

# **Federal Priorities for Western Australia**

**2018**



**For the better**

# About RAC

RAC represents the interests of more than one million Western Australians and is the leading advocate on the mobility issues and challenges facing the State. RAC works collaboratively with all levels of Government and other organisations to ensure Western Australians have access to safe, easier, and more sustainable mobility options.

RAC aligns its activities with mobility that is:

- » **Safe:** A safe mobility system can be identified as a system that outperforms national and international safety benchmarks. It encompasses safer drivers in safer cars on safer roads.
- » **Easy:** To have a cost efficient, convenient and reliable commuter network is an essential part of personal mobility.
- » **Sustainable:** Sustainable mobility is broader than the environmental aspects of mobility; it encompasses the mobility needs of current and future generations.

RAC reinvests its profits for the benefit of RAC members, by supporting several major sponsorship programs such as the RAC Rescue helicopters, as well as a range of community projects aligned to safe, easy and sustainable mobility such as the Automated Vehicle Trial, Electric Bike Trials and Electric Highway.



# About RAC's Federal Priorities for Western Australia

In the past two decades, rapid increases in population coupled with an economy driven by the resource sector have been a catalyst for enormous change in Western Australia (WA). Today, despite a more fiscally conservative outlook, WA's population continues to increase placing added pressure on transport infrastructure and services.

The health and stability of the national economy is inextricably linked to the economic, social and environmental performance of its capital cities and regional areas. Over the life of the transport plan for Perth and Peel (*Transport @ 3.5 Million*), released in February 2017, there will be a need for 800,000 new homes to accommodate the growing population, which will nearly double the number of trips made every day in and around Perth – leading to over 12 million trips daily<sup>1</sup>.

It is therefore critical that the Australian and State governments develop and invest in targeted infrastructure programs that

together will deliver liveability and productivity outcomes for WA and the nation. Investment in safer and more efficient roads will be crucial, as will funding for major public transport projects and strategically important active transport infrastructure to deliver an integrated, reliable and world class transport system. Additionally, funding for the timely implementation of smart transport solutions, and to ensure preparedness for the safe transition of electric, automated and connected vehicles onto our roads, will deliver further benefit from past transport infrastructure investment and future proof new infrastructure.

The following priorities have been identified as urgently requiring Australian Government support:

## Infrastructure priorities

- 1 Thornlie to Cockburn rail line
- 2 Rating and improving the safety of roads
- 3 Automated and connected vehicles
- 4 Smart transport solutions
- 5 Perth Light Rail
- 6 Rail for Perth's northern corridor
- 7 Major highway grade separations

- 8 Bunbury Outer Ring Road
- 9 Albany Ring Road
- 10 Cycling infrastructure projects
  - a. Perth's Principal Shared Path network
  - b. Green bridges

## Policy priorities

- » Investment of motorist taxation revenue
- » Vehicle safety standards
- » Cycling infrastructure funding
- » Mandatory vehicle emissions and fuel standards

<sup>1</sup>Department of Transport Western Australia (2017). "Transport at 3.5 million Perth & Peel Transport Plan". [https://www.transport.wa.gov.au/mediaFiles/projects/PROJ\\_P\\_Perth\\_Transport\\_Plan\\_full.pdf](https://www.transport.wa.gov.au/mediaFiles/projects/PROJ_P_Perth_Transport_Plan_full.pdf)

# 1. Thornlie to Cockburn rail line

Roe Highway forms a critical part of the middle suburbs ring road, connecting the State's economic powerhouses of Perth Airport, the Kewdale industrial precinct and Fremantle Port with regional WA. Daily commuter traffic in the area has led to problematic levels of congestion, a situation that will only worsen as local industrial and commercial centres continue to grow and develop.

The extension of the Thornlie rail line, which connects to the existing Armadale rail line, is an opportunity to provide a highly attractive public transport option for commuters who live in Perth's central southern suburbs. This crucial extension will link two of Perth's existing major railways, the Mandurah line at Cockburn Central Station and the Armadale line via new stations in the Canning Vale industrial precinct at Nicholson and Ranford roads.

Importantly, the Thornlie to Cockburn line represents one of the first links in the delivery of the overarching Perth Orbital rail network which will form a ring around the central region of Perth linking Stirling, the University of Western Australia, Queen Elizabeth II Medical Centre, Booragoon, Murdoch, Thornlie, Forrestfield, Belmont, Bayswater and Morley with a link between Morley and Stirling closing the loop. The Perth Orbital will mostly follow the alignment of the Reid and Roe highways through Perth's middle suburbs<sup>1</sup>.

This highly strategic project, which will also improve travel to and from the new Perth Stadium, was identified as a key initiative for Perth's southern corridor in Infrastructure Australia's February 2017 Infrastructure Priority List. Previously, analysis carried out by Infrastructure Australia forecast that by 2031 the road and rail corridors linking the southern suburbs with Perth's Central Business District (CBD), and the east-west road and rail links across Perth will include the four most congested road corridors in Australia<sup>2</sup>.

**Infrastructure Australia predicts that the Mandurah train line will reach or exceed 'crush capacity' by 2031 and warns Perth faces a choice to either expand the south-west and north-west fringes or increase density and public transport into the inner city and middle suburbs<sup>3</sup>.**

The success of recent heavy rail projects in Perth demonstrates an appetite amongst commuters to embrace public transport. In 2007, the opening of Perth's last major public transport project, the 72km Perth to Mandurah line marked the completion of WA's largest public transport infrastructure project. Post-implementation monitoring showed that 88 per cent of respondents agreed that the project was 'worth the expenditure'; and with more than 20 million passenger

boardings each year<sup>4</sup> the Mandurah line has eclipsed initial patronage projections.

The Thornlie to Cockburn line will deliver significant productivity benefits by:

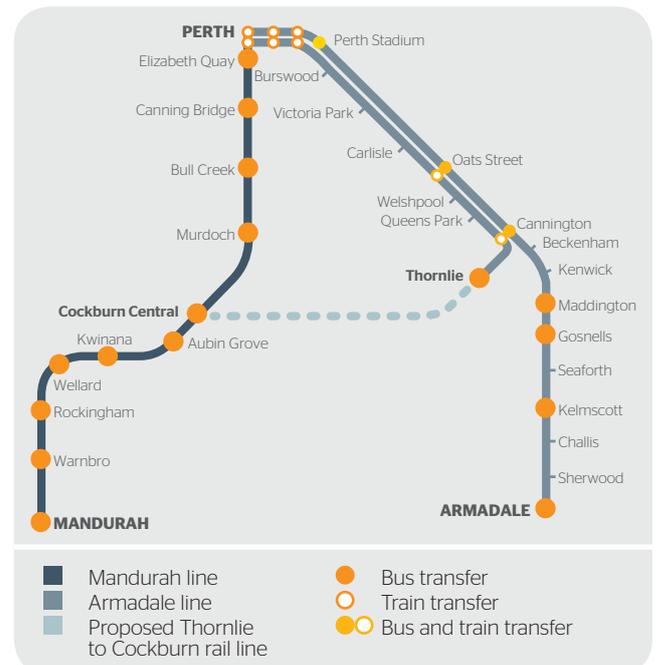
- > Helping to relieve congestion pressures and release capacity along key corridors for freight and commercial traffic;
- > Creating a city-shaping, strategic link between several major and economically significant centres; and
- > Connecting the workforce to jobs throughout the region and in the Perth CBD.

The project development work for the Thornlie to Cockburn line is well advanced, with preliminary railway alignments and designs completed. Despite being identified as a priority in *Transport @ 3.5 Million*<sup>1</sup>, as well as having broad political and community support, the project remains without Australian Government funding.

### RAC calls on the Australian Government to:

- » Confirm funding towards the 17.5km extension of the Thornlie rail line (\$535.8m in total project costs) to provide one of the first links in Perth's Orbital rail network.

### Mandurah, Armadale & Thornlie rail lines



<sup>2</sup> Infrastructure Australia (2017), 'Infrastructure Priority List 2017 - Project and Initiative Summaries', <http://infrastructureaustralia.gov.au/policy-publications/publications/Infrastructure-Priority-List.aspx>

<sup>3</sup> Infrastructure Australia (2015), 'Australian Infrastructure Audit: Our Infrastructure Challenges' <http://infrastructureaustralia.gov.au/policy-publications/publications/files/Australian-Infrastructure-Audit-Volume-1.pdf>

<sup>4</sup> Public Transport Authority (2017), 'Annual Report 2016-17', <http://www.ptawa.gov.au/annualreport2017>

# 2. Rating and improving the safety of roads

WA is in the unenviable position of having the poorest road safety performance of all mainland Australian states. In 2017, WA's fatality rate was once again above the national rate of 51, Victoria's leading rate of 4.2 and New South Wales' rate of 4.6 fatalities per 100,000 persons. However, the tragic and avoidable loss of life on WA's roads tells only part of the story. In 2016 alone, there were nearly 1,500 injuries as a result of road crashes, resulting in serious and sometimes life-long injuries. In its *Cost of Road Trauma in Australia* publication, the Australian Automobile Association estimated that road trauma cost the nation's economy between \$22 and \$30 billion in 2015 and the direct cost of road trauma to government was more than \$3.7 billion in a single year.

