



RAC members are happier

# Federal priorities for Western Australia

April 2013



# Keeping Western Australians on the move.

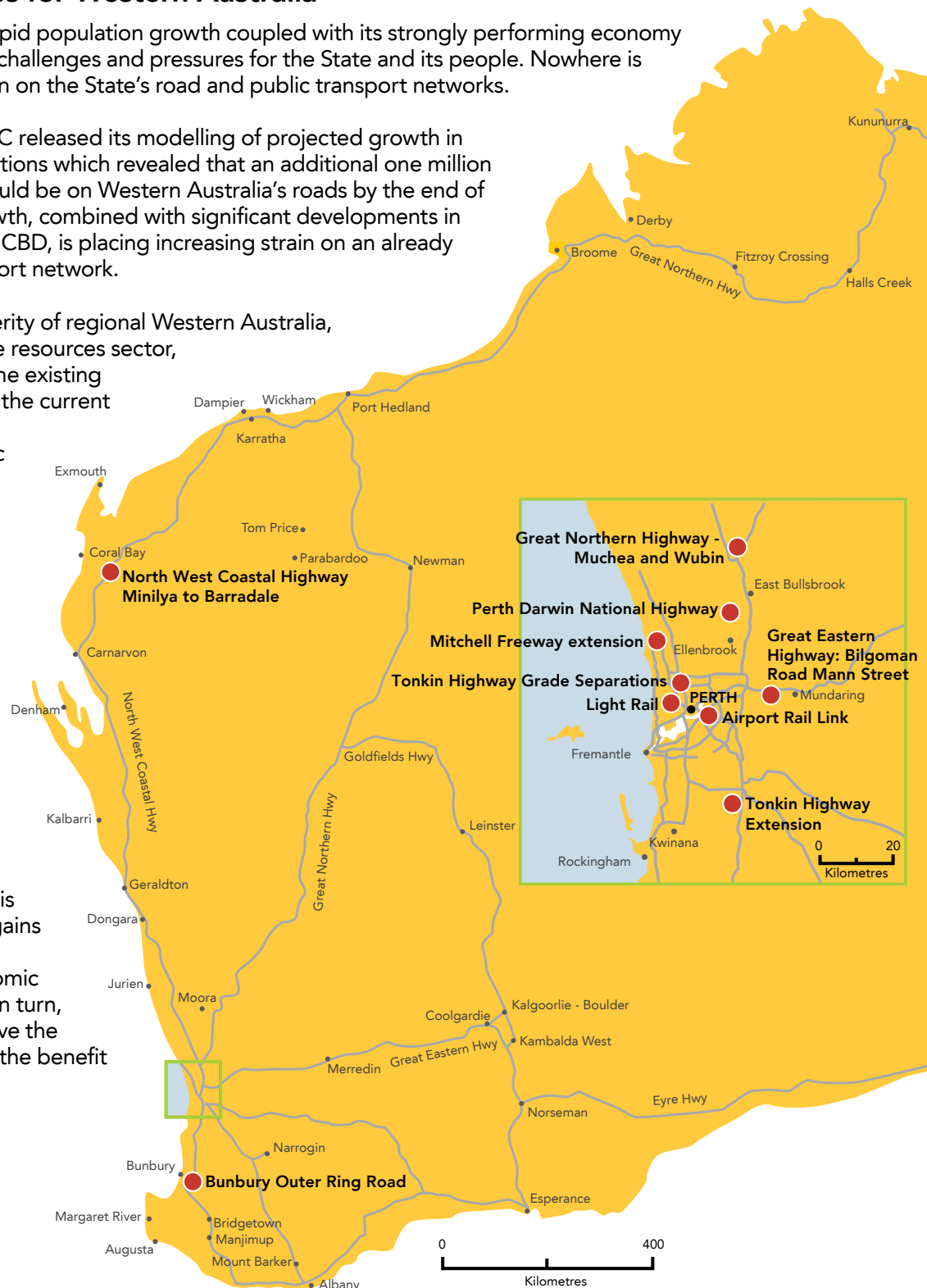
## Federal priorities for Western Australia

Western Australia's rapid population growth coupled with its strongly performing economy is creating significant challenges and pressures for the State and its people. Nowhere is this more obvious than on the State's road and public transport networks.

In March 2013 the RAC released its modelling of projected growth in motor vehicle registrations which revealed that an additional one million motorised vehicles could be on Western Australia's roads by the end of this decade. This growth, combined with significant developments in and around the Perth CBD, is placing increasing strain on an already over-stretched transport network.

The continued prosperity of regional Western Australia, primarily driven by the resources sector, has highlighted that the existing roads do not support the current or future resources, tourism and economic growth, both in terms of road safety and handling increased traffic volumes.

The RAC, as the representative of more than 750,000 members, believes that a strong argument exists for Western Australia to receive an increased share of Federal funding for road and public transport projects. This will ensure the State gains the maximum benefit from its current economic opportunities which, in turn, helps support and drive the national economy for the benefit of all Australians.



## 1. North West Coastal Highway: Minilya to Barradale

Revenue from oil, gas and iron ore production in Western Australia's Pilbara region is driving Australia's economy. The region was responsible for generating minerals and petroleum exports of \$80.5billion in 2010/11 representing 6.5% of Australia's total GDP<sup>1</sup>. This has increased from AU\$4.1billion in 1999/2000 and is greater than the individual GDP of 120 of the world's 183 nations<sup>2</sup>. By 2018, the total value of minerals and petroleum production in the Pilbara will be approximately \$210billion<sup>3</sup>.

The industrial growth in the Pilbara particularly around Onslow, Port Hedland and Karratha is unprecedented in Australia and infrastructure upgrades and expansion are not keeping pace with this growth. Federal, State and Local governments as well as the private sector have committed funding and resources to the Pilbara Cities initiative to bring a series of important infrastructure and community amenity upgrades to key towns in the Pilbara.

