



Department of
Transport



PILBARA 2050

CYCLING STRATEGY



Shire of **EAST
Pilbara**
AUSTRALIA'S LARGEST SHIRE



ACKNOWLEDGEMENT

The authors of the *Pilbara 2050 Cycling Strategy* acknowledge the Traditional Custodians of the land on which we work and live, and recognise their continuing connection to land, water and community. We pay respect to Elders past and present.

Specific acknowledgements have been made throughout the document to name the country and the Traditional Custodians.

In the first instance this has been informed by Native Title Determination Areas, as per the Native Title Tribunal Native Title Claimant Applications and Determination Areas Map, available from the National Native Title Tribunal.

Where no formal Native Title claim has been determined, reference has been made to the AIATSIS Map of Indigenous Australia. We note that some of the information shown on that map is contested and may not be agreed to by some traditional custodians. We additionally recognise there are alternative spellings for some of these names.

Please contact cycling@transport.wa.gov.au if Traditional Custodians have not been accurately recognised.

Aboriginal and Torres Strait Islander people are respectfully advised that this publication may contain images or names of people who are deceased.

Cover page photo provided by the City of Karratha

1. National Native Title Tribunal 2020 Pilbara Native Title Claimant Applications and Determination Areas as per the Federal Court (30 September 2020). Available at: <http://www.nntt.gov.au/Maps/WA>
2. AIATSIS 1996 Map of Indigenous Australia Available at: <https://aiatsis.gov.au/explore/map-indigenous-australia>

EXECUTIVE SUMMARY

Cities and towns with high levels of bicycle riding enjoy a range of social, environmental and economic benefits. Not only is bike riding proven to reduce traffic congestion, improve air quality and provide significant health benefits, it also helps to create more vibrant and welcoming communities. From an economic perspective, cycling can help save families money and facilitate new forms of industry (such as cycle tourism and skills building services). From a social perspective, cycling gives more people access to more places, enabling greater participation in learning, employment, cultural and recreational activities. Fundamentally, increasing cycling mode share is about improving quality of life – something that is critical for attracting and retaining people in regional areas such as the Pilbara.

The key to increasing cycling mode share is the combination of soft policies, such as activation and education campaigns, alongside hard policies, such as delivery of dedicated bicycle infrastructure and trip facilities. Built infrastructure must not only be safe and convenient, but also designed for the local landscape and competitive against other modes of transport. Soft policies must consider peoples' barriers and motivators to cycling, with initiatives adapted to fit the social context of both local communities and delivering agencies.

To achieve greater participation in bike riding, cycling needs to be prioritised ahead of other modes in appropriate locations and integrated with adjoining land use. Safe, connected cycle networks must be supported by trip facilities, engagement programs and local businesses. If we are serious about ensuring people of all ages and abilities have access to active travel choices, particularly for short trips, these priorities need to be reflected in the way our communities are planned and administrated.

The *Pilbara 2050 Regional Cycling Strategy* has been developed by the Department of Transport (DoT) in partnership with Shires of Ashburton and East Pilbara, City of Karratha and Town of Port Hedland. This strategy reflects a shared vision and builds on ongoing work by each local government to deliver local cycling infrastructure and initiatives. A principal aim of the strategy is to help inform future investment through the Regional Bicycle Network Grants Program, local government capital works programmes, as well as other funding sources.

In developing this strategy, extensive consultation was undertaken with key stakeholders and the local community. Consultation clarified the community's expectations in terms of where key routes are most needed, the requirements for different user groups, and what types of programs would help encourage more people to ride.

In delivering the network outlined in this strategy, it is important to note that the long-term vision is highly aspirational and further work is required to determine the feasibility and form of various routes. Ongoing consideration must be given to potential environmental impacts, ensuring that the unique characteristics of the area are respected and maintained, and to respecting Traditional Owners. Delivery will also need to consider the needs of other users and vehicles using these routes. Some locations may also be limited by policy, transport and land use developments which could result in alignments changing as further feasibility and planning is undertaken.

There are exciting opportunities to build cycle skills and develop world class cycling facilities in the Pilbara region. The strategy provides a blueprint for improving and extending local cycle networks, as well as inter-regional links, through the development of off-road shared paths, low stress residential streets, transport trails and soft facilities such as bike parking, rest stops, wayfinding and vegetation. Direct, accessible routes across communities will connect more residents to where they learn, work and play. Connections that link townsites to each other and to accommodations will open up greater access to town and recreational facilities.

Extension of foreshore paths, town loop rides, links to caravan parks, and enhancement of local paths and trails will connect people to more unique destinations, attract more visitors and inspire them to stay longer. Facilities along paths and at destinations, including bike rentals, electric bicycle charging and climate-responsive amenities, will encourage more people to explore on two wheels rather than four. Skills building initiatives and safer routes for road cycling will also play a part in realising the full potential of cycling across the region.

These are all brought together in this long-term, aspirational vision for cycling in the Pilbara.

WHY WE WANT MORE PEOPLE CYCLING

TO ENABLE PEOPLE TO ENJOY HEALTHIER AND MORE ACTIVE LIVES

Obesity rates are 10% higher in regional WA compared to Perth. As a result, people living in regional areas are 1.25 times more likely to suffer from cardiovascular disease and 1.4 times more likely to be hospitalised for diabetes.

TO IMPROVE MENTAL HEALTH AND SOCIAL INCLUSION

People who engage in regular exercise experience reduced stress, improved sleeping patterns, improved concentration and a better outlook on life. More people riding and walking provides greater opportunities for incidental interaction on the streets, enhancing a sense of community.

TO HELP FAMILIES SAVE MONEY, AND INCREASE TRANSPORT OPTIONS

Families who have at least one person commuting by bike (instead of car) save on average \$8 per day which equates to nearly \$2,000 per year. Cycling provides an economic and independent travel option for those who might otherwise have their travel options restricted.

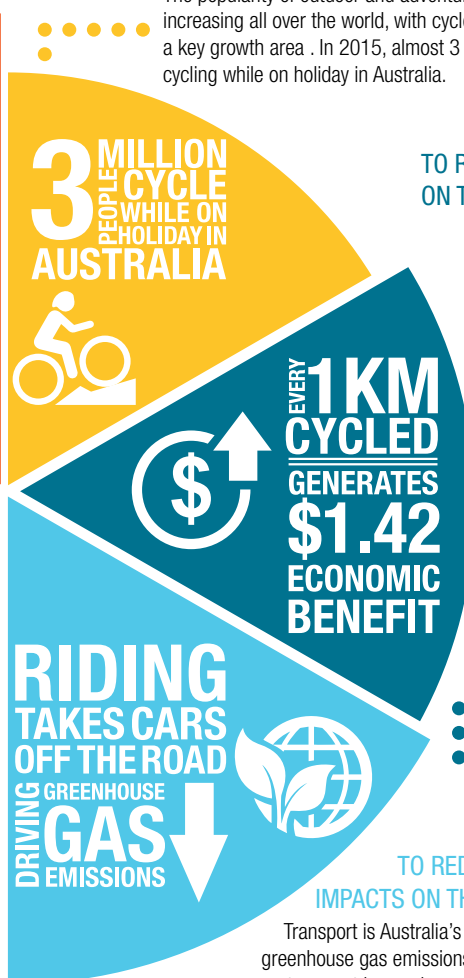


TO IMPROVE THE STRENGTH AND RESILIENCE OF OUR REGIONAL COMMUNITIES

The popularity of outdoor and adventure tourism is increasing all over the world, with cycle-tourism identified as a key growth area. In 2015, almost 3 million people went cycling while on holiday in Australia.

TO REDUCE PRESSURE ON THE PUBLIC PURSE

A study commissioned by the RAC found that the economic, social, health and environmental benefits attributed to cycling infrastructure outweigh their costs incurred by between 3.4 and 5.4 times. In dollar terms, it is estimated that for every kilometre cycled, \$1.42 of economic benefits are generated for the community.



TO REDUCE TRANSPORT IMPACTS ON THE ENVIRONMENT

Transport is Australia's third largest source of greenhouse gas emissions, with emissions from transport increasing nearly 60% since 1990, more than any other sector. In Australia, cars are responsible for roughly half of all transport emissions.

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1. INTRODUCTION

1.1 Guiding principles

The four Pilbara local governments and their communities have expressed a common vision of creating liveable regional centres with cohesive, vibrant and connected communities that embrace culture, their unique living landscapes, and support economic prosperity and vitality.

The *Pilbara 2050 Cycling Strategy* aims to deliver a safe, integrated and comfortable cycle network to help achieve this vision. By connecting people from where they live and stay to where they learn, work and play, comprehensive cycle networks can support social inclusion, lead to more active communities, and help to showcase natural landscapes and local attractions to residents and visitors alike.

The cycle network proposed in this strategy has been developed based on the following principles:

Safe: The 2050 cycling network should be built to a standard which reflects an all ages and abilities design approach. People of all ages and abilities should be able to cycle safely and confidently to the places they need and want to go. Unprotected cycling facilities located on busy roads are not considered suitable for vulnerable road users, and will not encourage more people to cycle, more often.

Widespread: In suburbs and towns, the network should be extensive enough for people to safely assume they can get to their destination without encountering hostile traffic conditions. When cycling networks reach a certain level of density it enables more people to conveniently and enjoyably make many more of their trips by bike.

An all ages and abilities design philosophy is about creating places and facilities that are safe, comfortable and convenient for as many people as possible. By designing a walking and bike riding facilities that cater for the youngest and most vulnerable users, we create a network that everyone can use. At the heart of this approach is fairness and enabling all people to use the network regardless of age, physical ability or the wheels they use.

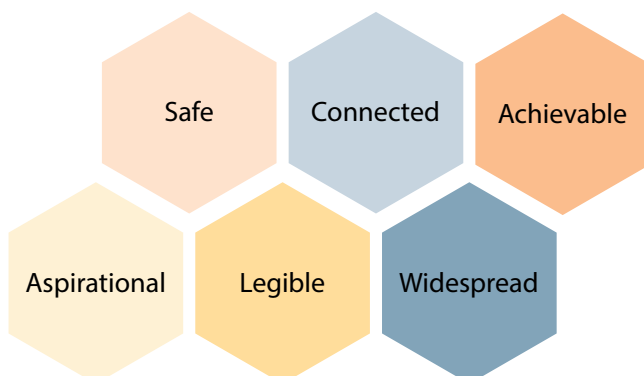
Connected: Like a road network, all cycling routes should connect to something along the way and at each end (whether that is a destination or another cycling route).

Legible: The cycling network needs to be both intuitive and direct. To achieve this, it makes sense to locate major cycling routes parallel to natural land forms, such as rivers and coastlines, or within existing road and rail corridors. The development of coherent wayfinding initiatives is also important in supporting legibility.

Aspirational: Given the long-term nature of this strategy, several ambitious ideas have been put forward to help enable residents to adopt cycling as a viable and priority transport mode, as well as encourage visitors to explore areas across the Pilbara comfortably by bicycle. This includes linking town sites and transient worker accommodations into Shire centres, creating world class bicycle transport trails and recreational loops, and implementing climate and terrain specific mid and end of trip facilities.

Achievable: For the most part, the proposals put forward in this strategy adopt tried-and-tested planning principles. The case studies chosen provide regional, interstate and international examples of similar projects undertaken in recent years.

Cycling disciplines that are dependent on purpose-built facilities (such as BMX parks, downhill mountain bike trails and velodromes for track cycling) typically perform non-transport related functions and as such are not considered part of the core remit of this strategy. However, the existing and planned locations of these facilities have been considered as part of planning the overall network with a focus on providing transport connections to recreational facilities and trail heads.



1.2 Pilbara in context

The Pilbara region covers an expanse of nearly 507,900 square kilometres and stretches from the Indian Ocean on the west coast to the Northern Territory border at the east.

The region is host to an estimated residential population of approximately 62,000 people, centred mainly on the coastal area and inland mining centres. The City of Karratha is the largest local government area within the Pilbara region with a population of approximately 21,500 throughout towns such as Wickham (2,300) and Dampier (1,200). The Town of Port Hedland is estimated to have 14,500 people, with South Hedland being home to over 9,000 of these residents.

The Shire of Ashburton recorded approximately 13,000 residents, with 3,000 in Tom Price alone, whilst the Shire of East Pilbara has an estimated population of 10,500 with approximately 7,000 people living in Newman.

The median age group throughout the region is 30-39 years, currently making up around 23 per cent of the population.

The Pilbara has a unique cultural identity and diverse Indigenous and multicultural heritage. There are more than 31 Aboriginal cultural groups in the Pilbara, with Aboriginal Australians representing approximately 14 per cent of the population, while nationally Aboriginal and Torres Strait Islander people make up 3.3 per cent of the population³. There are 31 Pilbara Aboriginal Languages, many of which have between two and five dialects and within some there are further varieties that are not as distinct as a dialect.

Many Aboriginal people speak more than one traditional language, with Elders commonly speaking five to eight languages⁴.

The region has a rich cultural heritage, with Murujuga rock art (dated as up to 30,000 years old) in the Murujuga National Park recently nominated by the Western Australian government as a United Nations Education, Scientific and Cultural Organisation (UNESCO) World Heritage List site for its value as a cultural landscape⁵.

The Pilbara's living landscape includes diverse natural environments and exceptional biodiversity, with terrestrial regions ranging from coastal plains to granitic plains, alluvial flats and banded ironstone ranges. Karijini National Park, the Burrup Peninsula and Millstream Chichester National Park are just a few of the internationally recognised tourism destinations in the region.

The Pilbara region is also abundant with significant mineral resources, including iron ore and liquid natural gas (LNG), and related port infrastructure, with existing ports at Ashburton, Dampier and Port Hedland. Mineral resources are a key contributor to both the region and the State's economic vitality, and the mining industry has been instrumental in the development of mining towns throughout the region, including Tom Price, Paraburdoo, Pannawonica and Newman. The mining and construction industries account for a large proportion of jobs in the region, though it is noted that not all of these jobs are held by residents of the region.



