chapter 9

9. the way forward

The EWLNA is a strategic study; it is not a business case. The Study Team has identified the main transport challenges facing Melbourne and developed a number of specific projects to meet these challenges. These projects will need to be further developed and refined – and consultation processes put in place – before proceeding.

9.1 Melbourne metro – 'new generation' rail tunnel

- **Recommendation 1**

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

- **Recommendation 2**

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

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

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

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

Project benefits

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

As noted in Chapter 1, the strong population growth in the west and north-west of Melbourne demands attention and immediate action – with forecast population growth in Wyndham and Melton alone expected to be 170,000 in the next 20 years.

As noted in Chapter 3, demand projections clearly indicate that without a major intervention to increase capacity on the heavy rail network, train lines serving the western and north-western suburbs will reach breaking point within a decade.

The Pakenham, Cranbourne and Frankston lines will reach capacity shortly after the western lines.

The implications of hitting this capacity wall include severe overcrowding, an inability to add extra services to cater for population growth and a deterioration in reliability. It would be a constraint on the growth of the central city and important suburban centres. In addition, the opportunities to increase public transport mode share to these areas would be compromised.

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

Project details

- A 17 km rail tunnel from Melbourne's west to south-east, consisting of twin 7 metre diameter tunnels at a depth of up to 50 metres below the city and 40 metres under the Maribyrnong River.
- A network of new, state-of-the-art underground stations at Footscray, the Parkville precinct, the city and along St Kilda Road. The option for a new station at North Melbourne should also be considered.
- Built in two stages, with stage one tunnelling running from Footscray to the Domain to provide for growth on the Werribee, Sydenham, Craigieburn, Williamstown and Upfield lines (the Northern Rail Group). The stage one route would start west of the existing West Footscray Station, with the tunnel running generally under the Maribyrnong River, under Kensington adjacent to J.J. Holland Park, under the North Melbourne Cricket Ground and the Royal Children's Hospital to the Parkville precinct. To complete stage one, the route would head south under Swanston Street and St Kilda Road to the Domain.
- Stage two tunnelling would run from Domain to Caulfield to cater for growth on the Pakenham, Cranbourne and Frankston lines (the Caulfield Rail Group) and would follow an alignment down St Kilda Road and Dandenong Road. Opportunities could be explored for stage two to involve cut-and-cover tunnelling along St Kilda Road and Dandenong Road to reduce the cost of tunnelling and station construction.

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

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

Staging of project

Given the scale and cost of the project, the Study Team recommends that the tunnel be delivered in two stages.

Stage one would be a 9 km tunnel from Footscray to the Domain, removing conflicts and improving services to the Northern Rail Group. The tunnel would start at West Footscray, with a modern, new underground station under Footscray – at the heart of a major urban redevelopment of the inner west. Amenity improvements recommended elsewhere in the report would complement the tunnel initiative, providing a long-overdue impetus for stronger economic development in the city's west.

For the first time in Melbourne's history, the university, hospital and biotechnology precinct in Carlton would be linked to the heavy rail network with a new underground station in the vicinity of the medical/university precinct. From Carlton, the tunnel would continue to the CBD, with a new central city station. From the city, the tunnel would continue under Swanston Street and St Kilda Road to the Domain, with a new underground station under the Domain adjacent to the Shrine.

Stage two would be an 8 km tunnel from the Domain to Caulfield to improve services to the Pakenham, Cranbourne, and Frankston lines (the Caulfield Rail Group).

Tarneit Link

In order to extract the full capacity benefits from the new tunnel, the Study Team recommends bringing forward construction of the third and fourth tracks from Footscray to Sunshine (committed to in MOTC), to enable construction of a new rail link from West Werribee to Sunshine (the Tarneit link).

The Tarneit link would deliver very substantial benefits, including:

- Separates the Geelong, Ballarat and Bendigo trains from suburban trains as they approach Southern Cross Station
- Provides for a major increase in suburban services on the Werribee line to meet increasing demand in the growth area of Wyndham
- Ends conflict between Geelong regional trains and Werribee suburban trains, providing a substantial increase in reliability for both lines
- Provides a dedicated V/Line track on a new alignment through the new growth areas of Tarneit and Derrimut, giving residents in these areas a high standard rail link
- Allows a major boost in services, particularly much needed peak hour services, for regional commuters on the Geelong, Ballarat and Bendigo lines

The increase in capacity provided by the rail tunnel provides for long term growth, with allowance made for the running of longer trains should this new capacity also be used up in the future. Figures 100 and 101 show the sharp boost to capacity delivered by the tunnel on the Northern and Caulfield Rail Groups.

Project costs

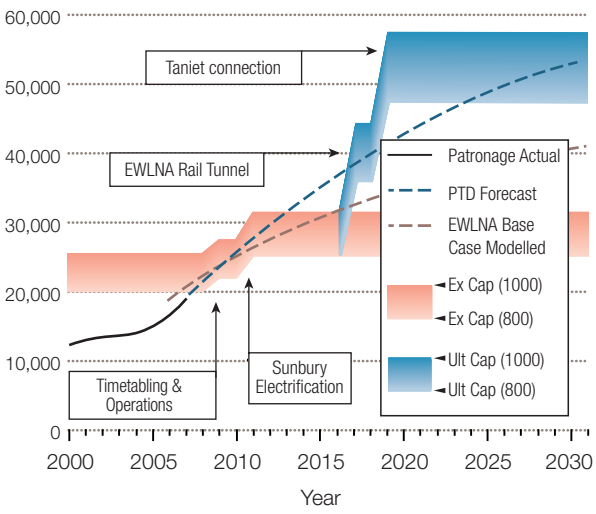
Estimated total project cost: $7.5 billion to $8.5 billion

