

Building a high quality cycle network

through better on-road infrastructure



For the better

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Cycling is undergoing a resurgence in Western Australia. The personal and community benefits of cycling are widely recognised and its growing popularity as a means of commuting, and for pleasure, is evident. 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.



The number of Perth people cycling to work, or for pleasure, has increased more than five-fold over the past 15 years and this trend is expected to continue as more Western Australians reap the environmental, social and health benefits offered by choosing bicycles for business or leisure trips.

Western Australian Bicycle Network (WABN) Plan 2014-2031

RAC, in its 2012 Cycling Business Case, highlighted that \$388 million was needed over 10 years to create continuous, convenient and comprehensive cycle networks in WA's cities and towns. Investment in cycling has wide-ranging benefits across many Government sectors including transport and health, and the Business Case demonstrated such investment can deliver greater economic returns on investment than many other urban transport investments.

Accelerated investment in high quality on-road cycling infrastructure to provide enhanced amenity, connectivity and safety should be a Government priority.

Cycling in our Capital City

Perth has a core, albeit incomplete, network of off-road shared paths, comprising Recreational Shared Paths (RSP) such as along the river foreshore and Principal Share Paths (PSPs) alongside freeways and rail lines. These provide radial routes to and from the Perth Central Business District (CBD) and minimise cyclists' interaction with vehicular traffic. However, not everyone can easily access these networks, particularly those in outer suburbs where routes are more dispersed. Furthermore, many cyclists prefer to ride on roads because these often provide the most direct and convenient routes to their desired destinations.

Roads are important connectors to the PSP and RSP networks, activity centres and key destinations. While some on-road cycle routes have sections of cycle lanes and other facilities, much of the work carried out to date has been the implementation of wayfinding signage, with infrastructure provision being more gradual. Whilst facilities are not required on all routes, signing a route is not always indicative of all appropriate treatments having been implemented.

There is clear potential to increase cycling participation in WA. In 2013, 405,000 Western Australians cycled each week¹. In a 2014 RAC survey of 453 members, two out of three respondents stated that they have at least one bicycle in their household.

Sharing the road with cars

On-road cycling forms part of every cycle trip, even if this is just to gain access to an off-road path. By law, a bicycle is considered a vehicle and cyclists are legitimate users of road space yet appropriate provision for cyclists can be lacking.

Provision of appropriate and well-designed facilities can be effective in improving safety and amenity, attracting a wider range of cyclists. A lack of on-road provision however is known to deter people from cycling on the road, and for many this can be a barrier to cycling altogether. Despite the increasing popularity of cycling, safety (whether perceived or actual) remains a concern for many. Between 2007 and 2012 there was an average of three cyclists fatally injured each year in WA, in 2013 there were 6 fatalities and sadly, in 2014, 8 cyclists lost their lives.



of those who identified a barrier to cycling more frequently said they have a 'fear of sharing the roads with motorists' (29 per cent said this was their main reason).

RAC Cycling Survey 2015

It is evident that there is strong support for greater investment in infrastructure to facilitate on-road cycling. Stakeholder consultation undertaken for the draft WA Bicycle Network (WABN) Plan, released by the Government in 2012, found that 'cycling safety and continuity of good on-road facilities (particularly at intersections), segregation from traffic and pedestrians and ongoing maintenance were identified as key issues'. The RAC's 2015 Cycling Survey also confirmed this to be the case.

¹Austrroads, (2013), 'Australian Cycling Participation Survey 2013,' <https://www.onlinepublications.austrroads.com.au/items/AP-C9113>

71%

of respondents believe the State Government should prioritise building on / improving the on-road cycle network (this was ranked first based on respondent's top three priorities).

RAC Cycling Survey 2015

Catering for on-road cycling

Cycle lanes are lanes within the roadway which are signed for use by cyclists. These can be painted on the road surface with no physical separation from general traffic lanes and parking or with physical separation such as 'armadillos', bollards, planters, kerbing or islands. Such physical separation provides enhanced comfort for a wider range of cyclists.

There are other on-road cycling facilities that can have safety and amenity benefits for cyclists. These include 'Bike Boxes' or 'Advanced Stop Lines' which are designed to help cyclists move off from signalised intersections ahead of vehicles or manoeuvre into a safe position to perform a right turn. Continuation of cycle lane markings through intersections can also help to raise driver awareness of the presence of cyclists. Integration of cycle lanes with such facilities, and interactions with other road users at points of conflict, needs to be a key design consideration. The targeted reduction of posted speed limits can also compliment the provision of infrastructure to improve cyclist safety.

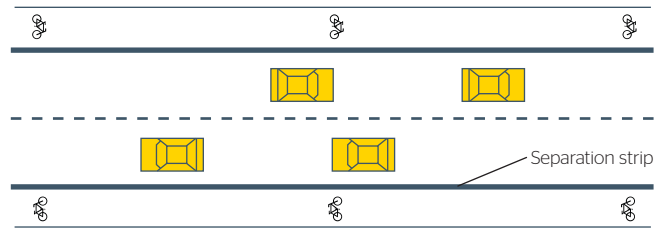
The need for dedicated on-road cycle lanes varies depending on traffic conditions, such as vehicle speeds and volumes, and the type of cyclist using / expected to use the route. It is not possible or necessary to provide such facilities on every street.