North West Coastal Highway is the main link between the regional centres of Geraldton, Carnarvon, Karratha and Port Hedland and provides access to various tourist destinations, mining operations and pastoral communities<sup>4</sup>. It is also a major freight route with triple road trains operating north of Carnarvon.

The narrow seal, at only 6.2m, between Minilya and Barradale is inadequate and unsafe given the anticipated increase in traffic associated with proposed industry expansions and new mining developments in the North West and the mix of heavy and light traffic including tourists during the summer months.

Federal funding is urgently required to widen the seal between Minilya and Barradale to bring it up to a standard that is comparable with the rest of the link. As an interim measure, Main Roads Western Australia has allocated funds to construct two northbound and two southbound overtaking opportunities as a short-term solution but this will not meet the requirements of the growing freight task or mitigate worsening road safety conditions.

Infrastructure Australia endorsed the inclusion of the North West Coastal Highway in the National Highway Network noting the importance of the link for Australia's economy<sup>5</sup>.



<b>Project Stage:</b>	Construction
<b>Need:</b>	Funding

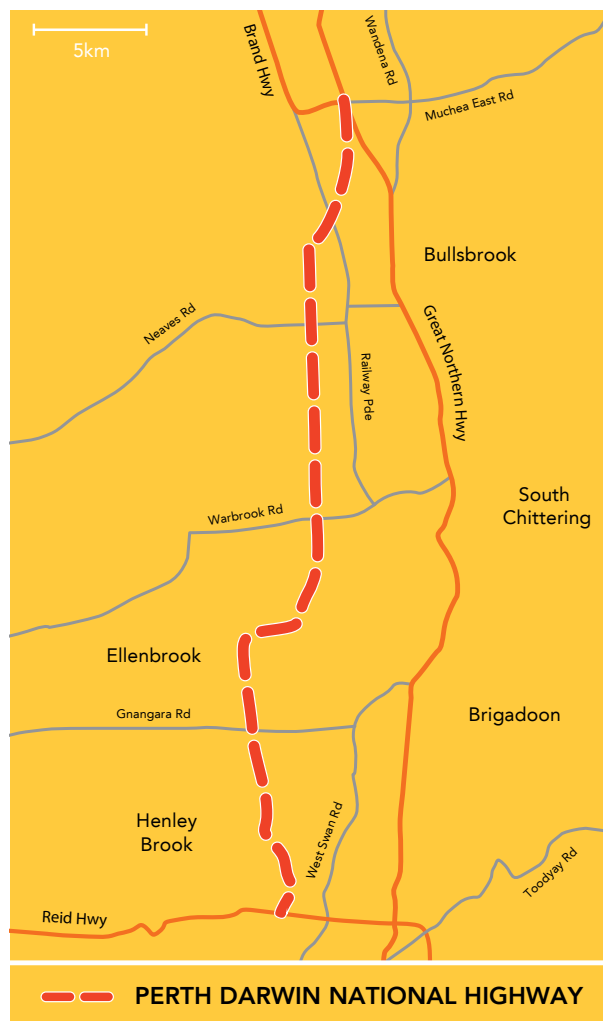
## 2. Perth Darwin National Highway

The Perth Darwin National Highway (Swan Valley Bypass) is an important link in the state and national road network, enhancing transport efficiency between the Perth metropolitan area, the north-west of Western Australia and the Northern Territory. It will also be an important arterial road in the rapidly growing north-east corridor.

Currently conflict exists between adjacent community land use and heavy vehicles in the Swan Valley. This section of the corridor restricts the efficiency and productivity of heavy vehicles due to lower speed limits and curfews. Capacity problems are evident on the existing two lane road and these will worsen as traffic volumes increase causing significant social impacts on residents and local industries. The City of Swan is regularly approached by its local residents and commercial operators to pursue the urgent construction of an alternative route.

The new alignment will provide a bypass away from the Swan Valley tourism and viticultural area which attracts around 700,000 visitors per year<sup>6</sup> and improve links to and from the north of the state with Perth's north-western corridor via Gnangara Road.

The Perth Darwin National Highway is vital to improving community safety and Western Australia's resources and agricultural economies. The State Government has committed \$196million to fund the project and an additional \$8million has been spent on the design of the project. A commitment to fund its construction is urgently required to enable the State to meet the planned commencement date in 2016.



<b>Project Stage:</b>	Construction
<b>Need:</b>	Funding



### 3. Light Rail

The State Government has announced plans for light rail to move large volumes of people during peak hours. Light rail results in between 10% and 25% additional patronage when compared with buses operating at an equivalent frequency. This is a result of improved comfort and other factors relating to passenger preference for rail. Light rail provides a sense of permanence which encourages opportunities to develop to the higher densities required to meet patronage targets<sup>7</sup>.

The highest priority link is a light rail service to the central northern suburbs as far as Mirrabooka along Alexander Drive and through North Perth to the CBD. A rail line does not currently exist in this densely populated sub-region and the light rail line has a projected patronage equivalent to that on the Fremantle, Armadale or Midland railways. A new light rail line along this corridor will also reduce pressure on the Clarkson Line, Perth's busiest passenger service.

The draft Public Transport Plan, released by the Department of Transport in 2011, shows that to fully utilise the fleet, light rail also needs to be extended through the city to the University of Western Australia and the Causeway, creating a network that supports the spine with passenger contra-flows. Longer term, the light rail service could also be extended to Curtin University in the south and through to East Wanneroo to Joondalup in the north.

The light rail system has the capacity to move up to 7,500 persons per hour, operating at a frequency of about 2 minutes, if it is provided with priority running along the route. The service will need to be introduced at a

frequency of about 4 minutes initially with capacity to move about 3,250 persons per hour in the peak direction and in excess of 30,000 persons per day two-way at the point of highest demand<sup>7</sup>.

Together the Federal and State Government have invested \$11.8million into planning and designing Perth's light rail system. Providing the first three light rail links will require about \$2billion for light rail cars, network infrastructure and depot facilities.