Figure 1.1

Further information on the Aboriginal languages of the Pilbara can be accessed through the Wangka Maya Pilbara Aboriginal Language Centre and an interactive map of Indigenous Australia can be accessed online via the Australian Institute of Aboriginal and Torres Strait Islander Studies (AIATSIS)⁶.

3. <https://www.abs.gov.au/statistics/people/aboriginal-and-torres-strait-islander-peoples/estimates-aboriginal-and-torres-strait-islander-australians/latest-release>

4. Wangka Maya Pilbara Aboriginal Language Centre <https://www.wangkamaya.org.au/pilbara-languages/information-on-pilbaras-languages>

5. <https://whc.unesco.org/en/tentativelists/6445/>

6. <https://aiatsis.gov.au/explore/map-indigenous-australia>

1.3 The need for a long-term regional cycling strategy

There are a number of strategic plans throughout the region which encompass cycling, including cycle plans, footpath strategies, and trails strategies. Previous cycle planning across the region has occurred at individual local government level and typically within a very localised context. To support the development of a strong culture of bike riding across the region, a systematic approach to developing a cycling network for the region is required.

Further reasons for preparing this strategy include:

- To address key opportunities which may have previously been overlooked, particularly in relation to future land use and transport developments;
- To help guide investment between local government and State Government;
- To facilitate the planning and development of long-distance cycling routes that serve a regionally significant need but may be outside the typical funding capability of local government;
- To ensure that the standard of future cycling facilities meets best practice; and
- To adopt a consistent approach with other 2050 cycling strategies being developed across regional WA.

Going forward, it is important that this strategy is reviewed on a regular basis to ensure it keeps up with the changing face of the Pilbara region and reflects future changes to cycling as a mode of transport. A framework outlining how this strategy will be maintained is provided in Section 5.4.

1.3.1 Expected changes in population

In 2015, The Pilbara Development Commission published a Regional Investment Blueprint, which envisaged that by 2050 the Pilbara Region will be home to 200,000 residents. This is referred to as an aspirational but achievable target. The Blueprint sets strategic priorities for investment to support growth in the region.

Working from 2013 population figures, this vision would see a population largely centred (approximately 150,000 of the 200,000 residents) in the City of Karratha and Town of Port Hedland, with Newman in the Shire of East Pilbara also growing into a major regional centre.

The region's population growth is generally consistent with the economic performance of mining operations within the region. Major mining operations can be expected to additionally increase non-resident populations.

1.3.2 Expected changes in land use

Strategic planning for the region provides an indication of expected growth areas.

Urban development, including residential development, parks and recreation, schools, and local shopping centres, is expected to grow in areas surrounding many existing settlements. Some urban densification is expected in larger settlements, including Karratha and Port Hedland.

It is anticipated that many of the settlements covered in the regional cycling strategy will experience significant development in industrial areas, including expansion of existing industrial areas. In particular:

- In Onslow, the Ashburton North Strategic Industrial Area is expected to experience significant growth, as well as some light industry to be developed as part of the Beadon Creek Boat Harbour development.
- On the Burrup Peninsula in the City of Karratha, further development of the Burrup Strategic Industrial Area can be expected.
- In Port Hedland, the Spoilbank Marina development will include a four-lane boat ramp and long-term capacity for up to 80 boat pens, with additional public open recreational space and improved public access, parking, toilet facilities and areas for pop-up stalls.
- The Shire of East Pilbara is seeking to have a 10 hectare block adjacent to the Newman Airport as general industrial land to position Newman as a regional service hub.

1.3.3 Expected changes to transport

Transport concerns across the region are largely dominated by those relating to extractive industry. To support significant industrial developments in the region, the State Government is expected to expand the region's road network, with particular emphasis on freight.

Major transport projects currently in planning or development include:

- Point Samson-Roebourne seal widening.
- Duplication of Great Northern Highway to McGregor Street in Port Hedland.
- Great Northern Highway Realignment northeast of Port Hedland Airport.
- Karratha-Tom Price Road Stage 4 (recently renamed Manuwarra Red Dog Highway) – completing the final stage of the direct sealed road between Karratha and Tom Price.
- 70km of seal-widening to develop 9m wide seal (including 3.5m wide lanes and 1m wide shoulders on both sides) along Great Northern Highway north of Newman.

Upgrades to roads in the region are therefore seen as a vital opportunity to support safe cycling outcomes for riders as well as the efficient movement of freight.

Additional port infrastructure is also expected in the region to support growth in the resources sector.

The following upgrades to existing ports are expected at Pilbara Port Authority Ports:

- Port of Ashburton, 12km southwest of Onslow, is expected to support export of 50 million tonnes of LNG per annum, as well as general cargo and fuel;
- Port of Dampier, on the Burrup Peninsula is expected to focus on general cargo trading; and
- Port of Port Hedland is expected to experience sustained growth as the world's largest bulk commodities export port.

Other coastal infrastructure projects in the region include:

- Development of Beadon Creek Boat Harbour to the east of Onslow town centre, including land use framework that supports additional lease sites, the development of a community boating precinct, and a new road.

1.3.4 Relationship to other documents

The 2014-2031 *Western Australian Bicycle Network (WABN) Plan* identifies the need to review cycling facilities in WA's regional centres. Although many regional local governments have their own local bike plans, it is recognised that there is a need to develop long-term regional strategies which have an aspirational focus and, where appropriate, span across entire regions. Key objectives of this process include improving connections to activity centres and schools, identifying inter-regional routes and harnessing the potential of cycle tourism.

Funding applications for the development of key strategic projects within these areas can be made through the Regional Bicycle Network (RBN) Grants Program. This program makes funds available for the planning, design and construction of cycle networks and cycling infrastructure by local governments in regional WA, with funding matched on a dollar-for-dollar basis.

Long-term cycling strategies such as this do not preclude local governments from preparing a local bike plan. While the purpose of this strategy is to provide a blueprint for Pilbara's 2050 cycling network, a local bike plan may be used to identify short-term priorities such as upgrades to existing infrastructure and maintenance requirements. Local bike plans are also important for outlining strategies around the activation of cycling infrastructure and various education, promotion and encouragement strategies aimed at affecting behavioural change.

1.4 Background research and analysis

1.4.1 Document review

In preparing this strategy several documents were reviewed pertaining to land use and transport in the Pilbara region. Combined with extensive stakeholder engagement, these documents were critical to understanding previous and current approaches to planning and designing for cycling and where planning and feasibility for certain routes has already been undertaken. A list of these documents is contained in Appendix B.

1.4.2 Mapping of current and future trip generators

Before commencing the development of the network, all existing and known future trip attractors were mapped. Trip attractors are defined as any place that someone could reasonably be expected to need or want to cycle to and include places such as schools, shopping centres, industrial areas, tourist destinations, health campuses and sporting precincts. The trip attractors are shown together with the proposed 2050 cycling network in the maps contained in Section 3.

1.4.3 Analysis of crash data

The most recent five-year crash statistics (2015-2019) were obtained from Main Roads' Crash Analysis Reporting System (CARS). Both pedestrian and cyclist crash data was obtained, noting that areas which are dangerous for pedestrians are often also dangerous for cyclists. An analysis of this data is provided in Appendix B.

1.4.4 Analysis of GPS travel data

The GPS mapping tool, Strava Labs, was used to better understand which parts of the region's road and path networks are most heavily used by bicycle riders. Strava is a website and mobile app which is used to track athletic activity via GPS. Despite the usefulness of this information, it should be noted that GPS travel data is typically representative of people who cycle for training or high-intensity recreational purposes. An analysis of this data is contained in Appendix B.

1.4.5 Community consultation

Consultation with the local community was central to the development of the *Pilbara 2050 Cycling Strategy*. The objectives of the community consultation were to:

- Help refine the overarching aims and objectives of the strategy;
- Gain an understanding of the community's expectations when it comes to cycling infrastructure, as well as the needs of different user groups;
- Highlight the major issues and missing links associated with the existing cycle network;
- Provide the community with the opportunity to share their ideas; and
- Seek local buy-in and ongoing community support for the strategy.

The community had the opportunity to have their say on a preliminary network and themes both online and at in-person engagement sessions held throughout the region.

Safety, climate and recreation were major topics raised by the community during the consultation period, and the community's views supported the development of several key priorities for the network, allowing the formation of the five-year priority action plan. A detailed analysis of the community consultation is contained in Appendix C.

1.4.6 Stakeholder consultation

This strategy has been developed by DoT in partnership with the Shires of Ashburton and East Pilbara, City of Karratha and the Town of Port Hedland. Internal working groups for each local government provided input and guided the development of the document.

Stakeholder input was received from the following government and non-government organisations:

- Departments of Local Government, Sport and Cultural Industries (DLGSC), Planning, Lands and Heritage (DPLH), Department of Water and Environmental Regulation (DWER), and Biodiversity, Conservation and Attractions (DBCA)
- Main Roads Western Australia (MRWA)
- Tourism WA
- WALGA
- WestCycle
- Wangka Maya Pilbara Aboriginal Language Centre

Feedback was also requested from the following stakeholders:

- Australian Institute of Aboriginal and Torres Strait Islander Studies
- Murujuga Aboriginal Corporation (Karratha)
- Gumala Aboriginal Corporation (Ashburton)
- Buurabalayji Thalanyji Aboriginal Corporation (Ashburton)
- Bunjyma Rangers (Ashburton)
- Yinhawangka Aboriginal Corporation (East Pilbara)
- Karlka Nyiyaparli Aboriginal Corporation (East Pilbara)
- Robe River Kuruma Marthudunera Aboriginal Corporation (Ashburton)
- Puutu Kunti Kurrama Pinikura (PKKP) Aboriginal Corporation (Ashburton)
- Chevron, Rio Tinto, Woodside, and BHP

1.4.7 Review of existing cycling network

Alongside community and stakeholder consultation, a technical review of the existing cycling network was undertaken to identify strengths, weaknesses and opportunities.

Many of the towns across the region benefit from existing networks of suitable infrastructure, including wide footpaths which facilitate local access to many destinations. However, there are significant opportunities to enhance and supplement the existing networks and better cater for cycling trips, particularly to industrial workplaces.

Along with the development of new cycle routes, these opportunities include:

- Improving connectivity by constructing missing links;
- Completing loops around the region's cities and towns;
- Providing separated infrastructure to improve cyclist safety on heavy vehicle routes;
- Upgrading older sections of shared paths to provide more comfortable walking and cycling experiences;
- Introducing wayfinding to assist with network legibility;
- Installing climate and terrain specific mid trip and end of trip facilities; and
- Enhancing local cycling networks through activation initiatives that emphasise the unique cultural and environmental landscapes across the region.

The maps contained in the Action Plan (Section 5) classify the existing cycle network in the context of the proposed network hierarchy.

2. REGIONAL ROUTE HIERARCHY

A hierarchy comprising five types of cycling routes has been used to plan and illustrate the Pilbara's 2050 cycling network. This hierarchy has been adopted for all cycling strategies in WA as a key action of the WABN Plan. An important aspect of the hierarchy is that unlike many traditional cycling network plans, routes are defined primarily by function, rather than built form. The key differences between the five types of route are explained in Sections 2.1 to 2.5, with additional detail provided in Appendix A.

2.1 Primary routes

Primary routes form the backbone of Pilbara's 2050 cycling network. Sometimes referred to as freeways for bikes, primary routes afford people riding bikes with safe and (generally) uninterrupted journeys. Primary routes should be completely separated from motorised traffic. Due to this, major road and rail corridors, as well as river and ocean foreshores tend to be the most practical locations for these types of facilities. In terms of built form, primary routes predominantly consist of high-quality shared paths at least 3m in width.

To ensure high levels of rideability and legibility, red asphalt is usually the preferred surface treatment, however this may depend on the localised climate and terrain. An important consideration for shared paths is managing safety and ensuring etiquette between different users. In areas of high pedestrian activity, it may be necessary to provide separate walking and cycling facilities.



Shared path along foreshore



Shared path parallel to a major road

Figure 2.1 Primary routes form the backbone of urban cycling networks and allow cyclists to safely undertake long, uninterrupted journeys.

2.2 Secondary routes

Secondary routes are typically located within urban or built-up environments. The aim of these routes is to provide users with access to and from important trip attractors such as shopping centres and industrial areas, as well as education, health and sporting precincts.

In many cases, secondary routes are located adjacent to busy urban streets and take the form of shared paths and/or protected on-road bike lanes. Going forward, it is important that the design of all new cycling infrastructure (including secondary routes) incorporates the all ages and abilities design philosophy. To ensure that on-road cycling infrastructure is safe and attractive to such a wide range of users, separation in the form of kerbed medians is desirable to minimise the interaction between cyclists and vehicular traffic – particularly on busier roads.

Where this is not possible softer measures such as painted hatching, mountable plastic kerbing or flexible bollards can be considered, however these treatments are normally only acceptable in low speed environments. In some cases, off-road shared paths are the best option for secondary routes.

Unlike primary routes, secondary routes do not necessarily provide users with uninterrupted or traffic-free journeys. Consequently, appropriate consideration must be given to the design of secondary routes at all intersecting roads, but particularly those controlled by either traffic signals or roundabouts. It's important to note that path users have legal right of way at crossovers, and it is essential that the design priority reflects the legal priority. For route continuity, designs that maintain priority over minor roads should also be considered whenever possible.



Solar lit shared path adjacent to road in urban area



Off-road shared path



Bike lane protected by concrete kerb



Shared path with priority over minor road

Figure 2.2 Secondary routes are typically found in busy, built-up environments, and can consist of either on-road or off-road cycling infrastructure.

2.3 Local routes

The objective of local routes is to collect cycling traffic from local residential areas and distribute it to the secondary and primary cycling networks. Local routes are also used by people on bicycles to access a range of local destinations such as shops and parks. The look and feel of local routes is more 'shared' (as opposed to protected and/or separated) and is therefore distinctively different from primary and secondary routes.

