

M5

corridor expansion

moving goods, people and the economy

Overview

NOVEMBER 2009

Additional information February 2010

This document was published in November 2009 and includes a five kilometre link road from the eastern M5 tunnel exit point to the airport and industrial areas close to the airport. The road location shown in this study is not approved and has no status. Following discussions with the community the RTA has been requested to look at all options, in partnership with the community, for improving access to the airport and industrial areas close to the airport.



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Cover photograph: Port Botany. Image © RTA 2009

Roads and Traffic Authority

For further enquiries

www.rta.nsw.gov.au | 13 22 13



Fairford Road industrial area



Tough decisions need to be made to deliver transport infrastructure projects that will provide the greatest NSW benefits.

Minister's message

The NSW Government proposes an expansion of the M5 corridor and wants to hear your views.

While the Sydney transport network currently meets travel demand over the majority of the network most of the time, Sydney will continue to change and grow.

There is a need to improve our infrastructure to provide an efficient transport network into the future.

The M5 Motorway, carrying passenger, commercial and freight traffic is currently congested, yet it services the busiest airport in the country and the country's second largest container port.

An expansion of this corridor would result in approximately \$6 billion of travel time savings over a 30 year period.

This paper sets out transport options to improve the M5 corridor and a plan for further investigation.

At this stage, the identified M5 corridor expansion would include:

- Widening the M5 South West Motorway and the M5 East Freeway.
- Duplicating the M5 East tunnel.
- Developing a new link to the airport and a connection to inner southern Sydney.

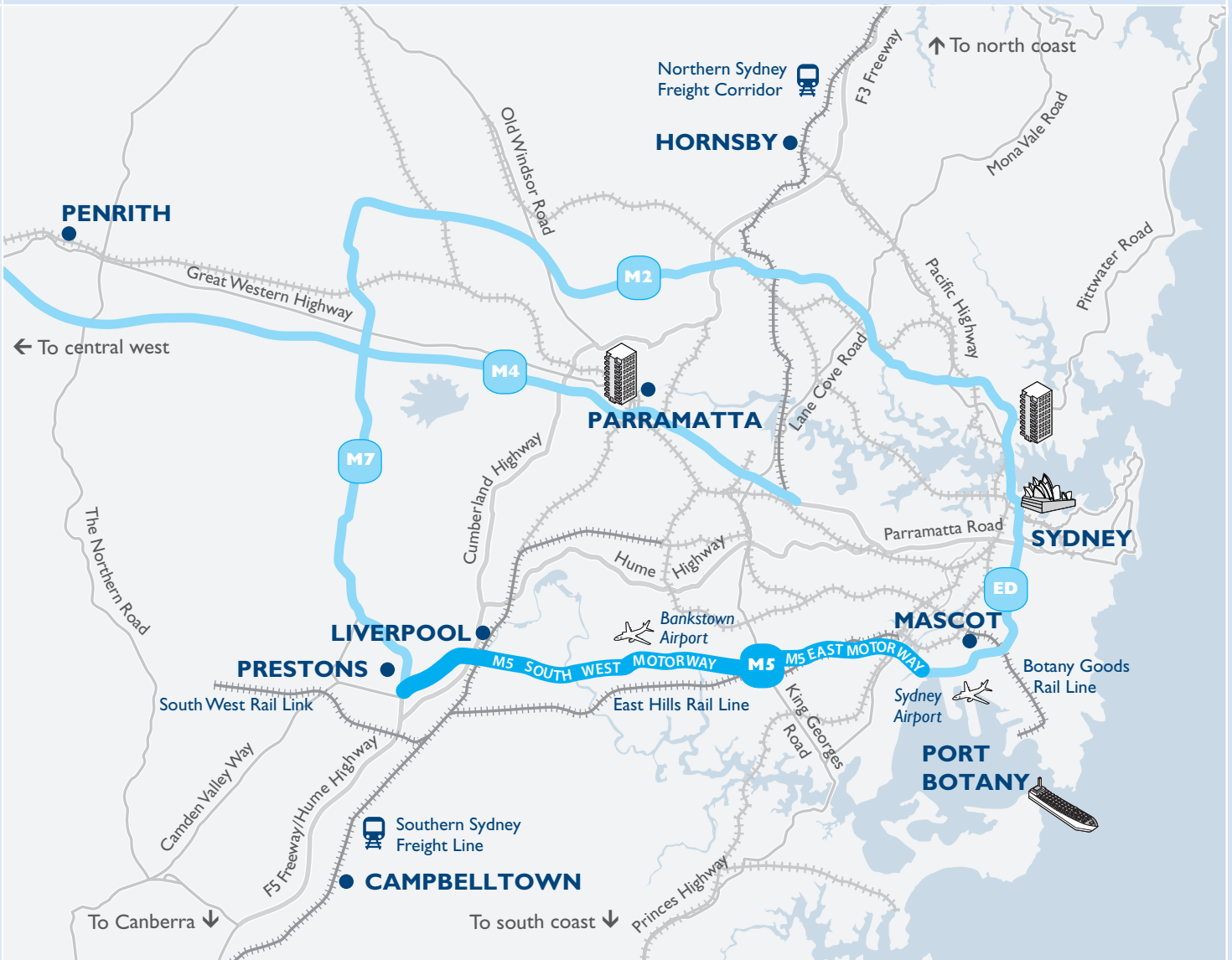
At this stage of planning we estimate this project would require a \$4.5 billion investment.

We recognise the importance of protecting the amenity of local communities. A number of further investigations and consultations will be required on these proposals.

Over the next 12 months the Roads and Traffic Authority (RTA) will prepare environmental assessments and consult the community and stakeholders. This overview document is the start of that process.

The NSW Government recognises the transport challenge facing the M5 and other transport corridors. Responsible action, following public involvement, will not only improve these vital corridors – but make Sydney a more prosperous place to live and work in the future.

The Hon. David Campbell MP
Minister for Transport
November 2009



The Sydney Motorway Network

I The M5 corridor expansion

I.1 Sydney's transport goals

The NSW Government is committed to the delivery of high quality, integrated and reliable services to continue economic development and competitiveness.

In recent years several rail initiatives have commenced. These will facilitate the movement of both passengers and freight. Substantial continued investment on the road network, specifically on the Sydney motorway network, is also required to provide greater capacity and improved reliability.

There are a number of road corridors where existing congestion and high travel times have economic, environmental and community impacts, such as:

- Delays to drivers and passengers.
- Delays to goods and services.
- Increased vehicle emissions due to stop/start of traffic.
- Increased vehicle operating costs.

To address these impacts, the government is investigating options or ways to improve the M5 corridor.