The proposed light rail network will enable the key growth precincts to meet targets without an equivalent increase in traffic and congestion. It will also encourage and facilitate transit-oriented development at various points along the planned routes, including West Perth, North Perth, East Perth and Victoria Park. The introduction of light rail to Western Australia is a clear signal of the significant role public transport is set to play in shaping the future of urban transport in the State.

---

**Project Stage:** Detailed design

---

**Need:** Funding

---



#### 4. Bunbury Outer Ring Road

The Bunbury Outer Ring Road will connect the five major roads that lead into Bunbury; the Australind Bypass, South Western Highway, Picton-Boyanup Road, North Boyanup Road and Bussell Highway. The road will cater for increasing volumes of commuter, tourist and commercial traffic coming to Bunbury and travelling to areas further south, particularly during the peak holiday periods<sup>8</sup>.

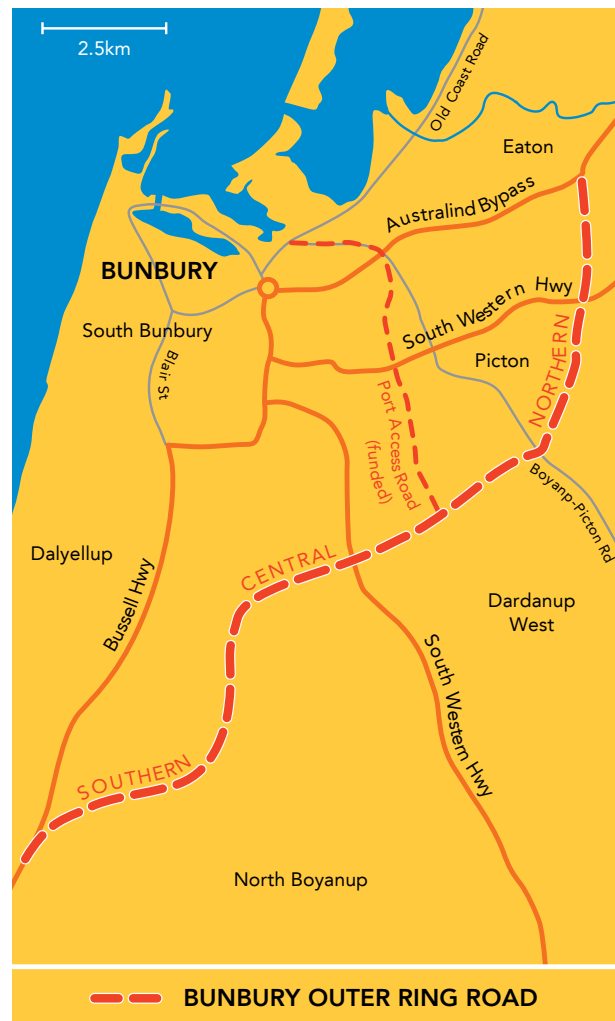
The Bunbury Outer Ring Road is to be constructed in three stages – central, southern and northern. The Commonwealth and State Governments have also provided \$170million for the Bunbury Port Access Project which includes one stage of the three stage project.

The remaining stages of the Bunbury Outer Ring Road between the Perth Bunbury Highway and Boyanup Picton Road (9.6km northern stage), and between South Western Highway and Bussell Highway (7km southern stage) are currently unfunded.

Currently, through-traffic and heavy vehicle traffic into the Port utilises the portion of Perth-Bunbury Highway within the City of Bunbury. This section of Perth-Bunbury Highway also carries a significant volume of local traffic and is the main link between Australind and the city centre. The mix of heavy vehicles and large volumes of local traffic causes congestion and is hazardous, resulting in transport inefficiencies and costs.

Forecasts show that traffic volumes around Bunbury will increase significantly over the next 10 years, and together with anticipated growth in rail traffic into the Port, will reduce the efficiency of the current road network, particularly the existing Inner Ring Road (Robertson Drive)<sup>8</sup>.

Construction of the Bunbury Outer Ring Road will facilitate the development of Bunbury Port and industry, improve the amenity of urban areas along the existing route, reduce congestion and improve road safety, travel times and freight efficiency<sup>8</sup>.



<b>Project Stage:</b>	Construction
<b>Need:</b>	Funding

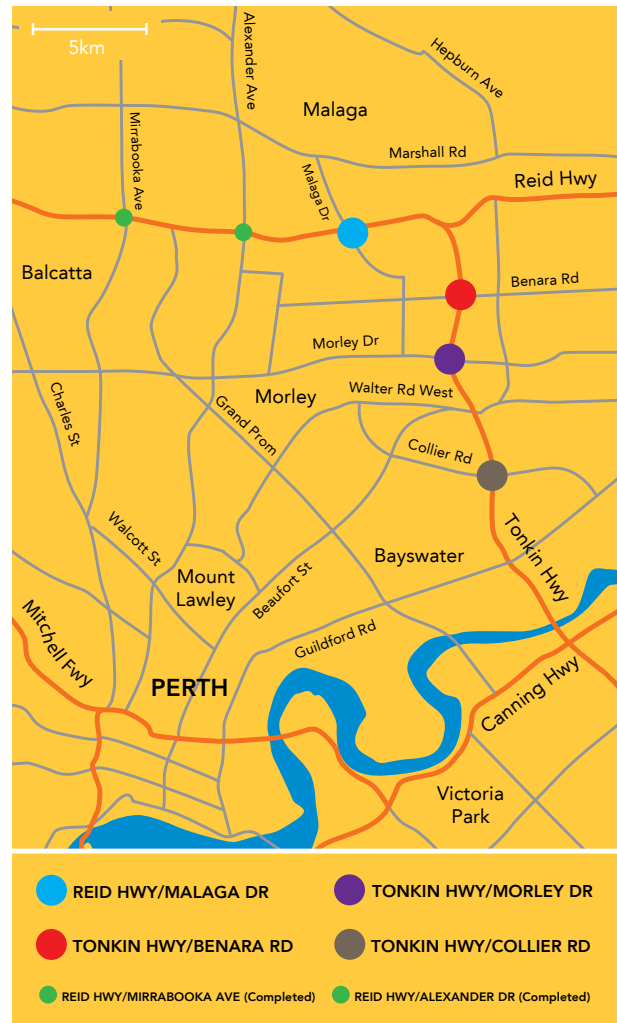
## 5. Tonkin Highway Grade Separations

Reid, Roe and Tonkin Highways are major arterial roads and part of Perth's Strategic Freight Network. Many of the intersections along these highways are 'at-grade'. Congestion and crashes are prevalent on all three highways imposing significant costs on the community and business.