Examples of local route treatments include:

- 30km/h safe active streets which adopt "self-explaining street" and "filtered permeability" urban design principles;

- Very quiet suburban streets, communicated using sharrows⁷ and other signage or way finding;
- Sections of shared path (normally linking two or more quiet streets together), and
- On-road bike lanes (but only on quiet roads with low traffic volumes and where posted speed limits are less than or equal to 50km/h).

In many cases, a local route may consist of a combination of two or more types of treatment. Where this is the case, the transition from one type of facility to another needs to be carefully considered.



30 km/h safe active street



Way-finding to direct cyclists along local routes



Shared path linking two quiet streets together



One-way slow point with bicycle-bypass facilities

Figure 2.3 Local routes are typically used in connecting residential areas with higher order cycling facilities.

7. Sharrows are a wayfinding tool that also assist cyclists in road positioning and alert motorists to the presence of people on bikes.

2.4 Transport trails

Transport trails are typically longer distance trails with unsealed surfaces that are used to connect towns to each other or to local tourism destinations. Unlike downhill mountain biking trails, transport trails are non-technical in design. While there will be some level of crossover, transport trails provide users with a more passive cycling experience.

In some cases, transport trails cater for other types of user including bushwalkers, trail runners, horse-riders and motorbike-riders. On such trails, it is essential that paths are managed appropriately to ensure the safety and satisfaction of all user groups.

In terms of their built form, transport trails should ideally be wide enough to allow two people to ride comfortably side-by-side. As they are often located in remote locations, it is important that extensive wayfinding signage is used to direct users to, from and along the route.

Transport trails are often constructed along the alignments of disused or closed railways, watercourses (such as rivers, drains and irrigation channels), utility corridors (such as electricity, gas or water supply), as well as fire breaks and other tracks through forested areas including nature reserves and national parks.

Depending on land ownership, the planning, design, construction and maintenance of trails is typically led by local government or the Department of Biodiversity, Conservation and Attractions (DBCA). Funding is usually sought through the Department of Local Government, Sport and Cultural Industries or Lotterywest. Other government agencies, such as DoT and Tourism WA, can assist in the planning, design and promotion of these facilities and DoT provides funding support for trails with evident transport outcomes.



Gravel foreshore trail



Unsealed solar lit transport trail



Trail along closed rail corridor



Trail within utility corridor

Figure 2.4 Unsealed transport trails are important in areas where higher standard facilities cannot be justified or where they would spoil the natural environment.

2.5 Road cycling routes

Cycling is one of the most popular forms of recreation in Australia, ranking fifth in the sports and physical activities list. There are two broad types of recreational cyclist in WA – leisure cyclists and sports cyclists. While investment has traditionally been directed towards providing infrastructure which supports leisure cycling, there is a need to provide road cycling routes which cater for the needs and aspirations of people cycling long distances for training, sport or recreational purposes, as well as for the growing number of touring cyclists. For these user groups, distances of 100km or more are achievable.

This type of cycling, which is often undertaken by groups or clubs, is commonly carried out on rural and semi-rural roads which tend to feature nice scenery, challenging terrain and low traffic volumes, but are also selected in order to minimise the likelihood of interactions with pedestrians and lower speed cyclists.

Around WA there is a growing need to review the key routes being used by road cyclists in order to improve safety and user experience.

Impacts and interactions with other road users must be considered when selecting these routes. This includes users and vehicle types distinctive to the Pilbara region, including heavy freight vehicles and road trains.

Initiatives may include shoulder widening, pull-off bays, advisory signage, and electronic flashing warning signs which detect when groups of cyclists are using certain sections of road. Detailed assessment is required in partnership with cycling bodies and other road user groups to determine appropriate locations and preferred safety measures, which will likely differ on each route.

Further supporting the safety of road cyclists in WA is the introduction of safe passing legislation. From November 2017, a driver of a motor vehicle must pass a bicycle travelling in the same direction at a safe distance (1m on roads with a posted speed limit of $\leq 60\text{km/h}$ and 1.5m on roads $>60\text{km/h}$.)



On road route with bypass, Port Hedland



Popular training route on Dampier Road, Karratha

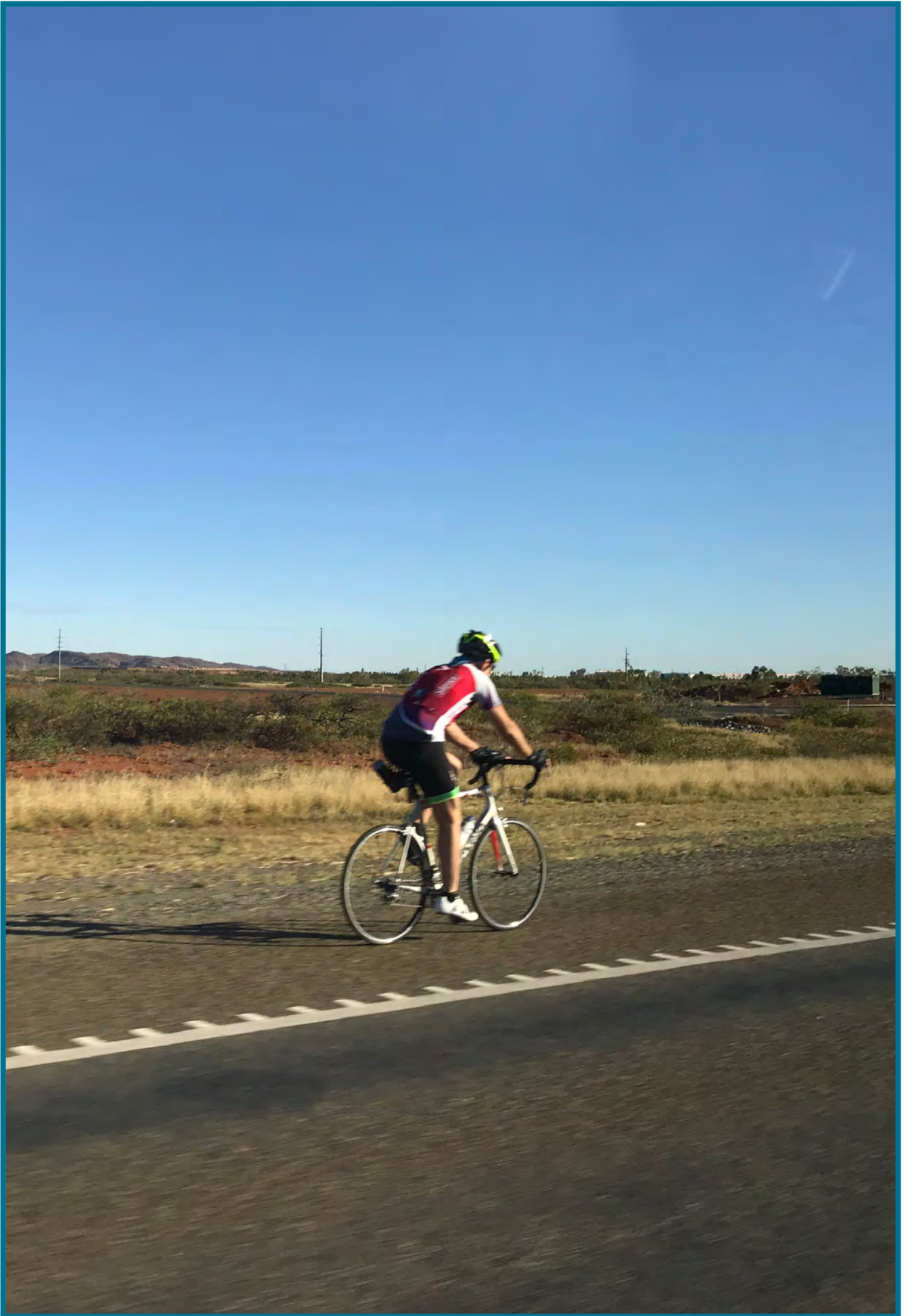


Popular back road in Onslow



Example of rural road with no shoulder

Figure 2.5 Road cycling routes are predominantly used by people riding for training, sport or recreational purposes and consist of advisory measures (such as signage and electronic flashing warning lights).



Training route between Karratha and Dampier

3. PROPOSED NETWORK

The Strategy covers a number of townsites across the region and several regional connections between towns, including relatively short distances as well as consideration for longer distance connections for recreational and touring bike riders. The classification and alignments of routes may change following further feasibility assessment and consideration of local environmental, heritage, engineering constraints and impacts on other road users. Of particular relevance to the region are coastal hazard areas on foreshores, riverbeds, tidal and cyclonic conditions, freight movements, and areas of significant ecological, scientific and cultural values.

3.1 Overall network

Figures 3.1 to 3.16 provide an overview of the proposed 2050 cycling network for the region. Key features include:

- A series of **primary routes** providing connectivity between nearby townsites, including Karratha-Dampier, Port Hedland-South Hedland and Roebourne-Wickham-Point Samson.
 - **Secondary route** spines through the smaller townsites, supported by a fine-grain network of local routes, providing safe routes between places where people live, work, learn and play.
 - Developing **local routes** connecting Aboriginal communities and transient worker accommodations to nearby townsites.
 - Developing **transport trails** that provide unique recreational and tourism cycling experiences.
- Identifying and developing **road cycling routes** to support cycling training and long-distance cycle touring.
 - Support for other amenities and facilities that enhance rider experience, and for initiatives that encourage more people – in particular beginners and young people – to ride bicycles.

The exact alignments of some routes may change following further feasibility assessment of local environmental, heritage and engineering constraints.

A key consideration for transport trails and paths in the region is the location of public drinking water source areas. Prior to development, it is critical that consultation is undertaken with the Department of Water and Environmental Regulation (DWER).



School bike parking in Tom Price

3.2 Shire of Ashburton

The routes proposed for The Shire of Ashburton's 2050 cycling network are shown in Figures 3.1 to 3.3 and include:

- A network of **secondary routes** complementing and connecting the local route networks, including:
 - Providing a town centre spine in smaller towns, such as along Second Avenue in Onslow, along De Grey Road in Paraburdoo, Central Road in Tom Price.
 - Connecting airports with town centres including a link between Onslow Airport and Onslow via McAulley Road, and Paraburdoo Airport with Paraburdoo via Tom Price-Paraburdoo Road in Paraburdoo.
- Developing safe **local routes** to connect town centres with industry and mining camps, including on Mine Road in Tom Price.
- A network of **local routes** connecting residents with town centre destinations.
- A network of **road cycling routes** to better accommodate local and visiting road cyclists, such Onslow Road between Onslow and Wheatstone, and Bingarn Road in Tom Price.
- A longer-distance **transport trail** connecting Tom Price and Paraburdoo.



Figure 3.1 Proposed 2050 cycling network for Onslow



Figure 3.2 Proposed 2050 cycling network for Paraburdoo

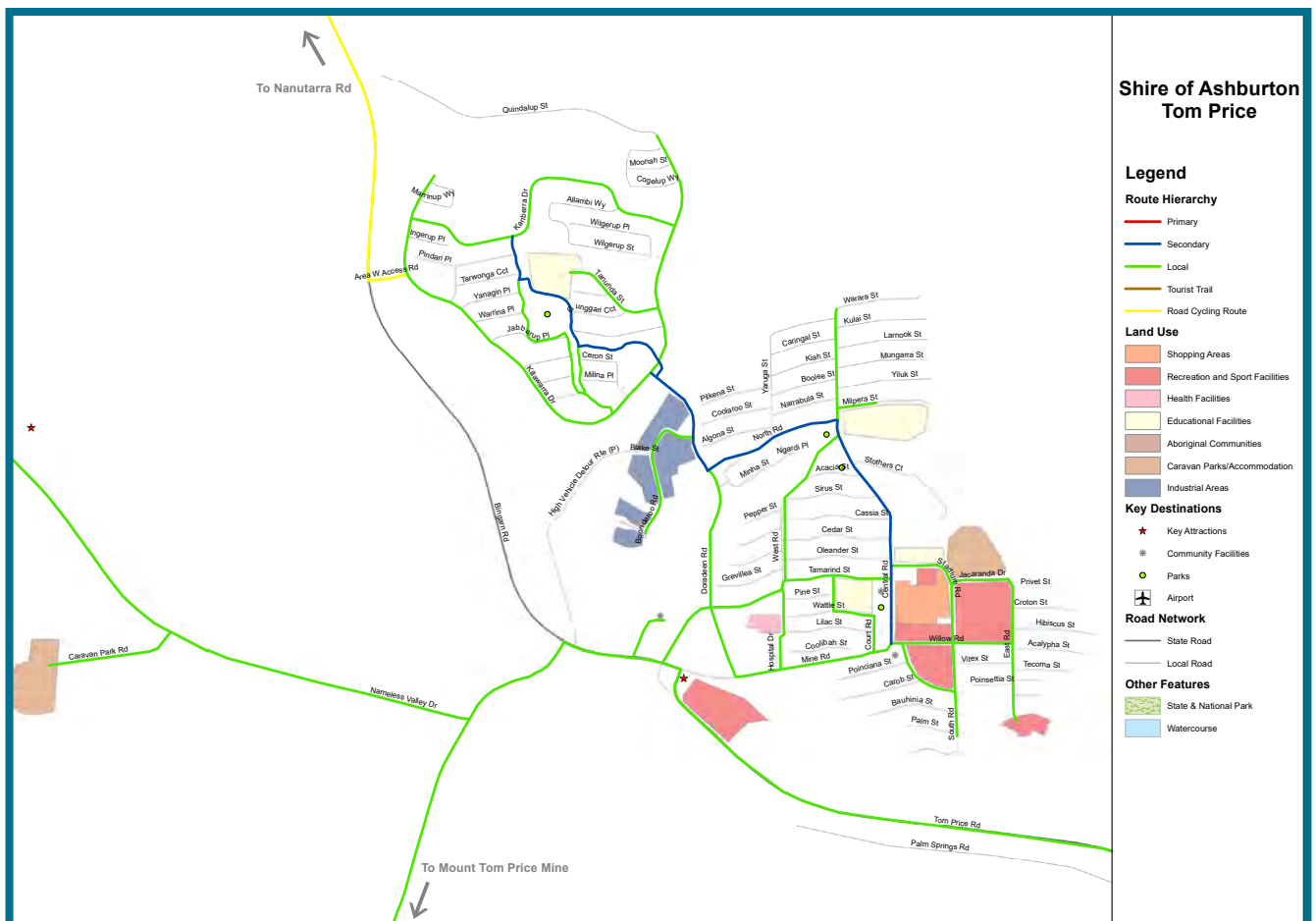


Figure 3.3 Proposed 2050 cycling network for Tom Price

3.3 Shire of East Pilbara

The routes proposed for the Shire of East Pilbara's 2050 cycling network are shown in Figure 3.4 - 3.6 and include:

- Providing **secondary routes** along key urban roads in Newman townsite, including Newman Drive, Fortescue Avenue and Kalgan Drive, to connect the town centre with industrial areas, and mine sites, as well as an aspirational connection to Newman Airport that will be subject to further feasibility.
- A network of **local routes** to connect Newman residents to local destinations and services, including tourism and recreation locations, as well as higher order cycling facilities.
- A network of **local routes** appropriate to connect residential areas with destinations in smaller townsites such as Nullagine and Marble Bar.



