

A person in a red cycling outfit and helmet is riding a bicycle through a modern, arched metal structure. The structure consists of a series of curved metal beams that form a tunnel-like shape. The ground is a smooth, light-colored surface. The sky is a clear, pale blue. The overall scene is bright and modern.

Flexible and adaptable private transport



Flexible and adaptable private transport

Goal

The city's private transport networks will complement the public transport system, and will enable people to move easily around the municipality. Walking and cycling will develop as predominant local modes of inner urban travel, while the role of the car will change to a niche mode for specific journeys.

Overview

Government, and particularly local government, has a significant role in developing, maintaining and operating the road and path network for pedestrians, cyclists and drivers.

Pedestrians and cyclists are the most vulnerable road users and safety is a critical factor for them. They also need routes that require less effort – the most direct and the flattest. For this reason walking and cycling should have as wide an access as possible to the whole road and path network and that network needs to be fine grain. Walking and cycling take people from door-to-door.

Walking is part of any public transport trip. Together, walking and public transport account for the majority of all weekday trips into and within the municipality, and this is targeted to increase as priority is given to both. Cycling is also a good complement to public transport. It can significantly extend the catchment of rail stations when combined with a rail trip.

For trips into the municipality, walking is and will remain a marginal mode. Cycling is likely to grow as the safe cycling network is expanded around and within the municipality.

Driving is predicted to continue to decline as a proportion of weekday trips as improved public transport increases its share. Further decline is anticipated as the tram and bus networks to and through the municipality are provided with optimum road priority for their vehicles and optimum pedestrian access to their stops. Driving into and within the municipality will increasingly develop as an important complementary

mode, catering for trips that cannot be undertaken by public transport, walking or cycling.

The impact of decades of investment in private car transport on urban form is evident in metropolitan Melbourne. Urban sprawl has been exaggerated by the creation of a road network that allows people who own cars to travel vast distances in relatively short times. The limitations of this network and this behaviour are becoming more and more obvious, and costly. It is now widely understood that continuing to invest in infrastructure dedicated to daily long distance car travel may threaten Melbourne's long term competitiveness and liveability.

Walking in conjunction with public transport

Making the city's walking and public transport systems balanced and supportive of each other will be a major focus for the City of Melbourne's investment and advocacy. The need for seamless pedestrian links between public transport stops and stations and the land uses on, and abutting, the street network, will become increasingly important considering the forecast growth in urban activity.

Walking is sensitive to distance, amenity and safety, and therefore requires significant support, especially from local government. The City of Melbourne has a strong history of designing and creating places for people, and this approach will be continued and advanced to link with the public transport network.

A complementary role for private car transport

The private car will continue to serve a unique role in the City of Melbourne's transport mix. This strategy proposes cars be managed in a way that they complement the service provided by other modes, and do not detract from the efficiency, amenity or safety of more important modes. Transport by private car cannot accommodate the current demand for peak travel, and will not be able to support the city's growth. It is imperative that cars are accommodated on our streets, but are managed in a way that enables the city to continue to grow as a liveable and vibrant place.

Increased cycling in the central city

Bicycle transport will be reinforced as a mode of choice for moving around the central city through measures which increase safety and convenience. The past five years have seen the City of Melbourne progress cycling infrastructure on many streets leading into the central city. Now it is time to provide high quality bicycle facilities on streets within the Hoddle Grid, so as to encourage everyday bicycle use in the city of Melbourne as well as make other innovative changes to make the city's entire road network much more bicycle friendly.

3 Walking city

Goal

The City of Melbourne will create an excellent and safe walking environment for residents, workers and visitors, with seamless high-priority links between the city's public spaces and the public transport system.

Context

In a connected city, walking has top priority over other modes of urban mobility.

Walking accounts for 66 per cent of all trips within the municipality. This is projected to grow to 69 per cent by 2030. With the number of daily city users predicted to increase from 800,000 today to over 1,200,000 by 2030, this will mean an increase of 64 per cent in the absolute numbers of walking trips.

Walking is the primary mode for short trips up to 1 km, but walking also starts and finishes trips made by all the other modes. Walking trips are important for the economy, with 36 per cent of walking trips being for business purposes, and it is the primary mode for shopping, tourism and city visitors. Walking has also grown as more people have come to live in the municipality – 49 per cent of Southbank residents and 34 per cent of Docklands residents walk to work.¹

Walking is an essential part of effective public transport. Patrons walk to and from the stations and stops and to make their connections between services. Safe, easy and disability compliant access to public transport vehicles at the stations and stops is critical for the effective operation of the public transport system.

The economic value of walking to cities has been described as the walking economy.

There is a direct link between the city's economic prosperity and the safety and convenience of the pedestrian experience.

¹ ABS (2006) *Journey to Work*

The grand streets and hidden laneway of the Hoddle Grid and the broad promenades of Swanston Street, Bourke Street and the Yarra River, enhance the city's liveability, attracting businesses, visitors and shoppers alike.

Twenty years ago, the City of Melbourne set about transforming the municipality's walking environment. Guided by the Places for People studies in 1994 and 2004, the City of Melbourne began by widening footpaths, laying good quality pavements, encouraging outdoor dining, reducing traffic signal cycle times and building interesting pedestrian spaces to attract more residents to the central city and to support improvements to public transport.

Over this time the city has increased actual and perceived pedestrian safety with:

- level access trams stops
- zebra crossings
- safe staging points for pedestrians to cross busy roads
- shared zones which give pedestrians priority over motor vehicles and reduce speed limits to 10 kph
- 30 kph and 40 kph speed limits in key pedestrian streets

The City of Melbourne has applied to reduce the speed limit in the central city to 40 kph.

Issues

Growth in walking

The number of walking trips in the municipality will continue to grow and these will require an increased share of the fixed road space in the city.

Footpath congestion and poor crossing opportunities

The design and capacity of many streets footpaths is not meeting the current and predicted volumes of pedestrians, resulting in congestion at the pedestrian peak times: the start and finish of the working day, lunchtimes and late night.

Movement priority

On many streets, pedestrian movement has been constrained by low priority at traffic signals and a lack of safe road crossing opportunities.

Sub standard walking conditions to and from public transport

Current public transport use is not being matched with provision of a safe, comfortable and easy pedestrian access at and between stations and stops.

Increase the rate of disability access compliance to and from public transport

The City of Melbourne has a high demand for pedestrian access to public transport. The upgrade of stations and stops in the municipality is therefore a priority, particularly to meet the disability access compliance target of 90 per cent by 2017.

Pedestrian fatalities and serious injuries

The city's roads need to be safer for pedestrians. Pedestrians account for the greatest number of journeys in the municipality and they are the most vulnerable road users. They suffer 23 per cent of the municipality's road casualties, increasing to 27 per cent in the Hoddle Grid area. The City of Melbourne also has the highest

Pedestrian counts, Melbourne CBD

Average total at all counter locations, May 2006-11

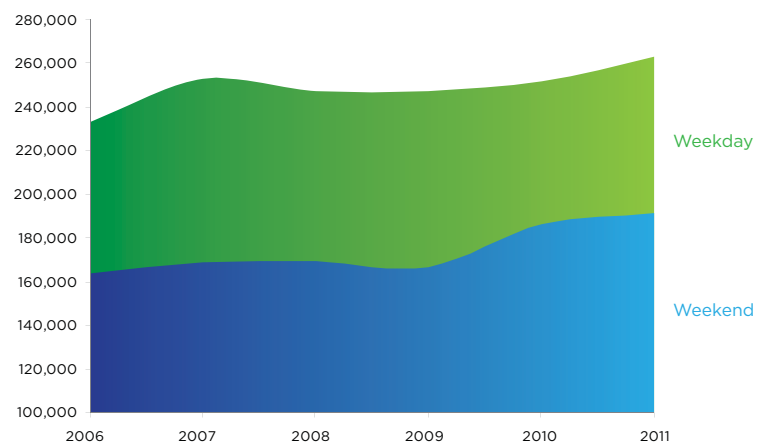


Fig 3.1 Pedestrian activity growth in the central city

number of crashes causing serious injury to pedestrians in Victoria.

Conflicts with cyclists in shared areas

Many cyclists find on-road cycling dangerous and so choose off-road paths, where they come into conflict with pedestrians. A road network that is safer for cyclists will attract them to on-road routes. Where mixing of cyclists and pedestrians is inevitable or appropriate, adequate space needs to be allocated and the mix needs to be well designed and managed.

An interesting and pleasant urban environment

City streets and laneways should be suitable for the efficient movement of people. Consideration of the need for stopping, dwelling, sitting, interacting and socialising will improve the overall quality of the walking environment.

Better network permeability

Some parts of the city are unattractive for walking because there are not enough connections

in the network, which makes accessing destinations difficult. In some cases crossing opportunities have been removed or relocated to improve private vehicle traffic flow. Many city blocks do not allow pedestrian access through or between buildings.

In recent cases like Goldsbrough Lane and QV, developers have included pedestrian access through redeveloped areas. This has benefitted both the development and the broader walking network across the city. More pedestrian crossings have also been added to address locally specific issues, where the opportunity has arisen. Through increasing the frequency of links through city blocks and road crossing opportunities, the walkability of the overall network will be improved.

Better network legibility

Parts of central Melbourne are difficult to navigate, particularly for visitors, due to lack of signage or mixed messages from various agencies. Public Transport Victoria has improved public transport

information by combining the signage for trains, trams and buses in a single system and the city also now features clearer representations of landmarks and the surrounding area. Better integration in planning transport systems will help to ensure that streets, roads, footpaths and the public transport network is presented in a more integrated and legible way.

Recreational spaces for central city residents

The central city residential population has grown from almost zero to 30,000 residents in 20 years and for many residents the streets and lanes are the only local recreational places.

Planning for walking as a bona fide mode of mobility

Traditional road transport planning has treated walking trips as incidental to road traffic. In inner and central Melbourne walking is the dominant mode of mobility on the road network. This needs to be recognised and factored into network operating plans more strongly.

Use of footpath space for trading, dining, parking and other uses

Valuable footpath space is increasingly used for outdoor dining, street trading, motorcycle parking, bicycle parking and other uses. Maintaining pedestrian access is important as competition for this space increases. Where appropriate, kerbs may be extended, certain uses may be restricted or specifically accommodated in other parts of the street.

