



Department of
Transport

Western Australian Bicycle Network Plan

2014-2031



MINISTER'S FOREWORD

It gives me great pleasure to release the *Western Australian Bicycle Network Plan 2014-2031*, to guide the expansion of metropolitan and regional cycling facilities in this State.

The number of Perth people cycling to work, or for pleasure, has increased more than fivefold 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. In 2012/13 alone, the number of cycling trips to and from the Perth Central Business District (CBD) increased by 16.4 per cent.

In meeting Western Australia's rising demand for paths and on-road facilities for cyclists, the WABN Plan will guide the continued delivery of cycling infrastructure to better meet the growing need for convenient, safe cycling routes and end-of-trip facilities, whilst aligning with the current State Government urban planning policy and directions. Cycling requirements for regional Western Australia has also been included in the final WABN Plan as previously there has been no strategy for this.

The WABN Plan includes a number of new initiatives. The initiatives include a Connecting Schools program and a Connecting Stations program, which both target regular short trips and are expected to deliver strong community benefits by improving the health of our community while also reducing congestion at key locations during peak drop-off and pick-up periods.

For the Perth area there will be a continued focus on building Principal Shared Paths along freeways and railway lines, prioritising those within a 15 km radius of the Perth CBD. The aim is to provide commuters with a viable alternative transport mode which is safe and reduces reliance on motorised transport in areas carrying high volumes of commuters. There will also be a thorough review of the Local Bicycle Routes network to connect all metropolitan suburbs to destinations.

For regional cities there will be a focus on medium-to-long term planning for cycling facilities, and increased funding made available through the Regional Bicycle Network Grants program. This is essential to ensure that we do not miss opportunities to provide cycling infrastructure as our key regional cities grow.

Excellent feedback was received on the draft *Western Australian Bicycle Network Plan 2012-2021*, this was released in March 2012, and I thank all those Western Australians who took the time to contribute. The input received has been invaluable in the preparation of the final WABN Plan, ensuring it will generate high-quality facilities for cyclists in the most necessary locations over the forthcoming years.

Hon Dean Nalder MLA
Minister for Transport



SUMMARY OF KEY ACTIONS

The *Western Australian Bicycle Network Plan 2014-2031* (WABN Plan) has been developed to leave a lasting legacy for all current and future cyclists. It includes new initiatives which cover a range of activities to efficiently provide a safe and sustainable cycling network which ties in with key activity and attraction areas.

The WABN Plan succeeds the 1996 *Perth Bicycle Network Plan* and links in with the *National Cycling Strategy 2011-2016: gearing up for active and sustainable communities* (Austroads Ltd 2010).

The key actions of the WABN Plan are summarised below.

EXPANSION OF THE PRINCIPAL SHARED PATH (PSP) NETWORK

Public feedback on the draft *Western Australian Bicycle Network Plan 2012-2021* cited a lack of paths for people to cycle on as the most significant impediment to cycling. The State Government is committed to providing a widespread, connected and well-maintained PSP network and has allocated significant additional funding to this initiative. Further funding will need to be provided in future years.

The priority PSPs up until 2023 will be within a 15 km radius of the Perth Central Business District (CBD), with a particular emphasis along the freeway and railway corridors, due to high commuter demand. PSPs will be constructed along other routes as part of large infrastructure projects such as Gateway WA.

From 2023 to 2031 the focus will move to the areas beyond the 15 km radius of the Perth central area to provide greater connectivity for Strategic Activity Centres.

...a safe and sustainable cycling network which ties in with key activity and attraction areas.

REVIEW OF LOCAL BICYCLE ROUTES (LBRs)

The Department of Transport (DoT), in partnership with Main Roads WA (MRWA), local governments and cycling advisory groups, will undertake a review of the LBRs to ensure that they meet the needs of cyclists by linking strategic destinations, such as activity and specialised centres (as outlined in *Directions 2031 and beyond*), and take into account the future expansion of the Perth metropolitan area.

The scope of this review will encompass the entire metropolitan area, which includes Mandurah. Both local and strategic routes identified in various local governments' bicycle plans will be considered in the review. The new LBRs identified by the review will become the responsibility of the local governments to initiate, co-fund and maintain.

State Government funding for projects needed to create LBRs will be available through the Perth Bicycle Network (PBN) Grants program.

PERTH BICYCLE NETWORK GRANTS PROGRAM

The PBN Grants program is the mechanism for the State Government to support metropolitan local governments to plan and construct their component of the PBN. Grants are available on a dollar-for-dollar basis.

DoT offers funding through the program for the development of local government bicycle plans and is currently redeveloping guidelines to assist in the development of high-quality, practical planning documents. The outcome of the local bicycle plans is a proposed network for the local area and a table of projects that have been rationalised to meet State and local expectations. The cycling community is key to ensuring bicycle plans adequately consider network deficiencies.

Following a gap analysis, the focus of the program changed in 2011/12 and eligible project categories have been amalgamated into four new categories; larger-scale projects of greater strategic significance are prioritised; and the project funding cap has been removed. A specific focus of the program is on connections to schools, stations and activity centres.

REGIONAL BICYCLE NETWORK (RBN) GRANTS PROGRAM

The RBN Grants program makes funds available for the development and construction of cycling infrastructure by local governments in regional Western Australia (WA).

As with the PBN Grants program, funding is on a dollar-for-dollar basis and local governments in regional WA should submit grant applications for projects that have been identified in their local bicycle plans.

The changes in focus for the PBN Grants program also apply to the regional program. A specific focus of the program is on connections to schools and projects generating cycling tourism.

A specific focus of the RBN and PBN Grants programs is on connections to schools, stations, activity centres and generating cycle tourism.



CENTRAL BUSINESS DISTRICT CYCLING PROJECTS

The *Perth Central Business District Transport Plan 2012* (CBD Transport Plan) seeks to ensure that the city has a sustainable, integrated and more balanced transport system in the short-to-medium term. The initiatives in the plan will be implemented over the next four financial years, with many of these due to be completed in the next two years.

Funding of \$7.5 million has been allocated for CBD cycling infrastructure implementation between 2012/13 and 2015/16. The Improvement for Cyclists project, aims to increase the number of people cycling to and from the city by undertaking:

- the construction of new PSP links to and through the CBD; and
- the development of a north–south route along Barrack Street by way of on-road cycle lanes between Riverside Drive and St Georges Terrace.

REVIEW OF TRAFFIC MANAGEMENT ON LOCAL ROADS

In some cases traffic management measures, such as traffic calming devices, are used by local governments to slow traffic and reduce traffic conflict. Unfortunately, these measures are often not bicycle-friendly and discourage bicycle riders from using these streets.

To solve the problem, a working group will be formed comprising representatives from DoT, MRWA, local government authorities (LGAs), WA Local Government Association (WALGA), the Institute of Public Works Engineering Australia (IPWEA), RAC WA and cyclist advocacy groups. The review will consider up to 10 examples of traffic management schemes.

After each scheme has been reviewed in detail, a 'lessons learnt' document will be produced highlighting key issues and solutions. The working group will also examine whether changes to current standards and guidelines are warranted, and whether additional training is required for road safety and traffic management practitioners.

CONNECTING SCHOOLS

Connecting Schools is a grant program aimed at improving bicycle access and end-of-trip (EOT) facilities for schools, as well as providing behaviour change initiatives to promote cycling.

Increasing the number of students cycling to school would have many positive benefits, including health improvements, reduced congestion at school drop-off/pick-up times and encouraging the take-up of cycling as a viable transport option for other short trips.

Funding will be available through the PBN and RBN Grants programs for projects that meet the Connecting School program objectives. The funding will be allocated to school EOT facilities and innovative cycling infrastructure projects that have not been traditionally funded through categories of the PBN and RBN Grants programs. In order to access this funding, schools must commit to adopt behaviour change approaches through the TravelSmart to School program.

Increasing the number of students cycling to school would have many positive benefits, including health improvements and reduced congestion...

CONNECTING STATIONS

There is tremendous potential for commuters to combine cycle trips with train journeys, which will increase the demand for secure bicycle storage at railway stations. Cycling routes within a 3 km radius of railway stations need to be established to make cycling a safe and convenient option for one leg of a person's commute.

The Public Transport Authority, in partnership with DoT, MRWA and local governments, will lead a review of the cycle routes to five railway stations spread across the metropolitan area, selected for a pilot Connecting Stations project.

The review will identify suitable routes to service a 3 km radius catchment area and any on- or off-road cycling facilities which will be needed. These improvements will be eligible for funding under the PBN Grants program. At the completion of the pilot program, a plan will be developed to review and improve cycling routes to various stations with high cycling demands.

PLANNING FOR CYCLING FACILITIES IN THE REGIONS

The populations of large regional centres have been expanding rapidly in recent years and residents have come to expect a high level of cycling route connectivity.

DoT, MRWA, Department of Planning (DoP), Public Transport Authority (PTA) and relevant local governments will review cycling facilities in the larger regional cities, identify any gaps in existing networks and plan for future growth corridors. It is appreciated that most of the cities already have working bicycle plans, which will become the starting point for identifying a strategic network similar to the LBRs in the Perth metropolitan area.

A strategic and operational development plan will then be produced for the identified regional centres. Connections to activity centres and schools, and harnessing the potential for cycle tourism, are clear network objectives for the regional centres. Funding applications for the development of key strategic projects within these areas will be made through the RBN Grants program.





DEVELOPMENT OF A BICYCLE COUNTING AND MONITORING STRATEGY

Cyclist monitoring and trip counting on the PBN is currently based on fixed bicycle counters which were installed in 2008 by MRWA and DoT at various locations on the network.

With the upcoming expansion of the PSP network, review of the LBRs, major civic projects within the metropolitan area and the continuing expansion of the public transport network, it is crucial that bicycle traffic is measured accurately so that the effectiveness of the WABN Plan initiatives can be appropriately assessed. To enable this, a cycle counting and monitoring strategy will be developed by DoT in line with the WABN Plan.

Cycling routes within a 3 km radius of railway stations need to be established to make cycling a safe and convenient option...

DEVELOPMENT OF AN ONLINE JOURNEY PLANNER

DoT will develop an online cycling journey planner to assist with trip choices and to encourage cycling. The application will provide options for on-road and path facilities, trip distance, approximate travel time, details on EOT facilities, cycling hazard reporting and cycle route sharing. The implementation of this journey planner will replace the previous system of route numbering on signs; however, pavement marking may still be included to provide directions to attractive destinations.

The application will also provide options for a journey plan to the nearest railway station, details of its bicycle storage facilities, and time estimates for each trip. The combined application will seek to have a link to the Transperth Journey Planner for maximum benefit.

A reference group will be formed to investigate possible options and oversee the development and implementation of the planner.



END-OF-TRIP FACILITIES

Perth CBD

Commuter cycling to and from the Perth CBD is increasing every year. To ensure that this trend continues, a sufficient level of EOT facilities (such as secure bicycle storage, lockers and showers) must be available and positioned at convenient locations. To this end, DoT is examining methods to increase the number of EOT facilities in the CBD to better enable central city employees to cycle to/from work. An analysis of the possible options available to DoT and/or the City of Perth to directly or indirectly influence the provision of EOT facilities in the CBD will be investigated, analysed and assessed for their effectiveness and cost. A recommendation will be made as to which option (or combination of options) will provide the best outcome against cost.

Activity Centres

EOT facility guidelines for activity centres will be formed to establish recommended standards in line with current trends and best practice. These guidelines will suggest levels of EOT facility provision that ensure buildings meet future demand trends and will include recommendations for internal areas, external areas, visitor, tenant and open spaces. Solutions will then be investigated to incorporate these EOT facility guidelines into State and local planning requirements.

To ensure commuter cycling to the CBD continues to increase every year, a sufficient level of EOT facilities must be available.

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VISION, TARGET AND OBJECTIVES

VISION

The vision of the *Western Australian Bicycle Network Plan 2014-2031* is to make WA a place where cycling is safe, connected, convenient and a widely-accepted form of transport.

TARGET

To double the number of cycling trips in WA within five years.

OBJECTIVES

The objectives of the WABN Plan take a whole-of-government approach to cycling, while also taking into account public feedback on the draft *Western Australian Bicycle Network Plan 2012-2021*, and are complementary to the *National Cycling Strategy 2011-2016*.

The objectives are to:

1. Build evidence and demonstrate the benefits of cycling for the community;
2. Encourage cycling to build active and healthy communities;
3. Provide a high-quality, interconnected bicycle network;
4. Improve the level of safety for people cycling; and
5. Build and enhance relationships with advocacy groups and stakeholders.

The vision is to make WA a place where cycling is safe, connected, convenient and a widely accepted form of transport.

BACKGROUND

CYCLING DEMANDS AND TRENDS

National cycling survey

According to baseline data established for the *National Cycling Strategy 2011-2016: gearing up for active and sustainable communities*, WA has cycling participation rates significantly higher than the national average.

Around 22 per cent of WA residents cycle in a typical week, and this increases to 30 per cent over a month and to 45 per cent over a year. It's encouraging that the national cycling survey revealed WA has one of the highest levels of participation among children – with about 57 per cent of children aged under 10 years old and about 45 per cent of children aged 10-17 riding each week.

