to GHG emissions unless action is taken to improve public transport patronage, change people's travel and car purchasing behaviour, develop a higher density city, and encourage the take-up of new vehicle technologies.

Doing nothing is not an option

The consequences of 'doing nothing' are negative and far-reaching. They will threaten Melbourne's future economic success and liveability. Substantial new investment is needed in the transport network to avoid these consequences, support the changes taking place across Melbourne and help to open up new jobs and business opportunities across the city.

recommendations

The EWLNA is making 20 recommendations, which are listed below. Full details of these recommendations are set out from page 67.

Recommendation 1

Planning work should commence for the staged construction of a new 17 kilometre Melbourne Metro rail tunnel linking Melbourne's booming western and south-eastern suburbs and providing a major increase in the capacity of the rail network.

Recommendation 2

The Victorian Government should bring forward the construction of a new rail connection from Werribee to Sunshine (the Tarneit link) to significantly improve the frequency and reliability of services from Werribee, Geelong, Ballarat and Bendigo.

The Government should commit to using the new rail tunnel and Tarneit link as the foundation for extending the metropolitan rail network further to the west within the next 15 years.

Recommendation 3

During the planning and construction of the rail tunnel, the Victorian Government should continue to make better use of the existing network to increase capacity, including commencing work on the electrification of the network to Sunbury to boost services on the Sydenham line.

Recommendation 4

Planning work should commence on the staged construction of a new 18 kilometre cross city road connection extending from the western suburbs to the Eastern Freeway.

Recommendation 5

Community amenity in the inner west should be restored by implementing a Truck Action Plan to remove truck traffic from local streets in the inner west. The plan should include a series of targeted road improvements that form an effective bypass around residential areas, reinforced by local truck bans.

Recommendation 6

Public transport to the Doncaster region is best provided by rapid, high quality bus services, additional bus priority measures and a major new bus-rail interchange at Victoria Park. To deliver this standard of services, the DART upgrade announced in the 2006 *Meeting Our Transport Challenges* plan should be introduced as soon as possible, along with additional service enhancements and bus priority measures undertaken in conjunction with Recommendation 4.

Recommendation 7

A number of specific links should be progressively built to improve cross city cycle connections and cater to the growing number of Melburnians cycling to work.

Recommendation 8

The Victorian Government should work with local councils and relevant agencies to escalate city-wide implementation and enforcement of priority measures for trams and buses.

Recommendation 9

A dedicated fund should be established to facilitate the development of Park & Ride facilities, with priority given to improving access to rail services in Melbourne's west and facilitating public transport patronage in the Doncaster corridor.

Recommendation 10

The Victorian Government should re-evaluate its 30/2010 rail target (which aims to move 30 per cent of freight from and to all Victorian ports by rail by 2010), given the clear finding by the EWLNA that it cannot be met. The Government should create a new strategy and work with industry to develop and implement a detailed action plan for moving more freight by rail.

Recommendation 11

The Government should take action to increase rail's share of freight by:

- Ensuring the development of a single, common user, interstate, intermodal freight terminal north of the city on the Melbourne to Sydney rail corridor
- Developing the standard gauge rail freight network to connect the interstate intermodal terminal with the key metropolitan freight hubs
- Making and announcing concrete planning decisions about the future sites for metropolitan freight hubs
- Ensuring that all future transport plans build in the connection of the Port of Hastings to the interstate standard gauge rail network.

Recommendation 12

The Port of Melbourne Corporation should be given overall responsibility for implementing an intermodal hub network in Melbourne, including responsibility for achieving the Government's revised rail freight target.

Recommendation 13

Given the projected increase in the metropolitan freight task, the Government should take further action to improve the efficient movement of road freight by permitting the introduction of high productivity freight vehicles on designated routes.

Recommendation 14

The Government should continue to implement *Melbourne 2030* and take stronger action to accelerate the development of vibrant suburban hubs in Melbourne's west, particularly Footscray, Sydenham, Sunshine and Werribee.

Recommendation 15

Through the Council of Australian Governments – and working with the Australian automotive industry – the Victorian Government should pursue measures to bring Australia into line with European CO_2 emissions standards for motor vehicles.

Recommendation 16

The Government should develop a clear strategy for increasing the proportion of low emission, efficient vehicles operating in Melbourne.

Recommendation 17

The Victorian Government should seek early discussions with the Commonwealth Government regarding a funding contribution from AusLink towards some or all of the EWLNA recommended projects.

The Government should also work with the Commonwealth to extend AusLink to transport projects designed to relieve urban congestion.

Recommendation 18

The Victorian Government should consider a funding structure for the proposed new Metro rail tunnel that includes contributions by beneficiaries (including public transport users and property owners across Melbourne).

Recommendation 19

The Government should re-evaluate its current road tolling policy to ensure that the long term benefits of new road investments can be fully realised (including public transport priority, improved cycling opportunities, road network balance and improved local amenity).

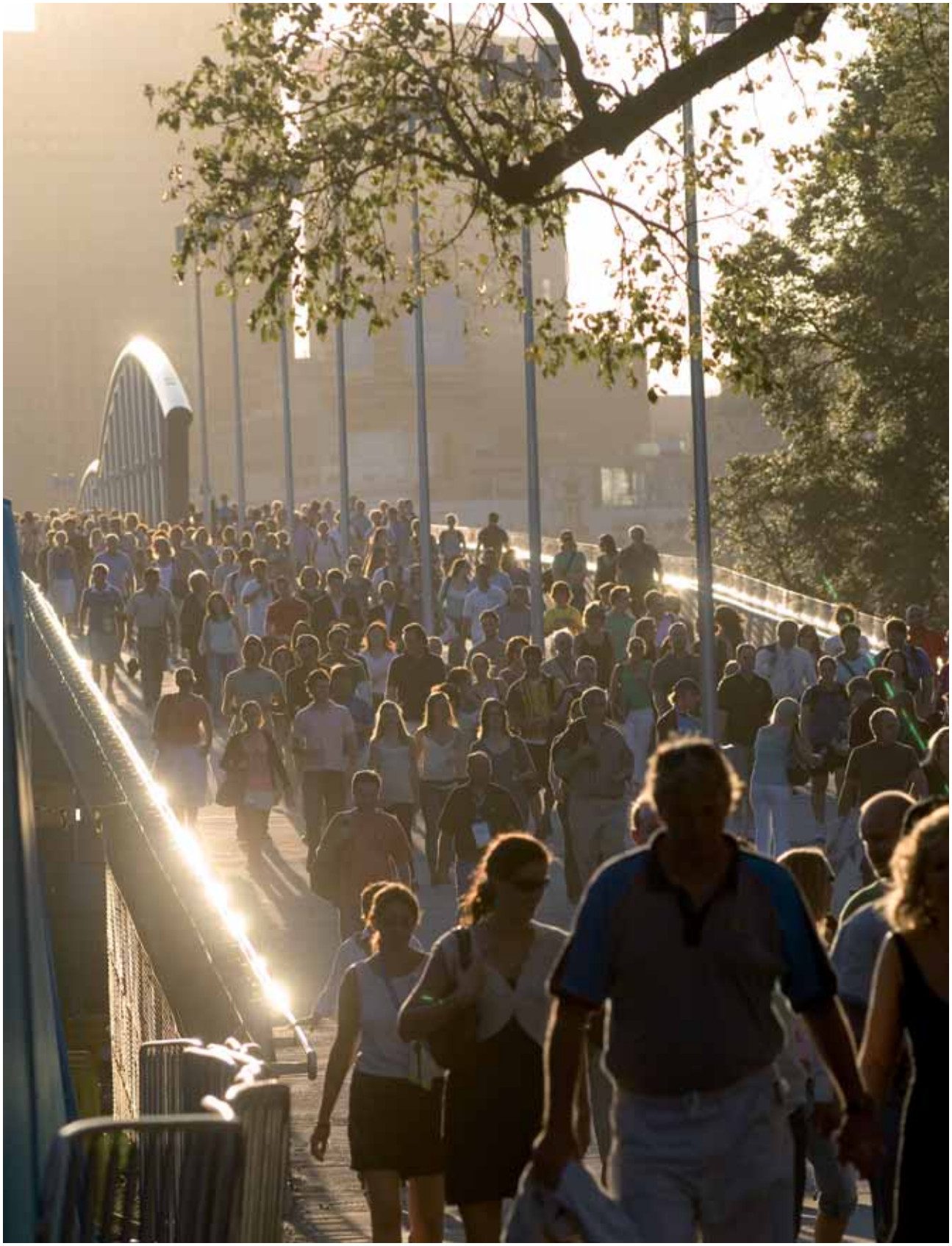
Recommendation 20

A single statutory authority should be created to deliver the EWLNA recommended projects, using a 'corridor approach' to planning, managing and delivering the full suite of projects.

fast facts
moving around melbourne

Now	Future
Melburnians make around 13.5 million person-trips across the city each working day, with more than 10 million of these trips made by car.	By 2031, Melburnians will make nearly 19 million person-trips around the city every day – an increase of 34 per cent on 2006 levels. Nearly 14 million of these trips will be made by car.
Each day, around 2 million trips are made in Melbourne during the morning peak period.	Around 2.6 million trips will be made in the morning peak period in 2031– an increase of 30 per cent.
Around 78 per cent of Melburnians use motor vehicles (cars, trucks or motorcycles) to get to work.	By 2031, around 75 per cent of people will use motor vehicles to get to work. While this is a slight decline in mode share for motor vehicle travel, the overall demand for car travel in Melbourne will still increase by 30 per cent.
Around 11.3 per cent of Melburnians use public transport during the morning peak.	Around 13.4 per cent of Melburnians will use public transport in the morning peak by 2031– an increase in mode share of 19 per cent.
In the morning peak, around 10,000 metropolitan and regional passengers travel to the city via the Sydenham line and 11,000 on the Geelong / Werribee line.	In 2031, around 22,000 metropolitan and regional passengers will be traveling to the city via the Sydenham line and 24,000 on the Geelong / Werribee line.
Currently, around 165,000 vehicles cross the West Gate Bridge each day.	In 2031, at least 235,000 vehicles will be crossing the bridge each day – a 42 per cent increase.
Each day, around 320,000 people travel across the Maribyrnong River (in either an east-west or west-east direction) by road. Around 84,000 people travel across the river by train.	By 2031, there will be 440,000 people travelling across this 'line' by road (a 38 per cent increase) and 165,000 by rail (an almost 100 per cent increase).
Melbourne's annual road freight task is around 11 billion tonne kilometres.	By 2020, the city's road freight task will be at least 17 billion tonne kilometres – an increase of more than 50 per cent.
The Port of Melbourne handles around 2 million containers each year.	By 2031, the port will be handling at least 8 million containers a year – a fourfold increase that will generate even more traffic on the city's roads.
Today, there are more than 9,000 truck movements in and out of the Port of Melbourne, with around 16 per cent of port-related traffic carried by rail.	If rail's share of freight transport does not improve significantly, by 2035 there will be at least 18,000 truck movements to and from the port every day.

melbourne - a growing, successful city



Melbourne is growing and changing at a rapid rate – with the city's success being driven by strong population and economic growth, the development of new strengths in traditional and emerging industries, and a growing international reputation for innovation, creativity and diversity.

Melbourne faces a number of challenges in sustaining this success, including managing the impacts of strong population growth, maintaining a competitive edge in an increasingly tough global environment, managing environmental pressures such as climate change and water, and ensuring that the city remains a destination of choice for skilled workers, students, investors and international visitors.

Transportation is an essential element in meeting these challenges. Over the coming decades, an efficient, flexible and connected transport system will be critical to ensuring that Melbourne retains its liveability and attractiveness, while continuing to enjoy strong economic and jobs growth. Investment in transport infrastructure will also help to shape the future of the city by influencing the locations for the next wave of jobs and business growth in Melbourne.

The EWLNA recognises that decisions taken now about Melbourne's transport network must focus not only on current and anticipated travel demand, but also on the best ways of supporting the likely future drivers of Melbourne's and Victoria's prosperity. In particular, the EWLNA has focused on improved east-west connections that will support Melbourne's future population growth and economic success by:

- Improving public transport access to and from the growing central city area
- Creating new opportunities, facilitating development and improving access to jobs in Melbourne's west
- Meeting the growing demand for cross city travel
- Supporting strong residential and business growth in the central city
- Improving community amenity and liveability
- Significantly improving connectivity across the city's transport network
- Benefiting growing areas in the city's south-east.

A rapidly growing population

Melbourne's population is increasing by nearly 1,500 people each week – more than any other Australian capital city. Today, Melbourne is a city of 3.7 million people. By 2031, at least 4.5 million people are expected to call Melbourne home. Recent strong population growth suggests that Melbourne may reach this figure well ahead of 2031, possibly as early as 2020.

Managing this rapidly growing population presents the city with some tough challenges and difficult choices.

Some parts of Melbourne are growing at a much faster rate than others. In particular, the municipalities of Melton, Wyndham, Hume, Whittlesea, Casey–Cardinia and Melbourne will accommodate the highest amounts of Melbourne's total population growth over the next 25 years. Between 2001 and 2031, these areas are forecast to grow at an annual average rate of between 1.1 per cent (Hume) and 3.8 per cent (Melton).

By contrast, Melbourne's eastern suburbs are growing at a much slower rate. Between 2001 and 2031, the municipalities of Manningham, Banyule and Whitehorse are forecast to grow by an annual average of 0.5 per cent, 0.1 per cent and 0.3 per cent respectively.

Over the next 25 years – with at least an extra 1 million people living in Melbourne – the demand for travel will increase very substantially, placing greater strain on the city's transport infrastructure and services.

Melbourne's growing population

	2006	2031	2051
Melbourne population	3.7 million	4.5 million	5.0 million
Victorian population	5.1 million	6.2 million	6.6 million

A changing economic and industrial base

Melbourne's booming economy, industrial strengths and increasing diversity are among the major forces driving Victoria's economy. While Melbourne continues to be Australia's centre for manufacturing, the city is shifting towards a knowledge-based services economy – a shift that is driving major economic, industrial, social and demographic change.

In recent years, Melbourne's industrial base has become increasingly services-oriented. The services sector's contribution to Victoria' economy is growing rapidly – up from 32 per cent of Gross State Product (GSP) in 1991 to 42 per cent in 2006. Melbourne is leading this trend and has developed internationally recognised strengths in diverse services sectors such as financial services and insurance, property and business services, design, biotechnology, medical research, education and health.

To sustain the city's success, Melbourne must find ways to facilitate the shift to a services economy. This shift will generate major changes in travel patterns – away from a focus on providing manufacturers with raw materials towards an emphasis on distribution and logistics, face-to-face contact and fast international connections. The city's transport network will play a vital part in ensuring that these important economic journeys can be made quickly, reliably and efficiently. The transport network must also support industry clustering and business innovation – developments that are critical to a successful services economy.

Strong urban centres – both in the central city and in the suburbs – are a sign of thriving services economies. Improved transport accessibility is an important element in developing these centres across Melbourne.

In a services economy, people are Melbourne's greatest resource. Maintaining community amenity and liveability will be critical to attracting and keeping talented people – and the transport network must contribute to creating and sustaining these attributes.

The success of the central city

Melbourne's central city is flourishing, enjoying strong residential, jobs and business growth. The Melbourne CBD is now truly an 'economic powerhouse' and will remain Victoria's primary high value job location and job generator for many years to come.

The City of Melbourne is now home to nearly 70,000 residents, with another 40,000 expected to move into the central city over the next 15 years. More than 7,000 residents are moving into central Melbourne each year – a very strong trend towards 'downtown living' that shows no signs of abating.

In the two years to 2006, the number of jobs and businesses in the central city increased by more than 10 per cent. The City of Melbourne now has almost 14,000 business locations and a daytime business, working and visiting population of more than 730,000.

Central Melbourne's growth is being fuelled by the success of a number of highly successful, specialised inner city precincts: Docklands (the largest urban renewal project in Australia), the Parkville precinct (home to a number of internationally recognised hospitals, research institutes and tertiary education institutions), the Southbank precinct (a vibrant entertainment, arts, business and residential hub) and the St Kilda Road precinct (once again enjoying strong residential and business growth).

The growing popularity of these precincts signals a strong shift in jobs and residential growth patterns within central Melbourne, with significant flow-on effects for travel to and from the CBD and inner city. Good transport access to these precincts – and to the CBD and inner city more generally – is essential to their capacity to attract and retain skilled workers and build productive business connections. Mass transit is particularly important in providing these connections and supporting the continuing success of the central city.

The changing face of the west

Melbourne's west is undergoing a dramatic transformation. Once the location for heavy industries, the west is now a highly popular residential location, fuelled by its perceived proximity to central Melbourne, relatively low house prices and much improved amenity.

Despite this growth, Melbourne remains a 'divided city' when it comes to skills, education background and employment – with a clear pattern of established affluence in Melbourne's eastern suburbs, compared to the lower socio-economic profile of the western and outer fringe areas. Resources, services and investment also remain skewed in favour of the east. The transport network in the west is not as developed as in the east, with lower levels of access to employment, services and education.

While recent initiatives, investment and residential growth are starting to redress the imbalance, the east-west divide in Melbourne's economic and social structure is likely to continue into the future. Improved cross city transport connections can help to overcome this divide by generating new business and employment opportunities in the west and contributing to a reinvigoration of the western economy.

It is clear that the transport network in the west will need to improve significantly to keep pace with growth and change in the region. The EWLNA has assessed five regional transport issues as being critical to improving transport connections to and from the west:

- Boosting rail services to and from the west
- Reducing reliance on the West Gate Bridge
- Increasing road capacity across the Maribyrnong River
- Increasing access to business services and jobs in the central city, and in the inner- and middle-eastern suburbs
- Improving access to the Port of Melbourne (while reducing the number of trucks in the inner west).

Integrating Footscray with the central city

Footscray's central commercial and retail precinct is just 6 km from the centre of Melbourne – and yet it has remained largely isolated from the business and jobs growth taking place in the central city.

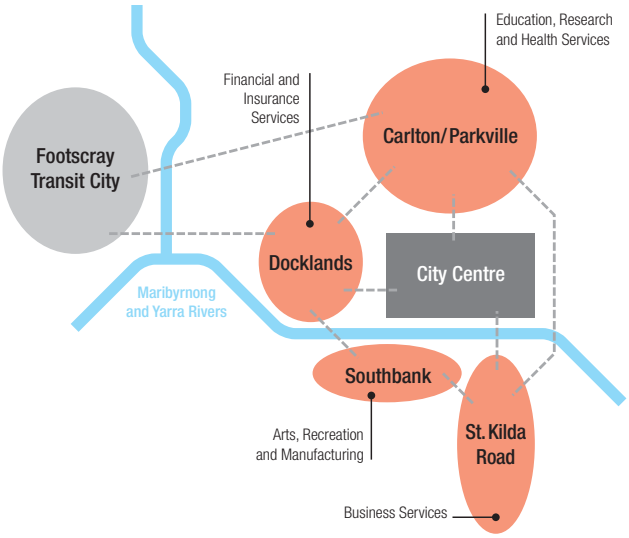
Footscray has been identified as a Transit City in the Victorian Government's Melbourne 2030 framework, which will help to drive business, employment and residential growth in the inner west. It will also create reciprocal advantages for the central city economy, with a major new urban renewal project on the CBD 'doorstep' likely to open up new business, investment and service opportunities for centrally-based firms.

While these developments will deliver benefits to the inner west, there needs to be a further shift in emphasis to incorporate Footscray into planning and thinking about the future of Melbourne's CBD. In other words, Footscray should be considered by city planners in the same context as Parkville and Docklands – as part of an expanded CBD that is the 'engine room' of Victoria's shift to a services economy.

Such an approach would firmly integrate Footscray into the new, services oriented city economy.

Combined with the improved transport links from the west and the removal of trucks from the inner west being proposed by the EWLNA, this would give Footscray the potential to leverage new opportunities from its proximity to the central city. Footscray could also leverage new opportunities from the presence of Victoria University in the heart of the suburb and its proximity to the Parkville education, health and research precinct – opportunities that will be further enhanced by the EWLNA's rail recommendations. In particular, adopting such a bold, new approach to Footscray should help to build a new industry base and a new generation of knowledge based businesses in the inner west, attracted by lower costs than in the CBD and by the prospect of being part of a growing, vibrant and multicultural inner city community.

An expanded CBD –
integrating Footscray with the central city



Creating a more dense city

In 1851, Melbourne's settled area covered around 14 square kilometres. By the early 1880s, that area had increased sixfold. Between 1971 and 2004, the next rapid period of expansion, Melbourne almost doubled again in size. In the 1950s, before most households owned cars, 70 per cent of Melburnians lived within a 10 kilometre radius of the GPO. Today, the vast majority of the population live outside this 10 kilometre radius.

While low density cities have lifestyle advantages, they also generate economic, social and environmental costs. More compact, higher density cities achieve significant benefits, including reductions in the amount of energy consumed, reductions in greenhouse gas (GHG) emissions from transport, reductions in kilometres driven and savings in personal travel costs.

However, Melbourne faces many challenges in creating a more compact city, including overcoming infrastructure and land capacity constraints, reducing the impact of development on neighbourhood character, ensuring that urban consolidation is of a high quality and changing the preference many Australians have for low density communities.

While the average number of people in each household is getting smaller across Melbourne, new houses are becoming larger. This trend suggests that – even as the city's population grows – many Melburnians will continue to prefer a low density, high-mobility suburban lifestyle. This has significant implications for the future development of the city's transport network.

Melbourne 2030

The Victorian Government's Melbourne 2030 framework recognises the benefits of a more compact city. Melbourne 2030 aims to increase the density of development in established activity centres near existing transport infrastructure, curtailing 'urban sprawl' and creating a more dense, more accessible city.

Five Principal Activity Centres have been announced by the Government as locations for major redevelopments under the Melbourne 2030 Transit Cities program. Two of these are in the EWLNA Study Area: Sydenham and Footscray. By focusing development at centres with good transport access, Melbourne 2030 aims to reduce car trips, make the most of existing facilities and services, and create viable and vibrant community hubs.

Shaping the city's growth

Around the world, there is now recognition that large scale transport projects make an important contribution to re-shaping a city's economic landscape and urban structure, as firms and households move to locations that offer better access to skilled workers, customers, goods and services.

Transport accessibility is critical to an area being able to attract and retain jobs and households, reflected in the experience of the Western Ring Road and CityLink in Melbourne, and Westlink (M7) in Sydney. Melbourne's last major public transport expansion, the City Loop, also had a revitalising impact on the central city, particularly the northern end of the CBD.

EastLink will have a significant effect on urban structure and productivity in Melbourne's eastern suburbs, with the number of jobs accessible from the centre of Ringwood within a 30 minute drive predicted to increase by 67 per cent by 2011. Dandenong is predicted to enjoy a 75 per cent increase in its local jobs catchment. In other words, the relative accessibility of these centres will improve significantly over the next few years, making Ringwood and Dandenong more attractive to business and other services – leading to more jobs, more households, more growth and more wealth in these areas.

The picture in the city's west and north-west is very different, with no corresponding improvement forecast for job catchments. In fact, Werribee – located in one of the city's major growth areas – looks set to experience a significant decline in the number of jobs located within a 30 minute drive by 2011.

New transport connections have the potential to significantly improve accessibility in the west, particularly in centres such as Footscray, Werribee, Sunshine and Geelong. This will help to boost local employment in the services sector – an area where the west has fallen behind the eastern suburbs and the central city. This will have benefits for the entire Melbourne economy.

Job catchments of Melbourne's Transit Cities, 2006 and 2011

	Number of jobs within 30 mins drive 2006	Number of jobs within 30 mins drive 2011	% change 2006 - 2011
Box Hill	430,602	505,543	17%
Broadmeadows	164,088	168,975	3%
Dandenong	216,532	378,260	75%
Epping	135,057	141,039	4%
Footscray	573,854	654,102	14%
Frankston	72,088	92,617	28%
Ringwood	208,162	347,898	67%
Sydenham	25,007	26,271	5%
Werribee	58,201	47,003	-19%

EWLNA – Summary of key findings

- The city's transport system plays a central role in the everyday functioning of Melbourne's economy, As Melbourne's economy and population grows, the demand for travel will increase substantially over the next 30 years.
- As Melbourne shifts towards a knowledge-based services economy, significant changes are occurring in the city's important economic journeys, including changes in travel demand and travel patterns. Melbourne's transport network must be able to support these changes, as well as contributing to opening up new jobs and business opportunities across the city.
- Central Melbourne will continue to be Melbourne's and Victoria's principal generator of jobs, business and investment growth. However, a broader definition of 'the CBD' is needed, which incorporates the existing CBD, the Parkville precinct, Docklands, Southbank and St Kilda Road – as well as Footscray and the inner west.
- There needs to be a shift in emphasis to see Footscray as an important part of the central city and to incorporate Footscray into planning and thinking about the future of Melbourne's CBD. Improved east-west connections will be critical to integrating Footscray into the growing central city economy and supporting the inner west's shift to a more services and knowledge oriented economy.
- A more compact city will generate major economic, social and environmental benefits. The Victorian Government should resist pressure to weaken Melbourne 2030 and should take even stronger action to accelerate the development of vibrant suburban hubs in Melbourne's west, notably Footscray, Sydenham, Sunshine and Werribee.
- Melbourne's west is undergoing a major transition, driven by strong population growth that is outstripping employment growth. However, the transport network in the west is not as developed as that in the east, provides lower levels of access to employment, services and education, and is already struggling to adequately support the west's residential growth.
- There continues to be a clear east-west divide in Melbourne in terms of trends in skills, education background and employment. Improved transport connections are critical to overcoming this divide and contributing to a reinvigoration of the western region economy.

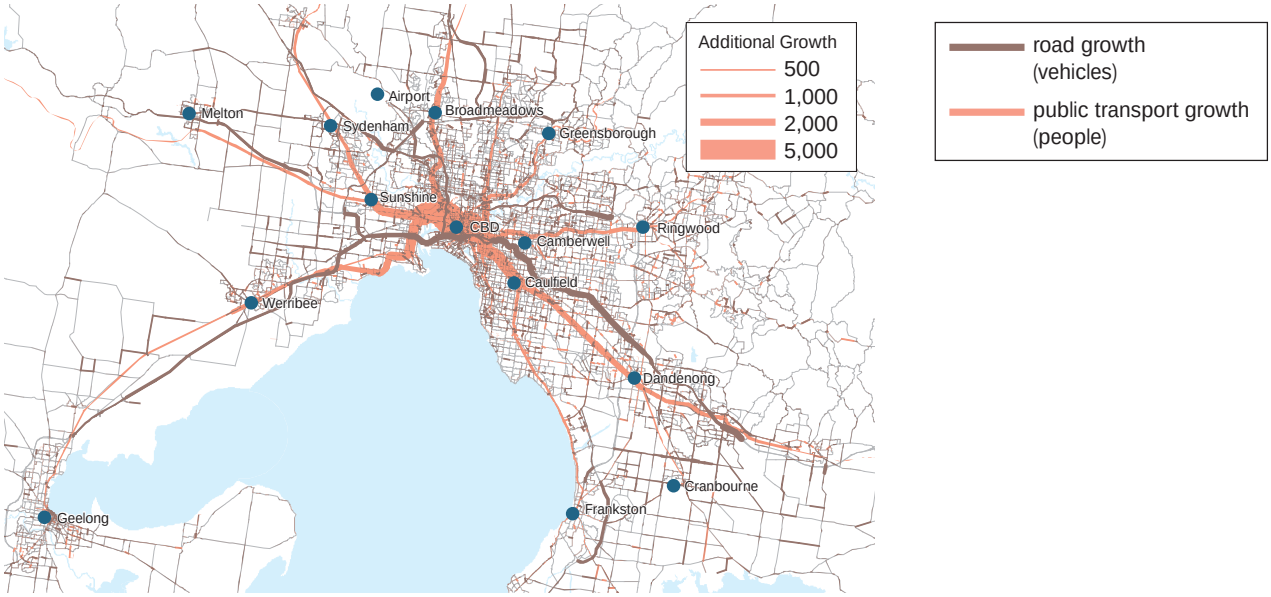
travel demand is growing

More people in Melbourne means more cars on the road, more people on public transport and more goods moving round the city.