The major freight carrying function of these highways makes the efficiency of these routes a national priority. In their entirety Reid, Roe and Tonkin provide an orbital link through Perth's eastern region connecting industrial areas in the north and south metropolitan area, including the important intermodal and industrial precincts of Malaga, Kewdale, Fremantle Port, Kwinana and in future Meridian Park in Neerabup.

The State Government was recently able to achieve long-term cost savings by adding in the grade separation of the \$20million Mirrabooka Avenue and Reid Highway as a sequential project to the \$50million grade separation of Alexander Drive and Reid Highway. The cost savings were achieved by allowing continuity of employment for the workforce and management team delivering the Alexander Drive and Reid Highway interchange.

To upgrade Perth's Highway system to Freeway standard, grade separations are required on Tonkin Highway at its intersections with Benara Road, Morley Drive and Collier Road. In order to achieve economies of scale these should be tendered as a single contract and delivered as a rolling program.



<b>Project Stage:</b>	Construction
<b>Need:</b>	Funding



## 6. Long term planning for additional river crossing

The Perth Waterfront project has the potential to bring some of the most dramatic changes to the Perth CBD in decades. The project is expected to cost the State Government \$404million. The precinct is expected to attract an estimated 9 million visitors per year and will host 15,000 to 20,000 people during major events<sup>9</sup>.

The Western Australian Planning Commission summarised the project as:

- the heart and soul of the city, of international interest, an iconic bold development and will contribute to a vibrant livable and globally competitive city
- a \$2.6billion project with 1700 apartments, 150,000sqm office, 39,000sqm retail, promenade 1.5ha, island, landing with timbered terraces at the water's edge.

Perth Waterfront is not an isolated initiative but is one of a series of major developments including Perth City Link, the redevelopment of Belmont Raceway and the 'Riverside' development of Riverside in East Perth that are expected to profoundly transform Perth city in coming years.

One of the more significant structural changes embodied in the Perth Waterfront Masterplan is the redefined role and function of Riverside Drive, a major arterial road which will be reconfigured to a two lane access road as a result of construction.

Riverside Drive currently carries about 40,000 vehicles per day through the city and is a key feeder to the Freeway system. The State Government has stated that this traffic will be redistributed onto the Graham Farmer Freeway and city streets such as William Street, Wellington Street and St Georges Terrace.

State Government modelling found that adding an extra lane to the Graham Farmer Freeway tunnel would help the system cope with the additional traffic only "in the next few years"<sup>9</sup>. The provision for extra lanes in the Graham Farmer tunnel was originally intended to respond to

population growth not network changes and thus new measures will need to be found to offset the looming congestion problem.

While supporting the remedial network changes that have been proposed, the RAC believes that planning must commence for an additional river crossing to reduce the volume of traffic moving around the city. This is in line with the requirements of Infrastructure Australia that the planning of Australian cities must have a long-term (30 to 50 year) view.

Modelling indicates that the Waterfront development will add up to 6-10 minutes to peak-hour travel times and that there will be a significant increase in the number of vehicles on streets around the Waterfront development. Traffic will also increase in surrounding suburbs as motorists look to avoid the area.

No formal estimates are available regarding the cost of building a river crossing however, as a guide, the 1.6 kilometre Graham Farmer Freeway tunnel was \$230million in 1997.

Although not directly comparable, the benefit of tunnel construction in intensely developed areas has been demonstrated in the past by the construction of the Northbridge Tunnel. The 10th anniversary of the tunnel's construction occurred in 2010 and the State Government reported that:

*"Graham Farmer Freeway (GFF) was delivering tens of millions of dollars in benefits to the West Australian community annually" and that "direct savings due to reduced crashes, vehicle operating costs and travel time amounted to more than \$1.4billion since 2000" and "the Northbridge tunnel carries about 100,000 vehicles per day and is one of the busiest road tunnels in Australia during peak hour. The sheer cost, size and traffic volumes currently handled by the GFF and Northbridge tunnel demonstrates just how important it has been to the development of Perth into an accessible and modern city."*

---

<b>Project Stage:</b>	Concept
-----------------------	---------

---

<b>Need:</b>	Planning
--------------	----------

---





## 7. Bus Rapid Transit

Growing congestion in Perth has renewed interest in rapid transit systems across all levels of government. Local governments are in particular feeling the impact of congestion, with arterial road congestion spilling onto local streets. Several local governments have expressed a desire for light rail infrastructure however the cost of such systems is clearly prohibitive with outlying suburbs unlikely to be able to generate the patronage required to justify services. With almost all of Perth's heavy rail (and soon light rail) lines terminating in the Perth CBD, Bus Rapid Transit (BRT) has a key role to play in transforming suburban mobility.

BRT is a high capacity, permanent, flexible system using specialised buses and dedicated lanes to efficiently transport passengers<sup>11</sup>. The successful application of BRT in Australia has been demonstrated in Brisbane which has outperformed patronage growth on standard bus services.

Fully-featured BRT can operate at speeds nearly twice as fast as conventional buses and promotes positive changes in local land use, encouraging appropriate development and enhancing property values<sup>12</sup>.