In a typical week 77 per cent of people who cycle do so for recreation, again a significantly higher rate than the national average. Also in a typical week, about 159,000 people in WA make at least one trip for transport purposes, including riding to work, education, shopping or visiting friends and relatives.

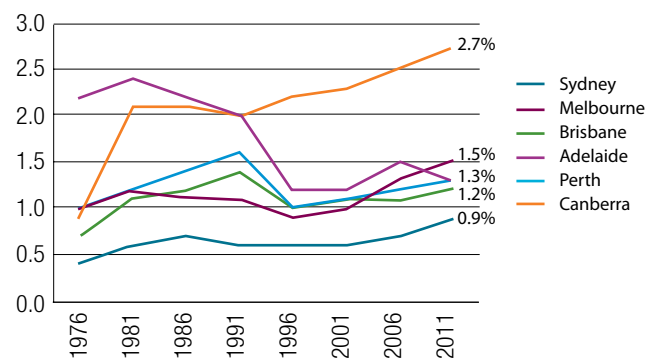
Cycling to work

The 2011 Australian Bureau of Statistics (ABS) Census data on the journey to work shows cycling's transport mode share has increased in Perth from 1.1 per cent to 1.3 per cent between 2006 and 2011. A more recent ABS household survey of environmental issues showed that cycling increased as the main form of transport to work in WA from 1.1 per cent to 1.7 per cent in the six years between March 2006 and March 2012. Chart 2.1 shows the comparison of the cycle only figures between the various states from 1976 to 2011.

A comparison between capital city rates of journeys to work by cycling shows Perth as equaling Adelaide for the first time and not far behind Melbourne (which is the top cycling-to-work state capital). Canberra is in a league of its own

owing to an atypical workforce profile and very good cycling infrastructure. Interestingly, Canberra also has the highest car use and the lowest public transport use in journeys to work.

Chart 2.1: Cycling rates – journeys to work by capital city 1976-2011



Source: <http://chartingtransport.com/2012/10/30/trends-in-journey-to-work-mode-shares-in-australian-cities-to-2011/>

In terms of cycling trips per day, ABS Census 2011 data indicates cycling to work has grown in Perth by 29 per cent (equal highest with Sydney) in the past five years, and by 50 per cent in the last 10 years (second highest to Melbourne). These figures need to be interpreted on the basis that Census data captures the number of people cycling to work on one single day every five years and that day's transport mode choice can be heavily influenced by the weather conditions. In 2011, that day was Tuesday 9 August.

Table 2.1: Cycling journeys to work by capital city 2001-2011

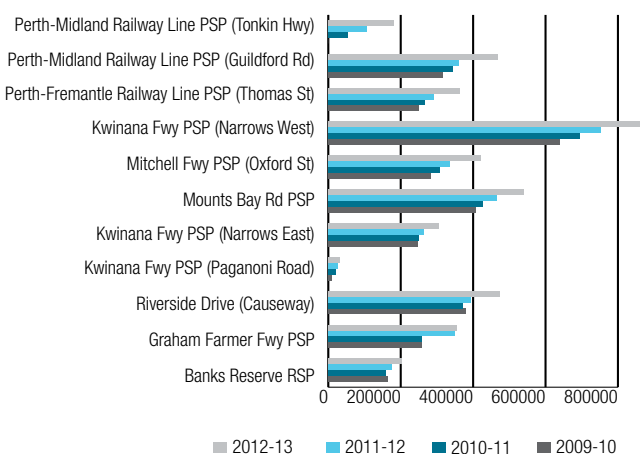
Priorities	2001	2006	2011	% Change Since 2006	% Change Since 2001
Melbourne	14,443	20,592	25,704	24.8	78.0
Adelaide	5,101	6,695	6,493	-3.0	27.3
Hobart	707	886	880	-0.7	24.5
Perth	6,218	7,240	9,312	28.6	49.8
Canberra	3,505	4,062	4,814	18.5	37.3
Brisbane	7,890	8,889	10,425	17.3	32.1
Sydney	11,131	12,132	15,624	28.8	40.4
Darwin	1,653	1,536	1,663	8.3	0.6



Source: Cycling to work in Australian capital cities (ABS)

Fixed counters located on the Principal Shared Path (PSP) routes, which provide a daily count of cyclists on the key cycling routes into the Perth Central Business District (CBD), show a substantial increase in cyclists. In 2012/13 the total count on the key cycling routes monitored reached over 4 million, up 16.4 per cent on 2011/12 and up 29.8 per cent since 2010/11.

Chart 2.2: Perth Bicycle Network – annual counts since 2009/10

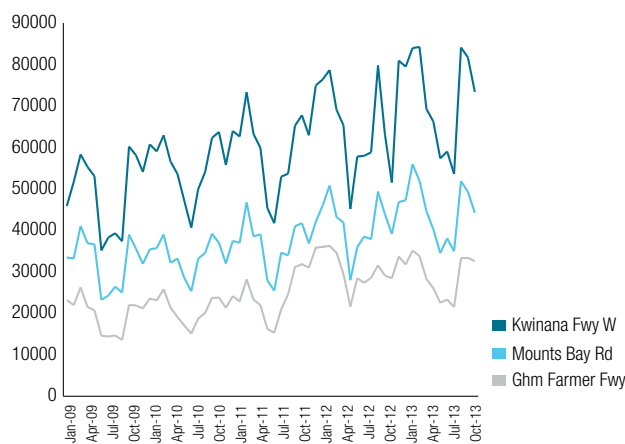


Source: Department of Transport Cycling Network Monitoring Project statistics

For the first half of 2013/14 these routes showed a 6.3 per cent increase compared to the corresponding period in 2012/13, providing a clear indication that the level of growth is continuing.

The increasing use of the cycling network and the distinct seasonal pattern are illustrated clearly in chart 2.3, which maps monthly usage of three major cycling routes.

Chart 2.3: Perth Bicycle Network – monthly counts on major routes since 2009

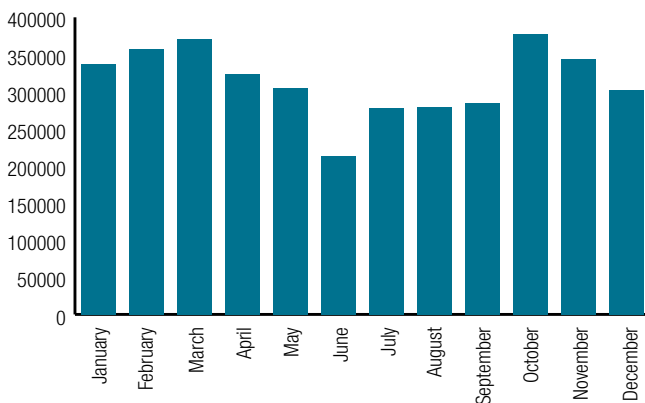


Cycling to work has grown by 30 per cent in the past three years.

Seasonal effects

Perth's flat topography and Mediterranean climate, characterised by moderate rainfall, hot summers and mild conditions over the rest of the year, make it ideal for cycling. Chart 2.4 shows the number of cyclists per month tallied on the 11 monitored routes leading to the Perth CBD. It illustrates the impact seasonal weather has on cyclists, with numbers peaking in spring and autumn.

Chart 2.4: Perth Bicycling Network – cyclist count per month 2013



Bicycle ownership and use

Western Australians own almost as many bicycles as cars, with an average of 1.58 bicycles per household, which is 8 per cent higher than the Australian average of 1.46. Despite the high rate of ownership, Perth residents only make 2 per cent of their trips by bicycle. Surveys reveal that people do not cycle for reasons that primarily relate to safety, traffic and the physical environment – all of which can be improved by the provision of good cycling infrastructure.



CYCLING'S COMMUNITY BENEFITS

As a mode of transport, cycling provides numerous benefits for individuals and communities, broadly falling into three categories – economic, environmental and social.

Economic benefits

Cycling's economic benefits come to the fore when a bicycle is substituted for a car.

- Reduced Congestion Costs – investing in cycling infrastructure is a practical way of reducing traffic congestion, which stands to cost Perth \$2.1 billion annually by 2020 according to the Bureau of Infrastructure, Transport and Regional Economics (BITRE).
- Reduced Infrastructure Costs – infrastructure projects to improve motor vehicle movement can be delayed if the demand is replaced by bicycle movement. Savings are significant due to the more efficient size of a bicycle compared to a car, and the fact that shared paths are also meeting the needs of people with disabilities. Savings include reduced road construction, land acquisition and parking facility costs.
- Reduced Health Costs – cycling is a healthy form of exercise and may also help reduce depression and anxiety. A daily 30-minute cycle improves health, fitness and well-being; and may halve the chance of the person becoming obese or diabetic.
- Personal Affordability – cycling is inexpensive, the equipment is both modestly priced and readily available and more than half of Perth's population already own or have use of a bicycle.
- According to research commissioned by the RAC WA¹, investment in high-standard cycling infrastructure, supported by programs to encourage cycling, will generate:
 - total community benefits (including strategic, health, economic and environmental) of at least 3.4 times the costs incurred; and

1. Ian Ker for RAC WA Business Case for Investment in Cycling: Summary Report May 2012

- measurable financial returns for cyclists and for government that are nearly twice the costs incurred, with two-thirds of the benefits accruing to individuals and households in the form of reduced car operating costs and car parking charges.

Environmental benefits

Cycling is a carbon-neutral, energy-efficient transport mode, with a number of environmental benefits.

- Reduced Air and Noise Pollution – cycling can help reduce air and noise pollution in dense urban centres.
- Greenhouse Gas Abatement – as a zero-emission mode of transport, cycling can lower transport-associated emissions. Every kilometre of car travel avoided saves up to half a kilogram of greenhouse gases from being emitted. This equates to a 5 km, 15-minute cycle commute each working day saving 1.2 tonnes of greenhouse gases annually.
- Land Use Efficiency – where cycling is a significant transport mode, less land is needed for vehicle infrastructure including roads and car parks. Such space saving can be used to increase community public spaces.

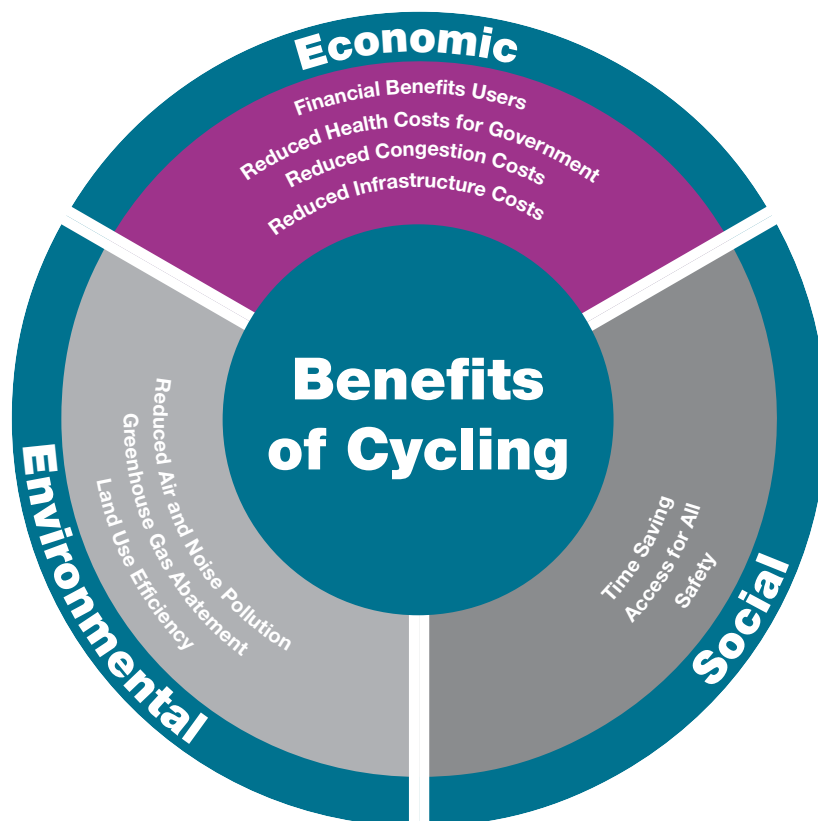
Social benefits

Cycling is a social activity, allowing riders to interact with each other and the environment, which results in a number of benefits.

- Time Saving – cycling is often faster than driving during peak hours in urban areas for distances up to 10 km.
- Access for All – cycling facilities, particularly shared-use paths, help meet the needs of people with disabilities and improve accessibility for everyone including the elderly and children.
- Safety – greater levels of cycling improve rider safety by conditioning motorists to expect and watch out for cyclists. The more cyclists, the safer they are through ‘safety in numbers’.

Cycling is often faster than driving during peak times in urban areas.

Chart 2.5: Benefits of increasing cycling in the community



THE DRAFT WA BICYCLE NETWORK PLAN 2012-2021

1996 Perth Bicycle Network Plan review

The draft *Western Australian Bicycle Network Plan 2012-2021* was formulated from extensive community consultation conducted as part of the PBN Plan review project. This review project was conducted in the following stages:

1. Gap analysis;
2. Review of world's best practice; and
3. Public consultation.

The results of this project are available on the Department of Transport (DoT) website (www.transport.wa.gov.au).

