Attachment 2
Agenda Item 5.5
Future Melbourne Committee
10 May 2011

Transport Strategy Update **2011**

PLANNING FOR FUTURE GROWTH

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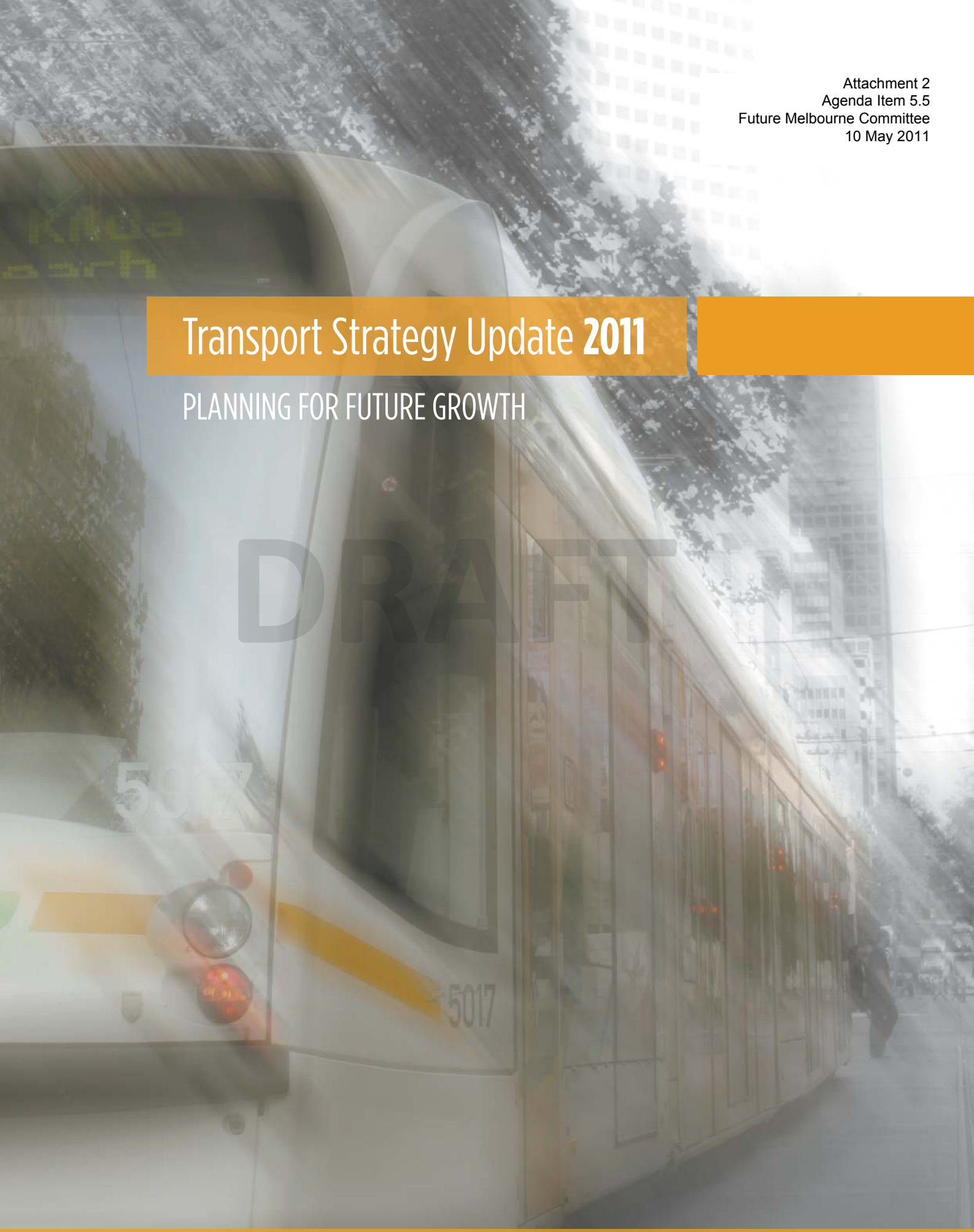

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CITY OF MELBOURNE

Acknowledgments
The City of Melbourne would like to thank the representatives of:

- Department of Transport
- Department of Planning and Community Development
- VicRoads

The City of Melbourne would also like to thank all representatives who contributed to the Transport Stakeholder consultation workshops.

The Transport Strategy Update has been prepared by the City of Melbourne.

Contents

Figures

1 Executive summary

This is an update of the City of Melbourne's transport strategy, *Moving People and Freight 2006-2020*. It sets new key directions and policy targets which take into account significant changes in transport policy and strong growth in public transport use, cycling and walking since 2006.

The key directions are:

- Go anywhere, anytime public transport for inner Melbourne
- Support public transport, walking and cycling as the dominant modes of transport in inner Melbourne
- Develop high-mobility pedestrian and public transport streets in the Central City
- Make Melbourne a true cycling city
- Foster innovative low-impact freight and delivery in central Melbourne.

The strategy update contains an implementation program, which will be coordinated with the State Government to ensure that projects such as new tram stops and rail tunnels also contribute to creating great streets.

An annual implementation report will be presented to Melbourne City Council to track the strategy's achievements. The strategy will be reviewed again in 2016.

1.1 Key direction 1

Go anywhere, anytime public transport for inner Melbourne

The City of Melbourne will foster the capacity and integration of the public transport system (rail, tram and bus). This will provide more businesses and residents of inner Melbourne with a level of mobility that becomes competitive with that provided by the private car. It will also support the continued shift from private car to public transport and help reduce road congestion.

The service provided by Melbourne's public transport needs to be significantly improved, in order to support the expansion of the Central City area, job growth, the intensification of the city and the growing trend towards using public transport in preference to driving.

Public transport patronage is growing at about six per cent per year.

The most important public transport initiatives are:

- Untangling the train network
- Adding new lines, including the Melbourne Metro train tunnel, to double train capacity to the Central City and improve accessibility and capacity throughout the network
- Speeding up the tram and bus networks; increasing capacity, frequency and the quality of stops.

Walking is an integral part of public transport journeys. The City of Melbourne will give greater priority to pedestrianisation for routes to public transport nodes.

Fig 1.1 Areas of high public transport accessibility now (dark green) and in 2030 (light green)

1.2 Key direction 2

Optimise the transport effectiveness of inner Melbourne's roads

The City of Melbourne will support growth in public transport, walking and cycling as the dominant modes of transport in inner Melbourne. This includes redesigning road space allocation, traffic signalling, containing the provision of off-street parking and improving taxi and car share options.

This will help address the problems of congestion, road trauma, urban pollution and greenhouse emissions and inefficient use of valuable space in the city.

The City of Melbourne will work with the State Government to develop a new network operating plan for the city's streets which will encourage through traffic to use roads designed to cater for bypass traffic on the perimeter of the city, and will give priority at traffic signals to high-capacity public transport vehicles, pedestrians and cyclists.

Fig 1.2 Flinders Street Station

1.3 Key direction 3

Develop high-mobility, pedestrian and public transport streets in the Central City

The City of Melbourne will progressively upgrade the mobility provided by Melbourne's Central City streets by prioritising public transport, walking and cycling. This will be coordinated with tram and bus route upgrades, using a whole-of-street approach to integrate infrastructure changes such as new level access stops into a high quality public realm.

Functional objectives for these streets include:

- A pedestrian-oriented streetscape
- High quality connections between activity centres and transport interchanges
- Street trees, water sensitive urban design principles and other sustainable design elements.

Improved streetscapes will be synchronised, with improved priority for high capacity public transport vehicles at traffic signals, as part of the improvement of public transport routes such as tram route 96.

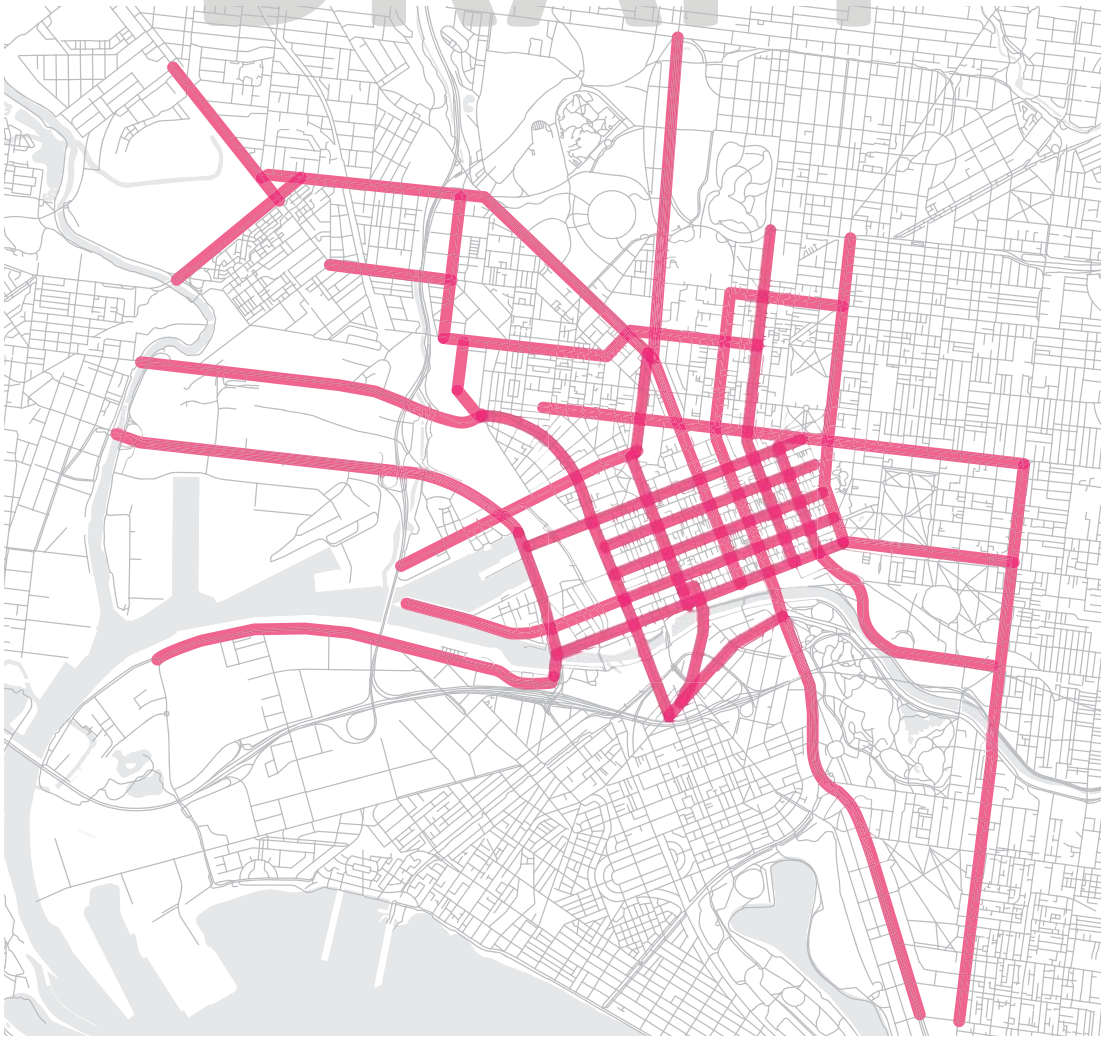

Fig 1.3 High Mobility Streets, 2030

1.4 Key direction 4

Make Melbourne a true cycling city

Make Melbourne a true cycling city, in the inner and central areas, with infrastructure such as separated lanes and road management improvements. The safety, convenience and attractiveness of cycling on inner and Central City roads will tap Melbourne's significant latent cycling potential. Such a shift to cycling will help reduce congestion on road and and on public transport.

Other initiatives that will boost cycling include constructing more on-street bicycle parking, and changing planning rules so that more bicycle parking is constructed in new buildings.

The City of Melbourne will work to improve and expand Melbourne Bike Share, to increase its use and better integrate the system into Melbourne's transport networks.

Fig 1.4 Rathdowne Street bike lanes

Fig 1.5 Bike Share station

Fig 1.6 Lygon Court bike parking corral

Fig 1.7 Swanston Street redevelopment artist's impression

1.5 Key direction 5

Foster innovative low-impact freight and delivery in central Melbourne

The City of Melbourne will foster more efficient and lower impact freight and delivery to the Central City. An efficient freight delivery system is vital to the city. Freight deliveries provide everything that is consumed in the city, including stock for shops, food for restaurants and office supplies.

The last kilometre of these supply chains has the most impact on the Central City and it is where there are the most opportunities for improvements in efficiency.

Future streetscape developments will give priority access to freight delivery and service vehicles over general traffic. The City of Melbourne will encourage innovative, low-impact delivery systems such as low-emission and hand-operated vehicles and freight consolidation centres.

It will use the opportunity of new developments to investigate the provision of innovative delivery solutions.

Fig 1.8 Cargo bicycles are already improving the way we undertake the last km freight task

1.6 Purpose of the strategy

The purpose of the strategy has five elements:

- To coordinate the City of Melbourne's transport initiatives – plans, programs, research and five-year capital works program
- To coordinate the City of Melbourne's strategic land use development policy
- To advocate the City of Melbourne's position on transport and related land use policy to State Government
- To enable alignment between City of Melbourne and State Government investment in transport infrastructure, service improvements, programs and research
- To enable alignment between the City of Melbourne and its many stakeholders including traders, businesses, universities and neighbours.

1.7 Reason for the update

This *Transport Strategy Update* has been prepared because of:

- Significant change in the state of transport activity and policy
- Changes in the City of Melbourne's position on various aspects of transport policy
- Changes in the City of Melbourne's strategic land use policy
- The need to coordinate with State Government's new metropolitan strategy on transport and land use
- The need to refresh the priorities for the next four years.

1.8 High level policy targets

By 2020

- 90 per cent of all commuter trips to the CBD will be by public transport, cycling, walking — the 2006 journey to work census figure was 72 per cent.

By 2030

- 80 per cent of all trips to the City of Melbourne will be by public transport, cycling and walking — the latest *Victorian Integrated Survey of Travel and Activity* (VISTA) 2007 figure is 54 per cent.
- 95 per cent of all trips within the municipality will be by public transport cycling and walking — the latest VISTA 2007 figure is 84 per cent.

1.9 Policy targets

By 2016 (the term of the 2012-16 Melbourne City Council)

Bicycles

- Bicycles account for six per cent of trips to the municipality (VISTA 2007 figure was four per cent) and six per cent of all trips within the municipality — the latest VISTA 2007 figure is four per cent.
- Planning scheme is amended to increase provision of off-street bicycle parking in inner Melbourne.
- 20 on-street parking corrals are installed.
- Two fully-connected east-west and two north-south separated bicycle routes are constructed in the Hoddle Grid.

Fig 1.9 Mode of travel to the City of Melbourne, now and a target mode share for 2030

- A map of the quality of the inner Melbourne bicycle network is published regularly.

Pedestrians

- Pedestrians account for six per cent of trips to the municipality — the VISTA 2007 figure was four per cent — and 80 per cent of all trips within the municipality — the Vista 2007 figure was 69 per cent.
- Master plans are completed to maximise pedestrian access to key public transport nodes including all City Loop and Melbourne Metro 1 stations and key trams stops.
- Pedestrians are given priority in traffic signal operation at all key intersections in the Central City.
- Pedestrian death or major trauma from road accidents is reduced by 25 per cent.

Cars

- Maximum off-street parking rate for all land-uses in the municipality is implemented via a planning scheme amendment.
- 300 on-street car share spaces are installed in the City of Melbourne, of which 50 are in the Hoddle Grid.
- 40 km per hour is implemented as the speed limit in central Melbourne.
- New network operating plan is approved and 50 per cent of Hoddle Grid signals are changed to prioritise efficient transport modes.
- A major State Government study into road pricing in Melbourne is complete.

Trains

- Construction has commenced on the Melbourne Metro line.
- Regional Rail Link is complete and operating.
- Peak hour (peak direction) train frequency is increased by more than 50 per cent from the current 115 services.

Trams

- 90 per cent of tram stops in the municipality are level access stops.
- Average tram speeds in the municipality are increased by 20 per cent and reliability is improved due to signal priority, level access stops and tram lanes.
- Tram frequency is increased to a minimum of 10 minute frequencies, where these levels are not currently met.

Buses

- Queen Street and Lonsdale Street are optimised to reduce bus travel times by 30 per cent in the city and improve reliability.
- Blue Orbital (inner metropolitan) SmartBus route is operating.

Governance

- Transport and land use systems in central Melbourne are being planned and managed in a transparent and integrated manner, with the participation of key agencies including the Department of Transport, Department of Planning and Community Development, VicRoads, the City of Melbourne and others.
- A program of enforcement is improving the operation of on-road public transport in Melbourne.

Data

- A *Melbourne Transport Account* is published regularly, indicating progress towards strategic transport goals for central Melbourne.

Communications

- A coordinated communications campaign is informing travellers about appropriate travel choices and behaviours in Melbourne.

1.10 The major implementation actions for 2011-2016

The City of Melbourne's implementation plan to deliver this strategy is at appendix 12.1. These actions include planning and design, capital works, advocacy, communications and reporting. Some key actions are:

- Reconstructing high-mobility streets in Melbourne to maximise access to the city by public transport, walking and cycling, especially through the construction of new integrated tram stops.
- Constructing separated bicycle lanes on key north-south and east-west streets (Latrobe, Collins, Exhibition, Swanston, William) into and through the Hoddle Grid.
- Master planning key pedestrian and public transport nodes including the intersection of Flinders and Swanston Streets and Southern Cross station.

2 Planning for future growth

Urban growth

The growth surge which began in the late 1980s will see the number of residents and workers in the City of Melbourne double by 2030. As cities grow, they use resources more efficiently; their wealth, creativity and innovation increases, and, for businesses and residents alike, there are greater opportunities and improvements in the quality and range of services available. But this growth must be carefully planned, designed and managed to ensure the future city will also be safe and enjoyable.

The Central City

Thirty years ago, Melbourne was a city of manufacturing. Today, it is Australia's most productive city in terms of a knowledge economy. The dense and diverse Central City, where knowledge is created, exchanged and traded across Australia, and indeed the globe, is the base for this new industry. The continued growth and expansion of the Central City is important for the future prosperity of Melbourne.

Central City expansion

Until the 1980s, the traditional Central Business District (CBD) expanded and developed within the Hoddle Grid and along St Kilda Road. In the 1980s, housing and other non-commercial uses grew in the CBD and transformed it into a Central Activities District (CAD) which also expanded across the Yarra River into Southbank. This expanded CAD, now known as the Central City, grew west into Docklands in the 1990s. In the last decade, the Central City has expanded into Southbank, Docklands and north of the Hoddle Grid. Over the next 20 years, the capacity for Central City growth will extend to E-Gate and Arden.

Connected city

People in a dense, vibrant and prosperous knowledge economy city need convenient, effective and reliable ways of moving around, and to be highly connected to the surrounding metropolitan regions. Some 800,000 workers, students and visitors come into the city each day. This number will grow to 1.1 million by 2030. Since the 1960s, the private car has been the primary means of transport, but this is changing. In 1990, 65 per cent of all trips were by car. By 2007, the figure was 35 per cent, and in 2030 only 10 per cent of trips will be by car, with 90 per cent by train, tram, bus, walking, cycling and taxi.

Urban renewal

The transition from manufacturing to a knowledge-based economy has left inner Melbourne with expanses of underutilised industrial land. This land, located adjacent to, and within the Central City, accounts for 13 per cent (476 hectares) of the municipal area and creates a significant advantage for Melbourne. Through urban renewal, there is the opportunity to turn this into well-planned, well-serviced, high density residential and business accommodation.

Resource efficient and climate change adapted

Urban renewal of underutilised industrial land will require significant upgrading or wholesale renewal of the energy, water and waste utilities infrastructure. New, integrated, local energy, water and waste systems can provide significantly more efficient services to homes and businesses.

Experts predict that Melbourne's future climate will be hotter and drier but with more intensive rainfall events and a rise in the sea level. This could put 50 per cent (200 hectares) of the city's urban renewal areas at risk of flooding. The city must be future-proofed against these climatic changes.

Identity

Melburnians in the inner and central part of the city have a great quality of life. Social and cultural experiences are highly valued, and the City of Melbourne has the opportunity to extend these benefits to people living and working in the new parts of the city.

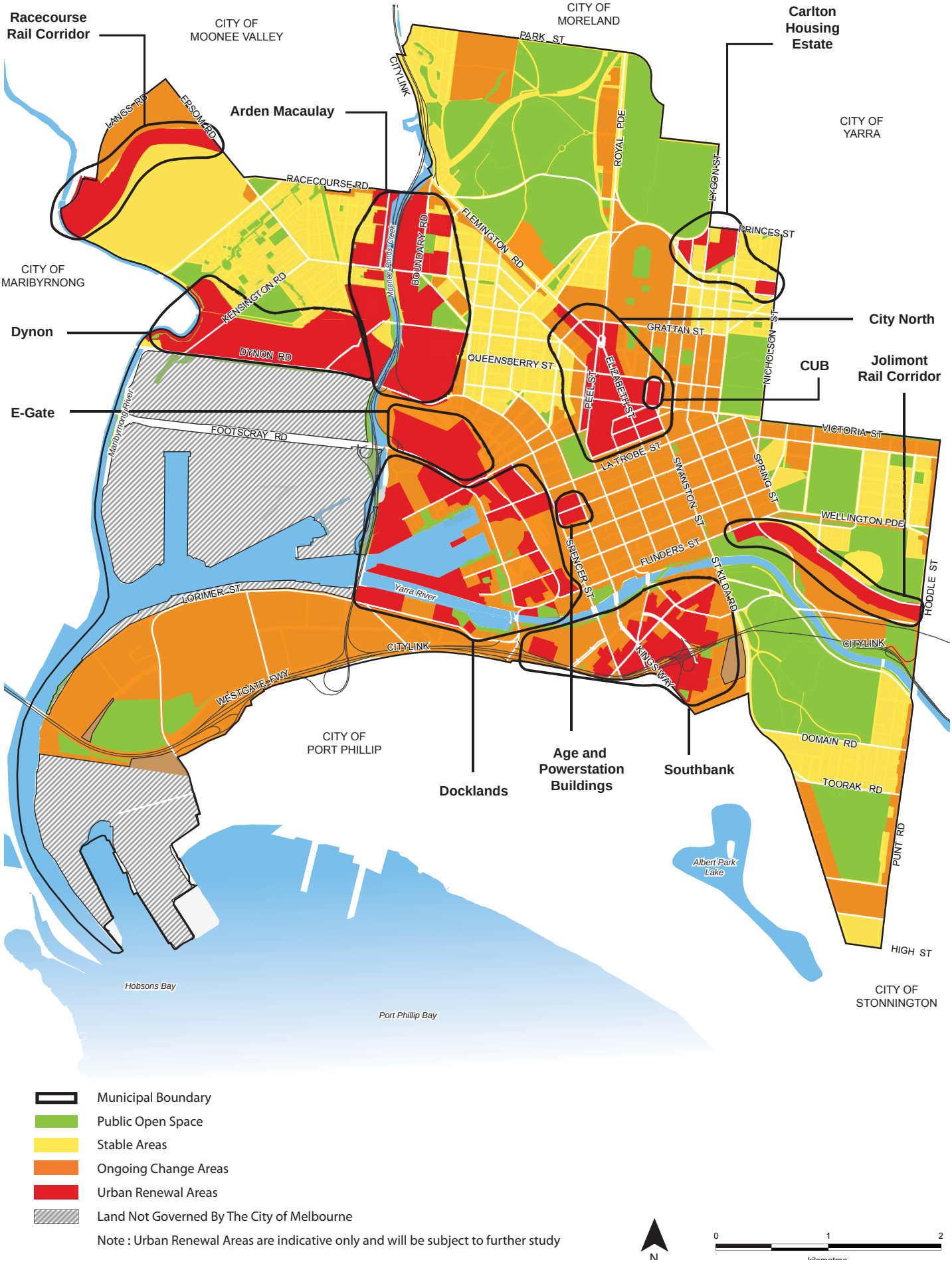

Fig 3.1 Municipal Strategic Statement Growth Framework

3 Introduction

3.1 The Vision for a Connected City

Future Melbourne is the community's plan for Melbourne to grow as a global city — one of the top ten most liveable and sustainable cities in the world. The measure of success will be the achievement of six goals for making Melbourne:

- A city for people
- A creative city
- A prosperous city
- A city of knowledge
- An eco-city
- A connected city.

Future Melbourne's connected city goal is for all people to be able to move about freely, to communicate and trade, locally, regionally and globally, without sacrificing essential social or ecological values.

As a connected city, Melbourne will have mobility infrastructure that supports its prosperity, liveability and sustainability. An integrated and affordable network of public transport, roads and paths for pedestrians, bicycles and motor vehicles will enable its people to access commerce and services. This mobility is essential to the life of the city.

The six connected city goals are:

- Effective and integrated public transport
- Cycling city
- Walking city
- Innovative urban freight logistics
- Smart city driving
- Regional and global transport connections.

3.2 The need to review *Moving People and Freight 2006*?

The City of Melbourne's previous transport strategy, *Moving People and Freight 2006-2020,* published in 2006, established a vision of an integrated and sustainable transport system for Melbourne with a focus on 'Getting to the city', 'Getting around the city,' and 'Freight and commercial travel'.

This update of *Moving People and Freight 2006-2020* extends the horizon of the strategy to 2030 and aligns with the City of Melbourne's land use strategy in the *Municipal Strategic Statement* and structure plans.

Achievements since 2006

Moving People and Freight 2006-2020 was successful in several ways. It proposed major projects which have won State and Federal Government support, such as an early version of the Melbourne Metro rail tunnel and the Melbourne Bike Share scheme. It launched planning and capital works activities by the City of Melbourne which have resulted in improvements to the transport system. These include new bus lanes on Queen and Lonsdale Streets, an amendment to the planning scheme to remove a requirement for minimum parking provision in new residential developments, expanded car sharing services, improved cycle times for pedestrians at traffic signals in the CBD and new bicycle lanes.

The vision of *Moving People and Freight 2006-2020* and most of its strategic directions remain relevant today. However, there has been stronger than expected growth in public transport use, walking and cycling. The economic impacts of road and public transport congestion are growing alarmingly. There is a new State Government strategy and transport legislation, and major new transport projects are being planned and delivered.

The Changed Policy Environment

City of Melbourne Policy

Future Melbourne

In 2008, the City of Melbourne adopted visionary *Future Melbourne* connected city (transport) goals. The overarching goal for *Future Melbourne*'s connected city goal is for 90 per cent of people working in the Melbourne CBD to arrive by public transport, cycling or walking in 2020 — up from 72 per cent in 2006.

Municipal Strategic Statement

The City of Melbourne's new *Municipal Strategic Statement* sets out a vision for urban renewal and Central City growth based around improved public transport services, especially train services linking to other Central Activities Districts.

Important directions since 2006

- *Zero Net Emissions*
- *Council Plan 2009-2013*
- *Southbank Structure Plan*
- Planning scheme amendment C133 (maximum parking rates)
- Swanston Street redesign
- *City North Structure Plan*
- *Arden-Macaulay Structure Plan*

Inner Melbourne Action Plan

The *Inner Melbourne Action Plan* was adopted by its members (the Cities of Melbourne, Yarra, Port Phillip and Stonnington and VicUrban) in 2005, with a 10 year plan to make Melbourne more liveable. Its strategies include linking and improving transport routes, minimising traffic congestion and increasing public transport use, supporting planned residential growth and housing choice, developing the inner city's distinctive activity centres, business investment and tourism, and linking regional open spaces.

State Policy and Legislation

The State Government has launched several major transport projects, including plans for the Melbourne Metro and the Regional Rail Link, both of which will deliver major benefits to the transport system. Land use planning at the State level has also progressed since 2006 with the *Melbourne @ 5 million* strategy update released in 2008. A new metropolitan strategy is scheduled to be released in November 2012.