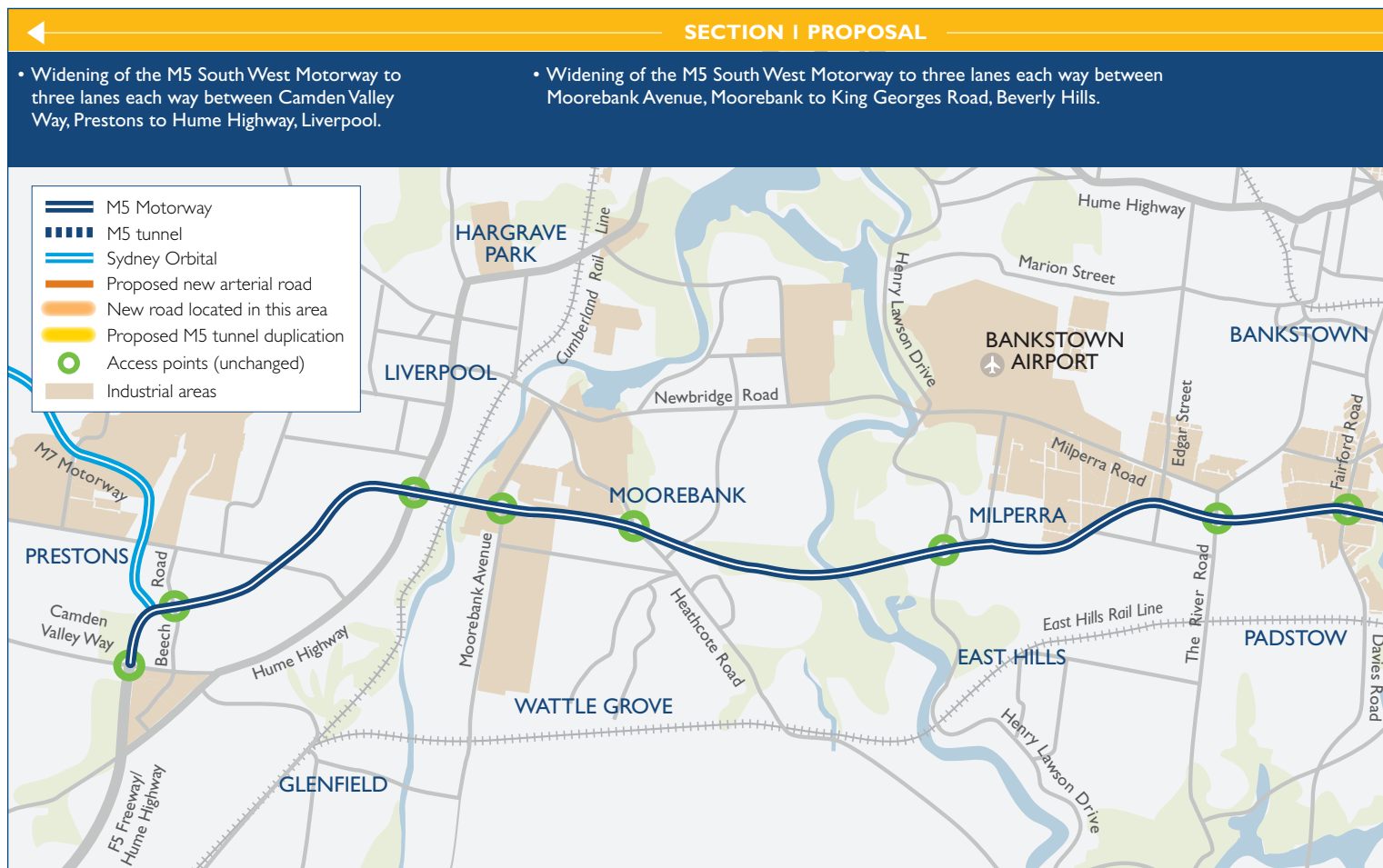
The national goals for transport infrastructure developed by Infrastructure Australia are:

- To increase the economic standards of living for Australians.
- To provide environmental sustainability and reduce greenhouse gas emissions.
- To create better social outcomes, improve quality of life and reduce social disadvantage in our regions.

These goals complement the NSW Government's objectives and targets. This project is one of the NSW Government's priorities submitted to Infrastructure Australia for funding under the Building Australia Fund.

This document provides an overview of the need to improve the M5 corridor, sets out proposed improvements, and outlines the next steps in the consultation and planning process.

Figure 1: The M5 transport corridor and proposed motorway expansion



1.2 The M5 transport corridor

The M5 corridor is the main road freight, commercial and passenger route between Port Botany and Sydney Airport, and south west Sydney. It is part of the National Highway Network connecting Sydney, Canberra and Melbourne.

The existing M5 Motorway can be divided into two sections:

- **SECTION 1: M5 South West Motorway** – a 22 kilometre tolled road with two lanes in each direction between Camden Valley Way, Prestons, and King Georges Road, Beverly Hills, operated by Interlink Roads.
- **SECTION 2: M5 East Freeway** – a ten kilometre road connecting the M5 South West Motorway with General Holmes Drive/Eastern Distributor. The M5 East Freeway currently includes two four kilometre tunnels between Bexley Road, Earlwood and Marsh Street, Arncliffe. Each tunnel contains two lanes of traffic.

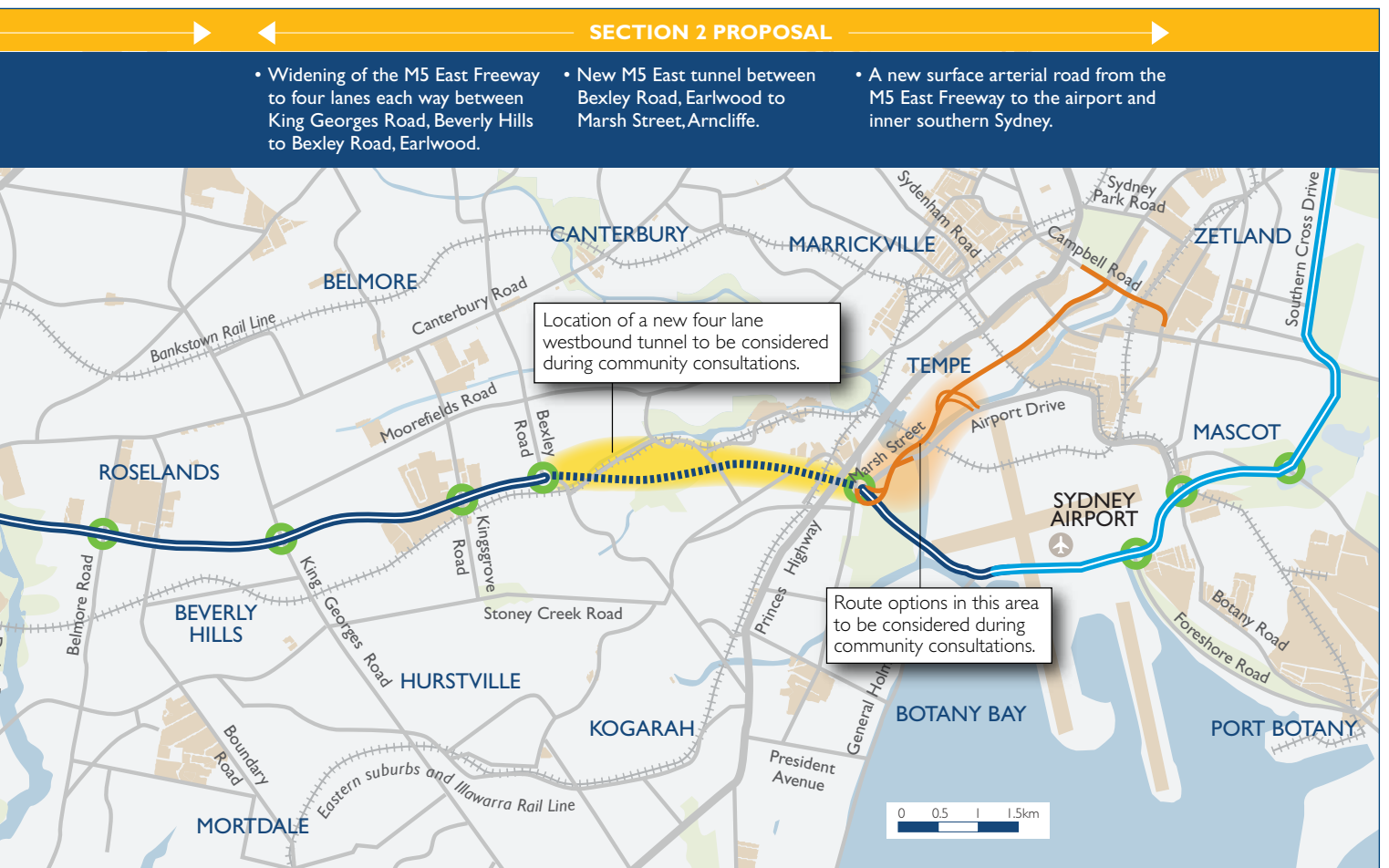
1.3 What does the proposed expansion involve?

The proposed M5 corridor expansion includes:

- Widening the existing M5 South West Motorway from two to three lanes in each direction.
- Widening the M5 East Freeway east of King Georges Road to four lanes in each direction.
- Four new lanes in tunnel next to the existing M5 East tunnel.
- A new four lane arterial road from the M5 East tunnels to the airport and the industrial areas of inner southern Sydney.