Estimated cost stage one: $4.5 billion

Estimated cost stage two: $2.5 billion

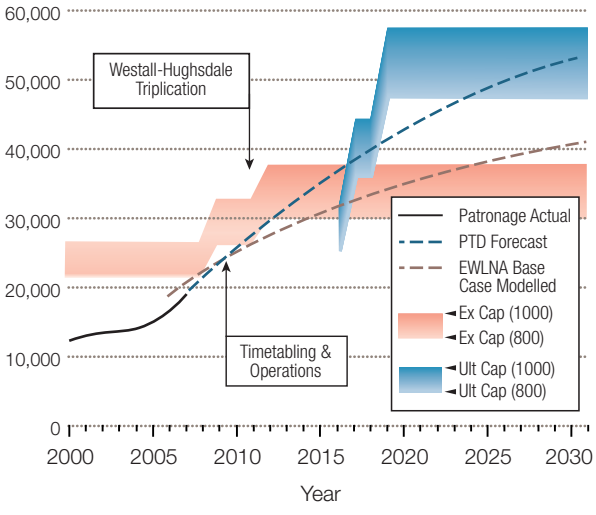
Additional cost to deliver the Tarneit connection: $1.5 billion (partly funded through MOTC)

Figure 100 – Northern Group – east-west rail tunnel with Tarneit link, patronage versus capacity



Source: EWLNA

Figure 101 – Caulfield Rail Group – east-west rail tunnel with Tarneit link, patronage versus capacity

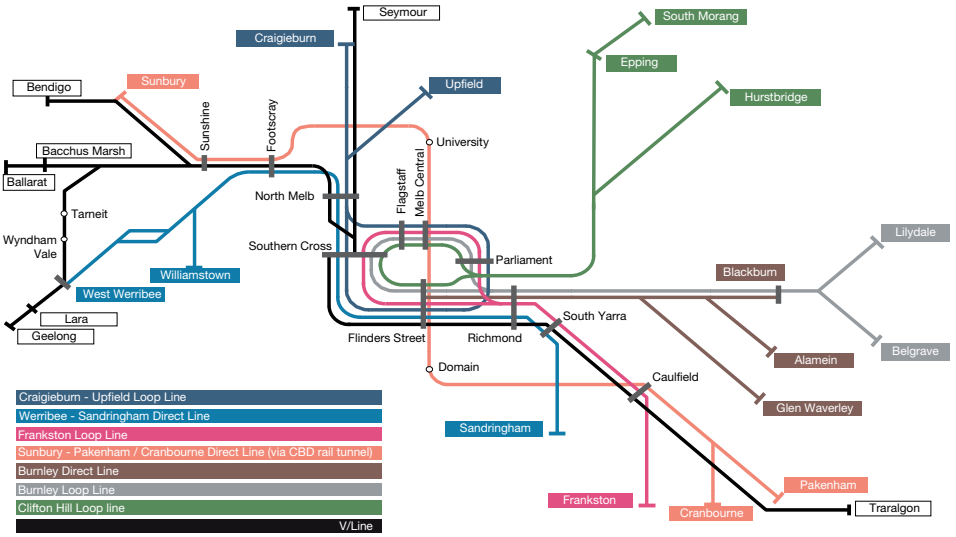


Source: EWLNA

Figure 102 – Melbourne Metro rail tunnel and Tarneit line

Source: EWLNA

Figure 103 – Rail network after the completion of the rail tunnel



Source: EWLNA (Public Transport Division, DOI)

9.2 Extension of the suburban network to Sunbury

- **Recommendation 3**

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

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

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

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

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

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

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

The EWLNA Study Team notes that this project would deliver very significant benefits to Melbourne's growing west and north-west and could be undertaken in the short to medium term.

Project benefits

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

Project details

The project would involve the following elements:

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

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

Project costs

Estimated total cost of Sunbury electrification: $216 million

9.3 A new east-west road connection

- **Recommendation 4**

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

The Study Team has identified a long-term, strategic need for a new transport link from the west to the east of Melbourne.

The many factors that have led the Study Team to this recommendation are examined in this report and include:

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

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

Traffic modelling undertaken for the EWLNA highlights the extent of the pressure on the West Gate corridor, particularly the West Gate Bridge. As noted in Chapter 5, the bridge currently carries around 165,000 vehicles per day, forecast to increase to 235,000 vehicles per day by 2031.

In addition to traffic and economic modelling, the Study Team carried out a risk assessment on the West Gate Bridge, including modelling a scenario where the bridge was unable to be used for an extended period of time. The results of this modelling (see Chapter 5) highlight the urgent need to secure a second major river crossing from the west.

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

Project benefits

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

Project details

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

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

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

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

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

Sequencing of the full connection would ultimately be a decision for government: however, the Study Team's view is that the most urgent need is an alternative to the West Gate Bridge – in this instance, a tunnel under or a bridge over the Maribyrnong River, connecting to a northern bypass of the city.

In the short-medium term, the Study Team has identified two stages within the project:

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

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

(a) Construction of tunnels connecting Geelong Road and Sunshine Road to the port area, running under Footscray and under the Maribyrnong River along the alignment of Buckley Street, with a new interchange in the port area connecting to Footscray Road and Dynon Road. Most of the length would be constructed by tunnel boring machines, although the crossing of the Maribyrnong River would be constructed from the surface, in similar fashion to CityLink's Domain Tunnel under the Yarra River.

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

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

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

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

2 West Melbourne to the Eastern Freeway – 8.9 km

West Melbourne to Flemington/Parkville

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

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

Flemington/Parkville to Eastern Freeway

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

This section would provide three lanes in each direction, with most construction being done as driven tunnel construction, most likely by tunnel boring machines (TBMs), although there would be the opportunity to undertake some of the work as cut-and-cover construction at the eastern and western ends.

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

Widening of the existing Eastern Freeway to allow the lane configuration necessary for traffic to enter the tunnel or exit to Hoddle Street and Alexandra Parade would be a necessary element of the work. Westerly ramps would be included near Hoddle Street and Queens Parade to facilitate local access.

The Study Team notes that while there is clearly a desire for city access by traffic leaving the Eastern Freeway, there are sound operational, functional and strategic reasons for this section to act as a northern city bypass, and city access ramps have not been included. The Team did not identify any significant demand for a southerly connection to CityLink.