Transport Integration Act (2010)

The new Transport Integration Act (2010) requires that the transport system should be planned as a single system performing multiple tasks rather than as separate transport modes. Its core focus is integration and sustainability.

The City of Melbourne is required to have regard for the objectives and decision-making principles of the Act.

The transport system objectives of the Act are:

- Social and economic inclusion
- Economic prosperity
- Environmental sustainability
- Integration of transport and land use

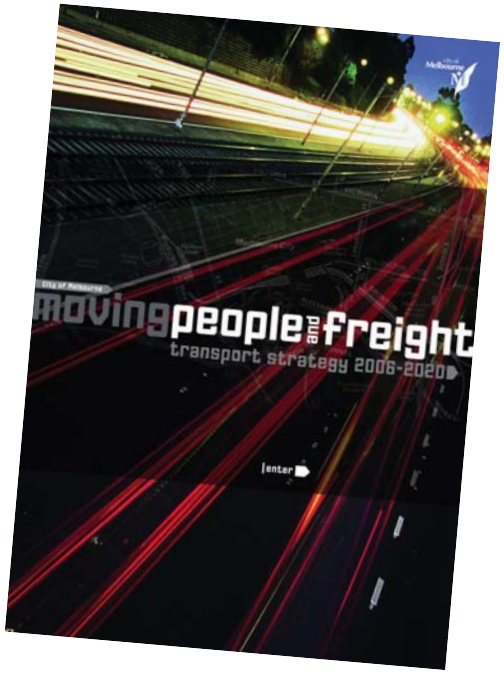

Fig 3.2 Moving People and Freight 2006-2020 (2006)

- Efficiency, coordination and reliability
- Safety, health and wellbeing.

The decision-making principles of the Act are:

- Integrated decision-making
- Triple bottom line assessment
- Equity
- The transport system user perspective
- The precautionary principle
- Stakeholder engagement and community participation
- Transparency.

The principles and objectives of the Act are in strong alignment with the City of Melbourne's transport and land use policies and strategies and the City of Melbourne will use them when making transport and land use decisions.

Federal policy

The Federal Government has formed Infrastructure Australia, as well as the Major Cities Unit, and outlined requirements for transport and land use planning projects that seek federal funding. Urban congestion and the efficiency of cities are becoming more important. The annual cost of congestion in Melbourne is $3 billion (rising to $6.1 billion by 2020) and Australia's congestion costs per unit of gross domesic product are 30 per cent higher than the Organisation for Economic Co-operation and Development (OECD) average. Australia's national economic well-being is increasingly dependent on its capital cities, with 61 per cent of Australia's economic activity in 2006 occurring in Sydney, Melbourne, Brisbane and Perth.

These policy and behavioural changes occurring since 2006 have informed the 2011 update of *Moving People and Freight*.

3.3 The structure of this strategy

The structure of this strategy broadly follows that of Future Melbourne. Section four covers some of the main issues that will challenge the transport system in the future including strong growth of the city, environmental and fuel issues and equity of access to transport.

The key directions synthesise the most important aspects of the strategy and represent the areas in which the City of Melbourne's advocacy and actions will be concentrated. The remaining chapters are based around the transport modes as outlined in Future Melbourne. They cover the context, issues, objectives and actions proposed by the City of Melbourne for each of the modes.

4 Making Melbourne a Connected City

4.1 Growth

People come to cities to live, work, visit, do business and conduct a myriad of other activities because they want and need to be close to other people. This density of activity is what makes our cities vibrant and efficient places. It creates economic growth and cultural life. This density requires a transport system that makes the most efficient possible use of space and time.

The different elements of the transport system need to be coordinated so people can use the most appropriate modes or technologies at different times of the day and for different transport tasks.

To enable the growth of Inner Melbourne

Economic growth

Melbourne is an international hub for trade, business, retail, education, science, arts, culture, and industry. The Central City is also the State's main retail centre. Melbourne is Victoria's capital city and its primary business and activity destination. Twenty one per cent of all of Victorian jobs are located in the city and 40 per cent are located in inner Melbourne.

In 2008, the City of Melbourne occupied 0.4 per cent of the land area in the Melbourne Statistical Division but its gross local product, at an estimated $45 billion, was approximately 24 per cent of the gross state product (GSP) of the Melbourne Statistical Division and 18.5 per cent of Victoria's GSP.

In 2006, there were more than 366,000 people employed in the municipality. By 2030 an extra 110,000 jobs will be created in the city. The rate of employment growth in Melbourne has been 3.3 per cent per year since 2002, faster than the State average of three per cent.

Increasing Central City intensity is a key driver of labour productivity. Increasing Melbourne's productivity is vital to creating a prosperous economic future for the city, the wider metropolitan region and the rest of the State.

Jobs growth in central Melbourne up to 2030 will be significant, with the strongest growth expected in the sectors of finance and insurance, personal services and property and business services. However, this job growth relies on a well-connected transport network to allow workers to reach their jobs and to allow knowledge workers to interact with other firms.

Efffective Job Density (EJD) measures the ability of firms to use the transport network to access the services they need, including business services and workers. The higher the EJD, the greater their access to other firms and workers. EJD is highest in central Melbourne. A high EJD is associated with greater productivity and

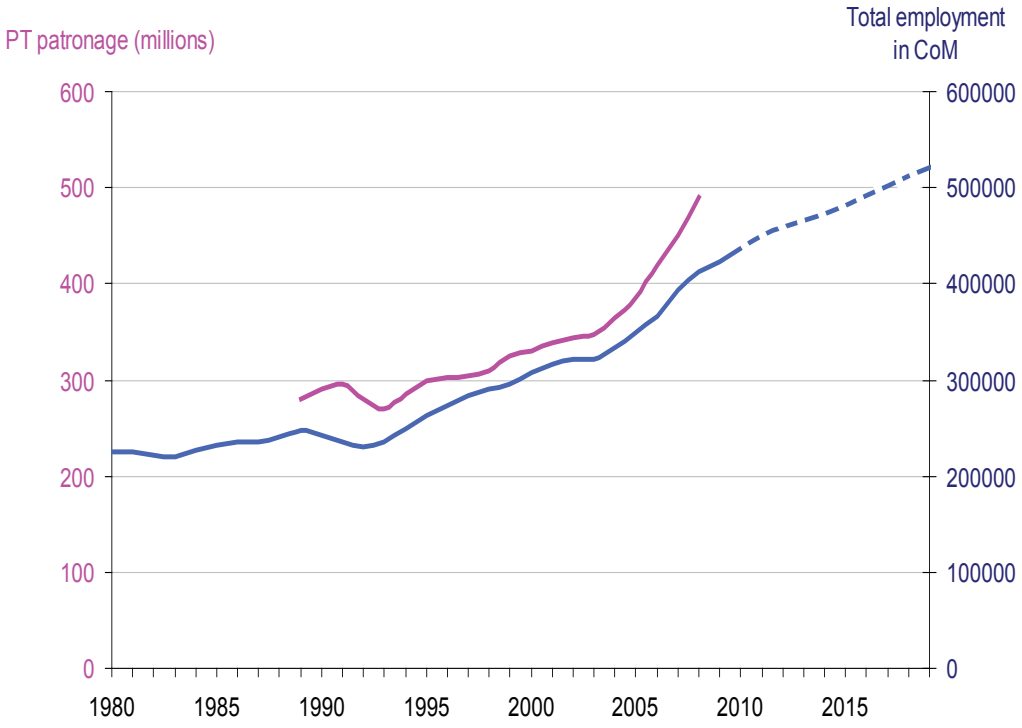

Fig 4.1 Public Transport Patronage and total employment in City of Melbourne 1980 - 2020

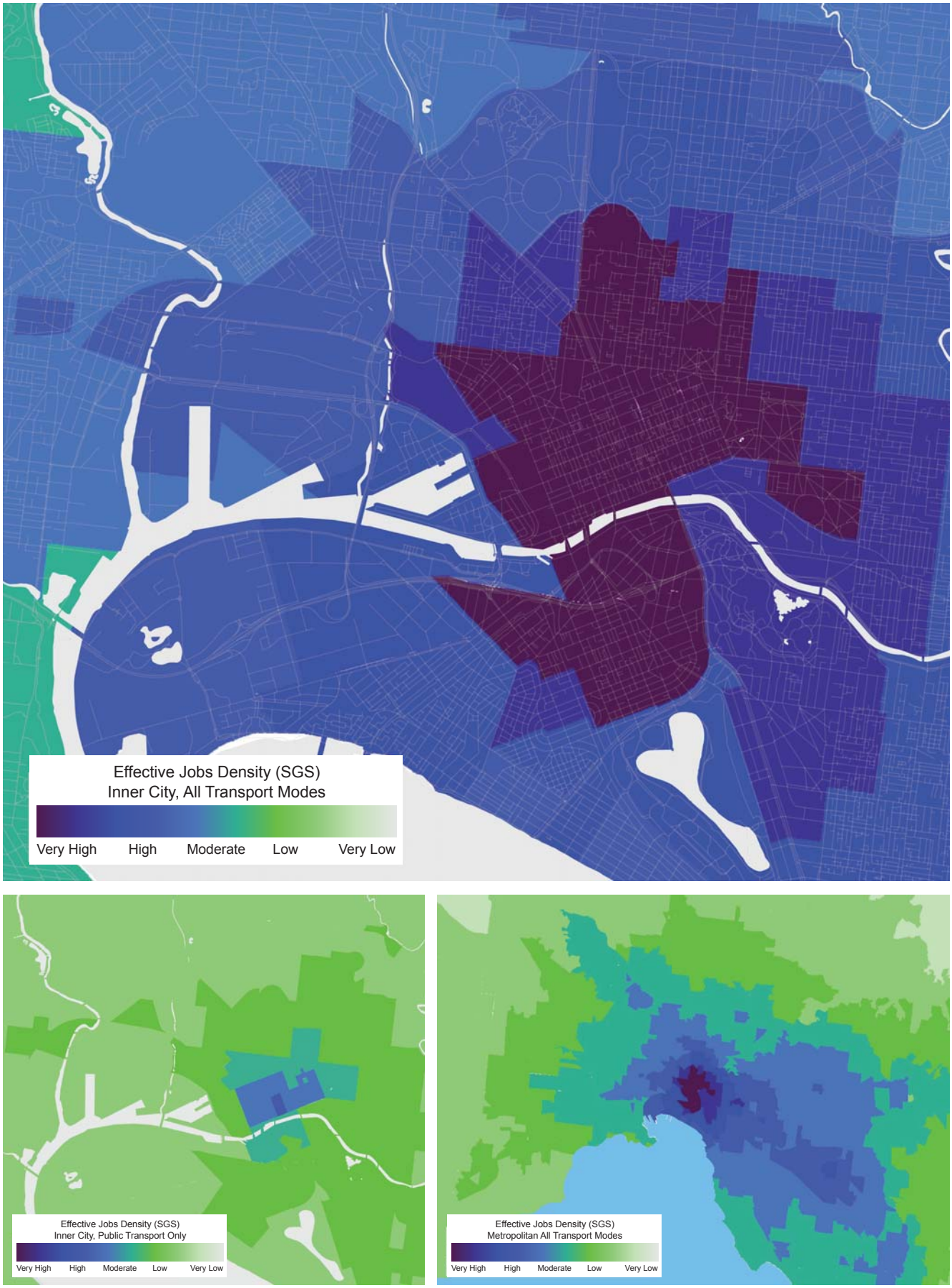

Fig 4.2 Effective Jobs Density Source: SGS Economics

prosperity. Currently, the private vehicle network makes a significant contribution to Melbourne's EJD. However, as Melbourne's density increases and congestion grows, space efficient modes of transport will need to provide better services to maintain and increase Melbourne's EJD.

A high-capacity transport system supports Melbourne's role as a job centre. Compact, city centre-style development, served by high quality public transport, especially trains, leads to increases in productivity, creativity and synergy amongst related businesses because of proximity benefits. This stimulates innovation and specialisation, as specialist firms have good access to a wider variety of clients. High-capacity public transport systems deliver economic benefits through this agglomeration.

By contrast, an overcrowded train system can suppress jobs growth. It has been calculated that for every 10 per cent of overcrowding on Melbourne's trains, the city misses out on creating between 1600 and 2600 jobs (Currie, 2011). The peak rail capacity of Melbourne's train system is currently approximately 40 per cent overloaded and this is projected to go as high as 44 per cent by 2015 even with current planned improvements in place.

Residential growth

The City of Melbourne is working to attract new residents. We anticipate that the city's population of 88,000 in 2008 could increase to 208,000 by 2030. Most of these people will live in higher-density, mixed use developments, close to shopping, jobs, recreation and other attractions. The most suitable modes of transport for many of these trips will be walking, cycling and public transport, with car use for some trips. Already 69 per cent of trips within the city are on foot and this will increase. To attract these residents to live in Melbourne, a well-connected network of public transport, walking and cycling facilities will be vital.

Visitor growth

The number of weekday visitors to the city is expected to grow from 690,000 per day in 2006 to one million per day by 2020. Visitors travel to Melbourne for a variety of reasons, including access to employment, professional services, recreation, education, social, and other needs.

An efficient and well-connected transport system is essential to meet visitor growth targets. Growing visitor numbers will put more pressure on the transport network and will increase the need for the City of Melbourne to provide space efficient transport.

Urban Renewal

The *Municipal Strategic Statement* (MSS) sets out an integrated transport and land-use strategy to encourage growth. It shows that most of the development in Melbourne will occur in the urban renewal areas, with some in the areas of ongoing change (see MSS map). As the city grows (both

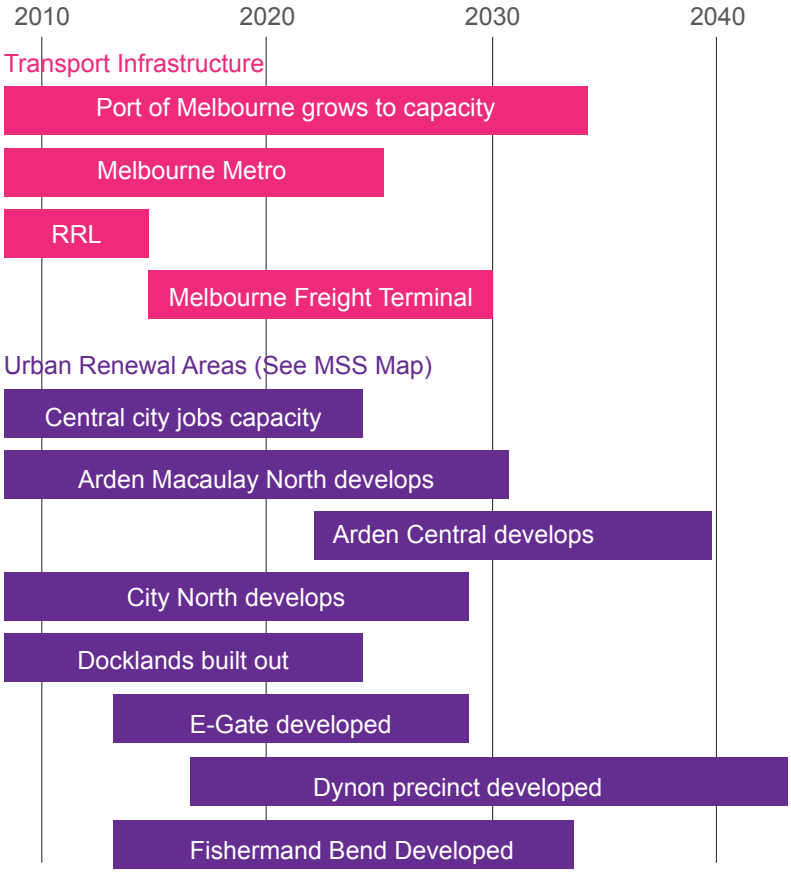

Fig 4.3 Future inner Melbourne land renewal build out scenario

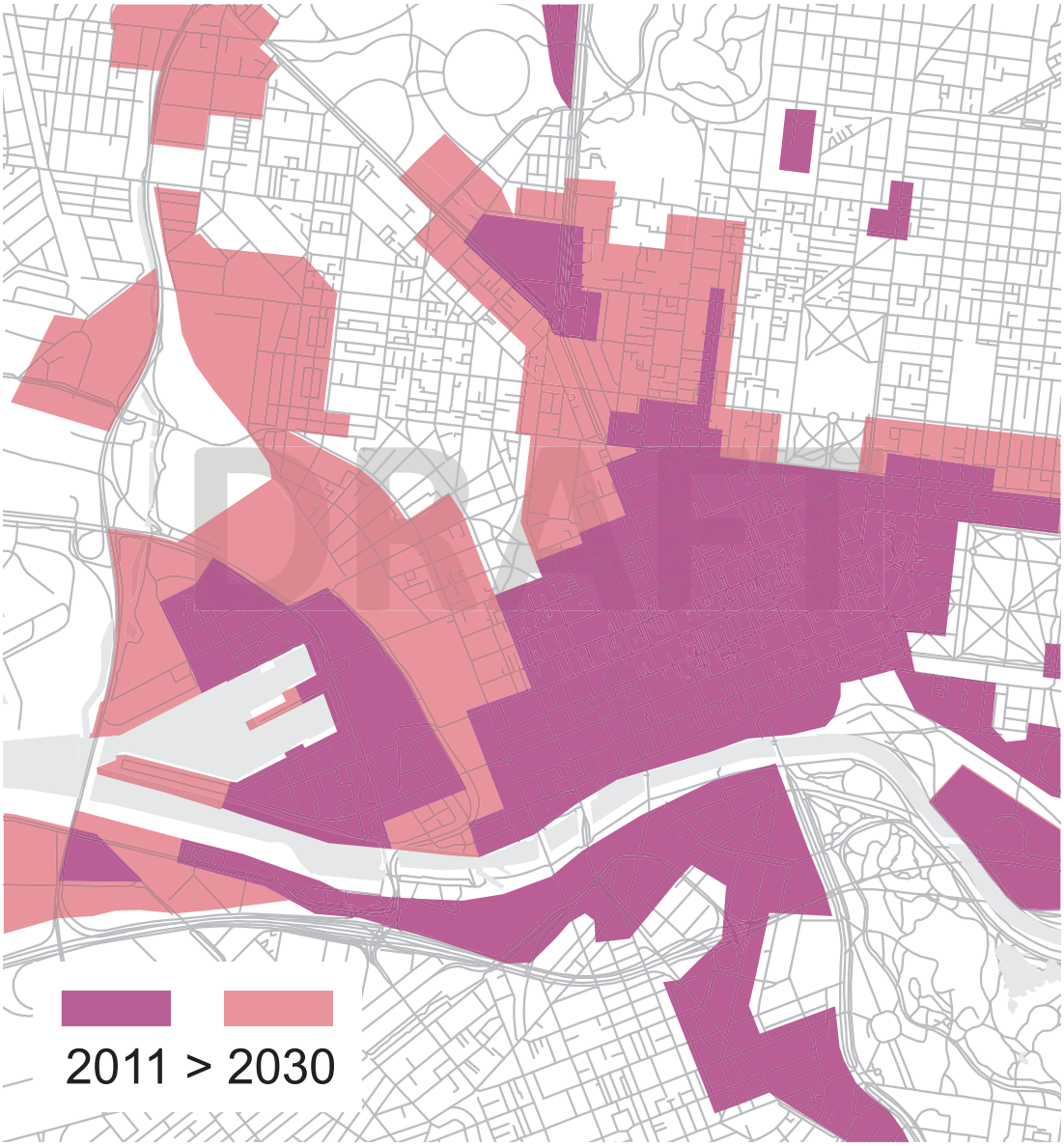

Fig 4.4 Areas which have central city land use, activity and mobility characteristics

spatially and in intensity), the access and mobility needs of people living, working and visiting the city will change. The space efficient modes of walking, cycling and public transport will become more important.

The availability of land for development close to the centre of Melbourne is one of the city's key advantages, because this land is in an ideal location for new, high-value jobs. The growth of the city from the Hoddle Grid into Southbank and Docklands have been key factors in expanding the number of high-value jobs in close proximity to each other, promoting business to business interaction, job creation and business innovation.

By 2030, the Central City area of the municipality, which has historically been defined by the Hoddle Grid, will grow to the south (Southbank), west (Docklands and E-Gate) and north (City North area). This will be high density growth, made up of mixed land uses. By 2025, development within the Hoddle Grid, Southbank and Docklands is expected to be well advanced and new opportunities will be needed to create space for further high-value job expansion. At this point, areas in the inner west such as the Arden and Dynon precincts are likely to offer good opportunity for expansion.

An expanded Central City means that Central City transport characteristics will need to be replicated in the new areas. This means excellent quality pedestrian networks, including wide footpaths, shading, plentiful crossing opportunities, short waiting times and less intrusive motor vehicle traffic. It also means high quality public transport — especially surface transport for access and distribution and trains with the appropriate capacity — with frequent services to a wide variety of destinations. This involves designing attractive communities based around high quality public transport services, a walkable neighbourhood, reduced car parking provision, car sharing, and high quality bicycle networks.

Much of the land in the city's inner west sits close to existing and planned high quality transport links such as rail lines and freeways. There is an opportunity to connect these areas to the transport network.

Transport Emissions

Emissions from transport represent approximately 15 per cent of all greenhouse gas emissions in Australia, equating to about 80 mega-tonnes of CO_2 emissions annually. Eighty five per cent of these emissions are from road transport, including over 40 mega tonnes from passenger car travel alone. This substantial environmental impact must be reduced.

The 2008 *Garnaut Climate Change Review* acknowledged the urgency of this challenge, and called for governments to plan for compact cities, and invest in a shift from high-emission modes of transport to rail, public transport, walking and cycling. The City of Melbourne has aligned its transport and land use planning policies with this objective, and will continue to implement and advocate for other government bodies to invest in this shift.

Vulnerability to energy price rises

CSIRO predictions of oil price rises indicate that petrol prices in Australia could be between $2 and $8 per litre if there is a near-term peak in international oil production, resulting in declining future oil supplies. Australia is exposed to the effects of depleting global oil supplies, given that national oil reserves are only 0.3 per cent of global reserves.

A significant factor behind the surge in public transport patronage during 2006 and 2008 was the rise in petrol prices. Concerns about oil vulnerability support the City of Melbourne's policy of encouraging public transport use, cycling and walking.

The cost of electric cars is currently prohibitive to significant uptake in Australia. This high cost will likely reduce as new technologies and re-charging processes become more main-stream, however the cost of electricity is likely to rise in coming years, influencing the cost of private and public transport.

Equitable access

Approximately 18 per cent of the Victorian population has some form of disability, and with an ageing population ease of access is important to us all. The City of Melbourne maintains a program of works to ensure access for all abilities to its spaces and places, including progressively improving access to public transport stops. The City of Melbourne's *Children's Plan* aims for high quality, accessible transport services to meet the needs of children and families and to promote independent mobility for children.

4.2 Connecting the current and future Melbourne

The emerging transport task

Growth

Melbourne has an extensive and well-used transport network that includes roads, trains, trams, buses, bicycle lanes, taxis, and other components. This transport network has underpinned Melbourne's growth and development until now. However, there are many indications that show the transport network is not sufficient for the current and future transport task. Metropolitan Melbourne and the city are growing and the transport task will increase significantly. By 2036, Metropolitan Melbourne's population is

predicted to grow by 1.8 million people, from its 2006 population of 3.7 million, to 5.5 million.

Public Transport

The train system brings more people into the City of Melbourne than any other mode. During peak times it is about 40 per cent overloaded. On current predictions, this is expected to worsen by 2015. The system has been affected by maintenance problems. The tram system is also frequently overcrowded and slow tram speeds and lack of reliability reduce its capacity to move people. In the city centre, tram stops are frequently overcrowded. Buses are similarly affected in central areas. Parts of the public transport network are not yet accessible to people of all abilities.

Road

Public transport is not yet a realistic alternative to private vehicle ownership, except for a relatively few Melburnians in central areas. Motor vehicles are the dominant mode of transport throughout metropolitan Melbourne, but increased fuel costs will put an economic strain on many families. Traffic congestion is having a major negative impact on the road system and it is growing. Delays to public and private transport currently cost the Melbourne economy about $3 billion annually. Road trauma, especially affecting pedestrians and cyclists in central Melbourne, remains a problem.

Walking

Melbourne has an extensive network of pedestrian facilities including wide footpaths and road crossings, laneways and paths. However, growth in the use of public transport and visitation to the city mean that some footpaths and crossings are often overcrowded and pedestrians are forced to walk on the road, wait too long to cross roads or cross illegally. There are many good quality bicycle facilities in Melbourne but these are not adequately connected to create a comprehensive network, nor are they sufficiently separated from motor vehicles to encourage their use by a wide variety of people.

Melbourne needs to improve the quality of its transport network to achieve the vision of being a connected city. This strategy describes the City of Melbourne's plans to achieve that vision.

Freight and Deliveries

The freight task at the Port of Melbourne is growing and expected to quadruple from its 2008 volumes to eight million twenty-foot equivalent units by 2035. Only eight per cent of total freight movement in Victoria is on rail. Road freight is significantly affected by congestion as the cost of operating commercial vehicles ranges from $32 per hour for light vehicles up to about $75 per hour for B-doubles compared to about $20 per hour for a standard passenger vehicle. Improvements to the rail network across Victoria could have a real impact on road congestion. Around 200,000 containers of goods are currently shipped by rail to and from Melbourne each year. This saves around 130,000 truck trips. Light commercial vehicles, which deliver much of the freight consumed in the City of Melbourne, make up 70% of the delivery fleet and deliver 10% of the freight. Increasing the efficiency of these vehicles could make an impact on congestion and improve the amenity of the Central City where space is a scarce resource.

Key Directions of this Strategy

The key directions synthesise the most important aspects of this strategy and represent the areas in which the City of Melbourne's advocacy and actions will be concentrated. The first three key directions cover initiatives that pertain to several modes and require an approach that is strongly integrated. Action on these will require strong cooperation by the City of Melbourne, State Government agencies and others.

1 Improve public transport for travel anywhere anytime in inner Melbourne

Melbourne's public transport system requires significant improvement in order for Melbourne to continue growing as a global city and to reach its goals as a city for people, a prosperous and creative city, a city of knowledge and an eco-city.

This key direction brings together many of the proposed actions and policies in the strategy. These include expanding the capacity of the public transport system to provide for job growth and peak demands, improving the performance of the system so that it is reliable and journey times are not affected by delays, improving access so that services are frequent and connect travellers with jobs and destinations so that in inner Melbourne the system provides the type of mobility which is competitive or better than that provided by the private car.

Walking is a key part of public transport journeys including walking between services or walking to final destinations. Chapter 4 details the strategy's actions and policies on public transport. Some of the most important include support for converting the suburban rail system into a high-service metro system and constructing new metro lines, improving the speed of tram travel through traffic signal priority, expanding the tram system to serve developing parts of the city and masterplanning city train stations such as Flinders Street to provide for significant public transport patronage growth by creating a high-quality pedestrian environment. Appendix 1 is a draft implementation plan which provides indicative timing for some key projects.

2 Optimise the transport effectiveness of inner Melbourne's roads

The level of activity in the City of Melbourne is growing strongly but the amount of road space in the City is not. This means that the transport network needs to use the available space in the most efficient way possible, to allow movement and travel for a greater number of people for a wide variety of reasons. As has happened in

many cities around the world, intensification of the central city means a greater role for space efficient travel such as public transport, walking and cycling.

A key part of this key direction is working with VicRoads, the Department of Transport and the Department of Planning and Community Development to develop a plan for how the roads will be operated today and into the future. This plan will include giving high priority to more efficient modes at intersections and providing dedicated roadspace where this will improve efficiency.

This key direction clearly involves integrating all modes of transport in the city. It will also provide transparency about which modes are given priority at different locations, why, and what contribution this makes to the efficiency and performance of the overall transport system. It is expected that the plan will be able to deliver significant transport benefits simply by being smarter about managing the road infrastructure in which the community has already invested. The plan will also help inform land development by providing clearer information about how roads and transport corridors are planned in the city and how development can respond to this planning.