Newman Bike Week event

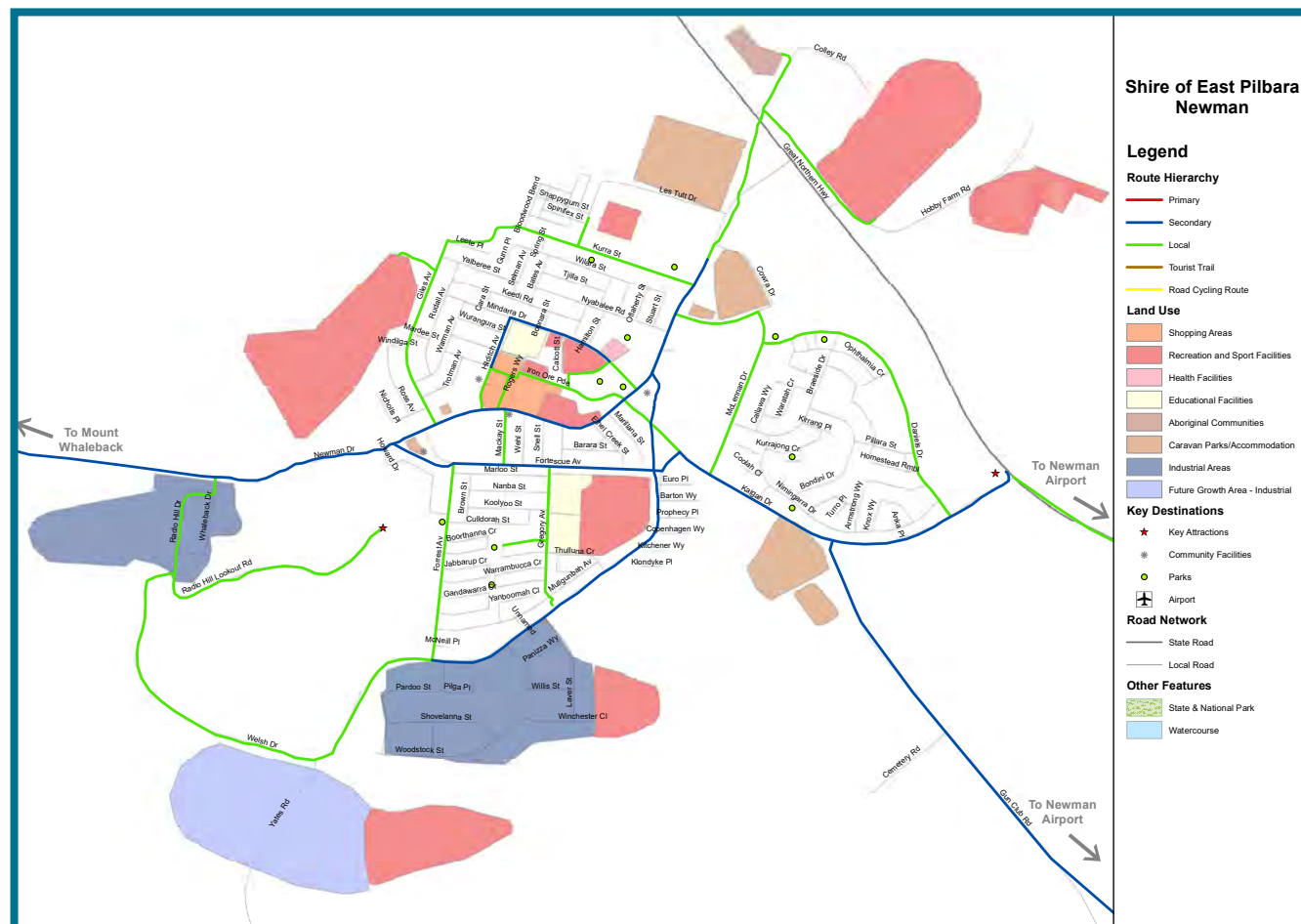


Figure 3.4 Proposed 2050 cycling network for Newman

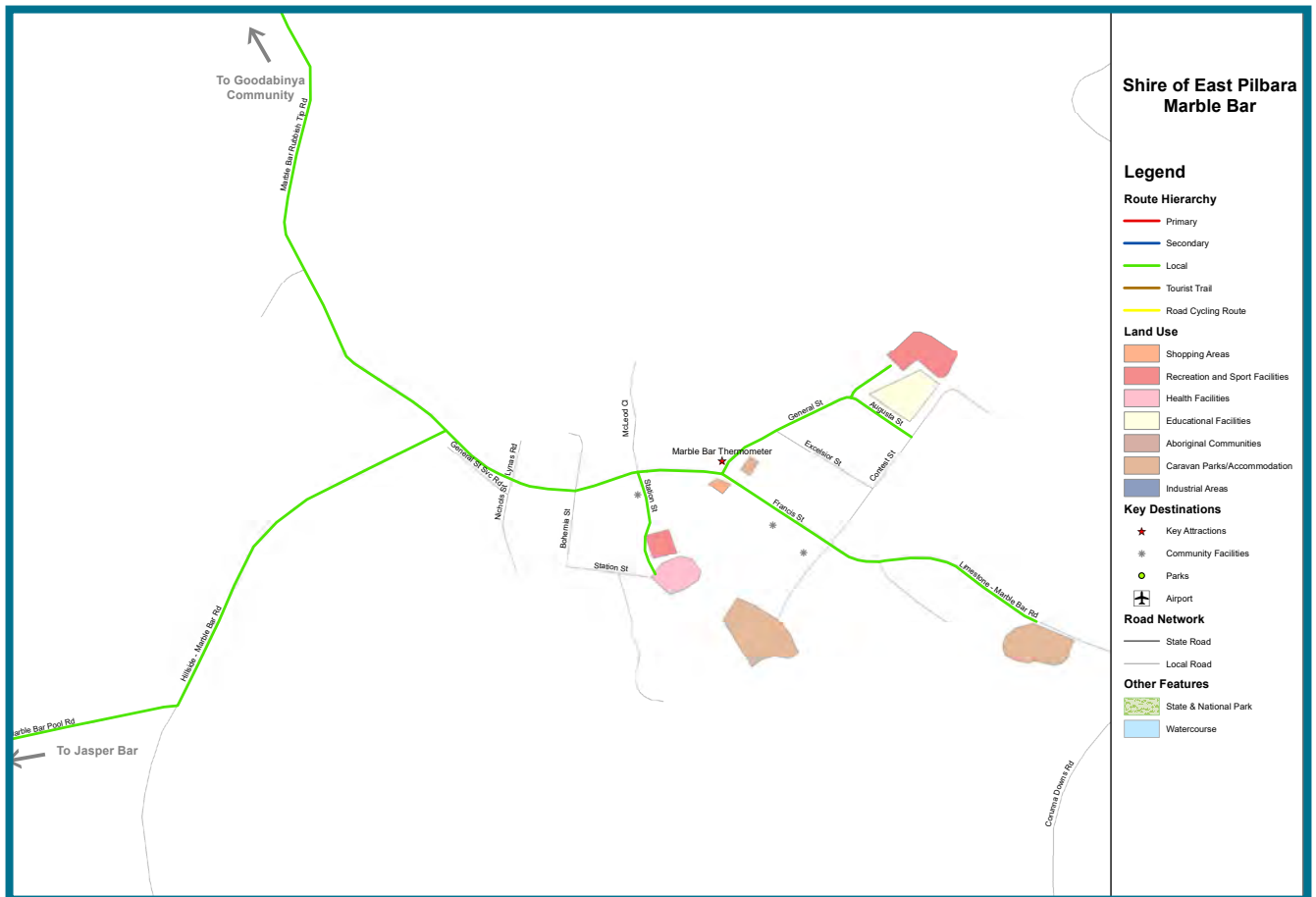


Figure 3.5 Proposed 2050 cycling network for Marble Bar

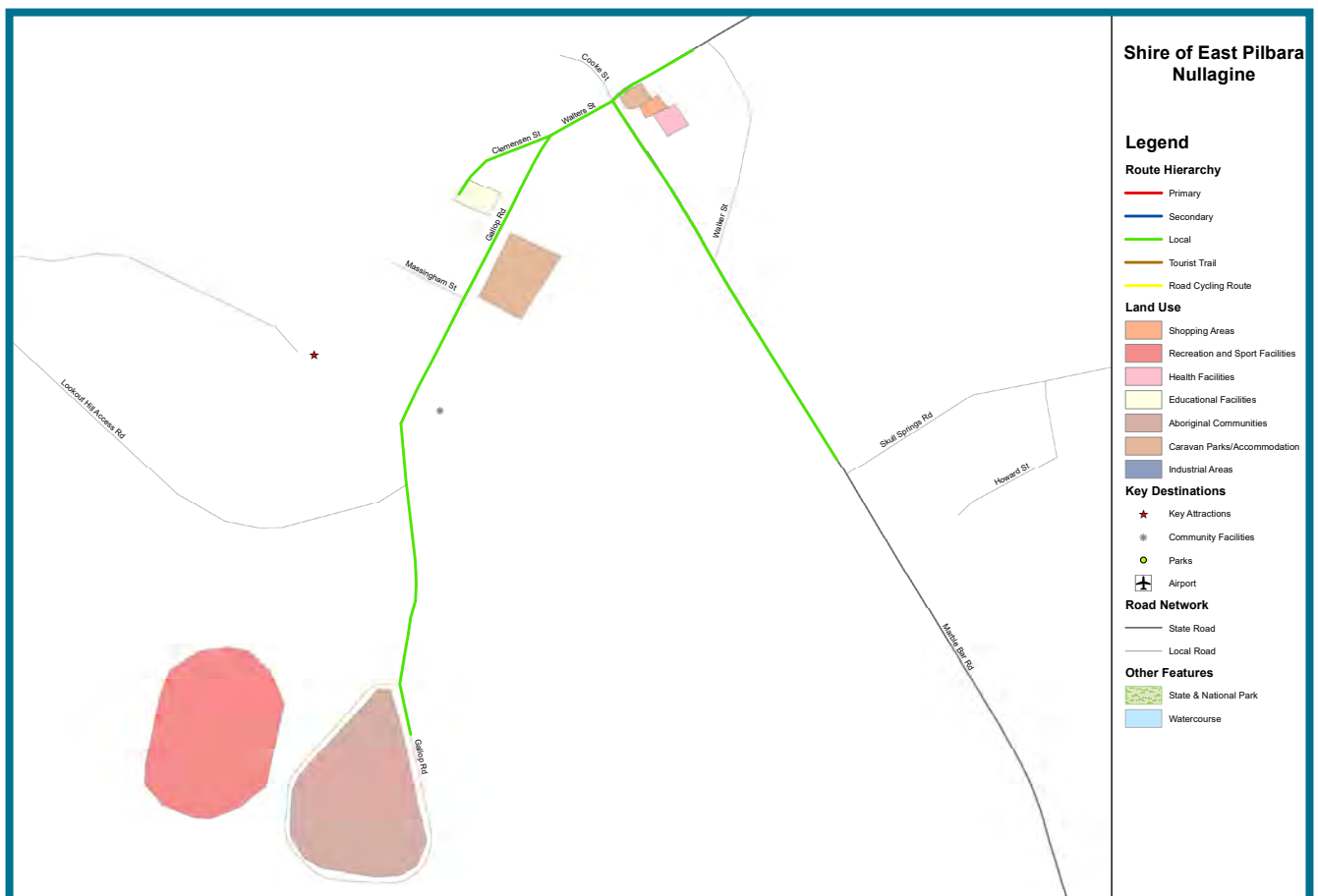


Figure 3.6 Proposed 2050 cycling network for Nullagine



Bike parking at the local shops in Paraburdoo

3.4 City of Karratha

The routes proposed for Karratha's 2050 cycling network are shown in Figures 3.7 to 3.13 and include:

- **Primary** connections between townsites, including between the Karratha town centre and Dampier along Dampier Highway, and connecting Roebourne to Wickham and Point Samson along Point Samson-Roebourne Road.
- A **primary** loop around Karratha's main urban centre, along Bayview Road, Millstream Road and Dampier Road.
- **Secondary** routes to industrial areas south of Karratha town centre and on the Burrup Peninsula in the City of Karratha.
- **Local routes** within employment destinations such as the City's industrial areas.
- A network of **local routes** which connect residents with schools, shops, parks, and entertainment destinations in the City's settlements.
- A **local route** to popular local recreation destination at Point Walcott.
- Supporting **road cycling routes** to better accommodate local and visiting road cyclists, including North West Coastal Highway and Madigan Road in Karratha.
- Developing several **transport trails**, including connections to iconic heritage destinations such as to Deep Gorge and to Cossack, as well as a longer distance trail between Karratha and Roebourne.