Further recommendations

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

First, the Study Team has not provided city access ramps on the Eastern Freeway to CityLink section. Given existing congestion on north-south roads such as Nicholson Street and Smith Street, it would be difficult to provide city access without adding to current congestion problems and possibly causing queuing in the tunnels. As noted in this report, the Study Team's view is that public transport should be the priority for daily journey to work (and study) trips to the city.

Secondly, the Study Team recommends that the Government review its current policy with regard to 'downgrading' roads or reducing the capacity of roads as part of major toll road projects. Should the tunnel proceed, the Study Team believes the Government should allocate a lane each way on Johnston Street or Alexandra Parade as bus-only lanes. If the opportunity is not taken to improve priority for public transport and to improve community amenity, the reductions in surface traffic when the tunnel opened would be eroded over time by natural growth in traffic. Given the likely nature of cut-and-cover construction in Alexandra Parade, there will also be scope for significant landscaping and beautification works at the completion of construction, as well as opportunities for improving cycling and pedestrian options.

Thirdly, the Study Team recommends that the Government reserve a new road corridor to allow the connection of Dynon Road to Wurundjeri Way (through the E-Gate rail area), including a planning overlay for widening Dynon Road to six lanes. This would preserve access from the western suburbs (see Chapter 5 for a discussion on east-west routes) if port expansion impacted on the operation of Footscray Road.

Staging of project

The elements of the project should be sequenced in a way that provides a pipeline of major projects to ensure that expertise is not dissipated. The Study Team's view – based on its modeling and analysis – is that the alternative crossing of the Maribyrnong River is the highest priority, followed by the port to Eastern Freeway connection and lastly the connection to the Western Ring Road.

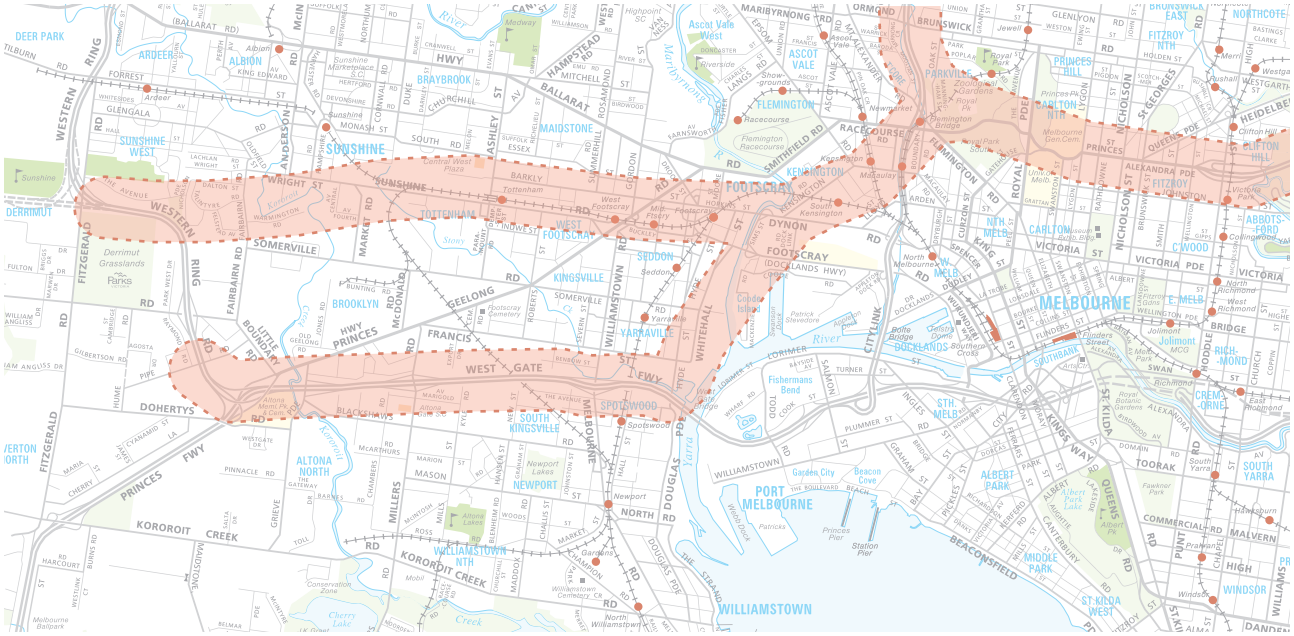
Project costs

Estimated cost Stage one: $2 billion

Estimated cost Stage two: $5.5 billion

Estimated cost Stage three: $1.5 billion

Figure 104 – New east-west road connection



Source: EWLNA

9.4 Truck Action Plan

- **Recommendation 5**

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

The Study Team identified a clear need to improve amenity in the inner west, particularly in the Footscray and Yarraville areas (see Chapter 6). The Team believes the evidence is very compelling that the combined impact of freight growth through the Port of Melbourne and the growing role of the west as a hub for transport, distribution and logistics (TDL) is detracting from the liveability of the inner west.

While many roads in the area are significantly affected by large numbers of freight vehicles, the focus of most community concern is on Francis Street and Somerville Road. As noted in Chapter 6, Francis Street carries about 7,000 trucks per day and is often used as a short cut from the West Gate Freeway to the Port of Melbourne using the Williamstown Road/Francis Street/Whitehall Street route.

Public submissions suggested a number of projects to alleviate amenity concerns in this area, and the Study Team carefully evaluated the merits of a number of different options. Common to all options was the desire to provide significant improvements to community amenity and safety by reducing the amount of truck traffic on suburban streets, while at the same time providing the necessary freight connections for important economic journeys.

All suggested solutions had their own issues or difficulties. Ultimately, the Study Team identified a series of targeted road improvements that are designed to improve community amenity and stimulate economic development in the inner west, particularly the development of Footscray as a designated Transit City.