3 Create a network of pedestrian friendly, high-mobility streets

The way that on-road public transport moves through the city's streets and links pedestrians between public transport nodes and between footpaths and public transport stops is a vital part of creating a high quality public transport system. Melbourne's public transport streets will need to be progressively upgraded to handle the increases in public transport patronage, more frequent services, larger vehicles, DDA compliance, the need for faster loading and more permeable pedestrian access to public transport vehicles. These high mobility streets will also provide improved access for bicycles and cater for delivery vehicles (see Key direction 5).

This key direction builds on the need for an improved public transport system (Key direction 1), especially on-road public transport, the City of Melbourne's role as the manager of roads on which public transport operates and the legislative requirement for the public transport system to become DDA compliant.

Many of the actions in the strategy contribute to this key direction as do many of the projects and programs in the implementation program (see appendix 1). For example, one of the most important actions will be re-designing tram stops to make them more permeable to pedestrians and able to cater for larger trams. Creating a network of pedestrian-friendly, high-mobility streets will be coordinated with actions that come from key direction two, especially providing high levels of priority for on-road public transport.

4 Develop inner Melbourne as a cycling city

Cycling is growing quickly in Melbourne. Cycling activity is concentrated on inner Melbourne and especially the City of Melbourne which is the most popular destination for cycle trips to work in the metropolitan area.

A significant mode shift to cycling has the potential to help reduce congestion on road and on public transport. It can also complement the public transport system by providing access to and from the public transport system. Cycling also has other benefits for the city. It is healthy, environmentally benign, cheap, space efficient and socially stimulating.

The most important factor in achieving a significant mode shift is the construction of a safe and attractive bicycle network that is separated from general traffic. The City of Melbourne has some high-quality separated bicycle facilities but gaps in the bicycle network will need to be addressed and the overall quality of the network will need to improve so that it provides a much higher level of safety and attracts more people to use cycling as a mode of transport to and from work and for other trips.

This strategy details several actions to achieve a higher quality bicycle network (see Chapter 5) and other aspects of a cycling city. This key direction recognises that the City of Melbourne manages many of the roads on which bicycle facilities will be constructed. It is also linked to the need to provide for cycling as part of creating high-mobility streets (see Key direction 3).

5 Foster innovative low-impact central city freight and delivery

An efficient delivery system is vital to the city. Freight deliveries provide everything that is consumed in the city including stock for shops, food for restaurants and office supplies.

Future streetscape developments will give priority access to freight and service delivery vehicles over general traffic. Council will encourage innovative, low-impact delivery systems such as low-emission and hand-operated vehicles and consolidation centres.

The freight task at the Port of Melbourne is projected to grow strongly to 2035. The challenge for the city is to maintain economic growth by facilitating the movement of goods without negatively impacting on the amenity of the city.

The Innovative Freight and Logistics chapter outlines the City of Melbourne's priorities for this sector including encouraging more freight onto the rail system and identifying efficient approaches to last-kilometre freight when new developments are proposed.


TRG
Federation Square
Route To
8 Moreland
16 Melbourne University
64 Melbourne University
67 Melbourne University
72 Melbourne University
Stop

5 Effective and integrated public transport

Goal

Public transport will be the most attractive way to travel around the municipality and metropolitan Melbourne. An integrated system of rail, tram and bus will be affordable, responsive to customer needs and fully coordinated with the municipality's cycling and walking paths.

It will be possible to live or operate a business in inner Melbourne comfortably without needing a car.

Integration

The public transport system is made up of a suite of different modes that offer a variety of mobility options across Melbourne. Integrating these modes is vital to achieving a seamless public transport system which people can use easily for a range of different trips.

All of the modes that make up the public transport system need to be managed as one system, so that services are coordinated, connect to one another, do not impede each other, and offer a seamless experience for users. Marketing and communication of the system also requires an integrated approach. Other cities around the world have been successful in integrating the management and promotion of public transport modes, such as Transport for London and the New York City Department of Transport.

The locations where public transport modes meet must be designed and managed to link conveniently and logically, and facilitate easy and safe walking connections. The management of the public realm– in many cases, the road and footpath space between stops and stations – must be integrated with decisions that affect the public transport system, such as stop design, station entrances, etc.

The Transport Integration Act sets out a governance and decision making framework for achieving this. The City of Melbourne supports the objectives and principles of the Transport Integration Act, and will work with transport agencies and the State Government to ensure the Act is effective in integrating transport – public transport especially – in Melbourne.

Capacity

Prior to 2004, public transport patronage was predicted to grow at four per cent per year or less. Since then, annual growth rates have been much stronger. In 2008/9, bus patronage grew by nine per cent, tram patronage grew by 12.5 per cent and train patronage grew by 6.3 per cent. Current estimates are that public transport patronage will continue growing at about six per cent per year, with train growth at more than seven per cent.

Many parts of the pedestrian infrastructure are now are at capacity during peak times. More than 153,000 people currently use Flinders Street station on a regular weekday and 36,000 people use the tram stop between the station and Federation Square (a total of 189,000). Twelve years of six per cent growth would see this figure more than double, to 380,000.

The walking component of public transport journeys, and the environment provided for walking, will become increasingly important in the Central City as public transport usage increases.

In order to serve this growth, the capacity of the system will need to be significantly upgraded, including new separated train lines, new rolling stock, tram and bus priority, new tram routes and pedestrian improvements around public transport access points.

A significantly improved public transport system is needed to improve access and mobility to, from and within central Melbourne today. The forecast growth of metropolitan Melbourne, and specifically the capital city which provides so much of Victoria's economic and social activity, will amplify the need for effective and integrated public transport.

The City of Melbourne will strongly advocate for significant improvements to train, tram and bus services. The City of Melbourne will work towards these improvements, where it is within its remit to do so, for example streetscape improvement or traffic engineering treatments.

The capacity of the network requires major enhancement to relieve current pressures, especially at peak times, as well as to meet the new challenges of continuing city growth.

The accessibility of the whole public transport system requires a major improvement, in order for Melbourne to advance its liveability and economic performance. Better accessibility is achieved by providing more frequent services, improved travel speeds, 24/7 travel options, integration of different modes of transport and routes, and extensions to the network.

Reliability

Reliability is sometimes cited by public transport users as being more important in their decision about whether to use public transport than overall journey time. In order to plan their activities, passengers need to know when a service will depart and when it will arrive at its destination. If the service is not reliable the planning of other activities is thrown into uncertainty. Two key elements of reliability are service delivery (the provision of advertised services) and punctuality (adhering to timetables).

Fig 5.1 Federation Square Tram Stop

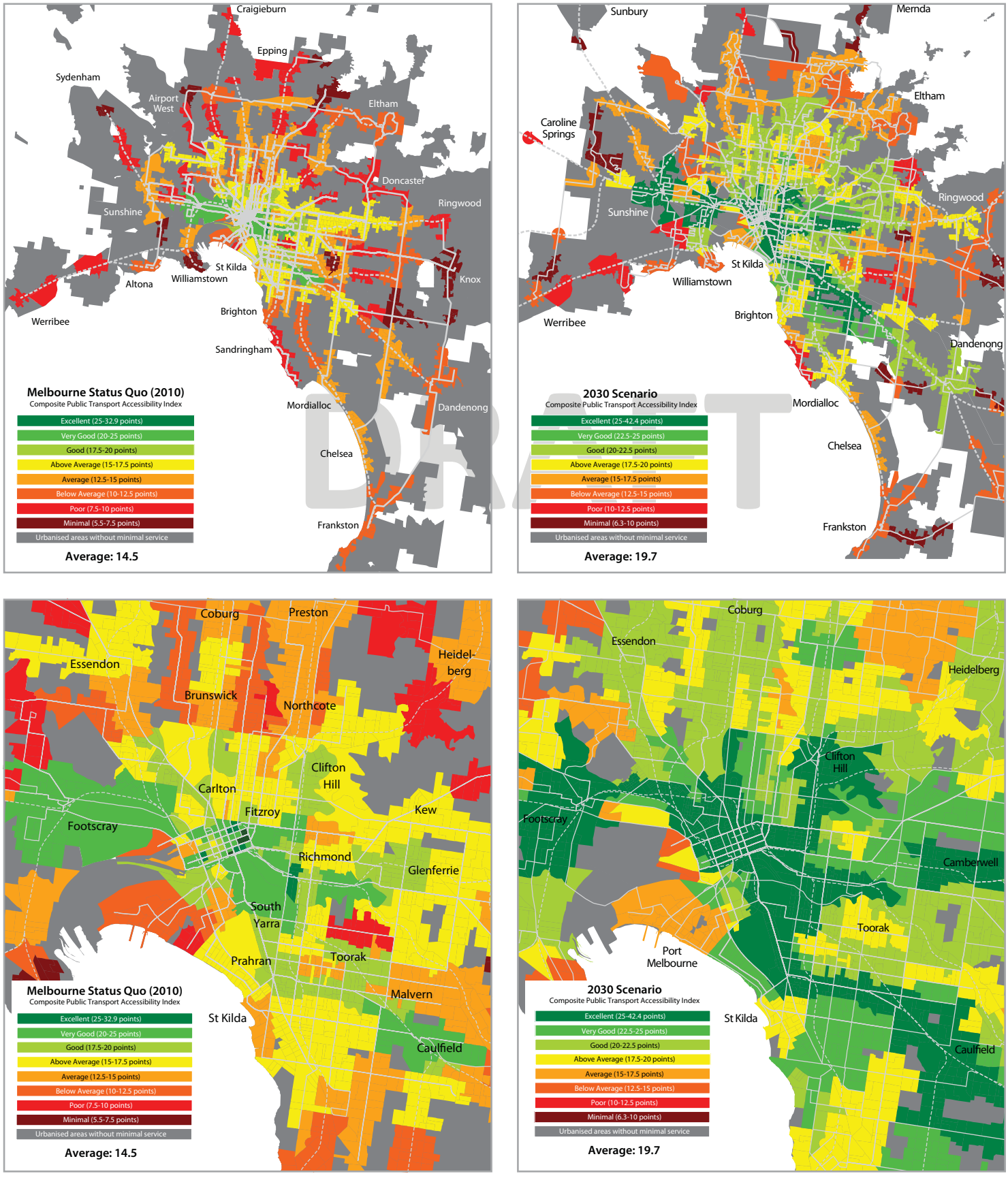

Fig 5.2 Public Transport Accessibility Index mapping 2010 and a possible 2030 scenario, Source: RMIT

Factors that affect reliability include the quality of maintenance, design that isolates breakdowns to small parts of the system, overcrowding leading to long boarding times and the ability of public transport vehicles to move through traffic without being unexpectedly held up by traffic congestion.

The reliability of Melbourne's tram and bus systems can be significantly affected by traffic congestion. For example, Skybus travel times from Melbourne Airport to Southern Cross Station can vary from 20 minutes to 40 minutes depending on traffic congestion. Train reliability has been affected by mechanical breakdowns and other factors. In March 2011 punctuality was 83.3 per cent (compared to a target of 88 per cent) while service delivery was 98.9 per cent compared to a target of 98 per cent.

Accessibility

The City of Melbourne assessed the level of accessibility of the existing public transport system and the scale of improvement that can be achieved by a variety of initiatives or scenarios. The analysis integrates transport and land use by giving a higher weighting to the transport system's ability to move people to places where there are many residents and jobs.

The assessment breaks the public transport network into 176 activity nodes and measures the level of accessibility of travel between all these nodes. The nodes include higher-order activity centres across metropolitan Melbourne and major public transport network transfer points.

The assessment is based on the level of service offered during the inter-peak (between the morning and evening peak hours). This means it is focused on how well public transport can serve non-commuting travel such as business to business travel and access to personal and business services. Thus it is an indicator of how easy it is to live or operate a business without the need for a motor vehicle. The minimum service standard to be included in the assessment is a departure frequency of 20 minutes on weekdays and 30 minutes on weekends.

Accessibility indicators

The level of accessibility is an amalgam of six detailed accessibility indicators. These are:

Ease of movement – How easy is to move around the public transport network in terms of speed and service frequency?

Directness of journeys – How many transfers between public transport services are required to move around the network?

Access to destinations – How many jobs and residents are within the walkable catchment of nodes that can be reached by a 30-minute journey from all other nodes?

Speed competitiveness with private vehicles – How competitive is the public transport journey compared to the same journey by car from all nodes to all other nodes?

Travel opportunities – How rich are the travel opportunities between nodes?

Nodal connectivity – How suitable are activity nodes for making transfers or journey breaks with minimum disruption to the flow of travel?

The maps demonstrate the current level of public transport accessibility, and the scale of benefit that can be achieved by improving certain aspects of the system.

It is clear from this analysis that public transport accessibility is very good in the inner city and large portions of the inner east.

As distance increases away from these areas, accessibility declines, with parts of Melbourne recording below the minimum service level used in the analysis.

The 2030 scenario includes many changes to the public transport system both within and outside of the City of Melbourne, including;

- a significant boost in speed and frequency of the tram and bus systems
- route extensions, realignments and interchange improvements, to improve connectedness and the coverage of the network, and
- new infrastructure, (Regional Rail Link, completed Melbourne Metro train tunnel, and other heavy rail projects)

Conclusion

The key conclusions from the scenarios were:

- Improving the service frequency provides the greatest accessibility benefit for the effort required
- There is a need to improve existing infrastructure to allow for increased frequencies on the rail and tram networks. This includes un-cluttering rail operations and upgrading signalling and track infrastructure.
- Melbourne needs new public transport infrastructure to achieve a multi-directional 'lattice-shaped' tram and bus network, to improve current accessibility and to meet the needs of the growing, consolidating city.
- New rail infrastructure can improve accessibility, but will have a more obvious and tangible benefits to capacity - which is important for Melbourne given the capacity constraints on the rail network.
- The analysis does not assess the demand for transport or the capacity of the service to deliver that demand.

A go anywhere, anytime public transport network for inner Melbourne

Melbourne requires a public transport system that provides high levels of access across the metropolitan area. This can be thought of as a go anywhere, anytime public transport system, with residents and business owners not needing a motor vehicle to live or operate in central Melbourne.

The characteristics of this accessible system are high-frequency, speedy services, connecting transport and activity nodes throughout Melbourne. The City of Melbourne's proposal for improving public transport access is based around:

- Improving the performance of the existing tram, train and bus network
- Introducing new connections within the existing system
- Adding new services to improve links and enhance interchange nodes.

Key aspects of this proposition include:

- Constructing the Melbourne Metro tunnel
- Separating the train network into a modern metro system, with separated lines
- Improving travel times on the existing public transport network by 25 per cent
- Increasing the frequency of services to no less than every 10 minutes, by adding new vehicles
- Redeploying services away from areas of over-concentration, to activate under served parts of the city (such as moving some trams from Swanston Street to William and Spencer Streets)
- Adding new services and links.

This proposal would lead to a significant improvement in the quality of public transport. Several areas in Melbourne would achieve public transport ratings which are classed as excellent and would be competitive with some of the world's best public transport systems.

In the parts of the city where the public transport system is providing excellent levels of accessibility it has the ability to provide much more than just servicing the peak commuter loads. It can also service the much wider range of trips that need to be taken in all of the interpeak periods for business, school, leisure, entertainment and visiting. In this way, and for those parts of the city, the public transport system can begin to provide a similar degree of responsiveness and mobility that we seek by using the private car

This analysis of the accessibility shows that a large area of the inner metropolitan area has good – excellent accessibility and that under the improvements modelled in the 2030 scenario this degree of accessibility could be significantly further improved so that large corridors of inner Melbourne and most of the City of Melbourne would have excellent accessibility.

Late night transport

Melbourne is becoming a 24-hour city and needs its public transport system to reflect this. The City of Melbourne's *24-Hour City Policy* calls for 'improved services, including more effective night time public transport and pedestrian access'.

On Friday and Saturday nights (between 7pm and 7am), up to 336,000 people are in the city. This is nearly half the daytime population. Those who leave between 1.30am and 5am have no standard public transport and rely on the NightRider bus, taxis, private vehicles, walking and cycling.

The use of NightRider buses, which mostly depart from near the intersection of Swanston and Flinders Streets has been growing strongly. Buses are well suited to late night operation. They are flexible (services can be quickly increased or rerouted to take account of demand), run from 'kerb-to-kerb' and can run on infrastructure that already operates 24 hours a day (the road network).

NightRider patronage doubled to about 4,300 patrons per weekend after 2008, when standard fares were applied.

The City of Melbourne has been working with MetLink on a study of late night transport demand. Key issues will be expanding the existing services, consideration of regular late night tram operation, and introducing new pick-up points around Melbourne.

- ❑ **Action: The City of Melbourne will work with the State Government and transport providers to create a transport system to serve a 24-hour city.**

5.1 Rail

Context

The Melbourne train system carries about 400,000 people each day on a network of 830 kilometres of track using 180 six-carriage trains.

Recent changes to the train timetable and train routing have increased the number of services in peak times. The State Government has been planning a new separated, high-service line for the train system called the Melbourne Metro train tunnel which is planned to run from Footscray to Caulfield This line will be a key step in converting the existing suburban train network into a metro system. This new line is similar to the rail line proposed in the City of Melbourne's 2006 transport strategy.

Issues

The suburban rail system is inadequate for inner Melbourne

Melbourne has a large suburban rail system. Suburban rail systems operate on main line tracks unsegregated from other rail traffic such as regional passenger rail and freight services. This means that the train traffic is more complex, headways are longer, average speeds slower and service frequencies are lower.

As the density of activity in Melbourne's inner metropolitan region has grown over the last 20-30 years our suburban system has become increasingly ill-suited to meet the rail service needs of these parts of the city.

The dense inner metropolitan regions of most large advanced cities across the world have (or are installing) a metro rail system to meet the more intensive passenger rail task. Unlike a suburban rail system a metro (or rapid transit) rail system is a network of dedicated lines segregated from each other and other rail traffic and running back and forth along the one line. Passengers wanting to traverse the network make interchanges at hub stations where two or more lines pass by each other.

Because the traffic on a metro rail line is simplified it is possible to run services at higher frequencies and average speeds and with greater reliability. Metro systems usually run so frequently a timetable is not required. The Metro network is usually complimented by a suburban rail service to the outer metropolitan areas.

The costs of congestion on trains

Overcrowding on our train network makes access to the City of Melbourne difficult for some people across the metropolitan area, and some regional centres. This can be especially problematic in peak times, when many people rely on the rail network to get to jobs. Further overcrowding on our trains has the potential to suppress jobs growth in inner Melbourne. Overcrowding is exacerbated by the configuration of the suburban train network in which complex train paths require trains to cross lines (forcing other services to wait) and tracks are shared with freight trains. This reduces the number of services that can be provided to address overcrowding.

Poor customer pedestrian connections and interchanges

The pedestrian safety and convenience of rail customers moving to and from stations to their final destinations and at modal interchanges with trams, buses and taxis and bikes is often poor. Poor pedestrian connections for customers at and around modal interchanges is undermining the ability of the public transport system to function as an integrated multi modal system

Some of these precincts such as the modal interchange at Swanston Street at Flinders Street Station or the Spring Street exits for Parliament station have not been designed for current peak capacity and will only continue to worsen as patronage grows.

Urban renewal areas will require new train services

Major urban renewal areas such as City North and Adren Macaulay will require new rail services to provide excellent accessibility and high passenger capacity to serve what will be high intensity, mixed use areas very similar to the current Central City.

Greenhouse emissions and energy cost

Melbourne's train network currently relies on electricity generated by brown coal. This is very greenhouse gas intensive. Fuel costs are expected to rise in the future including the cost of electricity to run the train network.

A metro system

Melbourne's existing suburban train system needs to be converted into a modern metro system which can carry significantly more people. This is the most important public transport issue for the city. A metro system is one in which lines are separated from each other, and modern signalling and simpler train routes allow longer trains to run more frequently.

This has many benefits. Breakdowns on one line do not cause the entire system to slow or stop. Lines can be upgraded independently of other lines to take different trains (higher capacity, longer trains) or to take new signalling systems that allow trains to travel closer together and provide more frequent services. Interchanging between lines becomes quicker and easier.

Creating a metro system could increase the capacity of the train network from approximately 135 trains in the morning peak hour to about 256 trains.

Objectives and actions

Reengineer the suburban rail system to provide a metro service

The suburban train system needs to be converted into a metro train service to cater for the large number of users and to serve the growth and intensity of development in inner Melbourne. Key actions in this process are to:

- Through-route trains – The most efficient way for trains to operate is to travel from one side of the metropolitan area to the other, running through the Central City. This means they spend as little time as possible in the most congested part of the network which in Melbourne is the City Loop.
- Separate lines – When lines are separated they can be upgraded independently (including larger train sets and new signalling) and breakdowns are isolated to a single line. Washing and repair facilities are provided for each line so trains do not travel on the network to access servicing. Trains can be run more simply and frequently because complex timetabling and track sharing is avoided.
- New routes – As Melbourne grows, new train lines will be needed. The first of these will be the Melbourne Metro Rail Tunnel . Other future extensions to Melbourne Airport and Doncaster can add significant capacity.

The most important new line is the Melbourne Metro rail tunnel. This new service, planned to be operating by around 2020, was initially proposed by the *East West Link Needs Assessment* (the *Eddington Report*) and is similar to the North-South Underground Rail Line proposed in the City of Melbourne's previous transport strategy (*Moving People and Freight 2006-2020*).

Stage one of the project is a high-capacity underground train running from Footscray, via new stations at Arden-Macaulay, Parkville, City North and City South, to a new station at Domain. Stage two of the project would link the line to Caulfield station.

City of Melbourne supports the Melbourne Metro project, and will partner with the State Government in the detailed design of station precincts.

❑ **Action: The City of Melbourne will advocate for significant investment in rail to convert it to a metro system.**

Improve customer pedestrian interchanges and connections

The design of the public realm around existing and proposed stations needs to optimise the pedestrian priority, safety and convenience of rail customers as they move between the station and their final destination

❑ **Action: The City of Melbourne will work with the Department of Transport and train operators to ensure that areas around train stations provide excellent pedestrian access.**

Coordinate land use intensification with existing and new rail stations

The developing of land around new rail stations should be planned to maximise the benefit of the accessibility provided by the train network and coordinated to ensure that public transport is available as the area grows. Higher density, mixed-use development should be located closest to stations. Tram, bus, bicycle and pedestrian networks should link seamlessly with trains.

❑ **Action: The City of Melbourne will work with the State Government to ensure that planning for new rail stations and precincts integrates land-use planning with the transport network**

Greenhouse emissions and energy cost

The issue of greenhouse emissions from trains will need to be considered. Research for the City of Melbourne found that the most effective way to mitigate transport emissions in Melbourne was to decarbonise the fuel supply.

❑ **Action: The City of Melbourne supports efforts to increase the use of renewable energy in powering Melbourne's public transport system, specifically moving away from the use of brown coal for the electric rail and tram systems.**

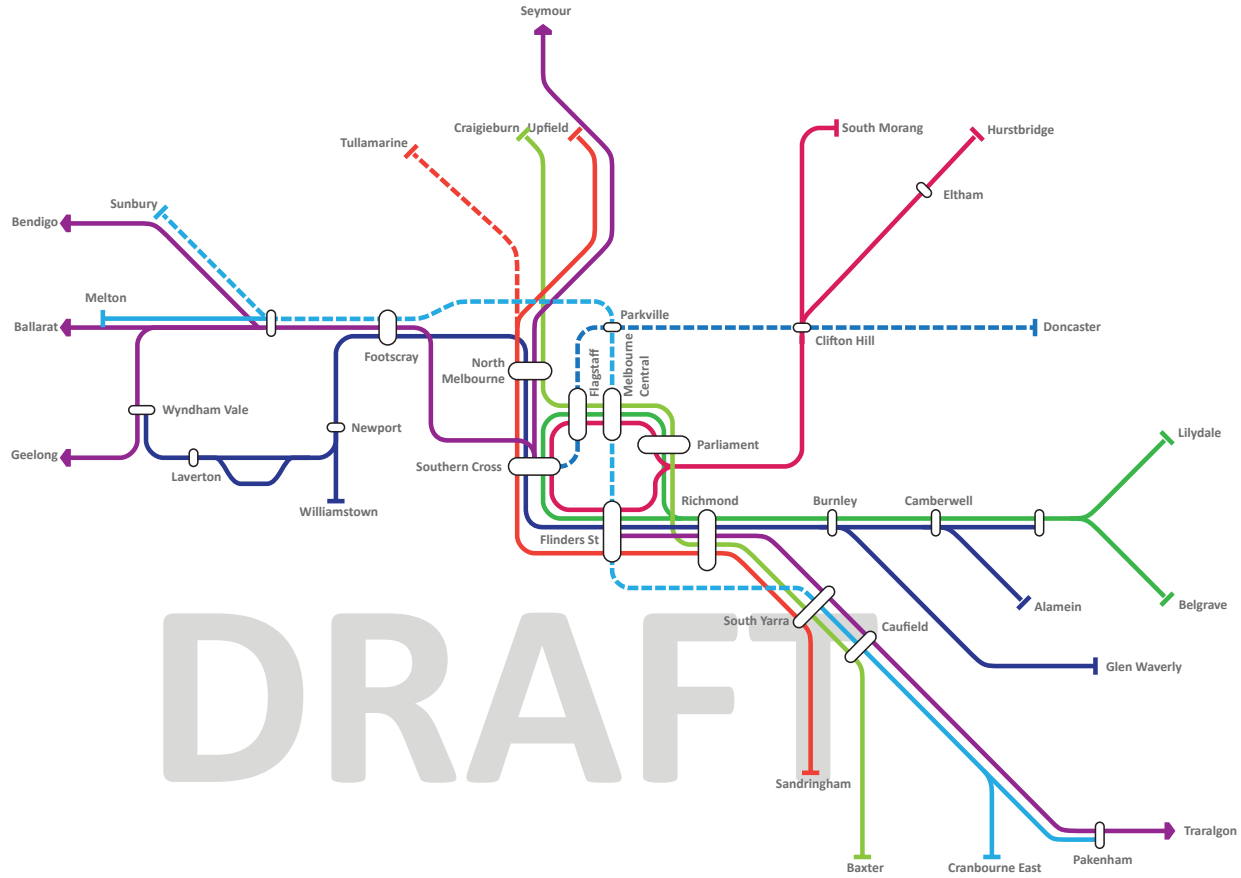

Fig 5.3 Possible Train Network Concept 2030 showing new lines with less convergence

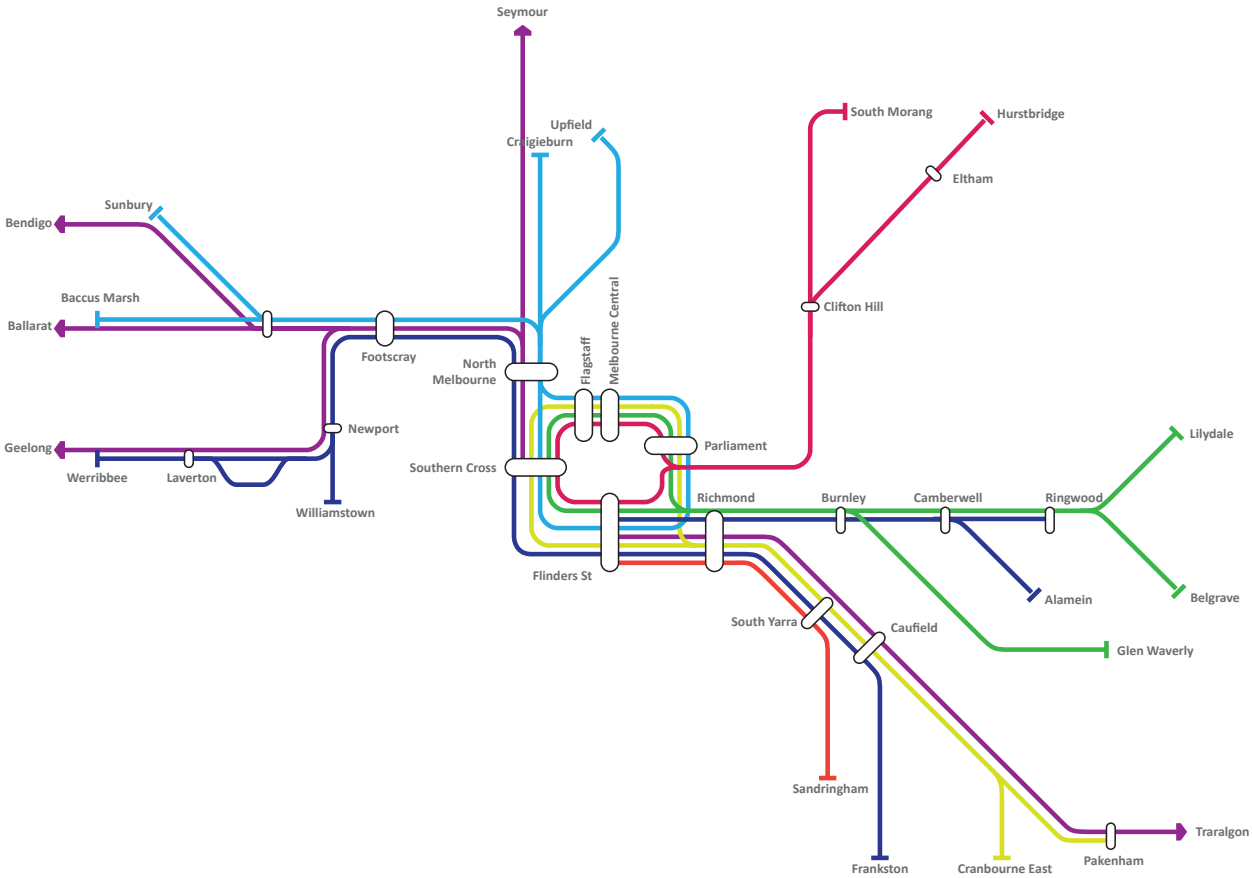

Fig 5.4 Train Network Configuration 2011 showing pressure on Flinders Street

5.2 Tram

Context

Trams serve approximately 600,000 people every day in Melbourne's inner metropolitan areas, on a 247 km network that is worth between $10 billion and $15 billion. Trams can move more than 10,000 people per hour in a single arterial traffic lane that could otherwise move only 800 cars. The tram network is one of Melbourne's most important strategic assets.