RAC partners with other Australian Automobile Clubs and the Australian Government to rate roads for road safety using the Australian Road Assessment Program (AusRAP) star rating system. Safe roads with design elements such as divided carriageways, good line marking, audible edgelines and sealed shoulders have a higher star rating. Lower-rated roads are likely to be undivided with poor line marking and roadside hazards such as trees, poles and embankments.

Many crashes occur when ordinary people make everyday mistakes. Safe roads minimise the chances of these crashes happening, and if they do occur, they minimise the severity of the crash. The ultimate objective of AusRAP is to reduce road trauma by systematically assessing risk and identifying shortcomings to address and create a safe road system. A road system where five star drivers are in five star cars on five star roads should result in zero deaths.

In 2013, 4,671 kilometres of WA's National Highway Network was star rated for safety. Five per cent of the network was rated as 1-star and 22 per cent was rated as 2-star. The majority (57 per cent) of road links in the State were rated as 3-star and just 16 per cent were rated as 4-star. No highways achieved a 5-star rating. It is an alarming revelation and significant risk to WA road users that 27 per cent of WA's National Highway Network recorded an AusRAP star rating of just one or two stars<sup>5</sup>.

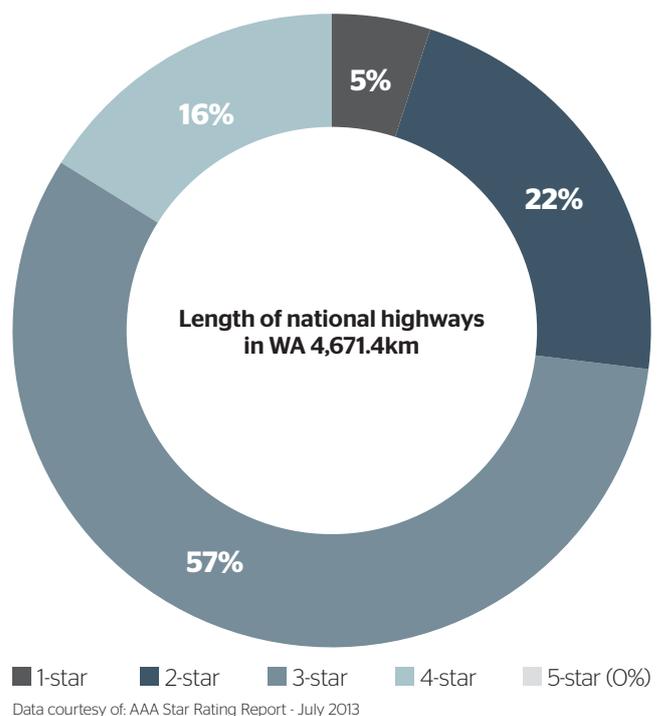
A Safer Roads Investment Plan which was developed for WA identifies that with the implementation of selected road safety treatments, WA would save approximately 4,150 lives and serious injuries. If fully implemented, this would cost just \$450 million with a high benefit-cost ratio of 4:18. Fully implementing the Investment Plan would reduce the proportion of 1-star rated

roads from five per cent to one per cent. Two-star rated roads would decrease from 22 per cent to 14 per cent. The proportion of 3-star (66 per cent) and 4-star (19 per cent) roads would increase to 85 per cent.

**RAC calls on the Australian Government to:**

- » Commit funding to implement the remaining aspects of the Safer Roads Investment Plan for the WA National Highway Network, as rated in 2013 (\$430m in total project costs), to remediate the 27 per cent of the network which recorded an AusRAP star rating of just one or two stars.
- » Commit funding towards a rolling program to rate the safety of higher volume arterial regional roads across the State (\$650,000 in project costs), to inform the development of a Safer Road Investment Plan(s) of essential safety treatments.

**Distribution of star ratings in WA**



<sup>5</sup> Australian Automobile Association (2013). "Star Rating Australia's Network of National Highways [http://www.aaa.asn.au/storage/ausrap-star-rating-report.original\(2\).pdf](http://www.aaa.asn.au/storage/ausrap-star-rating-report.original(2).pdf)

# 3. Automated and connected vehicles

Automated and connected vehicle technology is advancing rapidly and varying levels of automation are now widely available in the vehicle fleet, including autonomous emergency braking, lane keeping and supervised autonomous mode, where drivers rely on technology to steer, brake and/or accelerate. Wider adoption of the technology has the potential to significantly improve road safety outcomes, as well as providing enhanced urban and regional mobility.

According to the US National Highway Traffic Safety Administration, around 94 per cent of crashes are a result of human error. Through full automation of the driving task, the possibility of a crash-free road environment is more likely than ever. Based on the Australia & New Zealand Driver Vehicle Initiative<sup>6</sup> estimated timeframes for the industry accepted SAE levels of automation<sup>7</sup>, Level 4 (High Automation) vehicles could be available between 2020 and 2025 and Level 5 (Full Automation) vehicles between 2026 and 2030.

While there are many unknowns, automated and connected vehicles will no doubt have considerable implications for our transport networks, towns and cities. A well-defined roadmap for how we plan for, and manage the challenges of regulating the technology has never been more important to ensure their safe transition onto our roads and maximise their contribution as part of an integrated transport system.

On 31 August 2016, RAC, with the support of the WA State Government and City of South Perth commenced the on-road stage of Australia's first automated vehicle trial with a fully driverless and electric shuttle bus, the RAC Intellibus®. The trial was among the first in the world and continues to carry passengers while interacting with traffic, parked cars, cyclists and pedestrians along its route in South Perth. At the end of January 2018, it had driven over 8,600km in autonomous mode and enabled more than 7,000 people to experience driverless technology first-hand. The Intellibus® continues to improve national and international understanding around how automated vehicles operate and the potential impacts and opportunities of the technology.

Public trials can advance understanding, as well as the community's acceptance of the technology. RAC's 2016 Automated Vehicle Survey revealed that whilst Western Australians are receptive, views are mixed, particularly in relation to safety (many believe there will be road safety benefits and others have concerns about 'trusting computers'). However, those with an awareness of, or who have experienced the Intellibus® feel more positively towards the technology. Likewise, 97 per cent of respondents to the Intellibus® post-ride

survey support its future use to provide the first and last mile services to complement public transport.

To ensure automated and connected vehicles complement traditional public transport and resolve rather than contribute further to Australia's transport challenges, there will be a need to foster public or shared, on-demand services. In 2018, as part of the broader automated vehicle program, RAC, in partnership with NAVYA and the State Government, will be testing several driverless passenger 'AUTONOM' vehicles which have been designed as an on-demand shared mobility service, bookable through a smartphone app. This is a significant advancement on the already ground-breaking technology in the two RAC shuttles.

All levels of government have a leading role in shaping the future with automated and connected vehicles. Strong leadership is required from the Australian Government to capitalise on, and realise the benefits of, the advancements in the technology, in relation to funding and coordinating the national framework. This includes:

- > Continuing to support public trials which evaluate and fine-tune automated vehicles in the early stages of development;
- > Collaboratively preparing a blueprint to guide the safe and well-planned transition to automated vehicles;
- > Actively supporting options and developing policy for new shared, on-demand transport services, particularly to service the 'first or last mile';
- > Advancing regulatory changes to redefine the term 'driver' and being in 'control' of a 'vehicle', developing a framework for the policing and enforcement of automated vehicle operation and evolving public and private insurance schemes so that liability is clear and fair;
- > Outlining a process to review road rules and infrastructure needs, including that they gradually become more uniform across Australia; and
- > Identifying and investing in communications infrastructure to support automated vehicles.

#### RAC calls on the Australian Government to:

- » Commit funding to prepare for a future with automated and connected vehicles (\$50m in project costs) to enable WA and the nation to capitalise on advancements in technology and future proof new infrastructure.