Cycle lanes are generally considered to be good practice on cycle routes where the 85th percentile² vehicle speeds range from 40 to 80km/h dependant on the volume of traffic using the road³.



Towards the upper end of this range physical separation would be required and potentially even off-road paths where traffic volumes are high.

On quiet roads with lower traffic volumes and speeds cyclists can often more comfortably and safely share the road space, mixing with vehicular traffic, rather than requiring dedicated facilities. However, even at lower speeds greater separation may still be required to cater for less confident or novice cyclists in some situations. On-road cycle lanes, which have physical separation from traffic, have been found to increase cycling participation and make cyclists feel safer.



Separated cycle lanes in Melbourne

In 2007, when exploring better ways to ensure all road users can share the roads safely, the City of Melbourne installed physically separated cycle lanes as a trial on **Swanston Street**. User surveys revealed that 80 per cent of riders felt safer due to the separation from vehicles and 45 per cent rode more often as a result (VicRoads 2007).

In a more recent example, physically separated lanes were installed on **La Trobe Street** in June 2013. To accommodate this, traffic lanes were reduced from four to two and this received strong opposition from some believing it would lead to 'traffic chaos'.

By February 2014 the number of cyclists had doubled in the AM peak to 380 per hour and trebled in the PM peak to 335 per hour. Following a temporary increase, motor vehicle traffic decreased by 25 per cent in the AM peak and 10 per cent in the PM peak. Cyclist mode share also increased from nine to 22 percent of peak period trips.

There have been some concerns that the cyclist casualty rate per year appears to have increased, consistent with the increased rate of exposure. A Road Safety Audit recommended minor modifications to heighten the awareness of both cyclists and motorists⁴. This highlights the importance of high quality design and ongoing evaluation of the efficacy of these types of schemes.

Separated cycle lanes have been introduced in a number of other cities in Australia and internationally. The City of Sydney for example has been progressing construction of a connected network of separated (on-road) cycleways since 2010.

²The speed at or below which the majority (85%) of vehicles using the road travel at when movement is unimpeded (i.e. uncongested conditions).

³Austrroads, 2011, Cycling Aspects of Austrroads Guides.

⁴Future Melbourne (Transport) Committee Report, Agenda Item 6.5, 11 March 2014. La Trobe Street Bicycle Lanes Post Implementation.

Progressing delivery of an on-road cycling network

Accelerated investment in infrastructure is required to help cycling remain a safe and viable option and boost participation.

The focus of Government investment has to date been on working towards completion of the PSP network, within a 15km radius of the CBD. In 2013/14, \$8.9 million was spent on expanding the PSP network and \$4 million on shared path and on-road infrastructure through local government grants (\$1.3 million through Perth Bicycle Network (PBN) grants and \$2.7 million through Regional Bicycle Network grants (RBN)). The focus of the grant funding was on shared paths, with 10.7km of shared paths being completed compared to only 1.6km of on-road infrastructure on the PBN and 21km and 3.5km respectively on the RBN⁵.

A number of actions could be considered by Government to progress the planning and implementation of a high quality network of continuous, comfortable and safe on-road cycling routes.

» Funding on-road cycle routes

The completion and upgrading of on-road cycle routes, particularly to and through activity centres and providing connections to PSPs, needs to be a funding priority. There also needs to be a long term commitment to funding of cycling infrastructure, as funding is only allocated over the forwards estimates as far as 2017/18.

» Defining a vision for a primary commuter network

Whilst the PBN comprises on-road routes on distributor roads there is a lack of clearly defined vision for what these routes should look like to better cater for commuter cyclists. To aid planning and implementation these routes should be recognised as a category in the hierarchy, above Local Bicycle Routes, but recognising that they could continue onto local roads to provide the most direct route.

» Making a clear policy commitment

A consistent policy commitment is required across the transport portfolio, and local government, to prioritise implementation of such a primary commuter network in line with the defined vision.

» Implementing the network

- › Fund and deliver an audit of all on-road cycle routes to inform prioritisation for funding to implement the network in a coordinated fashion. RAC identified this as an investment priority in its 2014-15 State Budget Submission.

- › Release WA-specific network planning and design guidelines and offer training for transport professionals responsible for implementing the network. RAC, in its submission on the draft WABN Plan, highlighted the need for tangible support for transport professionals, comprising of reporting, design and planning tools, mechanisms for knowledge share/transfer and professional development.
- › Pave the way for the trialling of more innovative approaches to the provision and design of on-road cycling infrastructure and ensure lessons learned are reflected in design guidelines as appropriate and are considered in scheme approvals.
- › Ensure opportunities to safeguard routes, and provide connections between new land use development and the network, are not missed.

Reallocation of road space to accommodate dedicated cycle lanes

Whilst this will not be possible, necessary or desirable to do everywhere, consideration could be given to reallocation of road space along some strategic routes where there is not sufficient space within the roadway to provide cycling infrastructure and widening is not feasible. Reallocation could be achieved through rationalisation of parking or reduced traffic lanes as has been done successfully in other cities in Australia and internationally. Research has shown the reallocation of road space as part of an approach called "road diets" can have minimal impacts on traffic if designed properly. In reallocating road space consideration must however be given to balancing the needs and expectation of all road users.

About the RAC

The RAC is the leading advocate on the mobility issues and challenges facing our State and is committed to ensuring safe, accessible and sustainable mobility options for our members and the broader community.



⁵Department of Transport, 2014. Annual Report 2013-14.