A new surface link to the airport and the industrial area in inner southern Sydney is required to:

- Reduce growth of traffic on General Holmes Drive under the airport runway.
- Reduce traffic on Qantas Drive, Airport Drive and the Princes Highway around the north of the airport.
- Improve access to the Sydney International Terminal and the industrial areas of inner southern Sydney.





Residential growth along the M5 corridor

1.4 Why improve the M5 corridor?

Improving the M5 corridor is a major focus for the NSW Government due to the motorway's function as a critical economic driver for NSW and Australia.

In recent years traffic levels and the high number of heavy vehicles on this route mean the corridor is operating at or near capacity in peak hours. This impacts on Sydney's economic productivity and competitiveness.

This situation will be compounded by the planned commercial and industrial growth at Port Botany and Sydney Airport, as well as planned population growth and employment growth along the M5 corridor.

Improvements to the M5 Motorway, together with recent and planned rail and road initiatives (see section 2.2), would provide an integrated transport solution for the corridor.

The proposed M5 expansion would result in approximately \$6 billion of travel time savings over a 30 year period.

It is a key road infrastructure priority to upgrade and duplicate where necessary the M5 freeway with additional lanes and tunnels.

Greater Western Sydney Economic Development Board, 2008

M5 statistics		
Number of lanes	Currently four lanes	
Traffic volume	95,000 vehicles per day*	
Volume of trucks	8%*	
Travel speed	AM	PM
M5 East	40 km/h citybound	60 km/h westbound
M5 West	55 km/h citybound	75 km/h westbound

* Annual average daily traffic for the M5 tunnel.

Source: RTA 2009.

Key points

- The M5 corridor is the main freight, commercial and passenger route between Port Botany and Sydney Airport, and south west and western Sydney.
- In recent years, traffic levels on the M5 corridor have resulted in congestion and increased travel times, which is impacting on Sydney's economic productivity and competitiveness.
- This situation will be compounded by planned commercial and industrial growth at Port Botany and Sydney Airport as well as planned population and employment growth along the corridor.

2 Transport needs in the corridor

The M5 corridor is the major transport route in Sydney's inner south and south west. It services local, regional and national travel demands, and provides a key connection for freight, commercial and passenger traffic.

Over the last decade, demand for all forms of travel within the corridor has increased substantially. The rail and road network is now operating at or near capacity, particularly during the morning and evening peak periods.

To meet future travel needs, a significant investment in improving transport infrastructure is required.



General Holmes Drive at Sydney Airport

2.1 Port Botany and Sydney Airport

Airports and ports must operate efficiently in a global city. Sydney Airport is an international gateway, importing and exporting more than 400,000 tonnes of goods, and 30 million business and tourist travellers per year (Sydney Airport Corporation 2009).

Figure 2 describes anticipated growth at Sydney Airport in the next two decades. Passenger and freight levels are predicted to more than double in the next two decades, as outlined in the Sydney Airport Master Plan (2009) and Sydney Ports Corporation Port Freight Logistics Plan (2008).

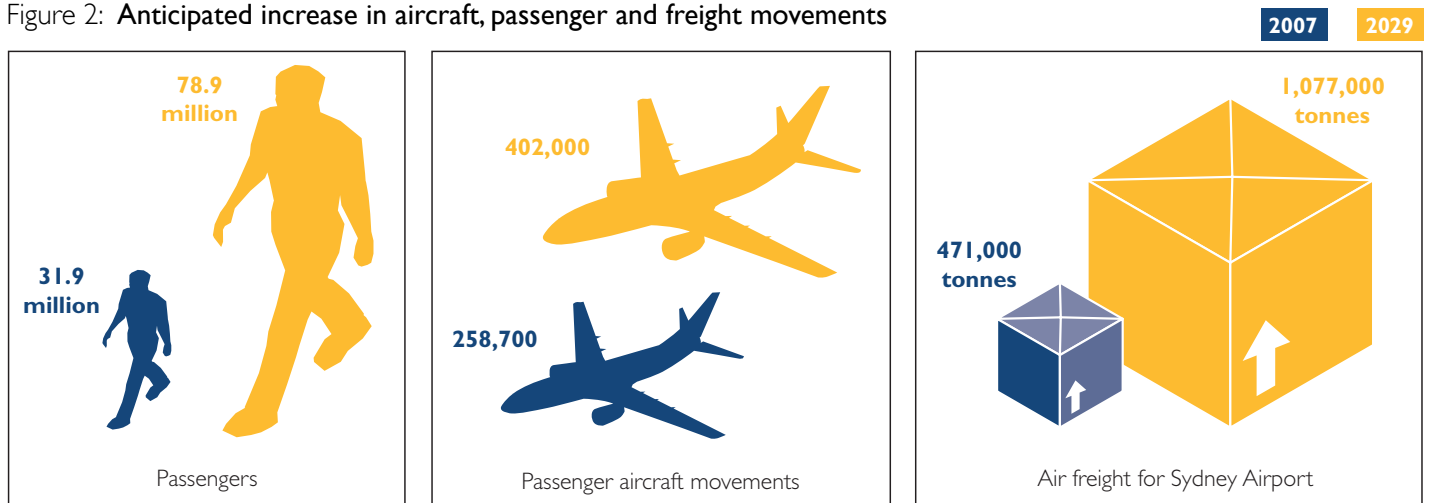
This growth will place pressure on Sydney's road and rail network and will be felt greatest on the M5 South West Motorway, the M5 East Freeway and the Botany Goods Rail Line.

Where does all this freight end up?

85 per cent of the containers transported through Port Botany contain cargo, that has originated from, or is destined for, locations within 40 kilometres of the port (Sydney Ports Corporation 2009).

The NSW Government is working to increase the movement of containers to and from Port Botany by rail from 22% in 2008/09 to 40% within the next decade. However, with the expected growth in container cargo, this means up to 1.7 million containers would rely on road transport to and from the port by 2020 (Sydney Ports Corporation 2009).

Figure 2: Anticipated increase in aircraft, passenger and freight movements



Source: Sydney Airport Master Plan 2009.

2.2 Development of the transport network

Completed and current initiatives

A number of road and rail initiatives and infrastructure improvements have commenced in recent years that will improve the operation and movement of freight, commercial, commuter and passenger travel (refer to Figure 3).

Botany Goods Rail Line (Freight)

The Port Botany to Enfield railway line is a dedicated freight line that has been upgraded and duplicated at various points to increase its capacity. Further upgrades and duplication between Port Botany and Cooks River are proposed in the longer term to more than double its capacity from 0.5 million containers to some 1.3 million containers.