<sup>6</sup> Australia & New Zealand Driver Vehicle Initiative (2018), "Levels of Automation", <http://advi.org.au/driverless-technology/>

<sup>7</sup> SAE International (2014), "Automated Driving", [http://www.sae.org/misc/pdfs/automated\\_driving.pdf](http://www.sae.org/misc/pdfs/automated_driving.pdf)

## 4. Smart transport solutions

Reduced traffic throughput, higher crash rates, reduced public transport reliability and increased fuel consumption and greenhouse gas emissions are features of WA's increasingly congested roads. Funding for the timely development and implementation of technology solutions (or Intelligent Transport Systems, ITS) to enable a smarter transport system is essential to ensuring the State's future productivity and liveability.

WA's transport authorities must have access to ITS solutions that have been proven to enhance performance of the road and public transport networks, and deliver significant economic benefits, in other Australian states and overseas. ITS solutions can be integrated into road, parking and community infrastructure, as well as vehicles and public transport networks to deliver a more integrated, safer, reliable and efficient transport system. This not only increases the value of existing infrastructure by providing a more sustainable approach to 'build' capacity into the system but it can also optimise the delivery of future infrastructure investments.

Smart Freeway schemes (also known as Managed or Smart Motorways in some jurisdictions) employing real-time measurement and monitoring, coordinated ramp metering, active lane management and variable speed limits for example have been successful in increasing capacity by 5 to 22 per cent and travel time reliability by up to 60 per cent, as well as reducing crashes by as much as 50 per cent<sup>8</sup>. The use of STREAMS (an integrated ITS combining software, hardware and data communications networks) by road authorities in Victoria and Queensland, in concert with coordinated ramp metering, to manage traffic operations on motorways has also delivered significant gains. Enhanced integration with SCATS (Sydney Coordinated Adaptive Traffic System) to ensure coordination with traffic signals on State and local roads can deliver broader network benefits.

With funding from the Australian Government announced in 2017, Perth's first Smart Freeways project is expected to be delivered by early 2020. Further funding is required to develop and deploy ITS solutions along freeways and major arterials, to minimise costly road widening projects and importantly, maximise the value of both past and future investment in the road network.

It will also be essential to support use of technology solutions to optimise the broader transport system, with a focus on optimising the operation of public transport services, as well as enabling new shared, on-demand transport options. Further, to support the successful rollout of ITS solutions, and also to enable vehicles to operate safely and efficiently in full autonomy, foundation infrastructure such as a flawless communication network and network intelligence technologies

to facilitate improved real-time vehicle and incident detection are needed. Real-time data is both a prerequisite for, and key output from smart transport systems.



**Melbourne's Australian Integrated Multimodal Ecosystem (AIMES) 'test bed' is one example where ITS solutions are being trialled to deliver safer, cleaner and more sustainable urban transport outcomes by connecting different transport modes and infrastructure at a street level.**

The Australian Government must take the lead on trialling and implementing smart transport systems through adequate funding, and by fostering a coordinated approach across sectors, vehicle manufacturers, technology suppliers, transport user representatives and a host of other stakeholder groups.

Key smart transport system priorities include:

- > Developing and delivering of Smart Freeways projects along the Kwinana and Mitchell freeways, as well as major arterials such as the Tonkin and Roe highways;
- > Identifying and investing in communications infrastructure to enable public transport priority at signalised intersections, and to support the safe transition of automated and connected vehicles onto our roads; and
- > Investing in the State's real-time, multi-modal data collection and monitoring infrastructure and technologies to support the provision of real-time traveller information.

### **RAC calls on the Australian Government to:**

- » Commit funding towards Intelligent Transport Systems, including solutions to enable road and public transport optimisation (\$250m in project costs) to maximise the value of past and future transport infrastructure investment.

<sup>8</sup> Austroads (2016), "Guide to Smart Motorways", <https://www.onlinepublications.austroads.com.au/items/AGSM-16>

# 5. Perth Light Rail

Perth's road network is, and will remain an essential part of the urban fabric of the capital city and State but the reality is the road network can no longer handle the demands being placed on it. Light rail projects have time and again been proven to be transformational for cities and as such, the Australian Government should have a role in its delivery.

**! Infrastructure Australia's 2015 Infrastructure Audit estimates that road congestion will cost Perth more than \$16 billion a year by 2031<sup>9</sup>.**

The introduction of light rail to WA will add a new dimension to the public transport system and the wide-ranging community support for light rail signifies the important role heavy rail alternatives play in shaping the transport in established urban areas. In 2015, the RAC - Chamber of Commerce and Industry WA (CCI) Congestion Survey found that of the 250 business surveyed, 63 per cent said they support the reallocation of road space for the construction of a light rail network servicing inner city suburbs<sup>9</sup>.

Perth Light Rail will provide high frequency services through Perth's central area, connecting the University of Western Australia (UWA) / Queen Elizabeth II Medical Centre (QEII) and Bentley Technology Precinct / Curtin University in Stage One (forecast to be required by a population of 2.7 million), and on to Canning Bridge in Stage Two (required by a population of 3.5 million)<sup>10</sup>. This inner orbital route will connect with the radial heavy rail network at a number of locations, helping to relieve patronage pressures on Perth Underground / Central Station and facilitate more seamless cross-city mobility. Perth Light Rail is also a key project from a land use perspective as it would act as an enabler for higher density and mixed use development near the light rail stations and along the selected corridors.

**! According to State Government estimates, over 170,000 passenger boardings per day could be expected on the Perth Light Rail network by 2050<sup>1</sup>.**

The Perth Light Rail project has the potential to significantly improve economic productivity by:

- > Reducing commuter traffic through the central area which currently overwhelms the network, freeing up road capacity for commercial vehicles;
- > Enabling further development of two Specialised Centres (UWA/QEII and Bentley/Curtin);

- > Connecting key tertiary education campuses; and
- > Rationalising and re-routing existing bus services to other areas.

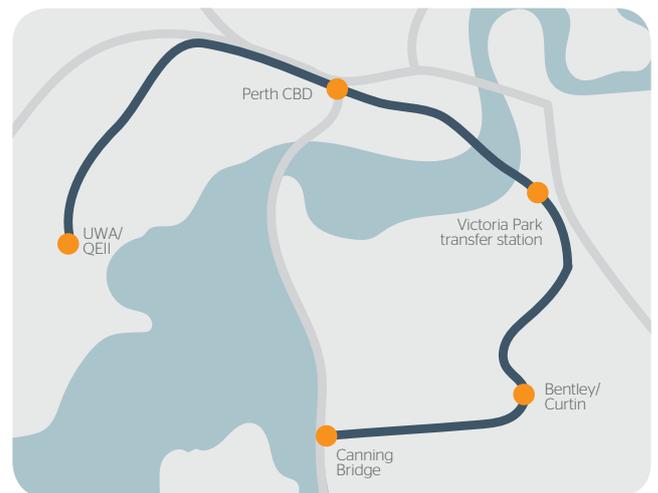
**! Based on comprehensive analysis commissioned by RAC, the University of WA and QEII Medical Centre which are co-located in a precinct just a few kilometres from Perth CBD, currently exhibit low accessibility by public transport<sup>10</sup>.**

Much of the planning and design work for Perth Light Rail has already been undertaken but despite light rail being identified as a critical project in *Transport @ 3.5 Million*, released in 2017, there is currently a lack of funding to progress the project.

**RAC calls on the Australian Government to:**

- » Commit funding towards Perth Light Rail (\$1.8b in total project costs) to enhance economic productivity, transport safety and sustainability outcomes in Western Australia.

## Perth Light Rail



<sup>9</sup> RAC WA (2015), "RAC BusinessWise-Chamber of Commerce and Industry Congestion Survey", <https://rac.com.au/about-rac/advocating-change/reports>  
<sup>10</sup> RAC WA (2016), "Transport accessibility of Perth's activity centres", <https://rac.com.au/about-rac/advocating-change/reports>

## 6. Rail for Perth's northern corridor

Perth's densely populated northern corridor lacks the public transport services of Perth's other sub-regions as it operates without a heavy rail line or rapid transit connection. Currently, road connections to Perth's central area experience high levels of congestion. Without adequate alternatives, this situation will only worsen as strategically important centres such as Morley (and to a lesser extent Wanneroo and Ellenbrook) continue to expand.

There is a clear appetite for better public transport options, particularly higher frequency and more reliable services, in this area. This is evidenced by the significant bus patronage on the 950 bus route, which is a high-frequency, through-routed service between Morley and Perth, and between Perth and Nedlands (serving UWA and QEII).