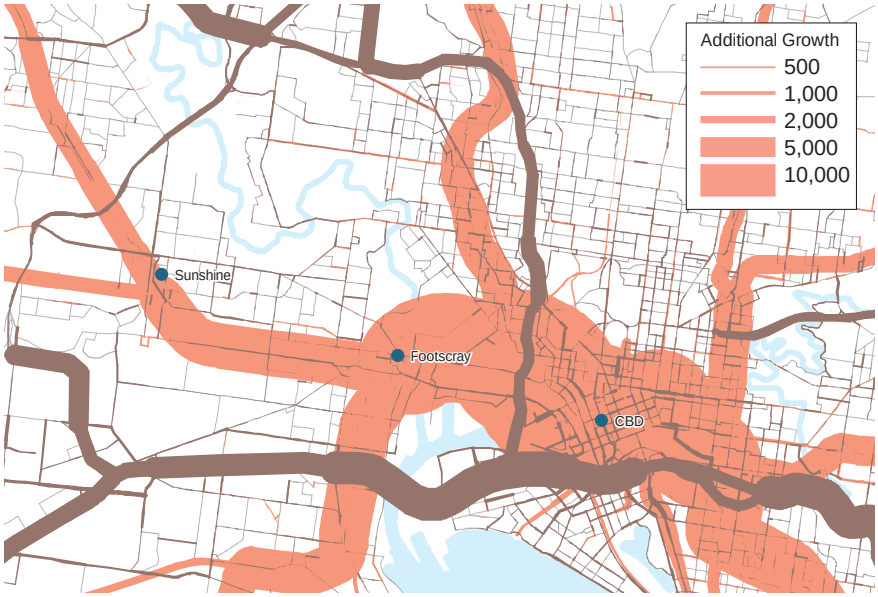
On a typical weekday, Melburnians make 13.5 million personal trips, with more than 10 million of these trips made by car. On a daily basis, around 78 per cent of people travel by car, 7 per cent by public transport (train, tram or bus) and 15 per cent by walking or cycling.

By 2031, that number will grow to around 19 million trips a day (a 34 per cent increase). Travel in the morning peak period will increase by 30 per cent to a total of around 2.6 million trips.

Growth in peak period travel across the city, road and public transport, 2006 to 2031, Metropolitan wide



Growth in peak period travel across the city, road and public transport, 2006 to 2031, Study Area



More cars on the road

Most travel in Melbourne is by car – something that will continue for the foreseeable future. By 2031, the city faces the daunting task of managing at least an additional 3 million car trips every day.

Even with strong growth in public transport patronage, over 90 per cent of the total travel task in Melbourne will still be done by motor vehicles. The number of trips made by car is expected to grow by around 30 per cent by 2031.

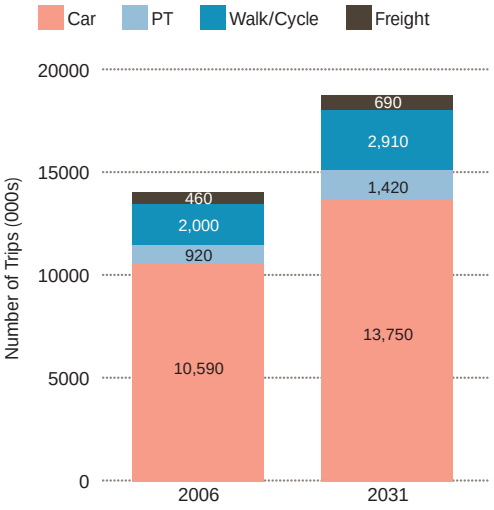
While growth in per capita car travel will level out over the next decade – and while petrol prices, congestion and environmental concerns will lead to increases in public transport – the evidence is clear that Melburnians will continue to rely upon the personal mobility provided by cars, although they will probably make the shift from large, petrol- or diesel-fuelled vehicles to smaller, more environmentally friendly vehicles.

There will be particularly strong increases in freight trips (a 49 per cent increase in the morning peak period), home-based recreational trips (a 48 per cent increase) and work-based work trips (a 46 per cent increase). The increase in 'work-based work' trips reflects a growing trend associated with the shift to a services economy, with more business activities involving face-to-face contact and the delivery of services direct to customers and clients, rather than the delivery of goods.

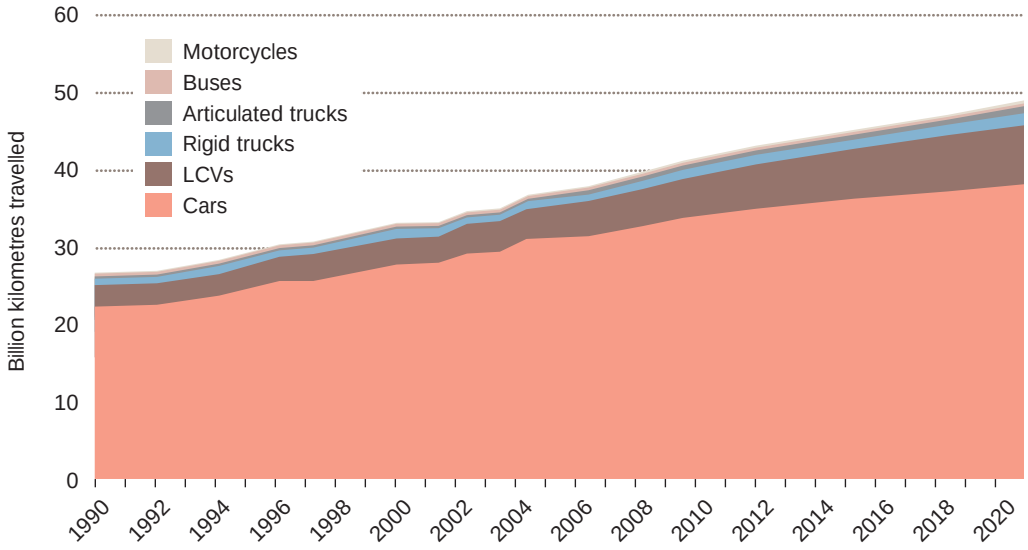
This growth means that traffic volumes will increase outside the peak periods – a pattern that is already occurring, with almost all growth in Melbourne's freeway traffic in recent years taking place outside the morning and evening peak hours.

These trends mean that there will be much more traffic on Melbourne's roads – particularly the city's freeways and major arterial roads – for much longer periods of time during the day.

Most travel in Melbourne will continue to be by car



Melbourne's growing road traffic



More people on public transport

Each day, just 7 per cent of all the trips taken by Melburnians are by public transport.

But when it comes to getting to work, the use of public transport increases substantially – with around 14.5 per cent of Melburnians using public transport. The figure is much higher again for those Melburnians who work in the central city, with more than 60 per cent using public transport for all or part of their journeys to work.

In recent years, public transport has overtaken the car as the dominant mode of travel for people commuting to work in the central city. However, the broader picture across Melbourne highlights the continuing dominance of the car. Generally, the further away from the central city people live, the more likely they are to use their cars to get to work – but they are also more likely to be working relatively close to home.

These travel patterns are likely to continue and they demonstrate the importance of public transport – and especially train travel – in moving large numbers of people to and from the central city during the busiest times of the day.

Across the city, train travel is enjoying a major resurgence.

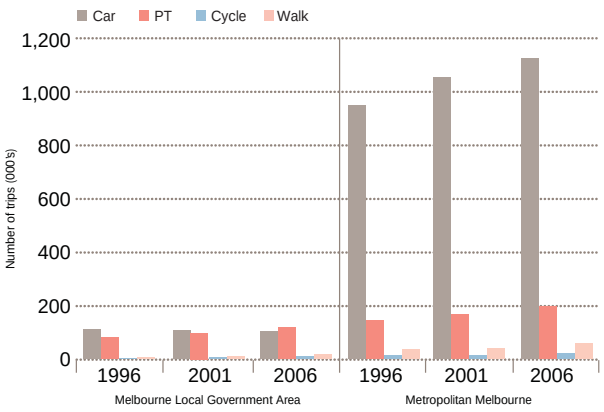
Patronage on Melbourne's rail network has grown by more than 30 per cent over the past three years – an annual average growth rate of around 10 per cent, a sharp contrast to the 1 or 2 per cent growth rates over the previous two decades. In 2007-08, Melbourne's train system will carry around 200 million passengers, an historically high number that exceeds the peak of the 1940s and 1950s. This resurgence looks set to continue – although it will probably slow down.

While public transport patronage is likely to continue to increase substantially over the next 25 years, it will remain relatively low compared to car travel. In 2031, the daily number of public transport passenger trips is predicted to be around 1.4 million; however, the daily number of person trips by private vehicle is expected to be nearly ten times higher – around 14 million.

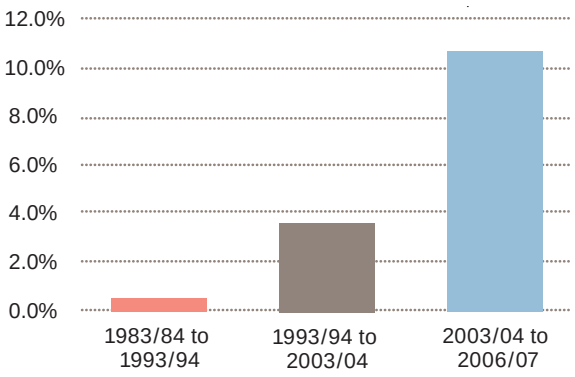
How Melburnians get to work

Travel mode	2001 daily journeys	2001 (per cent)	2006 daily journeys	2006 (per cent)
Public transport	164,075	13.4	192,375	14.5
Car	966,839	78.7	1,021,051	77.0
Bicycle	13,201	1.1	18,937	1.4
Walking	35,384	2.9	47,983	3.6
Other	48,688	4.0	46,189	3.5
Sub-total (left home journeys to work)	1,228,187	100.0	1,326,535	100.0

Car use is declining for commuting to the central city, but increasing elsewhere



A resurgence in train travel



More goods being moved

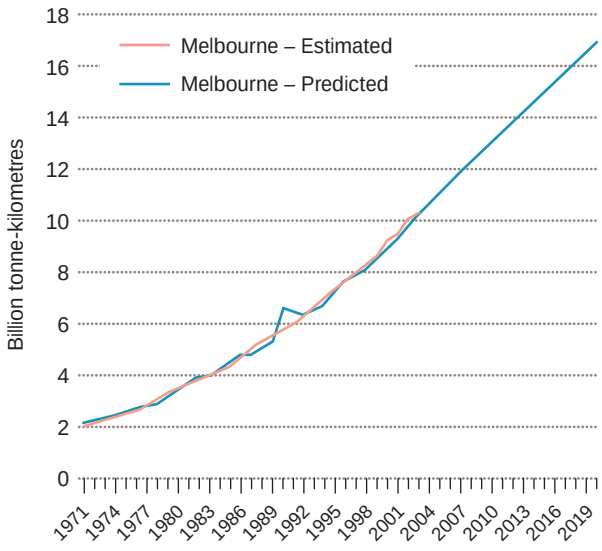
More people in Melbourne also means more goods moving around the city.

Along with other Australian cities, Melbourne's freight task is growing and changing, as standards of living rise, the economy becomes more services-oriented, and the transport and logistics sector adopts new technologies and practices.

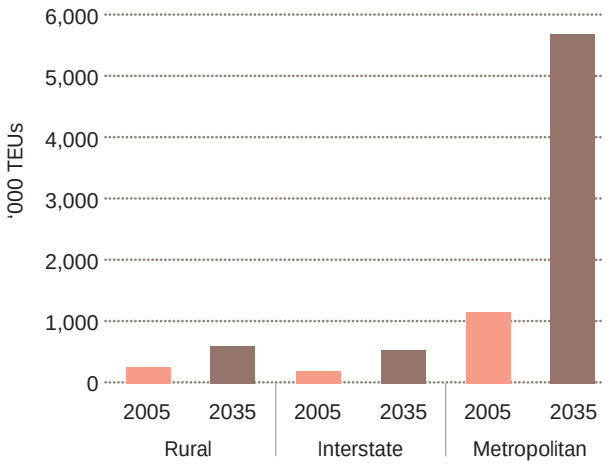
The freight task in Melbourne has grown by an average of nearly 5 per cent a year over the last 20 years and is predicted to grow by an average of 3 per cent a year from now until 2020. If this growth occurs, Melbourne's road freight task will grow from around 11 billion tonne kilometres today to around 17 billion tonne kilometres by 2020 – an increase of more than 50 per cent.

Growth in the freight task will be accompanied by a number of changes in the way the transport, distribution and logistics industry operates, including the use of larger, high productivity trucks on major roads and a very substantial increase in the use of light commercial vehicles (LCVs) in the city. LCVs are now the most common way goods are moved around Melbourne, making up around 15 per cent of the traffic stream. By 2020, most freight distribution in Melbourne will be undertaken by LCVs.

Melbourne's freight task



Growth in international container trade through the Port of Melbourne



The very strong growth being experienced by the Port of Melbourne is also having an impact on transport within Melbourne. The port has experienced 13 consecutive years of growth in trade – a trend that is expected to continue over the next 25 years. By 2035, the port will be handling more than four times the number of containers, more than three times the volume of Bass Strait trade, more than two and a half times the number of new motor vehicles and double the quantity of bulk products.

Around 77 per cent of international containers that pass through the Port of Melbourne have origins/destinations within the Melbourne metropolitan area. This figure is expected to increase to 84 per cent by 2035. At present, every single container leaving the port with a metropolitan destination is carried by road.

Each day, there are around 9,000 truck movements into and out of the port. While this is a relatively small number compared to the 500,000 daily commercial vehicle movements across Melbourne, it affects local streets near the port, the West Gate Bridge and the West Gate Freeway, and road links to industrial areas and logistics facilities in the western suburbs. It also has an impact on amenity in residential areas adjacent to the port.

More traffic means more congestion

Like most major cities around the world, transport congestion is a growing problem for Melbourne. Congestion is more than a source of annoyance and frustration for people travelling around the city: it also imposes substantial costs on Melbourne – and Victoria.

Over the next two decades, Melbourne is expected to experience significant increases in the costs of congestion. These costs include delays, unreliable trip times, higher vehicle operating expenses, higher business costs, increased air pollution, and noise and amenity impacts. Recent estimates of the avoidable costs of congestion for Melbourne range from $1.3 billion to $3 billion a year.

In the years ahead, major roads such as the Tullamarine and Monash-CityLink-West Gate freeways will experience increasing levels of congestion as traffic volumes increase. Levels of traffic congestion will also increase substantially along important east-west routes such as Footscray Road, Racecourse Road, Geelong Road, Bell Street and the western end of the Eastern Freeway during the morning peak period.

The majority of roads north of the CBD will experience growing congestion, especially around their intersections with Alexandra Parade. This is due to the significant increases in traffic demand along Alexandra Parade and along major north-south routes such as Nicholson Street. In addition, more people will seek to avoid congestion on cross city routes by 'rat running' through inner north suburban streets.

There will also be a significant increase in congestion in the inner west, particularly along arterial roads such as Footscray Road and Dynon Road that cross the Maribyrnong River.

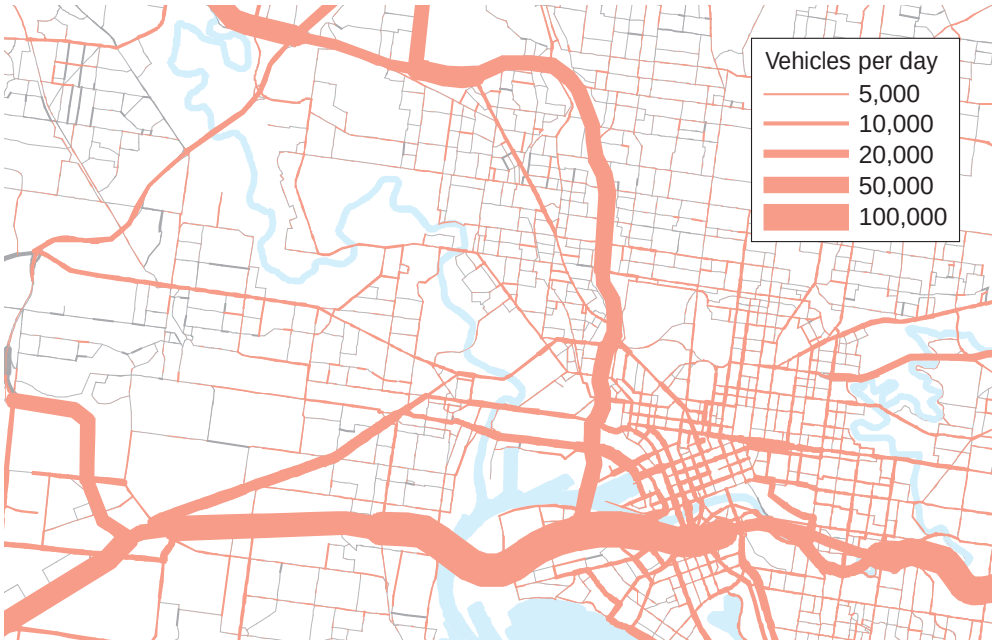
While many Melburnians see congestion as a 'peak hour problem', more and more travel is taking place outside the morning and evening peak periods. The inevitable result is that more congestion will occur on many of Melbourne's major roads for much longer periods of time.

The EWLNA has found that there are very few cross city road links with spare capacity during peak periods, with most connections also under increasing pressure in non-peak periods.

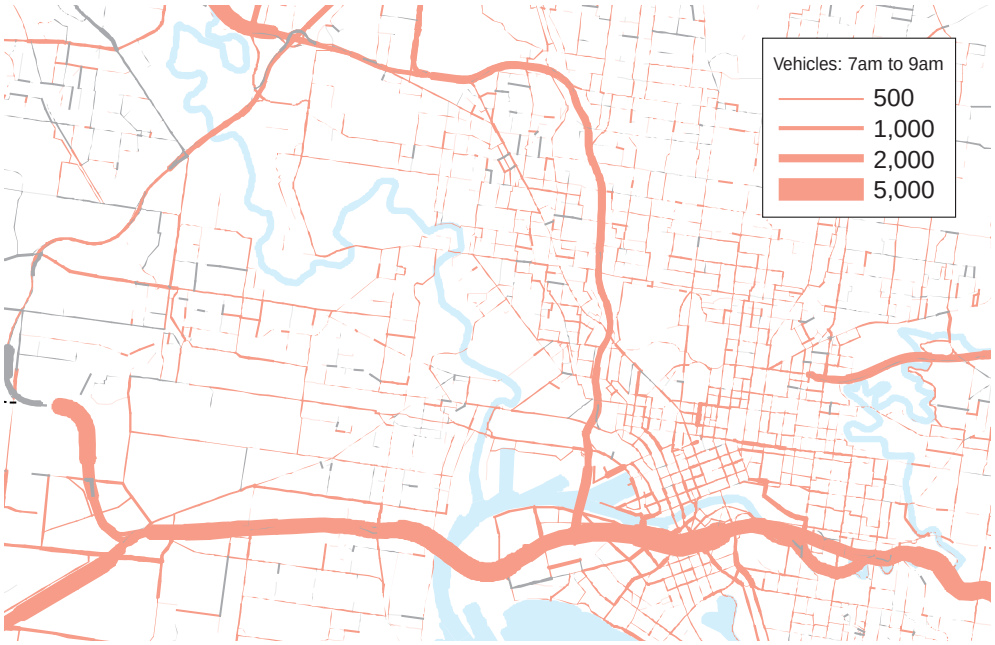
The impact of congestion on cross city routes has particularly negative consequences for the west. The limited number of river crossings (and options for cross city travel) to and from the west is already a significant constraint on the overall transport network – and will become an even greater constraint as travel demand grows. The evidence is very clear that these routes will become increasingly congested. When combined with the increasing congestion on rail travel from the west, this will severely affect important cross town journeys to and from the west and to and from the central city.

The EWLNA agrees with recent studies by the Council of Australian Governments, the Bureau of Infrastructure, Transport and Regional Economics and the Victorian Competition and Efficiency Commission that have found that the failure to tackle congestion in Melbourne will have significant economic, social and environmental repercussions.

Traffic growth in the Study Area – 24 hour, 2006 to 2031



Traffic growth in the Study Area – morning peak period, 2006 to 2031



Traffic growth on selected roads in the Study Area, 24 hour, 2006 to 2031

Road Name	Location	Current Volume (2006)	Predicted Growth	Predicted Volume 2031
Western Ring Road	South of Deer Park Bypass	113,000	33%	150,700
Princes Hwy West	West of Western Ring Road	141,000	38%	194,300
Geelong Road	East of Francis Street	42,000	91%	80,200
Calder Freeway	West of Western Ring Road	87,000	47%	128,100
West Gate Freeway	West Gate Bridge	165,000	41%	235,000
Monash Freeway	East of Toorak Road	150,000	42%	213,500

Congestion charging for Melbourne

The EWLNA considered the option of congestion or cordon charging for Melbourne and has concluded that:

- Well-targeted road pricing schemes can deliver very significant benefits, including reductions in congestion levels, reductions in travel times, increases in public transport use and environmental benefits. However, such schemes can also leave some people worse-off, such as those who cannot be flexible with their travel times, those who have no or few alternative travel options and those who cannot afford to pay the charges.
- Congestion or cordon charging is likely to only deliver substantial benefits where there are alternatives to commuting to the central city by car – particularly from the city's middle and outer suburbs. Sufficient alternatives do not exist at the present time in Melbourne.
- In the case of a cordon charge around central Melbourne, an alternative bypass route should also be available for people wishing to travel across the city without incurring the charge.
- Some form of congestion-targeted road charging is inevitable in Melbourne, although this may be a decade or more away.
- The recommendations made by the EWLNA will increase travel alternatives to the CBD and provide additional options for cross town travel, ultimately making such congestion or cordon charging more effective and publicly acceptable.
- Without some form of road user charging, there will come a point in Melbourne's future where congestion levels can only be reduced by the unpalatable combination of lower levels of population and economic growth. These are not outcomes most Melburnians would consider desirable.
- Melburnians must recognise that the issue for the city is not if, but when, congestion charging should be introduced. Irrespective of other transport initiatives undertaken across the city, Melbourne needs to be much better prepared to take this step when the time comes.

EWLNA – Summary of key findings

- As Melbourne's population and economy grows, the demand for travel will increase very substantially – generating greater traffic volumes and higher levels of congestion along important cross city and central city access routes.
- Overall travel demand in Melbourne will grow by 34 per cent between 2005 and 2031, with the strongest growth occurring in the inner city and in the west and south of the city.
- Public transport use will grow strongly, increasing its share of travel by 15 per cent. Overall, public transport is likely to account for a mode share of nearly 8 per cent of all motorised and non-motorised in 2031 (although growth over the last three years suggests this number could be higher).
- While the rate of growth in car travel will slow slightly, the overall demand for car travel will still increase by 30 per cent. Car travel will remain the preferred mode of personal transport in Melbourne and access to an efficient, safe and well-managed road network will continue to be indispensable in the daily lives of the vast majority of the city's residents.
- Melbourne's overall freight task will continue to grow by an annual average of 3 per cent from now until 2020, leading to a 50 per cent increase in the road freight task. The vast majority of this freight will continue to be carried by road, with the biggest increase in freight vehicles on Melbourne's streets being Light Commercial Vehicles.
- Given Melbourne's rapid growth, road user charging is inevitable – although it is probably at least a decade away.

rail network under stress

Melburnians are returning to the city's train services in historically large numbers. The last time the metropolitan rail network enjoyed these levels of patronage was in the 1950s – before car ownership became widespread across the city.

In the last three years, patronage on Melbourne's rail network has grown by more than 30 per cent – growth that is placing the network under considerable stress.

Analysis undertaken for the EWLNA clearly identifies rail as the key public transport mode in Melbourne in terms of its capacity to move large numbers of people. However, the growing demand for train travel suggests that – in the absence of further investment – it is the public transport mode that will be most constrained in the future.

While strong patronage growth is occurring across the city's rail network, the greatest increases are taking place along Melbourne's growth corridors. The most stress is being felt in the Northern Group of rail lines, which service the city's rapidly growing west, north-west and northern suburbs. Each year for the last three years, this group has recorded a 13 per cent increase in patronage.

The number of trains that will be required to service this increasing passenger demand is substantial. Using the Northern Group as an example, about 20,000 people catch the train during the busiest hour in the morning peak. By 2021, this will have increased to 45,000 people (if recent behaviour change in favour of pubic transport continues). Even if recent behaviour change does not continue, population growth and employment trends will see passenger numbers increase to 36,000 in the busiest hour. With the standard capacity of Melbourne's trains at 800 passengers per train trip, growth of this magnitude will require very substantial increases in peak hour services.

More overcrowding

As people board Melbourne's trains at historically high levels, the signs of strain in the system are beginning to show.

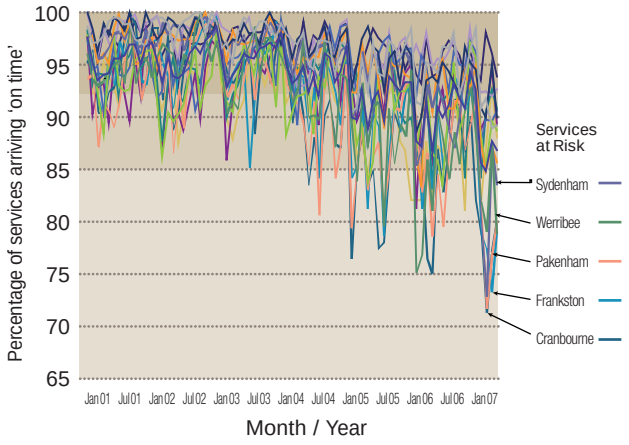
Since 2005, the number of trains suffering 'load breaches' has been rising steadily. A load breach is defined as more than a rolling average of 798 people on board (there are typically 528 seats on a suburban train). Not only are there more trains suffering load breach; the amount by which they are in breach is increasing.

While reliable statistics are not available, there is evidence that many people are being left behind on platforms, unable or unwilling to board excessively crowded trains. This is most likely to occur when a train service has been cancelled or is running late.

Melbourne's rail operator Connex, in conjunction with the Victorian Government, has been introducing new services to meet and encourage the growing demand for train travel. However, as the train network runs closer to capacity – and more trains are added to an already crowded timetable – there is less room to recover from incidents and delays, and the overall reliability of the network deteriorates.

Train overcrowding – load breaches on morning peak period trains, 2001 to 2007

Reliability of morning peak services in Melbourne, 2001 to 2007



Less reliable services

Service reliability has been declining in recent times on Melbourne's suburban rail system, especially during peak periods. This demonstrates that, while the surge in train patronage is welcome and must be encouraged, finding ways to meet the demand is proving problematic.

Declining reliability – and overcrowding – also means lower levels of public satisfaction with the train system. At the same time that Melburnians are returning to the system, these growing problems are having a negative impact on people's perceptions and feelings about the quality of their travel experience. Unless addressed, the decline in customer satisfaction will undermine efforts to encourage more Melbournians to shift away from car travel in the future.

EWLNA – Summary of key findings

- Across the city, the demand for train travel has grown by more than 30 per cent over the past three years and shows no signs of slowing.
- This growth is putting the rail network under considerable pressure, with the Northern and Caulfield Rail Groups likely to 'hit the wall' within the next 10 years.

The rail network

Melbourne's passenger rail network has been in place for more than 100 years. The last piece of major rail infrastructure was the City Loop, which opened in stages during the 1980s. The most recent extension was the electrification of the Broadmeadows line to Craigieburn, which opened in September 2007.