Enfield Intermodal Logistics Centre

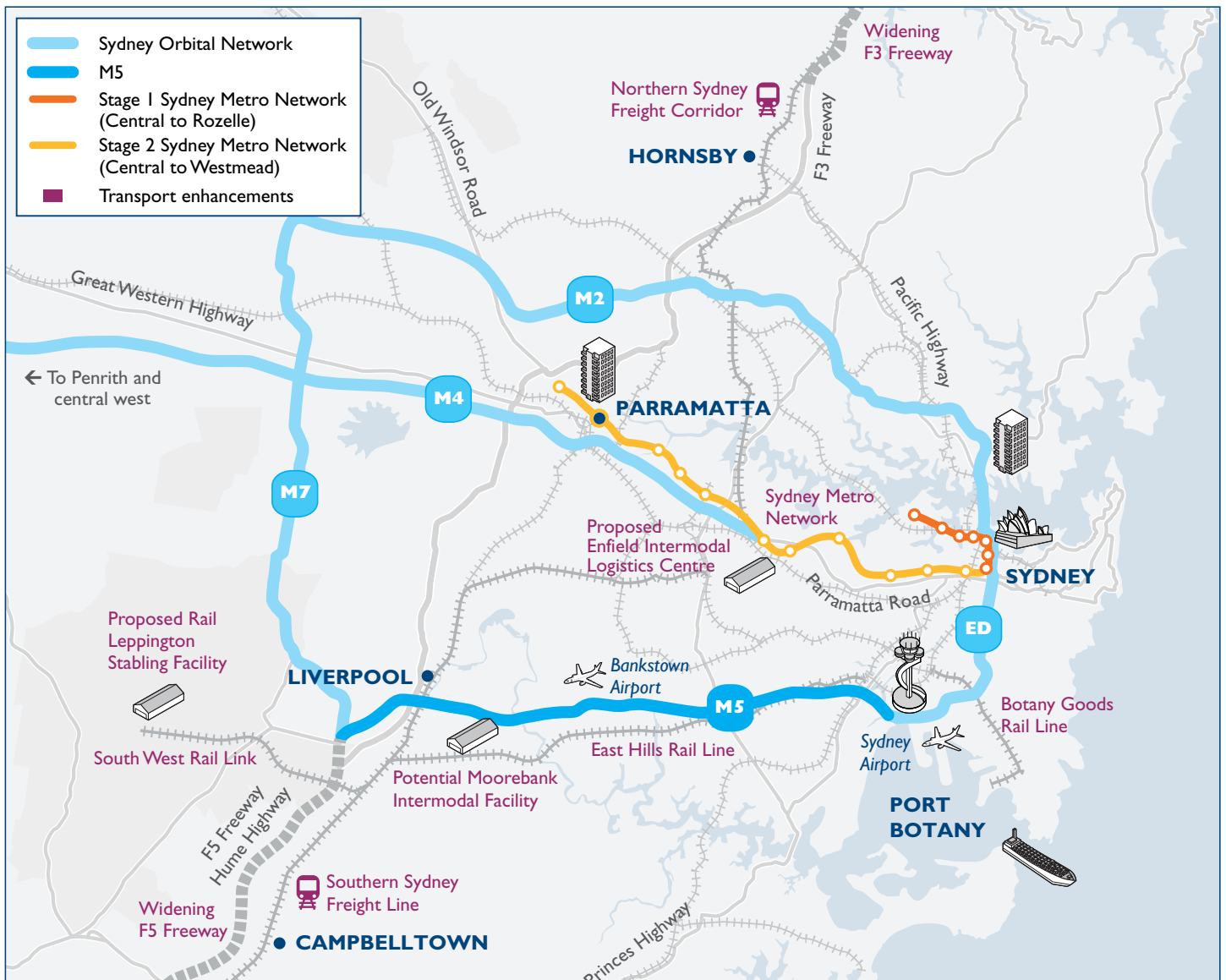
The Enfield Intermodal Logistics Centre will be part of a network of existing and planned intermodal facilities in Sydney and will service around a quarter of the total intermodal demand.

Containers will be transported by rail from Port Botany to Enfield. These containers will then be unpacked and the goods transported by road to other parts of Sydney and NSW. The proposed facility will have the capacity to move over 300,000 twenty foot equivalent units (containers) per year by 2016 (Sydney Ports Corporation 2009). The facility will commence operations progressively from 2012.

Southern Sydney Freight Line

The Southern Sydney Freight Line will be a 36 kilometre single track railway line running parallel to the Main South Line between Sefton Station and Macarthur Station. The Southern Sydney Freight Line was approved by the

Figure 3: Overview of existing and planned transport network





Green Square AirportLink

NSW and federal governments in 2008 and construction of the line began in 2009. On completion, the new line will:

- Separate passenger and freight services, which currently share the same track.
- Ease pressure on the network and provide additional freight capacity.
- Deliver improved reliability.
- Provide direct rail access between key freight centres at Chullora, Enfield and onto Port Botany.

Airport and East Hills rail line

Since the late 1980s, a number of improvements and upgrades have been made to the East Hills Line, including duplication to East Hills and an extension to Glenfield.

In conjunction with the construction of the Airport Line, the East Hills Line was quadrupled between Wollie Creek Junction and Kingsgrove in the late 1990s, resulting in additional capacity.

Rail Clearways Program

The Rail Clearways Program improves capacity and reliability on CityRail's Sydney suburban network. The program comprises 13 key projects.

The 13 rail clearways projects will remove rail bottlenecks and improve junctions, reduce congestion and delays, and allow for simpler timetables. Delivery of the rail clearways will mean an incident on one part of the rail network will have a limited effect on services in other areas. It will also increase the capacity of the CityRail network to meet continuing growth in patronage from both suburban and intercity areas.

As part of the Rail Clearways Program, the Revesby Turnback was completed in 2008 and integrated into the CityRail network as part of the 2009 timetable. Revesby is now the terminating station for local services on the Airport and East Hills Line.

The clearways project within the M5 corridor to quadruple the East Hills Line between Kingsgrove and Revesby is due for completion in 2013.

Together, the Revesby Turnback and the Kingsgrove to Revesby Quadruplication (under construction) will provide additional capacity for more train services.



The Sydney Orbital Motorway Network

The Sydney Orbital is a 110 kilometre motorway that circles Sydney. It was completed in March 2007 with the opening of the Lane Cove Tunnel.

Since opening, the orbital has opened up access to major industrial and commercial centres, including Port Botany and Sydney Airport, reduced traffic congestion in residential areas, improved traffic flow and removed heavy vehicles from key local roads. It includes the **M7 Motorway**, a 40 kilometre motorway linking the M5 South West Motorway at Prestons, with the M4 at Eastern Creek and the M2 at West Baulkham Hills.

The M7 Motorway meets the increasing travel demand generated by employment and population centres within and around the M7 corridor.

Since 2005, the M7 Motorway has improved travel times, reduced the amount of traffic using local roads and generated new land development in Western Sydney.

Widening the F5 Freeway between Camden Valley Way and Narellan Road

The F5 Freeway is connected to the Sydney Orbital at Prestons and extends south of the M5 South West Motorway. To cater for current and planned traffic volumes, the RTA is already widening the freeway between Camden Valley Way, Prestons and Narellan Road, Campbelltown.

Work on the section from Camden Valley Way to Brooks Road was completed in 2008. Work on the area between Brooks Road and Narellan Road began in 2009 and is due to be completed in 2011.



Planned initiatives

A number of rail and road initiatives are planned to help cater for the growth in freight and passenger movements (refer to Figure 3).

Northern Sydney Freight Corridor

The Australian Government has funded a feasibility study for the Northern Sydney Freight Corridor, which is designed to address freight capacity and reliability needs along the Sydney-Newcastle rail corridor. The Northern Sydney Freight Corridor Program will:

- Relieve a serious bottleneck.
- Create a more efficient freight rail network.
- Improve the frequency and reduce crowding on passenger services on the Main North line.

Intermodal Facility at Moorebank

A site at Moorebank which has access to the regional road network (M5 Motorway and M7 Motorway) and the Southern Sydney Freight Line has been identified as a potential intermodal facility. This site would enable freight containers to be transferred between road and rail. It is anticipated that the site would be developed by the private sector.

Sydney Metro Network

The Sydney Metro Network is a critical part of the government's investment plan to build Sydney a new metro transport network.

Stage 1 of the Sydney Metro Network (Central to Rozelle) is scheduled to commence operation in 2015. Planning approval for Stage 2 of the Sydney Metro Network (Central to Westmead) is anticipated in 2010.

Together, stages 1 and 2 will:

- Introduce fast, frequent and reliable metro rail to the city, with services arriving every two to three minutes in the peak.
- Relieve road and rail congestion by extending rail access to additional areas of Sydney, giving more commuters the choice and opportunity to use public transport.
- Support expected growth along Sydney's busiest transport corridor, particularly at Parramatta, Sydney Olympic Park and Burwood.
- Deliver rail stations to high patronage areas where currently there are none: including Rozelle, Broadway/ The University of Sydney, Camperdown, Leichhardt and Five Dock.
- Reduce greenhouse gases by providing an alternative to using private vehicles.

In the longer term, extensions to the north west and south east are planned.



