

Federal priorities for Western Australia

July 2015



For the better

About RAC

Representing the interests of more than 800,000 Western Australian members, RAC is a leading advocate on the mobility issues and challenges facing our State. A key role for RAC has always been to act as a voice for our members and as a strong public advocate on the mobility issues which affect Western Australians. RAC collaborates with Governments and other organisations to ensure safe, accessible, and sustainable mobility options are available for our members and the community.

RAC aligns its activities with the following three Mobility Themes:

- » **Safety** - 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.
- » **Accessibility** - To have a cost efficient, convenient and reliable commuter network is an essential part of personal mobility.
- » **Sustainability** - Sustainable mobility is broader than the environmental aspects of mobility; it encompasses the mobility needs of current and future generations.

We reinvest our profits for the benefit of our members, by supporting several major sponsorship programs such as RAC's Rescue helicopter as well as a number of grass roots community projects aligned to RAC's Mobility Agenda.



Priorities for Western Australia

In the last decade or so, rapid increases in population coupled with an economy driven by the resource sector has been a catalyst for enormous change in Western Australia (WA). The challenges we now face as a State will require a range of solutions.

Today, population numbers continue to grow with the Australian Bureau of Statistics predicting Perth will become the third largest city after Sydney and Melbourne by 2028. An increasing number of vehicles, combined with a five per cent annual projected growth in freight¹ and significant developments in and around Perth CBD, is adding significant pressure on existing infrastructure and services.

In response, there is an unrivalled opportunity for the Australian Government to fund and support projects which will ensure the nation and the State gain the maximum benefit from the current economic climate, which will in turn, support and drive further economic growth.

Connecting people to jobs and services will be vital in ensuring Perth, and Australia, remain productive and liveable. Safer and more efficient roads are critical, as is the funding of major projects to deliver a comprehensive and reliable public transport system. Additionally, funding for the timely development and implementation of technology solutions in network management is needed to ensure we extract maximum value from investment already made in the network.

To assist the Australian Government to identify projects which will deliver maximum returns, RAC calls on the Government to support and fund five key infrastructure projects:

- 1 Perth light rail**
- 2 Network management technologies**
 - a. Self-driving vehicles and network systems
 - b. Tonkin Highway, Reid Highway to Leach Highway
 - c. Kwinana Freeway, Perth CBD to Manning Road
 - d. Kwinana Freeway, Roe Highway to Thomas Road
 - e. Roe Highway, Kwinana Freeway to Tonkin Highway
 - f. Mitchell Freeway, Hutton Street to Warwick Road
- 3 Major highway grade separations and upgrades**
 - a. Reid Highway: Erindale Road
 - b. Roe Highway: Tonkin Highway to Great Eastern Highway
 - c. Reid Highway: Tonkin Highway to West Swan Road
- 4 Thornlie rail line extension**
- 5 Bunbury Outer Ring Road**

In addition to these essential infrastructure projects, RAC has identified five key policies on which action is needed to provide a balanced approach to safeguarding transport networks into the future:

- 6 Australian Government policy on funding public transport infrastructure**
- 7 Australian Government policy on vehicle safety standards**
- 8 Australian Government policy on investment of motorist taxation revenue**
- 9 Australian Government policy on funding cycle network infrastructure**
- 10 Australian Government policy on mandatory vehicle emission standards**

¹Bureau of Infrastructure, Transport and Regional Economics, (2011), "Truck productivity: sources, trends and future prospects", Report 123, Canberra

1. Perth light rail

Our road network is, and will remain an essential part of the urban fabric of our capital city and State but the reality is the road network can no longer handle the demands being placed on it. Perth's light rail proposal (MAX) is a transformational project that will significantly improve the economic productivity of our State 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.

The introduction of light rail to WA will add a new dimension to the public transport system and the wide-ranging support for this project signifies the important role public transport is set to play in shaping the future of urban transport. In 2013, the RAC - Chamber of Commerce and Industry WA (CCI) Congestion Survey found that of the 400 business surveyed, 64 per cent said they support the reallocation of road space for the construction of a light rail network servicing inner city suburbs.

Perth's central northern corridor, where MAX is proposed, lacks the public transport services of Perth's other sub-regions as it operates without a heavy rail line or rapid transit link. MAX would provide a high quality mass transit option along corridors from Mirrabooka in the northeast of Perth to the CBD and also east-west through Perth's central area, between Victoria Park Transfer Station and the QEII and Hollywood Hospital precinct in Nedlands. These corridors currently experience high levels of traffic congestion during peak periods. MAX is also a key project from a land use perspective as it would act as an enabler for higher density and mixed use development.

! According to Government estimates over 100,000 passenger boardings per day could be expected on the MAX light rail network by 2031.²

The \$2 billion MAX light rail project has the potential to significantly improve economic productivity as follows:

- > Connect the people residing in Perth's central northern corridor to employment in Perth's central area via a rapid, high capacity system;
- > Improve traffic congestion during peak periods by reducing commuter traffic which currently overwhelms the network to free up road space for commercial vehicles;
- > Release new economic opportunities by enabling much higher density, and more viable, development in an area previously constrained by limited transport options;
- > Connect key tertiary education campuses, such as Edith Cowan University (Mt Lawley), and Polytechnic West (Mirrabooka)

enabling tertiary education to become more viable for more people; and

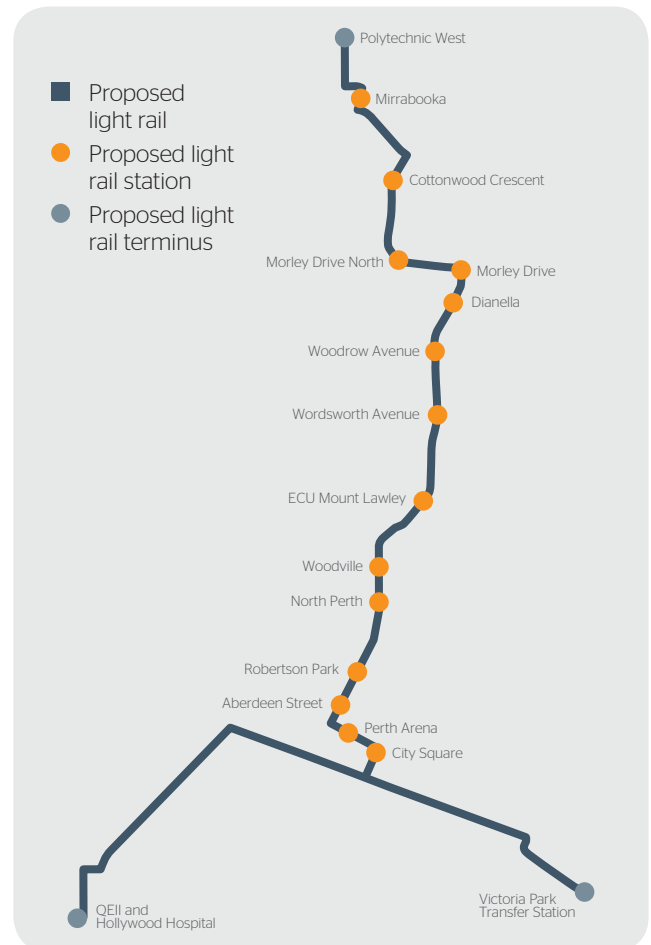
- > Redeploy some existing bus services to create efficiencies in public transport services and release more road-space to commercial vehicles, elsewhere on the network.