Trams provide high quality, on-street public transport that does not require passengers to travel underground to access it. They link together many nodes throughout the city because of the relatively short stop spacing compared to train systems.

Issues

Slow average running speeds

Melbourne's trams are among the slowest in the world, running at around 16 km per hour throughout the system and 10 km per hour in the city.

The low average running speeds are caused by:

- Sharing tramways with general road traffic – This means trams are being stalled in road congestion and stopped by traffic manoeuvres crossing the rails such as cars turning right.
- Only limited priority at signalised intersections along tram routes – Trams receive some level of priority at traffic lights but this could be significantly increased.
- Tram stops are too frequent – Melbourne's tram stops are very closely spaced compared to tram and light rail systems overseas. This means frequent stopping which slows down travel times.
- Tram stop design is inefficient for passenger boarding – Many tram stop designs are inefficient. These include stops yet to be converted to level access, stops where passengers have to wait for vehicles to stop and then cross traffic lanes.

Between 1994 and 2004, the city of Munich improved its tram speeds from about 16 km per hour to 21 km per hour, as well as improving reliability, patronage, and punctuality. This was through prioritisation at traffic lights, optimising stops, and separation from traffic. Melbourne is following a similar program but more needs to be done.

These impediments to average running speeds have a significant effect of the quality and efficiency of the tram service. There are cumulative knock on effects that can result in major delays, cancellations and overall reductions in reliability. Slower speeds reduce the attractiveness of the service to customers. A slower system requires more trams and is

Fig 5.5 Artists Impression, Swanston Street redevelopment at Little Lonsdale St facing North

therefore more costly to run. It also has a lower capacity.

Network imbalances and gaps

The emerging and future urban renewal areas will need to be serviced by extensions to the tram network to deliver excellent accessibility.

The tram network in the city is currently very dependent on the St Kilda Road-Swanston Street corridor. The number of routes that feed into this corridor means that even a slight problem can have a major impact on tram operations and people's travel time.

The ageing tram fleet

The age of Melbourne's tram fleet needs to be addressed. Many trams will reach the end of their design life during the next decade. The lead-in time to buy new trams is three years. The system requires a long-term commitment to managing and expanding the capacity of the tram fleet. Trams are often overcrowded, partly because many vehicles are too small: 147 of the fleet's 486 trams are Z class, which carry only 70 people, compared with the Bumblebee (C2 class), which carries 140 people.

Stop planning and design

The Disability Discrimination Act requires that 90 per cent of the public transport system be DDA compliant by 2017. This will ensure those with physical disabilities can access trams and improves the ease and safety of access for all customers. Many tram stops in the City of Melbourne and outside it are not currently DDA compliant.

Tram stop designs need significant improvement. Level access stops have improved the speed of loading, improved safety and amenity, and in some cases calmed traffic in high pedestrian areas. However, some are now overcrowded and require staff to maintain passenger safety and efficient movement. Tram patronage is growing strongly. Maintaining traffic lanes with 50 km per hour speed limits adjacent to tram stops has meant the need for extensive fencing and very low permeability for pedestrians. Different locations will require different design solutions.

In some cases, level access stops have been inserted as a standard design into a streetscape without considering the whole pedestrian journey for customers in and along the street Improvements to the tram network will mean a reduction in the number of stops, including in the city centre. Stop designs need to be better integrated into an overall streetscape which provides high levels of pedestrian priority and access for cyclists.

Overcrowding on trams

Overcrowding on the tram network slows down services, results in poor quality of service for customers, and deters people from using trams. Recent patronage growth has meant Melbourne's trams are becoming overcrowded more often. This is exacerbated by the small size of trams, lack of traffic priority and slow boarding.

Reliability

Delays caused by sharing tramways with general road traffic causes unpredictable delays and even cancellations of services. Consequently the service becomes less reliable in running to timetable which deters customers from using the service.

Interchange planning and design

Interchanges between tram routes and between trams and train stations and bus stops are often not designed to prioritise the pedestrian comfort, convenience and safety of customers. Examples of this include the Flinders Street Station connection to the Federation Square tram stop and the interchange between Southern Cross Station, the tram network and the city's network of footpaths. Issues at these locations

Fig 5.6 Level access tram stop in Fitzroy Street, St Kilda

Fig 5.7 Level access tram stop showing permeable access to footpath

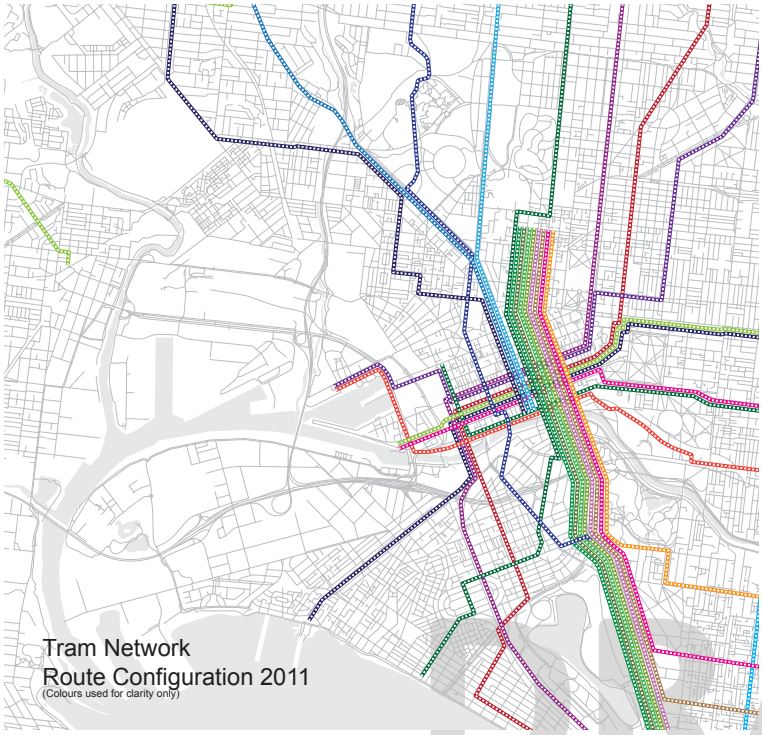

Fig 5.8 Tram congestion on Swanston Street

include crowding on footpaths, lack of pedestrian permability, and low priority at traffic signals.

Integration of tram services with Land use

The land use corridors along tram routes are sometimes underdeveloped and fail to capitalise on the high-quality public transport service provided by the tram. In tram corridors where there has been some land use intensification there is evidence of lower rates of car ownership and use and higher rates of public transport and active transport use.

Objectives and Actions

Increase tram running speeds

Increasing tram speeds will reduce trip times for customers, increase capacity and reduce the number of vehicles required in the fleet. To do this, the tram system needs:

- Greater segregation of tramways from general road traffic
- Better priority for trams at all signalised intersections
- Reduction in the frequency of tram stops
- New stop designs that minimise dwell times
- Better enforcement of infringements on tram rights of way

The City of Melbourne's analysis of accessibility showed that increasing tram speeds by 25% had a significant effect on the accessibility provided by the public transport network.

❑ **Action: The City of Melbourne will work with the Department of Transport, VicRoads and Yarra Trams to improve the running speed of trams.**

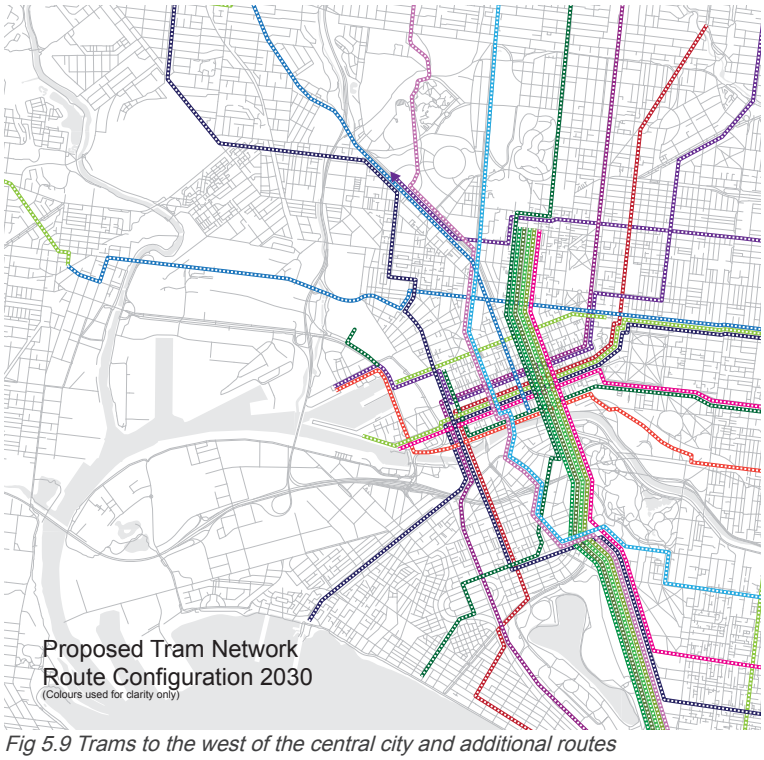

Fig 5.9 Trams to the west of the central city and additional routes

Increase service frequency

Progressively increase the service frequency across the network to increase the accessibility provided by the service. The City of Melbourne's analysis of accessibility showed that increasing service frequency was a key part of improving the overall public transport accessibility. Frequencies can be increased by implementing actions to improve running speed as well as adding more vehicles to the tram system.

❑ **Action: The City of Melbourne will work with the Department of Transport, VicRoads and Yarra Trams to improve tram frequency.**

Signal priority

On average, Melbourne's trams spend 17 per cent of their journey time waiting at traffic signals. Analysis by Yarra Trams shows that changing signal operation to give trams dynamic priority (signals responding to arriving trams) on Swanston Street could result in delays being reduced by up to 33 per cent. Giving greater priority to trams on east-west streets (Flinders, Collins, Bourke, Latrobe and buses on Lonsdale), at streets such as King Street, would also significantly reduce tram delays. The Department

of Transport plans a test of 'absolute priority' for tram routes 96 and 109, which would reduce to zero the delays trams experience at traffic signals.

- ❑ **Action: The City of Melbourne will work with VicRoads to improve significantly traffic signalling, to prioritise tram movements.**

Balance and optimise the network

Trams to the west of the Central City

There is an opportunity to redirect some of the trams currently using St Kilda Road to the west of the city. This will help activate development in the west of the CBD and reduce pressure on the Swanston Street-St Kilda Road spine. This would be coordinated with the construction of a new tram interchange at Domain as part of the Melbourne Metro Domain station. The Melbourne Metro will also service some of the current trips on the Swanston Street corridor.

A north-south tram alignment running through the Haymarket roundabout will also improve tram accessibility to the west of the Central City. This will link the Royal Parade corridor with the Peel-William Street tram lines.

These options can be implemented in the short term, between 2011 and 2016.

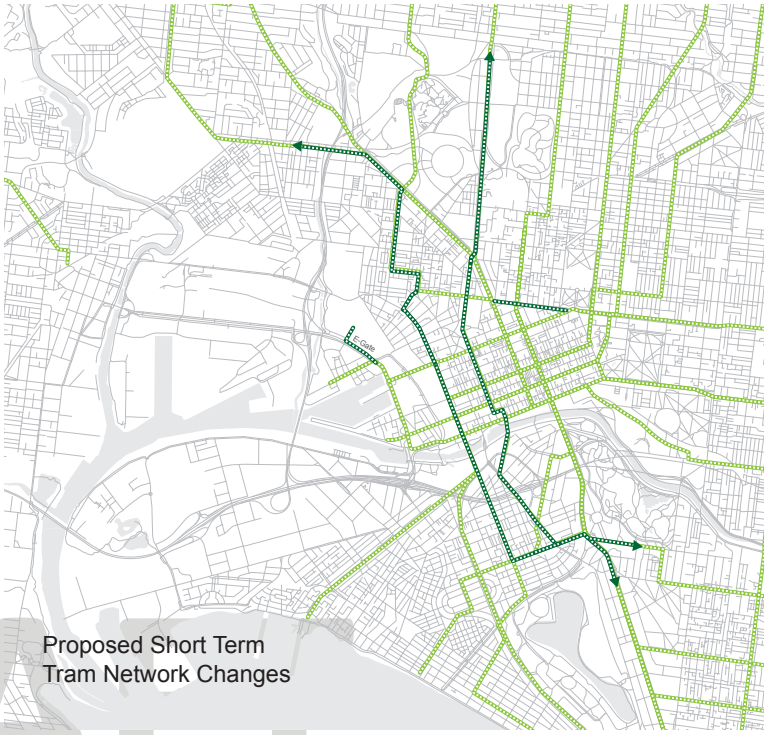

Fig 5.10 Two tram routes moved to the west of the central city; additional tracks at Victoria Parade, eGate and Haymarket

Victoria Parade, eGate and Haymarket

The redevelopment of the eGate site will require high quality public transport links into Docklands and the Central City. A tram link via Footscray Road, and pedestrian access to the North Melbourne train station, will provide this.

Other initiatives here include connecting the two sections of tram track on Victoria Parade, between Swanston Street and Carlton Gardens, and linking the Errol Street service with the Spencer Street corridor.

These initiatives can be implemented in the medium term, between 2020 and 2030.

Dynon Road, Fishermans Bend, Grattan and Elgin Streets

These tram route improvements will be required in the long term to ensure Melbourne's inner city grows in a sustainable and efficient way.

Dynon Road will become a key corridor of activity linking central Melbourne with the growing activity in Footscray. A tram line will stimulate activity and deliver high quality access and mobility for commercial and residential developments along this route.

Fishermans Bend is currently poorly served by public transport. Any future mixed use development of this precinct must be accompanied by public transport services.

Grattan Street is likely to become an active and exciting centre of Carlton. Linking the Flemington Road corridor with Swanston Street through

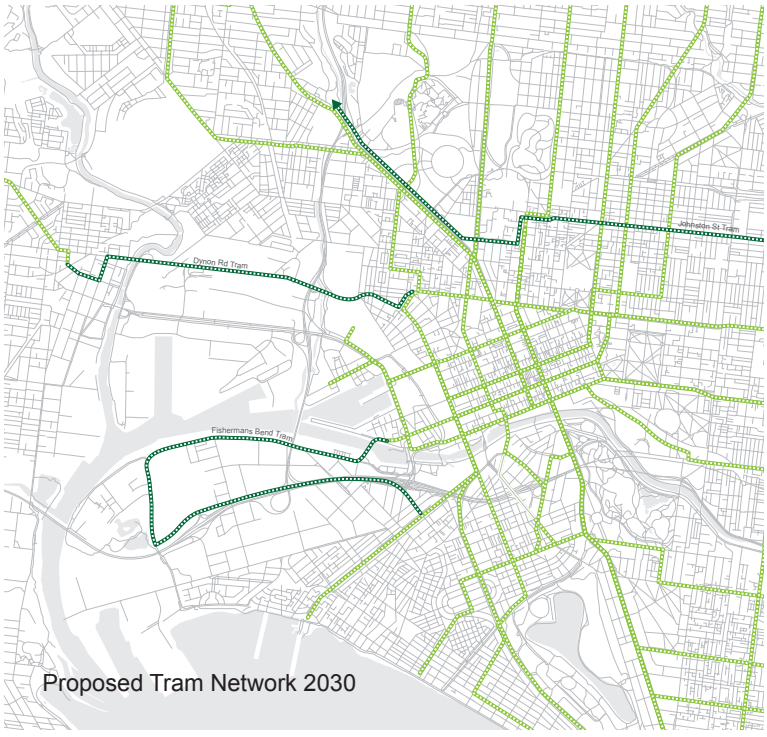

Fig 5.11 New tracks and routes on Dynon Rd, in Fishermans Bend, and along Grattan and Elgin Streets

the university precinct will deliver considerable benefits for inner north Melbourne and Carlton. The City of Melbourne is planning for significant intensification of land use in this key knowledge precinct. This map also indicates the potential tram route extending on the Elgin-Johnson Street alignment. This is recommended to replace the maturing bus service, to help promote sustainable urban development in this area.

- ❑ **Action: The City of Melbourne will advocate for changes to the tram network as identified on the proposed tram network changes maps.**

Integrate level access stops into a designed whole of street upgrade

Constructing new level access stops for trams will be one of the most important parts of developing high-mobility public transport and pedestrian streets. These should be constructed to provide pedestrian priority access and high levels of pedestrian permeability.

- ❑ **Action: The City of Melbourne will work with the Department of Transport and VicRoads to develop a four-year strategic plan to construct level access stops in the city and to plan and design stops as a whole of streetscape renewal.**

DDA compliance of stops

Providing access to trams and buses for people of all abilities is important for access. By 2017, the Disability Discrimination Act (DDA) requires that 90 per cent of the public transport system (stops and vehicles) must be DDA compliant. Providing fully accessible stops improves capacity on the tram and bus network by speeding up boarding and alighting, and allowing vehicles to reduce journey times.

This will also be important to prevent the build-up of passengers waiting at stops and interchanging between services. The number of tram passengers on some stops, such as at Federation Square, already frequently exceeds the capacity of the stops.

The high cost of new stops and the need to reduce tram delays means that the overall number of stops will be reduced in the city. New stops will be designed to integrate much more easily into the surrounding footpath network and provide better access for cyclists. The City of Melbourne's plans for Swanston Street and the existing stop at Cleve Plaza (Fitzroy Street, St Kilda) are examples.

This will mean greater permeability for pedestrians, reduced fencing, lower traffic speeds and better bicycle access. The need to build much larger stops to cater for two 30-plus metre trams means new stops in the Hoddle Grid will, in some cases, take up most of the length of a small city block.

- ❑ **Action: The City of Melbourne will work with the Department of Transport and VicRoads on the construction of level access stops in the municipality to meet the requirements of the DDA. This will require the removal of some stops and the positioning of new stops in mid-block locations.**

- ❑ **Action: The City of Melbourne will design tram stops that are integrated into the city's footpath network and have better pedestrian permeability.**

Cutting through congestion

If trams were not held up by traffic congestion, the tram network could provide the same level of service today, with approximately 100 fewer trams. (Melbourne has 486 trams, including 37 historic W class vehicles). Achieving this requires on-road public transport to be given significantly greater priority over general traffic in the allocation of road space and time at traffic signals.

During peak hour on key routes into the city, trams already move more people than motor vehicles. For example, they move 56 per cent of the people travelling on Nicholson Street, Carlton, and 54 per cent of the people on Bridge Road, Richmond.

Enforcement of road rules that ensure tram (and bus) priority is an important part of maintaining an efficient system.

- ❑ **Action: The City of Melbourne will work with Victoria Police, VicRoads, the Department of Transport and the Department of Justice to develop a program of enforcement to reduce delays to trams and buses.**

- ❑ **Action: The City of Melbourne will work with the Department of Transport to reduce tram and bus delays by providing dedicated public transport rights of way.**

New trams

Melbourne needs a transparent, ongoing asset management program of phasing out old trams, introducing new ones and expanding the tram fleet to cope with strong patronage growth.

The arrival of 50 new E class trams in Melbourne between 2012 and 2017 is welcome. Despite this, tram overcrowding will worsen over that time due to growth in passenger numbers.

As new trams are deployed on high performing tram routes, the routes should be upgraded to provide the highest possible level of tram priority, high quality stops and route separation. New trams will go on routes 96, 109, 19 and 112, in that order. This is an opportunity to master plan the streets on which these trams run, to ensure new transport infrastructure is integrated with high quality street design, pedestrian and public

transport priority, and new, more permeable stops.

- ❑ **Action: The City of Melbourne will work with the Department of Transport to master plan streets in preparation for the introduction of new E class trams.**

Whole of route upgrades

The City of Melbourne has been working with the Department of Transport, the Department of Planning and Community Development and adjacent municipalities to develop tram routes 96 and 109 as examples of integrated transport and land use planning.

Tram route 96 is already one of the most successful, and the third most patronised, tram route in Melbourne. However, current running times between Spencer Street and East Brunswick are 40 per cent slower than in 1950 (28 minutes today compared with 20 minutes in 1950). Route 96 trams spend 33 per cent of their journey time stationary. This is in addition to the 17 per cent of the journey spent loading passengers. This is a poor use of public investment in the tram system.

To improve these routes, the following measures are required:

- Optimising the performance of the tram to significantly increase reliability, reduce delays to a minimum, reduce end-to-end journey time, provide the highest possible level of priority to trams at traffic signals, and improve boarding and safety using level access stops.
- Introducing new high-capacity, high service trams.
- Facilitating more intense development along the tram route, where this is appropriate.
- Improving the public realm to create high quality, attractive places and destinations along the tram route.
- Enhancing connections to other public transport services.
- Strengthening the link between tram travel, economic developments and activity along the route.

- ❑ **Action: The City of Melbourne will support the route 96 and 109 projects, including ensuring that the network operating plan gives good signal priority through the city.**

Coordinate land use intensification with existing and new tram routes

Corridors along tram routes should provide opportunities for intensification where appropriate and development of land uses which are integrated with the Principal Public Transport Network.

- ❑ **Action: The City of Melbourne will provide planning scheme controls to enable intensification and a mix of residential and employment uses along public transport corridors.**

Road network operating plan

The road network operating plan to be developed by the City of Melbourne in cooperation with the Department of Transport and VicRoads will include the highest level of priority for trams to ensure fast running times, reduced tram crowding, better reliability and a better customer experience.

- ❑ **Action: The City of Melbourne will work with the Department of Transport and VicRoads to ensure that the network operating plan for Melbourne provides a high level of priority to trams.**

5.3 Bus

Context

Melbourne's bus network is experiencing similar growth to other public transport modes, and this growth is forecast to continue. In inner Melbourne buses are a complementary component of the public transport network, in many cases filling gaps in the train and tram networks and feeding or extending these rail routes.

Buses currently link the Central City with the Doncaster area, Fishermans Bend, linking the Parkville precinct to North Melbourne train station, and offering late night transport options, for example, NightRider.

The City of Melbourne's key CBD bus corridors are Lonsdale Street (serving the Doncaster Area Rapid Transit and other services) and Queen Street. In its busiest section, Lonsdale Street carries more than 1200 buses per weekday. Queen Street carries nearly 750 buses. Bus lanes have been installed on both sides of Lonsdale Street and on one side of Queen Street. These projects were proposed in *Moving People and Freight 2006-2020*.

In the long term, the Doncaster Area Rapid Transit should become a rail link. Bringing a Doncaster line into the city is likely to require a new line or tunnel into the Central City. It would be able to be shared with other services, possibly from Epping, and run via Clifton Hill station, underground to Parkville, Flagstaff and Southern Cross.

Issues

Reliability and travel times

Buses in the Central City are often delayed or obstructed by general traffic, both legally and illegally. Traffic using dedicated bus lanes, left turning vehicles which block bus lanes, and general congestion, affect bus travel speeds, reliability and the frequency of services.

Frequency

The infrequency of services is a major issue for Melbourne's bus network. Some routes operate as little as once or twice per hour, and often do not offer late night or weekend service. This is not a frequency level that the City of Melbourne regards as a minimum standard.

Stop design

Many bus stops are too short to cater for high-service bus routes and may need to be lengthened, requiring the removal of some on-street parking.

Network imbalances and gaps

In 2010 the Department of Transport initiated a bus service review for the Melbourne, Port Phillip and Yarra areas. This review contains many

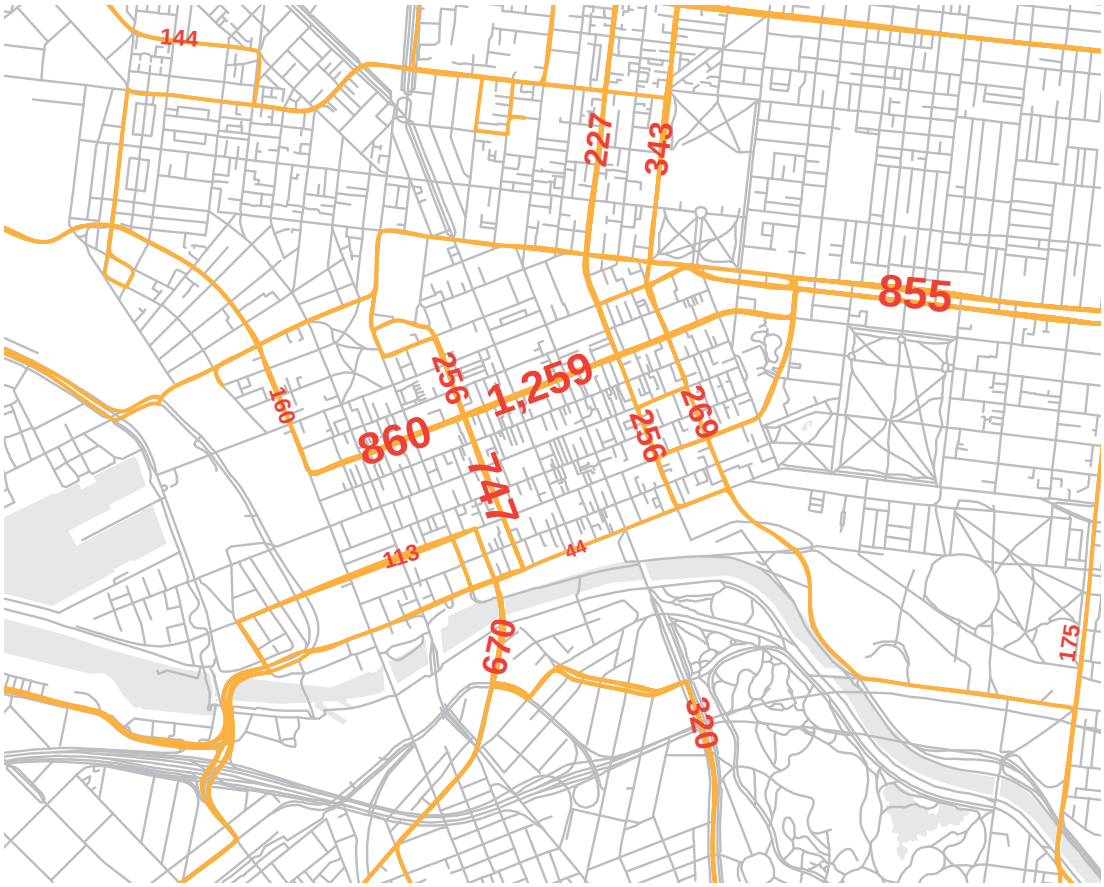

Fig 5.13 Daily Bus Volumes in the Central City, Source: Department of Transport

recommendations for improving bus services across the region.