Melbourne's rail network comprises a total of 16 lines spread across four 'rail groups':

- Northern Rail Group – Werribee, Williamstown, Sydenham, Craigieburn and Upfield lines
- Caulfield Rail Group – Frankston, Sandringham, Cranbourne and Pakenham lines
- Clifton Hill Rail Group – Hurstbridge and Epping lines
- Burnley Rail Group – Lilydale, Belgrave, and Glen Waverley lines.

These groups converge on the 'inner core network', made up of the underground rail loop, Flinders and Southern Cross stations and the links to North Melbourne, Jolimont and Richmond stations.

On a typical weekday, the network runs 1860 suburban services. In 2007-08, the network will carry around 200 million passengers.

The network also provides access to and from central Melbourne for V/Line passenger rail services that carry 15 million passengers each year.

east-west road travel

Travel patterns in Melbourne are changing. More and more people are travelling to and from the central city during peak periods; more people are moving around the city outside these periods; and more people are making trips across the city. The combined impact of these trips is higher traffic volumes and greater congestion on roads in the city's inner and middle suburbs, as well as significant bottlenecks on both the road and rail networks.

The EWLNA has found a strong and growing demand for east-west road travel in Melbourne – a demand that existing infrastructure will be unable to meet without a very substantial increase in congestion.

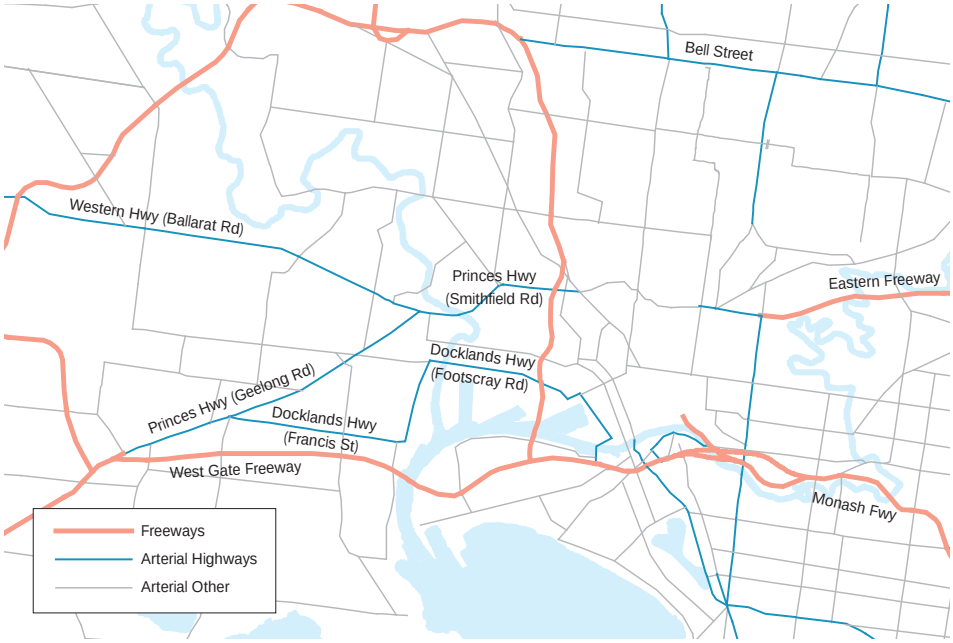
Modelling undertaken for the EWLNA confirms what every person travelling across Melbourne knows: that the increasing demand for travel, the escalating urban freight task and the growing number of cars on Melbourne's roads are generating greater levels of congestion on major cross city routes.

The EWLNA has found that:

- There is substantial demand for cross city travel, with particularly strong growth in travel from the west to the east and south-east.
- Transport options for travel across the city are seriously congested.
- While the Monash-CityLink-West Gate freeway upgrade will relieve pressure along this corridor, the extra capacity being provided on the route will be fully taken up during peak periods within a relatively short time.
- With the exception of the Monash-CityLink-West Gate freeway, the east-west roads within the EWLNA Study Area are disconnected and poorly suited to efficiently moving high volumes of traffic across the city.
- Congestion on key east-west routes – and the accompanying frustration, inefficiency and cost of travel – will be significantly worse in the future unless action is taken to make some provision for cross city traffic growth.
- Current network limitations in relation to east-west travel have a negative impact on private travel, freight transport and road-based public transport.

A discussion of specific problems along these major routes is included in the EWLNA main report.

The major east-west routes across Melbourne



The demand for east-west travel

The EWLNA found that, while there is little demand for travel that extends right across the city from one side to the other, there is considerable demand for accumulated short cross city trips. A simple illustration of this is shown in the map over the page.

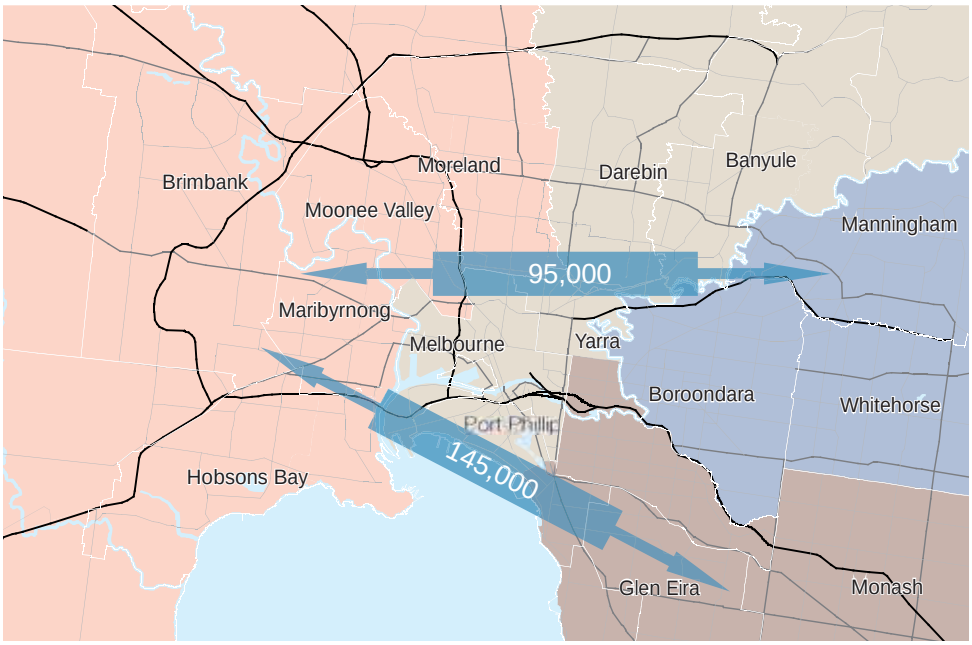
Each day, around 95,000 trips are being made through the Cities of Darebin, Yarra and Melbourne as people travel across the city. In addition, many people also make shorter trips into the central city areas (shown in cream on the map) and within the pink (inner and middle west) and blue (inner and middle east) areas.

Overall, around 210,000 vehicles make journeys across the inner north each day.

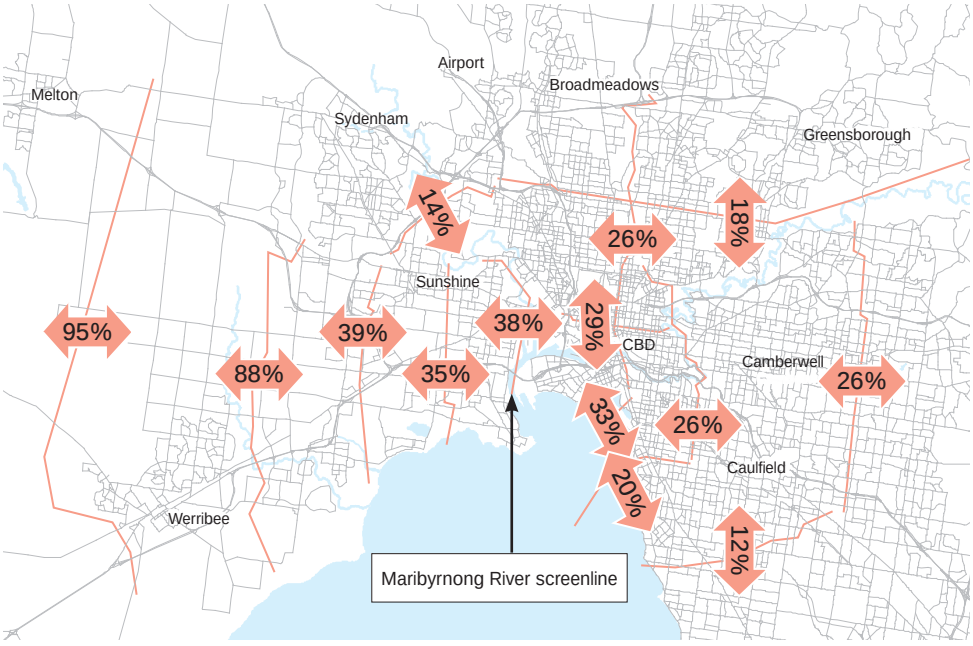
While these trips may be relatively short, they either use the major cross city routes or divert to east-west suburban roads to avoid congestion on the major routes. These diversionary journeys contribute to increasing congestion on local roads, especially in the inner north.

To examine cross city journeys more closely, the EWLNA undertook a screenline analysis at a number of key locations across the metropolitan area (shown in the figure over the page). This analysis counts the number of vehicles crossing all roads intersected by the screenline (on a daily or peak period basis). It shows the expected transport growth on major arterial roads and freeways across each of the screenlines.

Daily east-west travel in the Study Area



EWLNA road screenlines – All day growth, 2006 to 2031



Screenlines are indicated by the red lines

In the west

The EWLNA has found that there will be very high growth in the demand for travel across the city from the west.

On an average weekday, current daily road traffic volumes across the Maribyrnong River screenline (which roughly follows the line of the river from the Bay to Raleigh Road) are around 320,000 vehicles, of which 11 per cent are commercial vehicles. By 2031, the traffic volumes across this screenline will increase by 38 per cent, with a 50 per cent increase in commercial vehicle volumes over the same period. This equates to an additional 120,000 vehicles (two way) moving across the screenline each weekday.

Most of these additional vehicles (nearly 90 per cent) will be trying to travel on the main arterial roads crossing the screenline (West Gate Freeway, Footscray Road, Dynon Road and Ballarat Road). Each weekday, around 5,000 of these extra vehicles will be trying to travel east in the morning peak period. This is comparable to demand for an additional two freeway or three arterial road lanes heading east across the Maribyrnong River in the morning peak, and in the opposite direction for the evening peak.

To complete the picture, public transport across the screenline also needs to be taken into account.

Current daily public transport demand across this screenline is around 85,000 people, the majority of whom (around 95 per cent) travel on the heavy rail network. Public transport demand over the screenline will increase by nearly 100 per cent by 2031 (or around 85,000 extra people travelling in both directions throughout the day). Nearly 16,000 of these extra trips will be people travelling east in the morning peak hour (which equates to demand for at least an extra 16 trains during this period).

The table at right shows the high growth in daily road traffic and rail passenger numbers crossing the Yarra and Maribyrnong Rivers by 2031. This strong daily growth (which is more than twice the level of growth forecast for the morning peak period) reflects the limited number of lanes available during the peak period and shows that these roads will be operating at capacity for the greater part of the day.

The very substantial increase in travel demand from west to east shown by the EWLNA's modelling is supported by other evidence indicating that growth in cross-town movements is likely to be significantly greater from west to east than in the other direction. The main driver of this increase is the strong residential growth in the west and north-west, which is not being accompanied by corresponding growth in locally based jobs.

At present, there are significant bottlenecks in the road and rail networks that affect these journeys, including the limited number of road crossings of the Yarra and Maribyrnong Rivers and congestion on the rail network at North Melbourne. These constraints will limit the capacity of both networks to cope with the high growth in demand for cross city travel that will occur over the next 25 years.

The EWLNA 'Maribyrnong' screenline – 24 hour, 2006 and 2031

Road Name	Current Volume (2006)	Predicted Growth	Predicted Volume (2031)
Raleigh Road	34,000	21%	41,000
Farnsworth Avenue	9,000	32%	12,000
Smithfield Road	39,000	25%	47,000
Dynon Road	35,000	32%	47,000
Footscray Road	35,000	67%	58,000
West Gate Freeway	165,000	41%	235,000
Road Total	*317,000*	*38%*	*440,000*
Rail Total	*84,000*	*98%*	*166,000*
People Total*	432,700	50%	650,000

** Assumes vehicle occupancy of 1.1 persons per vehicle*

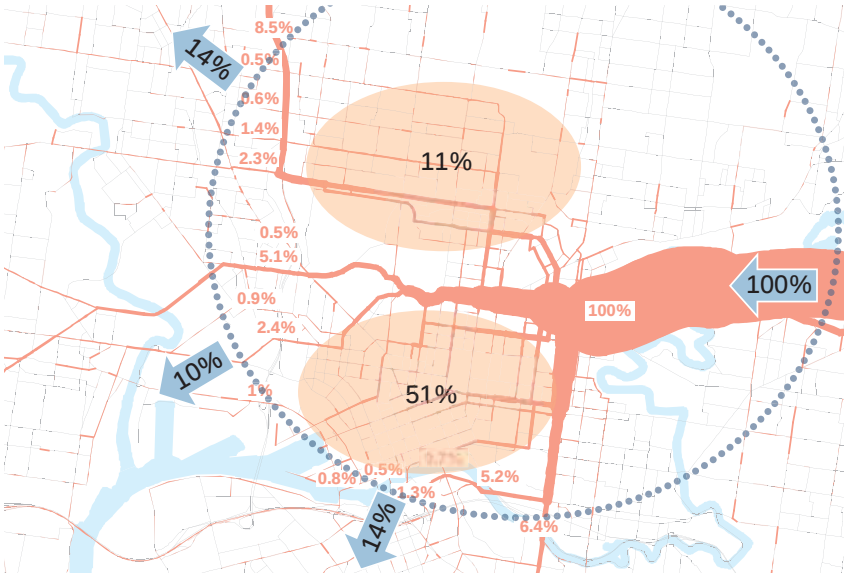
In the east

The Eastern Freeway is the last of the 'unconnected' freeways leading towards the city. The construction of CityLink – which joined the Monash, West Gate and Tullamarine Freeways – effectively provides a southern and western bypass of the inner city, directing tens of thousands of vehicles each day onto a high standard road away from less suitable city streets. The Eastern Freeway remains unconnected, with no equivalent northern bypass of the city. The freeway carries around 140,000 vehicles each day.

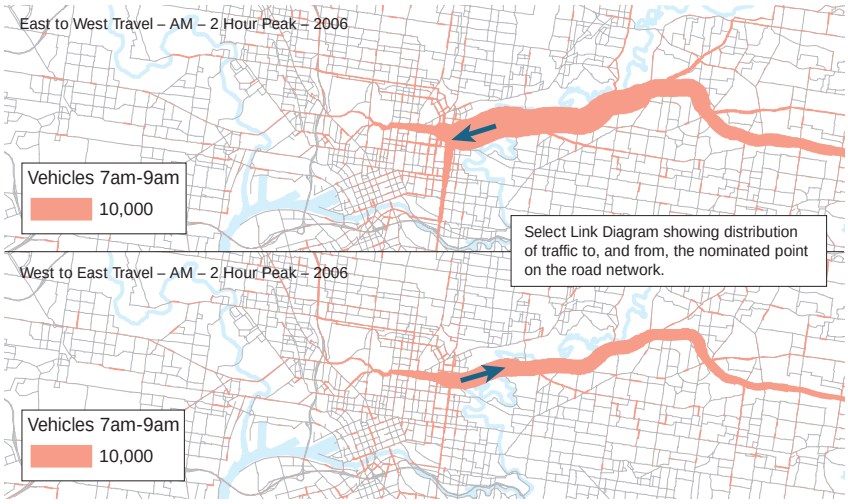
Contrary to a commonly held view that nearly all Eastern Freeway traffic is headed for the inner city, the EWLNA has found that around 40 per cent of daily traffic from the freeway travels beyond the central city area. As shown below, this substantial demand for east-west travel filters out across the road network, contributing to congestion on key cross city arterial routes. EastLink will add a further dimension to this travel.

While attention is often focused on traffic traveling west along the Eastern Freeway, there is a significant and growing eastbound travel demand to and along the freeway. Traffic from the western approaches is now a very substantial traffic movement and is expected to grow significantly in the coming years, given the imbalance between population growth and employment opportunities in the city's western suburbs.

Eastern Freeway traffic distribution, 2006 – all day



Comparison between traffic heading west and east along the Eastern Freeway – morning peak



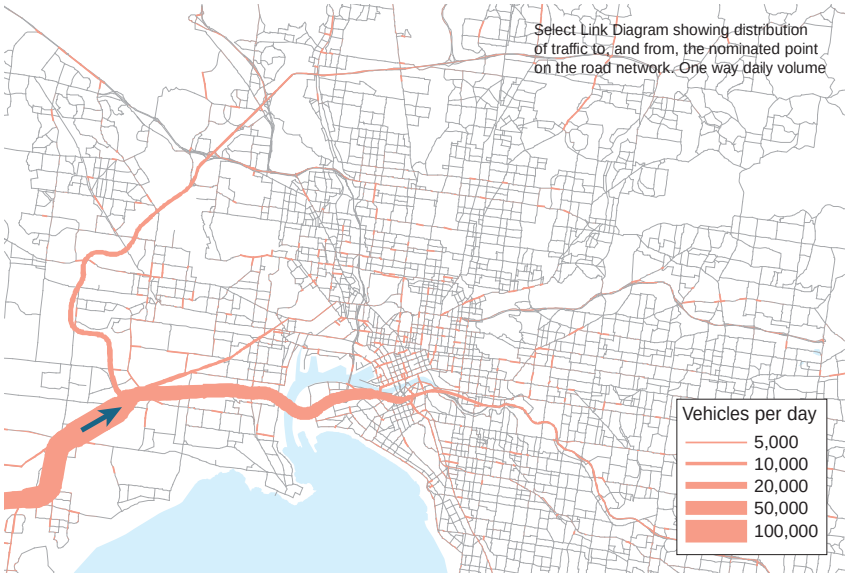
Travel across the city

The EWLNA undertook an analysis of traffic on a number of selected freeways and arterial roads in 2006. These 'select links' illustrate the complexity of the origins and destinations of vehicles travelling along these cross city links. They highlight both the clear demand for east-west travel and the myriad routes that drivers use when navigating east-west and west-east across Melbourne.

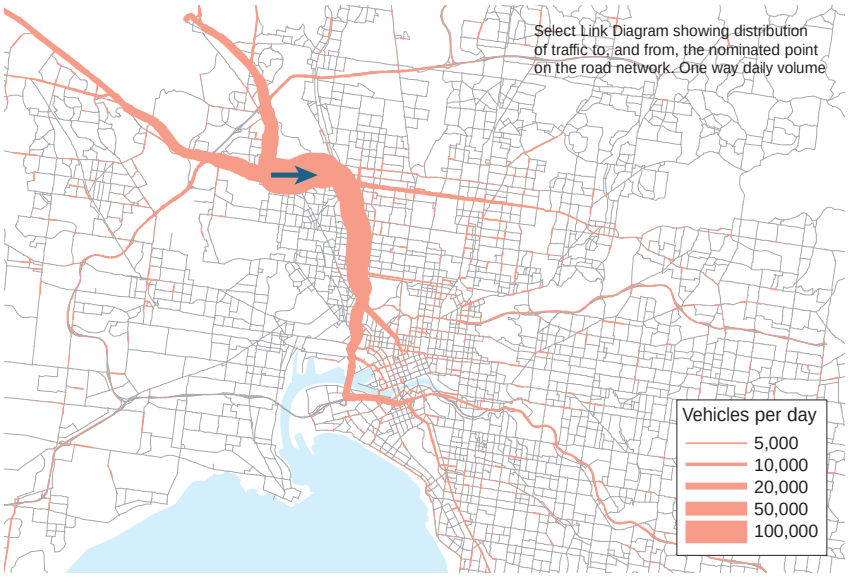
For example, routes in the EWLNA Study Area such as Cemetery Road and Brunswick Road display a clear west-east and east-west travel flow, while major roads such as CityLink (Western Link) and the Eastern Freeway have complex travel patterns dispersing across a grid of roads around the CBD.

The 'select links' also support other evidence indicating that poor connectivity and constraints on roads between the west, central Melbourne and the south-eastern and eastern suburbs requires many of the 210,000 vehicles battling their way across the north of the city each day to 'zig zag' or 'rat run' their way across the road network.

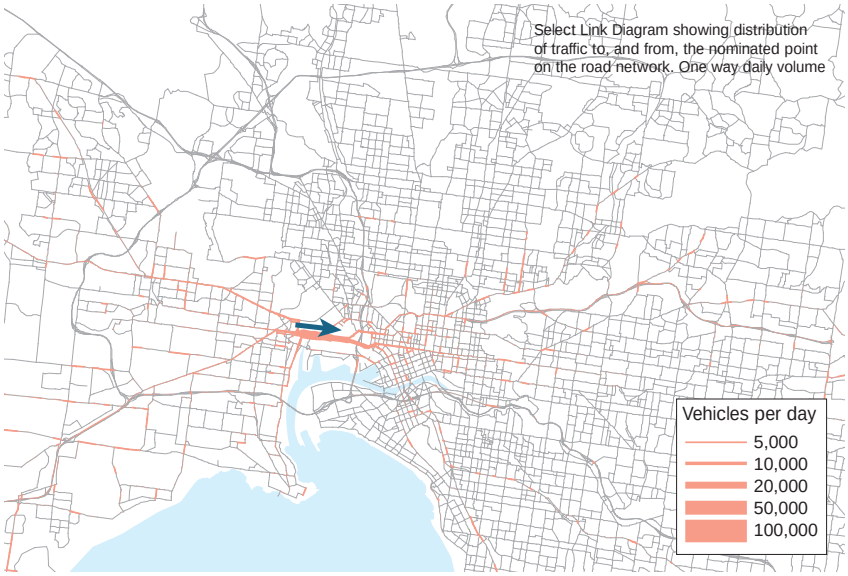
Select east-west link: Princes Freeway (Geelong Road) – eastbound, west of Western Ring Road



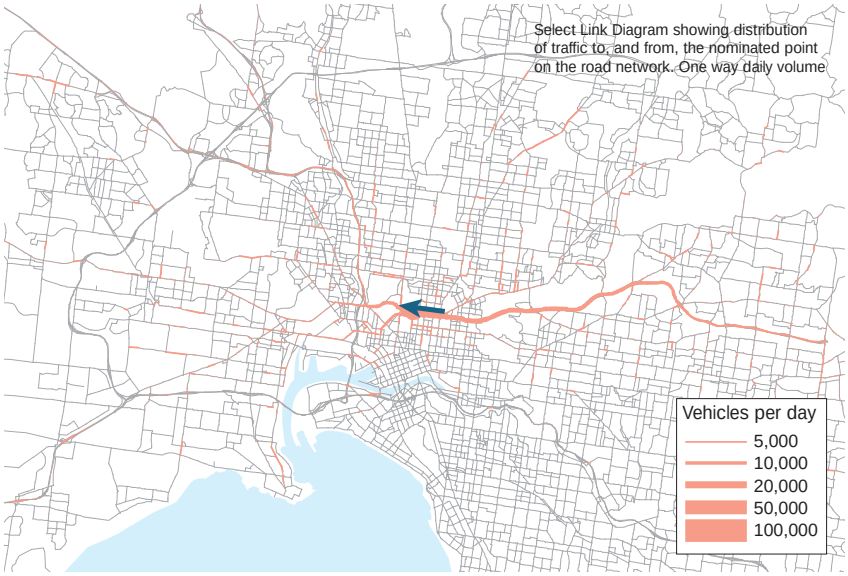
Select east-west link: Tullamarine Freeway – eastbound, east of Bulla Road



Select east-west link: Dynon Road – eastbound at Maribyrnong River



Select east-west link: Cemetery Road – westbound, east of Royal Parade



EWLNA – Summary of key findings

- Strong and growing demand exists for trips across the city, although not necessarily the full distance from one side of town to the other, or along direct east-west routes.
- Melbourne's major cross city routes are coming under increasing pressure and are already experiencing significant congestion. This will continue to worsen as traffic growth increases. Already, there are very few cross city routes with spare capacity during peak periods.
- In particular, serious capacity constraints are being felt now along the M1 (Monash-City Link-West Gate Freeway corridor) and the western end of the Eastern Freeway. Levels of traffic congestion are also increasing substantially along key east-west arterial routes, such as Footscray Road, Dynon Road, Geelong Road, Racecourse Road and Bell Street.
- Demand for cross-town movements is likely to be significantly greater from west to east than in the other direction. In particular, the growth in demand for travel across the Maribyrnong River screenline by both rail and road will overwhelm existing infrastructure, leading to significant peak-spreading and an inability to make trips when they are needed.
- The limited number of river crossings is a significant constraint on cross city travel and will contribute to further congestion, travel delays and more volatile travel times as more and more people want to travel across the city from the west.
- Substantial new investment in the city's road network is needed to meet the growth in cross city travel demand. A failure to make this investment will lead to significantly increased congestion, greater transport disadvantage, and unnecessary constraints upon economic growth, especially in the central city and the west.

Taking a 'multi-modal' approach

The EWLNA modelling and analysis indicates that the demand for personal travel in Melbourne will increase substantially in the decades ahead. Much of this demand will be met by motor vehicle travel, although there will be a significant increase in the use of public transport. The movement of goods around the city will increase dramatically, with most of this demand continuing to be met by the road network.

It is clear that the number of car trips in Melbourne will not decline in the decades ahead. Cars may become smaller or more fuel efficient, but they will continue to be the preferred mode of personal transport for the vast majority of Melburnians.

The reality is that unless Melburnians are willing to entertain a major reduction in car travel or endorse an extensive demand management program to force substantial additional mode change (such as the tolling of existing roads, congestion charging or more widespread road pricing), new road infrastructure will be required to meet growing travel demand.

While the mobility provided by roads comes at a cost (in terms of accidents, pollutants and congestion), roads also deliver economic and social benefits, including providing people with access to jobs, education, health care and other services. The road transport sector is also becoming much more sustainable, with the development and uptake of new vehicle technologies likely to have a strong impact on reducing the sector's environmental footprint over the coming decades.