Light rail transport has proved to be safer for road users than private vehicles. Further, light rail is highly efficient from energy usage and greenhouse gas emissions perspectives.

Despite being committed to MAX light rail, the State Government has deferred the project.

RAC calls on the Australian Government to:

- » Commit funding towards Perth light rail (\$2 billion in total project costs) in order to enhance economic productivity, transport safety and sustainability outcomes in Western Australia.



²Parliament of WA, (2015). "Metro Area Express Light Rail- Patronage Modelling." Parliament 39, Session 1, <http://www.parliament.wa.gov.au/parliament/pquest.nsf/969994fc1c861850d4825718d002fe7fb/b21c19b22f7ba9be48257e0e002479a7?OpenDocument>

2. Network management technologies

Network management technologies encompass a range of solutions including Intelligent Transport Systems (ITS). ITS, which is a collective term for a broad range of information and communications technology solutions (integrated into road infrastructure, vehicles and public transport networks) work to help reduce congestion, improve mobility, save lives and optimise the value of existing infrastructure.

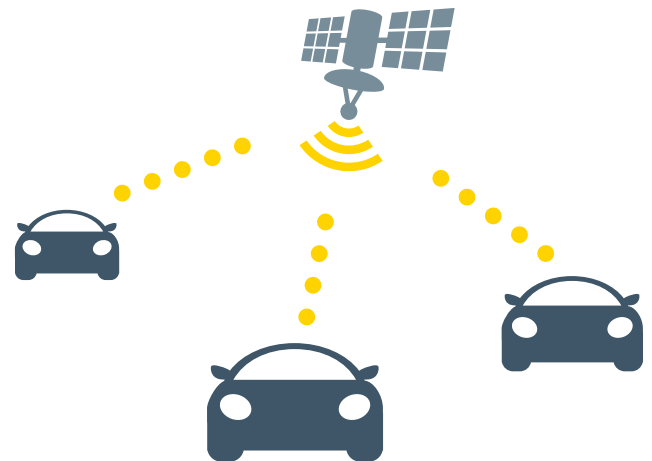
In 2013, the survey of more than 400 businesses by RAC and the CCI revealed 83 per cent of respondents believe traffic congestion is having a negative impact on their operations. This sentiment was echoed by the WA Police Commissioner Karl O'Callaghan who commented that Perth's congestion levels are one of two reasons for a slower response rate by police. He added that this is now a 'pretty serious issue.'³

Traffic congestion detracts from economic productivity by holding up the movement of people and commercial vehicles along Perth's most important transport corridors. In addition, congested freeways suffer from significantly reduced traffic throughput, higher crash rates, increased fuel consumption and increased greenhouse gas emissions.

Funding for the timely development and implementation of technology solutions will be essential to meet the challenges ahead, and may in fact help to offset the escalating economic and social costs brought on by road trauma and congestion. However to move forward, WA's road and transport authorities, Department of Transport, Main Roads WA and the Public Transport Authority must have access to road management systems used and proven to improve arterial performance in other jurisdictions such as Victoria. Additionally we must ensure WA and other major Australian cities are well positioned to capitalise on emerging technology, to both existing systems such as traffic signals and, most critically, advancements in vehicle autonomy.

a. Self-driving vehicles and network systems

Autonomous travel has existed for almost a century, for example in the form of autopilot systems on planes, and recent developments indicate self-driving cars will go into production in a matter of years. Google has been testing its autonomous vehicles in the USA for several years, and its self-driving



production car is expected to be released as early as 2017 – the same year that semi-autonomous saloons from Volvo, Toyota and Audi are scheduled for release. Closer to home, in 2012, Rio Tinto introduced self-driving vehicles to move mining materials in the Pilbara and cars already on our roads display varying levels of autonomy, particularly in the active and passive safety systems.

For a car to operate in full autonomy, that is, to navigate with no human intervention or interaction, a flawless communication network and supporting architecture is needed. In the past, a limiter of alternative power technology such as hydrogen fuel cells and electric cars, has been a lack of infrastructure to service them. Implementing emerging and new technology will require adequate funding, and a coordinated approach from Government.



In early 2015, £100 million in funding was allocated by the UK Government towards the development of autonomous vehicles and supporting infrastructure. This amount was in addition to £19 million already allocated towards self-driving vehicle testing.

Current research by the University of Michigan compared the public perception of self-driving vehicles in Australia, the UK and the USA, and found that Australians are the least likely to know about the technology, but were the most likely to express interest in having it.⁴

³Tayissa Barone, (2015), 'Meth surge and traffic slowing down cops,' Yahoo 7 News, <https://au.news.yahoo.com/thewest/wa/a/28370877/meth-surge-and-traffic-slowing-down-cops/>

⁴Transportation Research Institute, (2014), 'A survey of public opinion about autonomous and self-driving vehicles in the US, the UK and Australia', University of Michigan, Report No. UMTRI-2014-21

The development of ITS will demand leadership from the Australian Government in relation to funding and coordinating the national framework needed to support its successful rollout. This includes inter-operability standards of both vehicles and infrastructure and building effective relationships across all levels of government, vehicle manufacturers, technology and information suppliers, road user representatives and a host of other stakeholder groups. The Australian Government must be responsive and timely to this need, as ITS technologies are already within the Australian vehicle fleet and more will quickly follow as they gain market acceptance.

Suggested project scope:

- > Consider and review regulations which specify where and how self-driving vehicle technology could be implemented; and
- > Provide funding to allow a coordinated approach from the State and Australian Government, including a trial of the technology in WA.



In 2014, a landmark RAC/Main Roads WA trial using technology to improve the performance of traffic signals saw a reduction in queue lengths by an average of up to 30-34 per cent, as well as a reduction of journey times by up to 20 per cent.