Objectives and actions

Balance and optimise the network

The initiatives proposed in the bus service review should be implemented. Some of the network changes and additional bus network alterations are:

- North Melbourne and Arden
- Fishermans Bend
- Lonsdale Street

North Melbourne and Arden

Buses in North Melbourne should be diverted to integrate with the Errol Street precinct.

The developing urban renewal area around Arden-Macaulay will require excellent public transport. The details of the transport network in this area will be developed in the future. The City of Melbourne supports a bus link from Racecourse Road to North Melbourne train station, to serve the land use development in this area. This bus route may mature over time and eventually demand a tram service.

Fishermans Bend

Buses in Fishermans Bend can be rationalised so as to benefit travel times and untangle the Central City components of these routes. By terminating bus services at the western end of the Central City and integrating these with the train, tram and other trunk bus routes, significant efficiencies can be gained without any great loss in convenience for passengers.

Lonsdale Street

There is scope to use the Lonsdale Street corridor for routes that enter the Central City from the south and north, such as routes 216 and 220. This realignment will use the established Lonsdale Street bus lanes and stops.

- ❑ **Action: The City of Melbourne will advocate for the implementation of the bus service review recommendations.**

- ❑ **Action: The City of Melbourne will work to install north bound bus lanes on Queen Street in the Central City.**

Increase service frequency

The City of Melbourne's analysis of the accessibility of the bus network found that increasing bus speeds and service frequency to a minimum of every 10 minutes significantly improved the service provided by the public transport network.

- ❑ **Action: City of Melbourne will work with the Department of Transport, VicRoads and bus operators to improve the service frequency of buses to contribute to delivering a go-anywhere anytime public transport network.**

Increase running speed

A bus system that is not impacted by traffic congestion requires dedicated bus lanes, traffic signal priority, safe and efficient stops and interchanges. The system also needs to be

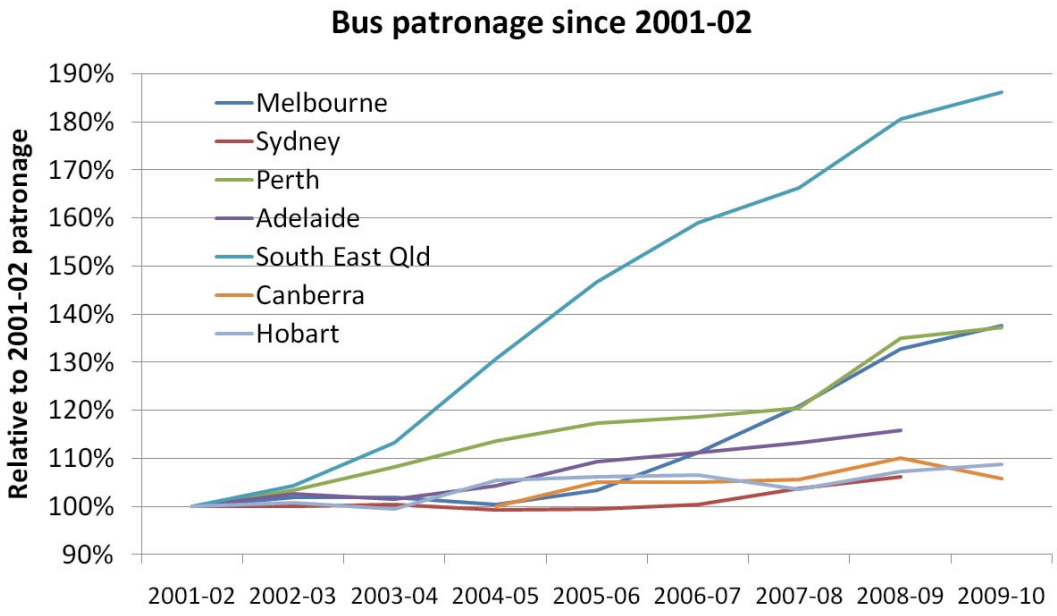

Fig 5.12 Bus Patronage since 2001-02 Source: Bus Association of Victoria

managed in a way that reduces the impact of general traffic on bus operations. For example, dedicated bus lanes require enforcement, and other traffic impacts such as left turning vehicles blocking bus lanes need to be closely monitored and avoided where possible.

- ❑ **Action: The City of Melbourne will advocate for separate rights of way for buses and other measures to reduce delays to buses.**

Better stops and interchanges

The main bus interchange in the city is at Lonsdale Street, near Spencer Street. This stop and link with Southern Cross station are important for the legibility and convenience of the public transport network as a whole. Pedestrians at this location, and at other major bus stops, such as Lonsdale Street near Swanston Street, require the highest possible pedestrian amenity and safety. Many bus stops may need to be lengthened to allow buses to move easily into and out of them.

- ❑ **Action: The City of Melbourne will extend bus stops where necessary by removing on-street parking or other measures.**

- ❑ **Action: The City of Melbourne will work with the Department of Transport to assess the need to improve bus interchanges.**

Coordinate land use intensification with existing and new bus routes

Corridors along bus routes should provide opportunities for intensification where appropriate and development of land uses which are integrated with the Principal Public Transport Network.

- ❑ **Action: The City of Melbourne will provide planning scheme controls to enable intensification and a mix of residential and employment uses along public transport corridors.**

As the frequency of buses increases on key Central City routes, the impact of buses on the amenity of the footpath will increase. Buses run at a frequency of one per minute on Lonsdale Street. Many bus rapid transit systems around the world run buses in the centre of the road in a similar way to how Melbourne's trams operate. This removes the buses from kerbside conflicts such as turning vehicles and reduces their impact on footpath amenity. It also provides certainty to pedestrians about the position of buses on the road.

- ❑ **Action: The City of Melbourne will investigate designing centre of the road bus operation on high-frequency routes in the city.**

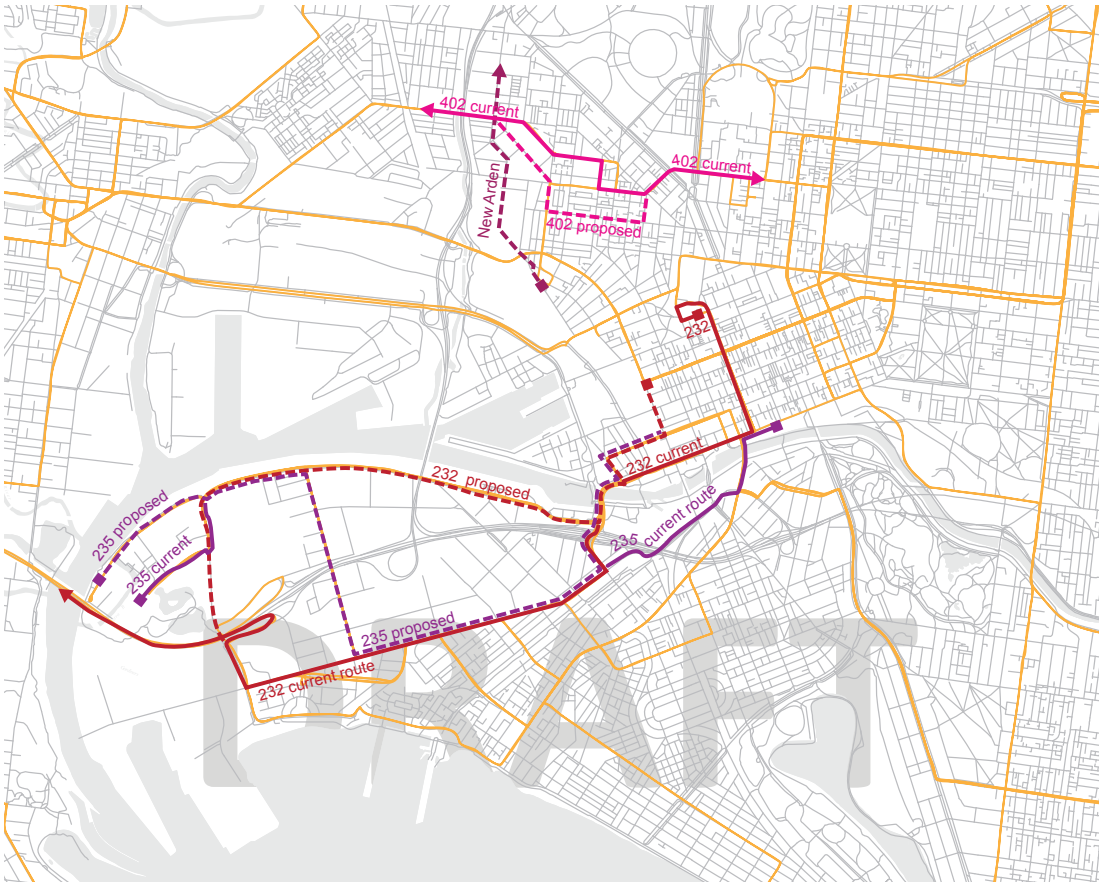

Fig 5.13 Proposed changes to bus services in Fishermans Bend and North Melbourne

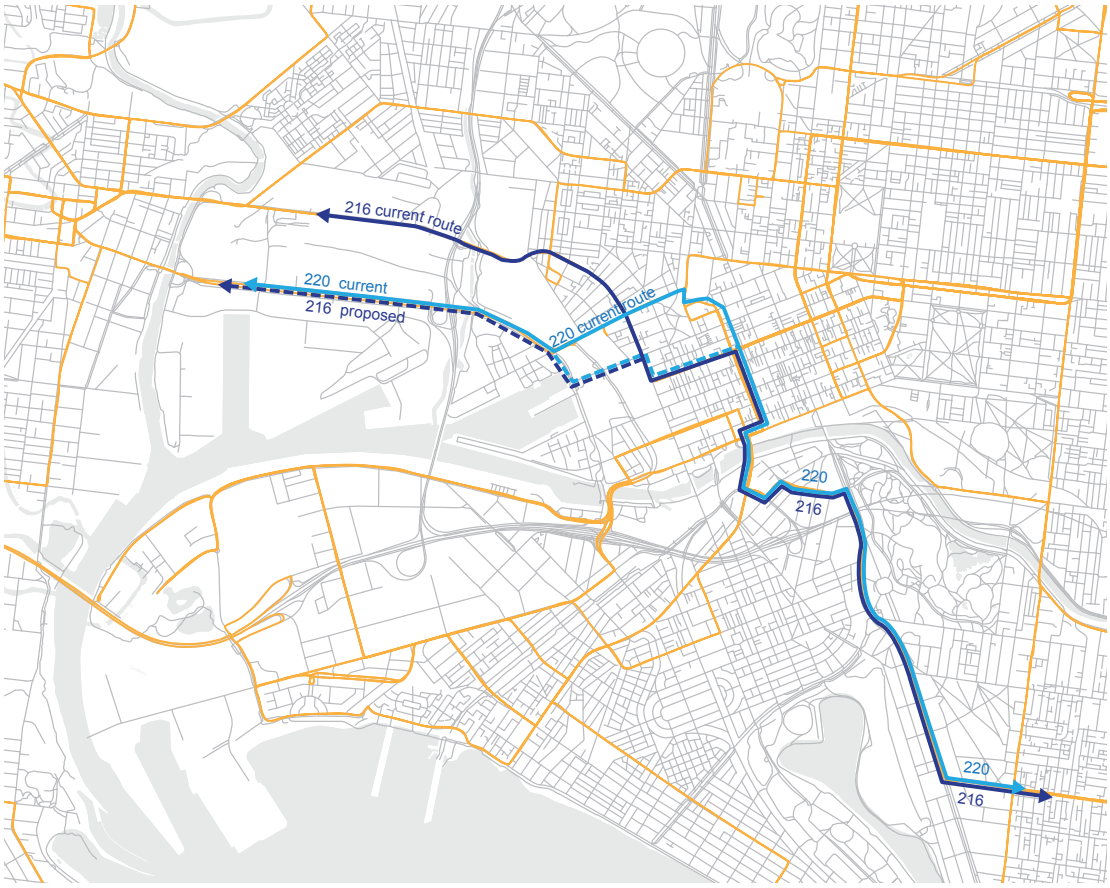

Fig 5.14 Proposed changes to bus routes 216 and 220

5.4 Taxi

Context

Taxis are a form of public transport, offering 24-hour service, door-to-door delivery, services for special needs, responsiveness to demand and flexibility in destination. Taxis also play a vital role in welcoming and guiding visitors to Melbourne.

Visitors from interstate and overseas are the primary users of taxis in the city. They account for 59 per cent of weekday trips and 79 per cent of weekend trips. Visitors from other parts of Melbourne account for four per cent of weekday taxi trips and seven per cent of weekend taxi trips, while business travel is 31 per cent of travel on weekdays and virtually zero on weekends.

Taxis are the main public transport service operating on Saturdays from 4.30am to 5am, and on Sundays from midnight to 1.30 am and from 5.30am to 7am. These are times when there are still significant numbers of people in the city.

The City of Melbourne allocates kerbside space for taxi ranks at locations throughout the CBD, to make it easier for people to find taxis and reduce the need for taxis to drive around looking for fares.

Issues

Lack of knowledge about the detailed transport role of taxis

There is currently no data available on origins and destinations for taxi trips, numbers of patrons for each trip, or taxi availability at any particular time.

The changing role of taxis

The role of taxis is likely to change in the future. As the city becomes more pedestrianised and public transport use increases, demand for taxis may increase and taxi ranks may need to be moved.Improved public transport to the airport and information technology may reduce the role of taxis at the airport.

Objectives and actions

The State Government has announced an inquiry into the taxi industry including the current and potential role of taxis, and other demand-responsive transport services in an integrated transport system.

- ❑ **Action: The City of Melbourne will participate in the State Government taxi inquiry.**
- ❑ **Action: The City of Melbourne will work closely with the taxi industry, mobility groups and other stakeholders to review the locations and availability of taxi parking zones and to understand better the role that taxis play in Melbourne.**
- ❑ **Action: The City of Melbourne will work with the Department of Transport, Metlink, the taxi industry and other stakeholders to understand better the demand for late**

night transport and the role that taxis do and could play in this.

5.5 Car share

Context

Car sharing is a proven catalyst for moving people from a lifestyle of regular car use to one of mostly using public transport, walking and cycling, with occasional use of shared cars for specific trips for which the other modes of transport are poorly suited. The process works for both residential and business users. Car sharing also supports policies that reduce the provision of car parking in new buildings such as amendment C133 to the *Melbourne Planning Scheme*.

The growth of car sharing internationally shows that people are changing the way they access an expensive asset such as a car. For many people living and working in inner urban areas, owning a car is both expensive and inflexible, and is a significant over-investment in one transport mode. For this reason, car sharing is becoming more popular, and cities benefit as private car travel and parking stress decline.

Issues

Minimum profitable fleet size

Car sharing in Melbourne is a commercial operation. Its success relies in part on having a fleet that is large enough to generate sufficient car sharing activity to cover its costs. Costs include purchase and management of cars, booking operations and marketing. Inner Melbourne has about 130 car share cars provided by three car sharing firms. Expanding the car share fleet will provide greater certainty for the car sharing industry as well as a more comprehensive service for users.

A strategic policy

To support car sharing, the City of Melbourne allocates on-street parking spaces for use by car share operators, in a similar way to the allocation of taxi parking spaces. This use of public space must occur in a way that is sympathetic to the local area and surrounding land uses.

Objectives and actions

In 2010, the City of Melbourne expanded its support for car sharing to propose a trial of 20 on-street spaces in the Hoddle Grid and to increase the number of spaces outside the Hoddle Grid to more than 60.

Assisting car sharing to flourish in Melbourne is directly aligned with the City of Melbourne's transport policies. The City of Melbourne will continue to support car sharing by providing on-

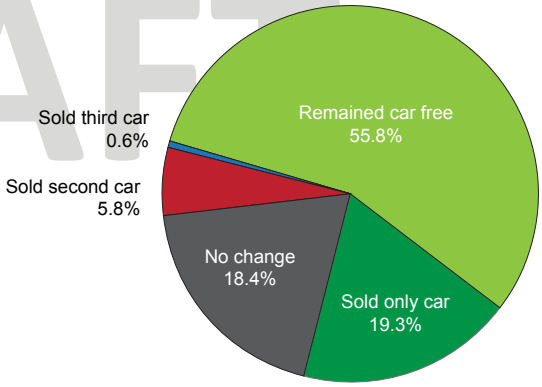

Fig 5.16 Car ownership patterns after joining car share

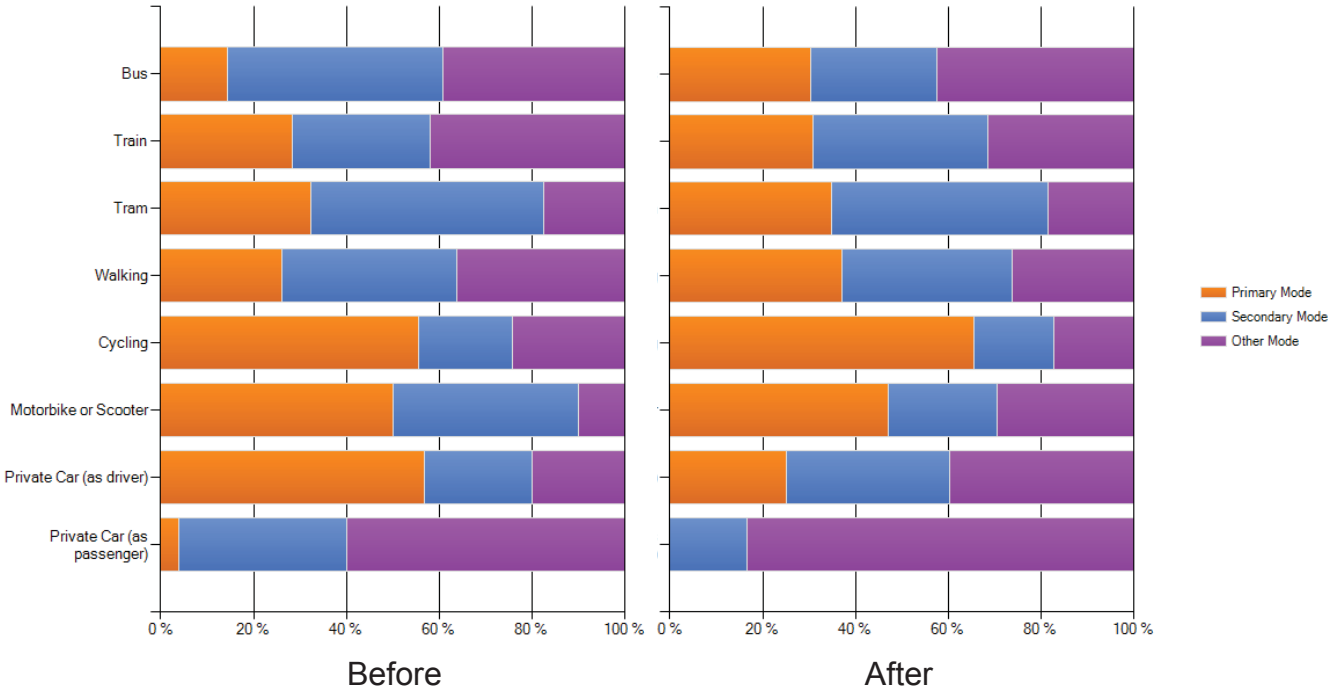

Fig 5.17 Behaviour Change outcomes for Car Share members in Melbourne, Source: GHD

Fig 5.15 Taxis play a vital role in the City of Melbourne, particularly at night

and off-street spaces as appropriate throughout the municipality.

The role of local government in supporting car sharing can also extend to marketing and communications channels, and providing information about the benefits of car sharing to the community.

- ❑ **Action: The City of Melbourne will continue to work with car share operators in allocating on-street parking space to car sharing.**
- ❑ **Target: By 2016, there will be 300 car share spaces on streets in the City of Melbourne. Fifty of these will be in the Central City.**
- ❑ **Action: The City of Melbourne will develop a policy on car sharing to direct its activity towards this target. The policy will address:**
  - **A process for allocating parking spaces**
  - **The City of Melbourne's communications activity in support of the growth of car sharing**
  - **Revenue implications of allocating on-street space to car sharing**
  - **Rules for operation**
  - **Planning scheme opportunities to encourage off-street car share parking.**

New forms of car sharing are being developed, including DriveNow, where a car does not have to be parked at a 'home pod' and can be used for one-way journeys. These may offer new mobility choices and further encourage sustainable transport choices.

- ❑ **Action: The City of Melbourne will monitor new developments and update its car sharing policy to cater for innovations, where these would produce transport benefits.**
- ❑ **Encourage expansion of car share**
- ❑ **Prepare a strategic policy.**

Fig 5.18 Melbourne Bike Share Station in Swanston Street

5.6 Bike share

Context

Moving People and Freight 2006-2020 (2006) supported the establishment of Melbourne Bike Share. The scheme was launched by RACV on behalf of the State Government in May 2010. The City of Melbourne provided considerable support in selecting and providing locations for bike stations on City of Melbourne land. The scheme includes over 400 bicycles and 50 stations, mostly in the municipality. There have been no major accidents reported.

Issues

Limited take up

Melbourne Bike Share has been operating successfully, but use of the scheme has lagged behind some other bike share schemes around the world. There has been fewer than one use per day per bike compared with up to 10 uses per day in more successful schemes.

Integration with public transport

There is an opportunity for the scheme to play a greater role as part of the public transport system, providing an option for people who need to travel from a public transport node (particularly city train stations) to their final destination. Bicycle journeys can be a low cost option, especially compared with the cost of building new tram or bus infrastructure.

Location of stations

Growing pedestrian volumes on the city's streets will mean that some existing or new bike share stations may need to be located on the road rather than on footpaths. Lower city speed limits and redesigned, high-mobility streets will help reduce any safety concerns about bike stations on roads. There are opportunities to improve the location and visibility of existing bike stations and promote their use more strongly as an integral part of public transport journeys as well as ensure key public transport nodes are appropriately served by bike share stations.

Cyclists perceptions of safety on central city streets

One of the key barriers to cycling is the perception that the road environment is not safe enough for many people to ride. This is likely to be a factor affecting take up of Melbourne Bike Share, especially as many of the stations are concentrated in the Hoddle Grid where there are few separated bicycle lanes.

Objectives and actions

Review Melbourne Bike Share

There is an opportunity for a comprehensive review of Melbourne Bike Share involving all key stakeholders.

- ❑ **Action: the City of Melbourne will work with VicRoads, RACV, Bicycle Victoria and the Department of Transport to review the operation of Melbourne Bike Share and develop joint strategies to increase its use. This will include reviewing the location of bike stations.**

Improve central city cycling conditions

Improvement in cycling conditions in the centre of Melbourne is likely to help boost the use of the scheme. Separated bicycle lanes and lower speed limits will contribute to this.

- ❑ **Action: the City of Melbourne will construct key separated bicycle routes (see chapter 6) and advocate for slower traffic speeds in the Central City.**

Expand and improve Melbourne Bike Share

- ❑ **Action: The City of Melbourne will continue to support Melbourne Bike Share and advocate for its expansion within the city and to neighbouring municipalities.**

5.7 Integrated public transport customer interfaces

Issues

Comprehensive integrated customer payment systems

Personalised customer oriented information

The City of Melbourne supports an integrated ticketing system for the Melbourne public transport system.

The Victorian Government launched the MYKI smart card ticketing system in 2010.

The data generated by MYKI will be a significant benefit to the day-to-day management, and long term planning of Melbourne's public transport network. Also, despite its problems, the card allows seamless and cashless use of all public transport systems.

There is also great potential in rolling out the MYKI platform to other modes of transport and other aspects of city life that may require a ticket, or instant payment. Services that could be included in the MYKI system include Melbourne Bike Share, bicycle parking at train stations, SkyBus, car sharing, parking and other non-transport services. This integration will make car-free mobility easier and more flexible in Melbourne, which will allow it to compete better with private car use

Objectives and actions

- ❑ **Investigate merging customer payment systems**
- ❑ **Investigate development of personalised customer information**

5.8 Open transport data

The data the City of Melbourne collects relating to the transport system presents significant opportunities to improve the planning, operation and user experience of the whole system.

There are increasingly new ways of collecting and analysing data which can help improve the ways in which people move around the city. The rate of innovation in this field is likely to continue as new technologies are developed, new collection methods are forged and our international community becomes more and more advanced in their use and understanding information. Melbourne is a knowledge city. A key way to advance knowledge is to acknowledge the talent of creative people and engage their expertise and creativity by making transport data open to the public.

Open data has benefits for government transparency and will also improve accountability.