Release of the draft plan for public feedback and development of the final plan

The Minister for Transport released the draft *Western Australian Bicycle Network Plan 2012-2021* on 13 March 2012 for stakeholder and community feedback (consultation concluded 17 June 2012).

The State Government announced \$27.5 million to fund major projects in the draft WABN Plan.

A total of 533 responses were received in the form of emails and letters to the DoT and the Minister for Transport's office and questionnaire responses via Survey Monkey. Responses were divided into three categories:

1. Survey Monkey results;
2. Key stakeholder responses from Local Government Authorities (LGAs), State Government agencies, Members of Parliament, cycling groups and others; and
3. General public and community responses.

Comments received were summarised, recorded in a database and drawn upon during the preparation of the final *Western Australian Bicycle Network Plan 2014-2031* (WABN Plan).

A summary of the main issues raised and the results of the online survey questions are available on the DoT website.

During the period of public comment, the State Government announced additional funding to cover some of the major projects contained in the draft plan, including PSPs along the Midland Line from Bassendean Station to Midland Station, the Fremantle Line from Shenton Park Station to Loch Street Station and from Grant Street Station to Marine Parade, and along sections of the Mitchell Freeway from Glendalough Station to Reid Highway. This announcement helped heighten the awareness of the public comment period.





POLICY CONTEXT

The WABN Plan has been developed to complement and reference key Australian, State and local government level legislation, policies and strategies promoting cycling.

KEY AUSTRALIAN GOVERNMENT POLICIES

Council of Australian Governments (COAG)

The COAG is Australia's peak intergovernmental forum comprising the Prime Minister, State Premiers, Territory Chief Ministers and the President of the Australian Local Government Association.

In 2009 COAG released the *National Objective and Criteria for Future Strategic Planning of Capital Cities* to ensure that Australian cities are globally competitive, productive, sustainable, liveable, socially inclusive and well-placed to meet future challenges and growth.

Criteria for capital city strategic planning include:

- integrated planning encompassing land use and transport design;
- addressing climate change mitigation and adaptation issues; and
- connectivity of people to jobs, social inclusion, health, liveability and community well-being.

The WABN Plan addresses these and other criteria by guiding the provision of bicycle infrastructure in existing and new urban areas to enhance options for people to cycle to work and services. Many facilities also meet the needs of other users, including people with disabilities.

National Cycling Strategy

The NCS represents a significant step forward in setting out a coordinated framework for the development of cycling in Australia and reaffirming the Australian Governments' commitment to cycling for work, transport and recreation. This has resulted in six clear objectives.

1. Cycling Promotion – promote cycling as both a viable and safe mode of transport and an enjoyable recreational activity.

2. Infrastructure and Facilities – create a comprehensive and continuous network of safe and attractive cycle routes and end-of-trip (EOT) facilities.
3. Integrated Planning – consider and address cycling needs in all relevant transport and land-use planning activities.
4. Safety – encourage people to cycle safely.
5. Monitoring and Evaluation – improve monitoring and evaluation of cycling programs and develop a national decision-making process for investment in cycling.
6. Guidance and Best Practice – develop nationally-consistent guidance for stakeholders to use and share best practice across jurisdictions.

This strategy's overarching vision is to bring about changes in attitudes to cycling and increase the number of riders in Australia.

Our Cities, Our Future

Our Cities, Our Future – a national urban policy for a productive, sustainable and liveable future (Department of Infrastructure and Transport 2011) sets out ways to:

- better connect infrastructure with work and opportunity in our cities so we can reduce people's dependency on the car;
- develop high-quality public transport and infrastructure systems to ease congestion and improve quality of life;
- reduce the carbon footprint of our cities and adapt them to the consequence of climate change; and
- improve urban planning and design to better reflect our increasingly diverse lifestyles.

The policy includes objectives that relate to cycling infrastructure and planning.

- Sustainability – to advance the sustainability of Australia’s natural and built environment, including through better resource and risk management.
- Liveability – to enhance the liveability of our cities by promoting better urban design, planning and affordable access to recreational, cultural and community facilities.
- Governance – to progress the goals of productivity, sustainability and liveability through better governance, planning and management.

KEY STATE GOVERNMENT POLICIES

Directions 2031 and beyond

The purpose of *Directions 2031 and beyond* is to:

- define spatially how Perth should grow;
- identify structural changes to support that growth; and
- identify implementation planning and policy priorities.

Directions 2031 and beyond details the metropolitan area structure, determining local population, housing and job targets, as well as providing strategies for managing growth. Three integrated layers will form the city’s key structural elements:

1. Activity Centres Network;
2. Movement Network; and
3. Green Network.

The framework supports a more compact and environmentally-sustainable city, with a Movement Network which includes strategies to address continued private transport demand while simultaneously encouraging a shift towards active transport.

Directions 2031 and beyond recognises the importance of active transport as not only the most sustainable form of transport, but also as a major contributor to community health and to the overall travel picture as other parts of the network become increasingly congested.

It supports promotion of sustainable transport options including:

- planning and design of activity centres around transit-oriented development principles to promote public transport, walking and cycling as alternatives to private car use;
- continued reinforcement of *Liveable Neighbourhoods* design principles in new urban growth areas; and
- implementing the PBN to build on cycling infrastructure and policy development to support State and local government initiatives to increase cycling activity.

Moving People Network Plan (MPNP)

DoT has developed the MPNP as the strategic transport planning and policy document. It gives context to the metropolitan Perth and Peel region transport system and will guide transport infrastructure and services for the next 20 years.

WA’s strong economic and population growth is likely to stretch the current capacities of Perth’s transport movement network. Perth faces increasing challenges to overcome congestion and maintain accessibility to the network.

Although private vehicles will continue to have an important role to play in the future transport network, when assessing future network requirements primary importance will be given to maximising the number of people, rather than vehicles, that can be moved between destinations.

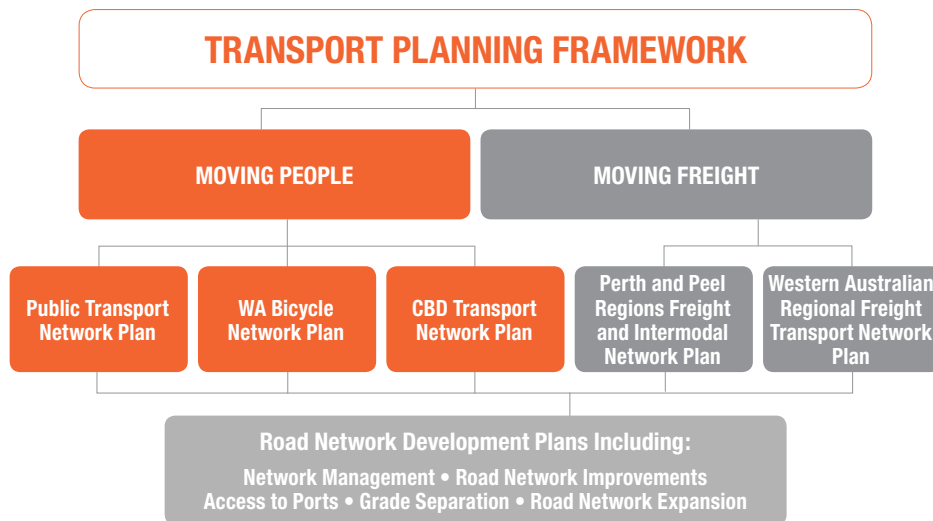
Therefore, it will be necessary that future movement networks support higher occupancy modes and assign particular modes of transport priority on certain routes or at particular times of day.

The key purpose of the MPNP is to support the future integrated land use policy across Perth and Peel by focusing on regionally-significant transport corridors and travel patterns. It is based upon:

- identifying current gaps, pressures and deficiencies in the moving people network;
- making better use of existing infrastructure;
- building upon the current infrastructure programs, such as the Public Transport Network Plan; and
- prioritising corridor space.

The MPNP puts active transport needs into a regional movement and local accessibility context, with the WABN Plan, *In Motion: a 20-year public transport plan for Perth and Peel* and other active transport options being key ‘building blocks’ for moving people.

Efficient on- and off-road routes will be identified to serve key arterial routes and destinations such as schools, sports areas and public transport stations. The WABN Plan provides a blueprint to guide cycle network planning.



Liveable Neighbourhoods

Liveable Neighbourhoods (Western Australian Planning Commission 2009) is a planning framework for development control of structure plans and the subdivision and development of new urban areas. It applies to all residential development and outlines preferred neighbourhood design approaches to achieve compact, well-defined and more sustainable urban communities.

Liveable Neighbourhoods has 12 aims including:

- to provide for access generally through an interconnected network of streets giving safe, efficient and pleasant walking, cycling and driving; and
- to provide for clusters of walkable neighbourhoods to reduce car dependence for travel to employment, retail and community facilities.

A January 2009 update increased support for cycling, walking and public transport with recognition that cycling is a critical part of the movement network. Measures can include EOT facilities, slower vehicle speeds, lower traffic volumes, appropriate lane widths, on-road facilities, shared paths and routes parallel to arterial roads with less traffic.

Active Transport Policy

The Active Transport Policy provides a clear statement of the Transport Portfolio’s commitment to the promotion of active transport as an important component of an integrated transport system. It provides guidance regarding the integration of active transport solutions into State Government policies, plans and works programs.

DoT recognises that it has a lead role in developing and delivering strategic policies and programs for sustainable and active transport, which are essential in order to achieve transport efficiency.

Getting more people regularly walking, cycling and using public transport will result in positive outcomes across a wide range of policy areas such as: increased capacity in the transport network; reduced healthcare costs; improved community well-being; and reduced environmental impacts. Specifically, a decrease in motor vehicle trips and a corresponding increase in walking, cycling and public transport use will serve to manage local congestion, increase the resilience of the transport system, reduce automobile emissions and improve local air quality. In addition, by normalising active travel, healthier, safer, more connected and informed communities will be created.

RAC Cycling Safety Forum and action plan

The Road Safety Council aims to make the roads safer for cyclists through its Safe System approach – safe road use, safe roads and roadsides, safe speeds and safe vehicles.

The RAC WA, on behalf of the Road Safety Council, has started to look at ways of reducing serious cycling crashes. Three Cycling Safety Forums were held between May 2011 and November 2012. An Action Status Report from these forums is available on the Office of Road Safety website (www.ors.wa.gov.au) which summarises the current status of the actions to address the issues raised. Some of these relate to the WABN Plan and its key actions.

Regional Centres Development Plan (SuperTowns)

The *Regional Centres Development Plan (SuperTowns) Framework 2011-2012* is a Royalties for Regions initiative to encourage regional communities in the southern half of the State to plan and prepare for the future so they can take advantage of opportunities created by WA's population growth to 2050.

WA's population is predicted to more than double over the next 40 years to 4.9 million people. The *SuperTowns* vision is to have created balanced communities, with lifestyle options and access to services. The towns will have affordable, quality housing and a diverse range of job opportunities, offering more choices for people to live in regional areas and be an attractive alternative to living in the metropolitan area.

As of 2012, the nine towns selected to participate in *SuperTowns* are Esperance, Northam, Collie, Katanning, Morawa, Jurien Bay, Boddington, Manjimup and Margaret River.

Pilbara Cities initiative

WA's Pilbara region is home to some of the world's oldest communities and hosts a thriving resources industry, which has the potential to drive the Australian economy for decades to come. This in turn will generate jobs, prosperity and numerous opportunities for the State.

In recent years, the Pilbara region has experienced record population growth along with higher costs of living, placing extreme pressure on services and infrastructure in the region. The vision for *Pilbara Cities* is for modern vibrant cities and regional centres that can support and deliver a skilled workforce for major economic projects in the Pilbara.

Funded through Royalties for Regions, *Pilbara Cities* is focussed on key delivery initiatives involving health, energy, water, housing and community development, and supports initiatives including industry diversification, Aboriginal participation, cultural enhancement and infrastructure development.

Other State Government strategies and policies

Other strategies and policies supporting cycling include:

- Policy for Cycling Infrastructure (Main Roads WA 2000);
- Accessibility Policy (Public Transport Authority 2007);
- *Towards Zero Road Safety Strategy 2008-2020* (Office of Road Safety 2009); and
- Development Control (DC) Policy 1.5 Bicycle Planning (WA Planning Commission 1998).

KEY ACTIONS

In order to achieve its vision and objectives, the WABN Plan is driven by a series of key actions (as described below). Some of these are new initiatives designed to provide a safe and sustainable cycling network between major activity and attraction areas. Others are existing initiatives which have been re-designed and expanded, and, in some cases, provided with additional funding.

These key actions dovetail in with existing roles and responsibilities of DoT, Main Roads WA (MRWA) and other agencies with cycling-related responsibilities (as set out in Government and agency responsibilities).

Additional funding will be required on top of the base funding that was in place in 2011/12, adjusted for cost escalation on the annual basis to ensure that then investment does not decrease as construction costs increase.

Project implementation groups have been established for each key action and are listed in table 4.1. The formation of a WABN

Implementation Reference Group (IRG) will oversee these project groups.