Freight train passing through West Ryde Station

Any country's economic prosperity depends on well-performing infrastructure. For Australia this is all the more so given our distances, climate and urbanisation. Well-performing infrastructure can stimulate economic growth and bring a sense of prosperity to the community; poorly performing infrastructure can do the reverse.

'Groundwork for Growth: Building the Infrastructure that Australia Needs', Business Council of Australia, 2009.

South West Rail Link

The South West Rail Link will provide new rail services to the outer metropolitan area and maximise access for new communities located in the South West Growth Centre.

The rail link is being delivered in two stages. Stage 1 comprises a major upgrade of Glenfield Station, including additional commuter parking facilities. Stage 2 of the South West Rail Link includes the construction of:

- 11.4 kilometres of new rail line.
- Two new rail stations.
- Commuter parking.
- A new train stabling (storage) facility (see Figure 3).

The first stage of the South West Rail Link is underway. This year's State Budget allocated \$186 million for Stage 1. This will allow for increased and more reliable train services through the construction of a rail flyover north of Glenfield Station. It will provide additional signalling works, new systems and new track.



Residential growth in the inner southern Sydney corridor

2.3 Planned growth areas

A mix of population and employment growth will drive travel demand, as described in Figure 6.

M5 corridor

The NSW Government's planning strategies identify land along the M5 South West Motorway to be developed to intensify employment. The strategic locations along the corridor are Milperra/Bankstown Airport, Moorebank, Ingleburn, Minto and Campbelltown. As these develop into more intense employment areas they will generate demand for commercial and freight transport in the corridor.

Inner southern Sydney corridor

To accommodate Sydney's future growth and changes in household size, it is planned that 60 to 70 per cent of new homes will be in existing urban areas including inner southern Sydney (Department of Planning 2007).

Growth in population and business areas will enhance the economic role of this area. Substantial growth will be in the suburbs of Redfern and Waterloo with accommodation for 4,000 new residents and 18,000 jobs planned.

Green Square is planned to accommodate 33,000 new residents and 28,000 new jobs over the next 25 years.

South West Growth Centre

The South West Growth Centre, which includes part or all of the local government areas of Liverpool, Camden and Campbelltown, is planned to accommodate around 110,000 new homes in the next 30 years.

The South West Growth Centre covers approximately 170 square kilometres (or over twice the size of the Bankstown local government area). Land is progressively being released at Edmondson Park. The growth centre will require a transport network to provide access to education, work, recreation and health facilities.

Western Sydney Employment Area

Located at the junction of the M7 and M4 motorways, the Western Sydney Employment Area comprises 1,500 hectares of industrial land.

Distribution centres for companies that import goods from overseas are well located in this area, situated at the junction of two motorways. Containers of goods delivered to Port Botany are transported to these distribution centres and unpacked and distributed more widely across Sydney and other regional centres, primarily by road transport.

Figure 4: Population – predicted change in key Sydney areas

SOUTH WEST SYDNEY		EAST SYDNEY		NORTH SYDNEY	
YEAR	POPULATION	YEAR	POPULATION	YEAR	POPULATION
2026	988,819	2026	615,058	2026	378,232
2006	703,665	2006	506,039	2006	334,945

41% 22% 13%

Source: NSW Transport Data Centre Land Use Forecasts.

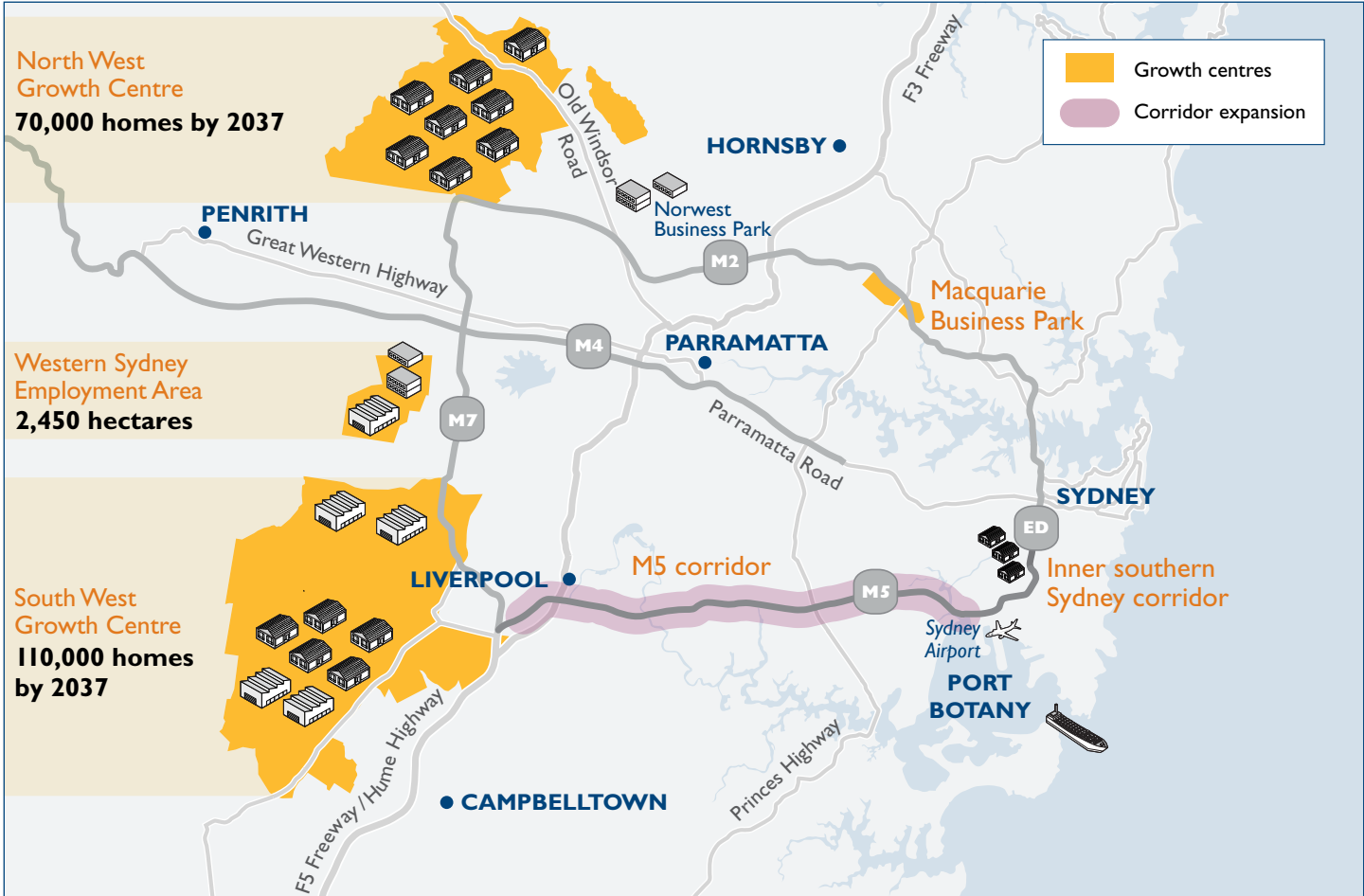
Figure 5: Employment – predicted change in key Sydney areas

SOUTH WEST SYDNEY		EAST SYDNEY		NORTH SYDNEY	
YEAR	EMPLOYMENT	YEAR	EMPLOYMENT	YEAR	EMPLOYMENT
2026	390,349	2026	671,124	2026	243,391
2006	284,254	2006	540,974	2006	212,838

37% 24% 14%

Source: NSW Transport Data Centre Land Use Forecasts.

Figure 6:





Eastern Creek industrial area



Residential building work near Wolli Creek Station

Key points

- Existing and future transport demands are a significant challenge to Sydney and NSW.
- Predicted growth at Port Botany and Sydney Airport will significantly increase the demand for movement of freight, commercial goods, commuters and passengers.
- Other growth areas, which will increase transport demand, include the inner southern Sydney corridor, the South West Growth Centre, the Western Sydney Employment Area and the M5 corridor.
- Rail and road infrastructure improvements have been provided and initiatives are continuing to support future growth.
- Further additional planned rail capacity together with an expansion of the M5 corridor will provide an integrated transport solution for the corridor.