Objectives and actions

A comprehensive transport oriented walking network in urban renewal areas

The Municipal Strategic Statement sets out the areas for long-term urban renewal in the municipality. This offers a unique and important opportunity to ensure that walking is given a high priority throughout the planning and development process. In particular, consideration should be given to the optimisation of the walking network to improve access to the public transport network.

A city pedestrian plan

In the last 20 years, the City of Melbourne has progressively and successfully improved the city’s walkability through various initiatives. It does not however have a comprehensive and coordinated plan to meet the predicted demand for walking in the municipality, particularly the demands from the growth of public transport use. Such a plan would aim to:

- Improve pedestrian movement around public transport nodes high movement areas.
- Focus on the pedestrian network in urban renewal areas to optimise access and provide the most direct access to public transport.
- Relieve and avoid pedestrian congestion in areas of current and predicted high activity.
- Improve pedestrian priority at road crossings with signals to reduce walking delays.
- Improve permeability with new pedestrian network links and crossing opportunities.
- Improve city amenity for

walking, including seating and drinking fountains.

- Reduce the rate of pedestrian fatalities and serious injuries from motor vehicle collisions.
- Enhance the legibility and navigability of the network through way-finding technologies.
- Provide safe and practical solutions for bike and pedestrian shared areas.
- Audit and report on the overall level of service the city’s pedestrian network provides.
- Expand the program of opening designated streets to temporary pedestrianisation.
- Create a pedestrian-oriented fully-accessible streetscape.
- Ensure pedestrian access and movement is not unduly affected by the use of footpath space for trading, dining, motorcycle parking and other activities.
- Utilise the state-level principal pedestrian network methodology to identify and develop pedestrian networks.
- Form a Pedestrian Advisory Committee to assist with the development and implementation of the plan.
- Investigate and trial locations for shared zones to provide an enhanced public realm, better pedestrian service and two-way bicycle access.
- Research and gather data on pedestrian activity in the city including the value of the walking economy.

1. Priority Action: Develop a municipal Pedestrian Plan.

High mobility streets

High mobility streets have high frequency tram and priority bus services and excellent pedestrian access to and around stops. These streets will generally have highest density and diversity of destinations along them (see key direction 4).

On these streets, the infrastructure and signalling will enable pedestrians to move safely and seamlessly from footpaths to public transport stops, providing level access to trams and buses, interchanges between public transport services and along the approaches to the stops. They will have a high quality streetscape including shade trees, good pedestrian lighting, street furniture and materials and comply with the Disability Discrimination Act. High mobility streets will provide excellent pedestrian thoroughfares and also provide high quality spaces for stationary activities.

- 2. **Priority Action: Work with the Department of Transport, VicRoads and Yarra Trams to design and build the municipality's network of high-mobility streets.**

Opening streets for temporary pedestrianisation.

The City of Melbourne has successfully opened streets such as Little Collins Street for temporary pedestrianisation during peak pedestrian activity. The number of locations and duration of times continue to grow and spread throughout the central city as the demand from the residential population and special events increases.

- 3. **Action: Expand the program of opening streets for temporary pedestrianisation.**

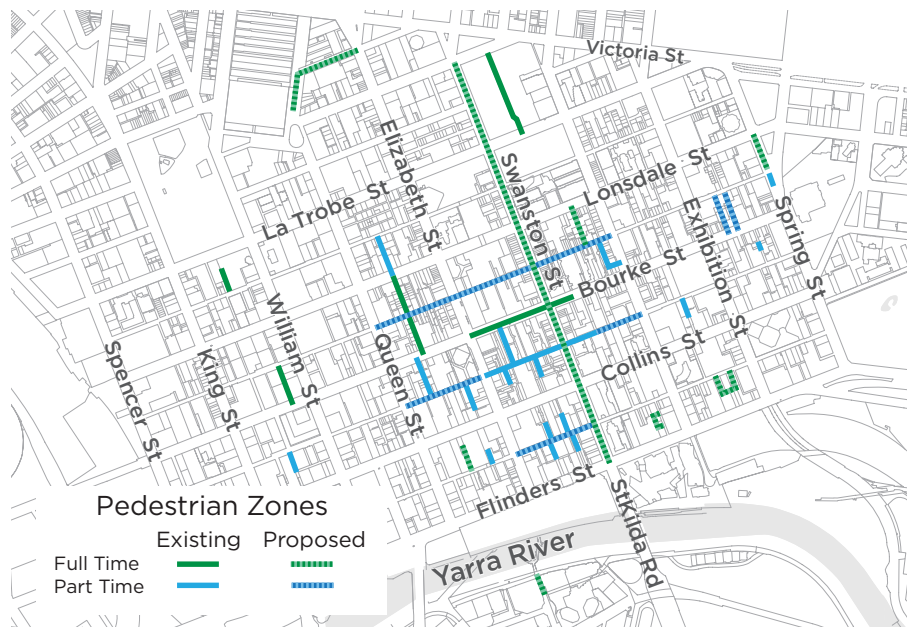


Fig 3.2 Existing and proposed intermittent street closures

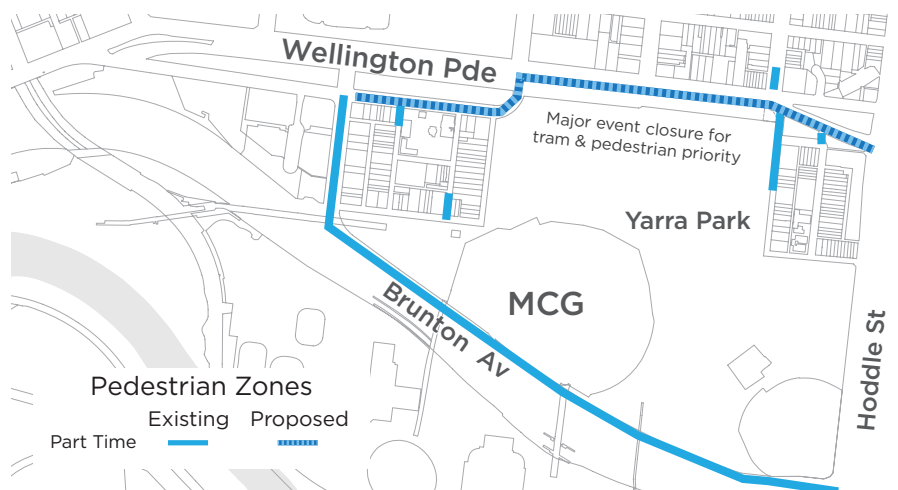


Fig 3.3 Existing and proposed intermittent street closures

Pedestrian priority at stations and public transport interchanges

Walking is an essential component of all public transport journeys and providing an excellent walking environment around public transport stops, stations

and interchanges is critical for providing an accessible, high quality public transport service. Strong growth in the use of public transport means more people will be walking to access the network.

4. **Priority Action: Work with the Department of Transport to provide excellent quality pedestrian access to all public transport stops, stations and interchanges.**
5. **Priority Action: Prepare pedestrian accessibility plans for the precincts around Flinders Street Station and Southern Cross Station.**

An inner city Road Network Operating Plan

The inner and central city road network is unique for the intensity of local land uses it services and the growing dominance of the network by trams, buses, pedestrians and bicycles. The Road Network Operating Plan to be developed VicRoads, the Department of Transport and the City of Melbourne needs to incorporate high level of priority for pedestrians trips.

6. **Priority Action: Work with the Department of Transport, Department of Planning and Community Development and VicRoads to ensure that the municipality's Road Network Operating Plan provides a high level of priority to pedestrian trips**

Safety for pedestrians

In the municipality, walking, public transport and cycling trips are predicted to grow, while private motor vehicle trips diminish. The municipality's roads need to be made safer to reduce collisions between motorised vehicles and pedestrians of all ages. A high quality walking environment can also reduce the risk of pedestrian injuries occurring from falls and other accidents.

7. **Action: Update the Road Safety Plan to strengthen the commitment to reducing pedestrian death and serious injury without reducing pedestrian access to the road network.**