These improvements form an effective truck bypass around residential areas in the inner west. Elements of this action plan vary depending upon which of the longer road options is adopted (see Chapter 9.3 above)

Project benefits

- Significantly improves amenity in the inner west of Melbourne
- Significantly improves connectivity from the west to the port precinct for valuable freight journeys
- Contributes to stimulating urban renewal and economic growth in the inner west and supports the Footscray Transit City initiative
- Supports the objectives of the Port of Melbourne's Port Development Plan

Project details

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

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

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

Depending upon which of the longer road options is adopted, the Study Team believes that a number of other road upgrades would be required to complete the Truck Action plan:

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

Staging of project

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

Project costs

Estimated cost of Truck Action Plan: $0.5 billion

Figure 105 – Truck Action Plan

Source: EWLNA

9.5 DART – a new, state-of-the-art bus service for Doncaster

- **Recommendation 6**

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

The Study Team's view is that the quickest and most cost-effective way of improving public transport services – and achieving a substantial boost in public transport along the Doncaster corridor – is with buses.

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

Based on preliminary discussions with the Public Transport Division of the Department of Infrastructure, and the Study Team's own modelling of required bus services, the Study Team believes that the DART upgrade should include a minimum 50 per cent boost to peak hour services to relieve current overcrowding and to provide for future growth.

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

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

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

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

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

Project benefits –stage one service improvements under DART

- Minimum 50 per increase in peak hour bus services into the CBD
- Minimum 100 per cent increase in weekend services into the CBD
- Peak hour frequencies of around 5 minutes
- Weekend services from 6am to midnight
- Upgrading of a number of routes to SmartBus standard
- Delivers a major improvement to public transport services along the Doncaster corridor
- Creates a high quality, rail-like bus service from Doncaster to the central city
- Encourages greater take up of public transport in the Doncaster/Manningham region
- Provides Doncaster residents (and others along the corridor) with new connections enabling them to travel to Melbourne University/Carlton, Parkville and further west without going through the city.

Project benefits – stage two priority measures

In addition to the stage one service improvements required under DART, the Study Team recommends further improvements that include:

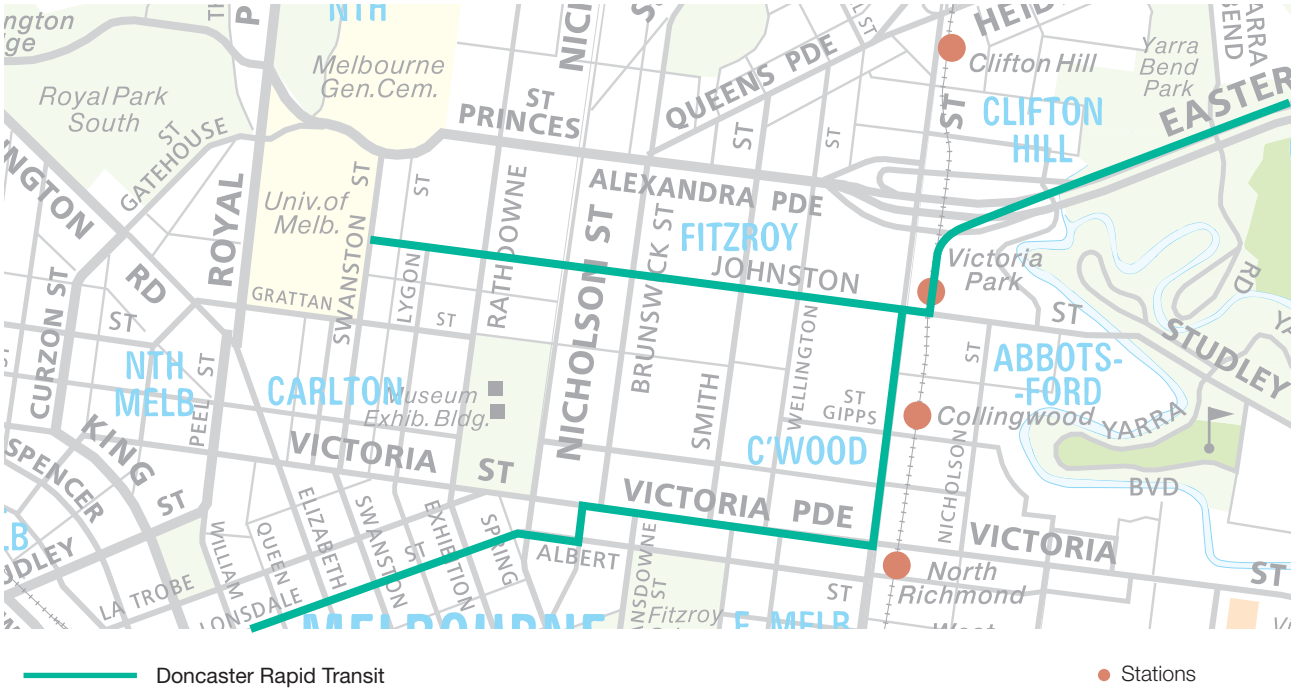
- New bus only ramps off the Eastern Freeway into a major new interchange at Victoria Park Station, including redevelopment of the existing station and possible further amenity improvements in the area
- Continuous bus only lanes from the end of the Eastern Freeway into the CBD
- Extensive work on Hoddle Street (northbound) to allow improved bus priority (with the aim of providing a continuous bus-only lane for outbound buses)
- In conjunction with the development of the EWLNA recommended east-west road link, a reallocation of road space to provide continuous bus only lanes along either Johnston Street or Alexandra Parade connecting to Melbourne University and the new Parkville underground railway station
- Strict enforcement of bus-only lanes
- If the loss of on-street parking for bus-only lanes is opposed by councils, the Study Team recommends that the Victorian Government use its powers to ensure public transport priority (also see Recommendation 8)

- New hybrid buses (as the first step in expanding the number of these buses across the network – also see Recommendation 16)
- Increased funding to significantly expand Park & Ride facilities along the DART routes to capitalise on the increase in express bus services, including adding a deck to the main Park & Ride facility at Doncaster Road. The Team's view is that the Victorian Government should consider establishing a dedicated fund for Park & Ride facilities (see Recommendation 9).