Beyond the introduction of a framework to plan for the implementation of self-driving vehicle technology, and the enhancement of existing systems such as the SCATS traffic signal system, RAC has identified and prioritised the following freeway sections for the implementation of intelligent network management solutions:

- b. Tonkin Highway: Reid Highway to Leach Highway;
- c. Kwinana Freeway: Perth CBD to Manning Road;
- d. Kwinana Freeway: Roe Highway to Thomas Road;
- e. Roe Highway: Kwinana Freeway to Tonkin Highway; and
- f. Mitchell Freeway: Hutton Street to Warwick Road.

b. Tonkin Highway: Reid Highway to Leach Highway

The Australian Government has committed funding toward the construction of the Gateway WA project, as well as Northlink WA (which includes the grade separation of the northern Tonkin Highway intersections, Collier Road, Morley Drive, Benara Road and Reid Highway).

To ensure the nation receives the full benefit of monies already invested, a range of ITS solutions from Reid Highway to Leach Highway should be implemented. This has the potential to maximise the return on existing investment, safeguard the productivity of Tonkin Highway and improve the safety of what is a critical part of the National Land Transport Network.

Suggested project scope:

- > Install coordinated ramp signals on entry ramps; and
- > Manage speeds through turbulent sections using variable speed limits.



Image courtesy of Expressway: the Australian highway site

c. Kwinana Freeway: Perth CBD to Manning Road

Manning Road to Perth CBD is a key part of Perth's main freeway spine. This section is in urgent need of ITS solutions to address the level of congestion experienced throughout the day, particularly during the peak periods.

Suggested project scope:

- > Manage speeds through turbulent sections using variable speed limits; and
- > Install coordinated ramp signals northbound between Manning Road and Judd Street; and southbound from Murray Street to Canning Highway.

d. Kwinana Freeway: Roe Highway to Thomas Road

The section between Roe Highway and Thomas Road on Kwinana Freeway is an important corridor for freight and commercial transport because it connects Perth with the South West region. This section, which is a part of the National Land Transport Network, contains bottlenecks in both directions that are unlikely to be resolved by road expansion in the form of additional lanes.

Suggested project scope:

- > Provide coordinated ramp signals from Roe Highway to Thomas Road; and
- > Investigate providing freight and commercial vehicles with priority access to Kwinana Freeway via ramp signal queue jumps at Roe Highway and Armadale Road/Beeliar Drive.

e. Roe Highway: Kwinana Freeway to Tonkin Highway

Roe Highway from Kwinana Freeway to Tonkin Highway serves as a primary freight corridor connecting Perth Airport/Kewdale and the Port of Fremantle and forms part of the National Land Transport Network.

Suggested project scope:

- > Manage speeds through turbulent sections using variable speed limits;
- > Provide coordinated ramp signals from Kwinana Freeway to Tonkin Highway; and
- > Investigate providing freight and commercial vehicles with priority access to Roe Highway via ramp signal queue jumps at Tonkin Highway, Orrong Road, Willeri Drive, Karel Avenue and Kwinana Freeway.

RAC's fourth priority, the extension of the Thornlie Rail Line to Cockburn Central, is an inter-related priority project because it will provide many commuters with a competitive alternative mobility option, also assisting the economic productivity objectives of the corridor.

f. Mitchell Freeway: Hutton Street to Warwick Road

Hutton Street to Warwick Road on the Mitchell Freeway provides connectivity to some of Perth's most economically productive office precincts located in Stirling, Herdsman and Osborne Park. It also serves as a route to the Port of Fremantle via Reid Highway.

Suggested project scope:

- > Provide coordinated ramp signals on all entry ramps between Hutton Street and Warwick Road; and
- > Investigate providing freight and commercial vehicles with priority access to Mitchell Freeway via ramp signal queue jump lanes at Hutton Street, Erindale Road and Reid Highway.

RAC calls on the Australian Government to:

- » Commit \$300 million towards the deployment of Intelligent Transport Systems including self-driving vehicles and network systems, and active lane management on Perth's arterial network.



3. Major highway grade separations and upgrades

The importance of Perth's orbital freeway network, which comprises Reid Highway, Tonkin Highway and Roe Highway, has become increasingly significant, particularly now that Perth's north south Mitchell and Kwinana freeways are operating at or near capacity for much of the day.

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 Perth Airport with the National Land Transport Network.

However, impediments to free flow traffic movement and bottlenecks are restricting economic productivity and most importantly road safety. Some signalised intersections are at-grade without flyovers to separate opposing traffic flows. As a result some sections operate with significantly reduced efficiency and safety compared to grade separated intersections, as traffic is forced to transition between 100km/h and 0km/h when red traffic signals are encountered.

! At the opening of the Reid Highway and the bridge overpass at Mirrabooka Avenue in 2011, the State Government announced the improvements would significantly reduce traffic conflicts and delays and improve safety and efficiency.

Further, when an error is made by a motorist at one of these intersections, a fatal and serious injury crash outcome has a 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 (e.g. with the funding of Tonkin Highway Grade Separations from Collier Road to Benara Road), other critical restrictions will remain. Targeted upgrades are urgently required to ensure the Australian Government receives the full value of the investment it has already made in Perth's orbital freeway network. The upgrade priorities are as follows:

a. Reid Highway: Erindale Road

Suggested project scope:

- > Eliminate what will be the last at-grade intersection located on Reid Highway between Mitchell Freeway and Tonkin Highway.

b. Roe Highway: Tonkin Highway to Great Eastern Highway

Suggested project scope:

- > Eliminate the last two at-grade intersections on the National Land Transport Network located between Tonkin Highway and Great Eastern Highway, Kalamunda Road and Great Eastern Highway Bypass.

c. Reid Highway: Tonkin Highway to West Swan Road

Suggested project scope:

- > Capitalise on the opportunity to connect Reid Highway to Great Eastern Highway and the Perth Darwin National Highway corridor being delivered by the Australian Government's Northlink project.

Recently, the State Government was able to achieve long-term cost savings by adding in the grade separation of Mirrabooka Avenue and Reid Highway (\$20 million) as a sequential project to the grade separation of Alexander Drive and Reid Highway (\$50 million). The cost savings were achieved by allowing continuity of the workforce and management team delivering the Alexander Drive and Reid Highway interchange. In order to achieve economies of scale for the rolling program of grade separations, to which funding was committed in the last Federal budget, it is critical that continuity of funding remains in place.

RAC calls on the Australian Government to:

- » Continue to commit funding towards the rolling program of grade separations and upgrades to Perth's nationally significant orbital route (\$285 million in total project costs), which comprises of Reid, Tonkin and Roe Highways, to freeway standard.