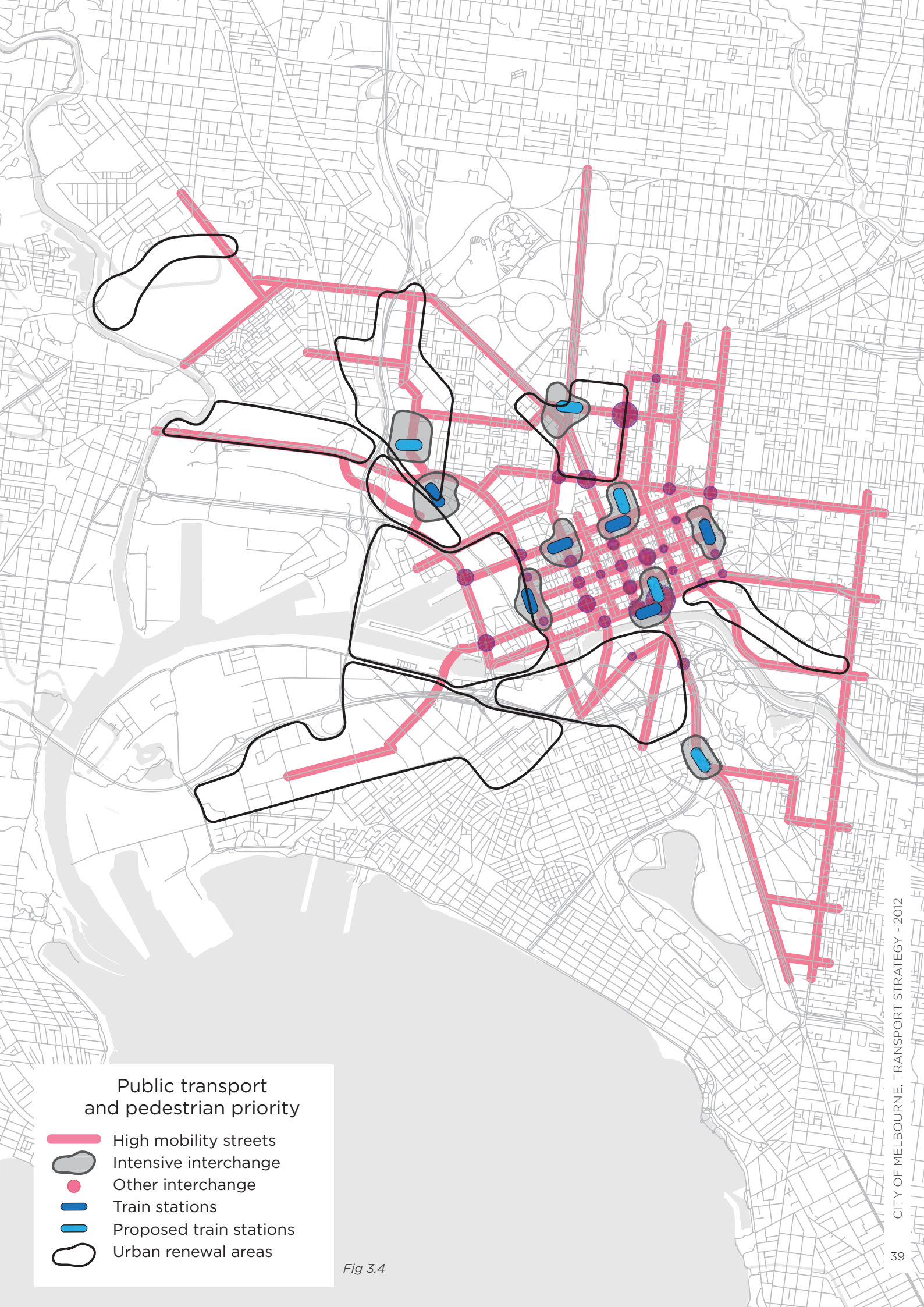
Accessible transport

The City of Melbourne's Disability Action Plan 2010-2013 outlines the vision for Melbourne to be a barrier-free city, where people with a disability can access and participate in all aspects of life with dignity and independence.

Twenty per cent of the Victorian population and 15 per cent of the resident population of the City of Melbourne experience some form of a disability.

The Disability Discrimination Act makes it unlawful to discriminate against a person on the grounds of a disability in regard to work, accommodation, public transport and access to premises. Currently many people with a disability experience barriers to accessing and utilising Melbourne transport system.

8. **Priority Action: Work with State Government to reduce information and infrastructure barriers to universal access in the public transport system**
9. **Action: Work with other tiers of government to advocate for universal transport accessibility**



Public transport and pedestrian priority

- High mobility streets
- Intensive interchange
- Other interchange
- Train stations
- Proposed train stations
- Urban renewal areas

Fig 3.4

4 Cycling city

Goal

The City of Melbourne will be a cycling city, with its entire road network safe and attractive for cyclists of all ages, and cycling will increase by 400% to account for 12 per cent of all trips to and around the city by 2030.

Context

Cycling is a low cost, space efficient, low carbon, healthy and sociable mode of private transport. It is ideal for medium distance trips of around 5 km to 8 km, and is an effective alternative to driving, trams or bus over the same distance.

This strategy is seeking a 400% increase in the number of bicycle trips to, within and from the City of Melbourne by 2030.

The municipality is at the heart of Melbourne's bicycle network and has the highest rates of cycling in Victoria, comprising four per cent of trips to the city for all purposes¹. Cycling is the city's fastest growing transport mode. It now comprises around 11 per cent of private vehicles on roads in the morning peak² and on some main city entry roads the number of bikes is comparable with the number of cars.

Cycling has become increasingly attractive when compared with the congestion, cost and inconvenience of car driving, the overcrowding on peak public transport services and the health benefits of active transport. Cyclists, however, are vulnerable road users and this shift has also depended on increasing the safety of the network by introducing reduced traffic speeds on some streets and purpose built safe on- and off-road bicycle routes. Cyclists also need to be able to take the most direct, least taxing routes.

The Zero Net Emissions by 2020 strategy demonstrates that transport emissions can be further reduced through improvements in cycling.

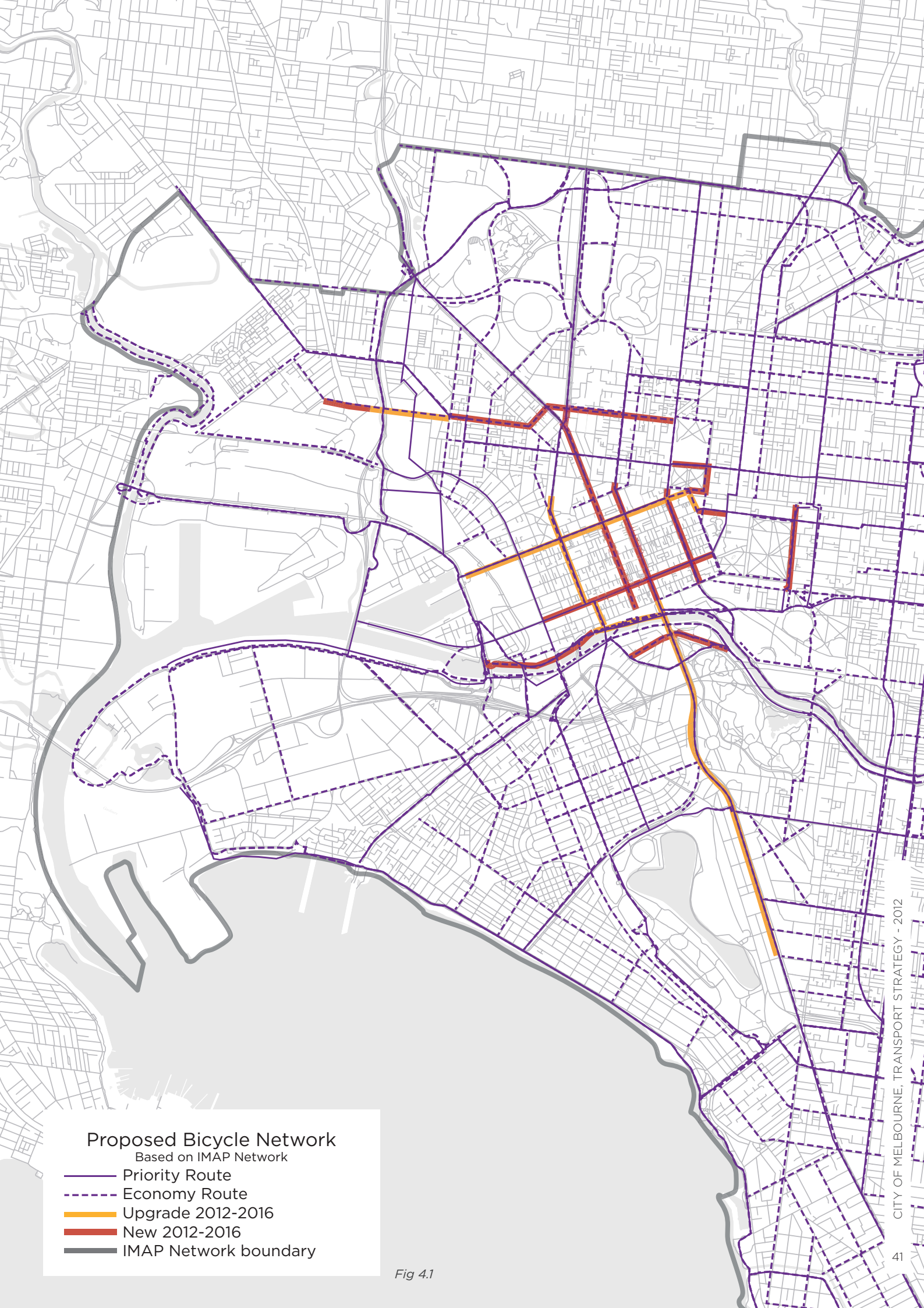
The rates of cycling in inner Melbourne however are low by global standards, leaving significant untapped potential to increase cycling. Because bikes are so space efficient, increased rates of cycling can significantly increase the carrying capacity of our existing inner city road network and a shift of public transport passengers onto bicycles would help alleviate overcrowding. In 2010, the Melbourne bike share scheme was installed in the municipality. This new way of cycling could significantly boost the shift to cycling. But the cycling network must be safe, direct, convenient, attractive and well connected.

The experience of international cities shows the potential of cycling³. Cities such as Vienna, Copenhagen and Amsterdam have rates of cycling two or three times higher than inner Melbourne. Many of the world's leading cities now recognise the value of cycling for dense inner urban areas. London and Manhattan have been rolling out major road management and infrastructure programs to support cycling. As inner Melbourne continues to intensify, more people will be within easy cycling distance of their destinations and cycling will become an increasingly effective mode in the transport mix.

¹ VISTA (2009).

² City of Melbourne (2012) Inbound Morning Peak Period Vehicle Survey at Various Locations (7am to 10am).

³ The average distance cycled to and from the city is just under 8 km, and within the city, just over 5 km.

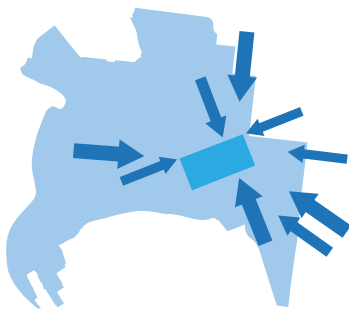


Proposed Bicycle Network

Based on IMAP Network

- Priority Route
- - - Economy Route
- Upgrade 2012-2016
- New 2012-2016
- IMAP Network boundary

Fig 4.1



Bicycle Traffic to the City of Melbourne

Number of cyclists on bicycle arterials in morning peak

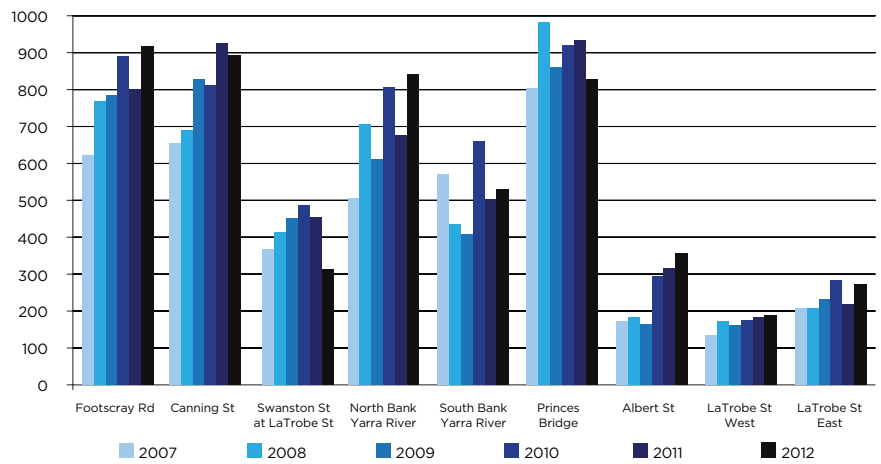


Fig 4.2 Bicycle volumes 7-9am at selected locations on the first Tuesday in March
Source: Bicycle Network, Super Tuesday count.