Project costs

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

Figure 106 – Enhanced DART Service



Source: EWLNA

9.6 New cross city cycle links

- **Recommendation 7**

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

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

The Study Team's view is that a number of small scale projects would significantly improve east-west cycling connectivity, improve safety for cyclists and cater for the growing number of Melburnians commuting to work by bicycle.

The strong increase in cycling along key routes demonstrates that providing good quality, separated bike paths will result in increased patronage from cyclists. Additional quality separated paths and appropriate intersection treatments will also make it easier for cyclists to travel across town.

Building a 'cycling culture' across Melbourne is hampered by a fragmented approach to cycling policy and infrastructure within government, with responsibility for cycling initiatives spread across several agencies, including VicRoads, the Department of Infrastructure, the Department of Human Services and local councils. The Team's view is that cycling should be treated as a distinct traffic category, with a co-ordinated, whole of government approach adopted to planning and financing cycling initiatives.

To achieve this, the Victorian Government should establish a long-term, strategic program for walking and cycling, supported by significant and reliable recurrent funding and located within one central department or agency. A key aim of such a program should be to make cycling an accepted alternative to cars and buses as a transport choice for shorter trips.

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

For example, in relation to the recommended rail tunnel, the Team would expect to see good walking and cycling access to the new stations and state-of-the-art cycle facilities at these stations. In relation to the proposed road link, opportunities should be taken to further extend the on- and off-road bicycle network.

Project benefits

- Significantly enhances cycling connections for people making journeys to and from the central city and across the city
- Supports the strong growth in commuter cycling (especially from the west) and encourages greater take up of cycling for travelling to work
- Provides much improved cycling connectivity around the central city by addressing specific gaps in the bicycle network

Project details

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

Project 1: Extend the Federation Trail (which runs from Werribee to Millers Road, Brooklyn) from Millers Road to Hyde Street (around 4.2 km) and upgrade the existing facility from Hyde Street to Footscray Road (around 3 km), which links with the Riverside Park bike path to Williamstown. This extension would provide a high quality western link all the way from Werribee and Williamstown to Docklands and the central city.

Estimated cost: $17 million
Total length: 7.2 km

Project 2: Upgrade to a separated or 'Copenhagen' standard the east-west cycling link from the Maribyrnong Trail at Footscray to the northern CBD and on to the Capital City Trail at the Abbotsford Arts Precinct and the Collingwood Children's Farm. This route extends from the former stock bridge on the Maribyrnong Trail along Hobsons Road and Childers, Arden, Queensbury, Gertrude, Nicholson and Abbotsford Streets to the Capital City Trail. This upgrade would provide a high quality parallel link to Footscray Road, connecting the northern part of the central city to the Maribyrnong and Capital City Trails. It would provide a separated east-west cycling link across the city, giving access to Footscray, Kensington, North Melbourne, Carlton, Fitzroy, Collingwood and Abbotsford.

Estimated cost: $7 million
Total length: 8.8 km

Project 3: A separated cycling trail linking Melbourne University to the Capital City Trail via Johnston Street or Alexandra Parade (in conjunction with the development of the EWLNA recommended road link). This would provide a high quality eastern link to the Yarra River from Parkville and Melbourne University through Carlton, Fitzroy, Collingwood and Abbotsford. It would link with the Swanston Street 'Copenhagen' bike treatment and intersect with the important north-south cycling routes of Brunswick, Canning, Rathdowne and Napier Streets.

Estimated cost: $3 million
Total length: 3.3 km

Project 4: A separated bike lane ('Copenhagen' style) along Albert Street, East Melbourne, into Elizabeth Street, Richmond to Church Street. This would provide an eastern link for CBD commuters that crosses Lennox Street – an important north-south route.

Estimated Cost: $2 million
Total Length: 2.5km

Project 5: A separated bike lane along Highett and Crown Streets in Richmond to the Capital City Trail, then onto a new river crossing into Hawthorn. This new bridge would provide a high quality link from the eastern suburbs to the central city along Crown, Highett, Lennox and Albert Streets.

Estimated Cost: $5 million
Total Length: 2 km

Project 6: Bridge and trail upgrade around Merri Creek in the vicinity of Rushall Station (North Fitzroy/Northcote). While this is an area of high pedestrian and cycling traffic (including pedestrian access to the rail station and a popular commuter cyclist route), the narrow paths, rail underpass and bridge are unsuitable for the existing high levels of use. This project untangles and improves a significant cycling route to the north eastern suburbs of Northcote, Fairfield and Thornbury.

Estimated Cost: $4 million
Total Length: 0.4 km

Project 7: Upgrading the North Bank of the Yarra Trail (Charles Grimes Bridge to Princes Bridge), providing an alternative for cyclists to avoid pedestrian conflicts in Southbank and the Yarra Promenade. This project addresses a longstanding concern for cyclists by separating them from heavy pedestrian traffic around the Southbank entertainment precinct and providing quality access to and through the CBD. The project involves some construction complexities in building the new path along the northern bank of the river.