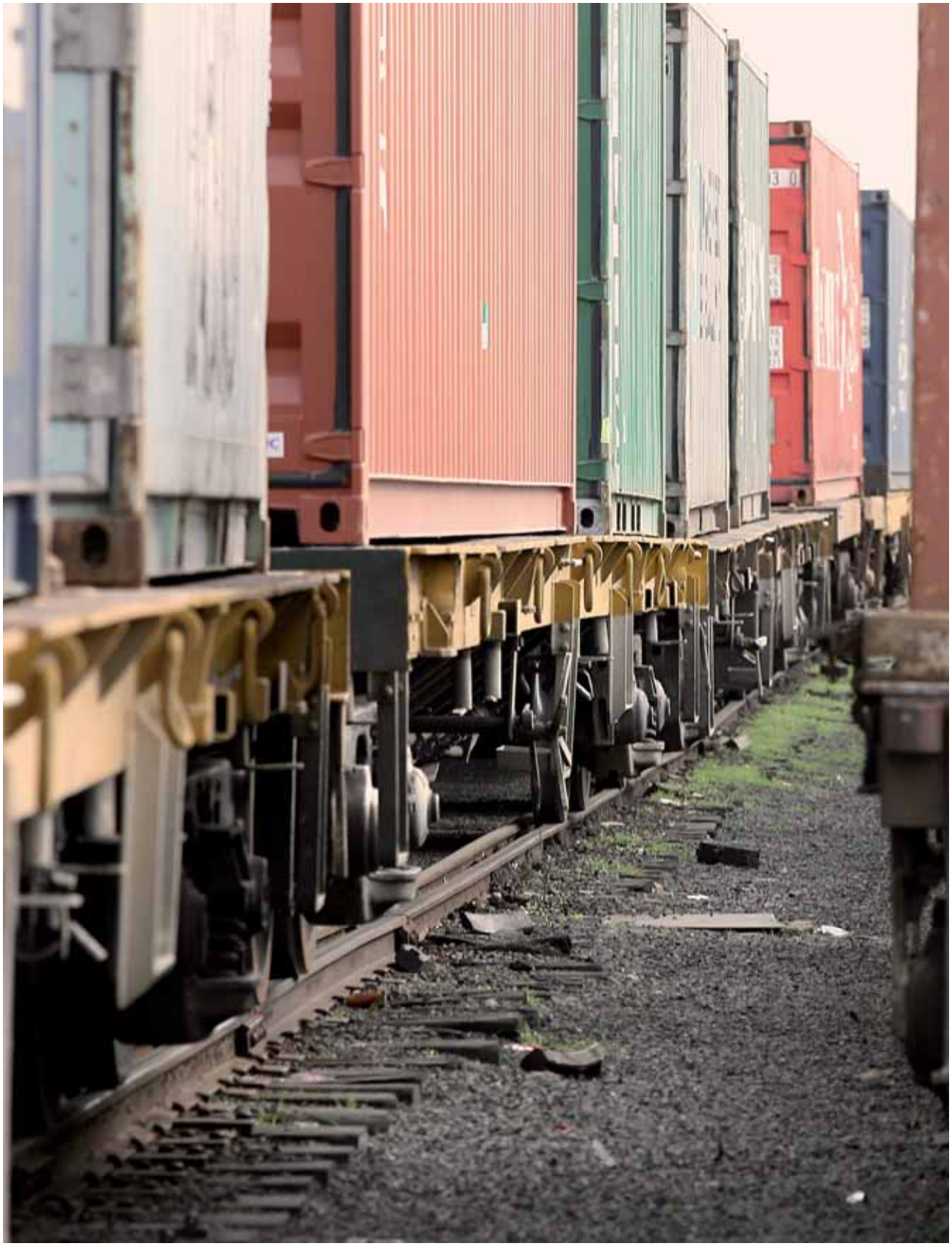
The EWLNA rejects the view expressed in some submissions that taking a decision in 2008 to build no new major roads in Melbourne represents a viable option for the city's future. It makes little sense to completely close down an option for the city while road-based transport still comprises the vast majority of travel and is likely to continue to do so for the foreseeable future.

The evidence strongly indicates that a multi-modal approach is needed to meet growing and changing travel demand within the city. When planning to meet future travel patterns, the objective should be an optimal mix of modes. The recommendations made by the EWLNA recognise that different modes of travel are better suited to different types of trips: mass transit systems are very well suited to shifting large numbers of people along defined corridors, while complex, multi-purpose trips suit the flexibility of the motor vehicle. For these reasons, the EWLNA considers that providing additional car access to the CBD should not be a priority for Melbourne's transport network; however, improving such access by public transport should be a priority.

Clearly, many residents of the inner city are becoming less dependent upon cars and more interested in taking up options such as walking and cycling. This should be strongly encouraged and supported by government. However, these same opportunities are not available to many residents of Melbourne's outer suburbs, particularly in relation to the longer distances people have to travel to work. While action needs to be taken to improve urban density and deliver better public transport options to the outer suburbs, rejecting the construction of any new road options will simply increase the transport disadvantage already experienced by these Melburnians.

The EWLNA also rejects the 'absolute' position expressed in some submissions that 'Melbourne cannot build its way out of congestion'. The fact is that Melbourne must stay ahead of gridlock. While some level of congestion is unavoidable in a large city (and helps to 'manage' the demand for car travel), doing nothing is not an option. If Melbourne's response to congestion is not escalated, the costs of congestion are likely to grow considerably. Major road projects are not necessarily the only response to congestion; but they can – and should – form part of a balanced multi-modal response.

tackling the problems



'hitting the wall' on the rail network

The recent strong patronage growth on Melbourne's rail network means that in 2007, an additional 160,000 people were travelling each day on Melbourne's trains compared to 2002. With a typical electric suburban train in Melbourne regarded as overcrowded when it holds more than 800 people, this represents the equivalent of an extra 200 trainloads.

The resurgence of train travel in Melbourne is due to a combination of factors, including the expanding size of the public transport market (due to population and jobs growth in central Melbourne and the city's growth corridors), rising petrol prices, environmental concerns and parking costs. These factors will remain 'in play' for the foreseeable future.

Looking ahead, the most likely annual growth rate in train patronage over the next decade will be between 2.1 per cent and 6.6 per cent. These forecasts recognise that strong patronage growth is likely to continue, although at more moderate levels than over the last three years. However, even these more moderate rates of growth will place the rail network under considerable pressure, requiring large increases in the number of train services.

Given Melbourne's strong population growth, the important policy goal of boosting public transport patronage should not be constrained by capacity limitations on the rail network. The EWLNA considers that there is a compelling argument for making network investment decisions based on the higher patronage forecast of 6.6 per cent. Achieving this level of behaviour change would go a long way towards contributing to the Victorian Government's target of public transport comprising 20 per cent of motorised trips by 2020. If capacity is not provided to allow patronage to grow to its full potential, the EWLNA has concluded that the Victorian Government's 20/2020 target cannot be met.

While action is being taken to expand capacity, there are limits to extracting more capacity from the existing network. In particular, the running of express trains limits the number of services that can be provided on each line. While these express services could be reduced or removed, it would be to the disadvantage of outer suburban commuters – and, ultimately, at the expense of public transport patronage.

The track configuration at junctions and terminal stations on the network also directly influences the capacity of the network. Melbourne's rail network has many such points of conflict, with the converging of lines as they approach the city centre near stations such as Footscray and North Melbourne reducing the capacity to run additional trains on these lines. For example, in the afternoon peak hour on the Werribee line, four trains run to Werribee. The 20 train per hour limit between the city and North Melbourne means that Werribee services cannot be increased without reducing services on the Williamstown, Sydenham, Broadmeadows or Upfield lines.

Other limits on rail capacity include: the geographic reach of the network (with Melbourne's track network not altering much since the early 1940s); train pathways and stopping patterns (with each line having a finite number of train pathways that are determined by the characteristics of the infrastructure and the frequency and type of trains operated); and whether the track is single or double.

The EWLNA has found that – even with considerable effort and investment being directed towards improving capacity – the Northern and Caulfield Rail Groups will 'hit the wall' and outstrip available capacity within a decade. Substantial overcrowding will be evident in 2012 and beyond on the Northern Group and 2016 and beyond on the Caulfield Group.

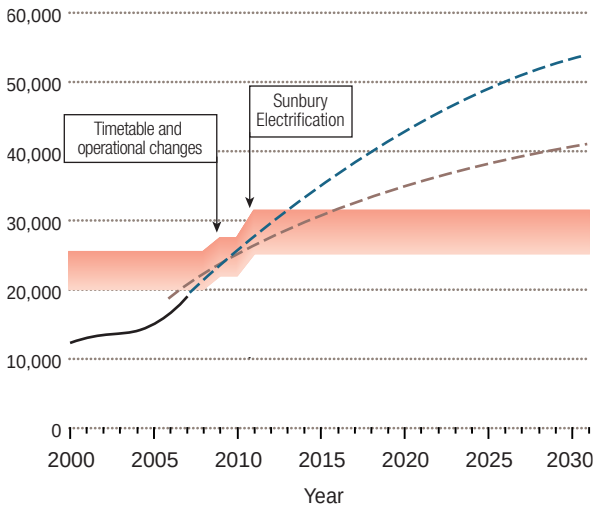
If this problem is not addressed, the rail network's ability to provide a competitive public transport option to the growth areas of Melbourne will be significantly constrained. This constraint will also have a negative effect on the growth of central Melbourne. In addition, network extensions into growing areas in the west such as Melton will not be possible without first providing additional capacity on the existing network.

The seriousness of the looming capacity crisis on the Northern Rail Group is exacerbated by road capacity issues in parts of Melbourne served by the group. With the West Gate Bridge and the road crossings over the Maribyrnong River struggling to cater for predicted growth in traffic, the failure to address rail capacity issues will leave current and potential rail patrons from the fast growing Geelong, Werribee, Altona and Tarneit areas with little alternative but to use their cars – further increasing congestion on roads to and from the city's west.

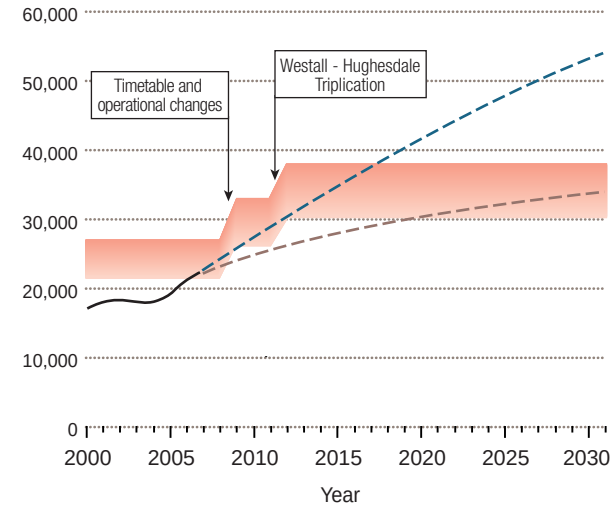
Action must be taken to provide more capacity for the Northern and Caulfield Rail Groups as a matter of priority. This will require a 'generational step-up in rail capacity' – a step-up that can only be achieved through major investment in substantial new network infrastructure.

Patronage exceeding capacity on Melbourne's busiest lines

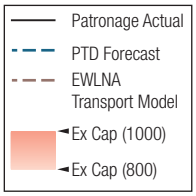
Northern Rail Group, patronage versus capacity



Caulfield Rail Group, patronage versus capacity



Capacity is depicted by the red line – the upper limit is based on 1000 people on board the train; the lower limit is based on 800 people on board.



EWLNA – Summary of key findings

- To move more people and encourage even greater public transport patronage, the capacity of Melbourne's rail network must be expanded. To achieve the required capacity – and to provide a foundation for further extensions in the passenger rail network – major new investment is needed to deliver a 'generational improvement' to the city's rail network.
- Without major investment in improving capacity, the Victorian Government's 20/2020 public transport target cannot be met.
- Melbourne's rail network has reached the point where it is experiencing the first 'growing pains' associated with moving from a suburban rail network to the 'metro style' system enjoyed by large European cities. Melbourne must take the bold first step towards a modern rail 'metro' by building a new cross city rail tunnel. This tunnel will not only expand capacity, it will also deliver very substantial economic, social and environmental benefits for Melbourne.

Tackling the problems

The Melbourne Metro rail tunnel recommended by the EWLNA will provide capacity for an extra 40,000 passengers per hour and ensure that the Northern and Caulfield Rail Groups have sufficient capacity in the future.

The tunnel will also take the first step towards building a metro-style network for Melbourne by 'unscrambling' the inner core of the network and laying down the foundation for further extensions of the network into growing areas in the west

over-reliance on the west gate bridge

The West Gate Bridge is something of a Melbourne icon – and a unique and critical element in the city's transport network. It is also a transport 'keystone', with delays and congestion on the bridge rippling out to affect the entire road system.

Currently, around 160,000 vehicles use the bridge each day. This will grow over the coming years, reaching around 235,000 vehicles per day by 2031.

The bridge serves as the major connection from the city's west and Geelong to central Melbourne and to the south and south-east. The bridge is also Melbourne's most important land freight route (with 15 per cent of traffic over the bridge comprising heavy commercial vehicles) and its continued effectiveness is essential to efficient freight movements to and from the Port of Melbourne, across Melbourne, to and from regional Victoria and interstate.

The reliance on the West Gate Bridge as the principal road connection from the west into Melbourne means that Melbourne faces short- and long-term strategic risks should the bridge become unavailable for use. At present, even a minor traffic incident can have a severe, costly and disruptive effect – bringing traffic across the inner west to a halt and spreading across the city's transport network. In the longer term, a major incident that restricted access to the bridge or rendered it unavailable for an extended period of time would have potentially catastrophic economic repercussions that would extend well beyond Melbourne.

Congestion on the bridge during peak periods is already having negative economic and business impacts. As commuters from the west experience on a daily basis, the practical carrying capacity of the West Gate Freeway during peak periods is already fully taken up. Alternative routes along Footscray Road, Dynon Road and Racecourse Road are also near capacity.

While traffic management measures may improve traffic flows and reduce congestion, there is very limited potential to accommodate the predicted significant volume increases across the bridge or along current alternative routes. With strong population growth occurring in Melbourne's west, these routes will become further constrained.

While the Government's current upgrade of the Monash – City Link – West Gate corridor will deliver significant improvements in travel time reliability and traffic flow, the capacity of the corridor (and of east-west travel generally) remains constrained over the longer term by the capacity of the West Gate Bridge.

The traffic consequences of the West Gate Bridge being unavailable

The West Gate Bridge

- The bridge is 2583 metres long, 37 metres wide and 58 m high.
- Thirty five workers lost their lives when a section of the bridge collapsed during construction.
- The bridge was completed and opened to traffic in 1978.
- Construction of the bridge took around 13,000 tonnes of steel, 500,000 bolts and 90,000 cubic metres of concrete.
- It was built to handle 40,000 vehicles a day and now handles nearly 160,000 vehicles every day.
- Part of the bridge was strengthened in the early 2000s and the bridge is currently undergoing a major strengthening and upgrading.

Tackling the problems

The new east-west road connection recommended by the EWLNA will provide a long-term alternative to the West Gate Bridge (via a tunnel under or a bridge over the Maribyrnong River).

This will deliver another freeway standard river crossing for Melbourne, reducing traffic on the West Gate Bridge, facilitating cross city freight movements and improving road connections between the west, the central city and the port precinct.

EWLNA – Summary of key findings

- The widespread concerns about the short- and long-term vulnerability of Melbourne's transport network as a result of over-reliance on – and the capacity constraints of – the West Gate Bridge are justified.
- Melbourne needs the 'insurance' of a long-term alternative to the West Gate Bridge and action should commence as soon as possible to develop and deliver such an alternative.

inadequate road capacity and connectivity

While many Melburnians want to travel across the city, the routes available to them are disconnected and increasingly congested.

The EWLNA has found significant capacity constraints and congestion points in relation to east-west travel:

- A key feature of Melbourne's east-west routes is that they have to cross the Yarra or Maribyrnong Rivers and there are very few options available for making these crossings. The two rivers represent a physical east-west barrier, with roads leading to the limited available crossings becoming 'choke-points' for traffic attempting to travel across the city from west to east (and vice versa).
- Daily queues on the Eastern Freeway are a constant reminder that this is the last of the major freeways terminating on the edge of the inner city, with the freeway coming to an abrupt halt at Hoddle Street. Heavy congestion at the end of the freeway may be exacerbated by the opening of EastLink.
- The long queues on the Eastern Freeway each day have the effect of pushing cross-town traffic further north to roads such as Brunswick Road and Bell Street.
- Alexandra Parade is one of inner Melbourne's busiest routes and experiences prolonged congestion during both peak periods. Weekend traffic is also congested, with traffic backed up along the length of the street at times.
- Key east-west routes in the city's west do not provide sufficient capacity, often run through residential and/or commercial areas, provide circuitous connections to major arterials and are becoming increasingly congested.
- The upgrade to the Monash-CityLink-West Gate Freeway will only result in a moderate period of respite, with traffic demand exceeding capacity within 10 to 15 years. There is no alternative, direct cross city connection to the M1 corridor.

The combination of these current constraints, expected high growth in travel demand from the west and the overall substantial increase in traffic volumes means that cross city travel will become increasingly difficult. Roads will become more congested, travel times less reliable and more traffic will divert to less suitable streets in an effort to find a way across the city.

Connections to Melbourne Airport

Melbourne Airport exerts a strong influence on the city's east-west travel patterns.

More than 3,200 international and domestic flights arrive at and depart from Melbourne Airport each week, making it Australia's second busiest airport after Sydney.

The airport also handles 350,000 tonnes of air freight each year, with 21 dedicated freight services arriving and departing each week. In addition, more than 11,000 people work in the Melbourne Airport precinct.

These activities generate considerable traffic to and from the airport. Analysis by the EWLNA shows that around 20 per cent of Melbourne Airport-related travel is to and from areas in the city's eastern suburbs: An east-west link running from the end of the Eastern Freeway to CityLink would give these people faster, more convenient access to the airport – whether they are passengers, workers or businesses using air freight – and help to reduce congestion on other east-west routes.

Tackling the problems

The new road link recommended by the EWLNA will create a direct, connected east-west route across the city for around 150,000 vehicles each day.

It will provide an additional high capacity river crossing and an alternative to the M1. It will eliminate 'choke points' in the cross city road network, improving travel reliability and reducing the incentive for 'rat running'.

The link will also provide much improved connections for freight transport to Melbourne Airport and the Port of Melbourne.

EWLNA – Summary of key findings

- With the exception of the M1, Melbourne's cross city routes do not provide sufficient through road capacity or connectivity with the rest of the network to serve the growing demand for east-west traffic. As Melbourne grows and develops, the current connectivity through Footscray and Kensington will be even further constrained.

uneasy neighbours - truck traffic and the inner west

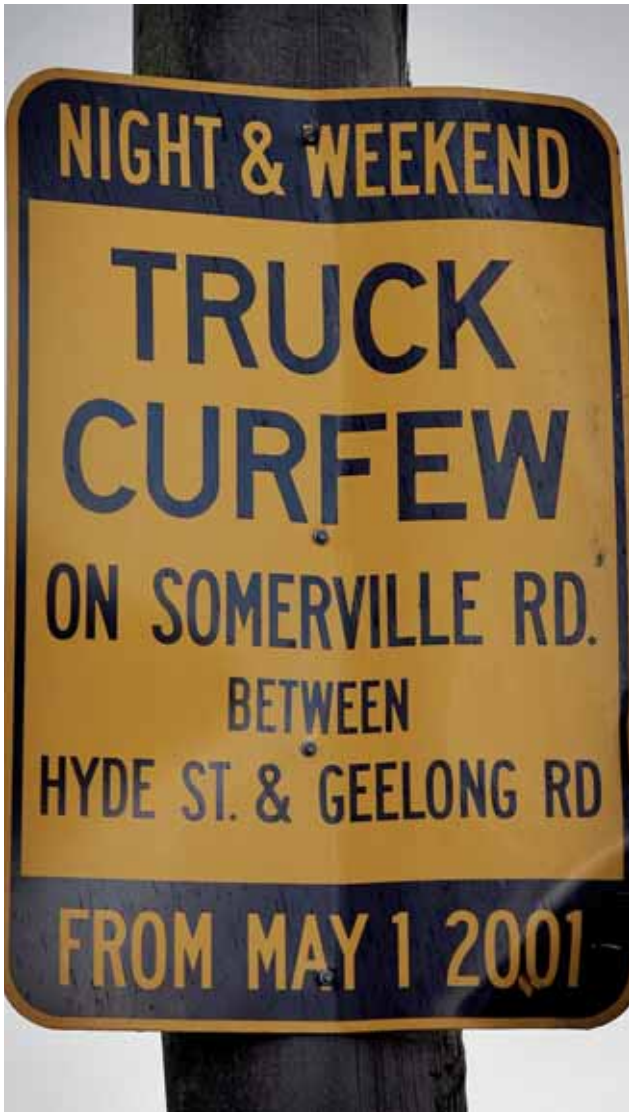
Heavy truck traffic in Melbourne's inner west remains a source of community concern and frustration. Despite extensive consultation, debate and the introduction of limited truck curfews, extremely large numbers of trucks continue to use local streets – a situation that will only get worse as freight through the Port of Melbourne increases.

Since counts began in 2002, thousands of trucks have been moving daily through the area bounded by the Maribyrnong River in the east, Hudsons Road in the south (Spotswood), Geelong Road in the west and Buckley Street (Footscray) in the north. In 2007, total truck movements in the area exceeded 20,200, with a concentration of around 7,000 trucks per day moving along Francis Street in Yarraville.

The reasons for this heavy truck traffic are varied. The location of Yarraville between the port and major industrial centres further west is a major contributing factor, while the West Gate Freeway/Williamstown Road/Francis Street route is seen by some operators as a shorter and more direct route to the port than the West Gate/Bolte Bridge route. Some smaller operators also use the route to avoid tolls on CityLink. The siting of container yards close to the port and residential areas is a further factor, with 14 yards located within the City of Maribyrnong.

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

The EWLNA has found that there is an unacceptably high number of trucks travelling through this residential area and that a solution should be sought to the problem.



Tackling the problems

The EWLNA Truck Action Plan provides a truck route around residential areas in Melbourne's inner west.

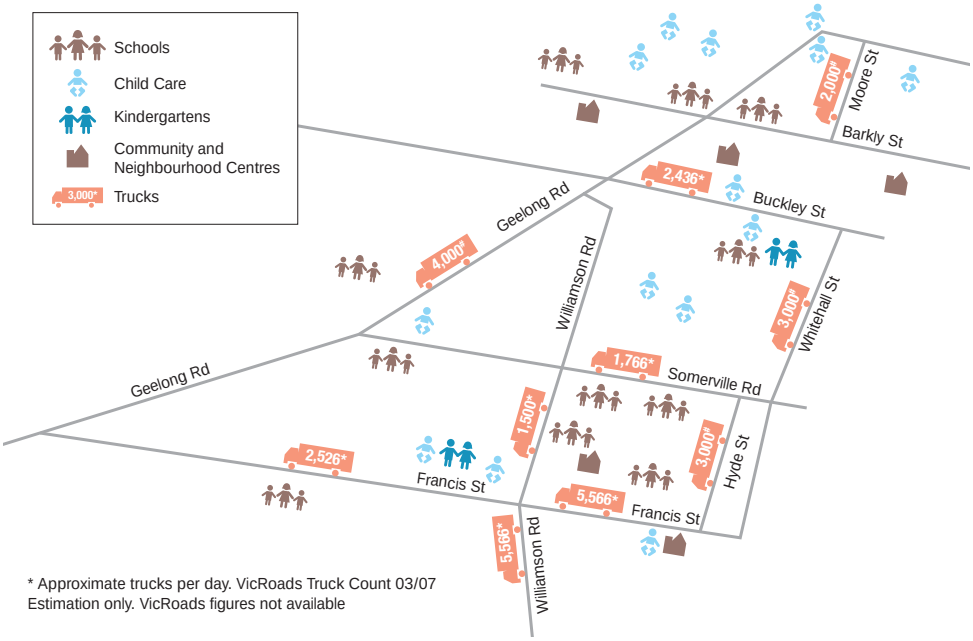
With 90 per cent of truck traffic in the area being 'through traffic', the action plan's combination of new and upgraded roads and strictly enforced truck bans will significantly reduce the amount of trucks moving through the inner west.

At the same time, the new east-west road link will provide the connections needed for efficient freight movements to and from the port, and across the west.

EWLNA – Summary of key findings

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

Current truck routes and community activity in the inner west



* Approximate trucks per day. VicRoads Truck Count 03/07
Estimation only. VicRoads figures not available

reclaiming suburban streets - reducing through traffic in the inner north

For some time, residents and community groups in Melbourne's inner northern suburbs have been expressing concerns about the impact of heavy traffic flows on local neighbourhoods.

Amenity issues in the inner-north are largely the result of high traffic volumes (mostly cars) through these suburbs during peak periods, the congestion that results from large volumes of north-south traffic intersecting with large volumes of east-west traffic and 'rat running' through suburban streets to escape this congestion. This spreading-out of traffic through suburban streets can be seen very clearly in the EWLNA's 'select link' analysis of traffic travelling east-west along Brunswick Road.

One key east-west road link between Flemington Road and Victoria Street that runs across Melbourne's inner north (the Elliot/Macarthur/Cemetery/Princes/Alexandra Parade route) is already at capacity during peak periods and there is little opportunity to increase capacity without major incursions into properties along the route. The lack of alternative east-west routes across the northern CBD also compounds the concentration of traffic on the route.

Over time, the high traffic levels on this east-west route have led to an increase in the 'green' traffic signal time given to the route at the expense of north-south routes. In turn, this has led to increasing delays to tram and bus services operating along north-south routes such as Royal Parade and Lygon, Nicholson, Brunswick and Smith Streets. Pedestrians, cyclists and motorists using these routes are also penalised.

Commuters and visitors to the region also experience difficulties caused by the high traffic flows through the area. These difficulties include problems with parking, the shortage of safe pedestrian connections between the University and hospital campuses, and delays in moving through or around the area by car or bus as a result of traffic congestion

A new east-west road link offers significant amenity benefits for the inner north, by providing an alternative for through traffic – particularly if accompanied by imaginative urban planning, improvements in public transport and more walking and cycling options. As well as removing through traffic from local streets, measures such as lane reductions, priority public transport lanes and the resetting of traffic signals could all be used to ensure that spare surface road space created by the tunnel would not be used by additionally generated or re-routed traffic. The EWLNA has found that other cities around the world are exploring the option of directing more traffic into tunnels to improve the surface environment, provide better conditions for walking and cycling, and free up new urban space for residential and commercial development.

Tackling the problems

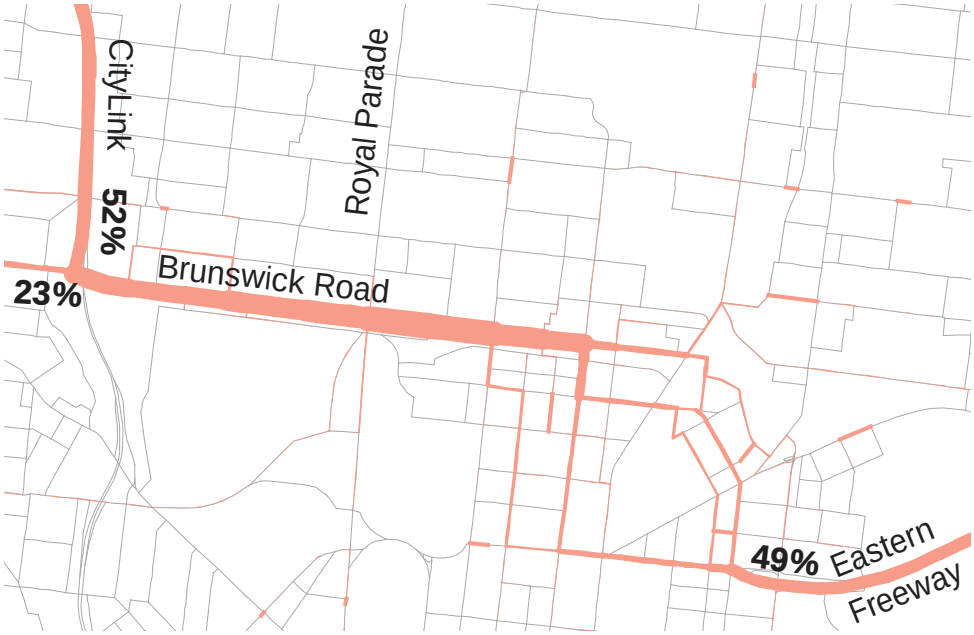
By providing a connected route across the city, the new road link recommended by the EWLNA will discourage 'rat running' through local suburbs. It will remove traffic from Royal Park and reduce traffic levels generally within the inner north.

By freeing up surface road space, the tunnel also offers the potential for more walking and cycling options, improved priority for public transport and the more creative use of public spaces.

EWLNA – Summary of key findings

- There is widespread 'rat-running' along inappropriate roads in the inner north as east west routes become more congested.
- An alternative route would reduce the use of local roads by this through traffic.

'Rat running' through the north –
Select east-west link, Brunswick Road (two way), 2006



moving more freight by rail

Many people see getting more freight off trucks and onto rail as the way to reduce the growing number of trucks on Melbourne's roads. The Victorian Government has acknowledged the importance of increasing rail's share of freight by setting a target of moving 30 per cent of freight from and to all ports by rail by 2010 (known as the 30/2010 target).