- ❑ **Action: The City of Melbourne will publish transport data and open information for the community to use where possible, and will encourage other agencies to do the same.**

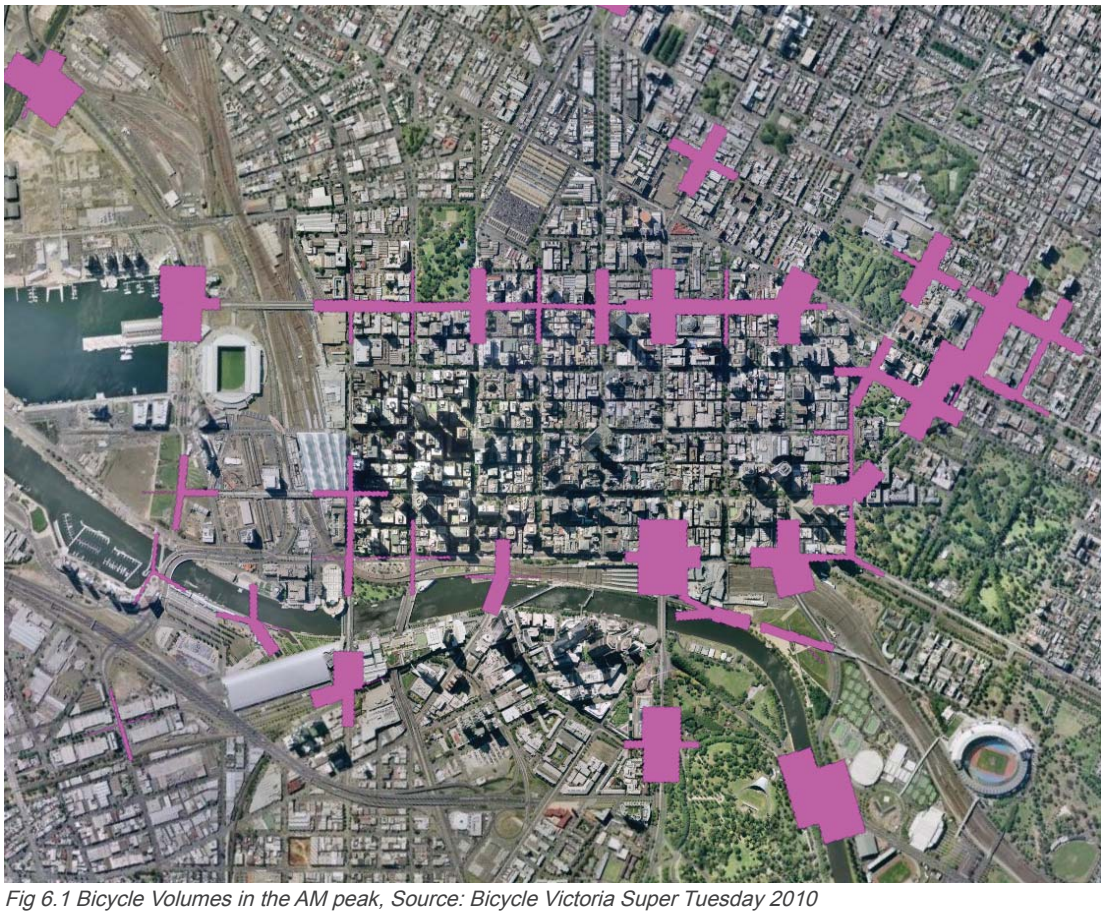

Fig 6.1 Bicycle Volumes in the AM peak, Source: Bicycle Victoria Super Tuesday 2010

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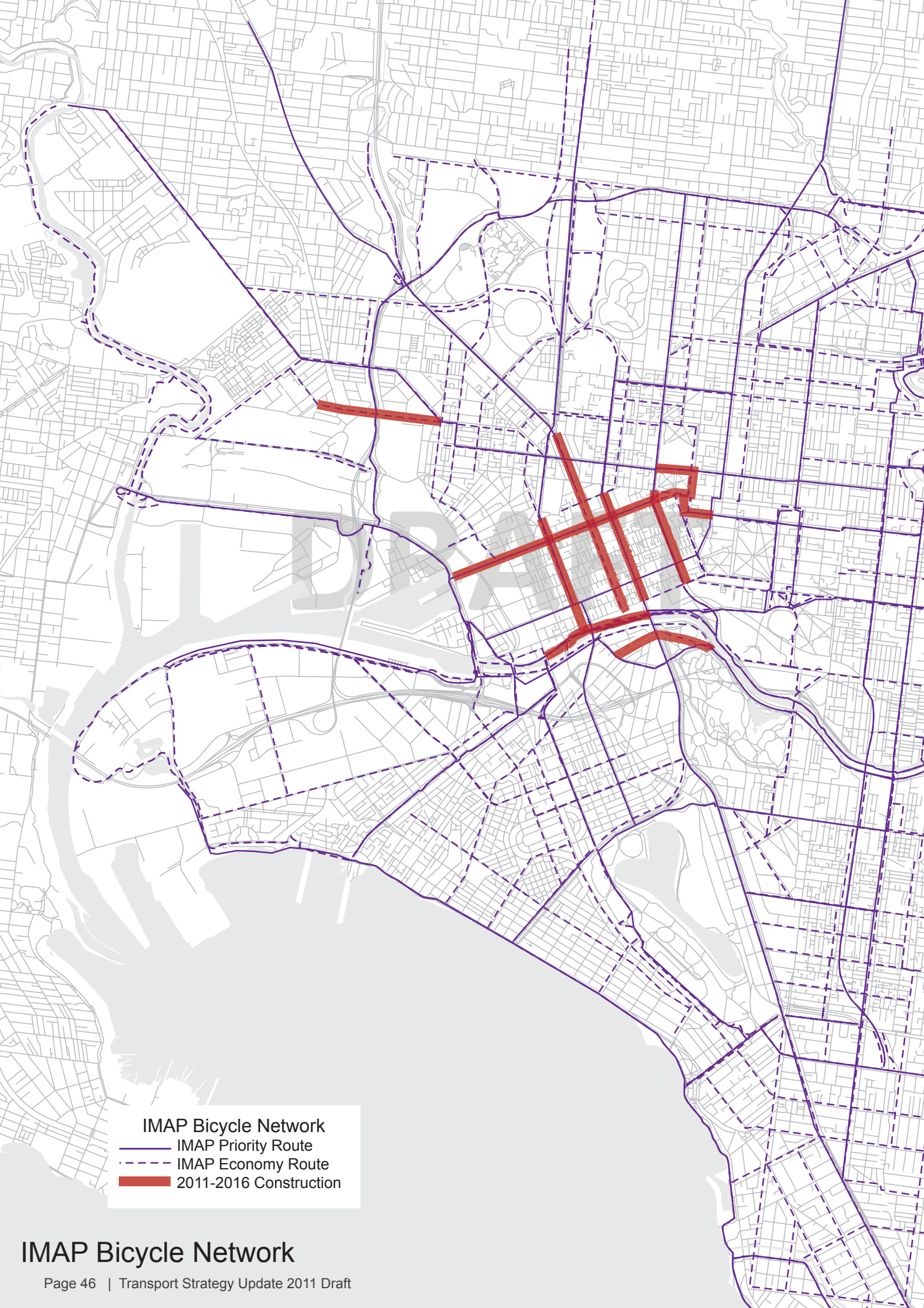

IMAP Bicycle Network

6 Cycling city

Goal

Melbourne will be a cycling city. The municipality's entire road network will be safe and attractive for cyclists of all ages. Bikes will become the mode of choice for private transport trips in the municipality, including for work, school, business and recreation.

Context

Cycling is a cheap, healthy, environmentally benign, space efficient and socially stimulating form of private mobility. It can also reduce loading on public transport services, especially trams. Infrastructure for cycling is generally relatively cheap to implement.

Melbourne already attracts the largest number of cyclists of any local government area in Victoria. Data from VISTA shows that in 2007, four per cent of trips to the city for all purposes were by bicycle. There have been significant increases in bicycle use since then. The City of Melbourne's regular traffic cordon counts show that up to 10 per cent of private vehicles on the road in the morning peak hour are bicycles, mostly heading into central Melbourne. Cycling is Melbourne's fastest growing transport mode. Growth in cycling is due to several factors including the sharp rises in petrol price in 2006 and 2008, congestion on road and public transport and improvements in bicycle infrastructure. On some routes into the city, such as Princes Bridge and MacArthur Street, bicycle traffic in peak times is comparable with motor vehicle traffic.

The City of Melbourne is at the heart of Melbourne's bicycle network and has some excellent bicycle facilities. These include separated bicycle lanes on Swanston Street and Albert Street, rumble strips (raised profile edge line treatments) on Rathdowne Street, and widened bicycle separation lines on Queensberry Street and paths such as the Main Yarra Trail. These designs have played a role in increasing cycling numbers.

The City of Melbourne has a direct role in planning and constructing bicycle networks.

The average distance cycled to and from the city is just under eight kilometres, and within the city, just over five kilometres. As Melbourne intensifies, cycling will play a greater role as more people live within easy cycling distance to their destinations. The experience of international cities shows that the potential in Melbourne for cycling to cater for short trips is significant, if the cycling network is safe, direct, convenient, attractive and well connected.

Issues

Gaps in the inner Melbourne cycling network

The most important issue for cycling is providing a high quality bicycle network. The bicycle network in inner Melbourne has some excellent facilities but has many gaps and is of variable quality. Entry points to the city from the south and bicycle facilities within the Hoddle Grid are two of the key missing links. Fewer people cycle to work from various parts of Port Phillip than do from areas to the north, such as the southern parts of Moreland and Darebin and the northern end of Yarra. One of the reasons is poor cycling links from the south into the Hoddle Grid.

Insufficient secure parking on and off street

A lack of bicycle parking on the street and in workplaces and destinations deters people from cycling and results in bicycles cluttering footpaths which are needed by growing numbers of pedestrians.

Poor traffic data on inner city cycling

There is a need for more knowledge about cycling in Melbourne, including where cyclists are riding, reasons for people choosing to ride or not to

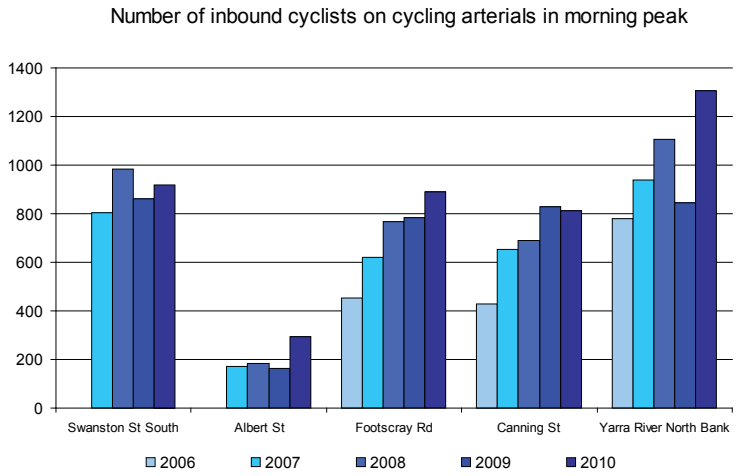

Fig 6.3 Bicycle Volumes in the AM peak, Source: City of Melbourne

Fig 6.2 IMAP Bicycle Network and 2011-2016 construction priorities

ride, the number of cyclists on roads and paths, and new road, path and other traffic designs to encourage the most cycling.

Lack of promotion of a central city cycling culture

Encouragement, marketing campaigns and behaviour change programs such as Ride to Work Day, TravelSmart and Darebin's Cycle Confidence Training, offer significant opportunities to boost cycling.

Perceived risks deterring cycling

One of the main factors deterring people from cycling in the inner city is the perceived safety risk of cycling amongst motor vehicle traffic including cars, trucks and vans. The lack of a complete network of separated bicycle facilities exacerbates this problem.

Fig 6.5 Rathdowne Street bike lanes, Carlton

Fig 6.6 Lygon Street bike parking corral, Carlton

Objectives and actions

A complete arterial bicycle network

The City of Melbourne has been working with the other *Inner Melbourne Action Plan* (IMAP) councils (Port Phillip, Stonnington and Yarra) to plan and construct an arterial bicycle network for inner Melbourne. This was an input to a recent review by the State Government of the 'Principal Bicycle Network' as well as the State Government's *Victorian Cycling Strategy*.

The key direction of the IMAP work was that inner Melbourne needs an arterial network of bicycle facilities that are physically separated from traffic. This network would be augmented by local bicycle routes, including bicycle lanes, and a traffic environment characterised by slower vehicle speeds that is much more amenable to cycling.

Among the highest priority routes for planning and construction are Swanston Street, Exhibition Street, Latrobe Street (including a link to Albert Street), Elizabeth Street, William Street, the south end of Rathdowne Street, Whiteman Street to the north bank of the Yarra River (linking to Cecil Street), St Kilda Road at the Domain interchange and a master plan for an east-west route through Southbank as a high-service alternative to the Southbank promenade connecting the Main Yarra Trail to Docklands and Princes Bridge.

- ❑ **Action: The City of Melbourne will prepare a new bicycle plan to replace the *Bicycle Plan 2007-2011*, which will develop designs for these routes and a plan to construct them over the next five years.**

- ❑ **Action: The City of Melbourne will publish a map showing the quality of existing bicycle routes in Melbourne and plans to improve the network.**

The *Municipal Strategic Statement* highlights the need for a fully separated bicycle route to link the inner north western suburbs to the Central City, specifically the Hoddle Grid. This bicycle route will form a key component of the urban renewal planned for the Docklands, eGate and Dynon precincts, in addition to the continuing growth of the Footscray Central Activities District. This bicycle facility should be separated from the street network, and operate in a similar way to the bike reserve alongside the Upfield rail line.

- ❑ **Action: The City of Melbourne will work with the State Government to ensure future land use and transport infrastructure developments in this corridor incorporate a bicycle link.**

Improving cycling conditions on other streets

Cycling facilities, both for moving and for parking, will be provided on high-mobility streets. Some high-mobility streets will warrant separated bike lanes that allow for significant numbers of cyclists. Some others will warrant on-road bike lanes that are clearly marked and are treated to allow for

safe cycling. Secondary streets, such as the 'little' streets in the Hoddle Grid, will also be cycling streets. Solutions to assist cyclists may include allowing cyclists to travel in two directions on one-way streets, providing early starts at traffic signals or installing shared zones.

- ❑ **Action: The update of the City of Melbourne's bicycle plan will include measures to improve the cycling environment in secondary streets and lanes and provide for a program of minor works to supplement major projects.**

- ❑ **Action: As part of the review of the operation of traffic signals, The City of Melbourne will work with VicRoads to examine the feasibility of early starts for cyclists (along with pedestrians and public transport vehicles). This enables cyclists to ride in the clear field of view of drivers, improving safety.**

- ❑ **Action: The City of Melbourne will continue to consider the installation or improvement of bicycle facilities as part of all traffic works in the municipality.**

A Road Network operating plan

The road network operating plan to be developed by the City of Melbourne in cooperation with the Department of Transport and VicRoads will include a high level of priority for cyclists. This will include provision of separated bicycle lanes, bicycle lanterns and advanced starts at traffic signals.

- ❑ **Action: The City of Melbourne will work with the Department of Transport and VicRoads to ensure that the network operating plan for Melbourne provides a high level of priority to cyclists**

Bicycle safety

For cycling to grow as a transport mode of choice in Melbourne, the street and path network must be safer. This requires more people using it, and so it needs to be more attractive.

There are many measures that the City of Melbourne will undertake to reduce car-bike conflict and encourage cycling. Among the most effective will be the construction of high quality bike lanes, and a reduction in the traffic speed limit in the Central City to a 40 km per hour maximum.

The City of Melbourne's policies aim to create a calmed transport environment in which cycling and walking will be inherently safe activities.

- ❑ **Action: The City of Melbourne will continue to work with VicRoads to achieve significant improvement to cyclist and pedestrian safety.**

- ❑ **Action: The City of Melbourne will continue to prioritise vulnerable road users, especially cyclists and pedestrians, when it updates its road safety strategy, including a focus on accident blackspots.**

On-street bicycle parking

By providing on-street bike parking throughout the municipality, the City of Melbourne can play a key role in supporting cycling as a convenient mode of transport. Easy to find and easy to use bike parking will help to increase the number of people riding bikes.

In 2008, the City of Melbourne converted two car parking spaces on Lygon Street to 16 bike parking spaces (eight hoops). This project has been extremely successful. A review in 2010 found strong community and local business support. Retail spending generated by the parking space increased significantly when it was converted from motor vehicle to bicycle parking.

For the City of Melbourne to continue providing parking for cyclists, as well as enhancing the pedestrian and open space network of central Melbourne, more car parking will be converted to bike parking. The use of footpath space for bike parking is not preferred in parts of the municipality, due to high pedestrian numbers and other, preferred uses (such as kerb-side dining and open space).

- ❑ **Action: The City of Melbourne will implement a program of delivering on-street bicycle parking corrals at high demand locations.**

Off-street bicycle parking

It is important for Melbourne that new and existing developments provide good quality bicycle parking for long-stay users such as employees, along with showers and change facilities.

Current bicycle parking rates for new developments, as determined by the *Planning Scheme*, are the same throughout the State, despite significant variations in population and employment density, and transport mode choice. For example, the amount of bicycle parking required in a new development in the city is the same as that required in outer suburban or rural areas, where cycling rates are much lower.

The City of Melbourne has been working to increase bicycle parking provision in new student accomodation. Bicycle parking cages at suburban train stations provide a cost-effective and space efficient way of providing access to trains. On an average weekday, 100 car spaces a day across the rail network are freed up by people who have converted from driving to the station to riding and using bicycle parking cages.

- ❑ **Action: The City of Melbourne will work with the State Government to review bicycle parking rates for new developments in inner Melbourne.**

- **Action: The City of Melbourne will work with bicycle advocacy groups, transport management associations, employers and others to encourage the installation of high quality end of trip facilities.**
- **Action: The City of Melbourne supports bicycle parking at train stations as a very space efficient way of providing train access.**

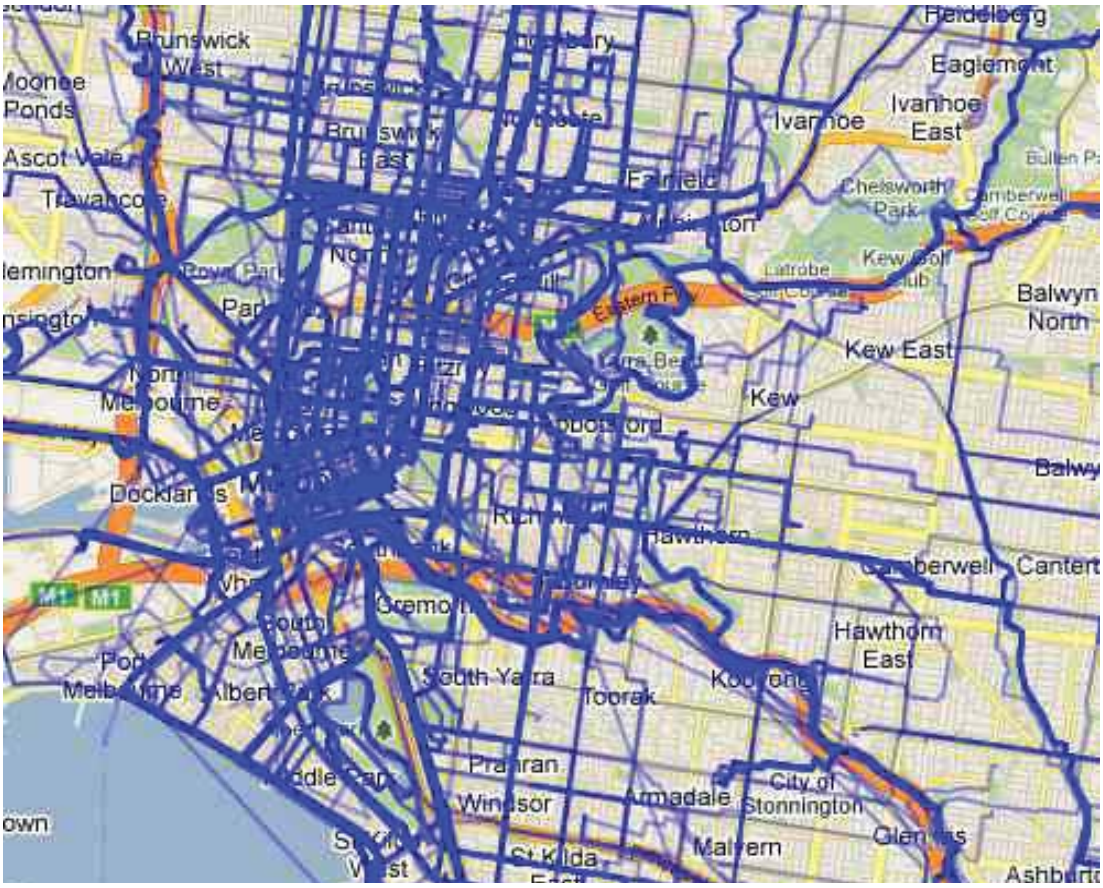

Fig 6.4 RiderLog GPS Bicycle Trip Mapping Source: Bicycle Victoria

Cycling data and information

The City of Melbourne has limited data on bicycle movements in the municipality. There are nine permanent loop counters installed across the city and the City of Melbourne carries out manual counts three times a year including 'Super Tuesday'. This number needs to increase and more information should be made available from these counters. 'Bicycle barometers' are public displays of information such as numbers of cyclists on a particular route. They help focus attention on the role cycling plays in the transport task.

- ❑ **Action: The City of Melbourne will work with VicRoads to increase the number of counters to 20 by 2016 and for the counters to supply real time data available to the public via a website. The City of Melbourne will trial the use of a 'bike barometer' or similar device to display bicycle use and other statistics to the public.**

The City of Melbourne can greatly improve the transport data it collects by tapping into existing mobile and online applications, and also developing new tools that specifically fill gaps in its knowledge. The Bicycle Victoria RiderLog is an example of how mobile applications can contribute to the planning of the bicycle network, and, ultimately, inform the City of Melbourne investment in cycling.

- ❑ **Action: The City of Melbourne supports the development of innovative mobile and online platforms that help illustrate transport patterns and assist planning and investment.**

Expanding the *Melbourne Bicycle Account*

In 2007, the City of Melbourne initiated the *Melbourne Bicycle Account*. This publication is essentially a progress report for bike usage trends, and forms a regular update on the City of Melbourne's progress on projects set out in the *Bicycle Plan*.

One way to enhance this format is to broaden it to be a *Melbourne Transport Account*. The report will act as a complete resource of Central City transport data, provide an analysis of the data, and help educate the public on the actual transport trends relevant to the city.

Items that could go into the *Melbourne Transport Report* are:

- VISTA statistics about mode shares
- Bicycle statistics from cordon counts, Bicycle Victoria's 'Super Tuesday' count, the number of bicycle racks both on- and off-street.
- Pedestrian count data
- Volumes of traffic on key roads
- Volumes of vehicles on key arterials and other roads
- Numbers of car parking spaces on- and off-street
- Volumes of people catching public transport at key locations

- ❑ **Action: The City of Melbourne will work with the Department of Transport to develop a *Melbourne Transport Account*.**

Innovation

Introducing new bicycle facilities may involve trade-offs, such as the removal of parking bays or motor vehicle lanes. Despite the best possible planning, the final impact of a new design may be difficult to predict. One way to introduce new concepts is to run them as a trial, with robust pre- and post-installation evaluations. The cost of a trial may be cheaper than other ways of assessing the likely outcome of a design, such as traffic modelling, which can be very expensive. A trial will also usually produce clear evidence of success or failure and guidance on improvements. Some jurisdictions in the world which are well-known for innovative work in transport frequently use trials. Recent examples include bicycle lanes on the Burrard Bridge, in Vancouver, and the pedestrianisation of Times Square, in New York.

- ❑ **Action: The City of Melbourne will make greater use of trials to test bicycle designs and other innovative transport projects.**

Promoting a city cycling culture

Public engagement regarding significant changes to the transport environment in Melbourne will be crucial to achieving appropriate transport outcomes.

A good example of this has been the extensive public engagement process undertaken by the City of Melbourne during the development of the new plan for Swanston Street. The engagement process included an on-line poll on seven design options, submissions, public discussion and extensive promotion.

Other examples include:

- The City of Sydney has an ongoing publicity program to encourage people to cycle in Sydney.
- The cities of San Francisco and New York run a 'parking day' during which community groups are able to convert parking spaces to a huge variety of other uses including temporary parks, children's gyms, poetry reading zones, hairdressing, massage, areas for watching television.
- The city of Bogota employed Marcel Marceau-like 'traffic mimes' to encourage more civil behaviour by people using all modes of traffic, to address alarming road safety problems, congestion and a lack of civility in the city.

- ❑ **Action: The City of Melbourne will work with key stakeholders on developing creative ways to engage the public in**

the ongoing discussion of Melbourne's transport future. Opportunities include permanent public art, performance artists, publication of data, public displays or visualisations of transport data, traditional behaviour change programs, public discussions and lectures, and other activities.

- **Action: The City of Melbourne will communicate and promote all transport-related capital works projects as a coordinated suite of projects that stem from the *Future Melbourne Community Plan* and *Moving People and Freight*. This consistent approach to why and how the City of Melbourne is implementing its policies, and the effect these will have on the built environment, are important to ensure the community understands these projects.**

Fig 7.1 Pedestrians in Spencer Street at Southern Cross Station

7 Walking city

Goal

Melbourne will be one of the world's great walking cities, where residents, workers and tourists have easy access to the many activities available within the municipality. Walking will be easy and attractive, and a primary way for anyone and everyone to get around their local area. As well as being a very effective form of mobility, walking will also provide personal and public health, environmental and cultural benefits.

A connected city gives top priority to walking, providing a comprehensive, fine-grained and good quality pedestrian network. Walking plays a key role as the access mode for public transport services. This role will expand as Melbourne improves its public transport system.

Context

Melbourne is already known internationally as an excellent walking city. Pedestrians are the lifeblood and the movement economy of the city. Melbourne's international reputation, its liveability and its ability to attract business, visitors and shoppers depends to a significant degree on the quality of its pedestrian environment. The city is known for its laneway culture and the walkability of its centre, the pedestrianisation of spaces such as Swanston Street, the Bourke Street Mall, and the Yarra River promenades.

The City of Melbourne has improved the pedestrian environment and created a city for people over the last 20 years. This has been done by widening footpaths, reducing traffic signal cycle times and extending 'green man' phases, building attractive pedestrian spaces, attracting residents to the central city and supporting public transport. The number of people walking has risen as the number of visitors to the city has increased. VISTA 2007 data shows that, for trips within the city, walking is the mode of travel for 69 per cent of all journeys. Australian Bureau of Statistics data shows that 49 per cent of people who live in Southbank walk to work.

Walking is also the most space and cost efficient way to travel around the city and it is a key part of any public transport journey.

The City of Melbourne has taken actions to reduce pedestrian casualty crashes. It has also applied to reduce the speed limit in the Central City to 40 km per hour. It has introduced shared zones which give pedestrians priority over motor vehicles and reduce speed limits to 10 km per hour. Level access trams stops, with zebra crossings, have improved access to stops, slowed vehicles and provided staging points for pedestrians to cross busy roads. Other initiatives include 40 km per hour zones, median islands, traffic calming and pedestrian signals.

Issues

Footpaths and crossing opportunities

Whilst the City of Melbourne's pedestrian network has developed in the Central City to be a fine-grain, permeable and active environment, there are many locations throughout the municipality that are poorly designed for pedestrians. Problems include footpaths too narrow for the volume of people walking, long waits at some traffic signals, lack of crossing opportunities and constricted links between public transport nodes such as stations and tram stops.

Inadequate walking amenity to and from public transport

Policies aimed at significantly increasing public transport access will require a significant enhancement of the pedestrian environment around public transport nodes. As the city intensifies, walking will become a more important transport mode.

Pedestrian fatalities and serious injuries

Road safety for pedestrians is a key concern for the City of Melbourne. Its *Road Safety Plan* has a specific pedestrian safety action plan. In the municipality, 23 per cent of road casualties are pedestrians and in the CBD the figure is 27 per

cent. These are much higher rates than in other parts of Melbourne.

Conflicts with cyclists in shared areas

The growth in popularity of cycling, especially on paths which are shared with pedestrians but separated from motor vehicle traffic, has led to some conflicts between cyclists moving at higher speeds and pedestrians.

Objectives and actions

Pedestrian plan

While the City of Melbourne has maintained the walkability of the city through the delivery of many different projects and initiatives over time, it has not had a specific pedestrian action plan focussed on walking as a mode of transport.

❑ **Action: The City of Melbourne will develop a pedestrian plan, similar to its *Bicycle Plan*, to guide its planning and capital works programs that affect the pedestrian environment.**

The most important part of the pedestrian plan will be improving pedestrian access and priority around public transport nodes and other key attractors where significant growth in pedestrian numbers will occur.

Other high priority areas of the plan will be:

- Assessing levels of crowding throughout the municipality and developing appropriate measures to address this.
- Reducing waiting times at signals, introducing early starts, all-walk phases, and longer pedestrian phases.
- Providing greater crossing opportunities.

The plan will also include:

- Identifying the pedestrian network for Melbourne and providing guidance on how new developments can improve this network and how this network is integrated with other transport networks, including public transport, cycling and general traffic.
- Navigational signs and way finding.
- Design solutions for bike and pedestrian shared areas.
- Counting pedestrians.
- Assessing the overall level of service provided to pedestrians including delays, directness of routes, crowding, crossing widths, shading, active frontages, street furniture, crossovers and other aspects.
- Publishing regular assessments of the quality of the walking environment via maps.
- Developing alternate street layouts for ‘little streets’, including shared space and expanded space for pedestrians.
- Developing a base plan of the roads and lanes in the city which offer different levels of pedestrian connectivity to inform future pedestrian planning.
- Expanding and developing lunchtime and temporary street closures including weekend ‘ciclovia’ style street closures.