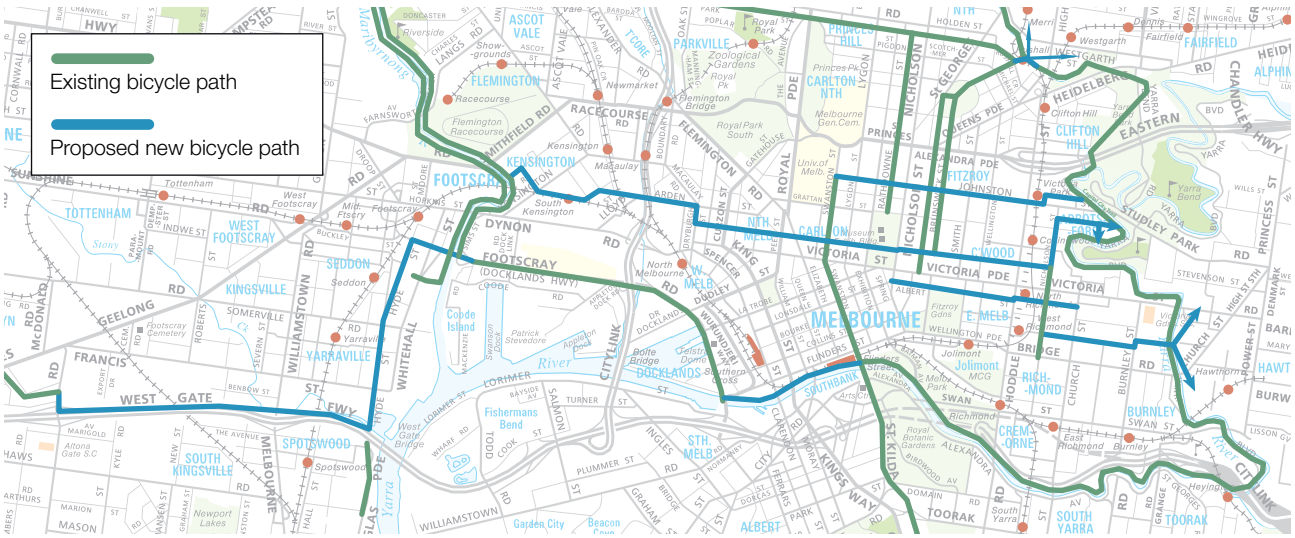
Estimated cost: $22 million
Total Length: 1.9 km

Project costs

Estimated total cost: $60 million

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

Figure 107 – EWLNA recommended cycling projects



Source: EWLNA

9.7 Better priority and access for public transport

- **Recommendation 8**

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

- **Recommendation 9**

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

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

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

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

The Study Team notes that the EWLNA recommended road tunnel will allow greater signalling priority for north-south trams and buses along Rathdowne Street, as well as a priority bus route along Johnston Street or Alexandra Parade.

Further actions to improve priority for public transport should include:

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

As discussed in Chapter 3, Park & Ride facilities are critical to attracting more people to public transport. While the Victorian Government is upgrading a number of these facilities, the Study Team believes that a more comprehensive and coordinated approach is needed.

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

9.8 Increase rail's share of freight

- **Recommendation 10**

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

- **Recommendation 11**

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

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

- **Recommendation 12**

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

As explored in detail in Chapter 6, while the Victorian Government's target of increasing rail's share of port freight to 30 per cent by 2010 is a laudable policy objective, it cannot be met. This target needs to be reviewed and, following consultation with industry, a new plan should be developed for moving more freight by rail.

While most freight in Melbourne will continue to be carried by road, the EWLNA Study Team recommends that the following actions should be taken to increase rail's share of freight:

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

9.9 Improve truck efficiency

- **Recommendation 13**

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

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

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

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

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

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

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

9.10 Continue to implement Melbourne 2030

- **Recommendation 14**

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

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

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

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

9.11 More low emission, efficient vehicles

- **Recommendation 15**

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

- **Recommendation 16**

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

The Victorian Government's total motor vehicle fleet consists of around 20,000 vehicles and costs more than $300 million each year. However, only 6,600 of the total fleet are passenger vehicles that are operated by the ten 'core' government departments and subject to procurement and environmental policies.[1] These passenger vehicles are supplied via contracts with the four Australian-based passenger vehicle manufacturers: Ford, Holden, Toyota and Mitsubishi.[2] In relation to passenger vehicles, Victorian Government policy is to acquire only locally made vehicles, except where there is no Australian-made vehicle that meets fit-for-purpose criteria.

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

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

Since 2001, the government has also purchased carbon offsets for its vehicle fleet emissions.[3]

In 2006, at the request of the Minister for Environment, the Commissioner for Environmental Sustainability undertook a review of Victorian Government motor vehicle procurement. The Commissioner stated that while the government's existing commitments "represent a good start … more can and should be done".[4] The Commissioner recommended a number of improvements to fleet procurement, including:

- A whole-of-government approach that covered the 'inner budget' fleet as well as vehicles operated by 'outer government' agencies
- A new comprehensive vehicle selection method, which includes a determination of which vehicles are fit-for-purpose and an evaluation of safety and environmental performance along with cost.
- New targets for the government fleet, including setting targets for the numbers of hybrid, LPG and other alternative fuel vehicles in the fleet; adopting a goal to match fleet emissions with the national average CO_2 emission target (when finalised); and developing travel demand strategies to reduce the need for vehicle use.
- The continuation of offsetting fleet CO_2 emissions.[5]

As the Commissioner noted, one of the major challenges in a more environmentally friendly fleet procurement policy in Victoria is that no hybrid vehicles are currently manufactured in Australia. Adopting tougher GHG reduction targets across the fleet would require the government to drop its policy of acquiring only Australian-made vehicles. With government vehicle procurement accounting for 13.7 per cent of passenger car sales in Victoria,[6] this could have a large impact on the local auto industry.

1. Commissioner for Environmental Sustainability (2006), Review of procurement – Part 1 Government procurement of motor vehicles, A review of environmental, safety and cost considerations, State of Victoria, Melbourne
2. In February 2008, Mitsubishi announced that it will end local manufacturing in March 2008.
3. EPA: Environment Protection Agency (September 2007), *Victoria's Greenhouse Gas Inventory Management Plan*, Publication 1168, State of Victoria, Melbourne
4. Commissioner for Environmental Sustainability (2006), p.5
5. Ibid, (2006), p.6
6. Ibid, (2006), p.64

Federal Chamber of Automotive Industries Chief Executive Andrew McKellar recently noted that:

> *"Maintaining economic viability of manufacturing investment does require a certain volume of fleet purchases. Fleet purchases are still a very significant part of the market and they are certainly a very important part of the market in terms of local producers."*[7]

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

Overall, the Study Team's strong view is that there are positive opportunities for state and local government in Victoria to influence the production mix of Australian-based car manufacturers by clearly signalling their long term procurement intentions.