Issues

Large gaps in the municipality’s safe cycling network deter cyclists

The most important issue for cycling is providing for safe cycling throughout the municipality’s road network. Safe cycling can be achieved through separated cycle lanes and/or making traffic speeds compatible with average cycling speeds. The existing safe bicycle network has some excellent sections but many gaps. The network within the central city and city entry streets from the south are two of the key gaps. Partly because of poor network connections, fewer people cycle to work from the south of the city than from the north and east.

Breaks in the network where cycling is not allowed

Unlike driving, cycling is effort sensitive. Breaks in the road

network where cycling is not permitted deter cyclists because they impose lengthy detours. Consideration of these barriers in the context of the overall network will ensure that cycling through the central city is pleasant and effective.

Insufficient secure parking on- and off-street

The provision of on- and off-street secure bicycle parking has not kept pace with the growth in cycling. This deters people from cycling and results in bicycles cluttering footpaths which are needed by growing numbers of pedestrians.

Poor data on inner city cycling

The available data on inner city cycling is patchy. This makes planning for cycling and allocating resources to improvements more difficult. Data is needed about where cyclists are riding, reasons for people choosing to ride or not to ride, the number of cyclists on



Fig 4.3 Rathdowne Street bike lanes, Carlton



Fig 4.4 Lygon Street bike parking corral, Carlton

roads and paths, and the evaluation of new network designs to maximise the cycling opportunities.

Promotion of a central city cycling culture

The culture of cycling in and around the dense central city is relatively new and little is known about how cyclists mix with other road users. The programs to educate road users about cyclists and cultivate good city cycling etiquette, such as Ride to Work Day, TravelSmart and Darebin's Cycle Confidence Training are a good start but need to be broadened and boosted into a more comprehensive program.

Conflict with pedestrians on shared paths

Rates of cycling and walking have increased throughout the central city in recent years, as have reports of conflict between the two groups. As walking and cycling continue to grow, pressure on existing infrastructure will need to be addressed. More space needs to be allocated to paths and clearer guidance given to cyclists and pedestrians, both formally and informally, through signage and good design.

Access to shared paths needs to be maintained for both user groups but there are often opportunities to investigate alternative routes

for faster cyclists (often on-road). An example is the Yarra River corridor where high quality, high volume cycle connections funnel riders into popular pedestrian areas along both banks of the river through the city. Ideally most cycling in these areas would be slower, predominantly by tourists or families with children. An action of the Southbank Structure Plan is to convert City Road into a pedestrian and bicycle friendly high street. This could link to the Main Yarra Trail at Boathouse Drive providing an alternative route to and through Southbank.



Fig 4.5 Swanston street redevelopment stage one artists impression

Objectives and actions

Complete a connected safe inner city arterial bicycle network

The City of Melbourne is working with adjoining municipalities and the State Government to plan and construct a safe arterial bicycle network for inner Melbourne leading into the municipality. This is a network of separated bike lanes augmented by local bicycle routes, including bicycle lanes and traffic signal priority. Slower traffic speeds compatible with average cycling speeds would also complement the safe network. The most critical gaps in the network are along the southern approaches to the municipality and in the Hoddle Grid. In addition to safety and connectivity, cycling routes must also be planned and upgraded with the capacity to cater for future growth in cycling.

10. Priority Action: Review and update the Bicycle Plan 2007-2011 with a strategy to complete the safe central city bike network over the next five years.

11. Action: Investigate key corridors and locations where congestion and conflict occurs between pedestrians and cyclists with a view to providing alternative routes attractive to faster cyclists while maintaining access to shared paths for both user groups.

12. Action: Include initiatives in Bike Plan and other Council programs to encourage road sharing by all user groups.

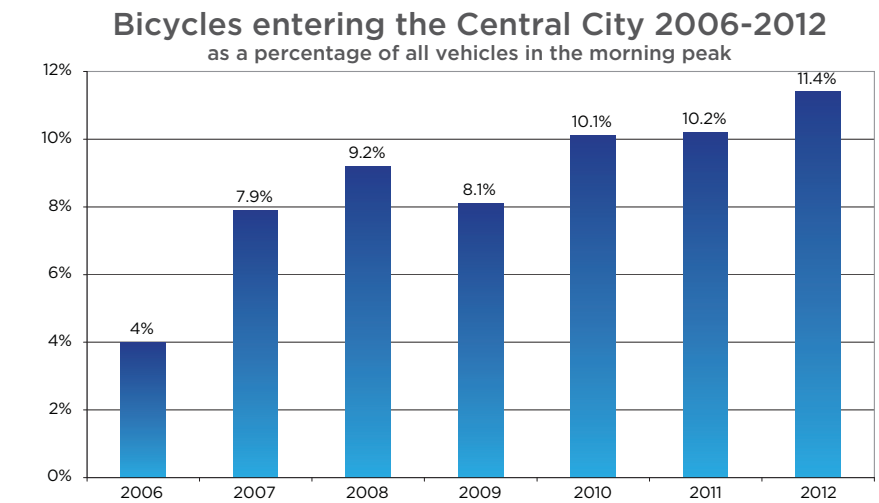


Fig 4.6 Bicycles entering the central city as a percentage of all vehicles in the morning peak, Survey taken on one day in March each year. This figure does not include public transport vehicles or represent changes in the total number of vehicles. Source: City of Melbourne traffic cordon count.

13. Action: Ensure new bicycle routes will meet capacity demands when planning and upgrading the bike network.

14. Action: Publish a map of the quality of existing bicycle routes in Melbourne and the planned improvements to the network.

Cycling along high mobility streets

High mobility streets have high frequency tram and priority bus services and excellent pedestrian access to and around stops. These streets will generally have the highest density and diversity of destinations along them. They will provide a primary network for cycling within the municipality. On these streets, the infrastructure and signalling will enable pedestrians to move safely and seamlessly from footpaths to public transport stops, providing

level access to trams and buses, interchanges between public transport services and along the approaches to the stops. Safe cycling will be integrated, with a combination of separated lanes, early starts at signals and low speed mixed traffic zones.

15. Priority Action: Work with the Department of Transport, VicRoads and Yarra Trams to design and build safe cycling along the high mobility streets.

A comprehensive safe cycling network in the municipality's urban renewal areas.

The Municipal Strategic Statement sets out the areas for long term urban renewal in the municipality and the objective for these areas to be served by a comprehensive safe cycling network made up of separated on-road lanes, low speed streets and off-road paths. These urban renewal

areas are an opportunity to build a culture of cycling into the neighbourhood at the outset rather than retrofit it later.

- 16. **Priority Action: Plan and construct a complete safe cycling network throughout the City's Urban Renewal Areas.**
- 17. **Priority Action: Work with the Department of Transport and the Urban Renewal Authority to develop the cycling network in Docklands including cycle/pedestrian links across Victoria Harbour and the Yarra.**

Safe cycling on all city streets

Cyclists need safe access to the entire road network (excluding freeways). Therefore the whole network of local streets and lanes needs to be designed for safe cycling. Generally these streets can be low speed mixed traffic streets and, where space permits, include separated lanes. Laneways and the 'little' streets in the Hoddle Grid area also need to be cycling streets where walking, cycling and vehicles can mix safely in a low speed environment. As roads are improved, bicycles should be considered. Careful planning is also required to ensure that other improvements and changes to streets do not adversely impact on bicycles. In particular, new taxi ranks and tram stop designs must consider bicycles.

The 'no cycling permitted breaks' in the road network deter cycling. These breaks need to be reviewed so cycling can be integrated into the central city road networks. Possible solutions include installing contra flow bike lanes on one-way streets, providing early starts at traffic signals or designated shared zones.

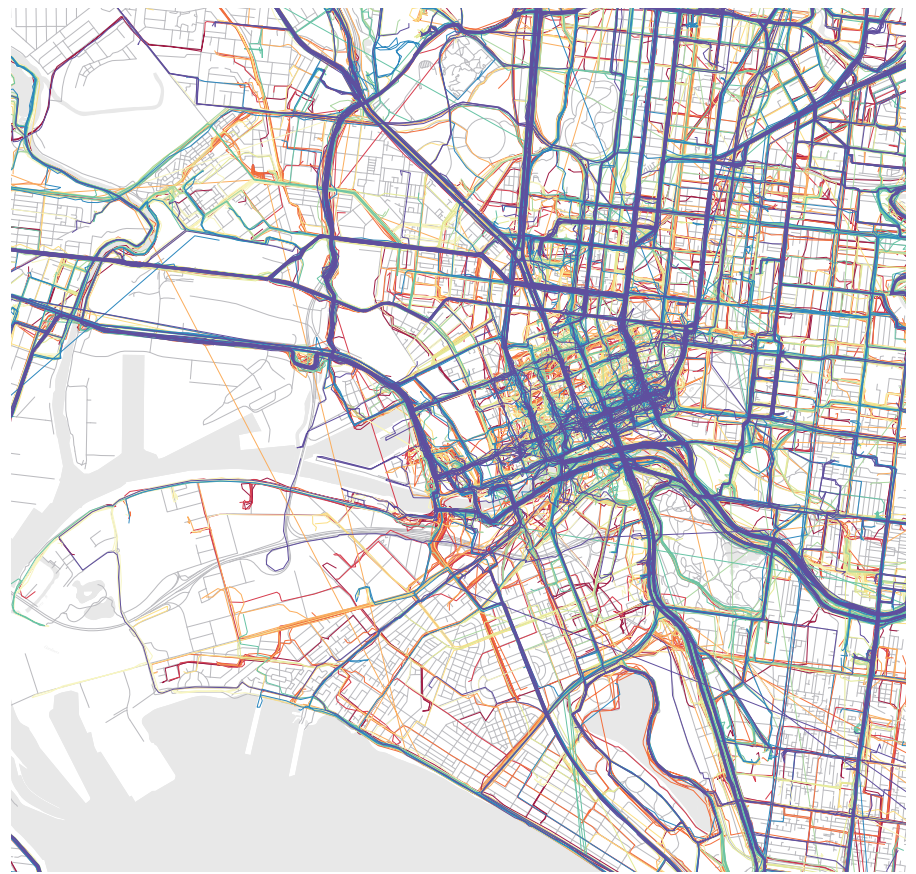


Fig 4.7 RiderLog GPS Bicycle trip survey Source: CDM Research & Bicycle Network Victoria