There are many complex and dynamic projects to be implemented that will require a staged approach, including studies, planning and design, construction and implementation. Many are reliant on the completion of higher priority recommendations. Consequently, indicative targets and timelines have been assigned to actions where possible and the WABN IRG will receive updates and monitor the progress of these. DoT will refresh and update timelines on its website on a quarterly basis.

Table 4.1: WABN Plan key actions

WABN Plan key actions			
Driving Agency	Department of Transport	Main Roads WA	Public Transport Authority
	Review of Local Bicycle Routes	Expansion of the PSP Network	Connecting Stations
	Perth Bicycle Network Grants Program	Review of Traffic Management on Local Roads	
	Regional Bicycle Network Grants Program		
	CBD Transport Plan Cycling Projects		
	Planning for Cycling Facilities in the Regions		
	Bicycle Counting and Monitoring Strategy		
	Online Journey Planner		
	End-of-Trip Facilities Perth CBD and Activity Centres Study		
	Connecting Schools		

EXPANSION OF THE PRINCIPAL SHARED PATH (PSP) NETWORK

PSPs are high-standard bicycle routes for longer, more direct cycling trips with minimal interruption from other traffic. Construction of PSPs, such as the one alongside the Kwinana Freeway from the Narrows Bridge to the Mount Henry Bridge, commenced several decades ago.

Public feedback on the draft *Western Australian Bicycle Network Plan 2012-2021* cited a lack of paths as the most significant impediment to cycling. The State Government is committed to providing a widespread, connected and well-maintained PSP network and has allocated additional funding to the existing budget.

As the main demand for commuter cycling is within a 15 km radius of the Perth CBD, along freeway and railway lines, the priority PSP projects focus on this area up until 2023. This will help obtain maximum benefit and create a safe environment for cyclists travelling to and from the busy CBD area.

The construction order of the priority links will be determined by constructability, safety improvement over existing facilities, connectivity and available funding. This will be developed as the detailed design process progresses.

It is estimated that \$100 million (in 2013 dollars) will be required to design, construct and complete the seven high priority PSP links over the next decade.

The PSP program should be focused on long lengths to realise economies of scale, reduce overall costs and improve connectivity of the network. Detailed design for each priority link will need to be completed well in advance of construction funding being allocated.

DoT will promote newly opened sections of the network to local residents and Bicycle User Groups.

Further information on the PSP network is available in Appendix One.

Related objectives

Objective 3 – Provide a high-quality, interconnected bicycle network.

Objective 4 – Improve the level of safety for people cycling.

Agencies responsible

DoT (Project Chair)
MRWA
Public Transport Authority (PTA)

Stakeholders

LGAs

Targets and timelines

The seven priority links within 15 km of the Perth CBD will be completed within the next decade and an indicative implementation plan for the design and construction of the PSP projects will be developed and made available on the DoT website.

Table 4.2: Priority links up to 2023

Location	Extent of Path	Type of Work
Kwinana Freeway	Narrows Bridge to Mount Henry Bridge	Improvements to existing path at selected locations
Kwinana Freeway	Cranford Avenue to South Street	New path and grade separation at selected locations
Mitchell Freeway	Glendalough to Balcatta	New path and grade separation at selected locations
Perth to Armadale Railway Line	Burswood to Welshpool	New path and grade separation at selected locations
Perth to Midland Railway Line	Bassendean to Midland	New path
Perth to Fremantle Railway Line	Shenton Park to Loch Street	New path
Perth to Fremantle Railway Line	Grant Street to Fremantle	New path and grade separation at selected locations

Funding

Funding of up to \$100 million will be needed over the next decade to design and construct the priority PSP links.

REVIEW OF LOCAL BICYCLE ROUTES (LBRs)

LBRs provide connections to activity centres, local attractions, schools, public transport and major shared paths. These routes will become more important in the future with increasing decentralisation, which is one of the framework objectives of the State Government's *Directions 2031 and beyond* plan.

DoT, in partnership with MRWA, local governments and cycling advocacy groups, will undertake a review of LBRs to ensure they meet the needs of cyclists by linking strategic destinations and taking into account the future expansion of the Perth metropolitan area. The review will incorporate TransPriority principles (as set out in the MPNP), giving priority to cycling on certain roads whilst recognising that adjacent roads could require traffic, public transport or pedestrian priority.

The scope of this review will expand beyond the 15 km radius of the CBD and will initially cover a desktop review of strategic destinations and catchment areas, best practice treatments, identification of routes and prioritised work schedules through undertaking saddle surveys. Bicycle boulevards and the further investigation of the concept of 'self-explaining' roads will also be covered in the review.

Local and strategic routes identified in the various local government's bicycle plans will be reviewed. The review will tie in with the review of local area traffic management project to ensure that all factors are considered the routes are practical and they have the support of the local government responsible for the respective routes.

The development of new LBRs identified by the review will be co-funded by local government and the State Government through the PBN Grants program.

Related objectives

Objective 3 – Provide a high-quality, interconnected bicycle network.

Objective 4 – Improve the level of safety for people cycling.

Objective 5 – Build and enhance relationships with advocacy groups and stakeholders.

Agencies responsible

DoT (Project Chair)
LGAs
MRWA
PTA

Stakeholders

Various WABN IRG members

Targets and timelines

The review will cover all metropolitan LBRs and be completed by the end of the 2015/16 financial year

Funding

The project will be funded through the existing Transport Portfolio budget.

PERTH BICYCLE NETWORK GRANTS PROGRAM

The PBN Grants program is an important aspect in raising the profile of cycling at a local government level and in ensuring network infrastructure is complementary across local boundaries.

The program is administered by DoT and matches local government expenditure dollar-for-dollar for the development and construction of cycling infrastructure in accordance with State Government priorities as set out in the WABN Plan.

LGAs should seek funding under the program in accordance with the priorities identified within their bicycle plans. DoT offers funding through the program for the development of these plans and is currently revising the guidelines to assist in creating high-quality, practical planning documents.

The focus of the program was changed in 2011/12 following a gap analysis. The results of this analysis are shown on the DoT website.

The following changes have been introduced for the program:

- eligible project categories have been amalgamated into four new categories:
 - paths;
 - on-road facilities (for example bicycle lanes);
 - local bicycle plans; and
 - other infrastructure (including EOT facilities)
- larger-scale projects of greater strategic significance have been prioritised; and
- the project funding cap has been removed.

The PBN Grants program favours projects that provide connections to schools, railway stations and activity centres.

Further information about the PBN Grants program is available in Supplementary Information.

Related objectives

Objective 3 – Provide a high-quality, interconnected bicycle network.

Objective 4 – Improve the level of safety for people cycling.

Objective 5 – Build and enhance relationships with advocacy groups and stakeholders.



Agencies responsible

DoT (Project Chair)
LGAs
MRWA

Stakeholders

Various WABN IRG members

Targets and timelines

Grant applications are to be received in October during each year of the program (nine months before the financial year of the program). Announcement of funding to local governments is made in February/March to allow time for local governments to finalise their budgets for project co-funding.

Funding

An estimated \$2 million allocation will be required on an annual basis.

REGIONAL BICYCLE NETWORK (RBN) GRANTS PROGRAM

The RBN Grants program is an important aspect in raising the profile of cycling at a regional local government level and in ensuring regional network infrastructure meets the needs of cyclists. Grants match local government expenditure on a dollar-for-dollar basis for the development and construction of cycling infrastructure.

As with the PBN Grants, the following changes apply to the program:

- eligible project categories have been amalgamated into four new categories:
 - paths; on-road facilities (for example bicycle lanes);
 - local bicycle plans; and
 - other infrastructure (including EOT facilities)
- Larger-scale projects of greater strategic significance have been prioritised; and
- the project funding cap has been removed.

The RBN Grants program favours projects that provide connections to schools and generate cycle tourism.

Information on the make-up of the RBN and further information on grants to local government is provided in Supplementary Information.

Related objectives

Objective 3 – Provide a high-quality, interconnected bicycle network.

Objective 4 – Improve the level of safety for people cycling.

Objective 5 – Build and enhance relationships with advocacy groups and stakeholders.

Agencies responsible

DoT (Project Chair)
LGAs

Stakeholders

Various WABN IRG members

Targets and timelines

Grant applications are to be received in October during each year of the program (nine months before the financial year of the program). Announcement of funding to local governments is made in February/March to allow time for local governments to finalise their budgets for project co-funding.

Funding

An estimated \$2 million allocation will be required on an annual basis.

CBD TRANSPORT PLAN CYCLING PROJECTS

The CBD Transport Plan seeks to ensure that the city has a sustainable, integrated and more balanced transport system in the short-to-medium term which can accommodate and complement major city development projects, as well as the major changes in population and economic development currently occurring across metropolitan Perth.

The initiatives in the CBD Transport Plan will be implemented between 2012/13 and 2015/16. The Improvement for Cyclists project aims to increase the number of people cycling to and from the city by undertaking:

- the construction of the Perth Arena western section of the Fremantle PSP between Market Street and Wellington Street (completed);
- an investigation into the most effective facility type and then extending the Roe Street PSP route from Milligan Street to Thomas Street; and
- the development of a north–south route within the CBD along Barrack Street by way of on-road cycle lanes between Riverside Drive and St Georges Terrace.

Related objectives

Objective 3 – Provide a high-quality, interconnected bicycle network.

Objective 4 – Improve the level of safety for people cycling.

Objective 5 – Build and enhance relationships with advocacy groups and stakeholders.

Agencies responsible

DoT (Project Chair)

MRWA

PTA

City of Perth

Metropolitan Redevelopment Authority

Stakeholders

Various WABN IRG members

Targets and timelines

Construction of the Perth Arena western PSP is completed.

Construction of the on-road lanes on Barrack Street between Riverside Drive and St Georges Terrace is to be completed by the end of 2014.

The extension of the PSP route on Roe Street from Milligan Street to Thomas Street is to be completed by the end of 2017.

Funding

\$7.5 million has been allocated between 2012/13 and 2015/16 for cycling infrastructure in the CBD.

REVIEW OF TRAFFIC MANAGEMENT ON LOCAL ROADS

Local governments are increasingly using traffic management and traffic calming measures to slow traffic and reduce traffic conflict. Unfortunately, in some cases, the treatments are not bicycle-friendly and discourage bicycle riders from using these streets.

To solve the problem, a working group will be formed comprising representatives from DoT, MRWA, LGAs, WALGA, RAC WA and cyclist advocacy groups to review up to 10 examples of traffic management schemes.

The schemes will include some examples that have been identified as friendly for bicycles and some that have been identified as unfriendly for bicycles. Safety aspects for all road users will be considered in line with the *Towards Zero Road Safety Strategy 2008-2020*. In addition, the effectiveness of each traffic management scheme in managing traffic speeds and volumes will also be considered.

After each scheme has been reviewed in detail, a 'lessons learnt' document will be produced highlighting key issues and solutions. The working group, in conjunction with professional bodies, will then develop a plan for the education of road safety and traffic management practitioners. Additionally, an examination as to whether changes to current standards and guidelines are warranted will be undertaken and, if deemed necessary, strategies for implementation will be developed.

Related objectives

Objective 4 – Improve the level of safety for people cycling.

Agencies responsible

MRWA (Project Chair)

DoT

Stakeholders

Various WABN IRG members

Targets and timelines

The review will be completed in 2014/15.

Funding

The project will be funded through the existing Transport Portfolio budget.

CONNECTING SCHOOLS

The number of school children cycling to school in WA at both primary and secondary levels has fallen significantly over the past decades for a variety of reasons. Increasing the number of students cycling to school would have many positive benefits including health improvements, reduced congestion at school drop-off/pick-up times and encouraging the take-up of cycling as a viable transport option for other short trips.

Connecting Schools is a grant program aimed at improving bicycle access and EOT facilities for schools.

Connecting Schools funding will be available through the categories in the PBN Grants program. Additionally, \$100,000 in 2013/14 has been specifically allocated to the Connecting Schools program for school EOT facilities and innovative cycling infrastructure projects. In order for local governments to access this funding, schools will be required to participate in the behaviour change program TravelSmart to School.

An evaluation of the program will be conducted to determine the benefits of rolling it out to schools across the metropolitan area and in larger regional cities and towns.

Related objectives

Objective 2 – Encourage cycling to build active and healthy communities.

Objective 4 – Improve the level of safety for people cycling.

Objective 5 – Build and enhance relationships with advocacy groups and stakeholders.

...commuters have been increasingly combining cycle trips with rail or bus journeys.



Agencies responsible

DoT (Project Chair)
LGAs
Schools

Stakeholders

Various WABN IRG members

Targets and timelines

Schools and local governments are to be identified for participation in the pilot program in 2013/14. Pre-intervention data is to be gathered in 2013/14.

Funding for infrastructure will be in 2013/14. Post-intervention data is to be gathered three and 15 months after installation.

Funding

The program administration and behaviour change components of the project will be funded through the existing Transport Portfolio budget.

Funding for strategic cycling infrastructure is available to local governments as part of the PBN and RBN grants programs.