The Study Team also notes that former Victorian Premier, Steve Bracks, is currently leading a review of the automotive sector and has indicated that the impact of government fleet contracting arrangements would be included in his study.

Accordingly, the Team is recommending that the Victorian Government develop a strategy for increasing the proportion of low emission, efficient vehicles operating in Melbourne, including:

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

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

7. Gordon, Josh, 'Spring Street backs gas guzzlers in fleet extension', The Age, 15 February 2008

9.12 Constructing and funding projects

- **Recommendation 17**

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

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

- **Recommendation 18**

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

- **Recommendation 19**

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

- **Recommendation 20**

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

The reasoning behind these recommendations is extensively canvassed in Chapter 10.

The Study Team did not set out to make conclusions on a particular procurement method for the projects recommended by the EWLNA; nor about whether the public or private sectors are best placed to fund these projects. There are clearly potential roles for both sectors and each would have its own advantages and disadvantages. These questions would usually be answered through a rigorous business case stage for a specific project. Such a process would be the logical next step for one or more of the larger EWLNA recommendations – in conjunction with relevant environmental assessments.

In developing the EWLNA recommended projects, the Study Team has been conscious of leaving open the Victorian Government's options in relation to planning, constructing and funding the projects. However, having considered the large cost of the projects in the context of Victoria's state budget, the Team is of the view that the projects recommended by the EWLNA cannot be delivered without new sources of external finance, including debt, to fund their construction. Any budget funding will need to be supplemented by new revenue sources in order to repay this external finance.

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

Of the various funding options considered by the Study Team, a model along similar lines to that used to finance the Melbourne City Loop was considered to be the most practical means of proceeding with the Melbourne Metro rail tunnel. A new statutory authority could be created with the requisite functions and powers to implement the project and work through Treasury Corporation Victoria to raise the required funds. Identifying new revenue sources requires careful consideration as it is likely to impact on a large number of people. As noted in Chapter 10, the Commonwealth Government also has a significant role to play in the development of the EWLNA options.

There could be an opportunity for the private sector to participate in the funding and delivery of the rail tunnel; however, this would need to be done in a manner that was complementary to the current and future operating environment and contractual structure for the Melbourne rail service. For what would be a relatively small, but important, part of the network, it might not be efficient to have a different party provide that facility. All options need to be considered, including investigation of whether there is potential to include some aspect of the rail tunnel construction, financing or operation with the future rail franchise arrangements.

As has become the norm for all very large urban road projects in Australia, tolls are likely to be necessary to help pay for the east-west road connection. While it is possible for the Victorian Government to undertake tolled projects itself, as has been done in New South Wales and Queensland, there is also an opportunity – and significant investor demand – for the private sector to develop the various stages of the road project. As explained in Chapter 10, the component parts of the road project have different attributes and for a number of reasons might be more or less suitable for private sector participation and might require a different level of government contribution. The different sections are also likely to have different suitability for AusLink funding. Generally speaking, important freight routes, and certainly those of national significance, have the potential to receive AusLink funding. That should be a priority for the Victorian Government in implementing the EWLNA recommendations.

In recommending that the Government re-evaluate its current road tolling policy to ensure that the long term benefits of new road investments can be fully realised, the Study Team was not considering whether that would improve the likely use of a toll road; rather, it was a genuine attempt to ensure that a balanced outcome could be achieved for the community as a whole. When new road capacity is added, there are opportunities to improve outcomes for other users of the road space, including public transport, cycling and local communities. In the future, there will also be an opportunity (or a need) to ensure that Melbourne's road space is used in an efficient and balanced way. At that time, there might be a desire to review the current tolling policy to ascertain whether it helps or hinders the most efficient use of Melbourne's road network. That review would be most likely to arise as part of a broader road pricing or congestion reduction initiative.

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

9.13 Timeline of projects

The Study Team recommends a staged approach to the delivery of the key recommendations, with planning to commence immediately upon acceptance of the EWLNA recommendations for the Melbourne Metro rail tunnel, the road tunnel, DART and the Truck Action Plan.

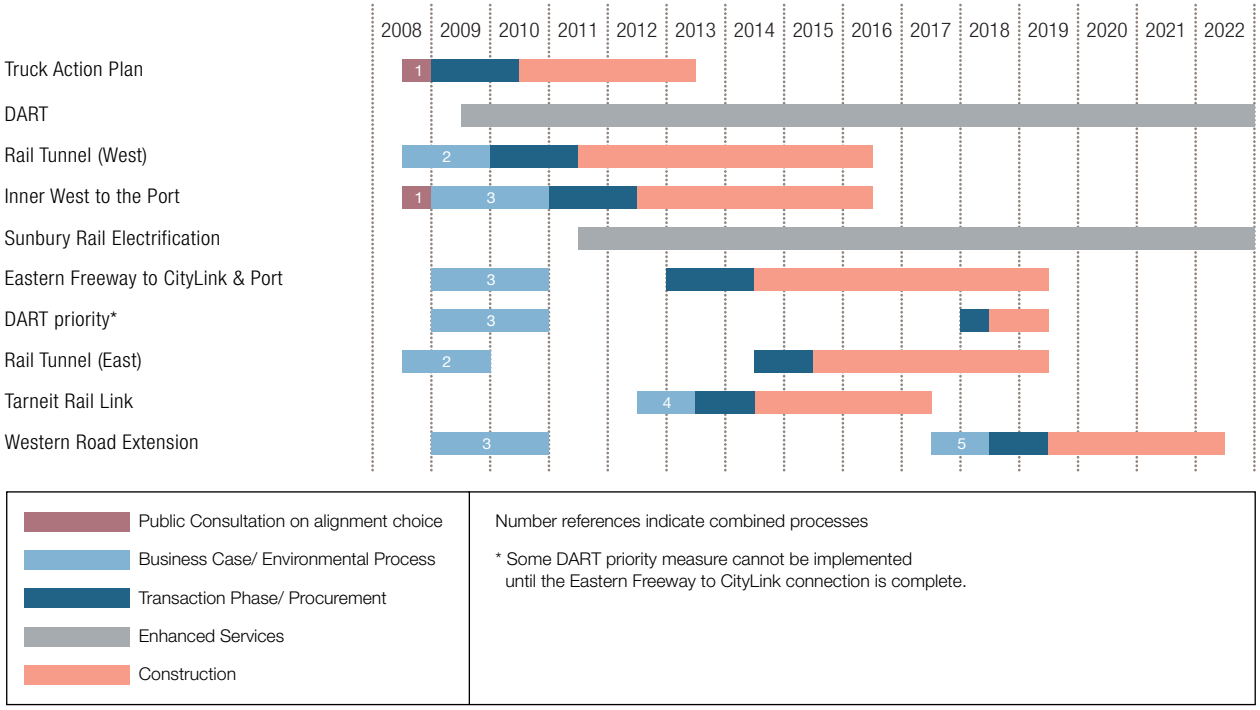
Detailed planning should commence immediately on the construction of the rail tunnel. This planning should resolve the location of stations, funding structure and environmental issues. As noted earlier, it is the view of the study team that the rail tunnel need not be subject to a full Environmental Effects Statement. This would allow earlier procurement and construction of the tunnel to meet the demonstrated and urgent capacity issues on the rail network outlined in Chapter 3.