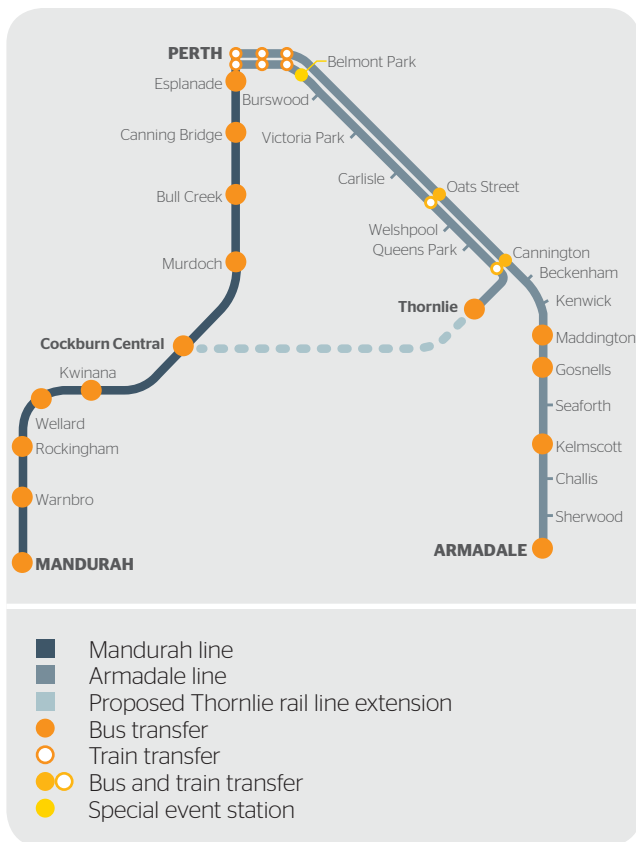
4. Thornlie rail line extension

By 2031, Perth's public transport system will be required to carry more than twice as many people as it does now.⁵ However, there is a significant gap between the community's growing need for public transport and the capacity of existing funding approaches to deliver this infrastructure.

Roe Highway forms part of the National Land Transport Network, connecting the Perth Airport/Kewdale precincts with the Port of Fremantle and, via Kwinana Freeway, the southwest of WA. However, there are few public transport alternatives along or parallel to this corridor.

Commuter traffic demand continues to contribute to increasing levels of congestion and this is working against reported benefits of current projects such as the federally funded Gateway WA project.

Transperth train system - Mandurah & Armadale lines



The extension of the Thornlie passenger rail line parallel with the Roe Highway to link with the Mandurah line at its intersection with the Kwinana Freeway (Cockburn Central Station is located within its median) would offer a viable and highly attractive public transport option to commuters currently competing with freight and commercial transport along Roe Highway. As an example, the project may attract patronage from workers based in what is a major employment node, the Canning Vale industrial precinct, resulting in the release of road-space for freight transport.

! The 2015 Australian Infrastructure Audit predicts that the Mandurah rail line will reach or exceed “crush capacity” by 2031.

The success of recent heavy rail projects in Perth demonstrates the willingness of commuters to embrace public transport. The opening of the 72km Perth to Mandurah line in 2007 marked the completion of WA's largest, and most contentious, public transport infrastructure project. Post-implementation monitoring has shown that patronage has exceeded all expectations. A public opinion survey showed that six out of ten families, living south of Perth CBD, had a family member use the train.⁶ Overall, almost half of Perth's total population reported that a family member had used the railway at least once since it opened and respondents cited the main benefits of the railway as being the reduced need for cars, provision of “speedy” rail transport, the linking of Mandurah and Perth by rail, and opening up of the southern corridor.⁷ In the same survey, 88 per cent of respondents agreed that the project was worth the expenditure. Within six months of opening, trips on the Mandurah Line had reached more than 100 per cent of the projected patronage.

The project development work for the extension of the Thornlie passenger rail line is well advanced, with preliminary railway alignments and designs completed. However, despite its high priority this critical connection remains unfunded.

RAC calls on the Australian Government to:

- » Commit funding towards the extension of the Thornlie rail line (\$340 million in total project costs) to connect two of Perth's major heavy rail lines.

⁵Department of Transport WA, (2011), “Public Transport for Perth in 2031: Mapping out the Future for Perth's Public Transport Network,” State of WA, <http://www.transport.wa.gov.au/mediaFiles/about-us/ABOUT_P_PT_Plan2031.pdf>
⁶Public Relations Institute of Australia, (2008), “Public Transport Authority: Opening of Mandurah Line”, UTS Library
⁷Public Relations Institute of Australia, (2008), “Public Transport Authority: Opening of Mandurah Line”, UTS Library

5. 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 an integral site for ongoing economic development and is a distribution point for the mining, manufacturing, and agricultural sectors.

Total trade for 2012-2013 was a record 15.332 million tonnes, an increase of 1.058 million tonnes or 7.4% compared to the previous record of 14.274 million tonnes set in 2011-12. The Government owned, Bunbury Port Authority, is forecasting total trade for 2013-2014 of 16.224 million tonnes which represents a 5.8% increase compared to the 2012-2013 trade result.⁸

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

The Central Stage of the Bunbury Outer Ring Road has been constructed as a part of the Bunbury Port Access Project, between the Boyanup-Picton Road to South Western Highway (southern branch). To progress and complete the project in its entirety, \$675 million⁹ is required for the Southern Stage (9.6km section from South Western Highway to Bussell Highway) and for the Northern Stage (7km section from Boyanup - Picton Road to Forrest Highway).

The Southern Stage 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 Northern Stage includes:

- > Grade separated interchanges with Perth Bunbury 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.

Currently, traffic travelling through Bunbury and heavy vehicle traffic entering the Port of Bunbury, utilise the portion of the Forrest Highway within the City of Bunbury. This section also carries a significant volume of local traffic and is the main link between Australind and the City centre.

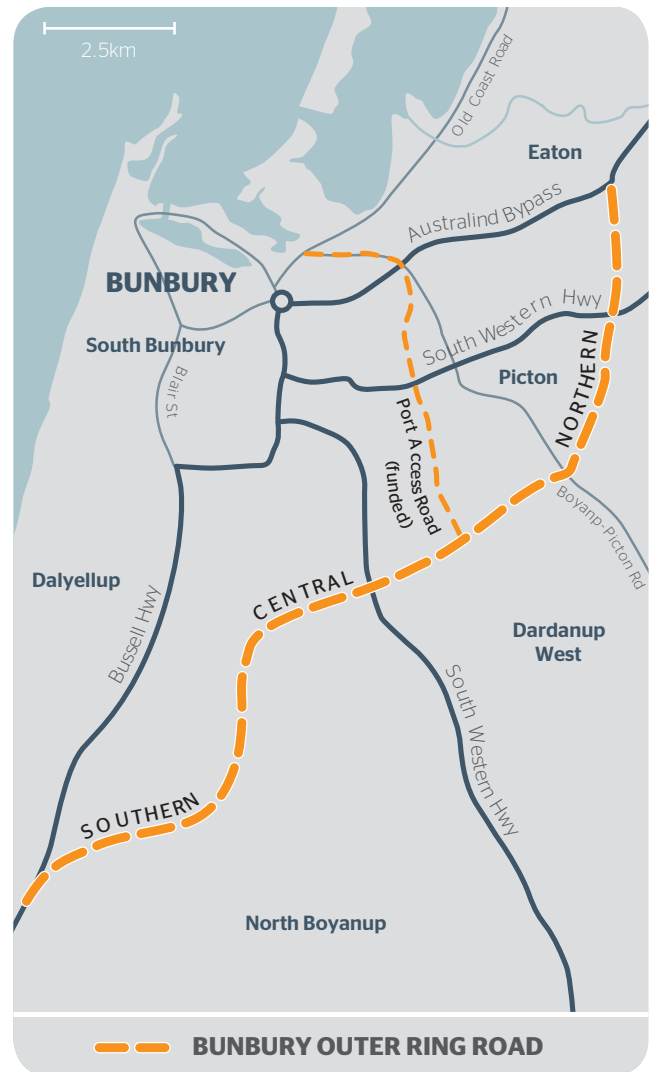
Traffic forecasts show that traffic volumes around Bunbury will increase significantly over the next 10 years and, together with anticipated growth in rail traffic into the port, will reduce the efficiency of the existing road network, and in particular, the existing Inner Ring Road (Robertson Drive). 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, and will further reduce the efficiency of the existing network.¹⁰