- 18. **Priority Action: Update the Bicycle Plan to improve the connectivity of the bicycle network in the local streets and lanes.**
- 19. **Action: Install and improve bicycle facilities as part of all traffic works in the municipality.**

Cycling in an inner city Road Network Operating Plan

The inner and central city road network is unique for the intensity of local land uses it services and the growing dominance of the network by trams, buses, pedestrians and bicycles. The Road Network

Operating Plan to be developed by VicRoads, the Department of Transport, Department of Planning and Community Development and the City of Melbourne will include a high level of priority for cyclists, with the provision of separated bicycle lanes, bicycle lanterns and advanced starts at traffic signals.

- 20. **Priority Action: Work with the Department of Transport, Department of Planning and Community Development and VicRoads to provide a high level of priority to cycling in the municipality's Road Network Operating Plan.**

21. Action: Work with VicRoads to investigate early starts for cyclists at signalised intersections (along with pedestrians and public transport vehicles).

Improved 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 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 kph maximum.

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

22. Action: Update the Road Safety Strategy to include a focus on accident blackspots for cyclists, including behavioural and other approaches to reduce injury due to car doors being opened in front of cyclists.

23. Action: Work with VicRoads to achieve a significant improvement to cyclist and pedestrian safety.

More on-street bicycle parking

Provision of easy to find and use on-street bike parking needs to keep pace with demand. In many of the city’s streets, demand for pedestrian space is high. On street car parking in many locations provides a good opportunity for conversion.

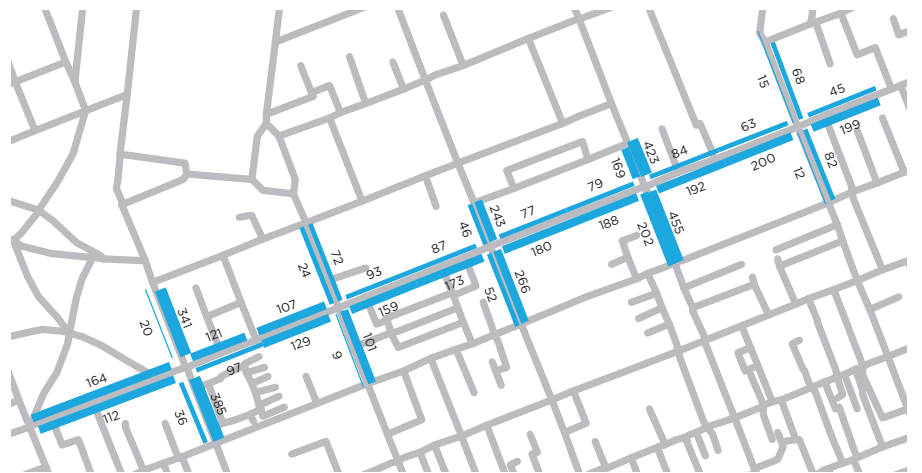


Fig 4.8 LaTrobe Street bicycle volumes in the AM peak, Source: Bicycle Victoria Super Tuesday 2010

Options include a range of street improvements including converting to a corral of bicycle parking.

This was done in 2008 in Lygon Street, where two car park spaces were converted into 16 bike parks. A review in 2010 found strong community and business support for this, and retail spending generated by the conversion increased significantly.

24. Action: Implement a program of delivering on-street bicycle parking corrals at high demand locations.

Off-street bicycle parking

Workplaces and educational institutions need secure bicycle parking and facilities for long-stay users. The single state-wide bicycle parking provision rate is not adequate for the high employment density, and transport characteristics of the municipality.

On an average weekday, 100 car spaces across the rail network are made available by riding rather than driving to the station. Bicycle parking at suburban train stations is a cost-effective and

space-efficient form of ride and ride access to trains, but more parking spaces are required.

25. Priority Action: Work with the Department of Planning and Community Development to review planning scheme bicycle parking rates for new building developments.

26. Action: Work with bicycle advocacy groups, transport management associations and employers to encourage the installation of good workplace end of trip facilities.

Integrating cycling with public transport

Cycling can effectively complement public transport services by providing flexible, independent mobility at either end of a public transport trip. Carrying bicycles on all forms of public transport is common in many similar cities around the world. Given Melbourne’s vast geographical spread, there is potential to make cycling more flexible, adaptive and accessible. Catering for bicycles on public transport vehicles will require careful planning to ensure any

trials are not too limited to create useful opportunities. Capacity, loading times and other issues also need to be considered during peak times in the central city.

- 27. **Action: Work with the Department of Transport to increase secure bicycle parking at suburban train stations.**
- 28. **Action: Work with transport stakeholders to support trials, research and analysis to improve the integration of cycling with Melbourne's public transport system.**

Cycling data and information

The scope and currency of data on cycling in the municipality is insufficient for good planning for, and promotion of, cycling. There is no comprehensive and coherent strategy for data collection based on current data gathering techniques and methodologies.

Data from the existing nine loop counters, manual counts and mobile and online applications such as the Bicycle Victoria Rider Log provide useful but patchy data. Melbourne bike share is a rich source of cycling data which could also be utilised. There is potential to crowd source information and utilise social media to gather quantitative and qualitative insights into the bicycle network.

More comprehensive data will enable better planning and development of the bicycle network, and its publication can be used to promote and manage cycling in the city.

Expanding the Melbourne Bicycle Account

The City of Melbourne's Melbourne Bicycle Account reports on bike

usage trends, and progress on the City of Melbourne's Bicycle Plan projects. However cycling in the city needs to be better understood in the context of other modes of city mobility.

The Bicycle Account could be expanded into a Melbourne Transport Account that reports to stakeholders and the public on all city mobility trends and progress. It could report on VISTA statistics about mode shares, the bicycle statistics, the pedestrian counts, car traffic counts on key roads, on- and off-street car parking spaces, and usage of tram, bus, tram, car share and blue bikes.

Innovation through pilot projects

The expansion of city cycling will require innovation in the traditional approaches to traffic design and management. Traffic modelling can be limited as a tool to predict the outcomes of innovations and should be complemented with

trials and pilots with robust pre and post installation evaluations. A trial will produce clear evidence of success or failure and guidance on improvements, and may be less expensive than traffic modelling. Innovation trials are deployed successfully in cities leading in their transport infrastructure such as Vancouver (for example the bicycle lanes on the Burrard Bridge) and New York (Times Square pedestrianisation).

- 29. **Action: Begin a program of trials and pilots to test innovative bicycle infrastructure and traffic management in inner Melbourne.**



Fig 4.9 Albert Street

5 City driving

Goal

Melbourne will embrace a culture of smart city driving. This will improve traffic flow, safety and road use efficiency and mitigate the degrading effects of traffic on urban liveability, safety and productivity.

Context

To date the inner and central city has owed its prosperity in large measure to excellent driving access. Private car driving will continue to be an important option for people to access the city, and for residents and businesses in Melbourne to move around. It meets the need for those trips for which there is no alternative, such as late night travel, some business travel, travel out of town, in bad weather, or for freight and servicing.

From the 1950s Melbourne's metropolitan transport system became car based. While the radial tram and train network was configured to service the traditional centre of Melbourne, the road network allowed car drivers to travel anywhere, anytime.

This post-war shift to high levels of driving re-shaped the municipality: access to large parts of the road network has been limited to all but the most local traffic to protect the amenity of residential streets; large

amounts of off-street car parking has been constructed around the central city (60,000 spaces) and a partially complete system of central city by-pass arterials/freeways has been constructed.

Since the 1990s the city moved into a new transport phase. Rates of driving in Melbourne have levelled off since 2003 (figure 5.1 and 5.2) despite strong residential and worker population growth. Whereas travel by public transport, cycling and walking has increased, and this growth is predicted to continue.

The future mobility needs of the municipality as a growing high density city can no longer be met predominantly by driving. The municipality is now well into a major shift away from car driving to greater use of a combination of train, tram, bus, walking and cycling. In this context car driving has become a part of an effective mix of modes rather than the dominant mode.

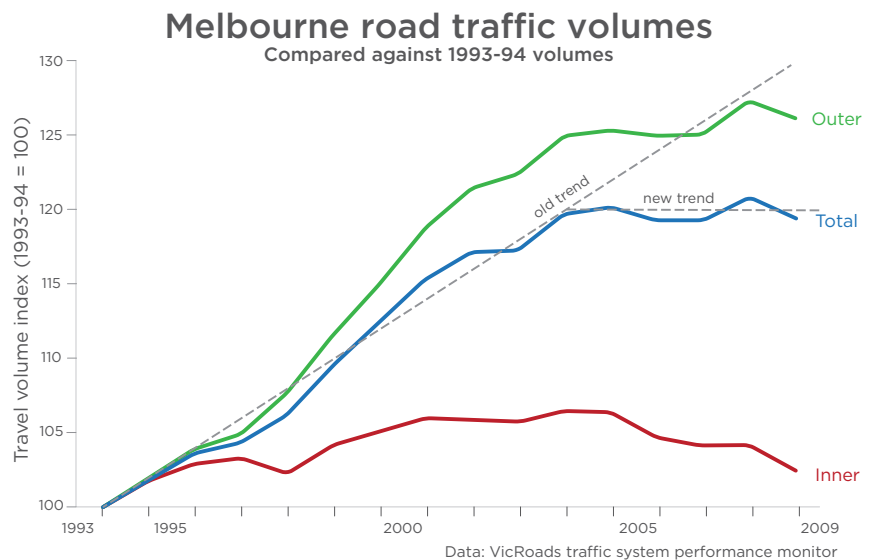


Fig 5.1 Melbourne Road Traffic Volumes

Issues

East-west road travel

The road links connecting the western metropolitan region to the inner and central areas are much less well developed than the comparable links to the east. There is significantly lower capacity, with the Westgate Freeway being the only motorway connection and with roughly half the number of arterial east-west connections.