CONNECTING STATIONS

In recent years, with the cost of fuel and parking rising, commuters have been increasingly combining cycle trips with rail or bus journeys. As a result, the demand for secure bicycle storage at rail stations has increased. A shelter holding 50 bicycles costs approximately \$60,000, compared with the \$350,000 required to build 50 car bays – making secure bicycle parking a space-saving, cost-effective solution.

Given these trends, cycling routes within a 3 km radius of railway stations need to be reviewed for safety and convenience. Three kilometres is a comfortable cycling distance for most people and only takes approximately 10 minutes.

The PTA, in partnership with DoT, MRWA and local governments, will lead a review of the cycle routes to five railway stations selected for a pilot Connecting Stations project.

The connectivity review will identify suitable routes to service a 3 km radius catchment area and any on- or off-road cycling facilities needed. These improvements would be eligible and prioritised for funding under the PBN Grants program.

At the completion of the pilot program, a plan will be developed to review and improve cycling routes to various stations where the demand for cycling is expected to be high.

Related objectives

Objective 2 – Encourage cycling to build active and healthy communities.

Objective 4 – Improve the level of safety for people cycling.

Objective 5 – Build and enhance relationships with advocacy groups and stakeholders.

Stakeholders

Various WABN IRG members

Targets and timelines

The connectivity review for pilot stations will be completed in 2014/15.

Funding

The connectivity review for pilot stations will be funded through the existing Transport Portfolio budget.

Upgrades to existing, or the provision of new, cycling infrastructure within the station precinct will be funded by the PTA.

Outside of the station precinct, to the 3 km boundary, the Transport Portfolio and local governments will fund infrastructure upgrades through the PBN Grants program.

PLANNING FOR CYCLING FACILITIES IN THE REGIONS

The populations of large regional centres have been expanding rapidly in recent years. Residents and tourists have come to expect a high level of connectivity of cycling routes, which can often form key pedestrian routes. These facilities should ideally provide for commuting, and for short and recreational trips to key areas within the cities. Cycle tourism is also becoming increasingly popular and there are many opportunities in regional WA to capitalise on this potential.

DoT, MRWA, DoP and the relevant local government will review cycling facilities in the larger regional cities and identify any gaps in existing networks and plan for future growth corridors.

A strategic and operational development plan will then be produced for the identified regional centres. Funding applications for the development of key strategic projects within these areas can be made to the RBN Grants program if required.

Preliminary consultation has already progressed in the South West and Great Southern regions with other regions scheduled to be consulted throughout 2013.

Related objectives

Objective 2 – Encourage cycling to build active and healthy communities.

Objective 3 – Provide a high-quality, interconnected bicycle network.

Objective 4 – Improve the level of safety for people cycling.

Objective 5 – Build and enhance relationships with advocacy groups and stakeholders.

Stakeholders

Various WABN IRG members

Targets and timelines

Consultation commenced in 2012/13.

Implementation is to commence from 2014/15.

Funding

Consultation will be funded through the existing Transport Portfolio budget.

Cycling infrastructure for regional cities can be funded through the RBN Grants program.

DEVELOPMENT OF A BICYCLE COUNTING AND MONITORING STRATEGY

Cyclist monitoring and trip counting on the PBN is currently based on fixed bicycle counters which were installed in 2008 by the DoT at various locations on the network. The data from these counters is updated quarterly and made available on the DoT website.

In addition to the fixed counters, since 1998 an annual monitoring study has been facilitated by the DoT to assess the effectiveness of the PBN program through user surveys. The surveys measure bicycle traffic at 71 locations throughout the Perth metropolitan area. The results are reported and made available on the DoT website and the information from these two information streams is used to shape current and future cycling infrastructure planning and implementation.

With the upcoming expansion of the PSP network, review of the LBRs, major civic projects within the metropolitan area and the continuing expansion of the public transport network, it is crucial that a strategy is adopted to accurately measure the growth and traffic movements of people on bicycles. To do this, a cycle counting and monitoring strategy to 2023 will be developed by DoT in line with the WABN Plan.

The purpose of the strategy will be to outline a future direction for counting and monitoring in order to assess the effectiveness of the projects and recommendations contained within the WABN Plan.

Related objectives

Objective 1 – Build evidence and demonstrate the benefits of cycling for the community.

Objective 3 – Provide a high-quality, interconnected bicycle network.

Agencies responsible

DoT (Project Chair)
MRWA
PTA

Stakeholders

Various WABN IRG members

Targets and timelines

The cycling counting and monitoring strategy will be completed in 2014/15.

Funding

\$30,000 has been allocated for the development of this strategy in 2013/14.

DEVELOPMENT OF AN ONLINE JOURNEY PLANNER

Use of online journey planning tools, such as Transperth's Public Transport Journey Planning Application, helps people make informed choices about their mode of travel and actively encourages non-car trips.

DoT will develop an online cycling journey planner to assist with trip choices and to encourage people to cycle. The application will provide options for on- and off-road facilities, trip distance, approximate travel time, details on EOT facilities, on-the-spot cycling hazard reporting and cycle route sharing.

The application will also provide options for creating a journey plan to travel to the nearest railway station, including details on the station's bicycle storage facilities, and time estimates for each trip. The combined application should have a link to the Transperth Journey Planner for maximum benefit.

The journey planner will include a complementary online planning application for smart phones. This tool could be utilised along the actual journey and would have great application for tourism and recreational cycling as well as commuting.

A reference group will be formed to investigate possible options and oversee the development and implementation of the planner.

Related objectives

Objective 1 – Build evidence and demonstrate the benefits of cycling for the community.

Objective 2 – Encourage cycling to build active and healthy communities.

Objective 4 – Improve the level of safety for people cycling.

Agencies responsible

DoT (Project Chair)

Stakeholders

Various WABN IRG members

Targets and timelines

The online cycling journey planner will be implemented over a 12-month period following the completion of the LBR review project.

Funding

Funding for this initiative will be assessed after scoping and concept development has been undertaken.

END-OF-TRIP FACILITIES

Perth CBD

Commuter cycling to and from the Perth CBD is increasing every year. Workplaces that provide EOT facilities (including secure bicycle storage, lockers and showers) are aiding this increase and a trend is evident where existing car bays are being 'converted' to cycling facilities. To ensure the continuation of this trend, a sufficient level of EOT facilities must be available.

All relatively new buildings in the CBD have been required to provide a minimal level of EOT facilities as part of the development approval process. Despite this, the facilities provided are sometimes insufficient to meet demand. Furthermore, many older CBD buildings were developed without the requirement to provide such facilities or with a provision that is insufficient to meet demand. Accordingly, cycling to work is not a realistic option for employees who work in such buildings, even if they wish to do so.

To address this issue, the DoT is undertaking a study to identify opportunities and mechanisms for increasing the number of EOT facilities in the CBD to better enable central city employees to cycle to work. An analysis of the possible options available to DoT and/or the City of Perth to directly or indirectly influence the increase in provision of EOT facilities in the CBD will be investigated, analysed and assessed for their effectiveness and cost. A recommendation will be made as to which option (or combination of options) will provide the best outcome against cost (that is, the best value for money).

As a minimum, the following infrastructure and incentive-based options will be assessed:

- establishing a large, centrally-located public EOT facility to cater for a large number of cyclists;
- establishing a number of smaller public EOT facilities spread across the CBD;
- establishing a grant system whereby CBD buildings could seek funding assistance to retrofit/expand EOT facilities; and

establishing incentives to encourage building owners to provide EOT facilities at a level which would meet forecast demand.

Activity Centres

EOT facility guidelines for Activity Centres will be formed to establish recommended standards in line with current trends and best practice. These guidelines will suggest levels of EOT facility provision that ensure buildings meet future demand trends and will include recommendations for internal areas, external areas, visitor, tenant and open spaces. Following the development of the guidelines DoT will develop an end-of-trip policy for Activity Centres and the Perth CBD.

Related objectives

Objective 3 – Provide a high-quality, interconnected bicycle network.

Agencies responsible

DoT (Project Chair)
City of Perth
City of Vincent
MRWA

Stakeholders

Various WABN IRG members

Targets and timelines

The CBD cycling EOT feasibility study will be completed in 2014. The results of this study will guide the development of an implementation plan for the recommended option(s) during 2014/15.

Funding

An amount of \$100,000 has been allocated for the completion of this study in 2013/14. Budget submissions will then be lodged to leverage additional funds for the implementation of the feasibility study results.

IMPLEMENTATION AND GOVERNANCE

The routes and cycling facilities forming the WABN are owned and controlled by a variety of State and local government agencies. Collaboration between State Government departments, local governments, the private sector and the cycling community is essential to achieve the WABN Plan’s vision and objectives. Success will depend on developing positive partnerships, communication and cooperation around a shared vision and objectives.

THE WABN IMPLEMENTATION REFERENCE GROUP (IRG)

To achieve a coordinated approach in implementing the WABN Plan, given the range of roles and responsibilities of the various organisations involved, an IRG has been established. The IRG will:

- oversee and monitor the implementation of the key actions of the WABN Plan;
- provide a forum for government and non-government agencies to share expertise on projects and policies; and
- provide a voice for cyclists.

The IRG currently includes representatives from the following:

- Transport Portfolio;
- WALGA;

- RAC WA;
- IPWEA;
- Australian Institute of Traffic Planning and Management;
- Bicycle Transport Alliance;
- Bicycling Western Australia;
- WestCycle;
- Munda Biddi Trail Foundation; and
- Over 55 Cycling Club.

DoT will coordinate the IRG, which will meet bi-monthly for the first year and quarterly after that. A dashboard report will be prepared prior to meetings which will update the IRG on the progress of WABN key actions and will prompt discussion for IRG meetings. This report will also be made available on the DoT website.

Table 5.1 summarises the composition of the IRG and the various project implementation groups linked to the WABN Plan’s key actions.

Table 5.1: WABN Plan Project Implementation Reference Group

	Overarching Reference Group	Implementation Reference Groups					
	WABN IRG	Expansion of the PSP Network	Review of LBRs	PBN Grants	RBN Grants	CBD Transport Plan cycling projects	
Project Chair	DoT	DoT	DoT	DoT	DoT	DoT	
	MRWA	MRWA	LGAs	LGAs	LGAs	MRWA	
	PTA	PTA	MRWA	MRWA	IPWEA	PTA	
	WALGA	LGAs	PTA	IPWEA	WALGA	City of Perth	
	RAC		IPWEA	WALGA	Various IRG members	MRA	
	IPWEA		WALGA	Various IRG members			
	AITPM						
	Cycling advocacy groups						

MONITORING AND REVIEW OF THE WABN PLAN

Monitoring and reviewing the WABN Plan will be an important function in order to ensure it keeps pace with changes in travel and recreational patterns, urban planning and development, and funding options.

To achieve this, the WABN Plan will be reviewed on a biennial basis and updated as necessary. After five years, a major WABN Plan review will be undertaken for consultation and consideration by the Government.

GOVERNANCE AND AGENCY RESPONSIBILITIES

A coordinated government approach is crucial to the delivery of the WABN Plan. The following outlines the roles and the tasks of the main State Government agencies with cycling-related responsibilities, together with those of local governments and other agencies.

Department of Transport

Role

DoT will continue as strategic lead and coordinate the activities of all agencies in delivering cycling facilities, distributing grant funding and evaluating its effectiveness in achieving the State Government’s cycling objectives.

Tasks

- Provide an electronic hazard reporting system for the public.
- Support and advise all organisations involved in implementing and maintaining the WABN and encouraging cycling as a mode of transport.
- Define a network of Strategic Bicycle Routes (SBRs) in consultation with DoP, MRWA, PTA and LGAs.
- Develop a strategy for the development of the PSP network, in liaison with MRWA and the PTA.
- Implement the Connecting Schools and Connecting Stations pilot projects, including route planning, auditing, infrastructure development and measurement of behaviour change.
- Monitor and report on bicycle use.
- Provide maps and information for the public.
- Encourage cycling through annual campaigns such as ‘Bikeweek’ and ‘Cycle Instead in Spring’, and integrate promotion with related health campaigns (for example Find 30) as well as targeted TravelSmart programs with a focus on active transport options for students and workplaces.
- Fund infrastructure construction to fill selected gaps in the WABN through PBN and RBN grants.

Implementation Reference Groups

Review of traffic management on local roads	Connecting Schools	Connecting Stations	Planning for cycling facilities in the regions	Bicycle Monitoring and Counting Strategy	Online Journey Planner	EOT Facilities
MRWA	DoT	PTA	DoT	DoT	MRWA	DoT
IPWEA	LGAs	DoT	LGAs	MRWA	PTA	LGAs
WALGA	Schools	MRWA	MRWA	PTA	Advocacy Group Representatives	RAC
DoT	IPWEA	LGAs	PTA	LGAs	LGAs	DoP
IPWEA	WALGA	IPWEA	DoP	WALGA	WALGA	Advocacy group representatives
WALGA	Advocacy group representatives	WALGA		IPWEA	IPWEA	
Advocacy group representatives		Advocacy group representatives		Advocacy group representatives		
RAC WA						
LGAs						

Acronyms are listed on page 54

Main Roads WA

Role

MRWA is responsible for: the construction, care and maintenance of the PSP network; all signalised intersections; and approving line marking plans for all roads.