The Bunbury Outer Ring Road provides an alternative route for traffic around Bunbury, that will be highly efficient and safe, improving transport outcomes in and around Bunbury and for the State.

RAC calls on the Australian Government to:

- » Commit funding towards the completion of the Bunbury Outer Ring Road (\$675 million in total project costs)



⁸Bunbury Port Authority, (2013), 'Annual Report 2013', <http://www.byport.com.au/annual/2013/anrep2013.pdf>
⁹Revised 29th of June 2015

¹⁰Main Roads WA, (2014), 'Bunbury Outer Ring Road', <https://www.mainroads.wa.gov.au/BuildingRoads/Projects/planning/Pages/BORR.aspx>

6. Australian Government policy on funding public transport infrastructure

The Australian Government has signalled its renewed focus on infrastructure investment and as part of delivering on these welcome promises, it is critical that the Government develops an infrastructure investment program that provides enhanced productivity outcomes for Australia's capital cities. To successfully achieve this vision, RAC believes it is necessary to invest in both road and public transport infrastructure as a means of driving economic growth and generating benefits for future generations.

Australian cities make a critical contribution to national GDP with one of the main drivers being the Professional Services industry, an industry underpinned by access to the labour force and thus one reliant on the presence of an established and reliable transport system, needed to connect people to jobs and services. RAC's report *Employment Self-Sufficiency Health Check: Planning for Perth's Congestion Challenges* outlined the criticality of good public transport connections to attract employers to suburban activity centres.

! A review of studies of agglomeration shows that doubling the job density of an area can result in improvements in productivity in the range of four to 13 per cent.¹¹

Global consulting firm McKinsey and Company have identified the top 600 cities globally using GDP growth to 2025. These cities are dubbed the "City 600". All of Australia's capital cities are included in this group. McKinsey and Company assert that urban growth is, and will continue to be, concentrated in just a few hundreds cities. By their contribution to global GDP growth to 2025 these 600 cities, currently home to just over 20 per cent of the world's population, will nearly double their combined GDP to generate almost 65 per cent of the world's economic growth. Internationally, cities have identified the link between public transport and productivity for example, it has been demonstrated that London's 100-kilometre CrossRail Scheme will have a national impact and is considered to be a nationally significant project.

There is no disputing that car travel and the transportation of freight continue to make a critical contribution to our economy, but the reality is the road network cannot handle the demand being placed on it. Increasingly, as the cost of congestion bites, more people require the flexibility to use public transport.

! The RAC Businesswise-CCI Congestion Survey identified 78 per cent of respondent's consider 'loss of productivity as a key impact of congestion, while 68 per cent singled out a reduction in staff punctuality.

In Perth by 2031, public transport will account for 1-in-8 of all motorised trips, 1-in-5 of motorised trips in the peak period, over 30 per cent of peak hour distance travelled, and over 70 per cent of all trips to Perth's CBD¹². Analysis by WA's Public Transport Authority demonstrated that half of the benefits of increased use of public transport accrue through lower levels of congestion, and substantial social and environment benefits are derived from reduced road trauma, car parking, travel time, congestion, pollution and operating costs. As a result, the benefit-cost ratio or the value for money for the community of investment in public transport is similar to or greater than most other urban transport investments¹³, notwithstanding that there are also significant Wider Economic Benefits (WEB's) which are not always captured in traditional cost benefit analysis.

The health of Australia's national economy is inextricably linked to the economic, social and environmental performance of its capital cities and, when looking back across the past two decades, this applies more so now than ever. As such, the Australian Government has a role in funding public transport projects.

Aligned to this policy, in both the Australian Automobile Association's 2015/16 Federal Budget Submission and this document, we have identified Perth light rail (MAX) as WA's number one transport priority.

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. As such, the ongoing investment in our road network must be complemented with investment in extending the coverage, quality and accessibility of public transport.

RAC calls on the Australian Government to:

- » Commit and develop an infrastructure investment program which prioritises public transport infrastructure.

¹¹Department of Transport Victoria. (2012). "Job density, productivity and the role of transport: An overview of agglomeration benefits from transport investments and implications for the transport portfolio." http://economicdevelopment.vic.gov.au/_data/assets/pdf_file/0006/1093236/Job-density-productivity-and-the-role-of-transport.pdf

¹²Public Transport Authority of WA. (2015). "Public Transport Plan: Frequently Asked Questions." http://www.transport.wa.gov.au/mediaFiles/about-us/ABOUT_P_PT_Plan2031_FAQs.pdf

¹³Department of Transport WA. (2011). "Public Transport for Perth in 2031: Mapping out the Future for Perth's Public Transport Network." State of WA. http://www.transport.wa.gov.au/mediaFiles/about-us/ABOUT_P_PT_Plan2031.pdf

7. Australian Government policy on vehicle safety standards

Today, many Western Australian lives are needlessly lost each year on our roads. WA, which was once the best State when it comes to its road safety record, is now the worst. At the end of 2014, the national fatality rate was 5.0, while WA was 7.2. If WA shared the national fatality rate, an additional 56 lives would have been saved. Sadly, the gap between WA and the national road safety leaders, such as Victoria, is even greater. If WA had the 2014 Victorian fatality rate (4.3), 74 fewer lives would have been lost.

! WA's road toll was the highest it has been in four years with 184 fatalities in 2014.

This situation is unacceptable. 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.

The importance of positive Government intervention can be demonstrated by way of example, the changes in occupational health and safety (OH&S) over the last four decades. Back then, OH&S was in a similar position to road safety today, with numerous serious injuries and deaths encountered on worksites and a prevailing view that worker safety represented a trade-off for productivity and profits.