The lack of good east west connections is most acute in the inner north where the Hoddle Street, Victoria Street/Dudley/Footscray and the Alexander Parade/Macarthur Road corridors are often congested and where the Port of Melbourne road freight is forced to use the local road network.

In response to this issue, the City of Melbourne transport strategy, Moving People and Freight 2006 proposed an inner east-west motorway connecting the Eastern Freeway with the Western Ring Road via the city's inner north and inner west. This concept was further developed by the State Government in the 2008 East West Link Needs Assessment 2008 (EWLNA).

The EWLNA identified the need to increase access from the west to business services and jobs in the inner and middle-eastern Melbourne, to improve freight access from the west to the Port of Melbourne and to reduce truck trips on inner west's local roads. It proposed an inner city motorway connecting the end of the Eastern Freeway via a tunnel through to CityLink and on to the inner west. In June of 2008 Council resolved to oppose the EWLNA East West

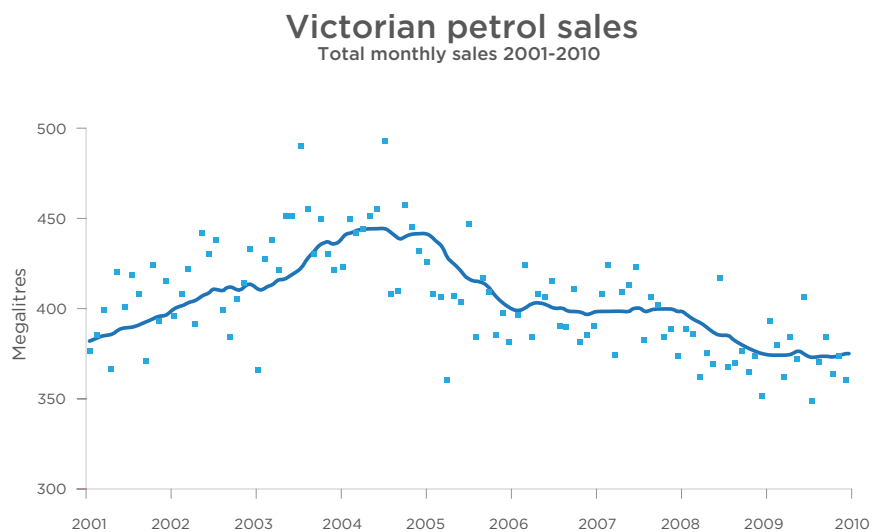


Fig 5.2 Victorian monthly petrol sales 2001-2010 Source: VicRoads

Road Tunnel; to oppose the use of parks for any works associated with the tunnel or road works or associated activities; to provide in principle support for sustainable transport infrastructure to reduce congestion across Melbourne; to note the redrafted submission to the EWLNA reflecting this change along with the prioritisation of all public transport initiatives including a higher priority for Doncaster Rail; to redraft Council's transport strategy to reflect these changes and to call on the State Government to adequately fund public transport as an alternative transport solution to overcome the congestion on the road network.

State Government proposal for an east west freeway link

Since 2009 the State Government has been planning the Westlink freeway to run from the Dynon precinct to West Footscray via a road tunnel (stage one) and on to the Western Ring Road by an elevated road (stage two). The plan also includes a ramp connecting

the Port of Melbourne truck freight directly to the West Gate Bridge.

In 2011 the Victorian Government reviewed and expanded the Westlink project to subsume it into an East-West Link proposal for an 18 kilometre inner urban freeway connecting the Eastern Freeway and the Western Ring Road, with key intermediate connections to the Tullamarine Freeway, Port of Melbourne and Geelong Road.

The State Government's 2011 submission to Infrastructure Australia seeks \$30 million over two years to further develop this project. The submission states that the East West Link, in combination with other transport network initiatives, aims to support the long term sustainable growth and development of Melbourne, and have state-wide benefits. The State Government's project aims are:

- Providing an alternative to the M1 corridor (Monash Freeway – CityLink Tunnels – West Gate Bridge – West Gate Freeway)
- Reducing traffic on Melbourne's inner urban

arterial roads, especially at the Hoddle Street exit on the Eastern Freeway.

- Linking industry in Melbourne's north, east and west with national and international markets via the Port of Melbourne, and Tullamarine and Avalon Airports.
- Enhancing urban renewal and commercial development opportunities to the north and west of the CBD.

The Victorian Government East West Link proposal has significant implications for meeting the demands for east-west road travel across the metropolitan area and more locally for the functioning of public and private transport and mobility on the road network in the municipality's north and for the location and quality of urban renewal in the municipality.

Intrusive effect of through traffic

A significant volume of car, van and truck traffic uses the municipality as a through route accounting for half of all vehicle traffic on some streets in the Hoddle Grid area. This traffic generates congestion, degrades urban amenity and impedes public transport, walking and cycling, without contributing directly to the productive activity within the municipality.

Traffic congestion on main roads leads to widespread filtering through residential areas, as drivers attempt to by-pass peak traffic queues. Local Area Traffic Management (LATM) has been used to limit this by discouraging traffic for all but local users and reducing the intrusive impacts of through traffic on neighbourhood amenity.

The municipality is now developing high-density, mixed-use areas where residential, commercial, retailing, educational and entertainment uses co-exist. In former times the amenity for residents, pedestrians and users of pavement cafes and restaurants was not a concern but now, in streets where residential, commercial and retail users alike value a comfortable, safe and attractive streetscape, the impact of intrusive traffic is becoming a significant issue.

Roads such as Victoria Street and City Road which were once city by-pass roads, now run through the heart of activity precincts and heavy through traffic disrupts the local mobility and amenity.

While M1/CityLink provides a by-pass that takes some through traffic off the southwest parts of the local road network, east-west through traffic in the northern part of the city is not being well provided for by the Hoddle Street and Alexander Parade/Macarthur Road by-pass links.

Priority for freight and service vehicles

The municipality, including the Port of Melbourne, is the single biggest metropolitan origin/destination for passenger and freight driving trips. Road access for these trips has been essential, but the road network into the city is reaching its capacity and demand will increase with Melbourne's predicted growth.

The Port of Melbourne is reliant on efficient freight distribution and collection. High quality road and rail connections to and from the port are essential for its growing operation. Vehicles servicing the central city including deliveries are also

significantly negatively affected by congestion. The cost of delays is generally higher for commercial vehicles and they usually have no alternative but to use roads.

Need for more efficient use of the municipality's road network

The municipality is served by an established and well-connected road network, but the roads have limited capacity. Traditionally, traffic growth has been met by allocating more space to cars often at the expense of trams, buses, pedestrians and cycling. Many of the key roads in the municipality have gone beyond their capacity under this approach leading to significant congestion which costs the city's economy \$3 billion a year. As the use of land in the city intensifies and the city grows, its roads will need to move more people and goods more efficiently to prevent the cost of congestion rising to \$6 billion by 2020.

To avoid future congestion, the municipality's road network needs to be optimised for the more space-efficient modes, including dedicated lanes for trams, bus priority lanes, bicycles lanes, wider pedestrian footpaths, safer and more comfortable level access tram stops and significantly better priority for space efficient vehicles at traffic lights especially trams, buses and pedestrians. Road space efficiency can also be achieved by lower speed limits, encouraging the use of more compact cars and vans, and the increased use of motorbikes and scooters.

Work has begun on improving the efficiency of roads including trials of tram priority at traffic signals, the installation of bus lanes and the integration of trams, walking and cycling on Swanston

Street, but much more needs to be done. Also, the share of trips on our roads by a combination of space-efficient modes is now increasing while the relative share of trips by car is falling. Improving efficiency reduces the cost to the community per trip as faster trams and buses can do more journeys, moving more people and providing a more frequent service without the need to buy new vehicles.

On-road public transport vehicles are frequently delayed where they cross high volume, inner city arterials. This occurs in the case of both Hoddle Street and Punt Road (for east-west tram and bus services), and Alexandra Parade and Victoria Street (for north-south tram and bus services). Some reductions in waiting times have been achieved through changes to traffic signal operation such as has been demonstrated in recent trial of full traffic signal priority for north-south trams on Nicholson Street.

Greenhouse gas emissions

Transport emissions accounted for 20 per cent of all emissions associated with the municipality of Melbourne in 2005–06 and this is predicted to grow by 61 per cent by 2020.

Passenger transport (road and rail) accounts for 12 per cent of total emissions, with freight at eight per cent. The primary way to reduce passenger transport emissions in the short to medium term (and which the City of Melbourne can reasonably influence) is to facilitate a mode shift away from cars to public transport, cycling and pedestrian options.

Council has set an emissions reduction target of approximately 188 kilotonnes of carbon dioxide from the passenger transport

sector compared to a 2020 business-as-usual emissions scenario. This represents an increase of 23 per cent on 2006 levels and a nine per cent decrease on the 2020 business-as-usual scenario. The emission reduction targets outlined in the City of Melbourne's Zero Net Emissions strategy include:

- a 20 per cent reduction in public transport emissions by 2020, and
- a 100 per cent increase in bicycle use by 2015, to be maintained to 2020.

Increasing the use of electric vehicles offers the potential to reduce transport emissions, especially if vehicles are charged with renewable energy. Other advantages of electric vehicles include the use of vehicle batteries to store energy to smooth the electricity demand profile and the quietness and small size of electric vehicles and the absence of tailpipe emissions.