Federal government funding is urgently required for the Department of Transport's BRT proposals which, although released in 2011, remain unfunded. The following links should be considered a priority:

- **Fremantle to Canning Vale via Murdoch**

Murdoch Activity centre will comprise Fiona Stanley Hospital, St John of God Hospital and Murdoch University and will ultimately employ 35,000 people. Canning Vale is already developed as a major employment area, providing almost 15,000 jobs and the development of the adjacent Jandakot City will result in the release of 500,000sqm of leasable industrial space. Fremantle is classified as a strategic metropolitan centre under the Western Australian Planning Commission's Directions 2031 framework. In an effort to quell concerns about congestion around Murdoch, advocates have called for major infrastructure work to deal with congestion including the grade separation of a major intersection.

- **Ellenbrook to Morley via Bassendean**

Projected patronage figures justify a road-based rapid transit service for the next 10 to 20 years<sup>7</sup>. By 2016 approximately 40,000 people will live in and around Ellenbrook with no connection to Perth's rail system. A rapid transit link to the railway at Bassendean for trips to the central area and Midland, and access to commercial and community facilities at Morley is paramount. Detailed planning for this link is well underway.

- **Morley to Perth CBD**

Morley is a major centre for the eastern part of Perth and the City of Bayswater is currently undertaking planning for the Morley City Centre to coordinate its growth as a strategic metropolitan centre. Morley is not near to any existing rail infrastructure and as an important employment area, needs better connections to the CBD and other rail services.

---

<b>Project Stage:</b>	Detailed Design
<b>Need:</b>	Funding

---

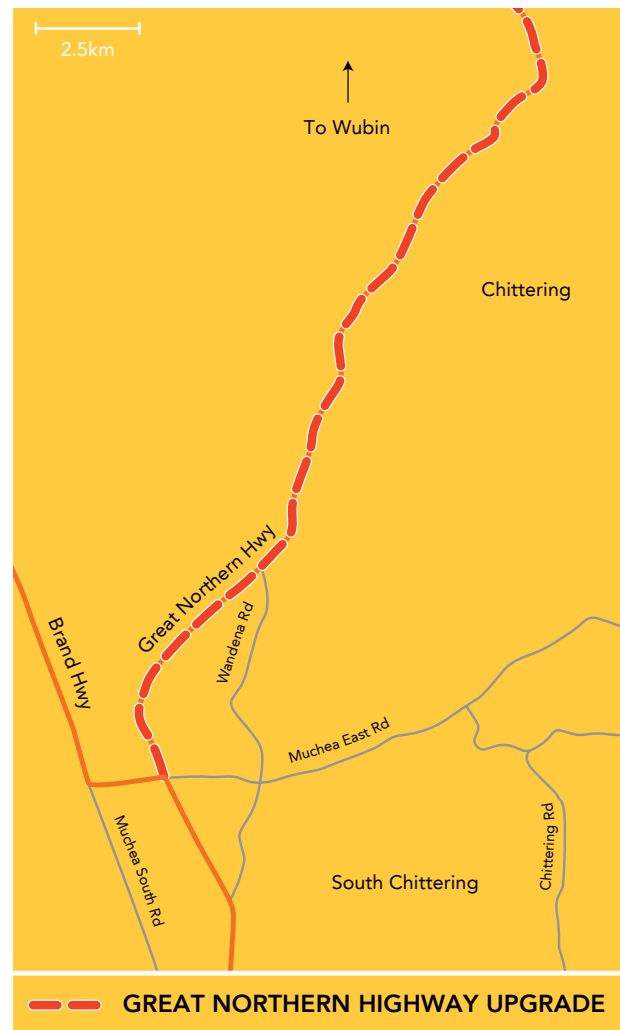
## 8. Great Northern Highway - Muchea and Wubin

The Federal Government contributed \$98.1million to complete stage one of the Great Northern Highway upgrade between Muchea and Wubin. Stage two of the project is currently unfunded and given the national importance of the Great Northern Highway completion of this project is a strategic priority.

Sections of Great Northern Highway are hazardous for heavy vehicle traffic with problems including narrow and winding sections with low visibility crests, poor pavement condition and limited overtaking opportunities. The efficiency of freight vehicle movements is also compromised by lengthy travel times. Double road trains operate from Perth to Wubin and triple road trains north of Wubin.

Additionally, the access provided by the Highway to tourism destinations in the Kimberley region in particular attracts significant tourist traffic including caravans. The mix of light and heavy vehicle movements presents a significant road safety risk.

Great Northern Highway is a strategically important route linking the Fremantle Port to the Pilbara and Kimberley. The link is integral to supporting the burgeoning gas industry in the Kimberley and facilitating high wide load transfers (8m by 10m sections of pre-fabricated mining, agricultural and pastoral equipment) to the Pilbara. The upgrading of the Great Northern Highway link is integral to further developing industry and employment in the North of Western Australia.



<b>Project Stage:</b>	Construction
<b>Need:</b>	Funding

## 9. Airport Rail Link

Over the past seven years the number of passengers travelling through Perth Airport has doubled and some 11.5 million passengers used Perth Airport last financial year, making it the fastest growing capital city airport in Australia<sup>13</sup>.

This growth is forecast to continue with passenger movements expected to reach at least 19 million by 2029<sup>13</sup>. The airport's commercial function is also expanding rapidly. Over 700 hectares of land is available for a wide range of non-aviation property development and a new domestic terminal will be built within the next three years as well as a major expansion of the current international terminal<sup>13</sup>.