MRWA will continue to be primarily responsible for the PSP network expansion into developing areas as part of highway and freeway extension works. It will also retrofit cycling facilities to existing MRWA-controlled roads as part of major upgrades.

Tasks

- Maintain and manage cycling facilities under MRWA control to appropriate standards.
- Ensure cycling facilities are included in planning for all MRWA major projects.
- Construct PSPs on at least one side of all new freeway and controlled-access highway projects. The construction of dedicated cycling facilities will also be included on all new road extensions and major upgrade projects on SBRs in metropolitan areas.
- Design and upgrade the PSP network in line with the strategy developed by DoT.
- In association with DoT, provide training to practitioners involved in implementing the WABN.
- Promote the inclusion of cycling facilities in local government road upgrade projects.
- Installation of fixed bicycle counters, as well as the collection and distribution of data.
- Installation of fixed bicycle counters, as well as the collection and distribution of data.

Public Transport Authority

Role

The PTA is primarily responsible for bus and train services and associated infrastructure. This includes building and maintaining sections of PSPs through railway station precincts when stations are constructed or upgraded. The PTA also provides secure bicycle parking and supports improved railway station accessibility. Integrating cycling with public transport offers significant opportunities for improving passenger access and responding to increased public transport demand.

Tasks

- Maintain PSPs through station precincts.
- Relocate PTA facilities, such as fences and communications equipment, in advance of PSP construction projects where possible.
- Ensure cycling facilities are included in planning for all PTA major projects.
- Install and promote secure bicycle parking facilities at suburban railway stations and monitor their use.
- Construct PSPs through station precincts as part of station upgrades (including the Better Transport System and Car Park Upgrade program), and through new stations in accordance with the PTA's Station Design Manual.
- Include PSP construction on railway extensions.
- Ensure the safety and use of bicycles is not compromised by vehicle access to car parks, bus lanes and bus priority measures.



- Facilitate planning for cycling routes within a 3 km radius of railway stations.
- Integrate cycling into PTA journey planning publicity material.
- Include and address cycling issues in PTA strategic plans.

Department of Planning

Role

DoP, through the Western Australian Planning Commission, is the authority responsible for subdivision planning approval and for significant development proposals throughout WA. It is responsible for land use planning which considers bicycle facilities in road reserves and elsewhere, such as river foreshores.

Tasks

- In consultation with DoT, ensure that a network of SBRs is incorporated into sub-regional growth management strategies, structure plans and local planning strategies.
- Refer planning strategies, plans, studies and development proposals to DoT for comment.
- Apply designs for the Movement Network element of *Liveable Neighbourhoods* to the development and assessment of all new urban developments.
- Support DoT in the development of policies requiring inclusion of EOT facilities in all significant developments.
- Ensure the WABN's existing and future routes and facilities are included in growth management strategies, structure plans and local planning strategies.

Local Government Authorities

Role

Local governments are vital to network delivery, ensuring accessibility and responding to local needs. With State Government support, LGAs will continue to be responsible for providing and maintaining local bicycle facilities.

DoT will continue to work with local governments to complete the LBRs network through the PBN Local Government Grants program. Priority will go to projects identified in accordance with local government bicycle network plans which complement, and are integrated with, PBN routes.

DoT will continue to work with local governments to expand the LBRs network into newly developed areas which do not have such routes.

Tasks

- Manage and maintain local cycling facilities to appropriate standards.
- Complete and maintain local bicycle plans and ensure that they integrate with the WABN Plan and neighbouring LGA plans.
- Ensure that the design of all roads, parks and other council facilities include adequate consideration of cyclists.
- Ensure land is set aside along river foreshores for completion of the Recreational Shared Paths network.
- Incorporate the requirement to provide EOT facilities in buildings within local government town planning schemes.

Other agencies

Other specific infrastructure on private or publicly-owned land may be the responsibility of the asset owner. This may include park agencies as well as the Department of Parks and Wildlife, and where this occurs DoT will work with the asset owners and any support agencies to advance route planning projects.



APPENDIX ONE: SUPPLEMENTARY INFORMATION



SUPPLEMENTARY INFORMATION

THE MAKE-UP OF THE PERTH BICYCLE NETWORK (PBN)

Principal Shared Paths (PSPs)

These high-standard routes are for longer, more direct trips between centres with minimal interruptions from other traffic and are strategic links into urban corridors. A standard PSP is 3-4 m wide, as straight and flat as possible, surfaced with red asphalt with at least 0.5 m compacted limestone shoulders. In addition, a 0.5 m clearance from obstructions is required wherever possible and at intersections, underpasses or overpasses are adopted where feasible to give grade separation and uninterrupted access.

In addition to longer trips, PSPs are suitable for less experienced riders (and pedestrians) on shorter trips. Given that many PSPs run along railway lines, they encourage local residents to ride or walk to railway stations.

Recreational Shared Paths (RSPs)

These generally follow river foreshores and beachfronts and are not direct routes to destinations. As such, they are also very popular with pedestrians and other users and, consequently, are intended for recreational riders. However, some RSPs function as commuter routes due to their locations and require construction to appropriate standards. A comprehensive river and beach RSP network has consistently been the intention of successive governments.

However, building RSPs along river foreshores and ocean frontages has historically been difficult and has generally been completed by the relevant local authority. Private land ownership, steep terrain, acid sulphate soils, environmental impact and native title are potential issues to be resolved before construction.

Additionally, numerous larger parks and reserves have plans including RSPs (constructed to the same standards as PSPs) within their boundaries.

Depending on the current demand and forecast volumes, a section of RSP could need to be as wide as 4 m and made of red asphalt. Separation of paths for pedestrians and cyclists is a solution being adopted by local governments. The effectiveness of separation and the impacts on others (such as children in a park) are not comprehensively understood.

There is significant community value in the completion of the RSP network and the State Government continues to work towards that goal. However, as these paths generally are not direct work routes, the RSP network has a lower priority.

Local Bicycle Routes (LBRs)

LBRs aim to provide connections for cyclists to undertake purpose-oriented trips across the metropolitan area. LBRs tend to follow quiet suburban access roads and pass shops, schools and other local community facilities. It is intended that these routes link with the strategic PSP and RSP networks.

LBRs allow less confident and less experienced riders to cycle in quiet traffic environments where continuity and speed are not as important as safety. Additionally, all local roads should be designed to cater for cyclists' needs and just because a road is not marked as a LBR it should not be precluded for consideration.

There are currently more than 600 km of signed LBRs; however, these sections are not well connected and a number of these have been compromised through local area traffic management treatments. The destinations need to be revisited and will be assessed as part of the LBR review.

On-road via the distributor road network

Bicycle commuters have the same expectations as other work travellers – the shortest possible trip time via the most direct and safe route. However, some riders may be intimidated when sharing road space with dense, fast-moving traffic.

On-road bicycle lanes or sealed shoulders are preferred on urban arterials and local distributor/ industrial roads managed by local governments. However, shared paths should also be provided for children and less experienced riders.

Many routes linking major trip attractors will use the distributor road network, but physical and environmental constraints, particularly in built-up areas, make it difficult or impractical to construct cycling facilities on all roads and routes.

Cycling facilities should not be precluded from other roads but should be provided as opportunities arise where there are no physical or environmental constraints.

On-road via access roads

Access roads are local streets where traffic volumes and speeds are usually low and, in most situations, the riding environment is adequate and does not require the provision of specific cycling facilities. However, such streets commonly have traffic management devices to slow traffic or encourage it to other streets and it is important that these do not compromise cyclists' safety.

It is also common for access roads to be severed by cul-de-sacs to prevent through traffic. While motor vehicles are forced onto circuitous routes, direct through movement should be provided to pedestrians and cyclists by path connections where feasible. These minor works are the responsibility of local governments and should be included in local bicycle plans.



Map 1: Perth Bicycle Network – Recreational Shared Path network – long-term vision



Map 2: Perth Bicycle Network – Local Bicycle Network – completed projects



PRIORITY PRINCIPAL SHARED PATH PROGRAM 2014-2023

Narrows Bridge to Mount Henry Bridge along the Kwinana Freeway (upgrade to existing path)

An existing PSP has been in place along this section of Kwinana Freeway for a number of decades. Since construction of the path, the number of cyclists and pedestrians using it has increased considerably. The number of bicycle movements on the PSP on the west side of the Narrows Bridge has been as high as 3420 per day for a normal work day, with approximately 2000 bicycle movements recorded on an average work day in 2012. This very high usage results in conflict between opposing flows of cyclists and also with pedestrians.

There is insufficient width to construct separate pedestrian and cycling facilities due to the site constraints which include the river, the freeway and the need to retain remnant vegetation. This improvement project will involve removing the unnecessary bends in the path to improve the sightlines. The path will also be resealed to replace the existing surface and the bitumen-stabilised shoulders. Additionally, repair to the river wall adjacent to the Mill Point Road ramp is becoming increasingly urgent. This project will be funded through Main Roads WA (MRWA); however, the implementation will require traffic management and cycling detours at various times during construction.

Cranford Avenue to South Street along Kwinana Freeway

The existing PSP along Kwinana Freeway crosses Cranford Avenue at grade. This is the only at-grade (where there is a clash between cycling and other forms of transport) road crossing for the entire Kwinana Freeway PSP and presents a safety concern. There is a missing section of PSP between Cranford Avenue and Leach Highway and a further two missing sections between Parry Avenue and South Street where the route currently uses quiet local roads.

This improvement project involves construction of a grade-separated PSP from the north side of Cranford Avenue to the existing PSP connection on Selway Road and construction of the missing sections of PSP beside Scandrett Way and London Way.

Glendalough to Balcatta along the Mitchell Freeway

The existing PSP along Mitchell Freeway is located on the eastern side of the freeway from Perth to Glendalough Station. From this point up to Reid Highway, the existing PSP crosses the freeway at Glendalough Station, Hutton Street and the Hertha Road Overpass. The route also requires a number of busy at-grade road crossings to be negotiated including Hutton Street, Cedric Street and Karrinyup Road, which lead to significant delays due to wait times at traffic signals and uncontrolled crossings. Several sections of the existing path are constructed from concrete and are in poor condition. Consequently, cycling numbers on this section of path are less than half those for a comparable PSP section on Kwinana Freeway, despite a larger residential catchment surrounding the Mitchell Freeway.



The intention is to extend the PSP from Glendalough Station on the eastern side of the freeway through to the existing underpass on the eastern side of the freeway beneath Erindale Road. The PSP will then cross to the western side of the freeway where the missing section between Erindale Road and Reid Highway will be built.

The improvements will involve grade separation works to provide a safe, efficient, uninterrupted PSP and will be delivered in stages. This will require several new structures between Glendalough Station and Hutton Street and an underpass at Karrinyup Road. Additionally, extensive retaining walls will be needed at a number of locations.

A new path will be constructed between Glendalough Station and Hutton Street. The section of path between the Hertha Road Overpass and Karrinyup Road will be replaced and a new PSP section will be built to fill the missing link between Erindale Road and Reid Highway.

No provision has been made for structures beneath Cedric Street due to infrastructure timeframe requirements for the Stirling Regional Centre being unclear at this stage. This situation will be reviewed as planning for the area evolves. However, it is recognised that a grade-separated facility at Cedric Street will be required in the future.

Burswood to William Street along the Perth–Armadale Railway

The existing PSP runs along Graham Farmer Freeway and terminates at Great Eastern Highway. From this point eastwards, the most direct route south-eastwards is Orrong Road which is not considered to be a safe cycling route due to high traffic volumes. An existing broken route on local roads is available parallel to the railway line, but this is not of sufficient quality to generate high cycling numbers. A recently constructed PSP runs along the Armadale Line from Welshpool Road to Lacey Street with the next section on the route planned for implementation being between Lacey Street and William Street.

This improvement project involves the planning and construction of an appropriate cycling facility from Riversdale Road in Burswood through to Welshpool Road. This corridor is particularly challenging due to the railway being in cut and the reserve being relatively narrow; however,

Rutland Parade will be used in some sections as a staged option for the development of this route. Design work for the section north of Oats Street has commenced with the most cost-effective option yet to be determined.

Bassendean to Midland along the Perth–Midland Railway

The extension of the Perth to Midland PSP route was recently completed to Bassendean Station.

From Bassendean Station to Midland, riders currently have limited options and are required to use a mix of local roads or poor-quality paths.

This improvement project will involve extension of the PSP from Bassendean Station on the northern side of the railway line through to Midland Station. Options will also be explored to extend the PSP through to Roe Highway to tie in with the PSP network being built as part of the recently completed Roe Highway/Great Eastern Highway grade-separation project.

The project will be completed in stages:

- Stage One will involve a new section of PSP from Bassendean Station to Lord Street and a grade-separated facility under Lord Street. Design work for the section from Bassendean Station to the east side of Lord Street, including an underpass, is currently underway.
- Stage Two will be a new section of PSP from Guildford Station to Midland Station. Design work for the section east of the Swan River through to Midland was undertaken in previous years and an update is underway.
- Stage Three will be to complete the missing section between Success Hill Station and Guildford Station, and will require an improvement in the link to the Swan River and then a structure over the Swan River. Until this project is completed cyclists can utilise the quiet street to access the path on the northern side of Guildford Road before crossing back to the PSP around Guildford Station.