The City of Melbourne has been trialling its own electric vehicles and is participating in the State Government's Electric Vehicle Trial.

Excessive idling can be a significant contributor to transport emissions and degrade local amenity, especially idling by large diesel-fuelled trucks and buses. Several jurisdictions overseas have anti-idling laws including 13 US states and the cities of Vancouver and New York.

The rising cost of driving

Driving is expensive and it is getting dearer. The purchase, insurance and maintenance of the vehicles and fuelling them (oil and electricity) will continue to grow as a major business and household cost. This will likely drive a shift to more

economic patterns of driving, such as priority access for delivery and service vehicles, smaller lighter vehicles and car sharing.

Road safety for vulnerable road users

Road crashes cost at least \$18 billion in Australia and have devastating social consequences¹. The City of Melbourne is unique in Victoria for having the most vulnerable road users, pedestrians, cyclists, accounting for large majority of all road trips made within the city (69 per cent in 2009 increasing to 78 per cent by 2030). The focus on road safety in the municipality therefore needs to be on removing the threat from driving to these vulnerable road users.

The perceived threat of serious injury or death from drivers is also a major deterrent to cycling and a key reason for the low level of use of this otherwise attractive and effective mode.

Excessive provision of off-street parking

Drivers need parking spaces but inner Melbourne has a comparatively high amount of off-street parking, a legacy of past policies to support increased commuting by car. Parking in offices and commercial parking stations attracts driving into the heart of the city where it contributes to peak hour congestion and compromises the operation of the tram and bus services. Much of the traffic on City Road in Southbank is accessing local off-street parking.

To avoid the costs of basement car parking there has also been a

¹ Bureau of Infrastructure Transport and Regional Economics (2009). *Cost of road crashes in Australia 2006*

recent developer trend to provide this off-street parking in multi-level above ground. This is resulting in developments where up to the first 10 levels of the building are car parking, presenting a 'dead' frontage to the street and fostering a lifeless streetscape.

Many existing and new city residents do not own a car. Much of the city has good to excellent public transport services and many dwellings can access shopping and fulfil their other needs easily by walking or cycling.

There is evidence to suggest that off-street parking in many residential areas is over-supplied, with vacancy rates in residential body corporate garages of up to 30 per cent. With a cost to build of approximately \$40,000 per space, parking significantly increases the cost of city housing. Many developers have sought waivers to reduce the rate of provision below the amount prescribed by the planning regulations.

In response, the City of Melbourne has amended the residential planning controls from requiring a minimum parking provision to making provision of parking optional, up to a maximum rate of one per dwelling. Many new residential developments now have low or zero off-street parking.

It is critical that, in conjunction with this trend, the on-street parking in the city is tightly managed to ensure cars associated with these new residential developments do not use the on-street parking as a de facto private parking space.

There is an opportunity for new parking capacity to be constructed so it can be converted to other more productive uses if it is not needed for car parking in the future.

Increasing demand for on-street parking

The most convenient form of city parking is on-street parking. The stock of on-street parking has been falling however, as road space is re-allocated for higher efficiency road uses such as wider pedestrian paths, bicycle lanes and bicycle parking and better tram stops. This trend will continue as city activity intensifies and expands, and so will the demand for car parking spaces.

A new level-access tram stop which provides access for around 12,000 people per day is equivalent in area to 40 on-street parking spaces, which provide access for only about 480 people per day. The new stop also increases the speed, reliability and comfort of the tram service. Other high priority uses will include, safe taxi ranks, wider footpaths, bicycle lanes and parking, footpath trading places, and more street trees to improve the pedestrian comfort of the street.

The high demand for Central City on-street parking requires active management of these spaces to service more short stay drivers and to reduce the traffic and congestion from drivers searching for an on-street parking space.

Access for service and delivery vehicles is essential for the maintenance and operation of the Central City. They need guaranteed and dedicated parking near their destinations to minimise turnaround times. This increasingly conflicts with other road space priorities.

Car sharing for residents and businesses is growing and requires dedicated car parking space, particularly in the Central City where it suits the high density and mix of uses. Other growing types of driving such as

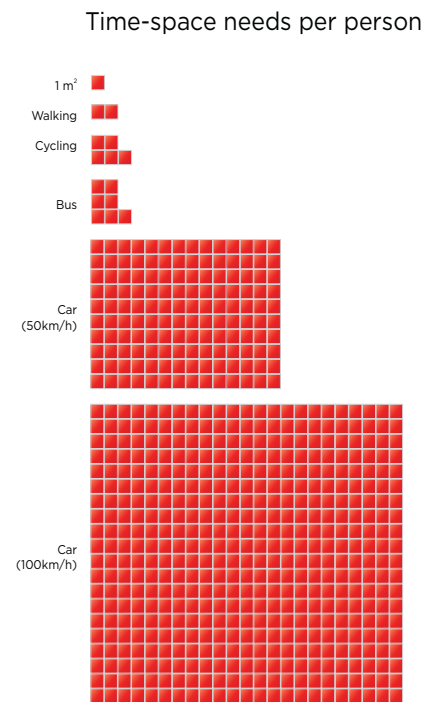


Fig 5.4 Space efficiency of various modes of personal transport

small vehicles, motor scooters/ bikes and bicycles are requiring new and more specialised on-street parking facilities.

In the municipality's established residential areas, many of the dwellings are heritage buildings which pre-date car use. They have little or no capacity for on-site car parking. As car ownership in the city has increased, the City of Melbourne has instituted resident parking permit schemes to enable cars associated with these established dwellings to park in the local street.

Early versions of these schemes were undermined by a proliferation of permits being issued to new dwellings associated with higher density redevelopment or to drivers who no longer lived in the municipality, let alone the street.

This meant there were many more permits than available spaces. Current resident parking permit practice is to exclude the additional new dwellings from higher density redevelopment from the scheme.

Objectives and actions

East West Link

- 30. Priority Action: Consider the Government's proposed East West Link when details are known to make sure that it achieves the City of Melbourne's transport and urban development objectives and is consistent with council's resolution of June 2008 opposing the use of any parkland for the purposes of any road works or associated activities.**

Develop an integrated land use and transport plan for access to and through the Central City hub

Melbourne has a knowledge/service employment corridor which runs from the inner south east to the inner west via the Central City. The corridor is characterised by employment with high effective job density (EJD), a measure of business density and connectedness to other jobs and workers. This high EJD is enabled by high quality transport including roads and public transport.

This corridor needs to be consolidated and extended further east and west to run from Clayton to beyond Footscray Central Activities Area. We also need to build on the City of Melbourne's growth as the primary centre of knowledge and services jobs by expanding the footprint of the Central City. This land use proposal builds on Melbourne's

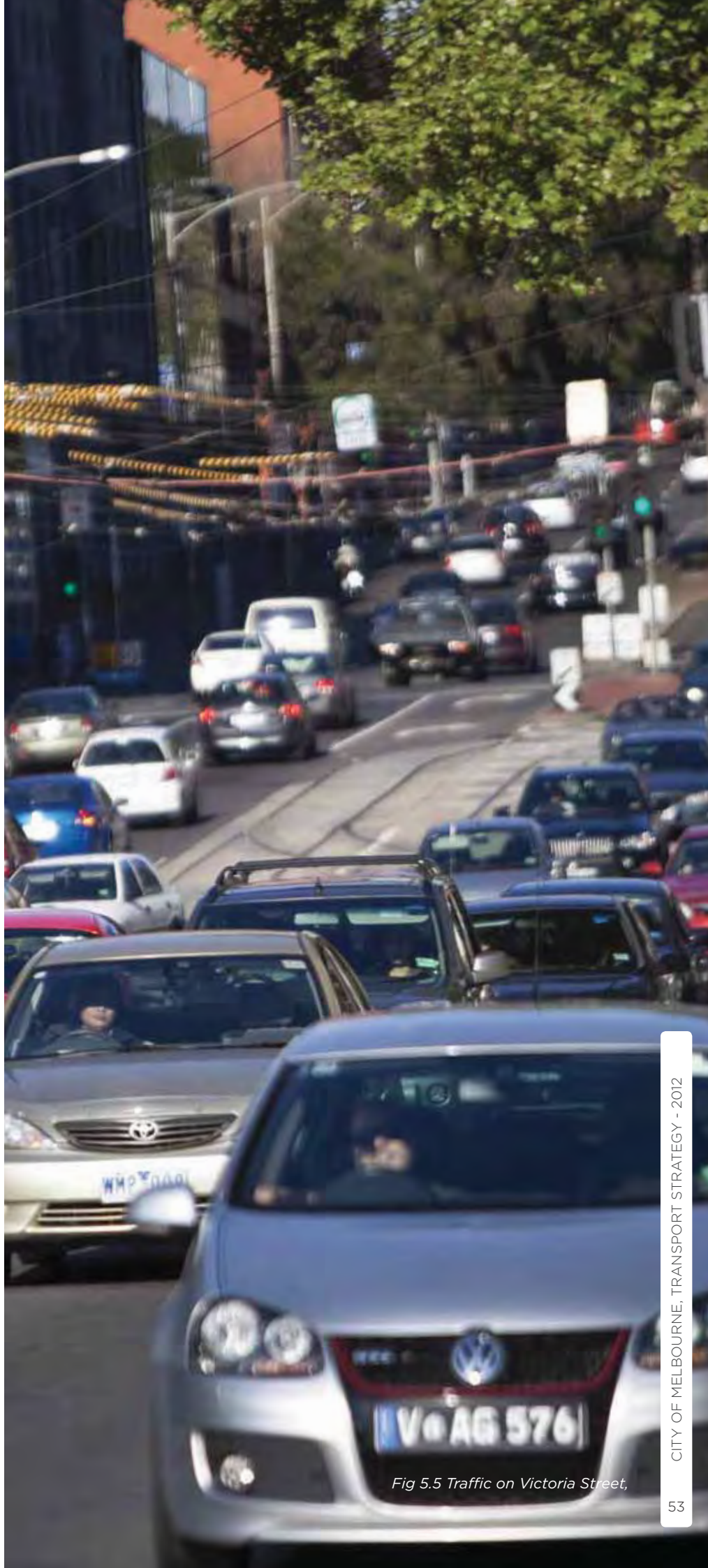


Fig 5.5 Traffic on Victoria Street,

existing successful transport and land use infrastructure and supports many of the objectives and actions of this strategy. Making this corridor a reality will mean providing a comprehensive public transport service that integrates rail, tram, bus, taxi, car and local bike share to service the full range of peak and off-peak business travel needs through the corridor. These services will need to be complemented along the corridor by good passenger car, service and delivery vehicle access.