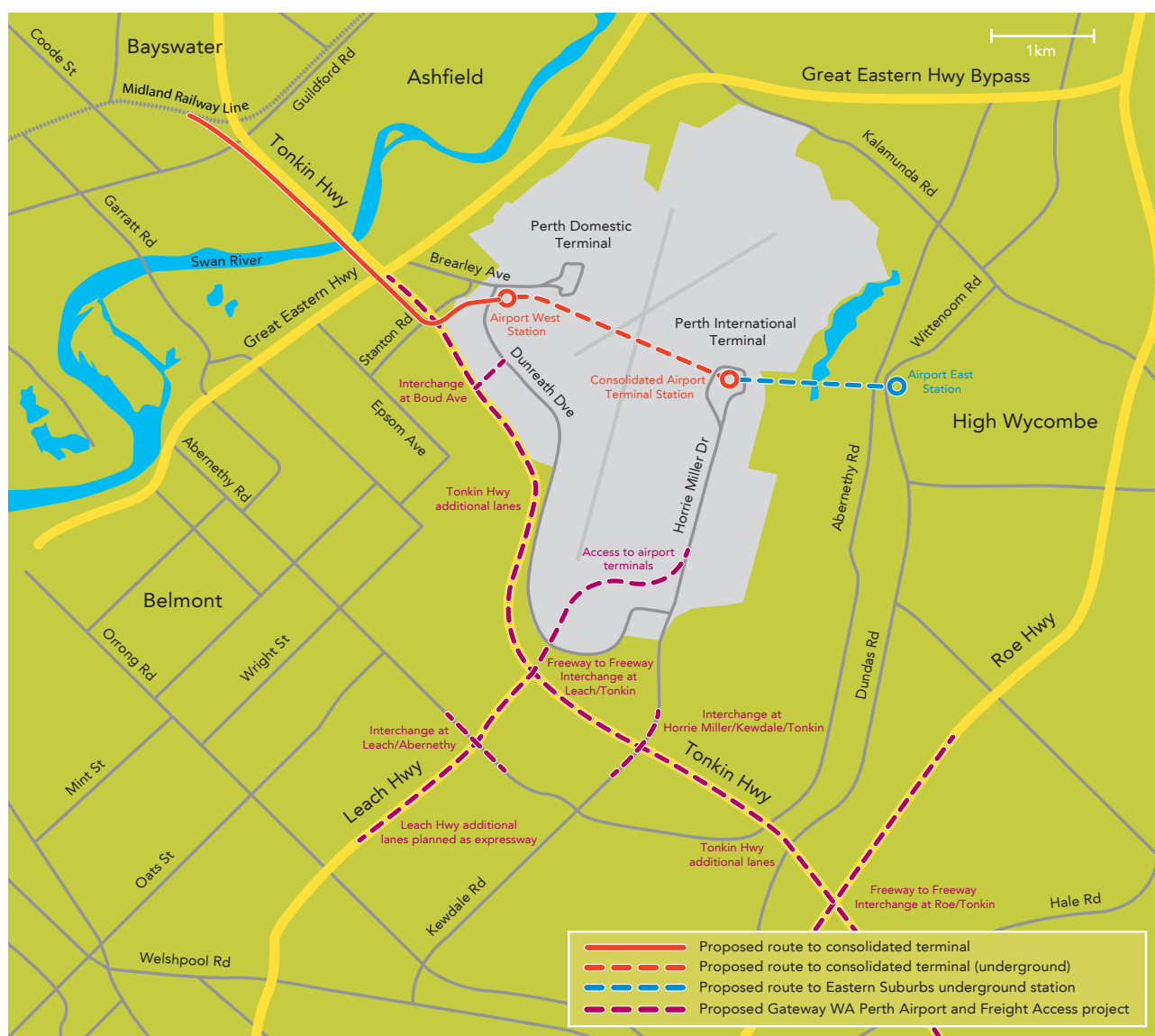
**Project Stage:** Detailed Design

**Need:** Funding

Perth residents have long been critical of the public transport services to and from Perth domestic and international terminals. Nowhere is this more apparent than in a Regional Integrated Transport Strategy prepared by Perth's Eastern Local Governments<sup>14</sup> which stated a key action as 'ensure the current level of bus service to the Perth Airport does not deteriorate any further'.

A substantial increase in the amount of employment, with the corresponding increase in passenger numbers at Perth Airport and the consolidation of the domestic and international terminals presents a unique opportunity to provide better public transport to the airport.

The State Government has committed to a new spur line from the existing Midland rail line to the site of the consolidated international and domestic airport terminal. The commitment to build the airport rail line is dependent on a Federal Government contribution and funding is urgently required to support the project including the extension, in the longer term, to the Hills community which is growing as both a residential and employment area.

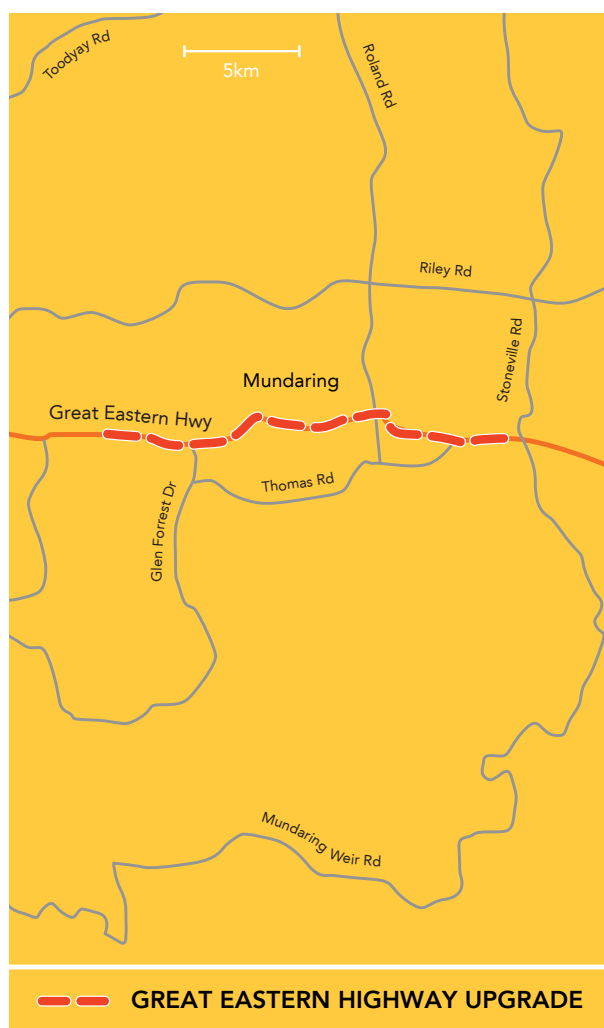


## 10. Great Eastern Highway: Bilgoman Road Mann Street

Great Eastern Highway is the main route to and from the Eastern States. The Highway also connects Perth to important intrastate destinations including the Wheatbelt and the Goldfields. The Highway is part of the National Highway Network and is therefore a road of national significance. It connects to Roe Highway, Great Northern Highway, Great Southern Highway, Tonkin Highway and the Coolgardie-Esperance Highway.