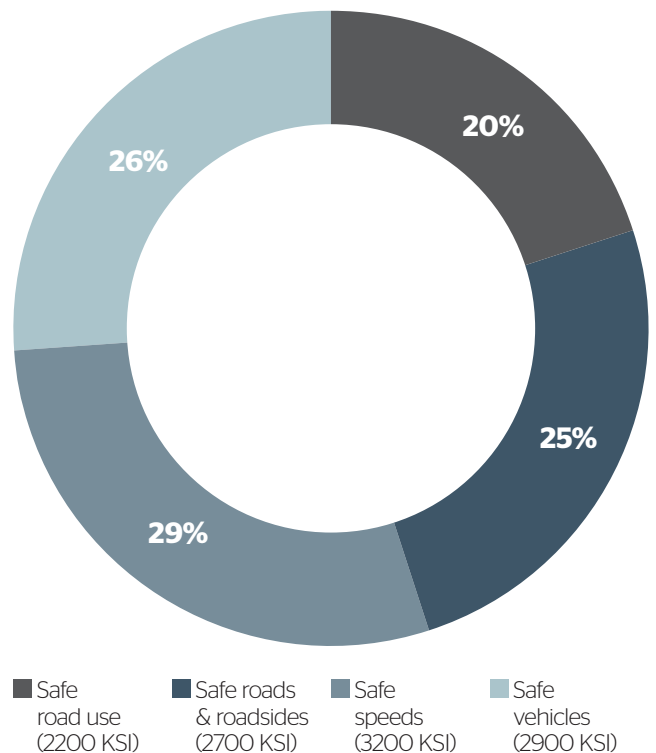
Today, leaders do not trade off occupational health and safety for productivity or profits, rather they find innovative solutions to boost productivity and safety, and they recognise that better safety itself increases productivity.

The Australian Government must signal its commitment to the essential programs and projects which will help keep Australian road users safe. Having passed the half way mark into the State's 12 year road safety strategy, Towards Zero, WA is behind on its target to reduce death and serious injuries by 40 per cent by 2020. If fully implemented, Towards Zero could see up to 11,000 fewer people killed or seriously injured on Western Australian roads between 2008 and 2020. The cost savings to WA's health services, business and community would be enormous, at around \$6.6 billion.

Australian Design Rules

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 a quarter of the projected injury savings.

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



Vehicle design standards are a critical road safety strategy aimed at both encouraging the development of safer and more efficient vehicle technologies and, by setting minimum standards, assuring the safety credentials of imported vehicles. A majority of the nation's vehicles are now imported from international markets and as such, 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 far too protracted.

The result is that Australian road users are not receiving the full benefit of already existing safer vehicle technology which is widely accessible in other international markets. The Australian

Government must take action to ensure ADRs are updated more effectively and efficiently than it currently occurs. The sooner new safety technologies are brought into the Australian market, the sooner the road safety benefits of technology can be realised.

An example of the ADRs' poor rate of responsiveness is the current guidelines for Specialist and Enthusiast Vehicles (SEV). In a recent submission by the Australian Automotive Association (AAA) in consultation with RAC, it was highlighted that the current eligibility requirements can and have allowed large-scale importation of particular vehicle models which are not fitted with Electronic Stability Control which would otherwise be required.

Mandatory display of ANCAP vehicle safety ratings

To some extent the role of, and lag in updating, the ADRs is 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.

Both ANCAP and Used Car Safety Ratings (UCSR) are supported with funding from RAC and the Australian Government, as well as a range of other stakeholders.

! 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, vehicle 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 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 at the point of sale. This is particularly concerning because, 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.

RAC calls on the Australian Government to:

- » Reduce the time taken to examine new regulatory proposals and implement these as ADRs so that Australian road users receive the full benefit of safer vehicle technology which is not only in existence, but widely available in other, international, markets; and
- » Ensure consumers have access to the vehicle safety information which might one day save their life, by making the display of ANCAP star ratings at the point of sale mandatory.



Image credit: ANCAP

8. Australian Government policy on investment of motorist taxation revenue

In 2009, the Western Australian Auditor General identified that WA was facing an \$800 million maintenance backlog 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. The 2014 RAC Risky Roads campaign also received more than 5,000 nominations from across the State highlighting the poor condition of metropolitan and regional roads.

In addition, RAC partners with other Australian Automobile Clubs and the Australian Government to rate, using stars which reflects a structured multi-criteria assessment, the National Land Highway Network and key State roads through the Australian Road Assessment Program (AusRAP). Safe roads with design elements such as dual lane divided carriageways, good line marking and wide lanes have a higher star rating.

Lower-rated roads are likely to have single-lanes and be undivided with poor line marking and hazards such as trees, poles and steep embankments close to the edge of the road.

! In 2013, the Star Rating process covered 4,671 kilometres of WA's National Highways. Five per cent of the network was rated as 1-star and 22 per cent was rated as 2-star.

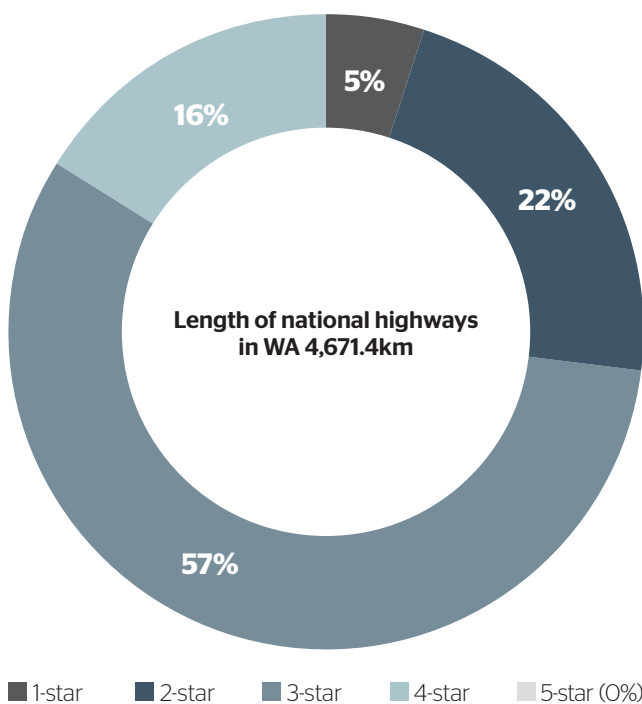
The majority (57 per cent) of road links in the State were rated as 3-star and 16 per cent were rated as 4-star. No highways were rated as 5-star. It is an alarming revelation and significant risk to the road users of WA that 27 per cent of WA's National Highway Network recorded an AusRAP star rating of just one or two stars.

Federal revenues vs WA road spend in 2014



The AusRAP 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 almost \$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.