The M5 expansion would provide additional road infrastructure capacity to support Port Botany and Sydney Airport to alleviate congestion on Sydney's key freight arteries.

If the transport network around the Airport and Port Botany is not improved, congestion will limit the level of economic benefits generated from these two international gateways. This will have a negative impact on both the NSW and Australian economies.

Sydney Airport Corporation Ltd, 2009

3 Options review

3.1 Options review

The M5 transport corridor presents challenges as it serves a range of significant needs including:

- Road transport needs of Sydney's major port and airport.
- Commuter and business road transport needs of the growing southern and south western areas of Sydney.
- Community and environment amenity needs of surrounding areas.

A range of possible improvements to increase the capacity of the M5 corridor was considered including upgrading public transport and freight rail linkages, demand management and enhancing the road network.

Even with improvements to the rail network already underway, rail alone will not cater for the predicted increase in freight movement.

Enhancements to public transport and transport such as cycling or walking, and demand management will complement the proposed M5 expansion, but cannot address existing congestion and future growth.

The need to use the motorway is different to the need to use passenger rail – road caters for off-centre employment, commercial travel, freight and trades.

Each solution was considered against the following objectives. A solution must:

- Support Sydney's long term growth and global competitiveness by increasing the efficiency of its freight transport system.
- Improve the capacity and flexibility of the transport system to respond to future change and growth.
- Promote efficient and sustainable urban areas by encouraging investment and growth in identified centres.
- Deliver a sustainable transport system that minimises its environmental impact and contributes to a reduction of greenhouse gas emissions.
- Provide better and more equitable access to key centres and activities.
- Contribute to quality of life for people in Sydney.

A combination of surface road network improvements, a new road tunnel, new arterial surface connections and demand management strategies was identified as having the best potential to address existing traffic congestion and to meet the future growth of demand for freight and commuter transport in this corridor.

Key findings of the options review are outlined below and on the project website.

Further information regarding the comparison of options is in the M5 Transport Corridor Study, Preliminary Overview Report, available at www.m5corridorexansion.com.au.

Figure 7: A range of options were considered to meet the transport needs in the M5 corridor





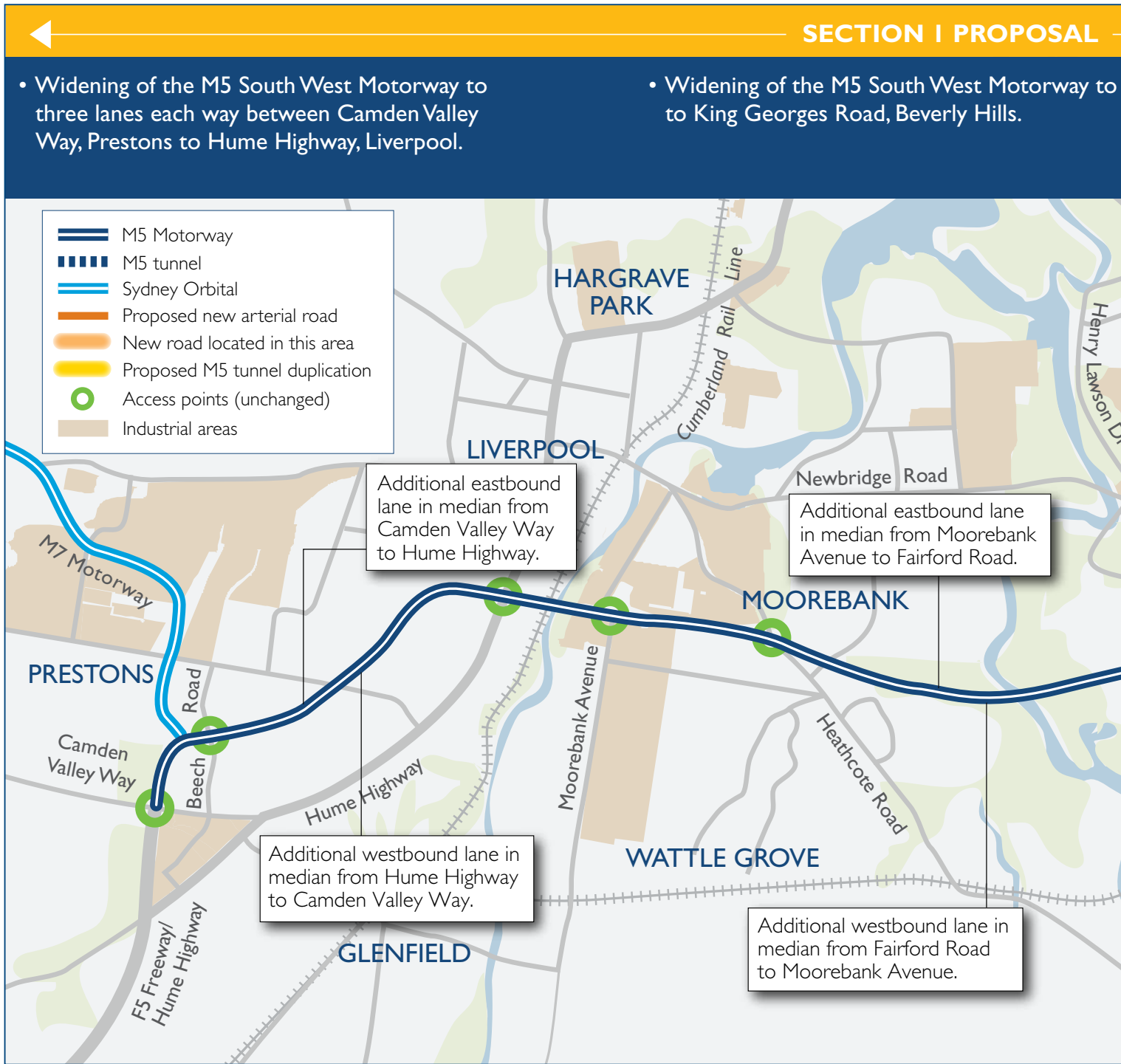
Public transport	Surface road network	Road tunnel	Demand management
 <ul style="list-style-type: none"> • Improve operation of existing passenger rail services • Increase capacity of the rail network (both freight and passenger) • Provide a new passenger/freight rail line along the corridor • Increase active transport including bicycle usage 	 <ul style="list-style-type: none"> • Improve the existing road network • Increase the capacity of the existing arterial road network • Increase the capacity of the existing motorway network 	 <ul style="list-style-type: none"> • Increase the capacity of the existing tunnel (widening) • Provide an additional four lanes in a road tunnel 	 <ul style="list-style-type: none"> • Tolling regimes to reduce the number of vehicles on the motorway • Transport policy to encourage greater use of public transport
<p>Outcomes</p> <ul style="list-style-type: none"> • Limited assistance to meet future freight demand • Requires significant public transport investment • Cannot cater for all markets 	<p>Outcomes</p> <ul style="list-style-type: none"> • Improve capacity in the short term • Will not meet future transport demand 	<p>Outcomes</p> <ul style="list-style-type: none"> • Constructing expanded tunnels is not possible • New tunnel gives capacity for future demand 	<p>Outcomes</p> <ul style="list-style-type: none"> • Improved capacity in the short term • Requires significant public transport investment

Figure 8: Preferred option



3.2 The preferred option

The preferred option for the M5 corridor expansion includes:

- Widening the existing M5 South West Motorway from two to three lanes in each direction.
- Widening the M5 East Freeway east of King Georges Road to four lanes in each direction.

- Four new lanes in tunnel next to the existing M5 East tunnel.
- A new arterial surface road from the M5 East tunnels to the airport and the industrial areas of inner southern Sydney.

Expansion of the M5 South West Motorway

- Widening the M5 South West Motorway operated by Interlink Roads to provide three lanes in each direction from Prestons to Beverly Hills.