The EWLNA has found that there are clear opportunities to increase rail's share of freight generally, without compromising freight efficiency and in a way that reduces heavy truck movements in and out of central Melbourne. However, the issue is considerably more complex and difficult than it initially appears:

- At present, the total amount of port freight carried by rail is just 16 per cent, consisting entirely of intrastate or interstate freight movements.
- More than 70 per cent of international containers moving to and from the Port of Melbourne has an origin or destination within 40 km of the centre of Melbourne – in other words, it is metropolitan, not regional, freight. This will grow over the next 20 years. While a regular service between two fixed points is one of rail's strengths, the relatively short lengths of these journeys make it very difficult for rail to be competitive with road when transporting metropolitan freight.
- Currently, the amount of metropolitan freight carried by rail is effectively zero. At present, every container leaving the port with a Melbourne metropolitan destination is moved by truck, and all containers moved from Melbourne's suburbs to the port are moved by truck. Based on current forecasts for container trade, more than 360,000 containers would need to be moved by rail to suburban hubs by 2010 to achieve the Government's target for rail freight.
- Winning market share on the massive Melbourne to Sydney corridor is rail's biggest opportunity – but also its biggest challenge. Even a small increase in such a large market will deliver substantial reductions in trucks on the Hume Highway and substantial increases in the rail task. However, unless major interstate rail intermodal operations are shifted away from South Dynon in the centre of Melbourne, any increase in rail's share of freight transport will simply bring more trucks to the railhead in central Melbourne.
- In relation to port-related freight, it is important to appreciate that there are around 9,000 daily truck movements into and out of the port. The number of commercial vehicle movements each day across Melbourne is around 500,000. Any shift from trucks to trains into and out of the port, while welcome and desirable, involves a very small proportion of total commercial traffic in Melbourne. In other words, it is not the single 'silver bullet' solution to issues across the broader urban freight network.

While the 30/2010 port rail freight target is a highly laudable policy objective, the conclusion of the EWLNA is that it cannot be met. The EWLNA recommends that this target be re-evaluated and a new strategy developed, in consultation with industry, to move more freight by rail.

However, the re-evaluation of this target should not be confused with the importance of increasing rail's share of port freight in the longer term. When future port volumes are considered, it is critical that rail is used in conjunction with road to move the growing number of containers coming through the port. The EWLNA has concluded that the best opportunity for this to occur is through port rail shuttles between the port precinct and intermodal precincts at Altona/Laverton, Dandenong and north of Melbourne in the Somerton area.

The EWLNA has also concluded that it is important to Melbourne's future for a much greater amount of freight to be moved by rail generally and that stronger action is needed to achieve this outcome.

Tackling the problems

The EWLNA rail freight recommendations will ensure that major steps are taken towards developing an intermodal network in Melbourne serviced by rail shuttles and improving rail's share of freight transport on the Sydney to Melbourne corridor.

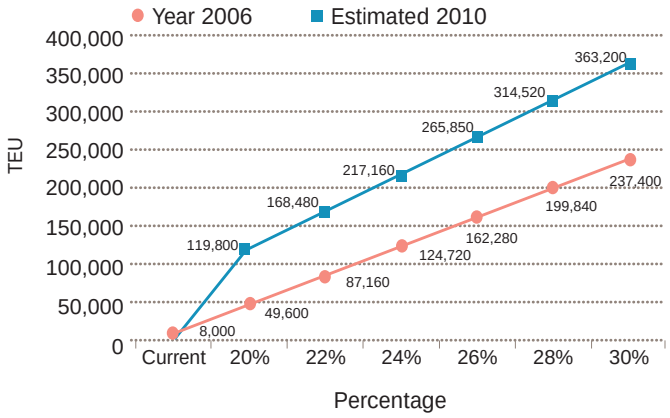
By moving passenger lines underground, the new rail tunnel recommended by the EWLNA also creates the potential to develop a standard gauge dedicated freight line on the Dandenong line and to the Port of Hastings.

EWLNA – Summary of key findings

- The Victorian Government's target of increasing rail's share of port freight to 30 per cent by 2010 cannot be met. This target needs to be reviewed, alongside strong new actions to increase rail's share of freight generally.

Making the shift to rail

Estimated port container modal shift required to achieve 30/2010 target



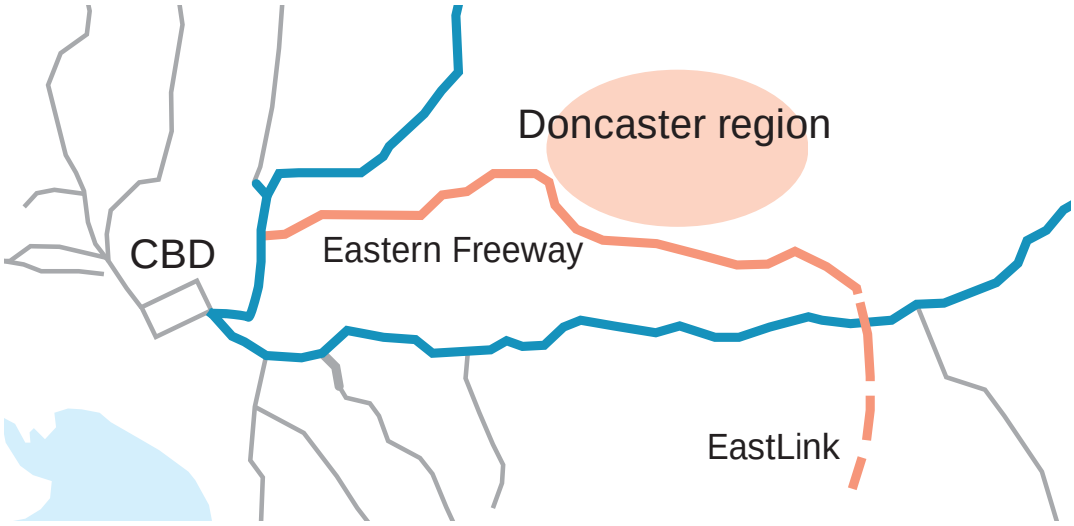
public transport on the doncaster corridor

The Doncaster/City of Manningham area is located around 12 km from the Melbourne CBD and is home to around 116,000 residents (forecast to grow to 132,000 by 2031).

At present, around 8,500 of the region's residents commute to work in central Melbourne each day. Figures from the 2006 Census show that around 60 per cent of all Manningham commuters to central Melbourne drive to work, while 37 per cent catch public transport. Of those using public transport, two thirds use buses along the Eastern Freeway and one third travel by either the Ringwood or Hurstbridge rail lines. These levels of commuting by public transport are significantly lower than in neighbouring municipalities.

These figures reinforce residents' concerns that the public transport options available in the region do not fully meet their transport needs. They also suggest that the provision of better public transport services could significantly increase the numbers of residents using public transport to get to work. The EWLNA examined options for providing improved public transport along the Doncaster corridor and found that:

- The introduction of an $80 million DART (Doncaster Area Rapid Transit) upgrade in 2009 – as announced in the 2006 Meeting Our Transport Challenges plan – has the potential to deliver patronage increases of 50 per cent above current levels by providing a fast bus link to the CBD, with tram-like frequencies and off-peak and weekend hours of operation equivalent to train services. This upgrade will address many of the shortcomings identified in existing public transport services in the Doncaster corridor.
- The full implementation of DART, with additional priority measures being recommended by the EWLNA, will result in a patronage increase of a further 5,000 – leading to total additional patronage of 10,000 trips above current levels by 2021, a 100 per cent increase.
- The potential catchment for rail services is low, with analysis by the EWLNA showing that a heavy or light rail service to Doncaster would attract a relatively small number of extra people to public transport, with most people using the services simply switching from existing bus services or the adjacent Hurstbridge and Ringwood rail lines. In other words, the rail line would not remove a significant number of cars from the roads; it would simply lower patronage on existing public transport services.



- Compared to the enhanced DART service, only an extra 2,500 trips would shift to public transport if a heavy rail solution was implemented (at a cost of $1.7 billion to $2 billion). Similarly, in the case of light rail, an extra 6,000 trips would shift to public transport (at a cost of $600 million to $750 million). While this modal shift is desirable, when the relatively small number of additional people switching from private vehicles is taken into account – and when compared to other public transport priorities – such investments would not represent value-for-money for Melburnians.
- A heavy rail link would not relieve daily congestion at the western end of the Eastern Freeway. Modelling undertaken for the EWLNA shows that many of the vehicles travelling westbound along the freeway in the morning peak period do not come from the Doncaster/Manningham region: they have come from much further east. The single biggest origin of traffic entering the freeway (33 per cent) is at Springvale Road, well to the east of Doncaster.
- A large amount of Eastern Freeway traffic entering from the north and further east comes from within 2 km of an existing train station (on the Hurstbridge and Ringwood lines). Despite having access to a rail service to the central city, these commuters choose to travel by car. This suggests that many of these vehicles will continue to drive along the Eastern Freeway irrespective of the provision of new or enhanced public transport services to the Doncaster/Manningham catchment.

The EWLNA has found that further enhancements to the DART upgrade would deliver bus services with a similar standard service as heavy or light rail – and provide these services quickly. The flexibility of a bus service also allows a rapid response to any unexpected increase in patronage or any change in catchment characteristics. These service enhancements would include:

- New bus only ramps off the Eastern Freeway into a major new interchange at Victoria Park Station
- Continuous bus-only lanes from the end of the Eastern Freeway into the CBD
- In conjunction with the development of the EWLNA recommended east-west road link, a reallocation of road space to provide continuous bus only lanes along either Johnston Street or Alexandra Parade connecting to Melbourne University and the new Parkville underground railway station
- New hybrid buses
- Tram- like service levels and hours of operation
- Expanded Park & Ride facilities.

With the right measures in place, these enhancements would cut the minimum travel time between Doncaster Hill and Melbourne Central from around 35 minutes to 25 minutes – approaching the travel time that could be achieved by a dedicated rail line.

The EWLNA acknowledges that the expectations of some residents of the Doncaster area have been raised in relation to a rail link. This is unfortunate as the substantially improved services offered by an enhanced DART service would provide a bus service that is comparable with a fixed rail service.

The challenge – and opportunity – in Doncaster is to implement a world class rapid bus service that dispels the notion that buses are not as ‘good’ as trams or trains. The EWLNA has concluded that the DART upgrade, with the EWLNA’s recommended enhancements, will provide the residents of the Doncaster/Manningham region with a high quality public transport service that is one of the best in the city.

DART – a major boost to public transport services

The EWLNA believes that the DART upgrade should provide a rapid mass transit bus system that has the quality and features of rail services combined with the flexibility of buses. The minimum service improvements under the initial DART roll-out should include:

- A 50 per cent increase in peak hour bus services
- A 100 per cent increase in weekend services into the CBD
- Peak hour frequencies of around 5 minutes
- Weekend services from 6am to midnight
- Upgrading of a number of routes to SmartBus standard.

To boost public transport patronage, the roll-out must also deliver:

- Dedicated, bus-only priority lanes or rights of way along routes
- Special stations
- The use of intelligent transport systems to keep passengers informed about travel times and wait times.

The EWLNA has found that the benefits delivered by similar bus rapid transit systems in other cities include:

- Performance improvements – such as travel time savings, greater reliability, improved safety and greater capacity
- Higher levels of public transport patronage
- Relatively low capital costs per mile of investment
- Environmental benefits (where hybrid/low carbon buses are used).

EWLNA – Summary of key findings

- Currently, the Doncaster corridor is not as well-served by public transport as adjoining municipalities. Existing bus services connecting the area to central Melbourne offer inadequate levels of service, resulting in relatively low levels of patronage for public transport.
- Building a heavy rail link to Doncaster would not significantly relieve congestion at the city end of the Eastern Freeway and any increase in rail patronage would occur largely at the expense of other public transport in the region (the adjacent rail lines and existing bus services) – not by removing cars from the roads.
- The quickest and most cost-effective way to achieve a substantial boost in public transport along the Doncaster corridor is through the Doncaster Rapid Area Transit (DART) bus upgrade, accompanied by further service enhancements.

Tackling the problems

The EWLNA's recommendations to provide a bus rapid transit service along the Doncaster corridor will give residents in the Doncaster/Manningham region access to a state-of-the-art public transport service to the central city that is as fast, reliable and comfortable as a fixed rail service – at a fraction of the cost.

Melbourne's cycling boom

While cycling still represents a very small proportion of all travel within Melbourne (around 2 per cent), the city's bicycle culture has strengthened in recent years, with particularly strong growth in the numbers commuting by bicycle.

The 2006 Census Journey to Work figures – and data and analysis from other sources – show a very definite cycling 'boom' occurring in Melbourne. In 2006, around 18,000 journeys were made to work each day by bicycle, up from 12,000 in 2001. In 2007, cyclists accounted for almost 8 per cent of all vehicles on the road during the morning peak (7am to 9am), compared to 4 per cent in 2006.

The strongest growth in commuter cycling is in the inner city, with the greatest growth occurring on the four main cycling 'arteries' to the CBD: Footscray Road (up 37 per cent), Canning Street (up 35 per cent), Capital City Trail / Yarra River (up 33 per cent) and St Kilda Road (where bicycles now represent 22 per cent of morning peak traffic).

Supporting and encouraging cycling is an important part of improving Melbourne's east-west connections, as a beneficial activity in itself and in making a contribution to reducing congestion and GHG emissions. These benefits justify greater investment in removing the barriers that prevent more Melburnians taking up cycling – including improving connectivity across the cycle network, separating cyclists and motorists on major routes, making it easier to combine cycling with train and bus travel, and promoting the use of cycling as an alternative to car travel for short trips.

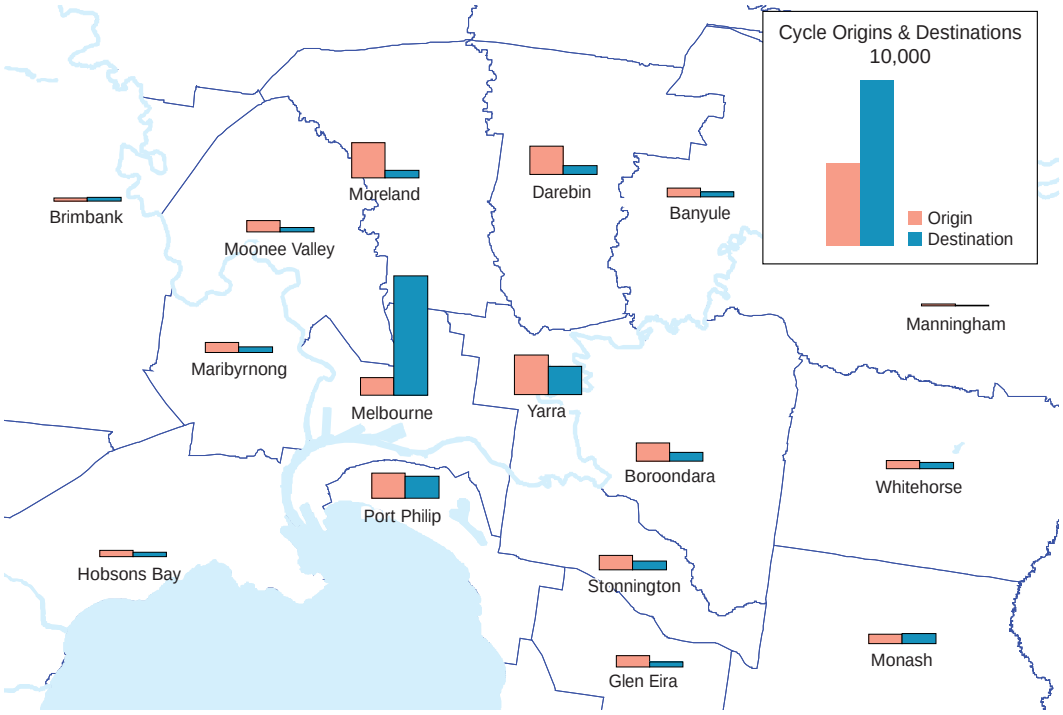
Tackling the problems

The specific cycling projects recommended by the EWLNA will significantly improve east-west cycling connections and make it easier for people to commute to work in the central city by bicycle.

Large scale infrastructure projects, such as those being recommended by the EWLNA, provide significant opportunities to enhance cycling facilities. For example, Melbourne's EastLink project includes a new walking and cycling trail that runs the length of EastLink (around 35 km), providing access to parkland, reserves and wetlands, and connecting with other trails.

The EWLNA has considered a range of cycling options within the context of improving east-west transport connections and has incorporated some of these options into its recommendations.

Cycling to work in Melbourne



transport and the environment

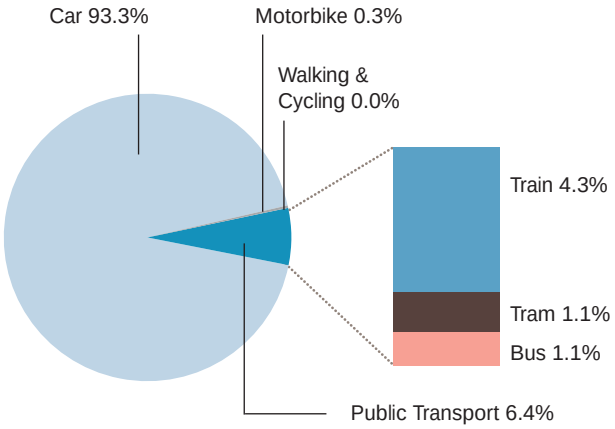
Melburnians are becoming increasingly aware of the risks posed by climate change to the city's – and Victoria's – economy.

Reducing transport's greenhouse gas (GHG) emissions is critical to addressing climate change and the EWLNA has found that the greatest results in Melbourne are likely to come from a combination of improvements in vehicle technology and increases in public transport patronage during peak periods.

In Victoria, transport is the second largest producer of GHG after stationary energy production. In 2005, energy production generated around 55 per cent of all GHG emissions attributable to Victoria, while transport across all modes generated 16.9 per cent of total Victorian emissions. Between 1990 and 2005, these emissions grew by 29.9 per cent (or around 1.8 per cent each year) and are predicted to rise a further 16.4 per cent by 2020.

Road transport was responsible for more than 90 per cent of GHG emissions from the Victorian transport sector in 2005. Cars continue to contribute the majority of GHG emissions from Victorian transport (56 per cent in 2008), with 25 per cent of emissions coming from trucks and other commercial vehicles.

GHG emissions from Victorian passenger transport



The EWLNA has found that the actions Melbourne can take to reduce GHG emissions fall into three broad categories:

Reducing travel demand

Reducing travel demand – by persuading people to change their behaviour or by creating a higher density city – is a tough challenge, especially when confronted with a rapidly growing population, strong economic growth and an expanding city.

In particular, there is little evidence to suggest that Australians will significantly adjust their travel patterns on the basis of environmental concerns. In 2007 – for the first time – Australians purchased more than 1 million cars in a single calendar year and the number of new SUVs being purchased grew by more than 16 per cent. These trends suggest that people are not modifying their driving choices to any great extent.

The EWLNA has concluded that there is considerable scope for encouraging Melburnians to change their travel behaviour, particularly in relation to making shorter trips on foot or by bicycle; making fewer trips to school by car; travelling with more than one person in the car; and using public transport during peak periods. However, it is highly unlikely that these measures alone will make a significant contribution to reducing overall GHG emissions from transport in Melbourne.

Boosting public transport share

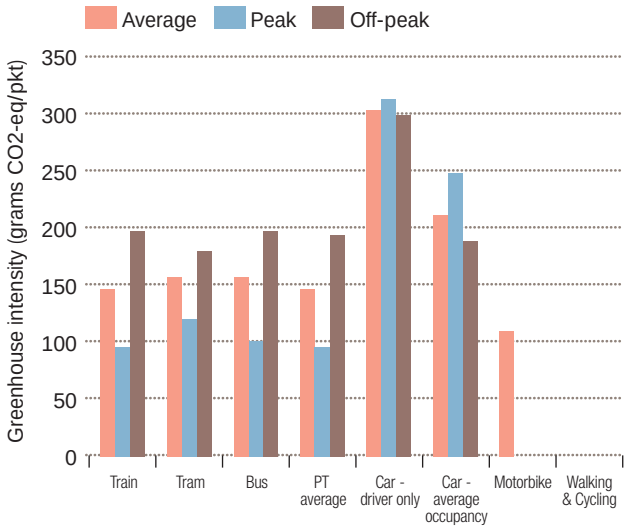
Encouraging more people to use public transport is vitally important in reducing GHG emissions from transport in Melbourne; however, significant barriers stand in the way of such a large scale mode shift.

These barriers include the low density of Melbourne; the flexibility and convenience of the car (especially in the outer suburbs); people's general preference for car travel; and the fact that a large section of the city's population does not have the option of switching to public transport (such as tradespeople, delivery and sales people, small businesses and others who need motor vehicles to earn a living). Even where very large gains are made in public transport, the growth in the actual number of car trips will always be much higher, limiting the impact that public transport improvements can have on GHG reduction.

While public transport in Melbourne performs significantly better overall than cars when it comes to GHG emissions, this performance is due mainly to the large number of people that are moved by public transport during peak periods, rather than to the inherent efficiency of Melbourne's trains and trams. In fact, during off-peak periods, the GHG intensity of public transport increases to the point where it is higher than car travel (due to Victoria being largely dependent upon brown coal for the state's electricity supply).

This means that the greatest potential for reducing GHG emissions from transport in Melbourne lies in increasing the use of public transport during peak periods. As public transport performs much better than cars in terms of GHG intensities per person kilometre during peak periods, investments that lead to a greater public transport patronage during these periods will make the most effective contribution to reducing emissions.

Average GHG intensities of public transport and cars in Melbourne



Improving vehicle technologies

The evidence strongly indicates that new vehicle technologies offer the best prospects of a substantial reduction in GHG emissions from transport. These technologies include improved vehicle aerodynamics and tyre technology, advances in petrol and diesel engines, petrol-electric and plug-in hybrid vehicles, and hydrogen fuel cell vehicles. Alternative biofuels – such as ethanol and biodiesel – are also being developed (although these fuels come with potentially significant environmental and social costs that must be addressed before they are acceptable on a broader scale).

Globally, a combination of high fuel prices, consumer concerns about climate change, increasing pressure from governments and the realisation that fossil fuels are finite is encouraging manufacturers to give greater priority to pursuing these technologies.

While many of these technologies are in the early stages of development, the future is very optimistic for more fuel-efficient and environmentally friendly vehicles. A recent report commissioned by Victoria's Office of Climate Change found that improving fuel efficiency is easily the most effective way to reduce emissions from transport – well ahead of demand management measures, mode shift to public transport and improved vehicle occupancy.

However, despite current technological advances, there has been no significant change in the fuel efficiency of the Australian vehicle car fleet for four decades – because gains in technology have been traded off against 'extras' such as air conditioning and strong growth in the sales of heavier, more powerful vehicles.

For real improvements to occur, stronger action and leadership will be required from governments to force the pace of change – including stricter emissions standards, cost incentives to purchase more environmentally friendly cars and changes to fleet procurement practices.

Tackling the problems

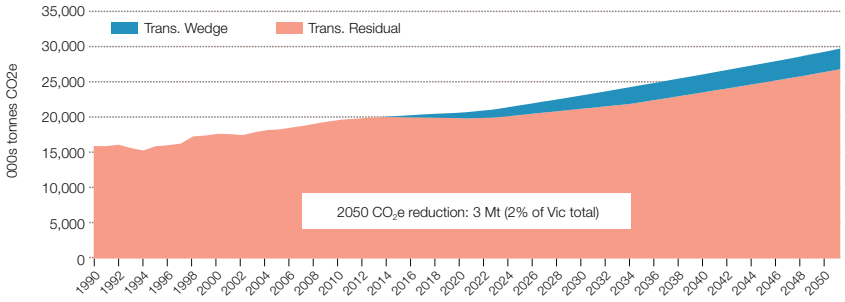
The new rail tunnel proposed by the EWLNA will enable many more people to travel to and from the central city by rail during peak periods – one of the more effective ways to reduce GHG emissions. By not providing city access as part of its recommended road project, the EWLNA is supporting the market for public transport to the central city.

The EWLNA is recommending stronger action by government to bring Australia into line with European emissions standards and to improve the numbers of low emission or 'clean' vehicles operating in Melbourne.

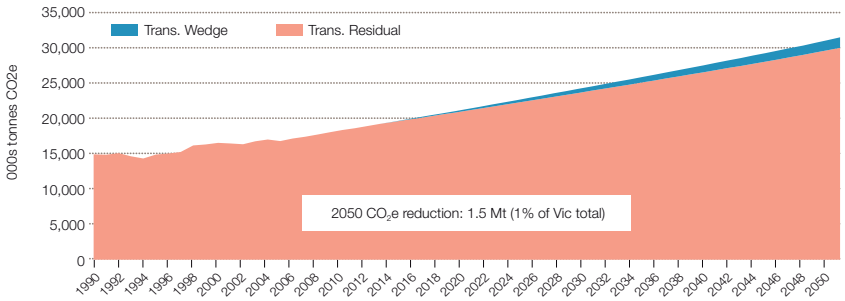
The EWLNA is also recommending that the Victorian Government resist pressure to significantly alter its Melbourne 2030 framework, in the interests of reducing GHG emissions by developing a more compact, higher density city.

Reducing GHG emissions from transport – greater fuel efficiency is the most effective option

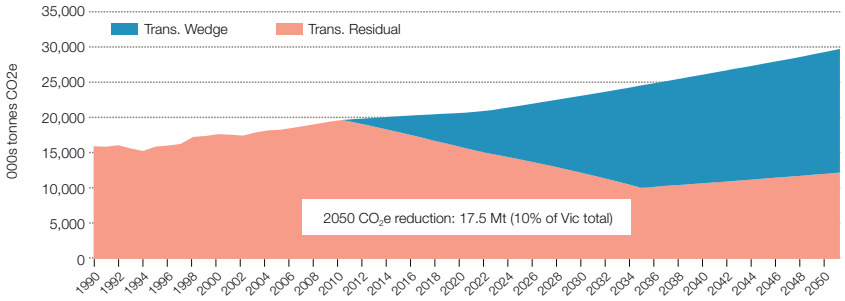
Demand management



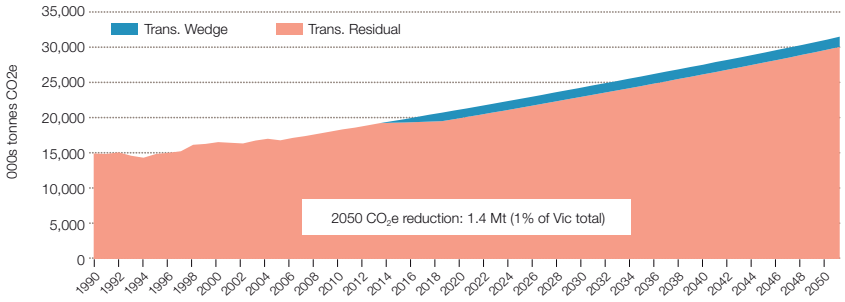
Mode shift to public transport and rail freight.



Improved fuel and vehicle efficiency



Increased vehicle occupancy



A carbon-constrained future

The EWLNA modelled future travel patterns in Melbourne in a 'carbon constrained world' in order to understand the changes that would occur in travel behaviour in such an environment. The EWLNA examined a future scenario that looked ahead to 2031 to assess the impact of:

- an immediate overnight doubling in the cost of private vehicle travel, including a doubling in the price of petrol, parking and other vehicle costs relative to other household expenditure items (with no other change in disposable income;
- a 25 per cent decrease in the cost of public transport; and
- a large increase in city density.

The modelling indicated that while private vehicle trips per person would reduce by around 6 per cent compared to a 2031 'base case', the overall number of vehicle trips taking place each day in Melbourne would still be nearly 2 million more than today – due largely to population growth.

However, increasing the city's density would reduce the distances people travel, with a 19 per cent reduction in kilometres travelled projected by the modelling. This would reduce CO_2 emissions by a similar proportion.