Distribution of star ratings in WA



Data courtesy of: AAA Star Rating Report - July 2013

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. Other forms of revenue State Governments derive from motorists include stamp duty and license fees. These charges vary across jurisdictions.

The Australian Government acquires revenue from motorists predominately by imposing an excise tax on fuel and motorists therefore make a significant contribution to the Australian Government's revenue base. However, only a portion of this revenue flows back into public spending on transport infrastructure and currently there is no link between the taxes motorists pay and public investment in transport infrastructure.



The fuel excise revenue the Australian Government receives from road users is not earmarked for expenditure on the transport network and instead flows through to consolidated revenue, where the process of directing funding to land transport is lacking in transparency.

RAC has documented the payment of taxation by motorists and expenditure on roads by the State and Australian Governments. The 2014 Review found that, on top of fees and charges on motorists by the State Government, the Commonwealth Government collected approximately \$2.3 billion from motor vehicle related taxes but returned just 41 cents in every dollar to the State for spending on WA roads. To ease the burden of transport funding on the State, a greater portion of the Australian Government's motoring-related revenue should be dedicated to improving WA's road network.

Further, an increase in fuel prices was delivered in the 2014/15 Federal Budget, without certainty of any increases to be returned to the State. In the Discussion Paper, "Road Pricing and Transport Infrastructure Funding: Reform Pathways for Australia", published by Infrastructure Partnerships Australia, concern was expressed about the existing approach to revenue.

RAC calls on the Australian Government to:

- » Provide a fairer distribution of funding from revenue raised from WA motorists to remediate both WA's \$800m road maintenance backlog and the 27 per cent of WA's National Highway Network which recorded an AusRAP star rating of just one or two stars, including a commitment to the area-wide implementation of treatments such as roadside barriers, audible edge lines and sealed shoulders; and
- » In line with comments made by AAA in submission to the "Productivity Commission's Inquiry into Public Infrastructure", consider the merits of a reformed charging system as part of a genuine reform of taxation on motorists.

9. Australian Government policy on funding cycle network infrastructure

To say cycling is undergoing a resurgence in WA, is an understatement. The personal and community benefits of cycling are already widely recognised and its growing popularity as a means of commuting, and for recreation, is evident. In 2013, 405,000 Western Australians cycled each week and the number of Perth people cycling to work, or for pleasure, has increased more than five-fold over the past 15 years.¹⁴ The potential to increase cycling participation has not yet reached its peak, particularly with the advent of electric bicycles. To boost cycling participation and help reduce the number of cyclist fatalities and serious injuries on our roads there is an urgent need for better cycling infrastructure.

! **Perth has one of the world's most conducive climates for cycling and the possibilities for further growth are limitless. However, many people avoid cycling to work owing to poor network connectivity and safety concerns.**

A Cycling Business Case¹⁵ developed by RAC found that 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 Western Australian Bicycle Network Plan (WABNP)¹⁶. The Cycling Business Case also highlighted that \$388 million was needed to create continuous, convenient and comprehensive cycle networks.

Investment in cycling has over many years suffered from a lack of priority and has failed to keep pace with WA's rapid population growth. The original Perth Bicycle Network Plan published in 1996, or 19 years ago, called for funding support for three cycling stages - none of which have been completed. Due to a lack of funding, too often the provision of cycling infrastructure has had to be opportunistic. As a result, the cycle networks in our cities and regional towns are variable from a design, construction and maintenance point of view. RAC has previously welcomed the State Government's commitment of additional funds but has cautioned that a more strategic commitment is needed if the improvements are to be delivered in a reasonable time frame.

! **In RAC's 2015 Cycling Survey, 46 per cent of respondents felt moderately or extremely dissatisfied with existing on-road cycling infrastructure.**

Cyclists are required to share part of the National Land Transport Network with freight and commercial traffic. Some examples are:

- > Roe Highway between Orrong Road and Bushmead Road (and a formalised connection to Midland does not exist);
- > Roe Highway between Morrison Road and Great Northern Highway;
- > Forrest Highway; and
- > Leach Highway between Albany Highway and Orrong Road (a formalised cycling option along Leach Highway between Albany Highway and Shelley Bridge does not exist, and the Principal Shared Path infrastructure along Leach Highway further west is intermittent and regularly interrupted by local street connections).

RAC understands that the Gateway WA project, which is part-funded by the Australian Government, will provide cycling infrastructure alongside project scope elements, such as along Tonkin Highway (Roe Highway to Great Eastern Highway) and Leach Highway (Tonkin Highway to Orrong Road).

Other transport corridors in Perth, important to economic productivity, also require cyclists to share road infrastructure with other road users such as freight and commercial traffic, for example:

- > The former Perth Bunbury Highway Corridor comprising Stock Road south of Phoenix Road, Rockingham Road and Patterson Road;
- > Armadale Road;
- > Tonkin Highway (Mills Road to Roe Highway);
- > Tonkin Highway (Collier Road to Reid Highway);
- > Reid Highway (Wanneroo Road to Mirrabooka Avenue and Alexander Drive to West Swan Road).

This is inconsistent with the Australian Government's transport objectives because the National Land Transport Network generally operates at speeds well above the human tolerance

¹⁴Austroroads, (2013), 'Australian Cycling Participation 2013', Austroroads Publication AP-C9H13

¹⁵Ian Kerr for RAC WA Business Case for Investment in Cycling: Summary Report May 2012.

¹⁶Department of Transport, Western Australian Bicycle Network Plan 2014 -2031.

for serious injury of a cyclist and road safety is an Australian Government priority.

Cycling infrastructure is relatively low in cost, provides for more sustainable transport choices and can result in less cars being on our roads leaving more space for economically productive freight and commercial vehicles.

! **RAC's 2015 Cycling Survey found that 71 per cent of respondents consider investment in cycling infrastructure as a top Government priority.**

The WABNP 2014-2031 identifies the importance of expanding, and closing the gaps in, Perth's cycling or Principal Shared Path network. Its initial focus is within 15km of the Perth CBD, which corresponds with some of Perth's most congested yet important roads for economic productivity.

A relatively small investment by the Australian Government of just \$50m over four years focussing on the highest priority cycling infrastructure gaps would be a transportation 'game-changer' and is in the national interest due the substantial

benefits for both safety and productivity. The higher rates of cycling will:

- > Align Australian Government policy to that of other progressive nations who have committed to, and prioritised, the rollout of world class cycling networks;
- > Improve the safety and health of the population; and
- > Generate other benefits such as improved sustainability, social wellbeing, and mobility.

Further, the investment would enable separated cycling infrastructure to be provided along all of the Perth metropolitan National Land Transport Network, mitigating some substantial road safety risks.