**! In its first 12 months of operation, 3.7 million boardings were recorded on the 950, equating to one million additional boardings (or 39 per cent) on all four routes that the service replaced<sup>1</sup>.**

The East Wanneroo Rail Link will connect Morley, East Wanneroo and the northern suburbs, providing an alternative to the Joondalup rail line which is under severe pressure. It is proposed to be delivered in three stages<sup>1</sup>:

- > Stage One - Perth CBD to the strategic metropolitan centre of Morley, and Marshall Road (required by a population of 2.7 million [within the short term]);
- > Stage Two - Connection to the Joondalup line (required by a population 3.5 million); and
- > Stage Three - Spur from Marshall Road to Ellenbrook (required beyond a population 3.5 million).

**! Modelling undertaken by the State Government indicates the East Wanneroo Rail Link could account for over 20,000 CBD bound passengers during a typical morning peak period<sup>1</sup>.**

The link will also deliver significant productivity benefits by:

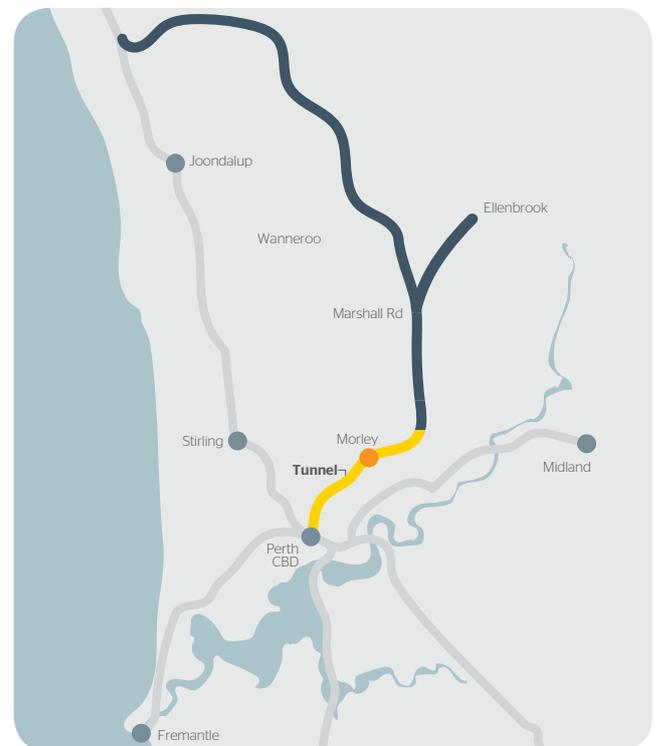
- > Driving an increase in public transport mode share, helping to manage congestion created by commuter traffic on key arterials connecting to the Perth CBD, as well as to strategically important centres;

- > Improving access to employment opportunities for those residing in the area, as well as access to workforces for business; and
- > Supporting and enabling higher density development of some of WA's most strategically important centres, and station precincts.

### RAC calls on the Australian Government to:

- » Commit funding towards heavy rail between Perth city centre and Morley Strategic Centre (\$2.8b in total project costs) to increase public transport accessibility and fill the public transport void in Perth's densely populated northern corridor.

### Rail for Perth's northern corridor



<sup>1</sup> Minister for Transport Western Australia (2015), "Superbus has a successful year", <https://www.mediastatements.wa.gov.au/Pages/Barnett/2015/03/Superbus-has-a-successful-year.aspx>

# 7. Major highway grade separations

The importance of Perth’s orbital freeway network, comprising Reid Highway, Tonkin Highway and Roe Highway, as a critical freight transport link has become increasingly more significant, particularly now that Perth’s major north-south corridor, the Mitchell and Kwinana freeways, is operating at or near capacity for much of the day.

**! Infrastructure Australia’s Infrastructure Audit in 2015 found that Perth’s transport network is heavily focused on the major north-south corridors, especially the Kwinana and Mitchell freeways and that these key freeways are already operating at capacity in peak periods, especially on the approaches to Perth’s CBD and the Swan River crossings<sup>3</sup>.**

The orbital network has been long planned to connect key existing and emerging employment zones (such as Balcatta, Malaga, Kewdale, Midland, Canning Vale, Jandakot and Forrestdale), as well as to connect the Port of Fremantle and Perth Airport with these employment zones, and the National Highway Network.

However, impediments to free flow traffic movement and bottlenecks are restricting economic productivity and most critically, impacting road safety. For example, some signalised intersections are at-grade (without flyovers to separate opposing traffic flows). As a result, these sections operate with significantly reduced efficiency and safety compared to grade separated intersections, forcing traffic to transition between 100km/h and 0km/h when red traffic signals are encountered. Further, when an error is made by a motorist at one of these intersections, a fatal and serious injury crash outcome has a very high probability owing to the enormous energies that are potentially involved in such a collision.

While the Australian Government is incrementally contributing to the removal of black spots, targeted corridor upgrades are urgently required to ensure the Australian Government receives the full value of the investment it has already made in Perth’s freeway and orbital highway network.

The intersection upgrades which require funding include:

- > Elimination of the last at-grade intersection on Reid Highway at Erindale Road;
- > Elimination of the last at-grade intersection on Roe Highway at Great Eastern Highway Bypass;
- > Construction of a grade-separated intersection on Tonkin Highway at Kelvin Road; and
- > Planning and design stages to remove all remaining at-grade intersections on Tonkin Highway.

In recent years, the State Government has been able to achieve cost savings by delivering grade separations as part of a rolling program, thereby maintaining workforce continuity. For example, the \$20 million grade separation of Mirrabooka Avenue and Reid Highway was delivered as a sequential project to the \$50 million grade separation of Alexander Drive and Reid Highway.

**RAC calls on the Australian Government to:**

- » Continue to commit funding towards the rolling program of grade separations on the Reid, Tonkin and Roe highways (\$260m in total project costs) to bring these nationally significant orbital corridors up to freeway standard.



# 8. Bunbury Outer Ring Road

Bunbury is WA's second largest city and is an industrial, tourism and commercial base for the State's South West Region. The Bunbury Port is integral for the State's ongoing economic development and is a distribution point for the mining, manufacturing, and agricultural sectors. As at 30 June 2017, total annual throughput was 16.7 million tonnes, up from 16.2 million tonnes or 3.3 per cent on 2016 and 9.4 per cent on 2013<sup>12</sup>.

The Bunbury Outer Ring Road is a 19km dual carriageway road planned to link Bunbury's five radial road connections (Forrest Highway, South Western Highway, Boyanup-Picton Road and Bussell Highway) to the Bunbury Port Access Road, in which the Australian Government previously invested \$170 million.

It comprises three sections, with the Central Section (between the Boyanup-Picton Road to South Western Highway, southern branch) having already been constructed and opened to traffic on 31 May 2013. The proposed Southern Section is between South Western Highway and Bussell Highway and the proposed Northern Section is between Boyanup-Picton Road and Forrest Highway<sup>13</sup>. The total cost to complete the southern and northern sections is estimated at \$800 million.

The Southern Section includes:

- > Intersections and Lillydale Road, Hastie Road and Ducane Road;
- > A major roundabout at the intersection with Bussell Highway;
- > An overpass at Yalinda Drive in Gelorup; and
- > A proposed service road between Ducane Road and Jilley Road to provide access to adjacent properties.

The current alignment for the Northern Section includes:

- > Grade separated interchanges at the intersections with the Forrest Highway and South Western Highway;
- > A bridge over the Boyanup-Picton Road, Manjimup Railway line and Ferguson River; and
- > At-grade intersection with Harris Road.

As part of the \$2.3 billion infrastructure package for WA announced in 2017, the Australian and WA State governments committed \$12.5 million to complete the planning and project development by 2019. This will include consideration of an alternative Northern Section alignment.