Shenton Park to Loch Street along the Perth–Fremantle Railway

The existing PSP along the Perth–Fremantle Railway runs continuously from Perth through to Shenton Park Station. There is then a gap between Shenton Park Station and the Karrakatta Underpass, and another from the Karrakatta Underpass to Loch Street Station. These missing sections require cyclists to ride on roads with reasonably high traffic volumes. There is also a significant conflict point adjacent to Shenton Park Station.

The project would involve building the two missing PSP sections and would utilise an existing underpass beneath the bus-only bridge across the rail line. The design will include measures to reduce potential conflict between cyclists and pedestrians accessing Shenton Park, Karrakatta and Loch Street stations.

Grant Street to Fremantle along the Perth–Fremantle Railway

The existing PSP from Perth finishes at the Grant Street Station in Cottesloe. From this point to Fremantle cyclists are required to travel on-road in sealed shoulders and through signalised intersections that do not have provisions for cyclists.

The first stage of the PSP extension will continue through to Jarrad Street just south of Cottesloe Station. The second stage will continue the PSP to the Beehive Montessori School. The path will then terminate at this point with a road crossing to join the existing coastal RSP.

The full completion of the PSP south of this point is unlikely to be achieved within the first stage 10-year timeframe for the *Western Australian Bicycle Network Plan 2013-2031* (WABN Plan). However, opportunities will be taken to include PSPs in the planning for other projects such as the replacement of the Fremantle Traffic Bridge. The construction timing of such projects will then influence further stages of the PSP extension.

Other projects

Between 2014 and 2023 several PSP links will be funded and constructed as part of other transport infrastructure projects.

- Gateway WA – the focus of this project is the critical upgrades required for Tonkin Highway between Great Eastern Highway and Roe Highway, and Leach Highway from Orrong Road to the new consolidated airport terminal. Part of this project will include a PSP on the western side of Leach Highway from Jeffrey Street through to the Leach Highway/Tonkin Highway interchange, including grade separation at Abernethy Road. A PSP is also to be constructed on the southern side of Tonkin Highway between Great Eastern Highway and Abernethy Road, with the PSP then moving to the north side of Tonkin Highway until it reaches Roe Highway.
- Malaga Grade Separation – this project is to construct an overpass to carry vehicles on Reid Highway over Malaga Drive. Part of this project will include the completion of the PSP link on the southern side of Reid Highway from Camboon Road to where Reid Highway and Tonkin Highway intersect.

MOVING PEOPLE NETWORK PLAN (MPNP) PROJECTS

The PSP network will be expanded as part of road projects identified in the MPNP (subject to funding allocations).

Currently funded

- Upgrade to Tonkin Highway between Great Eastern Highway and Reid Highway.
- Construction of the Perth to Darwin Highway from Reid Highway and connecting into Ellenbrook.
- Extension of Mitchell Freeway.

Map 3: Priority Principal Shared Path Program 2014-2023



The improvements will involve grade separation works to provide a safe, efficient, uninterrupted PSP and will be delivered in stages.

PRINCIPAL SHARED PATH PROGRAM 2023-2031

The Priority PSP Program 2014-2023 will complete almost all PSP links within a 15 km radius of the Perth CBD. The intention of the 2023-2031 program will be to complete the entire PSP network as far north as Yanchep, as far south as Rockingham and from Fremantle in the west to Midland and Armadale in the east. These projects will be programmed and completed in conjunction with other major funded transport projects.

Mitchell Freeway PSP

- Upgrade and construction of a PSP between Reid Highway and Ocean Reef Road.
- Construction of a PSP with the Mitchell Freeway extension to Alkimos.
- Construction of a PSP with the northern railway line extension to Yanchep.

Kwinana Freeway PSP

- Construction of a PSP link from the Kwinana Freeway into and out of Rockingham town centre from the north and south. The potential alignment for this could utilise Mundijong Road, the rail corridor to Rockingham and Ennis Avenue.

Perth to Midland PSP

- Completion of a PSP link between Midland Railway Station and the Roe Highway PSP.

Perth to Armadale PSP

- Construction of a PSP on Railway Parade from Lacey Street to Austin Road.
- Construction of the missing PSP along the Armadale Railway Line from Kelvin Road to Armadale Road.
- Construction of a PSP along the railway line south of Armadale from Forrest Road to Norman Road.

Perth to Fremantle PSP

- Construction of a PSP from Tydeman Road to Fremantle which will complete the Perth to Fremantle PSP route.

Reid Highway PSP

- Completion of the missing PSP link along Reid Highway between Wanneroo Road and Mirrabooka Avenue.
- Construction of the missing PSP on Reid Highway from Malaga Drive to Beechboro Road North, tying in with grade separation at Malaga Drive and the Tonkin Highway/Reid Highway interchange.
- Construction of a PSP on Reid Highway between West Swan Road and Roe Highway.

Roe Highway PSP

- Construction of the missing PSP between Reid Highway and Morrison Road.
- Construction of the missing links of PSP to tie in with grade separation projects between Great Eastern Highway, Great Eastern Highway Bypass, Kalamunda Road and Berkshire Road.
- Construction of the missing PSP link along Roe Highway between Berkshire Road grade separation and Welshpool Road East.

Tonkin Highway PSP

- Construction of the missing PSP link between the Roe Highway/Tonkin Highway interchange and Mills Road West.
- Construction of a PSP with road upgrade on Tonkin Highway from Thomas Road to Mundijong Road.

Other

- Construction of a PSP on Karrinyup Road between Okely Road and Marmion Avenue.
- Construction of a PSP from Thomas Street between Wellington Street and Stirling Highway.
- Construction of a PSP alongside the Perth to Darwin Highway with connection into the Ellenbrook residential area.

The intention of the 2023-2031 program will be to complete the entire PSP network to Yanchep, Rockingham, Fremantle, Midland and Armadale.

Map 4: Principal Shared Path Program 2023-2031



CYCLING IN THE PERTH CENTRAL BUSINESS DISTRICT (CBD)

City of Perth Cycle Plan 2029

The *City of Perth Cycle Plan 2029* was developed to support the thousands of people currently cycling to and through the city, and to encourage others to take up cycling. The plan was adopted by the Council in October 2012 and is a step towards a cycle-friendly CBD.

The goals of the Cycle Plan include:

- cyclists of varying abilities having access to an integrated, accessible and safe strategic cycle network; and
- the City of Perth having an informed community that participates in cycling and both acknowledges and appreciates the environmental, economic and social benefits that cycling provides.

Route planning

An integrated approach must be taken to balance the needs of cyclists in the Perth CBD against those of other transport modes. In the MPNP this concept is known as 'TransPriority'. Competing interests for limited road space is managed by allocating priority use of the road to certain transport modes at particular times of the day. While cyclists will continue to have access to all roads, other than freeways, certain routes in the Perth CBD will be designed to operate as a priority thoroughfare for cyclists. Alternatively, there will be other routes which provide priority to public transport users, others for pedestrians and, where necessary, priority for traffic.

A TransPriority mapping workshop was conducted with the City of Perth, DoP and Transport Portfolio agencies to determine appropriate east–west and north–south routes into and through CBD that will be given cycling priority. This process helped to ensure that a consistent approach to cycling infrastructure planning between the local and State governments was developed.

The cycling priority east–west routes which have been identified are:

- the RSP between the Narrows Bridge and the Causeway;

- Murray Street between Thomas Street and Plain Street; and
- the Roe Street PSP between Thomas Street and the Windan Bridge.

The cycling priority north–south routes which have been identified are:

- Barrack Street between Riverside Drive and Roe Street;
- Bennett Street and Langley Park connecting Riverside Drive with East Parade;
- Milligan Street connecting the Perth Arena to the Mount Street bridge and Spring Street (Kwinana Freeway PSP); and
- Colin Street between the Fremantle PSP and Kings Park Road.

Major civic projects

There are several current and future major civic projects underway in the Perth CBD including Perth City Link, Elizabeth Quay, Riverside and the Perth Metro Area Express (MAX). These projects provide both opportunities and challenges for the cycling network.

Perth City Link

The Perth City Link project will connect the city centre with Northbridge for the first time in more than 100 years. The project site extends from the Perth Arena to Perth Station and will involve the sinking of the Fremantle Railway Line and the construction of a new underground bus station.

Opportunities

- King and Queen streets will be connected between Wellington and Roe Streets giving cyclists two options for connecting between the CBD and Northbridge.
- A temporary Elder Street shared path link was implemented during construction of the Perth Arena. This link will be upgraded to full PSP standard and will be maintained on a permanent basis.
- The northern side of Wellington Street will be upgraded and will accommodate cyclists by means of a shared path between Elder and William Streets.
- To ensure cycling end-of-trip (EOT) facilities at new buildings meet current and forecast trends, and best practice.

Challenges

- The Milligan Street cycle and pedestrian bridge will be demolished once King and Queen streets are connected, and cyclists will need to travel east along Wellington Street before they can access Roe Street.

Elizabeth Quay

Elizabeth Quay will be located between William Street and Barrack Street and create a precinct featuring a water inlet surrounded by a split-level promenade, shops, cafes, restaurants and other entertainment venues. The project will provide new inner-city residential options, hotel and short-stay accommodation and significant additional commercial space.

Opportunities

- To increase volume and diversify in the types of people who ride in the precinct as the area becomes an attractive destination and not just a through route.
- To upgrade the footpath to a shared path on the east side of William Street between Riverside Drive and The Esplanade.
- To provide on-road bicycle lanes on Barrack Street between Riverside Drive and St Georges Terrace.
- To ensure cycling EOT facilities at new buildings meet current and forecast trends, and best practice.

Challenges

- To provide an adequate level of service for cyclists with the expected increases in volume and cyclist diversity. This is particularly challenging through the Belltower area and crossing the inlet as there will be high levels of pedestrian and tourist traffic.

Riverside

Located east of the Swan River, bordered by Adelaide Terrace and the Causeway to the south, the Riverside project will create a community and tourist destination with a range of entertainment, commercial, retail, civic and residential uses.

Opportunities

- To increase volume and diversity in the types of riders in the precinct as the area becomes an attractive destination and not just a through route.
- To ensure cycling EOT facilities at new buildings meet current and forecast trends, and best practice.

Challenges

- To provide an adequate level of service for cyclists with the expected increases in volume and cyclist diversity. An inlet crossing will be provided as part of the project construction; however, cyclists will need to use this in conjunction with an on-road link to ride through the area.

Cyclists of varying abilities having access to an integrated, accessible and safe strategic cycle network.



Perth Metro Area Express (MAX)

MAX is Perth's proposed new light rail network – a visionary project that will introduce a new era of public transport and help to power the city's transport system into the future. The introduction of light rail will transform the city, both in terms of transport and land use outcomes. The State Government has announced the deferral of the MAX Light Rail project for three years, which will see overall completion of the project by late 2022. The MAX Light Rail project is a transformational project, and the State Government is committed to delivering the project in full. The revised timeframe will see procurement commence from mid-2017, construction commencing in 2019, with first services running by late 2022.