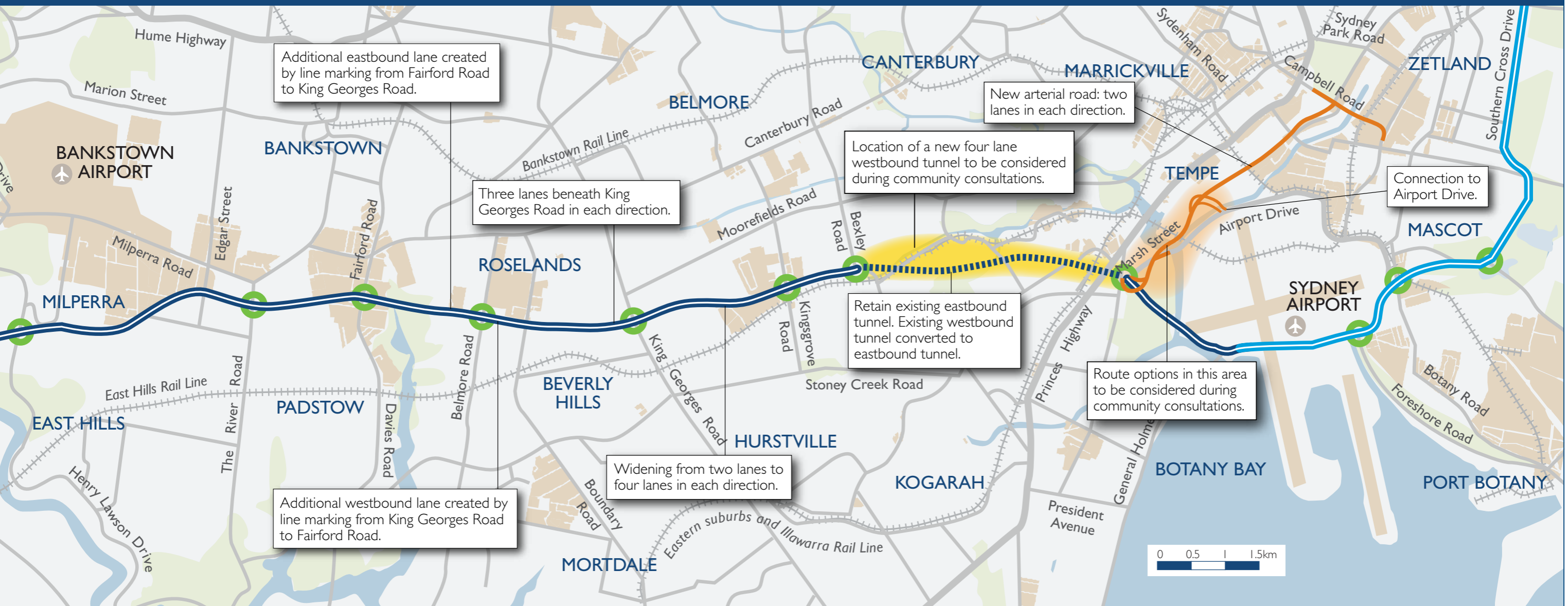
SECTION 2 PROPOSAL

three lanes each way between Moorebank Avenue, Moorebank

- Widening of the M5 East Freeway to four lanes each way between King Georges Road, Beverly Hills to Bexley Road, Earlwood.

- New M5 East tunnel between Bexley Road, Earlwood to Marsh Street, Arncliffe.

- A new surface arterial road from the M5 East Freeway to the airport and inner southern Sydney.



Expansion of the M5 East Freeway

- Widening of the M5 East Freeway to provide four lanes in each direction from Beverly Hills to Earlwood.

Expansion of the M5 East tunnel

Duplicating the M5 East tunnel from Bexley Road, Earlwood, to Cooks River, Mascot, which includes:

- Providing a new westbound tunnel to provide four lanes. This could be either a single four lane tunnel or twin two lane tunnels, with entry and exit portals in the vicinity of the existing tunnel portals.

- Providing four lanes in the eastbound direction by maintaining the existing eastbound tunnel and converting the existing westbound tunnel to eastbound.
- Retaining two lanes in each direction from the Marsh Street portals to General Holmes Drive.
- Providing two lanes in each direction from the Marsh Street tunnel portals to the industrial areas of southern Sydney.

A new surface link from the M5 East tunnel to the airport and industrial areas of inner southern Sydney and Mascot

The new link comprises:

- A new surface road with two lanes in each direction along part of the F6 corridor.
- Single lane ramps to provide access from this new road to Qantas Drive/Airport Drive.
- A signalised intersection at the junction of the connection and Campbell Road.

The RTA would also look at the management of traffic, and possible traffic calming, in the residential areas north of Campbell Road.

Funding for construction has not been determined. A mix of government and private investment is likely. The preliminary overview report includes traffic forecasts with or without tolls on the project. No decision has been made regarding tolls.



Off ramp at Moorebank Avenue

3.3 What benefits would this provide to the community?

The M5 corridor expansion would deliver much needed additional road capacity, providing:

- Improved access to Port Botany and Sydney Airport.
- Reduced congestion in both the corridor and the surrounding arterial network.
- Improved travel times for individuals and businesses using the corridor.
- Economic benefits for people who rely on their vehicles for work, such as tradespeople and delivery companies.
- Enhanced access to health, education and leisure facilities.
- Reduced greenhouse gas emissions from vehicles.
- Improved prosperity, economic productivity and competitiveness of Sydney as a global city.
- Improved air management in the current M5 East tunnel.

Key points

- The RTA has analysed the challenges facing the M5 corridor.
- The expansion of the M5 corridor would result in over \$6 billion of travel time savings over a 30 year period.
- The project, at this early stage, is costed at approximately \$4.5 billion.
- The M5 corridor expansion would deliver a number of benefits, including:
 - Improved access to Port Botany and Sydney Airport.
 - Increased capacity along the M5 corridor expansion.
 - Reduced congestion in both the corridor and the surrounding arterial network.
 - Improved travel times.

4 Air quality and sustainability



Tunnels reduce surface traffic congestion

The RTA has considered how it can contribute to the NSW State Plan's priority of cleaner air and a reduction in greenhouse gas emissions.

Air quality and motor vehicles

Although Sydney's air is cleaner and healthier than at any time over the past 15 years, a growing city like Sydney needs to continue to meet the challenge of air quality standards. Emissions from cars and trucks remain a significant source of air pollution, along with industrial emissions and events such as bushfires.

The new tunnel would reduce surface traffic and congestion, and this in turn would improve local roadside air quality.

Air quality is improving in the M5 East tunnel

Haze in the existing tunnel is largely caused by smoky trucks, in particular on the westbound exit grade. Air in the tunnel meets all the government requirements, and is generally improving due to:

- Air management initiatives in the tunnel.
- Diesel clean up programs that fit emissions reducing devices to exhaust systems.
- Smoky vehicle camera system to identify polluting vehicles in the M5 East tunnel.
- Improvements to vehicle emission systems.
- Improvements in fuel standards.

For more information go to the M5 corridor expansion website at www.m5corridorexpan.com.au.



Eve Street wetlands, Arncliffe



Air management in the tunnels

The tunnel would have best-practice air management. Air ventilation systems would ensure the air quality outside the tunnel is not impacted. The proposed new westbound tunnels would be designed with a flatter exit slope than the existing tunnel, to reduce haze from smoky trucks.

The feasibility report states that two additional air outlets may be required for the tunnel. This requires proper investigation during the preparation of the environmental assessments.

The location for air outlets has not yet been identified. The decision on where to locate the ventilation outlets will be based on technical and environmental considerations, and community feedback. Criteria include:

- A preference to locate outlets in industrial areas (if practical).
- The desirability of spacing the outlets at regular intervals along the tunnels to ensure fresh air flows in an efficient way in the tunnels.
- The need for each outlet to be as close to the tunnel as possible to maximise the energy efficiency of the ventilation system.
- The desirability of situating outlets on higher ground (if practical).