Currently, both general traffic travelling through Bunbury and heavy vehicle traffic entering the Port of Bunbury utilises the portion of the Forrest Highway within the City of Bunbury. Forecasts show that traffic volumes around Bunbury will increase significantly over the next 10 years. This, and anticipated growth in rail traffic into the port, will reduce the efficiency of the existing road network, and in particular, the

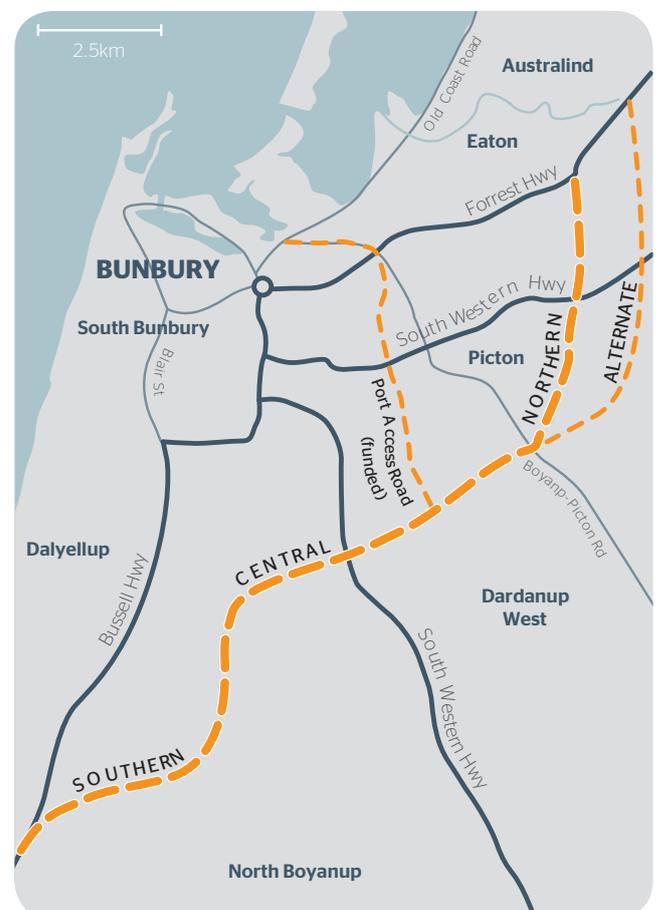
existing Inner Ring Road (Robertson Drive). Additionally, the expansion of the Bunbury Inner Harbour in the future is likely to necessitate the closure of Estuary Drive, diverting traffic currently using Estuary Drive onto the Forrest Highway, which will further reduce the efficiency of the existing network.

Once completed, the Bunbury Outer Ring Road will provide an alternative route for heavy vehicles and regional traffic around Bunbury, improving transport outcomes in and around Bunbury and the wider region.

## RAC calls on the Australian Government to:

- » Commit funding towards the completion of the Bunbury Outer Ring Road (\$800m in total project costs) to provide an efficient and safe road network around WA's second city, Bunbury.

## Bunbury Outer Ring Road



<sup>12</sup> Southern Ports Authority (2017), 'Annual Report 2017', <https://www.southernports.com.au/publications/southern-ports-2017-annual-report>

<sup>13</sup> Main Roads Western Australia (2018), 'Bunbury Outer Ring Road', <https://project.mainroads.wa.gov.au/home/regional/south/Pages/bunbury.aspx>

# 9. Albany Ring Road

Located in the Great Southern region of WA, Albany is the region's major industrial, commercial and retail centre, as well as one of WA's most popular tourist destinations. The region is a key agricultural area that contributes significantly to the State's exports including wheat and woodchips, and as such Albany Port plays a critical role in the ongoing economic development of the region. Trade activities at the Port have been increasing and total trade now exceeds 5 million tonnes (up 25 per cent from 2013)<sup>12</sup>.

The Albany Ring Road, which comprises three stages, will provide direct access for freight vehicles travelling to and from Albany Port, bypassing the built up areas of the City. Stage One (Menang Drive, from Chester Pass Road to Albany Highway) was completed in 2007, at a cost of \$15.9 million. Detailed planning and design work for Stage Two (George Street through to the Princess Royal Drive) and Stage Three (Albany Highway to the Lower Denmark Road via the Link Road / George Street alignment) was undertaken from late 2012 to early 2015 with \$1 million in funding from the Australian and WA State governments.

Stage Two and Three include:

- > A grade separated intersection at Albany Highway / Menang Drive;
- > Grade separation at Hanrahan Road / Frenchman's Bay Road (construction of a bridge structure);
- > 17 minor at-grade intersections; and
- > Realignment of approximately 4km of single rail track and relocation of an at-grade road / rail crossing at Frenchman's Bay Road.

Stages two and three, which involves the construction of 11km of single carriageway road, are expected to be delivered together to provide a continuous and unimpeded connection to the Port of Albany. The new route will connect the existing major arterial roads and highways radiating from Albany and provide improved access to the Mirambeena Industrial Estate. It will also eliminate a critical bottleneck at the Chester Pass Road / Albany Highway roundabout where the South Coast, Albany and South Western highways converge and where, in the event of incidents, there are major network redundancy issues stemming from the limited options for detours.

The roundabout currently experiences around 40,000 vehicle movements per day<sup>14</sup>, including a high proportion of heavy vehicles. It has been the site of 213 crashes in the five years to December 2016, ranking it the worst intersection in regional WA and 10th worst in the State<sup>15</sup>. Further, it is known to present a serious safety concern to the community and was ranked as

the second most dangerous intersection in regional WA (6th State-wide) in RAC's 2016/17 Risky Roads campaign, which attracted nominations from over 6,000 Western Australians.

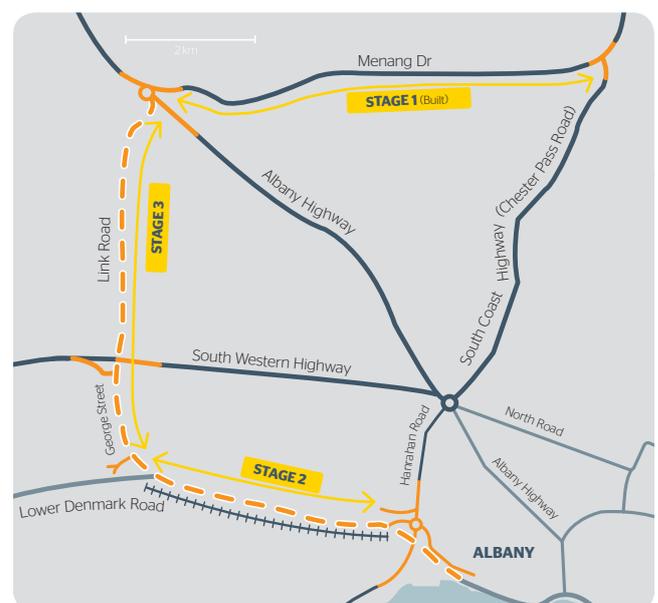
The completion of the Albany Ring Road will deliver a number of safety, efficiency and amenity benefits through reducing the volume of heavy vehicles mixing with local and tourist traffic travelling along Albany Highway and South Coast Highway. Furthermore, it will enhance regional road freight efficiency and connection with export markets, maximising the productivity and competitiveness of the Great Southern Region's primary industries and global competitive advantage of the south west of Australia.

Early land acquisition has already commenced and in the WA State Budget 2017-18, the State Government allocated \$35 million towards the project in recognition of the major road safety and economic benefits it is expected to deliver for Albany, and the Great Southern Region.

## RAC calls on the Australian Government to:

- » Commit funding towards the completion of the Albany Ring Road (\$137m in total project costs) to provide an efficient and safe road network around Albany.

## Albany Ring Road



<sup>14</sup> Talitha Wolfe (2016), 'Roundabout still region's riskiest', The Western Australian, <https://thewest.com.au/news/great-southern/roundabout-still-regions-riskiest-ng-ya-121529>

<sup>15</sup> Main Roads Western Australia (2017), 'Intersection Crash Ranking - Interactive Report', <https://mrapps.mainroads.wa.gov.au/icr/rankingQueryC.asp>

# 10. Cycling infrastructure projects

## a. Perth's Principal Shared Path Network

The Principal Shared Path (PSP) network is the core of Perth's cycling network. It provides high standard radial routes to and from the Perth city centre which are separated from traffic. PSP's also cater for regional, as well as shorter trips by providing connections to local cycling routes and activity centres and in being located adjacent to Perth's freeways, major highways and rail lines, they serve an important function in helping to relieve pressures on the adjacent heavily trafficked road corridors.

**! Approximately 483,100 people ride a bike in Western Australia in a typical week (equating to 18.5 per cent of WA residents, which is higher than the national average of 15.5 per cent). When considering cycling for transport in Perth, of those who cycle in a typical week (24 per cent of Perth residents), 41 per cent do so for transport<sup>16</sup>.**

The provision of well-designed, continuous and connected cycling infrastructure can be effective in not only improving safety and amenity for existing cyclists, but also in attracting a wider range of cyclists. RAC's 2015 Cycling Survey<sup>17</sup>, which received responses from over 5,500 cyclists and non-cyclists across WA, revealed that 43 per cent of those who identified a barrier to cycling more frequently said they have a fear of sharing the road with motorists. While recent legislative changes in WA, such as those to permit cyclists of all ages to ride on footpaths (which came into effect April 2016) and the Minimum Passing Distance Regulations (which came into effect at the end of 2017) will help to enhance cyclist safety and create a safer road environment, the provision of appropriate cycling infrastructure will still be critical.