While public transport's share of travel would increase, also by around 6 per cent, it would comprise a much smaller number of trips per day compared to the reduction in private vehicle trips. From the modelling of this carbon-constrained future scenario, the EWLNA has concluded that:

- As motor vehicle traffic volumes will always greatly exceed public transport trip volumes, any measures to reduce GHG emissions from motor vehicles will be the most effective.
- In the long term, increases in urban density are likely to be very effective in reducing GHG emissions, or at least limiting emissions growth.
- Modal switch to public transport reduces GHG emissions and should be pursued, but in terms of aggregate volumes for the whole city, such a shift may be more limited in its effectiveness than other measures.

EWLNA – Summary of key findings

It is not within the scope of the EWLNA to recommend actions that government might take to reduce GHG emissions from Melbourne's transport sector. However, the EWLNA has found that:

- Given the continuing high demand for car travel, improvements in vehicle technology are likely to be the most effective means of reducing GHG emissions from transport in Melbourne.
- Using public transport in peak demand periods is the most effective way in which Melburnians can contribute to reducing GHG emissions from their personal travel.
- There is considerable scope for government to take stronger action to improve the environmental performance of its own fleet (as well as the entire Victorian vehicle fleet) and to encourage Melburnians to change their vehicle purchasing patterns and travel behaviour.

The EWLNA assessed all options considered as part of the study in relation to their impact on GHG emissions. The final package of recommendations proposed by the EWLNA has a minimal – but beneficial – impact on overall GHG emissions in Victoria.

Environmental issues in the EWLNA Study Area

Issues of sustainable development at a local or neighbourhood level are becoming increasingly important to Melburnians. This is particularly the case in areas that are highly industrialised and urbanised. In these areas, local communities place a high value on protecting and enhancing natural and cultural heritage and on improving neighbourhood amenity.

Major transport projects potentially offer significant new opportunities to improve amenity and environmental values. These opportunities range from the removal of traffic from local streets and the creation of new bicycle lanes to initiatives that will increase native vegetation, improve urban waterways, clean up contaminated land sites and create new public artworks.

Tunnels also offer the opportunity to free up road space above ground, which can be used to improve priority for public transport and create more walking and cycling paths.

Melbourne's EastLink project provides a good example of how a major transport project can be used to improve local environments, with around four million native plants and trees being planted as part of the project and 70 wetlands filtering rainwater off the motorway, creating new habitats for native species.

The assessment process adopted by the EWLNA included a detailed evaluation of the potential environmental impacts of each option considered by the study, including air and water quality, land contamination, biodiversity, noise and amenity, and cultural heritage. The process also identified and examined opportunities for improving environmental values within the Study Area. This evaluation established that there would be no 'fatal flaws' associated with potential environmental or heritage impacts of the EWLNA recommended projects. However, a number of issues will require careful consideration during any further development of the projects.

financing and delivery

The EWLNA has explored the capacity of the public and private sectors to fund the large scale projects recommended by the study, as well as considering whether the construction industry has the capacity to deliver the projects.

With a total construction cost of approximately $18 billion (in 2007 dollars), funding and delivery would be a challenge – but one that can be met. The EWLNA examined Victoria's budget position and concluded that, given the size of the projects and other regular calls on the budget, it cannot be assumed that these projects could be funded solely from the budget. While a strong case can be made for Commonwealth assistance through the AusLink program (which requires a matching state contribution), the EWLNA has concluded that external finance – and borrowing in particular – is likely to be required.

New sources of revenue will be required to repay the external finance. The EWLNA examined a number of possibilities based around the concept that those who benefit from the projects should contribute to their cost. These possibilities are discussed further in the EWLNA main report. Categories of revenue examined by the EWLNA include:

- Direct charges to project users
- Direct charges to network users
- Special levies on private parties
- Commercial opportunities
- Other government revenue options.

Other states are facing similar infrastructure investment challenges. Both New South Wales and Queensland have announced infrastructure programs with spending of around $50 billion over the next four years, including transport, energy and water projects. In addition, there are a number of significant private sector projects that will be in the market around the same time as the EWLNA's recommended projects.

National coordination will be important in delivering these projects. There is a role for Infrastructure Australia, the Commonwealth Government's new infrastructure advisory body, to ensure that efficient outcomes are achieved nationwide.

The EWLNA consulted with the major participants in the construction and finance industry, including some international construction companies, and found broad agreement within the construction industry that it is ready, willing and able to deliver very large projects.

Because the combined size of the EWLNA recommended projects is larger than other transport projects in the Australian market to date, the sequencing and staging of the road and rail portions is likely to be advantageous in terms of funding and capacity in the market.

The EWLNA's view is that the recommended projects present an opportunity for the Victorian Government to demonstrate a strong pipeline of projects to the market, maximising the opportunity for competition. This pipeline should be combined with an active market engagement process as the projects develop.

Consultation with industry revealed a strong message that, when delivering very large infrastructure projects, government's own arrangements need to match the calibre of those in the private sector. In most cases, the private sector was highly complimentary of the manner in which the Victorian Government does business in contracting for large scale projects.

Procuring projects of this scale and complexity requires a high calibre government team with the skills and experience to match those of the private sector. The government structure must enable such personnel to be recruited and retained. The EWLNA has concluded that there are compelling reasons why projects of this nature should be delivered by a special purpose government body, charged with the specific responsibility and powers to implement the projects.

EWLNA – Summary of key findings

- The projects recommended by the EWLNA cannot be delivered without new sources of external finance (including debt) to fund the construction of the projects. Any budget funding will need to be supplemented by new revenue sources in order to repay this external finance.
- With external finance and new revenue sources, appropriate sequencing and structuring, infrastructure projects of the scale described in this report can be funded prudently and efficiently, and can be delivered by the construction industry.

Transport and the Economy

Transport occupies a central role in the everyday functioning of an economy – and Melbourne's economy is no exception. As an economy develops, the demand for transport increases. This growth in demand brings greater pressure for providing and managing infrastructure to ensure that transport services operate efficiently to support business and social activity.

Analysis undertaken for the EWLNA makes a strong and compelling argument for the link between transport and the economy. In particular, this analysis explains the direct correlation between growth in income, as measured by Gross State Product (GSP), and growth in the demand for passenger and freight transport. Population is another key driver in the demand for transport services. While GSP and population continue to grow, Melbourne will experience strong growth in the demand for transport across all modes – especially road transport for business, commuter car traffic and public transport.

Transport is a 'derived demand', meaning that it arises to meet the needs of consumers of transport services. Growth in the demand for transport services is directly related to growth in income and population. Where this growth results in increased congestion (which occurs when the supply of transport infrastructure falls behind demand), there is a very significant cost to the economy. Recent studies have estimated that the cost of congestion to Melbourne's economy is between $1.3 billion and $3 billion per year.

Ensuring that firms have access to the right number of employees with the right skills is a very important role that transport plays in the economy. While commuting by itself does not benefit the economy, providing firms with access to the skills they need does deliver an economic benefit

EWLNA project benefits

The substantial economic and community benefits of the transport infrastructure recommended by the EWLNA are described in considerable detail in the study's main report. Some of those benefits have been quantified by the study's economic advisers. The remaining benefits, although not part of traditional economic assessment, are no less important for Melbourne and should be recognised. For completeness, the study has made an estimate of some of these further benefits, but recognises that they would be the subject of further investigation as part of any subsequent business case undertaken for the EWLNA recommended projects.

The most significant economic benefits are to be found in the travel time savings for users of the transport network. These benefits have been derived based on the different user groups recorded in the EWLNA transport modelling and represent the difference between the modelled performance of the major transport projects and a 'base case' representation of the future without those projects.

In addition to the travel time savings, benefits are also quantified for vehicle operating costs saved, reduced crash costs, externalities and changes in public transport revenue. The present value of these benefits is $11.1 billion.

As was undertaken for the Eddington Transport Study in the UK, the Wider Economic Benefits were also analysed. After including these benefits, the benefits increase to $14.4 billion. These additional benefits were calculated using the UK Department for Transport published methodology.

The Wider Economic Benefits add around 35 per cent to the conventional transport user benefits. The most significant contributor to this increased benefit is what is known as 'agglomeration economies'. This is the clustering effect that occurs when better transport allows more workers to be connected with more and better jobs, and when transport facilitates more efficient business interaction.

The further benefits not considered by the EWLNA's economic advisers include:

- The very large community benefit of improving the amenity of local areas by placing the infrastructure in a tunnel (albeit very costly).
- Improving the reliability of the road network and reducing volatility of travel time for business.
- The strategic benefit Melbourne's economy obtains from building network redundancy, in providing an alternative to the Westgate Bridge. This benefit has not been quantified.
- The impact of transport interventions on the level of access to jobs and services for that part of the population that are currently deemed to be disadvantaged in this regard. This benefit has not been quantified.

Including all of the above, the benefits that have been quantified total $20.4 billion. The non-quantified benefits would be in addition to the $20.4 billion, resulting in a BCR greater than 1.4. This BCR may appear lower than many earlier transport projects, but it represents the reality of retrofitting substantial infrastructure into a fully developed inner-city area, which requires extensive tunnelling.

In addition to the above benefits, transport projects contribute to growing the Melbourne and Victorian economy through productivity improvements and other stimuli that flow-on to other industries. Economic analysis undertaken for the EWLNA using computable general equilibrium (CGE) techniques indicates that the Victorian Gross State Product (measured in 2021 and 2031 and inclusive of agglomeration impacts) would grow by between $0.6 billion and $0.8 billion or approximately 0.1 per cent and 0.2 per cent as a result of the EWLNA recommended projects. Employment in Victoria would grow by approximately 4,000 (full-time equivalents in 2031).

the way forward - the ewlna recommendations

melbourne metro - 'new generation' rail tunnel

Recommendation 1

Planning work should commence for the staged construction of a new 17 kilometre Melbourne Metro rail tunnel linking Melbourne's booming western and south-eastern suburbs and providing a major increase in the capacity of the rail network.

Recommendation 2

The Victorian Government should bring forward the construction of a new rail connection from Werribee to Sunshine (the Tarneit link) to significantly improve the frequency and reliability of services from Werribee, Geelong, Ballarat and Bendigo.

The Government should commit to using the new rail tunnel and Tarneit link as the foundation for extending the metropolitan rail network further to the west within the next 15 years.

It is clear that a major boost to Melbourne's rail capacity is needed. This need can be met most effectively through the construction of a new 17 kilometre rail tunnel linking Melbourne's booming western, north-western and south-eastern suburbs – doubling the capacity of the heavy passenger rail network to the fastest growing areas of Melbourne.

Combined with capacity upgrades currently being undertaken by the Victorian Government, the new tunnel would provide capacity for at least an extra 40,000 commuters every hour and represent a major step towards creating Melbourne's first 'metro' style passenger line (a common feature of successful overseas rail networks).

With growing demand for public transport likely to continue, the failure to increase capacity on the heavy rail network means that train lines serving the western and north-western suburbs (the Werribee, Sydenham, Craigieburn and Upfield lines) will reach breaking point within a decade. The Pakenham, Cranbourne and Frankston lines will reach capacity shortly after these lines. 'Hitting the capacity wall' means severe overcrowding, an inability to add extra services to cater for population growth and a deterioration in service reliability. It would constrain growth in the central city and important suburban centres. The opportunities to increase public transport mode share will also be compromised.

To provide for current and future growth – and to help to meet the city's economic, social and environmental challenges – the EWLNA has concluded that it is time for a 'generational step-up' in rail capacity and for Melbourne's next city changing rail project to commence.

Project details

- A 17 km rail tunnel from Melbourne's west to south-east, consisting of twin 7 metre diameter tunnels at a depth of up to 50 metres below the city and 40 metres under the Maribyrnong River.
- A network of new, state-of-the-art underground stations at Footscray, the Parkville precinct, the city and along St Kilda Road. The option for a new station at North Melbourne should also be considered.
- Built in two stages, with stage one comprising a 9 km tunnel running from Footscray to the Domain to provide for growth on the Werribee, Sydenham, Craigieburn, Williamstown and Upfield lines (the Northern Rail Group). Stage two would comprise an 8 km tunnel from the Domain to Caulfield to cater for growth on the Pakenham, Cranbourne and Frankston lines (the Caulfield Rail Group).

In order to extract the full capacity benefits from the new tunnel, it will be necessary to bring forward work included in the Victorian Government's 2006 Meeting Our Transport Challenges statement to enable construction of a new rail link from Werribee to Sunshine (the Tarneit link) and the construction of the third and fourth tracks from Footscray to Sunshine.

The Tarneit link would end conflict between Geelong regional trains and Werribee suburban trains by running V/Line services on a new alignment through the growth areas of Tarneit and Derrimut. This would deliver very substantial benefits across the entire rail network, including providing residents in new growth areas with a high standard rail link, improving reliability for regional commuters from Geelong, Ballarat and Bendigo and allowing for a significant increase in suburban services on the Werribee line.

Tackling the problems

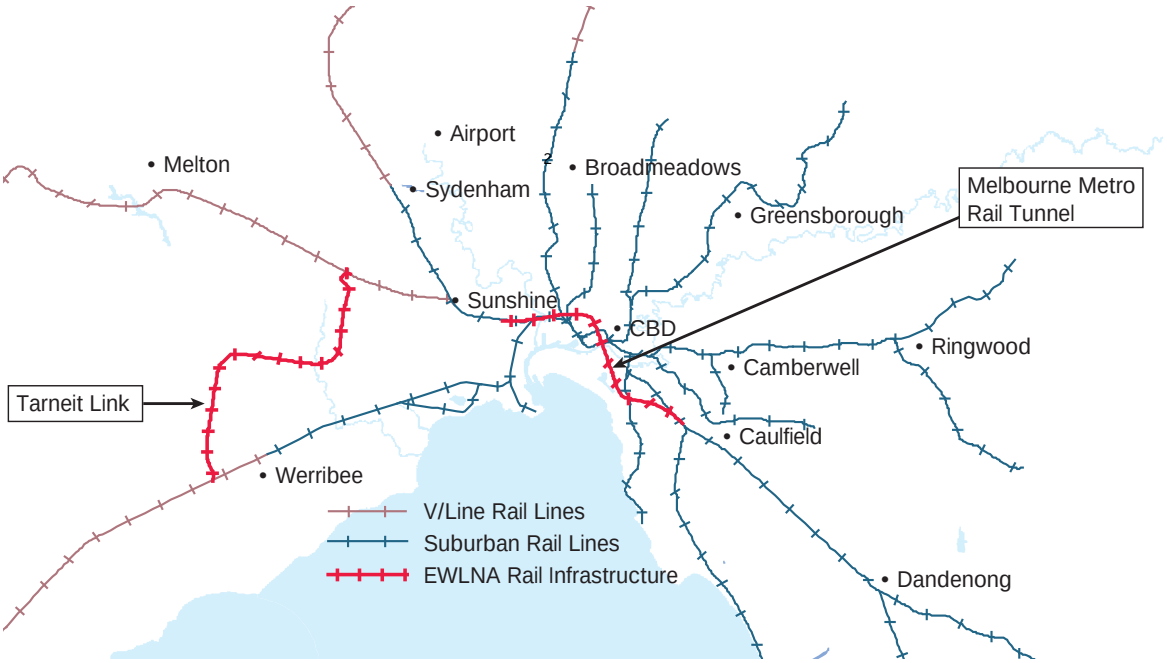
The rail tunnel tackles a number of pressing problems and delivers significant benefits to Melbourne:

- Boosts capacity by an extra 40,000 passengers per hour
- Provides more opportunities for travel by rail, encouraging further increases in public transport patronage
- Ensures that the Northern and Caulfield Rail Groups have sufficient capacity in the future
- Takes the first step towards building a metro-style network by 'unscrambling' the inner core of the network
- Lays down the foundation for further extensions of the network into growing areas in the west
- Stimulates and supports growth in the central city, including providing new rail links to the major precincts of St Kilda Road and the Parkville precinct
- Opens up new opportunities for major urban redevelopment (residential and commercial) around new stations
- Provides new rail links between Footscray, Parkville and the central city, enabling the inner west to leverage jobs and business growth from the central city's growth
- Facilitates the integration of Footscray into the broader CBD area
- Improves capacity for travel in the busy Melbourne University – St Kilda Road corridor, relieving pressure on tram services along the St Kilda Road – Swanston Street route
- Provides opportunities for increasing rail freight capacity when required for the development of inland ports and the development of the Port of Hastings
- Provides opportunities for introducing new rail technologies and longer trains
- Provides new, easy train-to-train connections for all Melbourne rail users wishing to access Parkville, St Kilda Road, Footscray, Caulfield and stations beyond these points
- When combined with the proposed Tarneit line, substantially improves the number and reliability of Geelong, Ballarat and Bendigo services

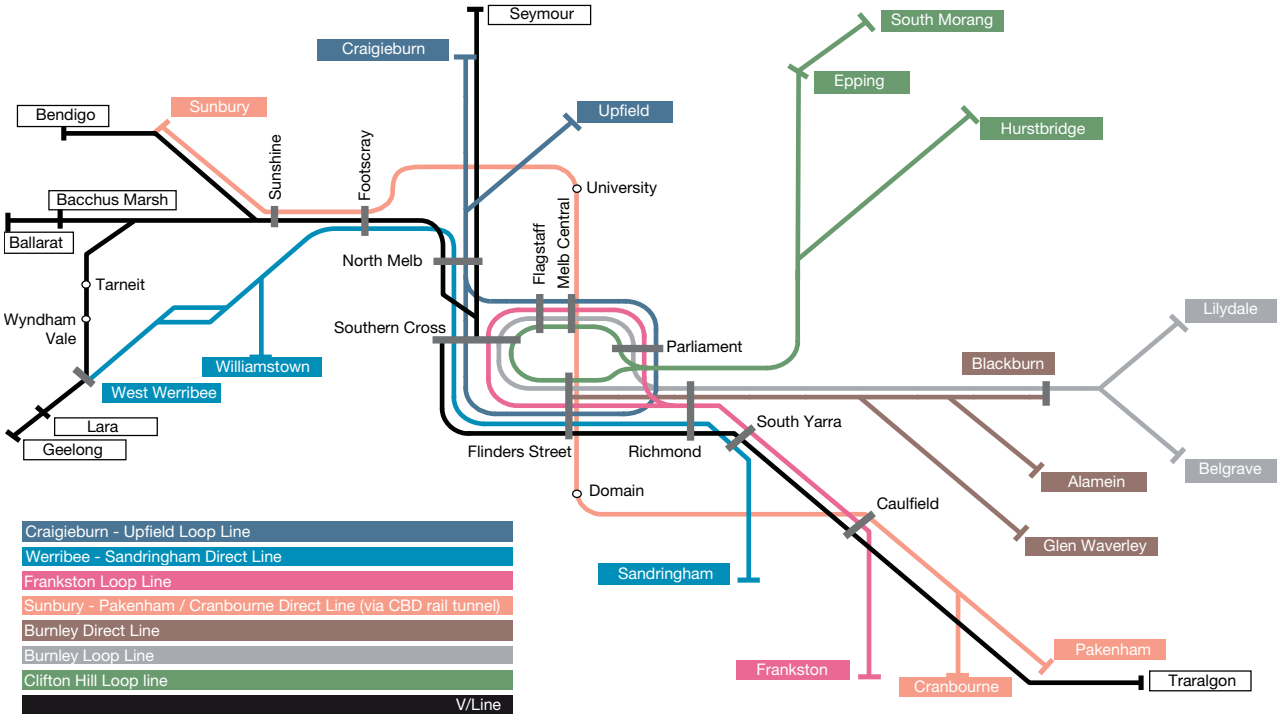
Project costs

Estimated total project cost: $7.5 billion to $8.5 billion

Melbourne Metro rail tunnel and new Tarneit link



Melbourne's rail network after completion of the tunnel



extension of the suburban network to sunbury

Recommendation 3

During the planning and construction of the rail tunnel, the Victorian Government should continue to make better use of the existing network to increase capacity, including commencing work on the electrification of the network to Sunbury to boost services on the Sydenham line.

The Northern Group of lines is under significant pressure from growing patronage, with the Sydenham line facing particularly severe overcrowding.

Patronage on the line has grown by 55 per cent over the past three years – the most rapid growth on the network. Peak hour services are severely overcrowded, with trains regularly carrying more than 1100 passengers. To put this growth in perspective, each carriage is carrying an extra 65 passengers.

This surge in patronage has led to a substantial decline in reliability, with peak period train services on the Sydenham line declining from 96 per cent in 2002-03 to 82 per cent in 2006-07.

Capacity on the line can be significantly improved with the electrification of the line to Sunbury. Without this boost to capacity, there will be more instances of passengers being left behind at stations.

The extension of electrified services to Sunbury will allow an additional 2,800 passengers to be carried in the morning peak hour. It would relieve the chronic overcrowding on the Sydenham line and improve reliability of services.

Sunbury is on the outer edge of the Melbourne 2030 Urban Growth Boundary. Electrification will join it to the rest of the metropolitan rail network and will also provide Sunbury and Diggers Rest with a quality of service comparable to other parts of Melbourne, including direct access to the Melbourne Underground Rail Loop.

This project would deliver very significant benefits to Melbourne's growing west and north-west and could be undertaken in the short to medium term.

Tacking the problems

The electrification of the network to Sunbury could be undertaken while planning is underway for the proposed new rail tunnel. This project would:

- Allow an additional 2,800 passengers to be carried on the Sydenham line in the peak hour
- Provide overcrowding relief at the earliest opportunity on the network's fastest growing line
- Provide a substantial lift in reliability on the Sydenham line from 82 per cent to more than 90 per cent in the morning peak period
- Provide Sunbury and Diggers Rest with a quality of service comparable to other parts of the Melbourne metropolitan area
- Remove the need for the replacement of 'life expired' V/Line locomotives and rolling stock that are currently use for Sunbury starter services

Project details

The project would involve the following elements:

- Electrification of tracks between Sydenham and Sunbury (15 km of track)
- Expanded park and ride facilities at Diggers Rest and Sunbury (around 600 spaces)
- Replacement of three V/Line diesel services (capacity 400 passengers) with five suburban electric services (capacity 800) in the peak hour

The Study Team recommends an early commencement of work on the electrification during the planning stage of the rail tunnel.

Project costs

Estimated total cost of Sunbury electrification: $216 million

a new east-west road connection

Recommendation 4

Planning work should commence on the staged construction of a new 18 kilometre cross city road connection extending from the western suburbs to the Eastern Freeway.

The EWLNA has identified a long-term, strategic need for a new transport link from the west to the east of Melbourne. The many factors that have led to this conclusion include:

- Melbourne's pressing need for an alternative to the West Gate Bridge
- Forecasts of major population, economic and traffic growth that will place further pressure on Melbourne's only major east-west link, the West Gate-Monash-CityLink corridor
- The growing freight task and the importance of freight efficiency to Melbourne and Victorian industry
- Increasing travel times, congestion and travel time volatility on Melbourne's road network, with peak conditions now extending across the day
- The strong and growing demand for cross city travel (particularly from the west) and the lack of direct cross city connections
- The need to provide network flexibility and connectivity by completing the key 'missing links' in Melbourne's transport network

Investigations by the EWLNA have found that Melbourne's most important trade routes – the West Gate-CityLink-Monash corridor and the Western Ring Road – are under great pressure from the rate of development and population growth to the west, north-west and south-east of Melbourne.

In particular, The West Gate Bridge is under enormous pressure, currently carrying around 165,000 vehicles each day and forecast to increase to 235,000 vehicles each day by 2031. As the principal road link between Melbourne's west, the central city and the Port of Melbourne, growing congestion on the bridge is already having negative impacts on the west, on the movement of freight generally and on the overall efficiency of the road network.

Melbourne is also highly vulnerable to any incident or event that makes the bridge unusable for an extended period of time, with potentially catastrophic consequences for the city's economy of such an event. For these reasons, the EWLNA has found that there is a need to secure a second major river crossing from the west.

The EWLNA has identified two options for a second river crossing that could be constructed as part of an 18 km freeway-standard transport link that would provide an alternative to the West Gate Bridge while also meeting long-term social and economic objectives for Melbourne and Victoria.

Project details

The Study Team identified two possible routes that start in the western suburbs and continue to the start of the Eastern Freeway at Hoddle Street.

Both routes form an alternative to the West Gate Bridge and provide connections to Footscray Road, Dynon Road, the port and CityLink (from the east).

While the western section of the project (from the western suburbs to the port) has two possible routes, the EWLNA identified a single alignment from the port area to the Eastern Freeway.

The two options for the western part of the project are:

- A tunnel under Footscray and under the Maribyrnong River along the general alignment of Buckley Street, connecting Geelong Road and Sunshine Road to Footscray Road and Dynon Road. In the longer term, this would link to the Deer Park Bypass, along the alignment of the Tottenham rail yards.
- An elevated road over the Maribyrnong River connecting the West Gate Freeway near Williamstown Road to Footscray Road and Dynon Road. In the longer term, this would require widening of the West Gate Freeway from Williamstown Road to the Western Ring Road.

Sequencing of the full connection would be a decision for the Victorian Government; however, the EWLNA has concluded that the most important need is an alternative to the West Gate Bridge – in this instance, a tunnel under or a bridge over the Maribyrnong River, connecting to a northern bypass of the city.

Important community considerations such as property acquisition and the location of tunnel portals and ventilation stations would be examined during an Environmental Effects Statement, which would involve extensive community consultation and further design and engineering work.

In the short- to medium-term, the EWLNA has identified two stages within the project.

1. The inner west to the port – 3 to 3.3 km

This is the EWLNA's preferred first stage. As noted above, two options have been identified to provide an alternative to the West Gate Bridge at this point.

(a) Construction of tunnels connecting Geelong Road and Sunshine Road to the port area, running under Footscray and the Maribyrnong River along the alignment of Buckley Street, with a new interchange in the port area connecting to Footscray Road and Dynon Road.

(b) Construction of an elevated road over the Maribyrnong River connecting the West Gate Freeway near Williamstown Road to Footscray Road and Dynon Road. The new road would also include a connection to Hyde Street, providing a new route for truck access into the port and allowing the extension of truck bans in Footscray and Yarraville.

Under both options, stage one would emerge at a major interchange in the port precinct, providing connections to Footscray Road and Dynon Road at a new linking road connecting Footscray, Dynon and Ballarat Roads.

In the longer term, for the link to fulfil its potential as an alternative route to the West Gate Freeway, both options would need to be extended west a further 6 km to the Western Ring Road (Stage 3). If option 1(a) was adopted, a direct connection from the tunnel at Geelong Road and Sunshine Road to the Western Ring Road at the Deer Park Bypass would be required. If option 1(b) was adopted, the West Gate Freeway would be widened from Williamstown Road to the Western Ring Road. Property acquisitions would be required to implement either connection.

Construction of the connection to the Western Ring Road would begin after stages one and two were completed, around 2019.

2. West Melbourne to the Eastern Freeway – 8.9 km

West Melbourne to Flemington/Parkville

This section would require a mix of bored tunnel and cut-and-cover construction, in order to traverse the developed inner city areas of North Melbourne and Kensington. From the port interchange, the route would follow a north-east alignment adjacent to Kensington Rd, with J.J. Holland Park required as a staging point for deep tunnelling (to be fully restored at the end of construction).

Tunnels in this section would be two or three lanes in each direction.

Flemington/Parkville to the Eastern Freeway

This section would carry the most traffic, with volumes of 80,000 to 100,000 vehicles each day (assuming tolls apply). The alignment for this connection would follow a route under Royal Park, Cemetery Road, Princes Street and Alexandra Parade. At the western end, the tunnels would diverge to provide long, two-lane connections to CityLink for north-bound traffic.

This section would provide three lanes in each direction. Tunnelling for this section would be a major undertaking, and it would be necessary to use a western portion of Royal Park as a staging point for construction (with the park being fully restored and enhanced at completion of the construction stage). There would also be significant temporary interventions from the surface near Nicholson Street and at the Eastern Freeway.