Opportunities

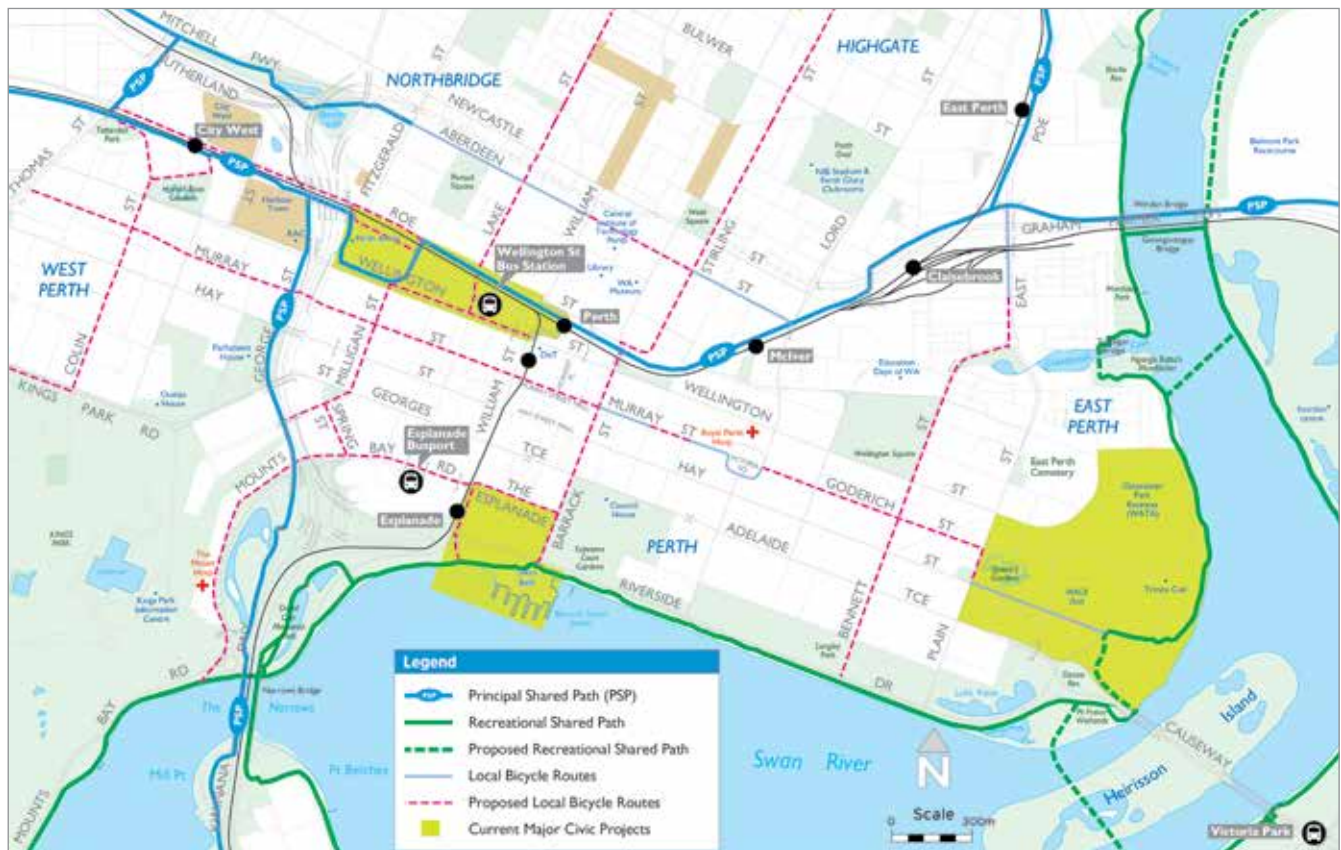
- Consideration of a dedicated cycling route from Mirrabooka Station to the Perth CBD.
- To create a cycling route on Lake and King streets to connect Northbridge and the CBD.
- To provide a new bridge river crossing parallel with The Causeway, as space on the existing bridge is required for future light rail.

Challenges

- To safely integrate regional cycling traffic with light rail station users along the route.
- Obtaining a parallel cycling route to the south of Walcott Street that is convenient, as there is insufficient space on Fitzgerald Street to accommodate all modes of transport.

An integrated approach must be taken to balance the needs of cyclists in the Perth CBD against other transport modes.

Map 5: Perth CBD cycling routes



THE MAKE-UP OF THE REGIONAL BICYCLE NETWORK (RBN)

Principal Shared Paths

These routes are for longer, direct trips between significant trip attractors in the major regional town centres. These are:

- South West–Bunbury;
- Great Southern–Albany;
- Goldfields/Esperance–Kalgoorlie; and
- Mid West–Geraldton.

These paths should be 3 m wide, surfaced with red asphalt with at least a 0.5 m clearance from obstructions and include grade separation at major intersections where feasible.

Recreational Shared Paths

RSPs often follow river foreshores, beachfronts, heritage trails and large parklands. As such, they are also very popular with pedestrians and other users. Consequently, the RSPs are not intended for high-speed riders and fast commuters, and are not planned as direct routes to destinations.

There is significant community value in the completion of the RSPs and the State Government, through the RBN Grants program, continues to work towards the completion of these routes.

Local Bicycle Routes

LBRs provide safe riding environments for cyclists of all abilities. They are primarily intended for short trips and, given their often circuitous paths and numerous stops, are generally not suitable for commuters or longer trips. Most LBRs follow quiet suburban access roads and pass shops, schools and other local community facilities. These routes should link with town centres, schools, recreational locations, major shared paths and RSPs.

LBRs allow less confident and less experienced riders to cycle in off-road or quiet traffic environments where continuity and speed are not as important as safety. Additionally, all local roads should be designed to cater for cyclists' needs and just because a road is not marked as a LBR it should not be precluded for consideration.

Cycle touring routes

WA is a great place for touring cyclists who enjoy the mild climate and generally flat terrain. Touring cyclists are comfortable in almost all on-road situations and need limited dedicated facilities. These routes should be considered for facilities in and out of town centres, EOT facilities for these types of cyclists in centres as well as options for transporting bicycles to and from route locations.

On-road via the distributor road network

Bicycle commuters have the same expectations as other work travellers – the shortest possible trip time via the most direct and safe route. However, some riders may be intimidated when sharing road space with dense, fast-moving traffic.

On-road bicycle lanes or sealed shoulders are preferred on urban arterials and local distributor/ industrial roads managed by local governments. However, shared paths should also be provided for children and less experienced riders.

Many routes linking major trip attractors will use the distributor road network, but physical and environmental constraints, particularly in built-up areas, make it difficult or impractical to construct cycling facilities on all roads and routes. Where space is severely limited, wide kerbside lanes may also be appropriate on all distributor roads except controlled-access highways.

Cycling facilities should not be precluded from other roads, but should be provided as opportunities arise where there are no physical or environmental constraints.

On-road via access roads

Access roads are local streets where traffic volumes and speeds are usually low. Generally these roads will not require the provision of specific cycling facilities as the riding environment is already suitable for cyclists.

However, such streets commonly have traffic management devices to slow traffic or divert it to other streets and it is important that these do not compromise cyclists' safety.

It is also common for lengthy access roads to be severed by cul-de-sacs to prevent through traffic, but these should only stop motor vehicles and not obstruct riders and force them onto circuitous routes.

GRANTS TO LOCAL GOVERNMENT PROGRAM

Local Government Grants program

Network implementation is primarily through partnerships between the State and local governments. The backbone is the PBN and the RBN grants programs administered by the Department of Transport (DoT). Local governments match the grants dollar-for-dollar with past focus areas being the development of LBRs and RSPs.

The grants program has played an essential role in raising cycling's profile and importance as a legitimate transport option in the minds of local government administrators.

The focus of the Local Government Grants program was changed in 2011/12 to address the gaps, barriers and issues identified in the review.

Project categories have been amalgamated, with the new categories being on-road facilities (for example bicycle lanes), paths, local bicycle plans and other infrastructure. In another change, the metropolitan program now focuses on larger-scale projects of greater strategic significance. Consequently, the funding cap has been removed and allocations can now be distributed over more than one financial year.

A summary of the categories follows.

Category 1 – On-Road Facilities

On-road infrastructure (such as bicycle lanes) improve cyclists' safety. Public feedback shows that bicycle lanes work well on low and medium traffic density streets. Consequently, grant funding for bicycle lanes will be assessed within this context.

Category 2 – Paths

In the Perth and Mandurah metropolitan areas, the WABN Plan will concentrate on the construction of major paths on strategic routes and include significant RSP projects, routes to activity centres and stations and initiatives which improve students' trips to schools.

In regional areas, the grants program will mainly fund paths that connect local amenities (such as schools and recreation facilities), as well as paths that encourage recreational cycling.

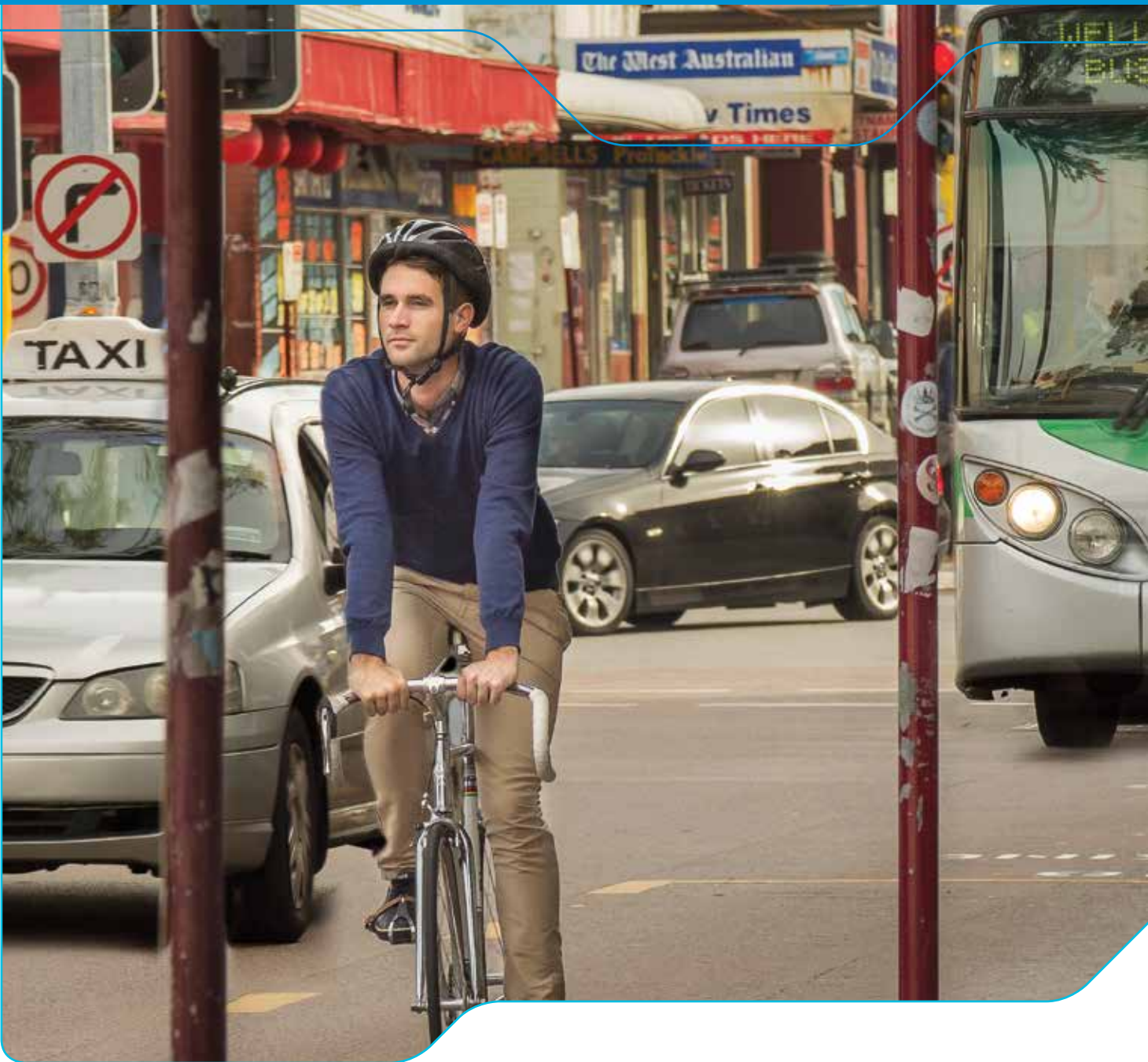
Category 3 – Local Bicycle Plans (Network Planning)

A local bicycle plan is essentially a guiding document to take the bicycle network from its current position to a desired or proposed network. Individual projects that address network deficiencies and establish routes as part of the proposed network are tabled.

There are a number of key components to be included in the local bicycle plan.

- Route Plan – the bicycle routes should give specific consideration to the WABN Plan, connections with neighbouring local authorities, trip attractors and EOT facilities. Protection of PBN routes, provision for cycling in town planning schemes and new developments, and consideration for cyclists in traffic calming and management projects.
- Connecting Rail/Bus Stations – a renewed focus of the grants program is partnering with local governments to develop a safe network of bicycle routes to public transport. These shared path projects will also be prioritised.





- Connecting Schools – a renewed focus of the grants program is partnering with local government to develop a safe network of bicycle routes to schools. These shared path projects will also be prioritised.
- Design and Standards – the design of all bicycle facilities should be to Austroads standards and, where projects form part of a PBN route, they should meet necessary standards.
- Costed Schedule of Works – established priorities for network implementation with estimated costs.
- Maintenance Schedule – a plan and budget estimate to ensure that all facilities are satisfactorily maintained.

Local bicycle plans are developed with extensive stakeholder consultation, involving community workshops, Bicycle User Groups and DoT representatives, with completed plans being put to councils for adoption and funding.

Category 4 – Other Infrastructure

This category includes funding for EOT facilities as well as other creative cycling infrastructure initiatives. Funding should focus on increasing bicycle parking across municipal areas rather than at specific sites. Improving intersection treatments can also be considered in this category.

ACRONYMS

ABS	Australian Bureau of Statistics
CBD	Central Business District
COAG	Council of Australian Governments
DoP	Department of Planning
DoT	Department of Transport
EOT	End-of-Trip
IPWEA	Institute of Public Works Engineering Australia
IRG	Implementation Reference Group
LBRs	Local Bicycle Routes
LGAs	Local Government Authorities
MPNP	Moving People Network Plan
MRA	Metropolitan Redevelopment Authority
MRWA	Main Roads WA
NCS	National Cycling Strategy
PTA	Public Transport Authority
PBN	Perth Bicycle Network
PSP	Principal Shared Path
RBN	Regional Bicycle Network
RSP	Recreational Shared Path
SBRs	Strategic Bicycle Routes
WAPC	Western Australian Planning Commission
WABN	Western Australian Bicycle Network
WALGA	WA Local Government Association





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www.transport.wa.gov.au

Phone: (08) 6551 6000

Fax: (08) 6551 6001

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