Local pump track in City of Karratha

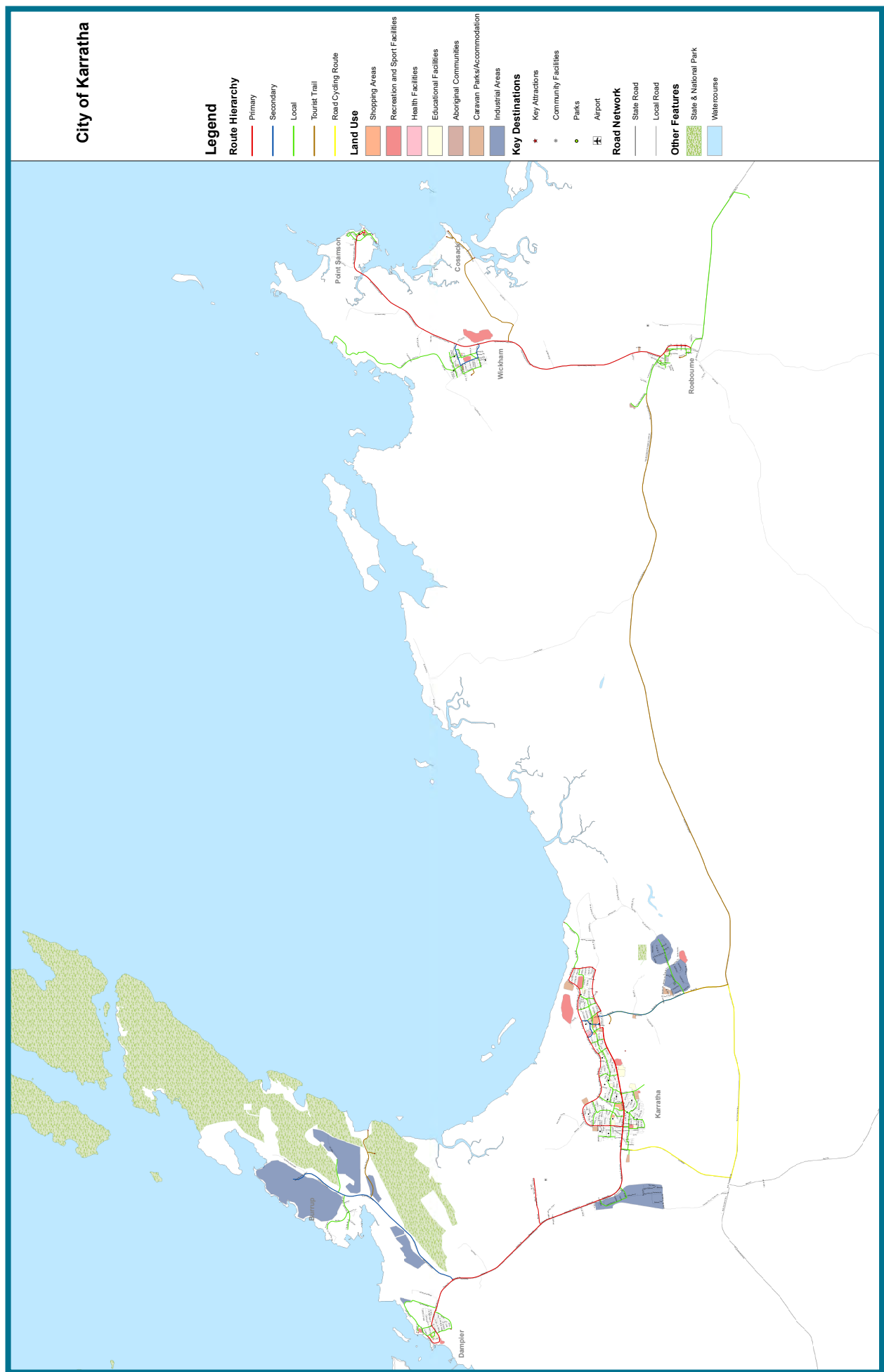


Figure 3.7 Proposed 2050 cycling network for City of Karratha subregion

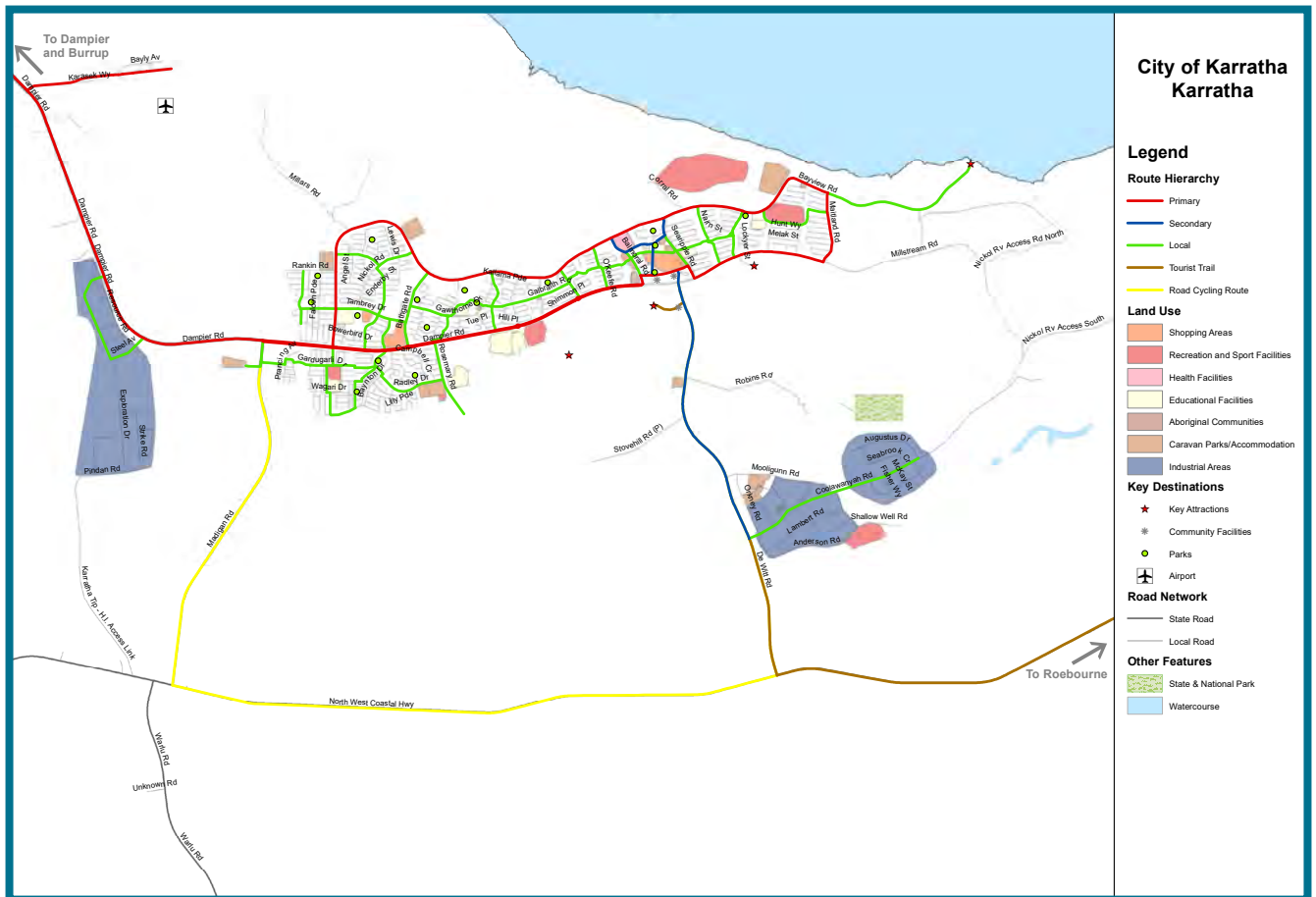


Figure 3.8 Proposed 2050 cycling network for Karratha

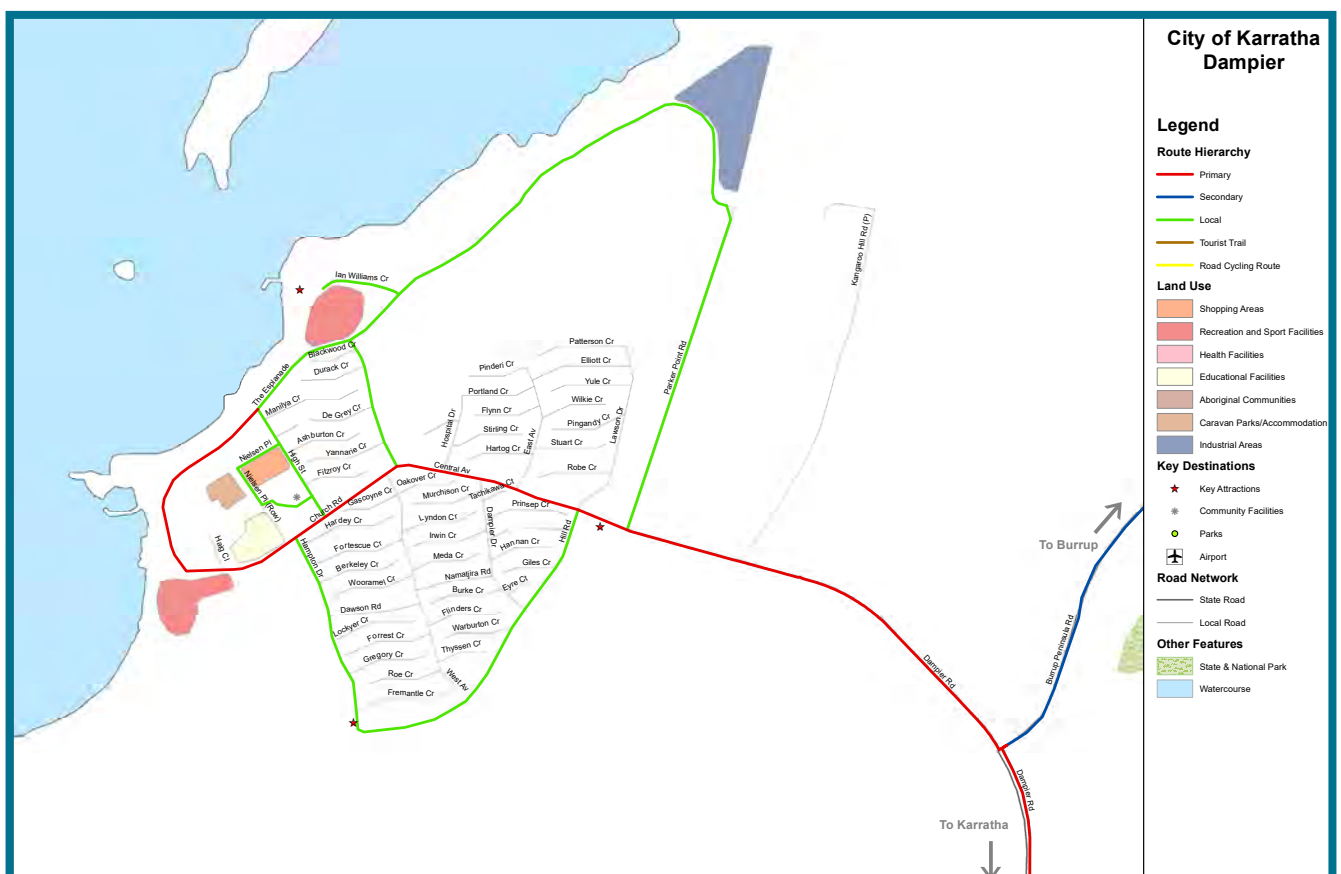


Figure 3.9 Proposed 2050 cycling network for Dampier

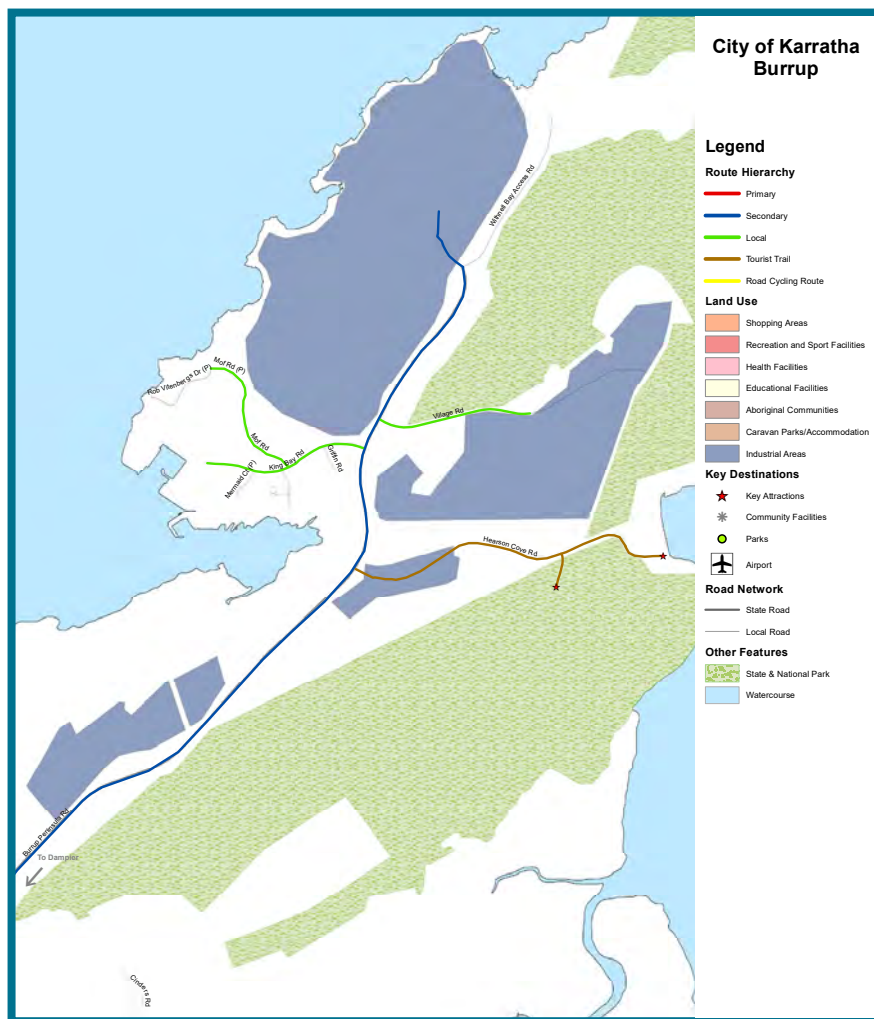


Figure 3.9 Proposed 2050 cycling network for Burrup

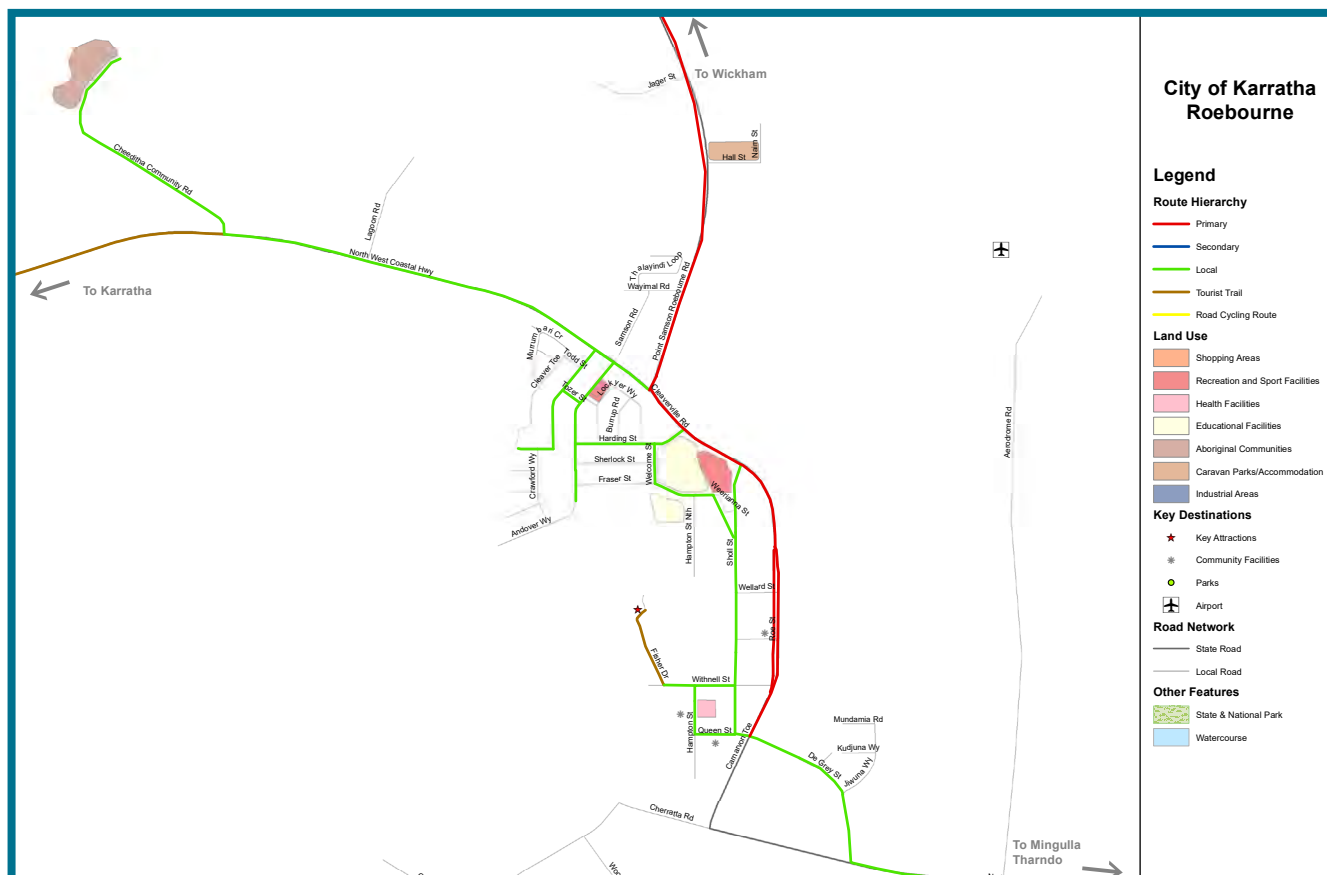


Figure 3.10 Proposed 2050 cycling network for Roebourne

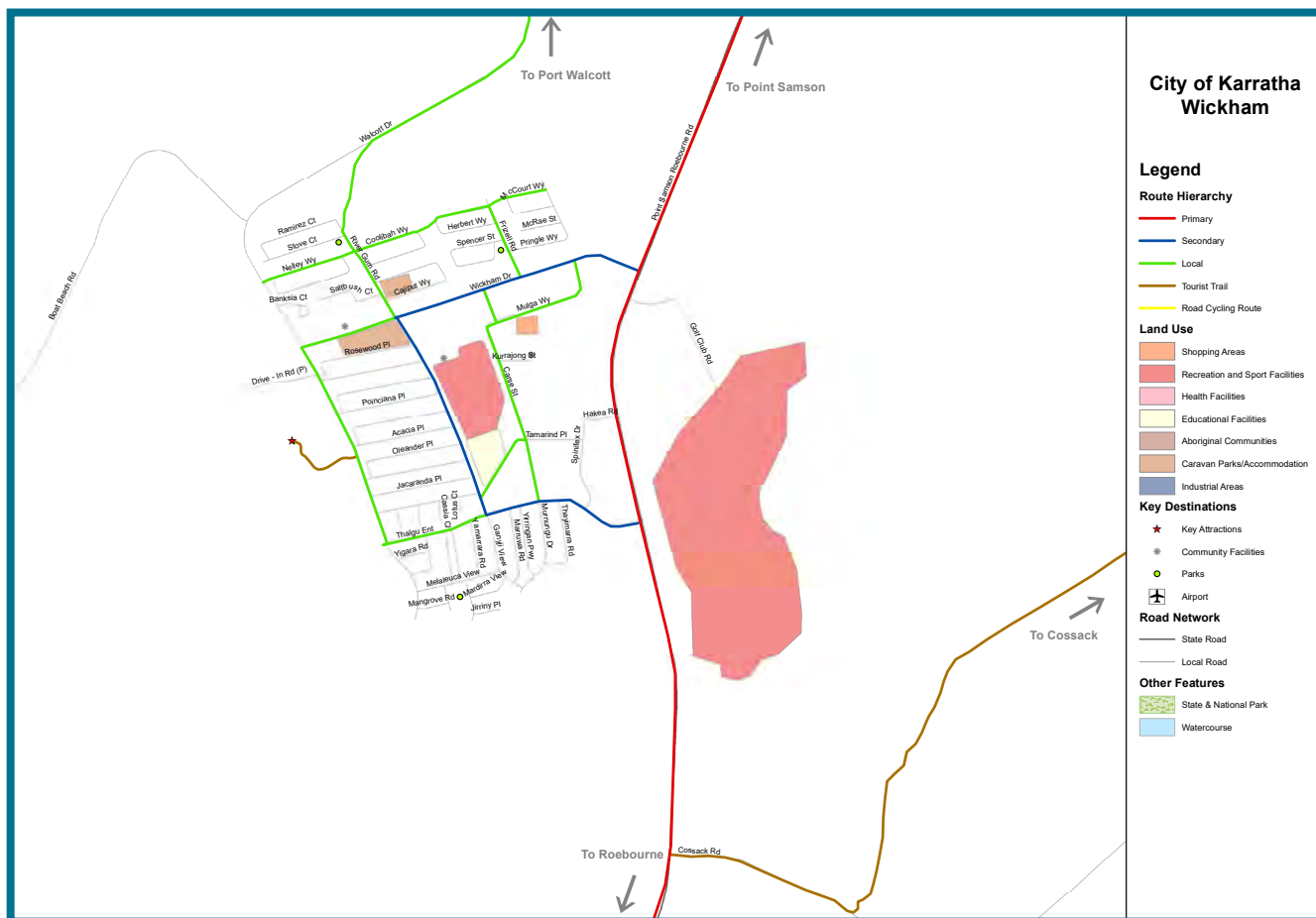


Figure 3.11 Proposed 2050 cycling network for Wickham



Figure 3.12 Proposed 2050 cycling network for Cossack

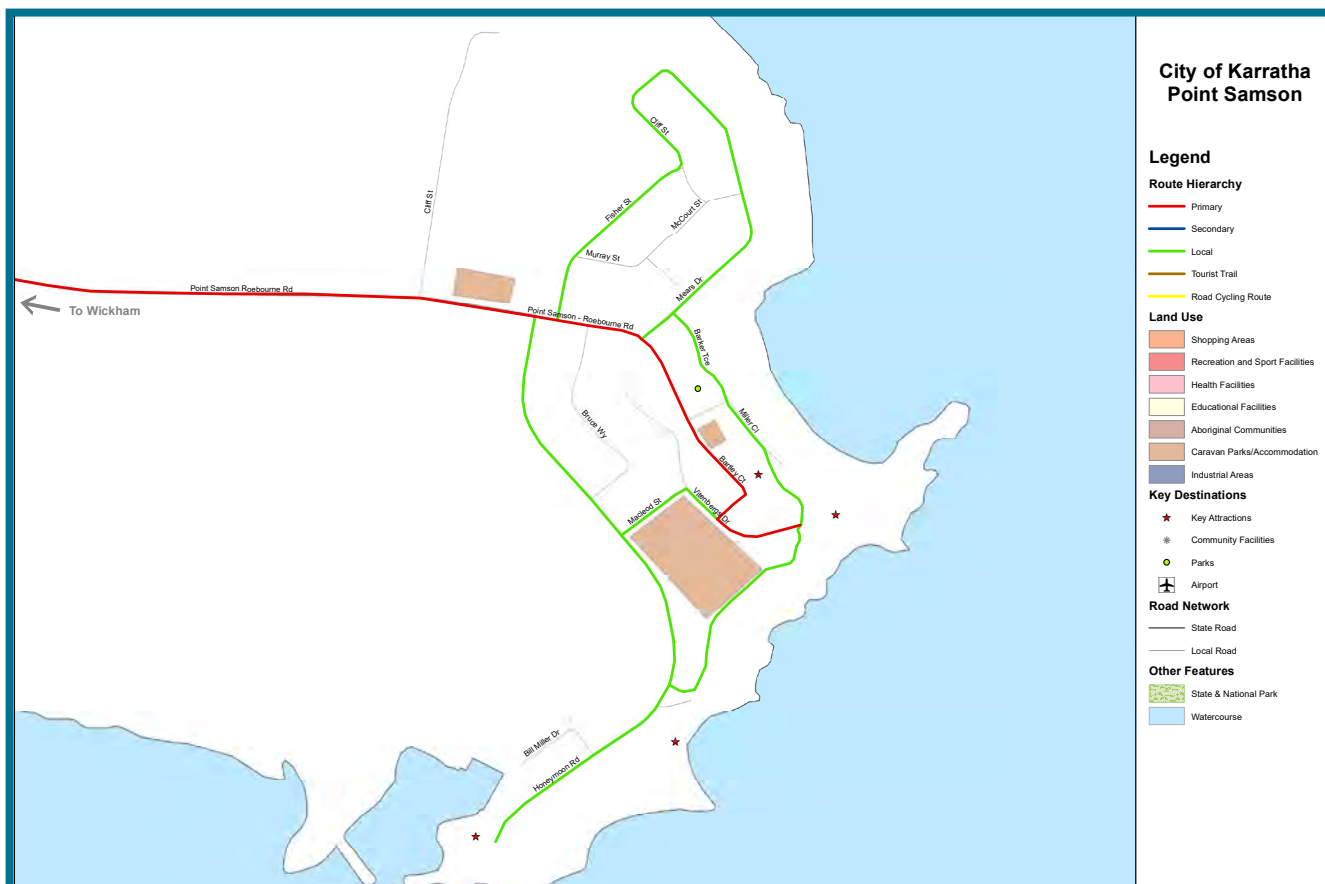


Figure 3.13 Proposed 2050 cycling network for Point Samson

3.5 Town of Port Hedland

The routes proposed for Port Hedland's 2050 cycling network are shown in Figures 3.14 to 3.16 and include:

- Connecting Port and South Hedland with a **primary** high-quality shared path which also supports access to Port Hedland Airport.
- Developing a **primary** continuous foreshore loop that connects Port Hedland with Cooke Point and Pretty Pool, including a bridge across Pretty Pool Creek.
- In South Hedland, extending the **primary** loop route along Collier Drive and Hamilton Road and North Circular Road, and providing a connection between dense land uses in the South Hedland town centre and various parks, sport and recreation and community facilities and accommodation on Cottier Drive and Stanley Street.
- Providing additional connection between Port Hedland and South Hedland via a **secondary route** along Anderson Street and Wilson Street.
- Developing a dense network of **local routes** providing access to local parks, schools and connecting to higher-order cycling facilities.
- Providing **local** connections to employment generators including the Wedgefield Light Industrial Area.