It would also require some widening of the existing Eastern Freeway to allow the lane configuration necessary for traffic to enter the tunnel or exit to Hoddle Street and Alexandra Parade. Westerly ramps would be included near Hoddle Street and Queens Parade to facilitate local access.

While there is clearly a desire for city access for traffic leaving the Eastern Freeway, the EWLNA has found sound operational, functional and strategic reasons for this section to act as a northern city bypass, and city access ramps have not been included. No significant demand was identified for a southerly connection to CityLink.

Further recommendations

In addition to the route outlined above, the EWLNA makes a number of important recommendations with regard to urban amenity, city access and project sequencing.

- No city access ramps have been provided on the Eastern Freeway to CityLink section. Given existing congestion on north-south roads such as Nicholson Street and Smith Street, it would be difficult to provide city access without adding to current congestion problems and possibly causing queuing in the tunnels. The EWLNA has concluded – and recommends – that public transport should be the priority for daily journey to work (and study) trips to the city.
- The EWLNA recommends that the Victorian Government review its current policy with regard to 'downgrading' roads or reducing the capacity of roads as part of major toll road projects. Should the tunnel proceed, the EWLNA recommends that the Government take the opportunities offered by a reduction in surface traffic to improve public transport priority and community amenity. In particular, the Government should allocate a lane each way of traffic on Johnston Street or Alexandra Parade as a bus-only lane. The Government should also undertake major landscaping and beautification works at the completion of the tunnel's construction, as well as new and improved cycling and pedestrian options.
- The EWLNA recommends that the Government reserve a new road corridor to allow the connection of Dynon Road to Wurundjeri Way (through the E-Gate rail area), including a planning overlay for widening Dynon Road to six lanes. This would preserve access to the city from the western suburbs if port expansion impacts on the operation of Footscray Road.
- The elements of the project should be sequenced in a way that provides a pipeline of major projects to ensure that expertise is not dissipated. The EWLNA's conclusion – based on its modeling and analysis – is that the alternative crossing of the Maribyrnong River is the highest priority, followed by the Eastern Freeway to the port area connection.

Project costs

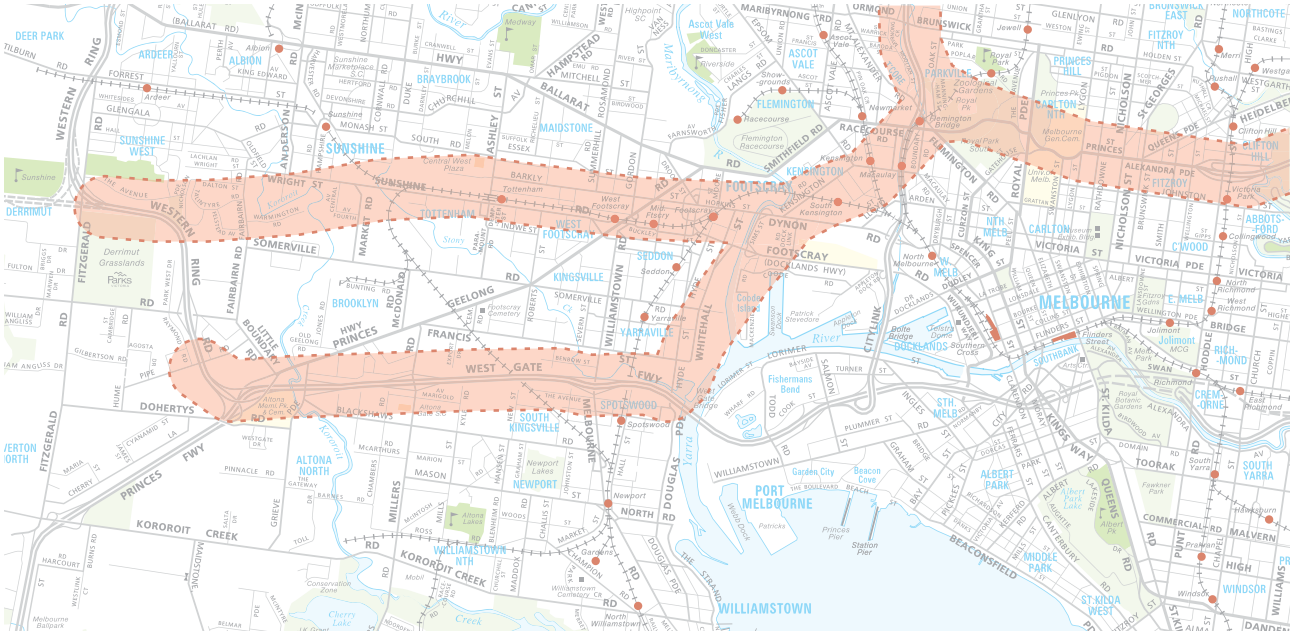
- Estimated cost Stage one: $2 billion
- Estimated cost Stage two: $5.5 billion
- Estimated cost Stage three: $1.5 billion

Tackling the problems

The east-west road link tackles a number of significant constraints on Melbourne's road network, as well as delivering a number of substantial, long term benefits:

- Provides a long-term alternative to the West Gate Bridge
- Will carry more than 150,000 vehicles each day, relieving surface roads of traffic
- Delivers another freeway standard river crossing from the west that has connections across the north of the CBD from the western suburbs (Yarraville or Footscray) to the Eastern Freeway, with connections to the Port of Melbourne
- Provides enhanced port connectivity and freeway connectivity, encouraging more trucks on to the appropriate freeway network and improving freight efficiency
- Helps to relieve congestion at the end of the Eastern Freeway by removing through traffic
- Provides more road space beneath the north of the city, creating the potential to improve public transport, create more walking and cycling opportunities and improve amenity
- Can reduce 'rat running' through the inner north
- Creates the opportunity to improve north-south public transport movements on some of Melbourne's busiest tram routes
- Facilitates separated and dedicated bus lanes on either Johnston Street or Alexandra Parade, enhancing bus service travel times
- Reduces travel time volatility by providing network alternatives to the West Gate corridor and by increasing capacity
- Greatly enhances the connectivity of Melbourne and Avalon airports
- Delivers a significant boost to amenity in the inner west by diverting through traffic and stimulating the Footscray Transit City
- Improves amenity and enhances the liveability of the city centre.

New east-west road connection



truck action plan for the inner west

Recommendation 5

Community amenity in the inner west should be restored by implementing a Truck Action Plan to remove truck traffic from local streets in the inner west. The plan should include a series of targeted road improvements that form an effective bypass around residential areas, reinforced by local truck bans.

It is clear that the combined impact of freight growth through the Port of Melbourne and the growing role of the west as a transport, distribution and logistics hub is detracting from the liveability of the inner west, particularly in the Footscray and Yarraville areas.

Currently, more than 20,000 heavy trucks a day use residential streets in the area, with Francis Street in Yarraville carrying around 7,000 trucks each day. The EWLNA has found that this is an unacceptably high number of trucks travelling through a residential area and that a solution should be sought to the problem.

The EWLNA has identified a series of targeted road improvements that are designed to improve community amenity by reducing the amount of truck traffic on suburban streets, while at the same time providing the necessary freight connections for important economic journeys. These improvements form an effective truck bypass around residential areas in the inner west (with elements of the action plan varying depending upon which of the longer road options set out in Recommendation 4 is adopted).

Project details

The truck action plan includes a number of new and upgraded roads:

- A new link from the West Gate Freeway to the port, via Hyde Street. This would greatly reduce the need for heavy trucks to use Francis Street and Somerville Road to access the port.
- A new and upgraded north-south freight route along Paramount Road and Ashley Street in West Footscray. This route would link the Geelong Road, Sunshine Road and the Western Highway (Ballarat Road). Some of this route is within an existing road reservation (already marked in Melway).

On completion of these new links, there would be an extension of existing truck bans in the Yarraville/Seddon area, focusing on Francis Street and Somerville Road. Enforcement of these bans would also be significantly enhanced through the use of technology.

Depending upon which of the longer road options is adopted, a number of other road upgrades would be required to complete the Truck Action Plan:

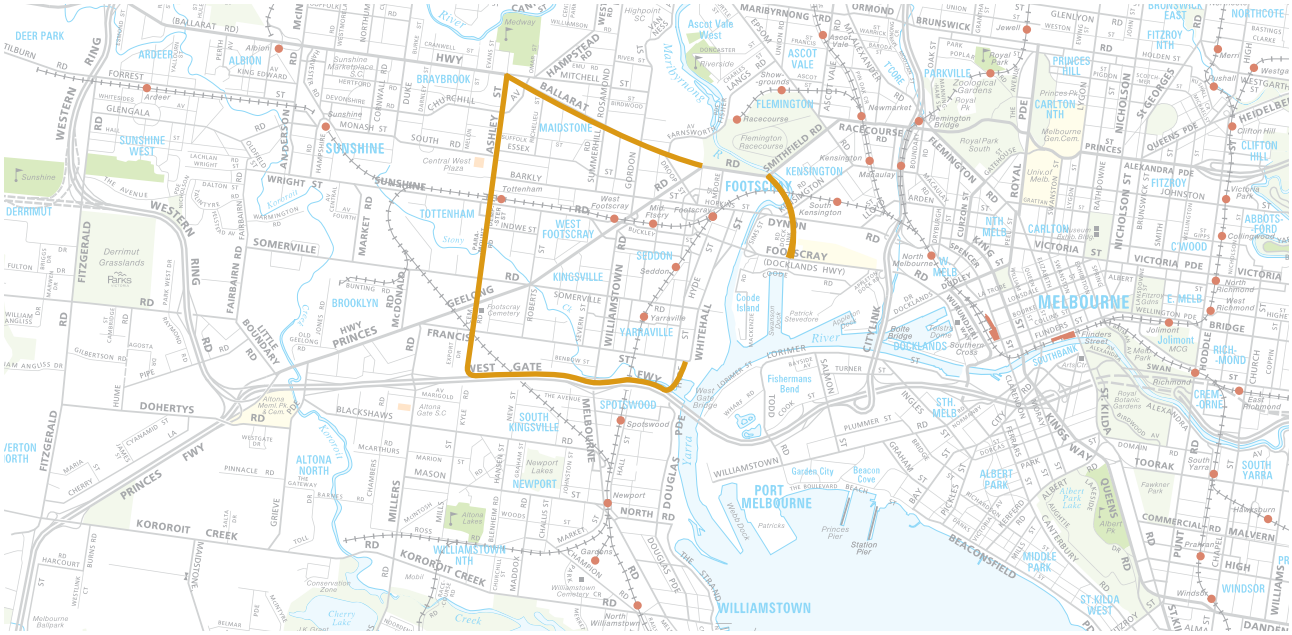
- Extending the Ashley Street/Paramount Road link along Cemetery Road to provide a direct link to the West Gate Freeway
- A new road connecting Footscray and Dynon Roads with Ballarat Road near Lynch's Bridge. This link would form a direct route to the port from Ballarat Road and would create an alternative to Moore Street, which currently carries around 2,000 trucks per day
- Widening of Ballarat Road, from Geelong Road to Ashley Street. Although it is recognised that this would involve significant acquisition, without this widening Ballarat Road will continue to act as a constraint on the network. There is an existing planning overlay on this road and VicRoads has already acquired some properties.

Given the severity of the amenity issues along Francis Street, the Study Team recommends that the Hyde Street connection from the West Gate Freeway and the Ashley Street/Paramount Road widening be given immediate priority. The other three elements of the Truck Action Plan would be determined as part of the community consultation for the east-west road option.

Project costs

Estimated cost of Truck Action Plan:	$0.5 billion

Truck action plan



Tackling the problems

The Truck Action Plan addresses several long-standing problems in and around Melbourne's inner west and the port precinct:

- Provides an effective truck bypass around residential areas in the inner west, significantly reducing the amount of trucks moving through these areas
- Significantly improves amenity in the inner west
- Provides improved connections for the efficient movement of freight to and from the Port of Melbourne and across the west.
- Contributes to stimulating urban renewal and economic growth in the inner west and supports the Footscray Transit City initiative
- Supports the objectives of the Port of Melbourne's Port Development Plan

dart - a new, state-of-the-art bus service for doncaster

Recommendation 6

Public transport to the Doncaster region is best provided by rapid, high quality bus services, additional bus priority measures and a major new bus-rail interchange at Victoria Park. To deliver this standard of services, the DART upgrade announced in the 2006 Meeting Our Transport Challenges plan should be introduced as soon as possible, along with additional service enhancements and bus priority measures undertaken in conjunction with Recommendation 4.

The EWLNA has found that the quickest and most cost-effective way of improving public transport services – and achieving a substantial boost in public transport along the Doncaster corridor – is with buses.

The EWLNA recommendation builds on the significant boost to bus service levels that are planned to be delivered along the corridor under the Doncaster Area Rapid Transit (DART) project, announced by the State Government in 2006 as part of the *Meeting Our Transport Challenges* statement.

Based on preliminary discussions with the Public Transport Division of the Department of Infrastructure – and modelling of required bus services carried out by the EWLNA – the EWLNA believes that the DART upgrade should include a minimum 50 per cent boost to peak hour services to relieve current overcrowding and provide for future growth.

Even more substantial increases should be provided in off-peak and weekend services, including a 100 per cent increase in weekend services running from 6am to midnight.

To achieve the desired increase in patronage, the DART upgrade must provide commuters with a frequency of service and hours of operation similar to existing tram and heavy rail services in neighbouring municipalities.

With new environmentally friendly buses, high quality 'super stops', high levels of priority and tram-like service frequencies, the initial implementation of the DART upgrade should deliver a patronage boost of around 5000 trips per day (a 50 per cent increase).

Further priority enhancements recommended by the EWLNA have the potential to provide another significant boost to public transport patronage of around 5000 trips– almost doubling bus patronage from current levels by 2021.

This would give the Manningham/Doncaster region a state-of-the-art public transport service to the central city that is as fast, comfortable and reliable as a fixed rail service (including more local services) – at a fraction of the cost.

Project details – stage one service improvements under DART

- Minimum 50 per increase in peak hour bus services into the CBD
- Minimum 100 per cent increase in weekend services into the CBD
- Peak hour frequencies of around 5 minutes
- Weekend services from 6am to midnight
- Upgrading of a number of routes to SmartBus standard

Project details – stage two priority measures

In addition to the stage one service improvements required under DART, the EWLNA recommends a suite of further enhancements that include:

- New bus only ramps off the Eastern Freeway into a major new interchange at Victoria Park Station, including redevelopment of the existing station and possible further amenity improvements in the area
- Continuous bus only lanes from the end of the Eastern Freeway into the CBD
- Extensive work on Hoddle Street (northbound) to allow improved bus priority (with the aim of providing a continuous bus-only lane for outbound buses)
- In conjunction with the development of the EWLNA recommended east-west road link, a reallocation of road space to provide continuous bus only lanes along either Johnston Street or Alexandra Parade connecting to Melbourne University and the new Parkville underground railway station
- Strict enforcement of bus-only lanes. If the loss of on-street parking for bus-only lanes is opposed by councils, the EWLNA recommends that the Victorian Government use its powers to ensure public transport priority (also see Recommendation 8)
- New hybrid buses (as the first step in expanding the number of these buses across the network – also see Recommendation 16)
- Increased funding to significantly expand Park & Ride facilities along the DART routes to capitalise on the increase in express bus services, including adding a deck to the main Park & Ride facility at Doncaster Road. The EWLNA is also recommending that the Victorian Government consider establishing a dedicated fund for Park & Ride facilities (see Recommendation 9).

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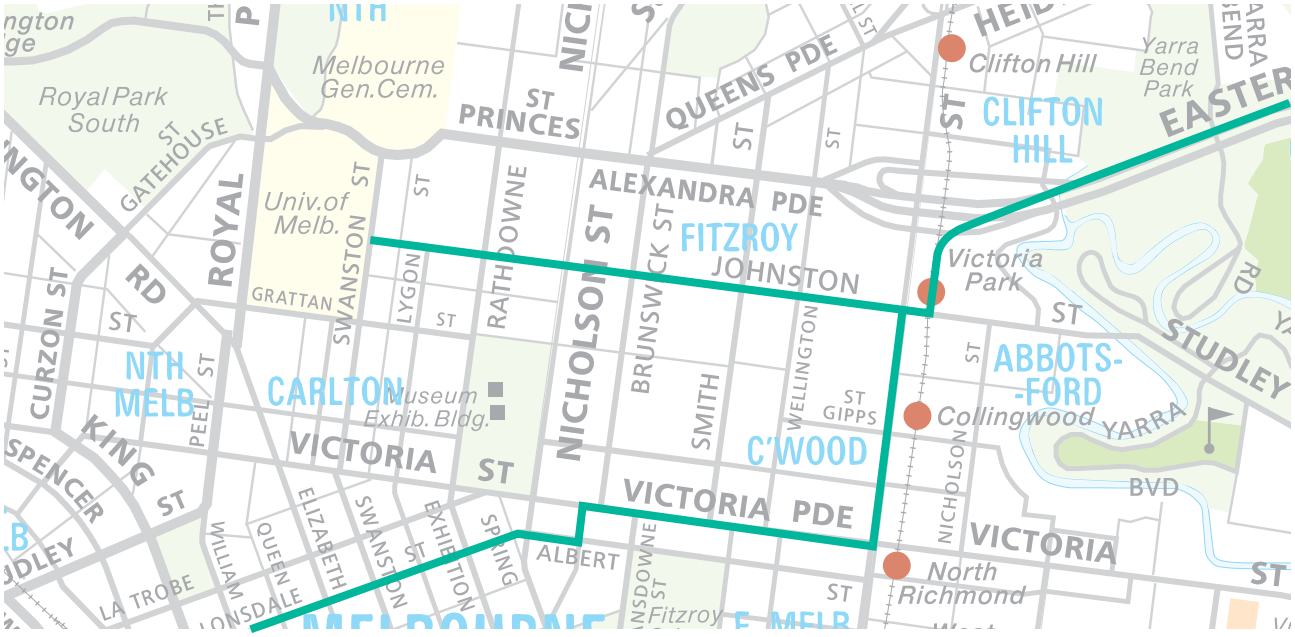
Project costs

Estimated cost of DART with EWLNA enhancements: around $250 million to $300 million (including the $80 million already allocated under DART)

Enhanced DART service



Tackling the problems

The enhanced DART upgrade addresses the issue of relatively poor public transport services along the Doncaster corridor:

- Delivers a major improvement to public transport services along the Doncaster corridor
- Creates a high quality, rail-like bus service from Doncaster to the central city
- Encourages greater take up of public transport in the Doncaster/Manningham region
- Provides Doncaster residents (and others along the corridor) with new connections enabling them to travel to Melbourne University/Carlton, Parkville and further west without going through the City.

new cross city cycle links

Recommendation 7

A number of specific links should be progressively built to improve cross city cycle connections and cater to the growing number of Melburnians cycling to work.

Cycling is growing in popularity across Melbourne, with something of a 'boom' taking place in the numbers of people travelling to work by bicycle. The EWLNA has found that there are compelling reasons for encouraging greater take-up of cycling – including health, environmental and neighbourhood amenity reasons, as well as making a contribution to reducing congestion – and that opportunities exist within the Study Area to tackle bottlenecks, improve the connectivity of the cross city bicycle network and generally provide a better environment for cycling.

The EWLNA has investigated a number of projects that would significantly improve east-west cycling connectivity, improve safety for cyclists and cater for the growing number of Melburnians commuting to work by bicycle.

Building a 'cycling culture' across Melbourne is hampered by a fragmented approach to cycling policy and infrastructure within government, with responsibility for cycling initiatives spread across several agencies. The EWLNA recommends that cycling be treated as a separate, distinct traffic category, with a co-ordinated, whole of government approach adopted to planning and financing cycling initiatives. To achieve this, the Victorian Government should establish a long-term, strategic program for walking and cycling, supported by significant and reliable recurrent funding and located within one central department or agency. A key aim of such a program should be to make cycling an acceptable alternative to cars and buses as a transport choice for shorter trips.

The EWLNA has noted the importance of ensuring that all new infrastructure projects in Melbourne accommodate walking and cycling access at the very early planning stages. Should the Victorian Government proceed with the major infrastructure projects recommended by the EWLNA, every effort should be made to ensure that walking and cycling opportunities are enhanced by these projects.

Project details

The EWLNA recommends that priority be given to seven small scale projects designed to enhance east-west cycling connectivity.

Project 1

Extend the Federation Trail (which runs from Werribee to Millers Road, Brooklyn) from Millers Road to Hyde Street (around 4.2 km) and upgrade the existing facility from Hyde Street to Footscray Road (around 3 km), which links with the Riverside Park bike path to Williamstown. This extension would provide a high quality western link all the way from Werribee and Williamstown to Docklands and the central city.

Estimated cost: $17 million

Total length: 7.2 km

Project 2

Upgrade to a separated or 'Copenhagen' standard the east-west cycling link from the Maribyrnong Trail at Footscray to the northern CBD and on to the Capital City Trail at the Abbotsford Arts Precinct and the Collingwood Children's Farm. This route extends from the former stock bridge on the Maribyrnong Trail along Hobsons Road and Childers, Arden, Queensbury, Gertrude, Nicholson and Abbotsford Streets to the Capital City Trail. This upgrade would provide a high quality parallel link to Footscray Road, connecting the northern part of the central city to the Maribyrnong and Capital City Trails. It would provide a separated east-west cycling link across the city, giving access to Footscray, Kensington, North Melbourne, Carlton, Fitzroy, Collingwood and Abbotsford.

Estimated cost: $7 million

Total length: 8.8 km

Project 3

A separated cycling trail linking Melbourne University to the Capital City Trail via Johnston Street or Alexandra Parade (in conjunction with the development of the EWLNA recommended road link). This would provide a high quality eastern link to the Yarra River from Parkville and Melbourne University through Carlton, Fitzroy, Collingwood and Abbotsford. It would link with the Swanston Street 'Copenhagen' bike treatment and intersect with the important north-south cycling routes of Brunswick, Canning, Rathdowne and Napier Streets.

Estimated cost: $3 million

Total length: 3.3 km

Project 4

A separated bike lane ('Copenhagen' style) along Albert Street, East Melbourne, into Elizabeth Street, Richmond to Church Street. This would provide an eastern link for CBD commuters that crosses Lennox Street – an important north-south route.

Estimated Cost: $2 million

Total Length: 2.5km

Project 5

A separated bike lane along Highett and Crown Streets in Richmond to the Capital City Trail, then onto a new river crossing into Hawthorn. This new bridge would provide a high quality link from the eastern suburbs to the central city along Crown, Highett, Lennox and Albert Streets.

Estimated Cost: $5 million

Total Length: 2 km

Project 6

Bridge and trail upgrade around Merri Creek in the vicinity of Rushall Station (North Fitzroy/Northcote). While this is an area of high pedestrian and cycling traffic (including pedestrian access to the rail station and a popular commuter cyclist route), the narrow paths, rail underpass and bridge are unsuitable for the existing high levels of use. This project untangles and improves a significant cycling route to the north eastern suburbs of Northcote, Fairfield and Thornbury.

Estimated Cost: $4 million

Total Length: 0.4 km

Project 7

Upgrading the North Bank of the Yarra Trail (Charles Grimes Bridge to Princes Bridge), providing an alternative for cyclists to avoid pedestrian conflicts in Southbank and the Yarra Promenade. This project addresses a longstanding concern for cyclists by separating them from heavy pedestrian traffic around the Southbank entertainment precinct and providing quality access to and through the CBD. The project involves some construction complexities in building the new path along the northern bank of the river.

Estimated cost: $22 million

Total Length: 1.9 km

Tackling the problems

As cycling continues to grow in popularity across Melbourne, the projects recommended by the EWLNA will deliver substantial benefits:

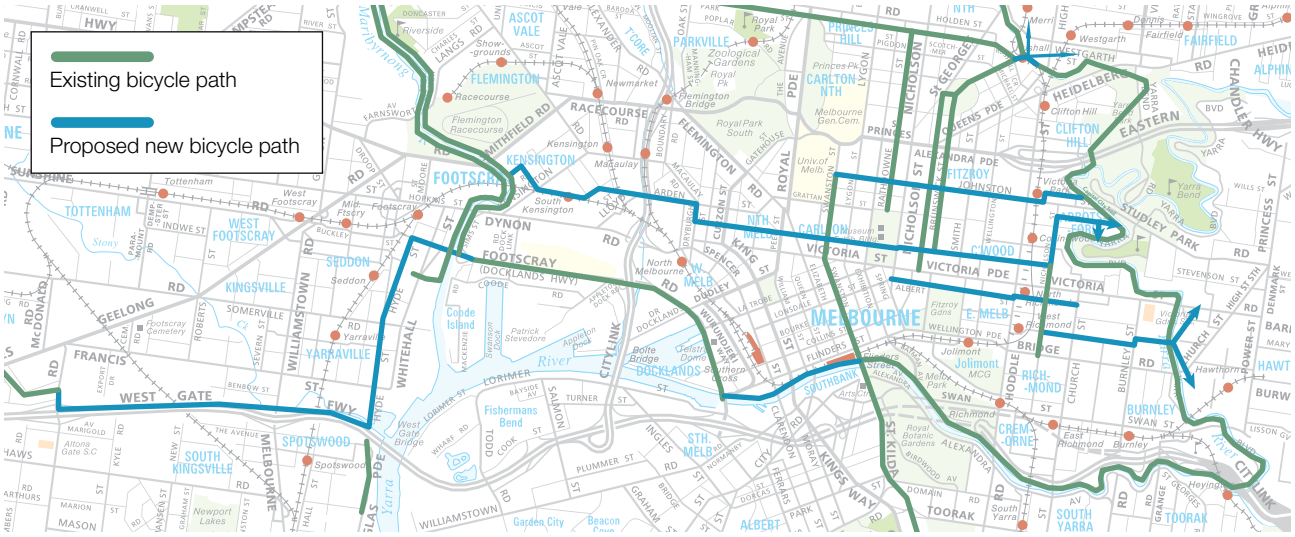
- Significantly enhances cycling connections for people making journeys to and from the central city and across the city
- Supports the strong growth in commuter cycling (especially from the west) and encourages greater take up of cycling for travelling to work
- Provides much improved cycling connectivity around the central city by addressing specific and longstanding gaps in the bicycle network
- Creates a new, whole of government approach to cycling policy and infrastructure that treats cycling as a separate, distinct traffic category, with the aim of making cycling competitive with cars and buses for commuting and shorter trips.

Project costs

Estimated total cost: $60 million

While not specifying specific funding sources for these projects, the Team notes that it could be possible for the IMAP (Inner Melbourne Action Plan) group of councils (Cities of Yarra, Port Phillip, Stonnington and Melbourne) to have access to the CBD congestion levy, as currently occurs with the City of Melbourne, to improve cycling connections within the city.

New east-west cycle connections



better priority and access for public transport

Recommendation 8

The Victorian Government should work with local councils and relevant agencies to escalate city-wide implementation and enforcement of priority measures for trams and buses.

Recommendation 9

A dedicated fund should be established to facilitate the development of Park & Ride facilities, with priority given to improving access to rail services in Melbourne's west and facilitating public transport patronage in the Doncaster corridor.

Fast, frequent, reliable and comfortable bus and tram services are critical to increasing public transport patronage. These services share road space with other users, making them vulnerable to delays caused by traffic signals, obstruction by other road vehicles and traffic congestion.

The success of these services is dependent upon their ability to have priority over other road users during peak periods in the city centre. As congestion increases in and around the CBD, these services are at risk of becoming slower, less reliable and less attractive to commuters. While the Victorian Government has introduced measures to tackle this issue, a more forceful approach should be adopted to support the reliable operation of Melbourne's buses and trams to and through the central city. Such an approach is essential for the more efficient allocation of road space between private vehicles and mass transit, and is critical to improving public transport patronage in Melbourne.

It is apparent that significant improvements in bus and tram speeds and reliability cannot be achieved without some impact on other road users. A balanced, multi-modal approach to transport in Melbourne requires that road users cede space to mass transit in the interests of overall transport efficiency.