Sustainability initiatives

Cleaner air and progress on greenhouse gas reductions is a priority in the NSW Government. Road tunnels can reduce congestion on surface roads and enable free flowing traffic within tunnels. Initiatives where carbon emissions can be reduced in design and construction will be investigated, including:

- Energy efficiency of ventilation systems and lighting.
- The use of renewable energy to help provide lighting and operate the ventilation systems.
- The use of recyclable products during construction.
- The re-use of excavated material from the site.
- The capture of water for re-use during construction and operation.

Cleaner Vehicles Action Plan

The NSW Cleaner Vehicles Action Plan aims to improve air quality by reducing fuel consumption and developing a market for cleaner, newer, motor vehicles. The plan's four elements are:

- NSW clean car benchmarks.
- Cleaner NSW Government fleet.
- Green Vehicle Guide to provide consumers with information on the environmental performance of motor vehicles.
- The Clean Fleet Program.



Key points

- Road tunnels can reduce congestion on surface roads and enable free flowing traffic within tunnels.
- The government is committed to clean air initiatives and support of the NSW Action for Air plan.

5 Next steps

The M5 corridor expansion described here is at an early stage of development.

The economic gains from expanding the M5 would be delivered alongside protection for local residential areas.

Improvements to the corridor need to address local community amenity – including air quality, noise, vibration and visual impact.

To ensure these and other issues are considered, further investigations are required.

Design and engineering investigations

In the coming months, the project’s design will be developed to a point where environmental assessments can be undertaken on each section. Design and engineering studies will include:

- Concept development.
- Traffic modelling.
- Tunnel ventilation design.
- Geotechnical investigations.
- Construction methodology.

Environmental assessment

Separate environmental assessments will be undertaken on the two sections of the M5 corridor:

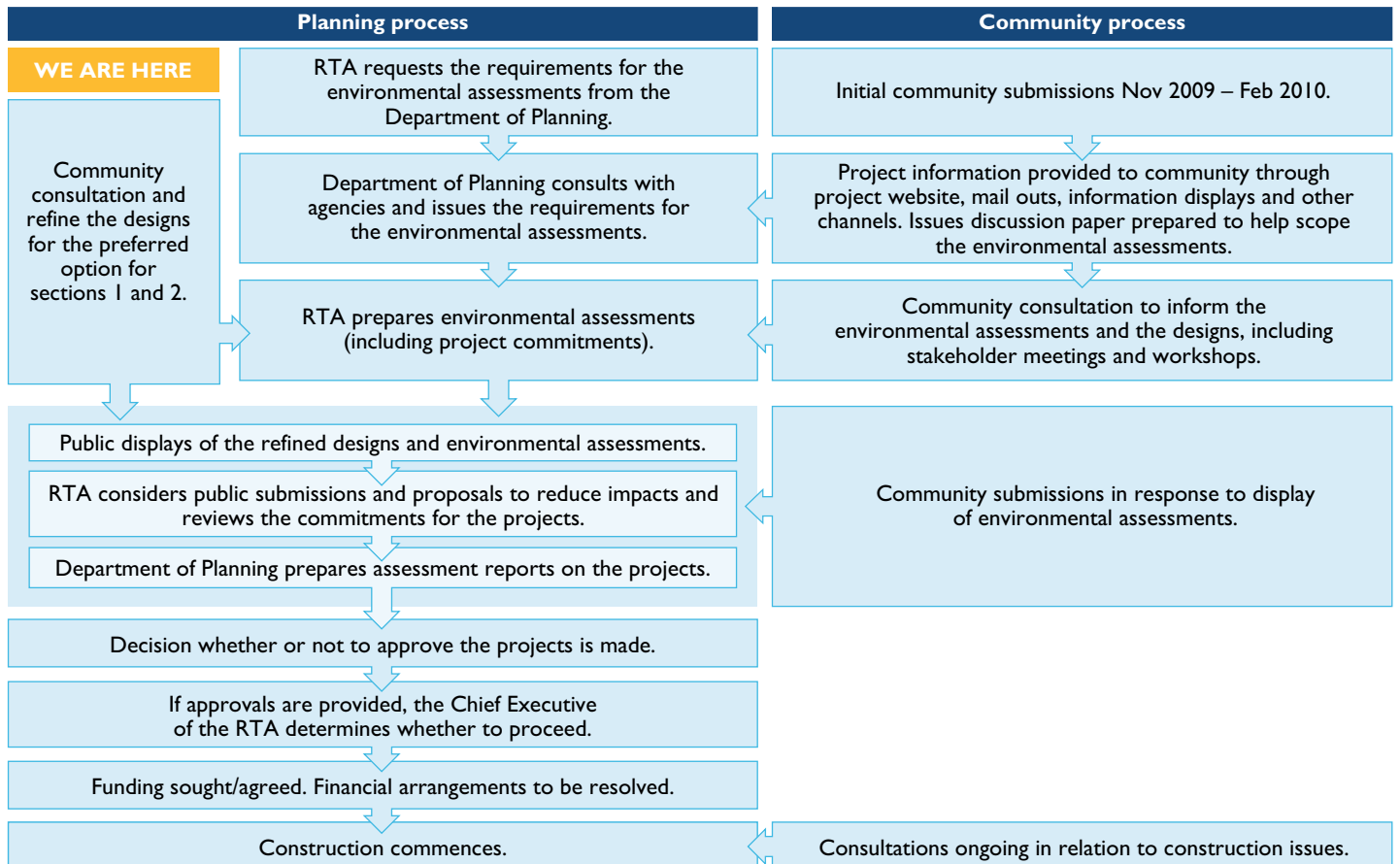
- Section 1 assessment: M5 South West Motorway (Camden Valley Way, Prestons, to King Georges Road, Beverly Hills), operated by Interlink Roads.
- Section 2 assessment: M5 East Motorway (King Georges Road, Beverly Hills, to Southern Cross Drive, Mascot, and Campbell Road, Alexandria).

The environmental assessments will consider and assess the environmental and social issues arising from the project and describe measures to reduce and manage these impacts.

Environmental and social issues to be considered during the assessments include:

- Changes to traffic patterns in and around the corridor.
- Air management and air quality.
- Noise and vibration.
- Energy use and greenhouse gas generation.
- Contaminated soil and spoil removal and management.
- Visual amenity.
- Biodiversity.
- Heritage.
- Social and economic.
- Other issues that arise during consultation.

Figure 9: Next steps



6 Community and stakeholder consultation

Community consultation is essential. The RTA is committed to engaging with the community and project stakeholders. This document is a starting point for this dialogue.

Consultation will continue throughout the environmental assessment process. Detailed information will be provided as investigations continue.

Visit the new interactive website for further information about the M5 corridor expansion. Here you will find video footage, animations and fact sheets explaining the need for the project and how it could affect you as a stakeholder.

More information on forthcoming community information sessions is available on the website and by phoning free call 1800 633 332.

Initial submissions are welcome now and all interested individuals and organisations are invited to submit their comments.

These submissions will help identify emerging issues for the M5 corridor expansion. The initial submissions will help scope the environmental assessments. Submissions close on 19 February 2010.

Consultations will then continue during the next step: preparing the environmental assessments (see Figure 9).

Comments can be submitted by:

- Email: m5expansion@rta.nsw.gov.au
- Post: RTA, M5 corridor expansion
PO Box 609, Pyrmont NSW 2009
- Website: www.m5corridorexpan.com.au

For more information phone the M5 corridor expansion free call number on **1800 633 332**.



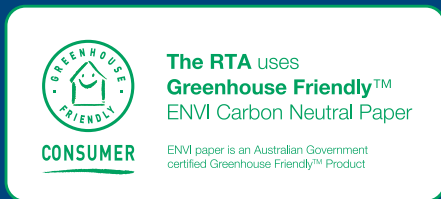
The M5 East freeway at Bexley North



carbon neutral

Australian made

recycled



The RTA uses
Greenhouse Friendly™
ENVI Carbon Neutral Paper

ENVI paper is an Australian Government
certified Greenhouse Friendly™ Product

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