RAC calls on the Australian Government to:

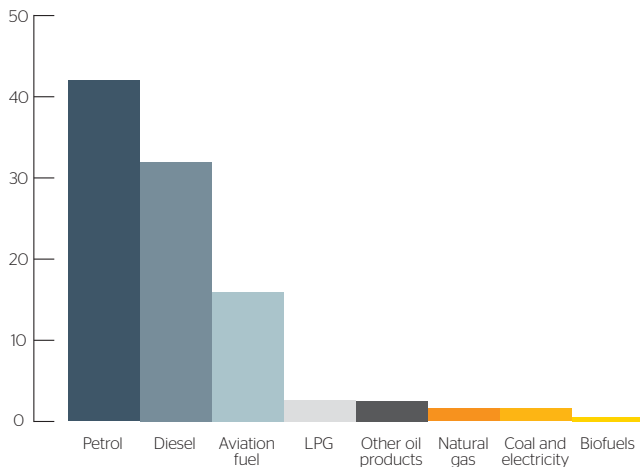
- » Allow allocations for cycling infrastructure to be made from the existing Black Spot Program, to safely separate cyclists from freight and commercial traffic along major arterial corridors.



10. Australian Government policy on mandatory vehicle emission standards

Economic and population growth has fuelled energy consumption in the nation's transport sector over the past 40 years. Road transport, as the dominant means of transport for goods and passengers, has consistently accounted for around three quarters of transport energy use. Within this, petrol and diesel fuels make up around three quarters of transport fuel used and as a result small improvements in fuel efficiency can have a significant impact on air quality and carbon dioxide (CO₂) emissions. Alternative transport fuels accounted for 5 per cent of energy consumption in 2012-13, comprising liquefied petroleum gas (LPG) (2.7 per cent), natural gas (1.6 per cent) and biofuels (0.6 per cent).¹⁷

Energy consumption in the transport sector, share of fuel 2012-13 (%)



Data courtesy of: BREE 2014a

Future fuels such as shale oil, hydrogen and synthetic fuels also have the potential to contribute to Australia's future transport fuel mix. However, as the Australian Government's *Energy White Paper* reports, until these fuels are successfully integrated into the broader fuels market, they are unlikely to be cost competitive in the short-term.¹⁸

The 2014 National Transport Commission's Information Paper found Australia's average CO₂ emissions for passenger cars in 2013 was 182g/km.¹⁹ This is a 4.2 per cent improvement

on 2012, while light commercials came in at 236g/km, down 0.8 per cent on the previous year. The industry average of 192g/km across both passenger cars and light vehicles for 2013 represents a continuing decline in CO₂ tailpipe emissions for light vehicles, the third-highest drop since annual figures were first published in 2002. The reduction was driven largely by consumer preferences for smaller and more fuel-efficient vehicles.²⁰

In comparison to Europe, where emissions calculations are directly comparable with Australia, the CO₂ average for passenger cars fell four per cent last year to just 127g/km while light commercials were down by a similar margin to 173g/km. This demonstrates that Australia is falling behind the rest of the world. Europe has now also mandated a target of 95gCO₂/km for all new cars by 2021 (phased in from 2020) which is equivalent to approximately 4.1 litres per 100km of petrol or 3.6L/100km of diesel, while the United States has a target of 139gCO₂/km by the end of the decade.²¹



“The energy landscape is changing. Strong growth in global demand, rapid developments in technological innovation and greater integration into world markets continue to influence how we generate, use and export energy”. - Ian Macfarlane, Minister for Industry and Science

Now is an opportune time to support more energy efficient vehicles. Consumer awareness and acceptance is increasing, while the cost of conversions continues to fall. In addition, refuelling and recharging infrastructure whilst once limited, is now being rolled out. In particular, electric vehicles are commercially available in Australia and have the potential to be a more mainstream transport option. They have a number of advantages over conventional vehicles including lower running costs. Vehicles which run purely on electric power are being sold by Tesla and Nissan, while BMW also offers an exclusively electric version of its i3 model. Mitsubishi's Outlander PHEV Hybrid can run on electric power for approximately 50km and uses a range-extending engine where required for longer trips. Both the Mitsubishi Outlander

¹⁷Department of Industry and Science. (2015). "Energy White Paper". Australian Government. <http://ewp.industry.gov.au/sites/prod.ewp.industry.gov.au/files/EnergyWhitePaper.pdf>

¹⁸Ibid.

¹⁹National Transport Commission. (2014). "Carbon Dioxide Emissions from New Australian Vehicles 2013: Information Paper". < [http://www.ntc.gov.au/Media/Reports/\(6BIDD6CF-FB2C-B934-74A8-47971CB09050\).pdf](http://www.ntc.gov.au/Media/Reports/(6BIDD6CF-FB2C-B934-74A8-47971CB09050).pdf)>

²⁰Terry Martin. (2014). "Climate authority calls for mandatory CO2 laws". GoAuto.com.au. <http://www.goauto.com.au/mellor/mellor:nsf/story/2/E25AB220EB2E484CA257D04002057D4>

²¹Ibid.

PHEV Hybrid and BMW i3 have 5-star ANCAP safety ratings, and boast advanced safety technology such as autonomous emergency braking as options.

! RAC is making a real contribution - and commitment - towards the growth of electric vehicles in WA by delivering the RAC Electric Highway®, in mid-2015. The first of its kind in Australia, it builds on an idea by a WA community based committee and will be a network of publicly accessible electric vehicle fast-charging DC stations located between Perth and Augusta.

Legislation through which the Australian Government restricts the ability for an individual to import a vehicle to Australia, the *Motor Vehicle Standards Act 1989*, is under review ("the Review"). Currently, around 98 per cent of imported vehicles are new vehicles imported by manufacturers and their dealer networks. The *Options Discussion Paper* for the Review suggests reducing restrictions to allow the personal importation of new vehicles by individuals without the need to own the vehicle overseas for a minimum period of time.²²

Guarantees are needed about the standard of vehicles imported for use on Australian roads to increase the availability of a range of models and thereby help to reduce the emissions intensity of the Australian vehicle fleet. However, unlike for other emissions types, Australia does not have a standard for CO₂ emissions for the new light vehicle fleet.

To enable Australian motorists to have access to safe, affordable and efficient vehicles, there is a compelling case for a mandatory national light vehicle standard to specify requirements for CO₂ emissions for motor vehicle fleets supplied to the Australian market. This activity needs to be properly resourced to ensure it is effective and efficient and any cost should not unfairly burden consumers.

RAC calls on the Australian Government to:

- » Introduce an appropriate mandatory light vehicle emissions standard based on carbon dioxide emissions which sets an emissions intensity target for the Australian light vehicle fleet and ensures the supply of more efficient vehicle fleets to the Australian market.



²²Australian Automobile Association, (2014), "Review of the Motor Vehicle Standards Act 1989", http://www.aaa.asn.au/storage/AAA%20submission%20on%20the%20Review_of_the_Motor_Vehicle_Standards_Act_1989.pdf

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