**! According to RAC's 2015 Cycling Survey, investment in both on and off-road cycling infrastructure (71 per cent and 64 per cent respectively) is a top priority to encourage increased cycling participation, followed by legislative changes.**

The importance of filling gaps within, and expanding the existing PSP network, has been identified within *Transport @ 3.5 Million* as a priority for Perth's transport system by 2031.

This is will crucial to achieve the Plan's target of a 400 per cent increase in all-day cycling trips.

Priority missing links which require funding include:

- > Fremantle Line PSP – Grant Street to North Fremantle, and on to Fremantle Station;
- > Armadale Line PSP – Welshpool Road to Armadale Road;
- > Reid Highway PSP – Wanneroo Road to Mirrabooka Avenue;
- > Mitchell Freeway PSP – Reid Highway to Ocean Reef Road upgrade;
- > Kwinana Freeway PSP – Thelma Street to Mount Henry Bridge upgrade;
- > Roe Highway PSP – Berkshire Road to Great Eastern Highway;
- > Reid Highway PSP – Marmion Avenue to Everingham Street;
- > Tonkin Highway PSP – Mills Road West to Hale Road;
- > Stock Road – Roe Highway to Rockingham; and
- > Thomas Street – Wellington Street to the University of WA.

## b. Green bridges

Currently, the Swan and Canning Rivers, as well as other water bodies and major transport infrastructure create physical barriers in Perth's active transport networks, reducing the cycling catchment of the Perth city centre and major activity centres. There is currently a lack of river crossings, and many existing crossings provide inadequate facilities for pedestrians and cyclists (such as the Causeway, Narrows Bridge, and Fremantle and Guildford traffic bridges).

Green bridges are designed to cater for cyclists, pedestrians and in some cases public transport, as opposed to general traffic. Such bridges provide dedicated, safe and direct connections between key destinations and wider active transport networks, reducing severance issues and significantly increasing cycling mode share. Furthermore, they can unlock development potential and activate tourism opportunities.

Assessments of cycling infrastructure in South East Queensland for example have effectively demonstrated that overcoming major barriers, through constructing bridges or addressing missing links to provide direct connections to activity centres results in a high mode shift (as well route change for existing cyclists).

<sup>16</sup> Austroads (2017), "National Cycling Participation Survey 2017: Western Australia", <https://www.onlinepublications.austroads.com.au/items/AP-C91-17>

<sup>17</sup> RAC WA (2015), "Cycling Survey", <https://rac.com.au/about-rac/advocating-change/reports>

**!** An evaluation undertaken within the first few years of the opening of the Normanby Pedestrian Cycle Link, which provides better and safer access between Brisbane CBD and the inner west and northern suburbs, demonstrated that of the 600 daily commuter cyclists (and 1,100 pedestrians) using the link, 92 per cent had shifted from other modes (predominantly car and public transport)<sup>18</sup>. Likewise, shortly after opening, the Goodwill Bridge (connecting South Bank with QUT Gardens Point Campus) was being used by 2,000 cyclists, 30 per cent as a result of mode change and the Eleanor Schonell Bridge (connecting Dutton Park and the University of Queensland) by 1,100 cyclists, 60 per cent from mode change<sup>19</sup>.

- > a pedestrian and cycle bridge over the Swan River, adjacent to the Guildford traffic bridge to provide a direct PSP connector;
- > Three Points Bridge, connecting Chidley Point, Point Walter and Point Resolution to provide the only river crossing between Fremantle and Perth CBD (a distance of over 12km), enhancing access to activity centres such as UWA/QEII;
- > Racecourse Bridge, linking Maylands to the Burswood Peninsula (which when coupled with the green bridge under construction for the new Perth Stadium will provide significantly reduced journey times between Maylands and the Perth city centre); and
- > Upper Canning River Connections (Salter Point Bridge, Pipeline River Crossing, and Canning River Elevated Boardwalk) to enhance access to a number of important activity centres including Murdoch and Bentley/Curtin knowledge hubs, Canning Vale and Cannington).

Green bridge priorities which require funding include:

- > a pedestrian and cycle bridge, adjacent to the Causeway which cyclists currently cross via a sub-standard shared path (this will also enable reconfiguration of the Causeway to accommodate the Perth Light Rail project);
- > elimination of the only at-grade road crossing on the Kwinana Freeway PSP, at Cranford Avenue which currently presents a safety concern, and completion of the PSP to South Street;
- > Lake Joondalup Green Bridge, providing improved connectivity between the activity centres of Joondalup and Wanneroo, as well as to the Joondalup rail line and ECU Joondalup Campus;

**RAC calls on the Australian Government to:**

- » Commit funding towards the completion of Perth's Principal Shared Path (PSP) network to deliver a step-change in the provision of a continuous and safe cycling network, particularly within a 15km radius of the Perth city centre and to strategically important activity centres (\$70m in project costs).
- » Commit funding for green bridges to address severance issues and increase cycling catchments for the Perth city centre and major activity centres (\$300m in project costs), delivering safety, health and productivity benefits.



<sup>18</sup> Michael Langdon (2016). "An evidence-based assessment of the impact of cycling infrastructure in South East Queensland". Queensland Department of Transport and Main Roads Engineering Technology Forum 2016. [https://www.tmr.qld.gov.au/-/media/aboutus/Events/ET\\_Forum2016/presentations/Day2/An-evidence-based-assess-cyc-infrast-in-SEQ.pdf?la=en](https://www.tmr.qld.gov.au/-/media/aboutus/Events/ET_Forum2016/presentations/Day2/An-evidence-based-assess-cyc-infrast-in-SEQ.pdf?la=en)

<sup>19</sup> Michael Langdon (2015). "Road engineering for cyclist safety", Department of Transport and Main Roads, <https://www.ipwea.org/HigherLogic/System/DownloadDocumentFile.aspx?DocumentFileKey=a6612bd8-76c9-43b2-a778-b7978e3ab8b4>

# Investment of motorist taxation revenue

In 2017, the Western Australian Auditor General identified that WA was facing an \$845m maintenance backlog<sup>20</sup> and it is widely recognised that across the State, the condition of the regional road network is in decline. Narrow seal, poor surface condition and hazardous roadsides are common complaints from regional road users and as part of its 2016/2017 RAC Risky Roads campaign, RAC received more than 6,000 nominations from across the State highlighting the poor condition of metropolitan and regional roads.

The maintenance backlog, combined with the escalating pressures and cost of congestion and road trauma being faced by WA will present significant challenges for Government, particularly in an increasingly constrained fiscal environment. In December 2017, the total public sector net debt for WA, which encompasses all activities of government, was reported to be almost \$32 billion. This is forecast to increase to \$42.8 billion by 30 June 2021<sup>21</sup>.

Despite these pressures, as documented in an annual report commissioned by RAC on motorist taxation revenue and road spending, WA consistently does not receive an equitable proportion of the revenue collected from WA motorists. To ease the burden of transport funding on the State, a greater portion of the Australian Government's motoring-related revenue should be consistently dedicated to improving WA's road and transport networks.

Under the existing system road users pay for access to roads by delivering revenue to governments through a number of State and Federal taxes or charges. State Governments acquire revenue by imposing an access charge on vehicle owners in the form of vehicle registration, stamp duty and license fees. The Australian Government acquires revenue from motorists primarily by imposing an excise tax on every litre of fuel sold. However, only a small proportion of this revenue flows back into public spending on transport infrastructure in WA.

RAC's 2018 Review<sup>22</sup> found that, on top of fees and charges on motorists by the State Government, the Australian Government collected approximately \$2.7 billion from motor vehicle related taxes in 2016/17 but returned just 30 cents in every dollar (\$806 million) to the State for spending on WA roads.

From 2005/06 to 2016/17, the total return to WA motorists from the taxes levied by the Australian Government has averaged 28 cents per dollar collected per annum. If 50 per cent of the revenue collected from WA motorists by the Australian Government was returned to WA, this would have equated to an

additional \$543.5 million in 2016/17 alone. This would be sufficient to fully-fund the construction of both the Bunbury Outer Ring Road and Albany Ring Road projects in two years, or the Thornlie to Cockburn rail line in a single year (and an additional 12 kilometres of passenger rail every year after that) for example.

An unrivalled opportunity exists for the Australian and WA State governments to develop and invest in targeted city shaping infrastructure projects to cater for the increasing demands being placed on the transport system as the Perth and Peel region grows towards a population of over 3.5 million. This and investment in the regional road network will be critical to deliver liveability and productivity outcomes for WA and the nation.