The upgrade of the section of Great Eastern Highway between Bilgoman Road in Greenmount and Mann Street in Mundaring is a key priority. This section of Great Eastern Highway carries in excess of 20,000 vehicles per day including a large number of trucks which conflict with directly abutting properties. There are currently no sealed shoulders along much of its length and there are safety issues with pedestrians walking in the unsealed shoulder to access (unsealed) bus stops. Sealing the shoulders will additionally provide safer access to Great Eastern Highway from adjacent properties.

Safety improvements were identified within a comprehensive Road Safety Audit conducted in 2004 and a detailed business case submission has been prepared for this \$20million project which is a strong candidate for Nation Building 2. The State Government has committed to the project with a funding allocation of \$12million.



---

<b>Project Stage:</b>	Construction
-----------------------	--------------

---

<b>Need:</b>	Funding
--------------	---------

---



## 11. Mitchell Freeway extension and upgrade of adjacent network

Perth's North West corridor is one of the fastest growing regions in Australia. According to the Western Australian Planning Commission the current population of about 270,000 will expand to about 395,000 by 2031. Some forecasts indicate the corridor could accommodate a population of up to 600,000 in the long term subject to the provision of appropriate infrastructure to support such development<sup>15</sup>. This development is expected to generate substantial traffic and impact significantly on service requirements in the corridor.

Because of the shape of the corridor and the presence of national parks and lakes, the North West corridor has a limited number of major north-south transport routes and it will be difficult to increase the transport links beyond what is currently planned in the Metropolitan Region Scheme.

A detailed transport modelling study commissioned by the WA Department of Planning in 2006 found that by 2031 the Mitchell Freeway will need to be extended to Romeo Road (the suburb of Alkimos) with prior staged extensions occurring at Neerabup Road and Hester Road to a four lane configuration.

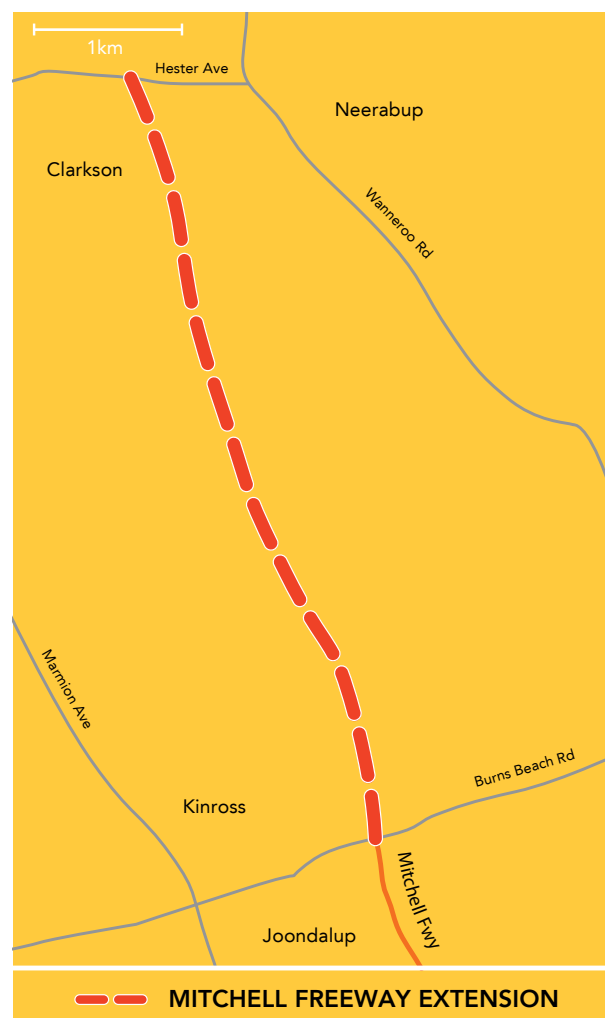
In March 2012 the Western Australian Minister for Transport established the Mitchell Freeway Extension Community Working Group (CWG). The terms of reference were to assist Government to better understand what the local community sees as priority in achieving transport solutions to address the growth of the north metropolitan Perth area in the next 20 years, including the timeline for the extension of the Mitchell Freeway north.

The outcome of the CWG Leadership Group was a business case detailing the process, options examined, their costs, economic impacts and a recommended option with potential funding mechanisms<sup>16</sup>. The CWG ultimately recommended extending the Mitchell Freeway in stages to Romeo Road, completing east/west links to Flynn Drive and Hester Avenue and completing the duplication of Wanneroo Road.

Extension of the Freeway is needed to Neerabup Road as a priority in order to connect the Freeway network to the developing Meridian Park. Meridian Park is expected to meet the industrial land supply needs in the region for the next 20 years. Formerly known as the Neerabup Industrial Area, Meridian Park is located off Flynn Drive north of Wanneroo, approximately 32km north of the Perth CBD and 4km north east of the Joondalup city centre. The estate is ideally positioned to benefit from current and future road connections<sup>17</sup>.

The Park will consist of 400ha of general industrial, service industrial and business zoned land. When completed, the development will act as a catalyst to create up to 20,000 new employment opportunities for residents of surrounding communities and is key to increasing the employment self-sufficiency of the area.