Bike parking at South Hedland Aquatic Centre

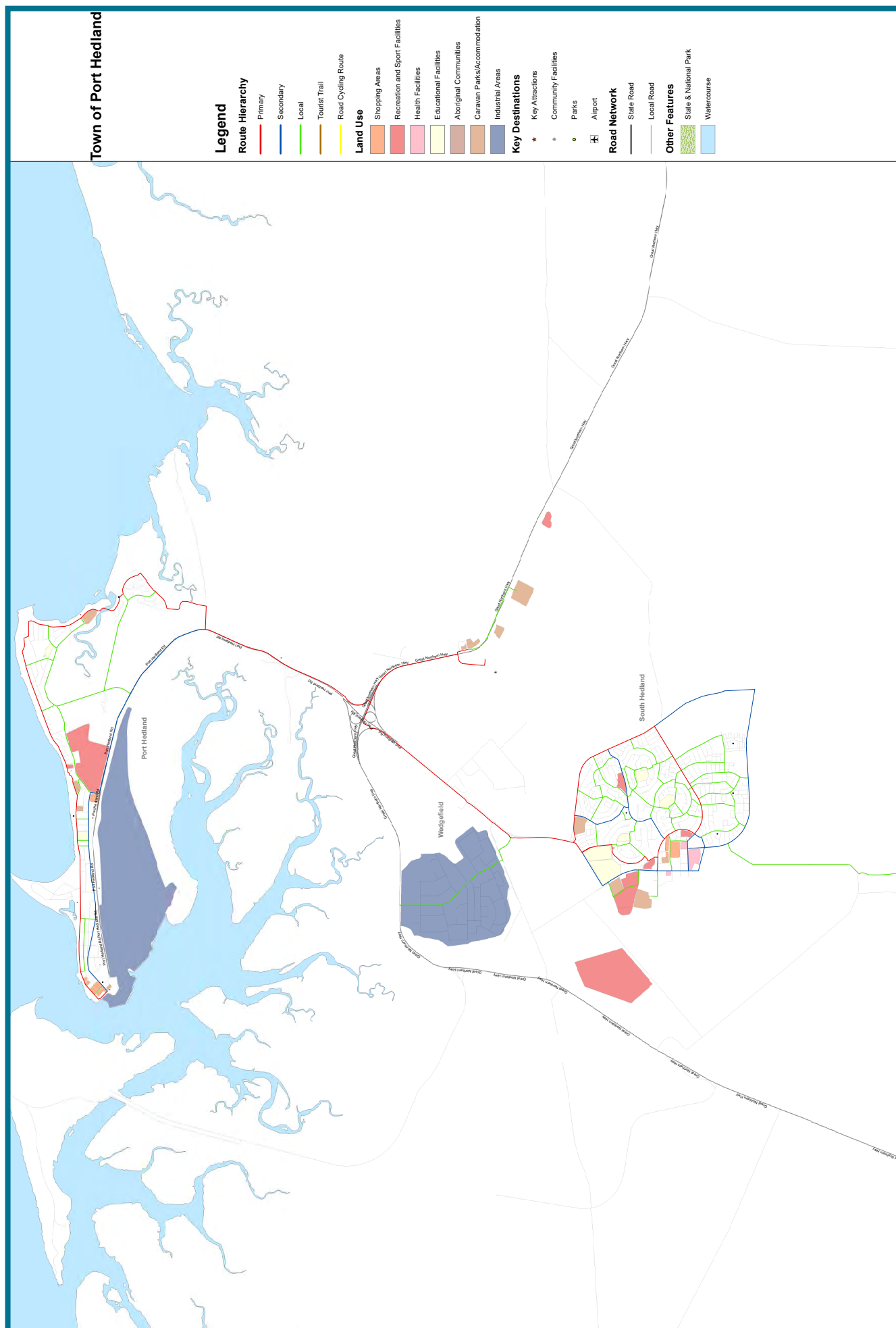


Figure 3.14 Proposed 2050 cycling network for Town of Port Hedland subregion

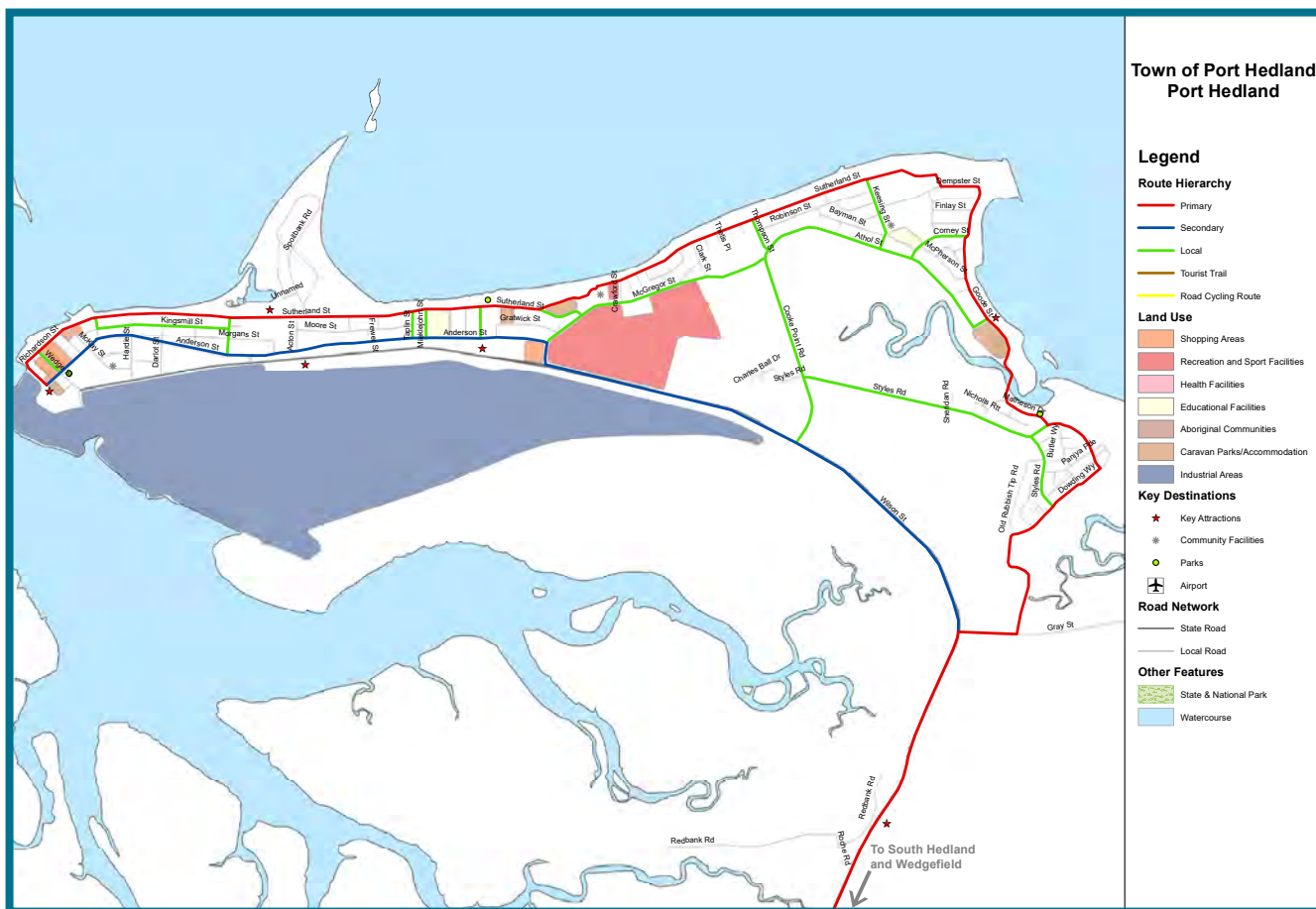


Figure 3.15 Proposed 2050 cycling network for Port Hedland

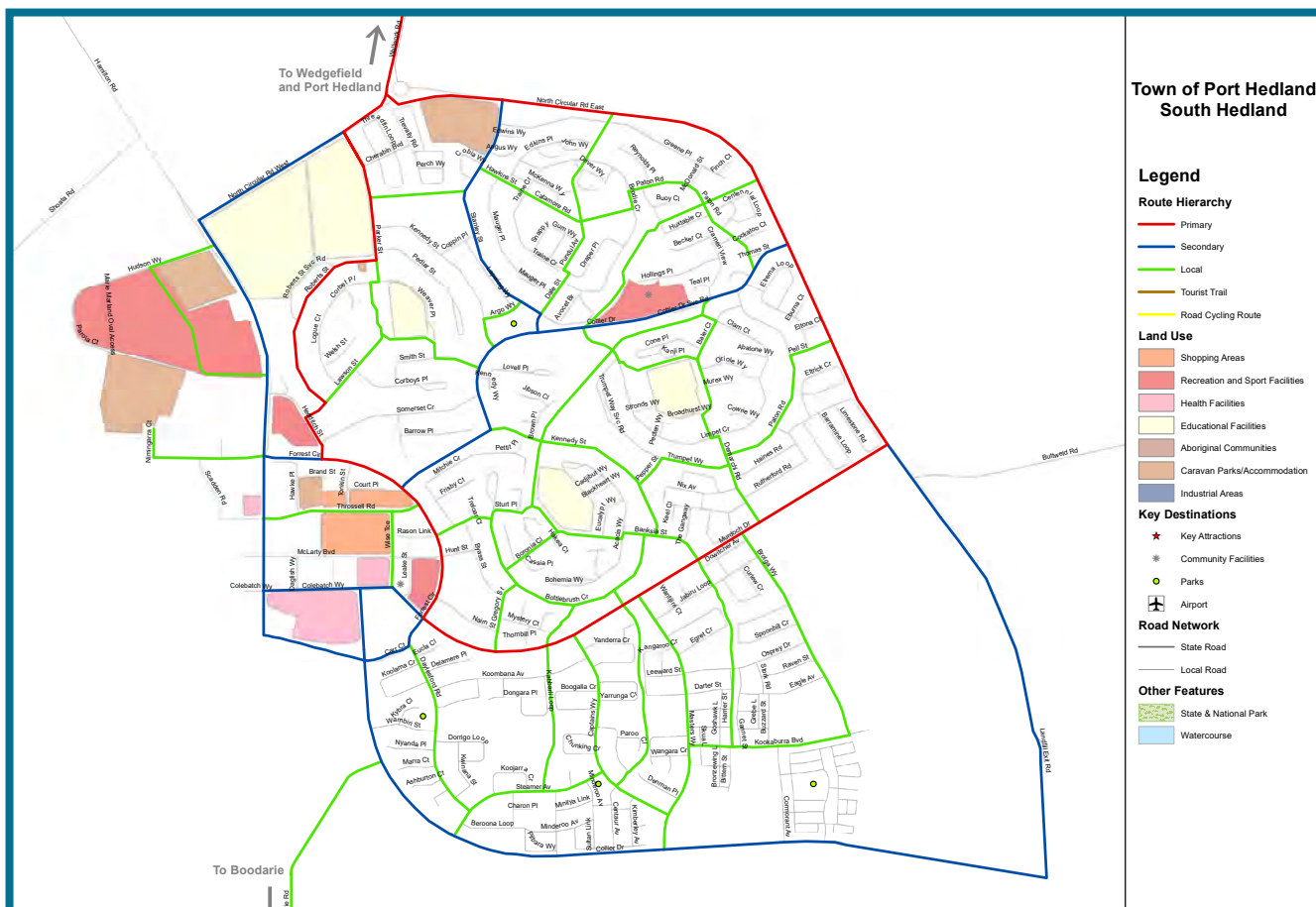


Figure 3.16 Proposed 2050 cycling network for South Hedland



Port Hedland foreshore

4. THE WAY FORWARD

This section outlines the way forward for the Pilbara through the identification of central themes for cycling across the region. These themes have been identified from the stakeholder and community consultation undertaken throughout the development of this strategy. Key opportunities have been identified within each of the themes, each of which highlight the potential for bike riding in and around the Pilbara region. Case studies are used to illustrate where similar outcomes have been achieved elsewhere.

4.1 Connecting communities

Connecting communities by direct, accessible and safe routes means cycling becomes a viable and attractive mode of transport to many more people. New connections also provide an opportunity for some to travel between townsites whereas previously they may have been unable, or reluctant to do so.

Due to the size of the region, townsites within the Pilbara are often isolated and difficult to travel between without using a motor vehicle. Even townsites that are within comfortable cycling distance from each other can be isolated due to the connecting roads carrying large volumes of heavy traffic and being unsafe or unsuitable for cycling. In order to reduce this isolation, a number of cycling routes between townsites have been identified, such as Port Hedland to South Hedland and Karratha to Dampier.

Connecting these nearby communities will help make cycling a transport mode of choice and provide an opportunity for people to feel connected to multiple town centres in the region. Creating convenient and safe cycle routes between towns will also enhance access to services such as health care, education, retail and places of employment.

4.1.1 Opportunity: Port Hedland to South Hedland

Port Hedland and South Hedland, in Kariyarra country, are located within approximately 10km distance from one another, linked by the Wilson Street / Wallwork Road route. Connecting Port and South Hedland was one of the most frequently raised issues during community and stakeholder consultation.

Many town amenities, including schools, community and government services, employment centres, entertainment, shopping and recreation destinations, and residences are shared between Port Hedland and South Hedland. Hedland Senior High, for example, is located in South Hedland meaning that many students have to travel between the two townsites on a daily basis.