❑ **Action: The City of Melbourne will regularly evaluate the quality of the walking network using an appropriate tool. The results of this will be published as a map to indicate how the pedestrian network has been improved year on year.**

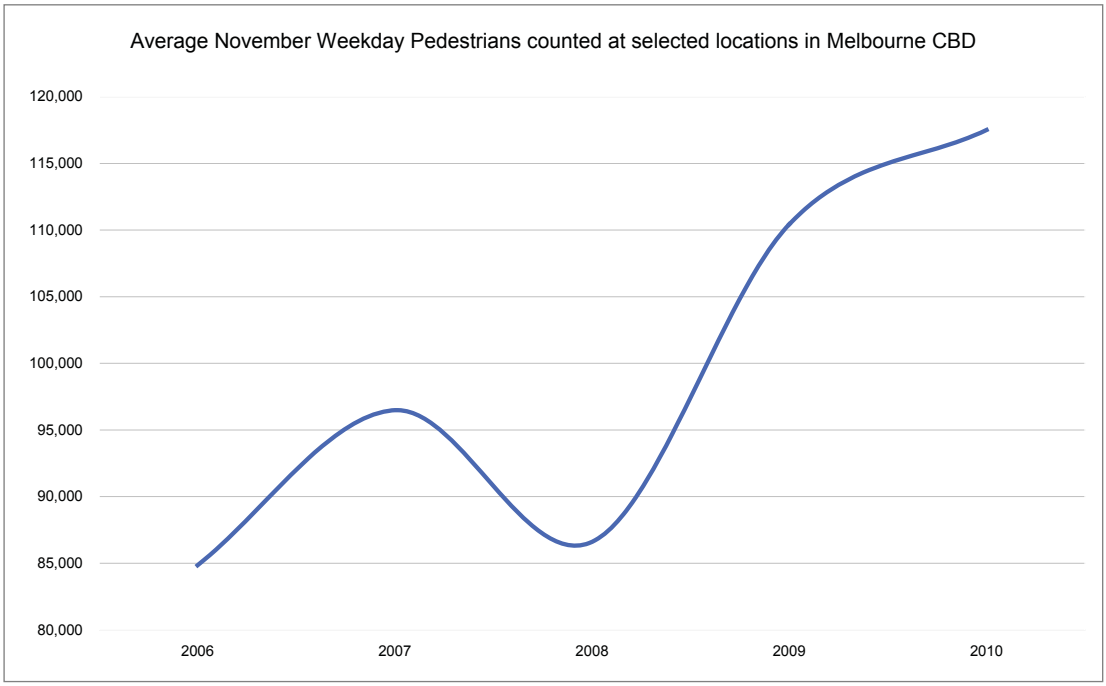

Fig 7.2 Pedestrian growth in the Central City

High mobility streets

Providing excellent service for pedestrians will be an important part of designing high mobility streets (see Key Direction three). Pedestrians should be able to move seamlessly from footpaths to access permeable level access public transport stops or move between public transport services. A high-quality public realm, including shade trees, high-quality materials and public spaces should also be provided.

- ❑ **Action: the City of Melbourne will design high-mobility streets to provide excellent service to pedestrians.**

Temporary road closures at times of high pedestrian activity

The city of Melbourne has had lunchtime road closures of Little Collins and other streets for many years. These are very successful. The city's retail core (now called the high-activity core) has expanded. There may be opportunities for further retail or dining related closures. There is a range of other closures in place across the city for various purposes including special events, outdoor dining, theatre access and others. Other opportunities for temporary closures include for street markets, regular physical activities such as ciclovias and sporting events.

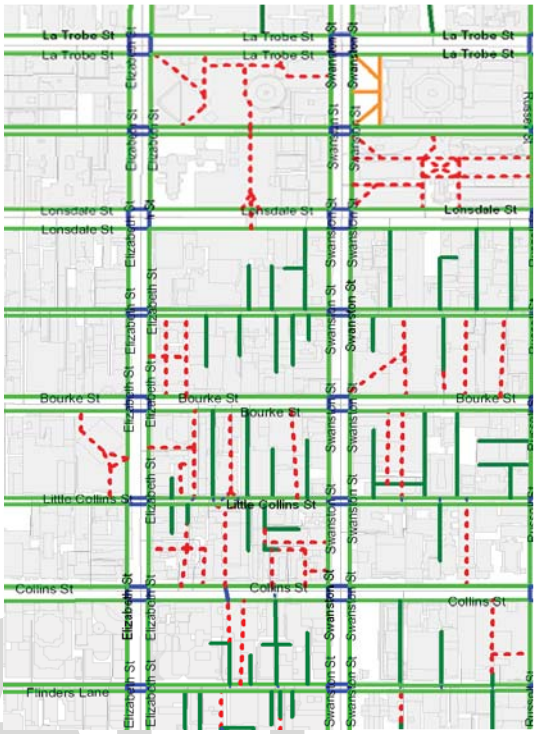

Fig 7.3 Pedestrian Network Mapping Concept

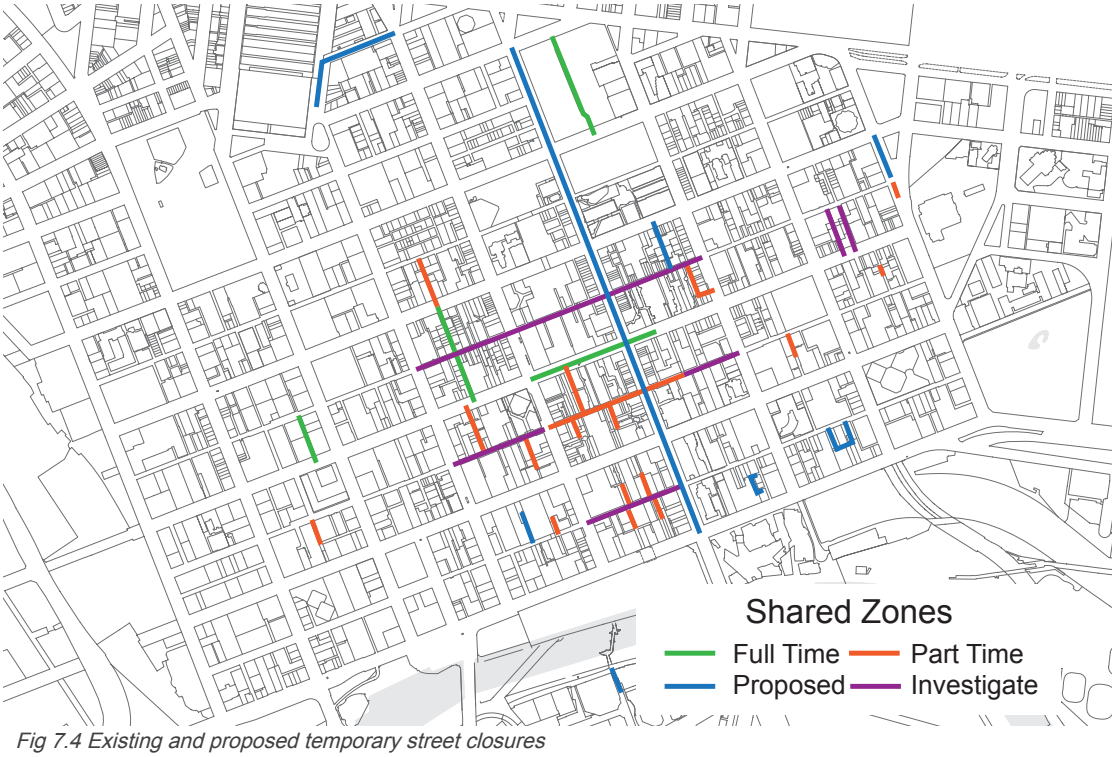

Fig 7.4 Existing and proposed temporary street closures

- ❑ **Action: City of Melbourne will implement proposed street closures and investigate further opportunities to give greater pedestrian priority at appropriate times.**

Pedestrian priority at stations and public transport interchanges

Walking is a key part of all public transport journeys and providing an excellent walking environment around public transport interchanges is a key part of extending the reach and quality of the public transport network. Strong growth in the use of public transport means more people will be walking to access the network.

- ❑ **Action: The City of Melbourne will work with the Department of Transport and State Government agencies to provide excellent quality pedestrian access to public transport interchanges.**

- ❑ **Action: The City of Melbourne will complete masterplans for Flinders Street Station and Southern Cross Station focusing on providing excellent quality pedestrian access.**

Road network operating plan

The road network operating plan to be developed by the City of Melbourne in cooperation with the Department of Transport and VicRoads will include a high level of priority for pedestrians. In some cases pedestrian access and safety can be significantly improved by increasing crossing time for pedestrians, providing advance starts at traffic signals and constructing new crossings.

- ❑ **Action: The City of Melbourne will work with the Department of Transport and VicRoads to ensure that the network operating plan for Melbourne provides a high level of priority to pedestrians.**

Safety for pedestrians

As Melbourne increases its emphasis on becoming a city for people, the role of motor vehicles in the city will be moderated. Motor vehicles will remain a key part of the transport network but the design of streets will ensure their negative impacts are moderated.

- ❑ **Action: The City of Melbourne's road safety plan will be updated, with a strong emphasis on moderating motor vehicle movement to reduce pedestrian trauma and create a city for people.**

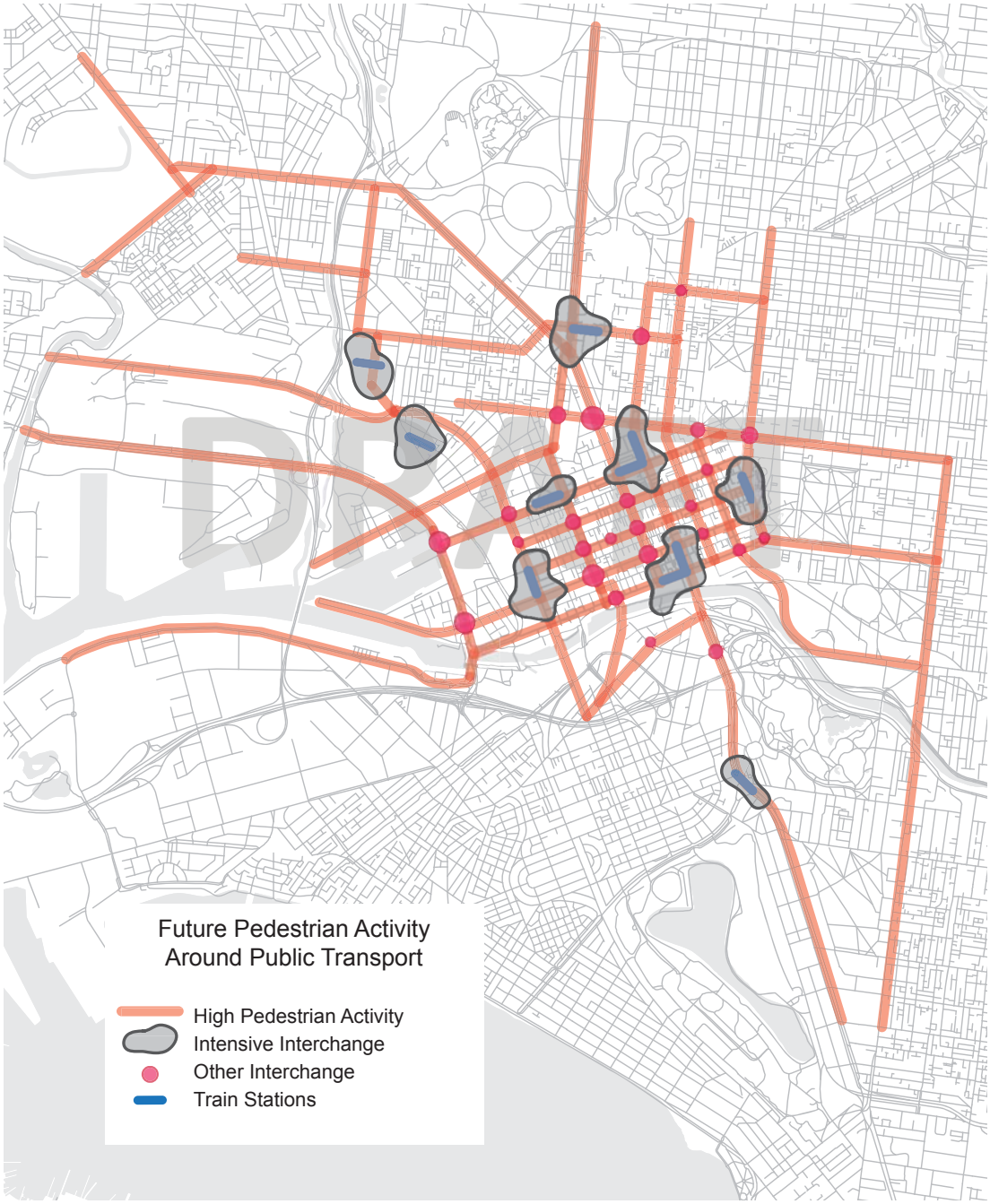

Fig 7.5 Future pedestrian activity around public transport 2030

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8 Innovative urban freight logistics

Goal

Melbourne will have innovative and efficient freight and logistics infrastructure, optimising the flow of goods locally and globally. Melbourne's freight system will strengthen the municipality's economy. It will be environmentally sustainable, and freight traffic will be designed and managed to enhance the municipality's liveability.

Context

The freight task in Melbourne is growing significantly. The carriage of goods through the Port of Melbourne is expected to quadruple to eight million TEU (20-foot equivalent units) per annum by 2035. This freight is distributed throughout the State by road and rail haulage, across a network that is extremely important to Melbourne's economic performance. Melbourne's road network has received considerable investment over the past 50 years, which has contributed to the success and growth in port activity.

The last kilometre freight and delivery task in the Central City is extremely important to the city's economy, the services and businesses that function within it.

Issues

Heavy port freight conflicts with amenity

Freight and logistics associated with the port involve large quantities of goods and bulk items. The vehicles carrying these goods need to be high capacity, which means they are unlikely to be compatible with inner urban land uses such as the Central City and residential neighbourhoods, specifically in Melbourne's inner west. Efficiency in the movement of goods must be optimised so as the externalities of van and truck transport do not damage inner urban amenity.

Emissions from the freight sector are significant, mainly due to Melbourne's heavy reliance on road haulage to move goods throughout the city and interstate. The expected increase in freight activity in Melbourne will significantly increase CO_2 emissions if current vehicle technology and distribution methods continue.

Local service and delivery

Despite the significance of the 'white vans' that deliver goods to the city, there is very little information about how the system is operating, if it is efficient, and if and how it may be able to be improved. There is a gap in understanding of the last kilometre task, due to the dispersed nature of deliveries and the wide range of participants in the industry.

Waste

Transporting waste out of the city will become a more important task, with the future urban renewal and continuing growth of the Central City. Some current arrangements for waste removal are inefficient and result in a loss of urban quality, especially in some of our active laneways, which are becoming more people-oriented which has removed space traditionally used for waste collection. These spaces and 'little streets' were originally designed to accommodate deliveries and waste removal, with most buildings' freight and docking facilities oriented towards them.

The City of Melbourne must ensure that these streets and laneways allow for the buildings abutting them to receive goods and get rid of waste, whilst also supporting the active street life and laneway culture for which Melbourne is known. Innovative and creative approaches to this challenge will be essential.

Objectives and actions

More freight on rail

To accommodate Melbourne's growing freight task, more goods will need to be transported by rail. A switch to rail will have many benefits for Melbourne's transport system, as well as significant economic and environmental pay-offs:

- Environmental benefits – rail goods transport is significantly more efficient than road haulage.
- Reduced road congestion.
- Road safety benefits from a reduction in truck traffic.
- Financial savings from avoided road construction and maintenance, due to fewer trucks using the road and freeway network.

❑ **Action: The City of Melbourne supports an increase in rail freight, especially related to container traffic moving to and from the Port of Melbourne.**

This increase in rail freight should be achieved with no adverse impact on the commuter rail network. Significant investment will be required to achieve a balance between these two important rail functions.

Support the Port of Melbourne

The Port of Melbourne is one of the primary origins and/or destinations for freight traffic in Victoria. Good truck and train access to the port is crucial to Melbourne's economic performance.

❑ **Action: The City of Melbourne retains many of the policies relating to port access as defined in the 2006 transport strategy. In addition, the City of Melbourne supports any investigations into the expanded use of the Port of Hastings to relieve pressure on the Port of Melbourne and open opportunities for urban renewal of land currently used for freight and logistics.**

Melbourne Metropolitan Freight Terminal

❑ **Action: The City of Melbourne supports initiatives to rationalise the Dynon Road freight precinct to provide more efficient**

Fig 8.1 Cargo bicycles are already improving the way we undertake the last km freight task

and compact port and logistics functions in this important area.

Truck action plan

- ❑ **Action: The City of Melbourne supports initiatives to reduce the impact of freight vehicles in inner west.**

Webb Dock rail

The *Municipal Strategic Statement* indicates the need for rail access to Webb Dock, to support the growth of this section of the Port of Melbourne whilst growing the share of freight carried by rail.

If the Webb Dock continues to grow, the City of Melbourne supports efforts to improve rail access to this area, however the potential for land use development in Fishermans Bend may reduce the growth of Webb Dock's freight capacity, and therefore reduce the need for rail freight access.

- ❑ **Action: The City of Melbourne will initiate a structure plan for Fishermans Bend. This work will develop the Webb Dock rail concept further and establish community and City of Melbourne priorities for this area.**

Last kilometre freight and delivery

Examples of the types of innovations that may help to improve the efficiency of freight delivery, while reducing the negative amenity impacts of freight vehicles, are:

- Local delivery and consolidation centres
- Environmentally friendly delivery vehicles
- Changing times for loading zone and delivery operation
- Incentives for shared deliveries.

There is a lack of understanding regarding the last kilometre delivery task, which makes it more difficult for government to support businesses and the delivery industry. To fill this knowledge gap, the City of Melbourne will need to work with industry to identify opportunities for specific improvements.

- ❑ **Action: The City of Melbourne will take a street or precinct approach to identifying efficient approaches to last kilometre freight delivery. This will leverage the design and consultation opportunities associated with street redevelopment and structure planning projects to establish delivery and waste management opportunities.**

During these projects, the City of Melbourne will work with industry stakeholders to discuss improvements to last kilometre freight and take advantage of any opportunities for innovative solutions that lessen the negative impact of deliveries on the amenity of the city, reduce delivery costs and improve efficiency.

Off-street loading facilities

- ❑ **Action: The City of Melbourne will assess the ability of the planning scheme to encourage developments to accommodate loading and delivery space off-street. This will minimise the impact of induced freight and delivery activity on the surrounding street network that will result from high density land use and activity.**

Waste

- ❑ **Council will continue to investigate innovative waste disposal systems that improve the efficiency of rubbish removal or remove the need for collection by vehicles using alternate technologies.**

9 Smart city driving

Goal

As a connected city, Melbourne will develop a culture of smart city driving. This means improving motor vehicle traffic flow and running efficiency and fostering smarter, more efficient motor vehicle use and simplified road management. Smart city driving also means reducing road rage, eliminating pedestrian and cyclist death and serious trauma from collisions, and making motoring compatible with these vulnerable road users. This will also reduce the degrading effects of motor vehicle traffic on general urban amenity.

Motor vehicles are likely to become a much less dominant presence on the streets of the Central City in the future. This is because of the space efficiency of public transport, pedestrian and bicycle travel and the small amount of space available for mobility in the city. Cars will remain important for some trips in the City Centre particularly those for which the other modes do not yet provide an alternative. These include travel at less busy times including night time, some business travel, movement of goods and car share and taxi journeys.

Context

Driving is an important way for people to access the city and for residents and businesses in Melbourne to move around. The urban form of metropolitan Melbourne reflects that of a car- dependant city, with substantial investment supporting car use and inter- and intra-city freight and logistics.

However, the amount of driving in inner Melbourne has not grown since circa 2003 and the amount of driving throughout all of Melbourne has been static since that time, despite strong population growth.

The growth in mobility has been by people travelling by public transport, cycling and walking and is predicted to continue to do so.

Issues

Need for greater space efficiency

Cars are flexible and responsive and capable of meeting the widest range of trip needs. However they are large users of space, both when moving and stationary, especially when carrying only one occupant. In more and more places throughout the city, some of this space will be needed for other, more space efficient uses, including wider footpaths for pedestrians, level access tram stops, bus lanes and bicycle lanes.

Cost of congestion

Although driving is not increasing in inner Melbourne, existing driving patterns have created significant congestion which places a $3 billion drag on Melbourne's economy. The direct impact of congestion affects not only motorists but surface public transport vehicles, pedestrians and cyclists. Unless public transport is freed from the impact of congestion, as more people use public transport, the economic impact will grow.

Managing central city bypass traffic

There is a significant amount of traffic that currently goes through the central city but does not have a destination there. On some streets in the Hoddle Grid this is estimated to be as much as half of all vehicles. This traffic contributes to congestion in the most densely active part of Melbourne, especially impacting on public transport vehicles, walking and cycling but does not contribute to the productive activity of the central city.

Increasing fuel costs

Possible future oil and electricity price rises are likely to put downward pressure on car use in the future.

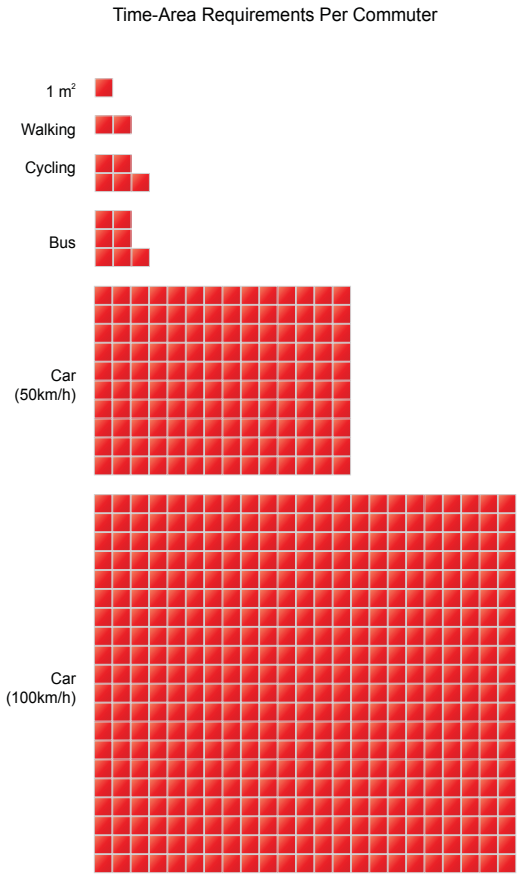


Fig 9.1 Space efficiency of various modes of personal transport

Meanwhile, some changes are making the car better adapted to city life. These include more efficient forms of car ownership such as car sharing, new fuels and quieter and safer vehicles.

Cost of crashes

The costs of an unsafe road environment are enormous. The annual economic cost of road crashes in Australia was conservatively estimated to be at least $18 billion in 2005.

Off-street parking

Car parking is a key component of the transport system and has a major influence on transport behaviour. Despite having clear parking limitation policies for many years, by international comparisons, Melbourne has a significant amount of off-street parking — more than 60,000 spaces — in the centre of the city. It is clear that large numbers of off-street parking bays, many of which are provided for all-day parking, attract a large number of vehicles into the city during peak hours. This is at the same time as on-road public transport is trying to move the largest portion of its passenger load and the demands on the walking and cycling networks are greatest.

Many of the parking spaces added recently in the city centre were included in developments where the State Government was the responsible planning authority. Some of these were in locations that are extremely well served by a variety of public transport options.

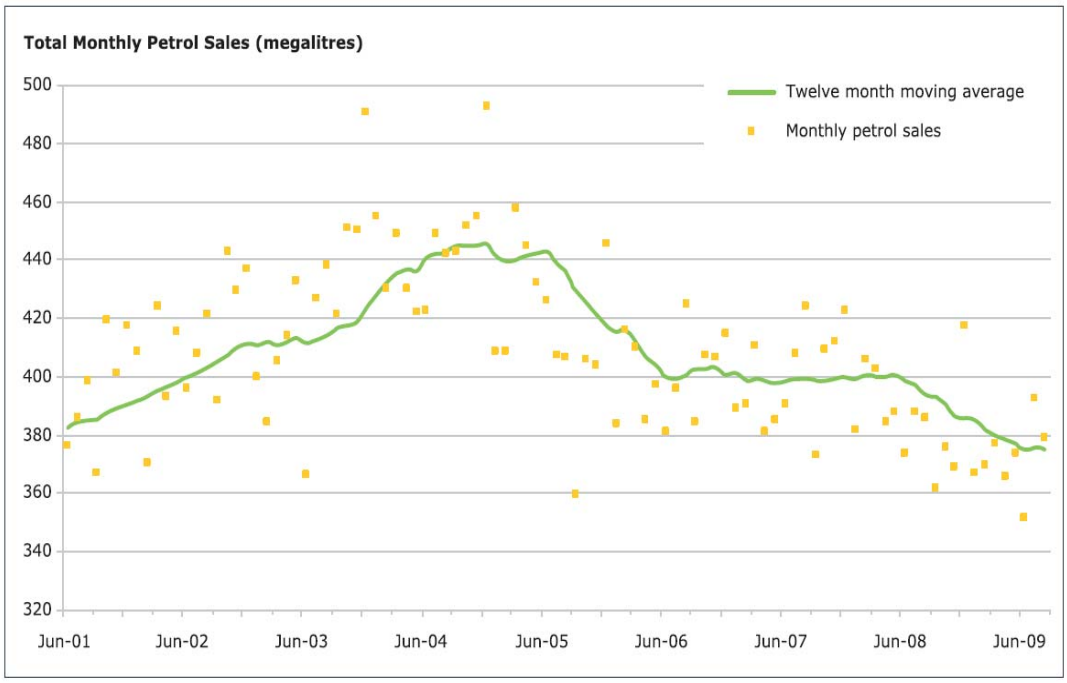
On-street parking

On-street parking plays various roles across the municipality. It offers convenient car access, allows people to store their cars on- street if they do not have off-street parking, enables loading and deliveries, and acts as a buffer between moving traffic, the pedestrian footpath and, in some instances, cycling lanes.

Currently, in the CBD there are 4,190 on-street parking spaces of which 3,077 are metered.

On-street parking represents the City of Melbourne's decision to use public space to accommodate cars. Parking meter revenue is also important for the City of Melbourne, as it funds many community and capital works projects undertaken every year.

The 'smart city driving' concept also refers to motorcycles, in recognition of their space and fuel efficiency. Issues associated with motorcycle use in Melbourne relate to parking and the use of footpath space for storage of motor bikes. As noted previously, the demands for footpath space



Monthly petrol sales from June 2001 – June 2009

Fig 9.2 Total Monthly Petrol Sales from 2001-2009 Source: VicRoads

are increasing with the growth in pedestrian activity.

An east-west road link

The question of whether a road tunnel should be built linking the Eastern Freeway to City Link or the Western Ring Road is an important transport question for Melbourne.

In 2008, the *East West Link Needs Assessment* proposed a freeway standard road linking the Eastern Freeway at Hoddle Street, to the Western Ring Road. In 2010, the State Government's Linking Melbourne Authority began a planning study to consider a freeway linking the Port of Melbourne precinct with west Footscray via a road tunnel under Footscray. The project, known as WestLink (stage one) has been discussed as a possible first stage of a cross-city tunnel linking the Eastern Freeway to the Western Ring Road. WestLink stage two would take the road further west to link to the Western Ring Road.

The benefits of WestLink would include;

- Relieving streets in Footscray of port and general traffic
- Providing an alternative to the West Gate Bridge for traffic crossing the Maribyrnong River
- Providing extra capacity for port traffic accessing the west of Melbourne.

Other impacts of WestLink could include increased traffic levels in the western part of Melbourne flowing through to local neighbourhoods and the Central City and having a negative impact on the operation of public transport, walking and cycling.