The recommended road tunnel will also allow greater signalling priority for north-south trams and buses, as well as a priority bus route along Johnston Street or Alexandra Parade.

Further actions to improve priority for public transport should include:

- Working with local councils to establish more bus-only lanes and tram fairways, and to enforce these lanes and fairways. Where the loss of on-street parking for these lanes is opposed by councils and/or traders, the Study Team recommends that the Victorian Government be much more proactive in using its powers to enforce public transport priority.
- Establishing more priority measures for trams.
- Working with local councils to establish a consistent, effective city-wide program of implementing and enforcing bus-only lanes and priority measures.

Park & Ride facilities are critical to attracting more people to public transport. While the Victorian Government is upgrading a number of these facilities, a more comprehensive and coordinated approach is needed.

Recognising the strong growth in the west and that further extensions to the rail network are several years away (by the time the EWLNA rail recommendations are implemented), the EWLNA recommends that the Government establish a dedicated fund to identify sites, purchase land and construct additional Park & Ride facilities – with priority given to providing more car spaces at existing stations in the city's growing west and north-west, and on the Doncaster corridor

Tackling the problems

Adopting the EWLNA recommendations will:

- Establish a process for city-wide improvements in public transport priority
- Deliver better priority on bus and tram routes, improving travel speeds and reliability
- Provide for a coordinated, targeted expansion of Park & Ride facilities
- Help to attract more people to public transport
- Send a strong signal to all road users that mass transit public transport will be actively encouraged in Melbourne, especially during peak periods.

increase rail's share of freight

Recommendation 10

The Victorian Government should re-evaluate its 30/2010 rail target (which aims to move 30 per cent of freight from and to all Victorian ports by rail by 2010), given the clear finding by the EWLNA that it cannot be met. The Government should create a new strategy and work with industry to develop and implement a detailed action plan for moving more freight by rail.

Recommendation 11

The Government should take action to increase rail's share of freight by:

- Ensuring the development of a single, common user, interstate, intermodal freight terminal north of the city on the Melbourne to Sydney rail corridor
- Developing the standard gauge rail freight network to connect the interstate intermodal terminal with the key metropolitan freight hubs
- Making and announcing concrete planning decisions about future sites for metropolitan freight hubs
- Ensuring that all future transport plans build in the connection of the Port of Hastings to the interstate standard gauge rail network.

Recommendation 12

The Port of Melbourne Corporation should be given overall responsibility for implementing an intermodal hub network in Melbourne, including responsibility for achieving the Government's revised rail freight target.

The EWLNA has concluded that, while the Victorian Government's target of increasing rail's share of port freight to 30 per cent by 2010 is a laudable policy objective, it cannot be met. This target needs to be re-evaluated and, following consultation with industry, a comprehensive plan should be developed for moving more freight by rail.

While most freight in Melbourne will continue to be carried by road, every effort should be made to move more freight by rail. In particular, the EWLNA recommends that the following actions should be taken to increase rail's share of freight generally:

- The establishment of a single, large, common user, intermodal freight terminal, located away from the port and on the national standard gauge rail network. This terminal would need to be connected to Melbourne's arterial (preferably freeway) road network and would ideally be located north of the city on the Melbourne to Sydney corridor. This 'new' terminal could result from the development and extension of the existing Somerton terminal or be a new terminal altogether.
- The development of a standard gauge rail freight network in Melbourne that connects the interstate intermodal terminal with the key metropolitan hubs of Dynon (the port), Altona/Laverton (west), Somerton (north) and Dandenong/Hastings (south-east). By moving passenger lines underground, the new rail tunnel proposed by the EWLNA creates the potential to allocate a surface alignment for a future standard gauge dedicated freight line on the Dandenong line and to the Port of Hastings.
- The provision of strong, unequivocal support for port rail shuttles. In particular, the Government should:
  - Make and announce concrete planning decisions about possible future sites for metropolitan hubs
  - Give the Port of Melbourne Corporation the responsibility for implementing an intermodal hub network in Melbourne (including responsibility for achieving the Government's revised port rail freight target).

Tackling the problems

Implementing these recommendations will:

- Provide a much stronger foundation for increasing rail's share of freight
- Re-establish the credibility of the Government's rail target and rail freight policies in general
- Signal clear government support for and commitment to the development of port rail shuttles
- Give industry confidence and certainty in making decisions and planning for the future

improve truck efficiency

Recommendation 13

Given the projected increase in the metropolitan freight task, the Government should take further action to improve the efficient movement of road freight by permitting the introduction of high productivity freight vehicles on designated routes.

Irrespective of the success of measures to move more freight by rail, it is clear that there will still be a significant increase in the amount of freight traffic carried on Melbourne's roads in the short to medium term. In other words, the vast majority of the goods needed and used by Melburnians will be moved around the city by road for many years to come – and at increasing levels. The EWLNA has concluded that this reality needs to be accepted by Melburnians and by the various tiers of government, with solutions to maintain and improve road freight efficiency developed accordingly.

During consultations, industry stakeholders told the EWLNA that high productivity trucks have the potential to significantly reduce growth in the number of trucks on Melbourne's roads and that the Victorian Government could – and should – immediately approve designated routes for the operation of these vehicles in Victoria.

In February 2006, the Council of Australian Governments agreed to identify a suitable road network for these trucks, with the aim of improving the safety and efficiency of freight transport in Australia. The Australian Transport Council endorsed a limited, initial national network from 1 July 2007.

The National Transport Commission has noted that the benefits of allowing these trucks on designated routes include:

- Fewer, safer heavy trucks operating only on appropriate designated routes
- Fewer heavy trucks moving through suburban streets
- Less overall road wear
- Fewer trucks needed for the overall road freight task, meaning less fuel usage and lower GHG emissions.

While acknowledging that many people have concerns about even larger trucks on the roads, the EWLNA has found that the evidence indicates very substantial benefits from the introduction of high productivity trucks on designated routes. In particular, productivity improvements in road freight transport are likely to be a strong driver in reducing growth in the heavy commercial vehicle fleet – with positive repercussions for Melbourne's road network generally and for communities currently dealing with increasing numbers of trucks on local roads.

The EWLNA recommends that the Victorian Government work with industry to facilitate the introduction of these trucks, including the approval of designated routes for the operation of these vehicles in Victoria.

Tackling the problems

Implementing these recommendations will:

- Make a major contribution to reducing the growth in truck numbers
- Ensure that more freight is moved via freeways and major arterial roads, rather than via less suitable local streets
- Improve the efficiency of road freight transport (with fewer kilometres of truck travel needed to carry the same amount of freight, leading to reductions in GHG emissions, less wear and tear on roads, lower operating costs and other benefits).

continue to implement melbourne 2030

Recommendation 14

The Government should continue to implement Melbourne 2030 and take stronger action to accelerate the development of vibrant suburban hubs in Melbourne's west, particularly Footscray, Sydenham, Sunshine and Werribee.

There is compelling evidence that more compact, higher density cities achieve significant economic, social and environmental benefits. While recognising the challenges for Australian governments in implementing policies to increase urban density, the very substantial benefits that can be realised make these policies worth pursuing.

The EWLNA notes the difficulties that the Victorian Government has faced in implementing its urban density framework, Melbourne 2030, but believes that such a framework is vitally important to Melbourne's ongoing liveability. The EWLNA has concluded that all communities in Melbourne have to play a part in urban consolidation in the interests of managing the city's strong population growth in a relatively equitable and sustainable manner. Accordingly, the EWLNA recommends that the Government continue to implement Melbourne 2030 and resist pressures to significantly alter the framework's parameters.

With strong population growth in the city's west outstripping local employment opportunities, there is a clear case for stimulating and supporting the development of attractive, vibrant suburban hubs in the west to create new employment and business opportunities – as well as improving amenity and liveability. While the Government is investing in the Transit Cities of Footscray and Sydenham within the Study Area, the EWLNA recommends that – given the rapid growth in the west – it take even stronger action to accelerate the development of these centres, as well as the major suburban hubs of Sunshine and Werribee.

Major new investment in Melbourne's transport network – as recommended by the EWLNA – also offers the opportunity to make planning decisions that support more sustainable population growth by continuing to encourage higher density development along public transport corridors, the creation of high- and medium-density suburban centres and the redevelopment of inner urban sites.

Tackling the problems

Continuing to implement Melbourne 2030 will help to create a more compact city, leading to:

- Reductions in vehicle trips and vehicle kilometres travelled
- Better health for Melburnians as a result of less car use and greater pedestrian activity
- Savings to government in terms of infrastructure and service costs, and savings in personal travel costs
- The development of attractive suburban hubs built around good access to public transport
- More local jobs being created in the west (and in other suburban locations).

more low emission, efficient vehicles

Recommendation 15

Through the Council of Australian Governments – and working with the Australian automotive industry – the Victorian Government should pursue measures to bring Australia into line with European CO_2 emissions standards for motor vehicles.

Recommendation 16

The Government should develop a clear strategy for increasing the proportion of low emission, efficient vehicles operating in Melbourne.

The Victorian Government's total motor vehicle fleet consists of around 20,000 vehicles and costs more than $300 million each year. However, only 6,600 of the total fleet are passenger vehicles that are operated by the ten 'core' government departments and subject to procurement and environmental policies. These passenger vehicles are supplied via contracts with the four Australian-based passenger vehicle manufacturers: Ford, Holden, Toyota and Mitsubishi.* In relation to passenger vehicles, Victorian Government policy is to acquire only locally made vehicles, except where there is no Australian-made vehicle that meets fit-for-purpose criteria.

The Government has made three key environmental commitments in relation to procuring and managing these 'inner budget' passenger cars:

- reducing GHG emissions by 10 per cent;
- reducing the fleet by 5 per cent; and
- buying 100 hybrid Toyota Priuses.

Since 2001, the government has also purchased carbon offsets for its vehicle fleet emissions.

One of the major challenges in a more environmentally friendly fleet procurement policy in Victoria is that no hybrid vehicles are currently manufactured in Australia. Adopting tougher GHG reduction targets across the fleet would require the government to drop its policy of acquiring only Australian-made vehicles. With government vehicle procurement accounting for 13.7 per cent of passenger car sales in Victoria, this could have a large impact on the local auto industry.

The challenge of moving to a more environmentally friendly fleet while still supporting the local automotive industry is a difficult one – but one that can be addressed by working closely with the local industry to identify opportunities for producing vehicles with significantly reduced emissions and by phasing in tougher emissions targets for the government fleet over an extended period of time.

The EWLNA has concluded that there are positive opportunities for state and local government in Victoria to influence the production mix of Australian-based car manufacturers by clearly signalling their long term procurement intentions. Accordingly, the EWLNA recommends that the Victorian Government develop a strategy for improving the proportion of low emission or 'clean' vehicles operating in Melbourne, including:

- Working with local councils to set clear targets for substantially increasing the proportion of low emission vehicles within state and local government vehicle fleets over the next eight years.
- Working with Australian-based car manufacturers to ensure that locally manufactured vehicles play a leading role in meeting these targets
- Working with local councils to implement incentives to shift private purchases to hybrid or alternative fuelled cars, such as registration and parking discounts.
- Setting aggressive targets to progressively increase the number of hybrid and other low emissions vehicles within the metropolitan bus fleet over the next eight years.

Given that Australia continues to lag behind world's best practice in setting and enforcing CO_2 emissions standards for cars, the EWLNA also recommends that the Victorian Government pursue measures through the Council of Australian Governments to bring Australia into line with current European standards.

Tackling the problems

These recommendations recognise that improvements in vehicle technology offer the best prospects of reducing GHG emissions from transport. While further action in this area is needed at the national level, implementing these recommendations would:

- Contribute to an increase in the numbers of low emission, more fuel efficient vehicles in Melbourne
- Send a strong signal to manufacturers of government support for investment in new vehicle technologies
- Encourage behaviour change in the broader community in relation to the purchase of more fuel efficient, environmentally friendly vehicles.

* In February 2008, Mitsubishi announced that it will end local manufacturing in March 2008.

delivery, financing and staging

Recommendation 17

The Victorian Government should seek early discussions with the Commonwealth Government regarding a funding contribution from AusLink towards some or all of the EWLNA recommended projects.

The Government should also work with the Commonwealth to extend AusLink to transport projects designed to relieve urban congestion.

Recommendation 18

The Victorian Government should consider a funding structure for the proposed new Metro rail tunnel that includes contributions by beneficiaries (including public transport users and property owners across Melbourne).

Recommendation 19

The Government should re-evaluate its current road tolling policy to ensure that the long term benefits of new road investments can be fully realised (including public transport priority, improved cycling opportunities, road network balance and improved local amenity).

Recommendation 20

A single statutory authority should be created to deliver the EWLNA recommended projects, using a 'corridor approach' to planning, managing and delivering the full suite of projects.

The projects recommended by the EWLNA are very large by Australian and international standards:

- Public transport projects would cost around $8.5 billion (in 2007 dollars)
- Road projects would cost around $9.5 billion (in 2007 dollars).

The EWLNA has made no conclusions about a particular procurement method for the projects recommended by the study or whether the public or private sectors are best placed to fund these projects. There are clearly potential roles for both sectors and each would have its own advantages and disadvantages. These questions would be addressed through a rigorous business case stage for each project.

While leaving open the Victorian Government's options in relation to planning, constructing and funding the projects, the EWLNA has concluded that such large scale projects cannot be delivered without new sources of external finance to fund their construction (including debt). Any budget funding would need to be supplemented by new revenue sources in order to repay this external finance.

The EWLNA's exploration of the construction and financing issues associated with these projects indicates that, with external finance and new revenue sources, appropriate sequencing and structuring, the projects can be funded prudently and efficiently, and can be delivered by the construction industry.

Of the various funding options considered by the EWLNA, a model along similar lines to that used to finance the Melbourne City Loop is considered to be the most practical means of proceeding with the Melbourne Metro rail tunnel. A new statutory authority could be created to implement the project and work through Treasury Corporation Victoria to raise the required funds. Identifying new revenue sources would require careful consideration and consultation as it is likely to impact on a large number of people.

There could be an opportunity for the private sector to participate in the funding and delivery of the rail tunnel; however, this would need to be done in a manner that was complementary to the current and future operating environment and contractual structure for the Melbourne rail service. All options would need to be considered, including investigation of whether there is potential to include some aspect of the rail tunnel construction, financing or operation within future rail franchise arrangements.

As has become the established practice for very large urban road projects in Australia, tolls are likely to be necessary to help to pay for the east-west road link. While it is possible for the Victorian Government to undertake tolled projects itself (as has been done in New South Wales and Queensland), there is also an opportunity – and significant investor demand – for the private sector to develop the various stages of the road project. As the component parts of the road project have different attributes, they may be more or less suitable for private sector participation and might require a different level of public contribution.

The Commonwealth Government also has an important role to play in the development of the EWLNA options. The different sections of the road project are likely to have different suitability for Commonwealth AusLink funding. Generally speaking, important freight routes, and certainly those of national significance, have the potential to receive AusLink funding. More recently, the Commonwealth Government has indicated that urban congestion in Australia's major cities is a national issue. These issues should be a priority for the Commonwealth and Victorian Governments in funding and implementing the EWLNA recommendations.

In recommending that the Government re-evaluate its current road tolling policy to ensure that the long term benefits of new road investments can be fully realised, the EWLNA is making a genuine attempt to ensure that a balanced outcome would be achieved for the community as a whole. When new road capacity is added, there are opportunities to improve outcomes for other users of the road space, including public transport, cycling and local communities. In the future, there will also be an opportunity (or a need) to ensure that Melbourne's road space is used in an efficient and balanced way. At that time, there might be a desire to review the current tolling policy to ascertain whether it helps or hinders the most efficient use of Melbourne's road network. That review would be most likely to arise as part of a broader road pricing or congestion reduction initiative.

The EWLNA's recommendation that the Government establish a statutory authority to deliver the EWLNA projects is made in response to very strong feedback obtained during the study. Such a model has been used very successfully in Victoria for procurement and delivery of large projects such as the Melbourne Underground Rail Loop, CityLink and EastLink. The benefits of this approach are seen to be the ability to gather a highly capable team of professionals with the requisite skills and experience to match those of the private sector and 'get on with the job', free from the sometimes conflicting management demands of broader government departments. Whatever approach is taken, it should be remembered that these will be very large, very complex projects with difficult procurement and financing challenges. It will be in the Government's interest to ensure that the best possible arrangements are put in place and that people with the right skills are engaged. Given the long timeframe over which these projects would be delivered, the structure chosen must ensure that expertise gained can be retained and developed to be applied on future projects.

timeline of projects

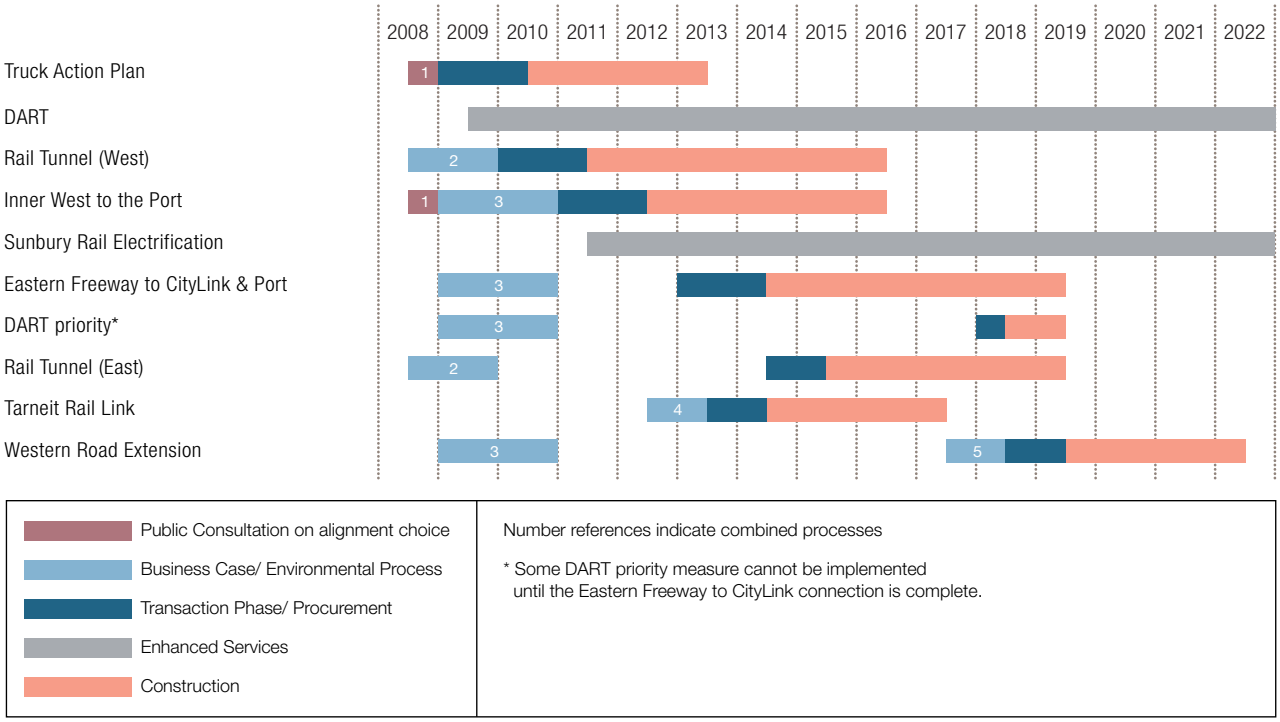
The EWLNA recommends a staged approach to the delivery of the key recommendations.

Detailed planning should commence immediately for the construction of the rail tunnel. This planning should resolve the location of stations, funding structure and environmental issues.

Planning should commence concurrently on the road tunnel and Truck Action Plan, with the first priority being a community consultation process to resolve the preferred alignment for the route of the east-west road connection and, in turn, the full implementation of the Truck Action Plan.

Under the process outlined above, construction of the first stage of the rail tunnel would be the first in a pipeline of major projects, along with elements of the Truck Action Plan and DART. Construction of the first stage of the east-west road connection would commence in 2012 following an Environmental Effects Statement and the resolution of the final alignment as part of community consultation.

Timeline of east-west projects



What other cities are doing

Melbourne is not alone in having to find ways to manage escalating travel demand, driven by strong population growth. Many cities around the world are exploring and adopting a variety of approaches to managing this demand, tackling congestion, improving transport sustainability and encouraging greater public transport use.

Major rail projects – London's Crossrail project is a major new cross town railway tunnel that will link central London with Heathrow and commuter areas east and west of the city. The line will run through twin tunnels under the centre of London, passing over and under existing sections of the underground railway, as well as passing under the Thames River. Beijing's planning authorities have recently given permission to commence work in late 2008 on six new subway lines with a total length of 152 km. Shanghai has one of the youngest and most rapidly expanding metros in the world and has made a massive investment in its rail system, with the first line opening in 1995 and the network reaching a total length of 227 km by 2007.

Cordon charging – London, Singapore and Stockholm are among a number of cities that have introduced cordon charging, with the aim of reducing congestion by imposing a charge on vehicles entering central city areas during peak periods. Generally, the results of these schemes have been positive, including reduced traffic volumes in inner city areas, improved travel times and speeds and shifting a number of trips to non-peak periods.

Reducing emissions from motor vehicles – Cities are adopting different measures to reduce GHG emissions from cars. Stockholm has the highest percentage of clean vehicles in Europe, thanks to a program of city and federal incentives. The city is replacing all municipal vehicles with electric and electric-hybrid cars, and also offers financial incentives for shifting to hybrid or alternatively fuelled cars.

By 2009, New York will have taken delivery of 850 new low-floor hybrid electric buses, giving the city the world's largest fleet of hybrid buses. In addition, the city has begun switching the rest of its bus fleet to a special ultra-low-sulfur diesel fuel. San Francisco's Clean Air Vehicle effort has resulted in the city having one of the largest clean air municipal fleets in the world, with more than half of the city's buses and light rail services comprised of zero-emission vehicles. Berlin has established an inner city 'Environmental Zone' that will be restricted to vehicles with low emissions by 2010. By creating the zone, Berlin aims to improve air quality in a very densely populated part of the city.

Promoting higher levels of cycling – Many cities are actively promoting higher levels of cycling, especially in congested inner city areas. Copenhagen's safe and extensive cycling environment has resulted in more than 36 per cent of the city's population cycling to work each day. Copenhagen considers cycling to be a distinct traffic category, with its own separate road area, and provides cycle tracks on all major roads and bicycle parking at train stations and bus terminals. Bogotá in Columbia has one of the most extensive urban bicycle networks in the world, comprising around 340 km of bike-only transport lanes that connect residential areas with the city's education and work centres. Los Angeles aims to have its entire metropolitan bus fleet equipped with front-mounted bike racks within four years. Each rack holds two bicycles and has an easy-to-use spring-action latch that allows quick mounting and dismounting of a bicycle.

Details of these and other initiatives are included in the EWLNA main report.

ewlna study scope

In March 2006, as part of its Meeting Our Transport Challenges action plan, the Victorian Government announced the appointment of Sir Rod Eddington to lead the East West Link Needs Assessment – an independent investigation into the best transport solutions for connecting Melbourne's eastern and western suburbs.

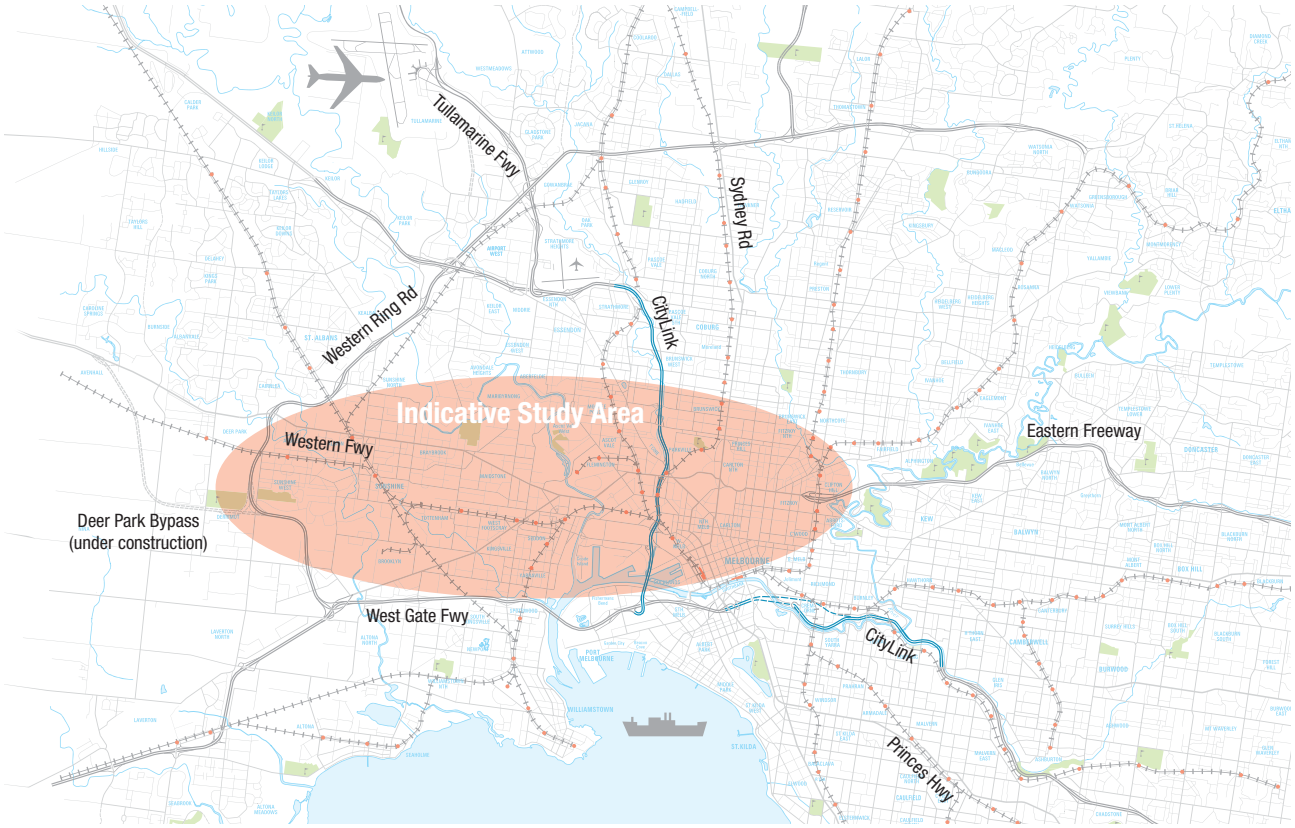
With specific reference to an additional east-west transport corridor for Melbourne, the Victorian Government asked Sir Rod Eddington to inquire into and report on:

1. Current transport volumes and patterns, and the likely changes to these volumes and patterns over the next 30 years, including the impact of Melbourne 2030, other Government policies and anticipated economic growth
2. The capacity of existing and planned infrastructure to meet these future transport requirements
3. How to balance the needs of freight traffic with the needs of residents in areas adjacent to freight movements
4. Development of options to address capacity constraints and future demand, future needs of port and associated commercial traffic including the Government's 30/2010 target, and opportunities for public transport in the corridor
5. In developing options, consideration will be given to a range of measures to meet future demands. Contribution to the achievement of Growing Victoria Together transport targets will also be considered as part of the assessment
6. Funding issues, including sequencing of projects according to public and private funding capacity, and the capacity of the construction industry to deliver.

The core Study Area for the EWLNA extends from the Western Ring Road at the Deer Park Bypass to east of Hoddle Street at the Eastern Freeway. This area has been defined to include the local communities and suburbs that are likely to experience the greatest impacts from any additional east-west links. While focused on this core area, the EWLNA also considered the many external influences that impact on the area (such as climate change and the movement of freight across Melbourne and Victoria). The EWLNA also explored the likely effect of improved east-west connections on Melbourne's economic growth and urban development.

The EWLNA received some specific ideas and proposals that were outside the study scope, such as the completion of the Metropolitan Ring Road. These proposals have not been considered by the EWLNA.

EWLNA Core Study Area



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