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

As noted in Chapter 9.4, planning for procurement and construction of the Hyde Street connection and the Ashley Street/Paramount Road connection should commence immediately, with resolution of the other measures included in the Truck Action Plan to be determined as part of the community consultation around the alignment of the full east west route. This community consultation would ultimately form part of the Environmental Effects Statement, which the Study Team believes would be required for the east-west road link.

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

Figure 108 – Timeline of EWLNA projects



Source: EWLNA

The economic and community benefits of EWLNA projects

Table 23 – EWLNA economic and community benefits (present value $billion)

	Traditional Measure[8]	Other Measure	Cumulative
Costs			
Capital expenditure*	13.0		
Operating expenditure	2.0		15.0
Benefits			
Travel time saved	9.4		9.4
Vehicle operating costs saved	0.5		9.9
Reduced crash costs	0.3		10.2
Externalities	0.7		10.9
Public Transport revenue	0.2		11.1
Wider Economic Benefits		3.3	14.4
Community benefits of tunnelling (1)		*5.0*	*19.4*
Additional congestion relief (2)		*1.0*	*20.4*
Westgate Bridge redundancy (3)		*Not quantified*	*20.4+*
Accessability benefits (4)		*Not quantified*	*20.4+*
BCR			1.4+

* Note: Capital expenditure refers to a 'present value' amount and should not be confused with the construction cost amounts shown elsewhere in this report.

The substantial economic and community benefits of the transport infrastructure recommended by the EWLNA are described in considerable detail in the preceding chapters of this report.[8] Some of those benefits have been quantified by the Study Team's economic advisers. The remaining benefits, although not part of a traditional economic assessment, are no less important for Melbourne and should be recognised. For completeness, the Study Team has made an estimate of some of these further benefits, but recognises that they would be the subject of further investigation as part of any subsequent business case undertaken for the EWLNA recommended projects.

The traditional economic analysis of potential solutions was constructed around three main work streams:

1. A Benefit Cost Analysis, focusing on the direct impact of the proposed interventions
2. A quantitative assessment of the indirect or flow-on effects of the project using CGE modelling
3. An assessment of the broader economy-wide benefits that flow from improving the functioning of the transport sector.

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

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

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

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

The further benefits not considered by the Study Team's economic advisers are presented separately in Table 23 and are described below:

1) There is a very large community benefit in placing the infrastructure in a tunnel. Tunnelling is extremely expensive but allows existing neighbourhood features of streets and parks to be largely protected, and can improve the amenity of local areas currently impacted by high traffic volumes. The estimate of the benefit set out in Table 23 is an indication of the possible additional construction cost over and above what might be incurred to deliver a similar project with minimal tunnelling.
2) A substantial economic and community benefit that is undervalued in the transport model is the reduction in congestion attributable to the various transport projects. Improving the reliability of the road network and reducing volatility of travel time for business has a potentially significant value that is difficult to measure. The transport model used to derive the transport user benefits cannot accurately represent peak period queuing and accordingly, understates the effects of congestion. Table 23 includes an indicative allowance based on the relativities of peak period travel times.
3) A benefit that was not quantified is the strategic benefit Melbourne's economy obtains from building network redundancy, such as providing an alternative to the Westgate Bridge. This effect can be thought of in the negative case of "what would be the economic consequences for Melbourne if that critical trade route was not available?"
4) The Demographic, Social and Land Use consultants to the EWLNA analysed the impact of transport interventions on the level of access to jobs and services for that part of the population that are currently deemed to be disadvantaged in this regard (those that are in the bottom three quintiles of the population).

As indicated in Table 23, the benefits that have been quantified total $20.4 billion. The non-quantified benefits would be in addition to the $20.4 billion, resulting in a BCR greater than 1.4. This BCR may appear lower than many earlier transport projects, but it represents the reality of retrofitting substantial infrastructure into a fully developed inner-city area, which requires extensive tunnelling.

In addition to the above benefits, transport projects also contribute to growing the Melbourne and Victorian economy through productivity improvements and other stimuli that flow-on to other industries. Economic analysis undertaken for the EWLNA using computable general equilibrium (CGE) techniques indicates that the Victorian Gross State Product (measured in 2021 and 2031 and inclusive of agglomeration impacts) would grow by between $0.6 billion and $0.8 billion or approximately 0.1 per cent and 0.2 per cent as a result of the EWLNA recommended projects. Employment in Victoria would grow by approximately 4,000 (full-time equivalents in 2031). This measure of the impact on the Victorian economy does not include the economic effects of the expenditure to construct the projects. Those effects would also be significant but have not been quantified by the Study Team as the approach focused on the likely longer term benefits to accrue from investment in the transport infrastructure.

8. Further details of this analysis is provided in Meyrick and Associates (2008b), Economic Benefits Paper, Report prepared for the EWLNA