Current planning for major infrastructure expansion and upgrade (including Regional Rail link, Metro Rail, East-West Link proposal) needs to be brought into a common perspective, as an integrated multi-modal transport plan servicing a unified land use development strategy, which includes the development of the east west employment corridor. Such a plan will provide a clear direction for the complementary roles of the different modes and for the transport infrastructure and urban land development priorities.

31. Priority Action: Work with the Department of Transport and Department of Planning and Community Development to ensure infrastructure to support east-west travel considers all transport modes and is well integrated with the city's land use development strategy.

Progressively reduce the intrusion of through traffic

The municipality needs to be connected to its surroundings and to other centres via the road network and this will always generate through traffic, but this traffic should not be given priority

over the internal traffic movements. Instead, it should move through the city consistent with local conditions.

The City of Melbourne's long standing policy to protect the established residential streets from through traffic will continue. Traffic access in urban areas nominated as stable in land use policies will continue to be managed to minimise intrusive impacts on neighbourhood amenity.

The municipality's expanding mixed use neighbourhoods are the new and emerging residential population growth areas. Here, housing is mixed at high densities with commercial, retail, educational and entertainment uses. All of these uses value safe, attractive and comfortable streetscapes for the residential liveability, business prosperity and visitor enjoyment. The roads through these areas will be designed to minimise the intrusive impact from all modes of traffic.

The Hoddle Street corridor will become increasingly important as a north-south 'city bypass' for traffic, local freight and bus services, and also as a land use corridor. Initiatives to improve the flow of people and goods must be closely integrated with land use planning, to ensure the corridor develops as a vibrant place as well as an efficient through route.

32. Priority Action: Work with the Department of Transport and Department of Planning and Community Development to develop a network operating plan to reduce the intrusion of through traffic.

A inner city road Network Operating Plan (NOP)

Many of the issues outlined above need to be resolved in a

comprehensive and integrated Network Operation Plan for managing the road network that recognises the municipality's unique road use profile and needs now and into the future.

The NOP will allocate priority for time at traffic signals and space on roads and footpaths, to achieve the optimum mix of pedestrians, trams, buses, bicycles, and passenger and freight driving.

This will provide the City of Melbourne, VicRoads, Department of Transport and the trams and bus companies with a common basis for coordinated investment in improving and developing the road network to meet the current and agreed future use profile. Each local government NOP becomes part of VicRoads' SmartRoads NOP.

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

Key principles underpinning the development of the NOP 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.

33. Priority Action: Work with the Department of Transport and VicRoads to ensure that the municipality's Road Network Operating Plan provides for driving balanced with the priority for trams, buses, walking and cycling.

34. Action: Publish, and regularly review the municipality's network operating plan for all roads in the municipality including information about traffic signal operation to ensure that the management of the network is transparent.

Crossing King Street

An example of the NOP 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 be identified as part of the new NOP.

35. Priority Action: Apply the Network Operating Plan principles to change the way King Street traffic signals operate.

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.

Only when capacity issues on public transport have been addressed, will Council consider a congestion levy or 'City Access' charge to manage demand for private vehicle access to the Central City during peak periods.

Recent changes to fringe benefits tax arrangements removed milestone-based incentives that encouraged more driving. However, the current system still provides tax benefits for driving that are not available for public transport. The application of the GST and carbon pricing to public transport but not to private car travel also undermines federal, state and local policy objectives relating to efficient, sustainable travel.

There are a number of price levers in place across the transport sector that send mixed messages to users. These include tollway charges, on- and off- street parking charges, registration fees, petrol levies and public transport fares. Most of these charges have been separately established to raise revenue or recover infrastructure investment. There is an opportunity to look at these in a more integrated way and consider how they can work together to achieve a more balanced transport system.

36. Action: Work with the Department of Transport to better understand various transport pricing signals and the effect that they have on influencing transport choices.

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 NOP 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.

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

37. Priority Action: Work with the Department of Transport and The Department of Planning and Community Development to develop a coordinated transport and land use plan for the inner metropolitan east-west employment corridor integrating all modes rail, tram, bus, taxi, car and bike share and private car.

38. Priority Action: Work with the Department of Planning and Community Development and the Department of Transport to develop an integrated land use and transport planning approach for the municipality.

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 kph.
- Bicycle lanes are kept clear of vehicles.

39. Action: Work with Victoria Police and the Department of Justice to ensure these aspects of the transport network are enforced effectively.

Car pooling

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 car pooling program.

40. Action: Encourage and facilitate car pooling.

Motorcycles

Motorcycles, particularly smaller ones, are a relatively space efficient mode of individual travel. Key issues for motorcyclists 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.

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.



Fig 5.6 Police Enforcement of traffic in the Central City has the potential to improve Public Transport operation. Source: Victoria Police

- 41. **Action:** Consult with motorcycle user groups when changes to existing motorcycle parking are contemplated and use VicRoads’ guidelines for making provision for on-street motorcycle parking facilities.
- 42. **Action:** Increase the supply of motorcycle parking in congested areas to reduce the need to park on footpaths and prohibit motorcycle parking where it obstructs walking, or other complementary activities.
- 43. **Priority Action:** Amend the planning scheme to require motorcycle parking provision at a rate that better matches the levels of current and predicted use.
- 44. **Action:** Update the Road Safety Strategy to strengthen commitment to reducing death and serious injury to motorcyclists as vulnerable road users.

Electric and other alternatively-fuelled vehicles

There are a variety of innovative vehicles being tested and researched which may offer significant benefits to cities. These include electric and other alternately fuelled vehicles which are becoming more popular as an answer to rising fuel prices and environmental concerns. Electric motor vehicles can reduce emissions and noise. Electric bicycles offer potentially greater emissions reductions and use less space if they replace cars. Others include the Massachusetts Institute of Technology’s stackable and shareable city car concept.

- 45. **Action:** Investigate ways to reduce pollution generated by vehicles idling including anti-idling laws.
- 46. **Action:** Work with the State Government and other stakeholders to assess the applicability of electric vehicle technologies and other innovations in the city.

Make the roads safe for vulnerable users

The city’s vulnerable road users, pedestrians and cyclists, account for the great majority of trips on the roads. So, their safety is critical to maintaining high levels of mobility in the city. Driving speed is a key factor in the death and serious injury of vulnerable road users, with the evidence showing that injury severity increases significantly when collisions occur at greater than 30kph.

On roads where there is pedestrian and cycling activity, slower driving improves overall city mobility, creates a safer city and improves the amenity of the public realm. Reducing speed limits on these roads will have little effect on driving travel times.

This approach is consistent with the National Road Safety Strategy 2011-2020 and was highlighted in Moving People and Freight 2006-2020. A business case compiled by the City of Melbourne in 2007 for a 40kph limit in the Central City demonstrated a benefit/cost ratio of 60:1 for the proposal. There is an immediate need for the 40kph Central City speed limit to be implemented. Following this a review will be undertaken to examine the feasibility of a 40kph speed limit across the municipality.

- 47. **Priority Action:** Work with State Government to deploy driving speed limits across the municipality that achieve mobility objectives of this strategy.

Optimise the provision of off-street parking

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

The City of Melbourne’s current parking policy is to limit provision of parking in residential buildings. 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. It 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.

- 48. **Investigate an amendment to the planning scheme to set maximum car parking rates for all land uses throughout the municipality, and review the area to which amendment C133 applies.**

49. Action: Investigate opportunities for new parking capacity to be constructed so that it can be converted to more productive uses in the future.

50. Action: Discourage the provision of long term commercial parking, particularly in the Central City, and encourage conversion of existing long-term commuter parking into affordable short stay parking or other uses.

51. Action: Optimise parking accessibility to meet the needs for universal access.

Managing on-street parking more intensively

The transport efficiency and effectiveness of some of the road space currently allocated to car parking needs to be increased by re-allocating it to meet the emerging profile of city mobility needs, including new level-access tram stops, bus priority lanes, safe city taxi ranks, car share parking, bike share parking, dedicated bicycle lanes, and footpath widening.

In addition, other streetscape infrastructure that supports the city mobility needs may require spaces currently allocated to car parking. This re-allocation of parking spaces will result in a reduction in the number of on-street car parking spaces.

In the Central City, where demand for on-street parking is very high, the City of Melbourne is introducing information technology to enable better active management of these spaces to deliver greater public benefit. Higher rates of turnover will enable more intensive use by short stay drivers. This will mean that spaces are regularly vacated, which

will reduce the number of drivers circling in search of a vacant space.

52. Action: Implement parking systems that allow payment without requiring parking machines or meters, that will remotely sense and assess parking occupancy.

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 any economic impact to abutting businesses, and considering the social and environmental benefit of changing car parking to other uses.

In streets with established dwellings that have limited or no option for on-site parking, such as restrictive heritage controls and an established history of permit restricted parking on their local street, the City of Melbourne will provide a well managed resident only parking scheme that matches the number of available parking spaces in the street with the number of dwellings. The scheme will prevent over-subscription and remove access to the scheme for new, additional dwellings which increase the site density.

There is an opportunity to use parking data and information to develop user interfaces which make parking in the city more streamlined. This may lead to more efficient traffic behaviour by reducing the need to 'hunt' for parking, and lead to greater compliance through a better public understanding of parking controls in different areas. To encourage innovation in this area, Council can be open with parking information and support the development of user interfaces and tools.

53. Priority Action: Review and update Council's on-street parking strategy so it is consistent with mobility objectives of this strategy.

54. Action: Increase the allocation of central city on-street parking to short term parking.

55. Action: Publish parking data, including occupancy rates, prices, availability and other information.

56. Action: Provide an effective resident-only parking permit scheme to established dwellings that have little or no option for on-site parking.