<b>Project Stage:</b>	Construction
<b>Need:</b>	Funding



## 12. Tonkin Highway Extension

Tonkin Highway currently extends from the Reid Highway in Malaga, south past the domestic and international airports to Thomas Road. There are long-standing proposals to extend Tonkin Highway at both the northern and southern terminus.

In the south it is proposed to extend the Highway from the current terminus at Thomas Road to connect to South Western Highway in the vicinity of Jarrahdale Road, just south of Mundijong in the Shire of Serpentine Jarrahdale. This connection to South Western Highway will complete an important link in the network. The outward growth of Metropolitan Perth towards the Shire in recent years will continue to change land use dynamics, with extra pressure for urban and rural residential expansion at the northern end of the Shire<sup>18</sup>.

Additionally, the potential realignment of the Kwinana-South West freight rail line that runs along the boundary of the proposed West Mundijong strategic industrial area would present the opportunity to construct an intermodal freight terminal. Under this scenario good linkages to the primary regional road network will be even more relevant. This proposal and the further development of the West Mundijong strategic industrial area are also important to achieving a high level of employment self-sufficiency for this growing region.

It is anticipated that the Highway will need to be six lanes wide from Thomas Road to Mundijong Road and four lanes from Mundijong Road to South Western Highway. The proposed extension will reduce the volume of heavy traffic in the urban areas of Perth's south-east metropolitan region. It was originally intended by Main Roads WA that the construction of the road would commence in 2004 and conclude in 2006<sup>19</sup>.



<b>Project Stage:</b>	Detailed Design phase
<b>Need:</b>	Funding







RAC members are happier

## CONTACT

### RAC Member Advocacy

**www.rac.com.au**

**email: [advocacy@rac.com.au](mailto:advocacy@rac.com.au)**

<sup>[1]</sup> Department Mines & Petroleum 2011, Statistics Digest 2010/11, Government of Western Australia, accessed 26 April 2013 <<http://www.dmp.wa.gov.au/documents/StatsDigest1011.pdf>>

<sup>2</sup> Webster S. 2012, Future Development of the Pilbara, Pilbara Development Commission accessed 26 April 2013 <[http://www.nrsinpilbara.com.au/pdf/FINAL\\_-\\_Pilbara\\_Futures\\_Presentation\\_updated\\_April\\_2012.pdf](http://www.nrsinpilbara.com.au/pdf/FINAL_-_Pilbara_Futures_Presentation_updated_April_2012.pdf)>

<sup>3</sup> Department Mines & Petroleum 2011, Statistics Digest 2010/11, Government of Western Australia, accessed 26 April 2013 <<http://www.dmp.wa.gov.au/documents/StatsDigest1011.pdf>>

<sup>4</sup> Main Roads Western Australia 2013, Government of Western Australia, accessed 26 April 2013 <<http://www.mainroads.wa.gov.au/ABOUTMAINROADS/OURROLEREGIONS/GASCOYNE/PROJECTS/Pages/NWCH.aspx>>

<sup>5</sup> ABC News 2012, ABC Australia, accessed 26 April 2013 <<http://www.abc.net.au/news/2012-06-12/support-aiored-for-north-west-coastal-highway-push/4066296>>

<sup>6</sup> City of Swan 2013, Government of Western Australia, accessed 26 April 2013 <[http://www.swan.wa.gov.au/Our\\_City/About\\_Swan](http://www.swan.wa.gov.au/Our_City/About_Swan)>

<sup>7</sup> Department of Transport, 2011, Public Transport for Perth in 2031, Government of Western Australia, accessed 26 April 2013 <<http://www.transport.wa.gov.au/aboutus/23281.asp>>

<sup>8</sup> Main Roads Western Australia 2013, Australia, accessed 26 April 2013 <http://www.mainroads.wa.gov.au/AboutMainRoads/OurRoleRegions/SouthWest/projects/Pages/BORR.aspx>

<sup>9</sup> Metropolitan Redevelopment Authority 2013, Western Australia, accessed 26 April 2013 <<http://www.mra.wa.gov.au/Projects/Elizabeth-Quay/About-the-Project/?gclid=CLj7j4Ke5rECFaVMpgod1EIAwQ>>

<sup>10</sup> Yahoo News, 2012, Australia, accessed 26 April 2013 <<http://au.news.yahoo.com/thewest/a/-/newshome/14188754/waterfront-road-crawl/>>

<sup>11</sup> National Bus Rapid Transit Institute 2013, United States, accessed 26 April 2013 <<http://www.nbti.org/>>

<sup>12</sup> Transportation Research Board 2013, United States, accessed 26 April 2013 <<http://www.trb.org/Main/Home.aspx>>

<sup>13</sup> Westralia Airports Corporation 2012, accessed 26 April 2013 <<http://www.perthairport.com.au/index.aspx?>>

<sup>14</sup> Eastern Metropolitan Regional Council 2012, Eastern Metropolitan Region Integrated Transport Strategy, Western Australia

<sup>15</sup> ARRB 2006, North West Corridor Study, Department of Planning, Western Australia

<sup>16</sup> Main Roads Western Australia 2013, Government of Western Australia, accessed 26 April 2013 <<http://www.mainroads.wa.gov.au/BuildingRoads/Projects/planning/Pages/mitchell.aspx>>

<sup>17</sup> Land Corp 2013, Government of Western Australia, accessed 26 April 2013 <<http://www.landcorp.com.au/project/meridianpark/>>

<sup>18</sup> Forecast ID 2012, Shire of Serpentine Jarrahdale, Western Australia, accessed 26 April 2013 <http://forecast2.id.com.au/default.aspx?id=323&pg=5000>

<sup>19</sup> Main Roads Western Australia, Tonkin Highway Extension from Mills Road West Gosnells to South Western Highway Mundijong: Report and Recommendations of the Environmental Protection Authority Western Australia, accessed 26 April 2013 <[http://www.epa.wa.gov.au/docs/1004\\_B1043.pdf](http://www.epa.wa.gov.au/docs/1004_B1043.pdf)>