### RAC calls on the Australian Government to:

- » Provide a fairer distribution of funding from revenue collected from WA motorists (consistently a minimum of 50 per cent) to remediate WA's \$845m road maintenance backlog and tackle the increasing costs of congestion and road trauma, to deliver productivity and liveability outcomes.
- » Hold an inquiry into road-user pricing as part of a broader reform of motorist taxation that would remove revenue raising fees and charges, and/or hypothecate money collected for the provision of transport infrastructure and services.

### Road spending per dollar of revenue generated from WA Motorists, 2016/17



Data courtesy of: Acil Allen

<sup>20</sup> Office of the Auditor General (2016), "Maintaining the State Road Network - follow on audit" <https://audit.wa.gov.au/reports-and-publications/reports/maintaining-state-road-network-follow-audit/>

<sup>21</sup> Government of Western Australia (2017), "2017-18 Government Mid-Year Financial Projections Statement", <http://static.treasury.wa.gov.au/2017-18-myf/2017-18-myf.pdf?>

<sup>22</sup> RAC WA (2018), "Motorist Taxation Revenue and Road Spending" <https://rac.com.au/about-rac/advocating-change/reports>

# Vehicle safety standards

Nearing the end of the State’s 12 year road safety strategy, *Towards Zero*, WA has fallen behind on its target to reduce death and serious injuries by 40 per cent by 2020<sup>23</sup>. If fully implemented, *Towards Zero* could have saved 11,000 people from being fatally or seriously injured on Western Australian roads between 2008 and 2020. Notwithstanding the urgent need to remove the social impact of road trauma, the economic cost savings to WA’s health services, business and community were estimated to be \$6.6 billion. It follows that if we are to achieve ‘vision zero’ where no lives are lost on Australian roads, the Australian Government must take the lead on bolder and more decisive road safety regulation and policy.

Safe Vehicles is one of the four cornerstones of *Towards Zero*, WA’s Road Safety Strategy which, over the life of the Strategy from 2008 and 2020, will account for more than one quarter of the projected injury savings<sup>23</sup>. Vehicle design standards play a critical role in road safety through ensuring all new vehicle sold in Australia comply with a set of standards designed to ensure vehicles protect occupants and other road users in the event of a crash, as well as ensure those vehicles have a certain level of ability – through technology – to avoid or minimise the effects of a crash. As all new vehicles sold in Australia are now imported from international markets, Australia’s vehicle design standards in the form of Australian Design Rules (ADRs) perform a vital regulatory function.

The process for setting standards must be flexible and dynamic enough to accommodate and encourage rapid technical change and strategic enough to progressively facilitate a lifting of the baseline vehicle safety standards and ultimately vehicle safety features over time. However, the time currently taken to examine new regulatory proposals and implement them as ADRs remains too protracted. As a result Australian road users do not receive the full benefit of vehicle safety features which are widely accessible in other markets.

To some extent the role of, and lag in updating, the ADRs are supplemented by the Australasian New Car Assessment Program (ANCAP). ANCAP is an independent vehicle safety advocate which crash tests and rates new vehicles to provide consumers with transparent advice on vehicle safety. According to ANCAP vehicle occupants have twice the chance of being killed or seriously injured in a vehicle rated 1 star compared to a 5 star rated vehicle<sup>24</sup>.

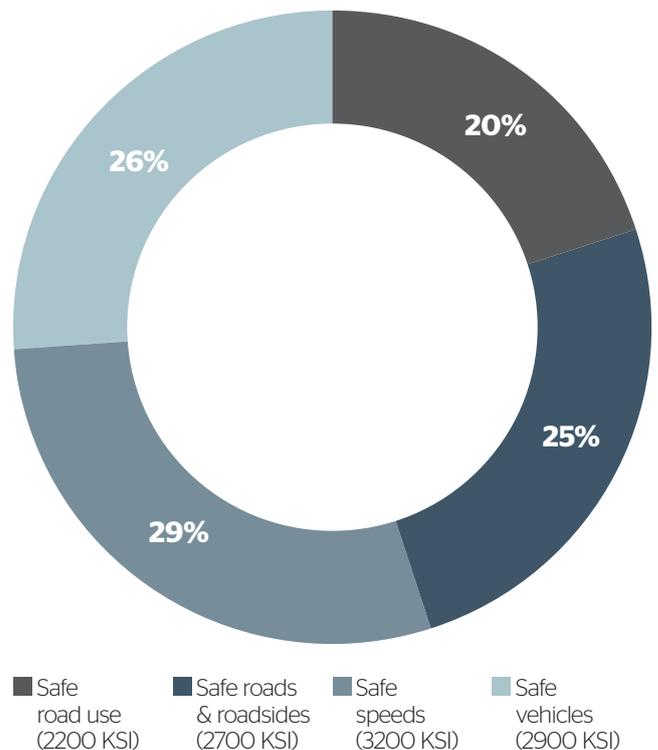
**! To demonstrate RAC’s own commitment to vehicle safety, we will not insure or finance any 2012 and beyond manufactured vehicles which have been rated by ANCAP and do not achieve safety ratings of 4 or 5 stars.**

ANCAP currently publishes star safety ratings online. However, vehicles safety ratings are not always visible on cars at the point of sale, and as such, consumers do not have easy access to vital safety information when purchasing their new car. Consumer goods such as refrigerators, microwaves and washing machines are already required to display energy consumption labels at the point of sale. Even cars are legally required to display fuel consumption and emissions information at the point of sale. Yet, in what would be a low-cost measure, there is no mandatory requirement for vehicle safety ratings to be disclosed on new cars.

**RAC calls on the Australian Government to:**

- » Reduce the time taken to implement safety technology as Australian Design Rules so that Australian road users receive the full benefit of safer vehicle features widely available in other markets.
- » Make the display of ANCAP star ratings mandatory at the point of sale across all Australian states, ensuring consumers have access to the vehicle safety information which might one day save their life.

**Projected cumulative savings in number of people killed and seriously injured, 2008-2020**



Data courtesy of: Office of Road Safety

<sup>23</sup> Road Safety Commission Western Australia (2008). "Towards Zero Strategy" <https://rsc.wa.gov.au/About-us/Towards-Zero>  
<sup>24</sup> ANCAP (2015). "Star Ratings Explained". <https://www.ancap.com.au/safety-ratings-explained>

# Cycling infrastructure funding

WA has one of the world's most conducive climates for cycling and the possibilities for further growth are limitless. While WA has some good cycling infrastructure, cyclists are often required to share road space with high-volume and sometimes heavy vehicle traffic, including on the National Highway Network.

Some examples are:

- > Roe Highway from Berkshire Road to the railway line just north of Clayton Street;
- > Leach Highway between Albany Highway and Jeffery Street;
- > Stock Road south of Phoenix Road, Rockingham Road and Patterson Road;
- > Tonkin Highway from Mills Road to Roe Highway; and
- > Reid Highway from Wanneroo Road to Mirrabooka Avenue and Alexander Drive to West Swan Road.

Cycling infrastructure is comparatively low in cost but provides for more sustainable transport choices, which can not only result in less cars being on Perth's roads leaving more space for the more economically productive freight and commercial vehicles, but is also highly valued by the community. The availability of safe and connected active transport infrastructure has an important role in supporting healthy and liveable communities, which is in the national interest for a multitude of reasons, not least to reduce the growing burden on the nation's healthcare system caused by physical inactivity and harmful vehicle emissions.

**!** **More than half of all adults in Australia are not active enough<sup>25</sup> and physical inactivity has been identified as the nation's fourth most burdensome risk factor<sup>26</sup>, accounting for five per cent of the total burden of disease and injury nationally in 2011. A recent University of Sydney study<sup>27</sup> found that physical inactivity cost the Australian economy \$805 million in 2013 alone; this includes \$640 million in direct costs (healthcare expenditure) and \$165 million in indirect costs (due to the impact on people's productivity). The total loss in tax revenue through public healthcare expenditure was also estimated at \$425 million.**

The Western Australian Bicycle Network Plan (WABNP) 2014-2031<sup>28</sup> identifies the importance of expanding, and closing the gaps in, Perth's cycling or Principal Shared Path network and this is reinforced in *Transport @ 3.5 Million*. Furthermore, a Cycling Business Case<sup>29</sup> developed by RAC found the total community benefits (in economic productivity, health, social wellbeing and the environment) associated with investment in cycling projects is at least 3.4 times the costs incurred; a finding which was endorsed by the WABNP.