Depending on its design, a cross-city tunnel linking the Eastern Freeway to the Western Ring Road or to City Link could have significant benefits for the city. The major benefit would be removing east-west through traffic from surface streets across the north of the city, creating opportunities for improved public transport, walking and cycling provision.

Other impacts of a cross-city tunnel could be:

- Increasing overall motor vehicle use in Melbourne, further embedding car dependence.
- Stimulating outer suburban development and sprawl, rather than encouraging urban consolidation.

Key design questions for a cross-city tunnel include its capacity and the configuration of its connections into the existing road network. Exits to the city centre would be likely to encourage more traffic to drive there.

The City of Melbourne's priority is for investment in public transport to stimulate growth in Melbourne. Public investment in new road projects could draw funding away from more important projects such as Melbourne Metro rail tunnel and other public transport upgrades.

❑ **Action: The City of Melbourne will consider any future proposals for new road links taking into account the issues discussed above.**

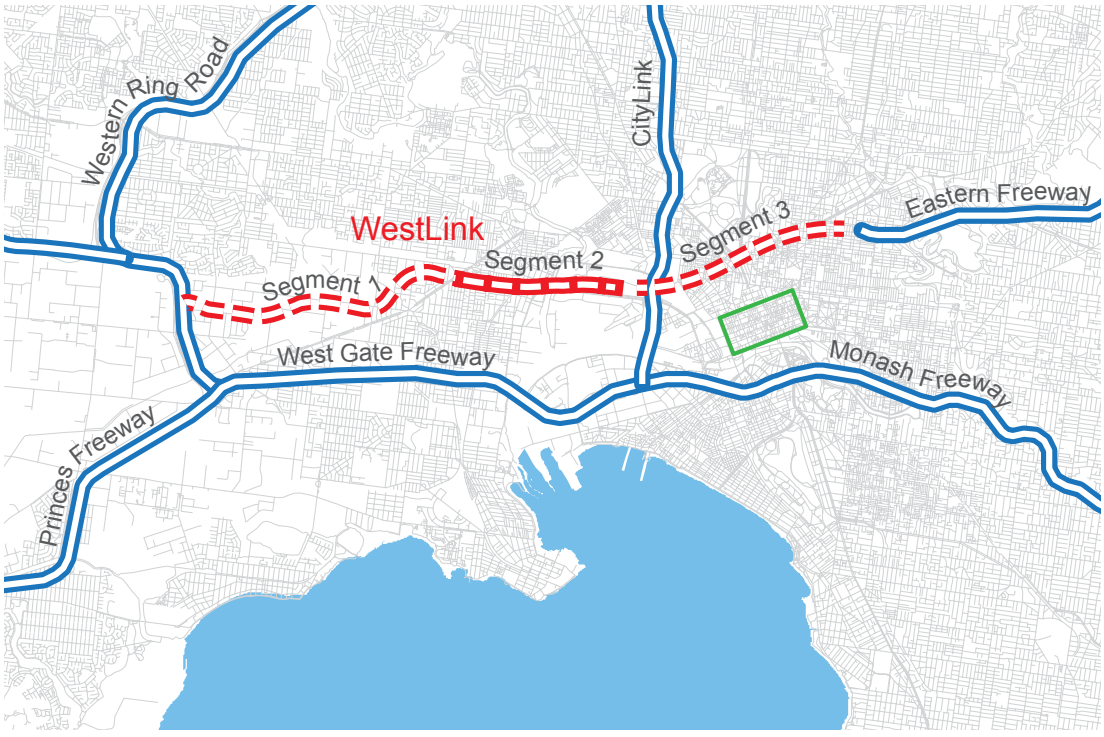


Fig 9.3 WestLink segments, a link to the eastern freeway and proximity to the Central City

Objectives and actions

Network operating plan

A key way to achieve the most efficient and effective use of streets, to meet the access, mobility and land use needs of the city, is to develop a new network operating plan. The plan allocates priority for the allocation of time (at traffic signals) and space (on roads and footpaths) to various modes of transport on different roads. Modes include pedestrians, trams, buses, bicycles, motorcycles, freight and general traffic.

The plan ensures that the City of Melbourne makes the most efficient use of the infrastructure in which the community has invested, including roads, public transport vehicles and traffic signals. The plan helps guide decisions on which modes of transport receive priority at locations where roads with different modal priorities intersect. Each local government network operating plan becomes part of VicRoads' SmartRoads network operating plans.

The City of Melbourne is working with VicRoads, the Department of Transport and the Department of Planning and Community Development to develop a network operating plan for all roads in the municipality.

Key principles underpinning the development of a network operating plan are:

- The planning and management of roads must enable the creation of people-oriented places and an active and vibrant city.
- Priority must be given to space efficient modes including walking, public transport and cycling.
- Through motor vehicle traffic must not degrade the amenity of the street life and operation of the city. It will be encouraged to use roads on the perimeter of the city.
- Motor vehicle traffic will continue to access the city in ways that are compatible with high levels of activity by public transport and vulnerable road users.

❑ **Action: The City of Melbourne will develop, publish, and regularly review the network operating plan for all roads in the municipality. The City of Melbourne will also publish information about traffic signal operation to ensure that the management of the network is transparent.**

Crossing King Street

An example of this approach is the City of Melbourne's plan to review traffic signal operation on King Street.

This street currently carries a significant number of motor vehicles, some travelling to the city and some going through. It crosses tram and bus routes at Flinders Street, Collins Street, Bourke Street, Lonsdale Street and Latrobe Street.

It also crosses pedestrian routes leading from Southern Cross station into the Hoddle Grid on Collins and Bourke Streets as well as on 'little' streets.

Currently, the traffic lights are set up to favour motor vehicle traffic on King Street, forcing public transport passengers and pedestrians to wait for up to 90 seconds.

This signal set-up encourages traffic to use King Street as a route through the city and it undermines the efficiency of the public transport operation. This affects all east-west public transport travel and exacerbates the difficulty of travelling to Docklands on the tram network.

While King Street is a declared arterial road and is likely to retain a traffic function, opportunities to improve its operation for high-priority users will

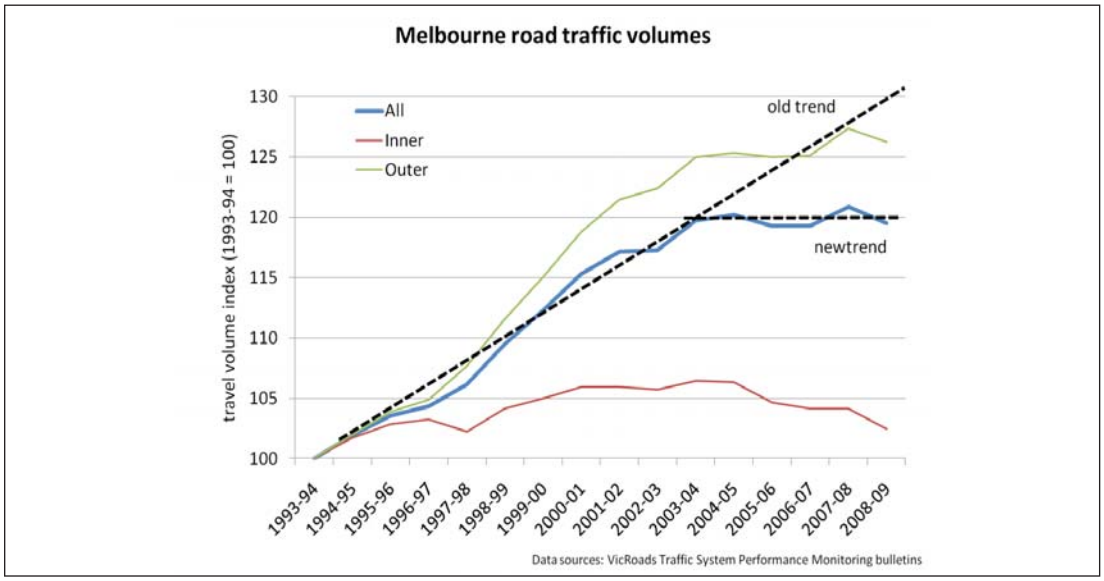


Fig 9.4 Melbourne Road Traffic Volumes

be identified as part of the new network operating plan.

Integrated land use and transport network planning

The increasing intensity of Melbourne's Central City and the provision of high quality public transport services will require transport and land use planning to be better integrated. The network operating plan will provide guidance on the operation of streets but a higher level management tool will be needed to coordinate transport operations with the way land is used.

This integrated transport and land use management tool must be a coordinated initiative of the City of Melbourne and State Government, with participation from key government agencies such as VicRoads.

This tool will identify how the transport network will develop, including where new tram stops, train stations, bus routes, bicycle lanes, freight routes and so on, will be located, as well as the priorities for land use development adjacent to the transport network. The plan will be able to describe or illustrate how streets will look in the future, taking into account the demands that adjacent land uses will place on the transport network located along the full length of the street. It will also be able to inform the design of new developments based on existing and future transport plans.

This will enable agencies to plan jointly for a sustainable, economically efficient and socially supportive transport and land use system for the city.

- ❑ **Action: The City of Melbourne will work with the State Government to develop an integrated land use and transport planning tool.**

Managing on-street parking

The City of Melbourne's strong emphasis on improving public transport, walking and cycling in Melbourne will mean on-street parking plays a less significant role in providing access to the city in the future.

Redevelopment of high-mobility streets will mean the conversion of some on-street parking spaces to other uses. For example, the installation of a tram level access stop could require the removal of up to 40 on-street parking spaces. These spaces could provide access to the city for as many as 480 people each day. By contrast, busy tram stops cater for around 12,000 people per day. Poor quality tram stops reduce city access by slowing trams and contributing to overcrowding. Other uses will include wider footpaths, people spaces, bicycle lanes, bicycle parking, footpath trading, street trees and others.

Melbourne also has a significant supply of off-street parking which could, in the future, provide short term capacity.

It is important for the City of Melbourne to plan proactively for a declining on-street parking supply, especially in the Central City. This should include an analysis of potential City of Melbourne revenue loss, acknowledging the economic impact to abutting businesses, and considering the social and environmental benefit of changing car parking to other uses.

- ❑ **Action: The City of Melbourne will update its on-street parking strategy for the municipality, detailing the management of parking in the short and medium term, with specific regard to revenue, city access and the balance of public space dedicated to car use across the municipality.**

- ❑ **Action: The City of Melbourne will continue to allocate the majority of on-street parking to short term parking.**

- ❑ **Action: The City of Melbourne will implement new parking technology systems that allow payment without requiring parking machines or meters, that will remotely sense and assess parking occupancy.**

- ❑ **Action: The City of Melbourne will publish parking data, including occupancy rates, prices, availability and other information.**

Limiting off-street parking

In March 2010, the City of Melbourne adopted planning scheme amendment C133, which applies to Carlton, Southbank and parts of North Melbourne, West Melbourne and East Melbourne, and allows the provision of zero on-site car parking spaces in residential developments over four storeys, and places a discretionary limit of one car parking space per dwelling. This amendment was based on demographic and accessibility analysis, which determined that the areas affected by the amendment have excellent accessibility to public transport and other facilities.

Following the success of this amendment, the City of Melbourne will pursue another amendment to the planning scheme to set maximum car parking rates for other land uses (for example, offices) throughout the municipality, and review the area to which amendment C133 applies.

- ❑ **Action: The City of Melbourne will continue to discourage long term commercial parking, particularly in the Central City, and will encourage conversion of long-term commuter parking into affordable short stay parking or other uses.**

Car parking management within neighbourhoods

The City of Melbourne introduced the *Carlton Parking and Access Strategy* in 2006. This strategy was introduced partly in response to requests from the local community to assist

residents to obtain parking in their street. Among other measures, it reduced the number of permits issued to each address, removed multi-use permits to prevent abuse and replaced them with vouchers, and removed access to the resident permit scheme for properties which increased density on any site in the precinct. As a result, there was a significant reduction in the number of parking permits issued in Carlton and permit holders were able to find a parking space more easily. A similar system has been extended to north and west Melbourne. New schemes will include some or all of these measures depending on community needs.

- ❑ **Action: The City of Melbourne will assess the need to extend innovative resident parking schemes to other parking areas and will conduct thorough community engagement as part of any change proposal.**

Road safety

The *Future Melbourne Community Plan* clearly defines a future where there are zero road fatalities or serious trauma resulting from road traffic in Melbourne. Against the backdrop of significant growth in population, employment and visitation, this is an ambitious yet important target.

Speed limit reduction improves road safety significantly, as was highlighted in the 2006 *Moving People and Freight Strategy*. Slower vehicles create a safer city and improve the amenity of the public realm.

A business case was compiled in 2007 for a 40 km per hour speed limit in the Central City. It found that the benefits of the proposal outweighed costs by a ratio of 60:1.

- ❑ **Action: The City of Melbourne will continue to lobby the State Government to implement safe speed limits, with a view to increasing the use of 30 km per hour zones across the municipality.**

- ❑ **Action: The City of Melbourne will update its road safety strategy with a continuing emphasis on reducing trauma to vulnerable road users.**

Ride sharing

Ride sharing or car pooling offers the potential to increase significantly the efficiency of the smart city driving network. The road use efficiency of a vehicle carrying four people is four times as high as a single occupancy vehicle. The State Government has been investigating a ride sharing program.

- ❑ **Action: The City of Melbourne will encourage and facilitate ride sharing where possible.**

Traffic in local streets

The City of Melbourne's policy has for many years been to protect local streets from through traffic. Areas nominated as stable in the City of Melbourne's *Municipal Strategic Statement* – MAP REF – will continue to be managed so that traffic does not have an adverse impact on residential amenity.

Taxation and road pricing

Some cities have implemented road pricing systems in an attempt to limit car use in central, active and dense urban environments. These can be effective transport management tools to improve city access, reduce transport emissions and to fund transport improvement projects.

Congestion pricing schemes in London and Stockholm, for example, have delivered significant successes.

Other reasons for considering road pricing include:

- The Victorian Competition and Efficiency Commission (VCEC) urged the government in 2006 to undertake a comprehensive road charging study in Melbourne.
- A 2008 study into the emissions impact of the City of Melbourne's transport strategies found that road pricing would deliver the single greatest emissions saving.
- The Henry Tax Review recommended governments analyse the potential network-wide benefits and costs of variable congestion pricing on existing toll roads and other heavily congested parts of the road network.

A key issue for the City of Melbourne in considering changes to road pricing is maintaining and enhancing access to the city for a wide variety of trip purposes.

Current FBT arrangements encourage more driving, reinforce Australia's culture of car ownership, and undermine federal, state and local policy objectives relating to efficient and sustainable travel.

Motorcycles

Motorcycles, particularly smaller ones, are a relatively space efficient mode of individual travel. Key issues for motorcycling are road safety and motorcycle parking. In Victoria, motorcycles can be legally parked on the footpath (unless otherwise signed) as long as the motorbike does not obstruct pedestrians, delivery vehicles, public transport users or parked cars.

While this is beneficial for motorcycle riders, it can have drawbacks in terms of pedestrian access, safety and amenity in the CBD. Continuing growth

in pedestrian numbers will put increased pressure on footpath parking for motorcycles.

- ❑ **Action: The City of Melbourne will consult with motorcycle user groups when changes to existing motorcycle parking are contemplated, and it will follow and promote VicRoads' guidelines *Provision for On-Road Motorcycle Parking* when making provision for on-street motorcycle parking facilities.**

- ❑ **Action: The City of Melbourne will endeavour to increase supply of motorcycle parking in congested areas to reduce the need to park on footpaths, and will prohibit motorcycle parking in locations where walking, or other complementary activities, would be obstructed.**

The *Melbourne Planning Scheme* requires motorcycle parking to be provided in all car park developments at a rate of one space for every 100 car spaces. In the CBD, this provides for a motorcycle mode share of 0.2 per cent of all trips. The proportion of workers riding motorcycles (or scooters) into the CBD more than doubled (to two per cent of all workers' trips) between 2004 and 2006, although motorcycles are only one per cent of all trips to the city, according to the 2007 VISTA figures.

- ❑ **Action: The City of Melbourne will investigate amending the planning scheme to require motorcycle parking at a rate closer to the current mode share, or provide motorcycle parking as a proportion of the overall development floor area. Consideration will also be given to requiring new developments to provide a certain number of motorcycle parking spaces, regardless of whether or not car parking spaces are provided.**

Electric and other alternatively fuelled vehicles

As the price of oil rises, electric and other alternatively fuelled vehicles will become more popular. However, alternative fuelling does not change the space efficiency of cars in the city.

- ❑ **Action: The City of Melbourne will work with the State Government to assess the applicability of these technologies to the city.**

Public engagement

Public engagement with, and support for, significant changes to the transport environment in Melbourne will be crucial to the success of this strategy. This topic is covered on pages 48 and 49.

Enforcement

This strategy highlights the need for efficiency across the city's transport network. Enforcing rules, such as road rules, is a key component of making sure the transport system is doing what we need it to be doing.

Many aspects of the transport system require tougher enforcement:

- High occupancy vehicle lanes on arterial roads and freeways are used appropriately.
- Intersections are kept free of vehicles blocking the progress of on-road public transport, pedestrians, cyclists and other traffic.
- Traffic is kept within speed limits, especially on streets such as Lygon Street, where the speed limit is 40 km per hour.
- Bicycle lanes are kept clear of vehicles.

- ❑ **Action: The City of Melbourne will work with Victoria Police and the Department of Justice to ensure these aspects of the transport network are enforced effectively.**

Fig 9.5 Police Enforcement of traffic in the Central City has the potential to improve Public Transport Operation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10 Regional and global transport connections

Goal

Melbourne will have fast and direct connections to Australia's network of major cities and global cities in the Asia-Pacific region and around the world. Very high speed business and tourist passenger transport will connect Melbourne to the eastern seaboards region (including Sydney, Brisbane and Canberra). This connectivity is essential for the future prosperity and global competitiveness of Melbourne, Victoria and Australia.

Context

The number of people travelling to Melbourne from regional Victoria, interstate and overseas is growing significantly, as Victoria continues to act as a major attractor of business and tourism trips.

By 2020, more than 50,000 international visitors, and more than 33,000 interstate visitors will come to Melbourne daily. This visitation will be primarily channelled through Victoria's major airport, Tullamarine. Currently,Tullamarine carries approximately 23 million people annually and this is expected to double by 2027/28.

As the hub of many business and tourism trips to Victoria, Melbourne has an important role to play in accommodating this growth. It is imperative that the urban environment and transport systems can handle significant increases in people accessing the airports and other regional and interstate centres. For Melbourne to enhance its role as a key economic unit in the Asia-Pacific region, the city also needs to be an inviting, vibrant and safe place for visitors.

Central Melbourne is a major destination for many people visiting Australia. Tourism is an important jobs sector for Melbourne, and the City of Melbourne has clear commitments to enhancing the city experience for tourists. One of the best ways to experience a city like Melbourne is on foot and by public transport.

The public transport system should be legible and easy to use for local residents and tourists alike.

Reliance on air travel

Connections between Melbourne and other major Australian cities are important for the economic prosperity of the country. The Melbourne-Sydney air route is the second most travelled domestic air route in the world. Options to relieve air traffic present significant opportunities to improve mobility on the eastern seaboard and reduce emissions.

Melbourne's airports deliver a substantial number of people to Victoria every day. The airports link the city with the rest of the world, contribute greatly to Melbourne's competitiveness as a successful business and knowledge city, and foster high levels of tourism. Melbourne has a lot to gain from improvements to the journey from the Central City to Tullamarine and Avalon airports.

Airport access

The airports are primarily accessible by private car, taxi, hire car, and some bus services. The current demand for travel and the projected growth of the airports means that public transport services to Melbourne and Avalon airports need to improve.

The major change since 2006 has been the growth of the SkyBus service. SkyBus now operates over 230 services a day between Melbourne airport and Southern Cross station, carrying more than 1.7 million people annually. This is a major improvement in public transport provision.

Objectives and actions

Inter-city high speed rail

Central City to Central City transport would provide a convenient option for travellers, improve directness, and potentially reduce the overall travel time of the journey.

Developing high speed rail links between Australian cities is essential to maintaining transport connections in a future of rising oil costs and a lower carbon economy.

- ❑ **Action: The City of Melbourne supports further investigations into the viability of high speed rail links between Melbourne, Canberra, Sydney and Brisbane. Any high speed rail investigation should consider the potential productivity and agglomeration benefits of linking major employment centres of the eastern seaboard.**

Public transport to Melbourne's airports

The City of Melbourne supports the improvement of public transport serving the Melbourne and Avalon airports. The government has announced plans for rail links to both airports. In the interim, the City of Melbourne supports a significant upgrade of the network infrastructure on which SkyBus operates, to reduce travel times, improve reliability and continue to boost patronage. Improvements could include dedicated lanes and priority at traffic signals along its route.

- ❑ **Action: The City of Melbourne will work with the Department of Transport to improve the reliability of SkyBus travel times, increase frequencies, and consider the introduction of standard public transport fares to encourage greater**

public transport access to Melbourne Airport.

Better regional connections

Melbourne's capital city role requires the central area to be well connected with regional centres of activity.

Regional Rail Link will make a significant contribution to improving rail links with Geelong, Bendigo and Ballarat.

- ❑ **Action: The City of Melbourne supports improved public transport links with regional centres, in recognition of the need to link the capital city with residents and services across the State.**

Melbourne city tourist shuttle

The tourist shuttle — a free bus service that connects many tourist attractions within the Central City — has been a success. The service is used by approximately 800 people every day, and user feedback indicates the service is of great value to the city.

There is potential to integrate the tourist shuttle with other tourist transport services in the inner city, such as the City Circle tram and river based visitor transport services.

By combining these services as a package, the visitor experience in Melbourne could be improved. The City of Melbourne will work with the operators of the other relevant transport services to explore integration and joint promotion, to offer visitors an easily understood network of mobility options available to them.

The role of our waterways

River transport presents a great opportunity to improve connections between the Central City and Docklands, and other destinations such as Port Melbourne, St Kilda and Williamstown. More frequent and cheaper river links can potentially ease the burden on road and rail transport by providing a convenient and attractive alternative.

Integrating river transport with the public transport ticketing system would make it more accessible and easily understood by both the Melbourne public and visitors to the city.

- ❑ **Action: The City of Melbourne supports improved river transport connections, especially to the west of the Central City.**

Provide a legible transport network for visitors

Melbourne's walking environment and public transport network must be easy to use to create a good experience for visitors. There has been a deliberate focus on a high quality public realm in the Central City, which has helped to achieve this, however more can be done to make Melbourne welcoming to visitors.

- ❑ **Action: The City of Melbourne supports a simpler public transport network, with easily understandable routes and stop locations to enhance legibility across the system. Integration across modes will help achieve this – for example, trams approaching intersecting bus routes should advise passengers of their choices, and visa-versa.**

- ❑ **Action: The City of Melbourne will continue to design and manage the public realm to promote an ease of movement for pedestrians and to encourage walking.**

Urban bicycle tourism

Bicycle tourism is booming in regional Victoria. Cycling along rail-trails between country towns, wineries and restaurants is becoming a major promotional focus for many regional centres, and the local economies are benefiting from the new markets that this industry is opening. The 'Pedal to Produce' initiative in northern Victoria is one example of this.

Inner Melbourne hosts some very high quality food markets, not to mention the network of excellent food and drink precincts throughout the region.

The City of Melbourne sees a tourism opportunity to promote cycling to and between these locations. This would reinforce the City of Melbourne's support for everyday cycling and also build on a strong culture of social and recreational cycling.

Melbourne Bike Share offers an excellent network of publicly available bikes, perfect for visitors to use. This network could be expanded to cover key destinations, such as the region's markets.

- ❑ **Action: The City of Melbourne will investigate opportunities through IMAP and other collaborative arrangements, to promote bicycle tourism in inner Melbourne.**

Bus and coach access

The City of Melbourne has investigated the concept of a single bus terminal to cater for tour buses, public transport route buses, interstate coaches and airport buses in one central location. The research found that it would be very difficult to find a space large enough to accommodate the different types of buses and their varied requirements. It concluded that all the buses converging on a single location would be unnecessary and inefficient.

11 Appendices

11.1 Implementation program

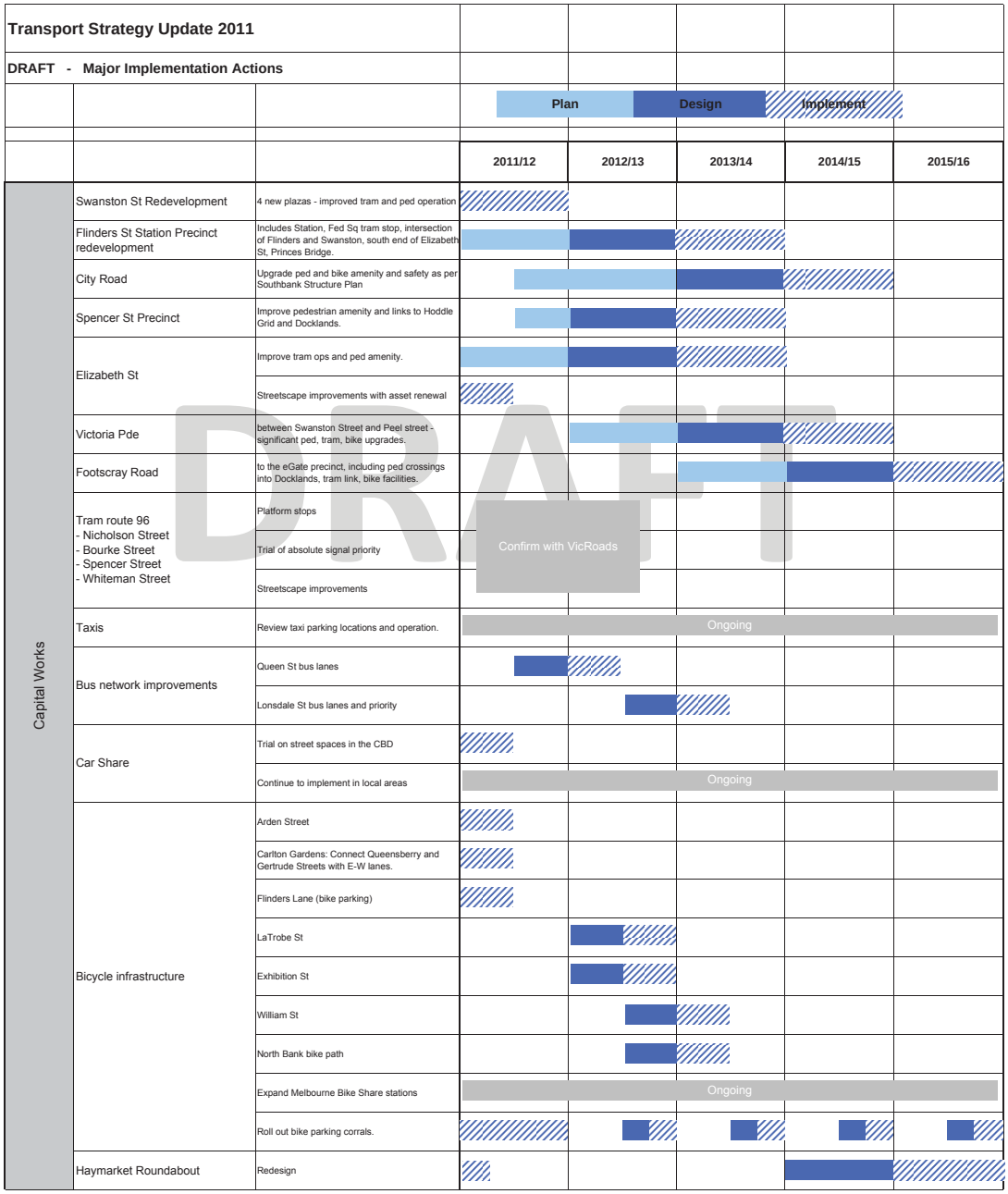

Fig 12.1 Implementation Program Table

Transport Strategy Update 2011

DRAFT - Major Implementation Actions