Motoring is and will remain integral to the mobility of Western Australians but with a looming congestion crisis, it's no longer just about the car – it's about choice. Investing in cycling infrastructure will provide road safety, health and productivity benefits. As such, the ongoing investment in the road network must be complemented with investment in extending the coverage, quality and accessibility of sustainable transport networks. This should however, extend beyond funding cycling and walking infrastructure as part of the delivery of major road projects, to include strategically important active transport corridors.

## RAC calls on the Australian Government to:

- » Commit to an infrastructure investment program for strategically important cycling connectors to provide Western Australians with access to a range of mobility options and ensure the delivery of WA's primary cycling network.



<sup>25</sup> Commonwealth of Australia (2014). "Make your move - Sit less, Be active for life!". [https://www.health.gov.au/internet/main/publishing.nsf/content/FO1F92328EDADA58CA257BFO001E720D/\\$File/brochure%20PA%20Guidelines\\_A5\\_18-64yrs.PDF](https://www.health.gov.au/internet/main/publishing.nsf/content/FO1F92328EDADA58CA257BFO001E720D/$File/brochure%20PA%20Guidelines_A5_18-64yrs.PDF)

<sup>26</sup> Australian Institute of Health and Welfare (2016). "Australian Burden of Disease Study: Impact and causes of illness and death in Australia 2011". <https://www.aihw.gov.au/getmedia/d4df9251-c4b6-452f-a877-8370b6124219/19663.pdf.aspx?inline=true>

<sup>27</sup> D Ding, et al. (2016). "The economic burden of physical inactivity: a global analysis of major non-communicable diseases", *Lancet*, 2016; 388: 1311-1324

<sup>28</sup> Department of Transport (2014). "Western Australian Bicycle Network Plan 2014-2031". [https://www.transport.wa.gov.au/mediaFiles/active-transport/AT\\_CYC\\_P\\_WABN\\_Plan.pdf](https://www.transport.wa.gov.au/mediaFiles/active-transport/AT_CYC_P_WABN_Plan.pdf)

<sup>29</sup> RAC WA (2012). "The Economic Cycle, A Business Case for Investment in Cycling in Western Australia". <https://rac.com.au/about-rac/advocating-change/reports>

# Mandatory vehicle emissions and fuel standards

On a per capita basis, Australia's emissions are 50 per cent above the Organisation for Economic Co-operation and Development (OECD) average<sup>30</sup> and as part of a global response to climate change, the Australian Government has internationally committed to reduce greenhouse gas emissions by 26–28 per cent below 2005 levels by 2030. However, transport which is responsible for 18 per cent of Australia's total greenhouse gas emissions and over 23 per cent of total carbon dioxide (CO<sub>2</sub>) emissions<sup>31</sup> is still the fastest growing sector and emissions are expected to increase by 20 per cent by 2030.

According to the Australian Government, under a business as usual scenario, the growth in the light vehicle fleet would add an estimated eight million tonnes of greenhouse gas emissions to the existing 43 million tonnes of greenhouse gas emitted by vehicles each year<sup>32</sup>. The continued growth would also add an additional \$5 billion in energy costs to the economy per year by 2030<sup>32</sup>.

Just as we have set and welcomed new vehicle safety benchmarks, it is critical that the Ministerial Forum on Vehicle Emissions achieves its objectives to coordinate a whole-of-government approach to addressing emissions from motor vehicles as part of a broader package of measures to meet Australia's emissions reduction commitments.

According to the National Transport Commission, CO<sub>2</sub> emissions intensity for passenger cars in Australia during 2016 was 173g/km, this is in comparison to Europe's average of 120 g/km for 2015. The overall average for new passenger and light commercial vehicles in 2016 was an even higher rate of 182g/km<sup>33</sup>.

Europe has a CO<sub>2</sub> standard of 95g/km for all new cars by 2021 (phased in from 2020), and plans to reduce that further to 68-78 g/km by 2025. The United States' CO<sub>2</sub> standard will be approximately 93g/km by 2025. Unlike for other emissions, Australia has no legislated CO<sub>2</sub> emissions standards<sup>32</sup>.

Vehicles also produce oxides of nitrogen (NOx), hydrocarbons (including methane), carbon monoxide (CO), oxides of sulphur (SOx) and particulate matter (PM), which also contribute to reduced air quality and are harmful to humans and the environment. The sulphur content in fuel is of particular concern as it contributes to noxious vehicle exhaust emissions which can cause human health problems such as reduced lung function, ischemic heart disease, stroke, respiratory illnesses and lung cancer. It is estimated that approximately 3,000

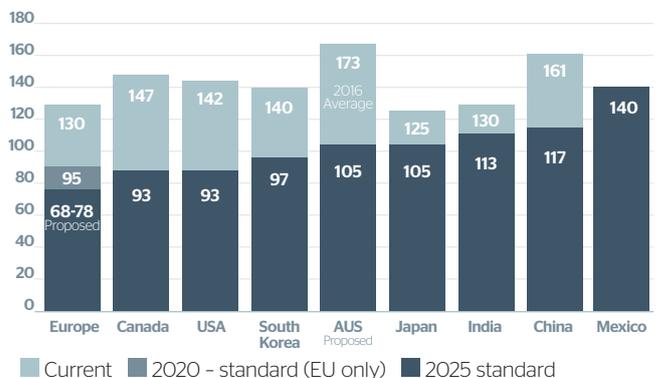
deaths are caused by air pollution each year in Australia, with 1.3 per cent of all deaths and a further 0.6 per cent of all injury and disease being attributable to this<sup>34</sup>. The OECD states that deaths from air pollution across Europe reduced between 2005 and 2010, while Australian deaths rose over the same period<sup>35</sup>. This reduction correlates with the implementation of a European Emissions Trading Scheme and the accelerated tightening of vehicle emissions standards.

Even by international standards, our allowable sulphur content in petrol (up to 150 ppm) is one of the highest in the world, higher than places like China (50 ppm), Europe (10 ppm) and the USA (10 ppm) where air quality is a major environmental issue in some cities.

### RAC calls on the Australian Government to:

- » Introduce an appropriate vehicle emissions standard which provides the Australian market with better access to a greater range of low emissions vehicles.
- » Reduce the maximum allowable levels of sulphur in liquid fuels sold into the Australian retail market.
- » Introduce incentives and/or tax concessions for low emissions vehicles.
- » Deliver an effective rating system to ensure consumers have access to user-friendly fuel consumption and emissions information when purchasing a new car.

### 2025 international CO<sub>2</sub> emissions standards grams CO<sub>2</sub> per km



<sup>30</sup> Climate Council (2016), "What's the deal with transport emissions?", <https://www.climatecouncil.org.au/transport-emissions-and-climate-solutions>

<sup>31</sup> Department of Climate Change, (2015), "National Greenhouse Gas Inventory 2015", <http://www.environment.gov.au/climate-change/climate-science-data/greenhouse-gas-measurement/publications/national-inventory-report-2015>

<sup>32</sup> Department of Infrastructure and Regional Development, (2016), "Improving the efficiency of new light vehicles Draft Regulation Impact Statement Ministerial Forum on Vehicle Emissions", [https://infrastructure.gov.au/roads/environment/forum/files/Vehicle\\_Fuel\\_Efficiency\\_RIS.pdf](https://infrastructure.gov.au/roads/environment/forum/files/Vehicle_Fuel_Efficiency_RIS.pdf)

<sup>33</sup> National Transport Commission, (2015), "Carbon Dioxide Emissions Intensity for New Australian Light Vehicles", [https://www.ntc.gov.au/Media/Reports/\(C19AD85F-32EC-4605-886F-8448F1CB00A2\).pdf](https://www.ntc.gov.au/Media/Reports/(C19AD85F-32EC-4605-886F-8448F1CB00A2).pdf)

<sup>34</sup> Australian Institute of Health and Welfare, (2007), "Australian Burden of Disease Study: Impact and causes of illness and death in Australia 2003", <https://www.aihw.gov.au/getmedia/f81b92b3-18a2-4669-aad3-653aa3a9f0f2/bodaia03.pdf.aspx?inline=true>

<sup>35</sup> Organisation for Economic Co-operation and Development (2014), "The Cost of Air Pollution: Health Impacts of Road Transport", [http://www.keepeek.com/Digital-Asset-Management/oced/environment/the-cost-of-air-pollution\\_9789264210448-en#page54](http://www.keepeek.com/Digital-Asset-Management/oced/environment/the-cost-of-air-pollution_9789264210448-en#page54)



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