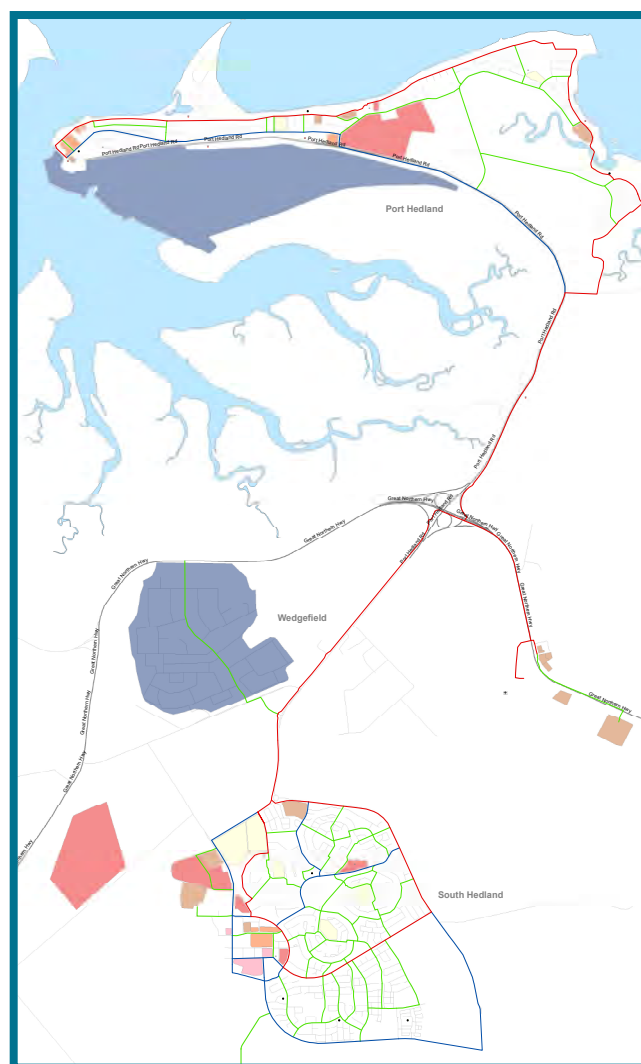


Figure 4.1 Connection between Port and South Hedland



Figure 4.2 Redbank Bridge, Port Hedland

Progress has been made in recent years in connecting Port Hedland to South Hedland and a continuous path now extends from Redbank Bridge to South Hedland town centre.

The remaining missing links between Redbank Bridge and Port Hedland include:

- Developing a shared path along Wilson Street between Cooke Point Road and Redbank Bridge;
- Developing a shared path along Wilson Street from Cooke Point Road to McGregor Street;
- Developing a shared path connecting Cooke Point, to Pretty Pool and continuing south to link to Wilson Street. Preliminary investigations for a pedestrian and cyclist bridge across Pretty Pool Creek on this link have been conducted, with further feasibility assessment required; and
- Resurfacing and upgrading the substandard section of Wallwork Road shared path between Pinga Street and Wedgefield Interchange to match the standard of the adjacent path sections.

Aside from the benefits to residents accessing education, employment and recreational facilities, this link also has considerable tourism potential. The link would connect Port Hedland and foreshore with Pretty Pool, Redbank Bridge Lookout and the Port Hedland Airport.

4.1.2 Opportunity: Karratha to Dampier

In Ngarluma country, only 14km separates the Karratha urban area from Dampier, and both Karratha Airport and the Gap Ridge Industrial Area are also located within this section. The main connecting route is Dampier Road which carries high volumes of heavy, fast-moving traffic. Experienced cyclists presently make use of the wide sealed shoulders, however a route suitable for all ages and abilities is needed to bridge the gap. During consultation, participants expressed serious concerns regarding their safety when travelling between Karratha and Dampier and other destinations on the Burrup Peninsula.

There is an opportunity to provide a convenient and safe separated cycling route between Karratha and Dampier. A safe cycling route connecting the two centres would help to address conflict arising from the existing traffic mix and support better active transport options for people commuting between Dampier and Karratha, as well as areas in between. The link would also enhance access to a wide range of destinations on the Burrup Peninsula, including significant industrial areas, tourism and recreation sites.



Figure 4.3 Bridge between Karratha and Dampier

4.1.3 Opportunity: Roebourne and Wickham to Point Samson

Roebourne, Wickham and Point Samson are reasonably closely-spaced communities in Ngarluma/Yindjibarndi country located along a 19 kilometre stretch of the Point Samson-Roebourne Road. Movement between these communities is generally restricted to private vehicles due to a high volume, heavy vehicle road environment and limited facilities for walking or cycling.

The Wickham community has identified a walking and cycling link to Point Samson as an important facility that would provide access to the recreational fishing and coastal areas at Pope's Nose and Point Samson. The City of Karratha is proceeding with a feasibility study to identify a preferred route and built form for this link.

A later stage could also connect Wickham with Roebourne, either alongside the Point Samson-Roebourne Road or utilising the former tramway alignment. A branch to Cossack would also connect this popular heritage and recreational destination.



Figure 4.4 Point Samson

4.1.4 CASE STUDY: HOWARD SPRINGS TO COOLALINGA SHARED PATH

The Northern Territory Government has developed a 30km shared path from Darwin to the developing rural activity centre of Coolalinga, following the route of the old National Australian Rail Corridor. A new 3.2km section of the route from Howards Springs to Coolalinga has recently been completed. This new path has significantly extended the regional shared path network and provides a traffic-free recreational and commuter link between Coolalinga, Howard Springs, Palmerston and Darwin.

To manage maintenance issues associated with the tropical climate and intense rainfall, the full length of the shared path has been constructed with a sealed surface.

Mid-trip facilities such as shade and water fountains are provided along the route, along with heritage interpretation panels reflecting the significant railway heritage of the corridor. Solar lighting at road intersections ensures safety for path users in the cooler mornings and evenings.

An innovative 'glow in the dark' surface treatment has been used in lieu of traditional lighting, which will assist in defining the path for users.

The development of this link has significantly improved connectivity for people walking and bike riding of all ages and abilities. Between April 2019 and April 2020, usage on the Palmerston-Howard Springs section of the route more than doubled.



Source: Department of Infrastructure, Planning and Logistics, Northern Territory Government

Figure 4.5 The Howard Springs to Coolalinga shared path follows the route of the National Australian Rail Corridor and provides an alternative to vehicle travel for residents, visitors and commuters between Coolalinga, Howard Springs, Palmerston and Darwin.

4.1.5 CASE STUDY: VICTORIA RAIL TRAIL, ONTARIO, CANADA

Stabilised gravel paths are an increasingly popular form of path across the world as cost effective option for longer-distance routes between towns and for recreation and tourism trails. Stabilised gravel paths are not limited to riders with special skills or equipment, with most bikes easily able to ride on multiple surface types. These paths are user-friendly in addition to having less environmental impact and being a lower-cost option than their asphalt or concrete counterparts.

The Victoria Rail Trail in Ontario, Canada is an 85km long multi-user, stabilised gravel trail linking a number of local towns and attractions.

The trail follows the former Canadian National and Canadian Pacific rail lines, capitalising on the mostly-flat alignment to access a number of surrounding natural features, including forests, waterfalls, lakes and marshes, and connections to other trails.

The trail passes through a number of local towns from Bethany to Kinmount, providing riders the opportunity to support local retail, hospitality and accommodation venues, as well as opening an opportunity for local tour operators and associated business to offer supported rides and complementary services such as shuttles.



Source: trailforks.com/trails/victoria-rail-trail-north-corridor/



Source: [Ontario By Bike.Ca](https://ontariobybike.ca)

Figure 4.6 The rail trail runs from town sites through countryside on a well maintained stretch of rail bed no longer in use. The terrain varies from crushed stone to loose gravel, sand, and some asphalt paths, with the trail adapting to a range of local landscapes.

4.2 Developing unique cycle tourism experiences

Outdoor and adventure tourism has increased in popularity globally, with cycle tourism now accounting for a significant part of this growth. In recognition of cycle tourism growth and the potential economic benefits for the State, WestCycle and Tourism WA developed the *Western Australian Cycle Tourism Strategy* in 2018.

The strategy identifies two main segments within the cycle tourism market – destination cycle tourists and cyclists while on holiday:

- Destination cycle tourists are cyclists who are motivated to travel to destinations primarily or solely because of the routes, trails and riding experience at the destination.
- Cyclists while on holiday are people who might ride while on holiday in a destination, but bike riding is not the primary reason for their holiday.

Throughout the Pilbara region there are a number of opportunities to improve offerings for both cycling markets. For destination cycle tourists this could include promoting cycle routes that capture the incredible coastal and ancient landscapes on offer throughout the region or developing long distance cycle routes between regional townsites.

Opportunities for cyclists while on holiday could include routes out to popular tourist locations within each of the townsites. For visitors such as these, paths and trails that connect to scenic local destinations and local facilities provide unique cycling experiences and support local businesses.

Whilst infrastructure plays a significant role in attracting and retaining visitors to locations, marketing and activation also play a vital role, with items such as maps, digital resources, wayfinding, bike hire, and events all encouraging people to get out and explore by bike.

4.2.1 Opportunity: Completing the Port Hedland foreshore path

The Port Hedland foreshore is one of the principal tourism destinations in the region and is heavily used by residents as a place for fitness, recreation and transport.

A shared path exists along much of the foreshore, however missing links include:

- Between the Esplanade to Sutherland Street.
- Between the eastern end of Sutherland Street, around the point to Goode Street at Cooke Point.
- Cooke Point across the creek to Pretty Pool.

The Cooke Point to Pretty Pool connection was raised frequently during community consultation for the Strategy. The area is a popular local destination for picnics, barbeques and swimming, across a small tidal inlet from Cooke Point. Combined with the completion Port Hedland to South Hedland Link (Section 4.1.1), a Cooke Point to Pretty Pool connection would mean visitors could ride continuously from Port Hedland town centre to Port Hedland Airport, taking in spectacular coastal scenery and the lookout at Redbank Bridge, which features the distinctive views of the salt mines and iron ore trains iconic to the local mining industry.



Figure 4.7 Port Hedland foreshore path

4.2.2 Opportunity: Onslow foreshore path

Onslow, of which the Thalanyji people are the recognised Traditional Owners, has an existing segment of foreshore path running along the beachfront park, which features a number of sheltered picnic tables for locals and visitors to enjoy. The current path is largely disconnected from the rest of the town's path network, including the popular Ian Blair Memorial Boardwalk route that winds through natural vegetation and connects to several local attractions.

To enhance the enjoyment and amenity of people using the path there is an opportunity to upgrade and extend the existing foreshore path north to connect to Onslow Memorial Park and the Boardwalk (noting the Boardwalk is currently a walk-only pathway), as well as extending the foreshore path south to provide access to a further section of coastline and a connection back to the Onslow street network.



Figure 4.8 Onslow Foreshore Path



Figure 4.9 Onslow foreshore trail



Figure 4.10 Ian Blair Boardwalk – Onslow

4.2.3 Opportunity: Dampier Loop

Dampier is a small coastal town in Ngarluma country, 19km from Karratha, established in the 1960s by Hamersley Iron (now Rio Tinto) as an iron ore port. Its location in a sheltered bay with swimming beaches has made it popular with local residents and visitors alike.

The City of Karratha has recently embarked on a major redevelopment of the Dampier foreshore, creating a destination foreshore for residents and visitors that caters for a wide range of land and water-based activities, as well as supports community and commercial interests. The redevelopment capitalises on Dampier's natural scenery and encourages people to stop, stay and play through improved amenity and provision of recreational facilities, including more local paths and a pump track.



Figure 4.11 Dampier foreshore pump track

A number of unique destinations have been identified within Dampier, and have been brought together into the “Red Dog Trail.”



Figure 4.12 Red Dog trail map



Figure 4.13 Red Dog statue

The trail is named after local legend Red Dog, a kelpie/cattle dog who roamed the Pilbara in the early 1970s and who has been celebrated in Australian literature and cinema since.

The trail encourages people to engage with the history of the town in a fun and active manner, stopping at locations such as an iron ore train lookout, the Dampier foreshore, and the Red Dog statue.

There is an opportunity to connect and upgrade existing paths along the route, almost of which are less than 2m wide, to ensure that riders of all ages and abilities have safe opportunities to see and learn about the town and region.

Collaboration will be required with Rio Tinto as a major stakeholder and landowner in the town.

4.2.4 CASE STUDY: COASTAL PATHS FROM AROUND REGIONAL WA

Coastal shared paths have been developed in many locations across Australia and are a popular way for people to experience the natural beauty of coastal towns.

These paths are particularly successful when they form part of a broader cycle network that intuitively connects key destinations and attractions. Done well, they have the potential to attract visitors as a destination in their own right.

Esperance Coastal Path

Esperance has developed a 14km continuous shared path from Castletown Quays to Twilight Beach, providing users with a range of coastal experiences, from beaches alongside the Esplanade, to views of the jetty, marina and port, and dramatic cliff-lined vistas along the southern coast to the west of town.

Opportunities and actions identified in the *Esperance 2050 Cycling Strategy* would see this path extended to Bandy Creek Harbour and Eleven Mile Beach.



Figure 4.14

The Turquoise Way Trail will eventually connect Cervantes to Jurien Bay, with a connection out to the Pinnacles also planned. The path provides stunning views of the unique coastline.

Ocean Beach Cycleway, Denmark

Connecting Denmark town centre to Ocean Beach, the 8.5km long Ocean Beach Cycleway is a scenic cycle route that performs transport, tourism and recreational functions for both locals and visitors. From Ocean Beach it is possible to follow the Wilderness Ocean Walk/Ride (WOW) trail a further 6km to Lights Beach and the Munda Biddi Trail for 5km through to Greens Pool, a total distance of nearly 20km.

Turquoise Way, Jurien Bay

The Turquoise Way Trail is currently a 14km shared path which offers remarkable views over along the coral coast between Jurien Bay and Hill River. A tourist attraction in its own right, the path is being used for fun runs, bike races and triathlon events and has ongoing potential to generate significant economic returns for the wider community. Once complete, the Turquoise Way Trail will cross Hill River and continue through to Cervantes, providing a 28km long link between the two popular holiday towns.



4.2.5 Opportunity: Linking caravan parks to town centres

The core tourism market in the Pilbara is self-drive tourists, with around 80 per cent of leisure visitors arriving by road.

Caravan and camping tourism is an ever-popular domestic tourist activity and growing international tourism market, with approximately 13 million caravan/camping trips made in Australia in 2018, characterised by people who like independence and the freedom to discover and experience new places.

It has been identified that the majority of tourists to the region are self-drive tourists, frequently with campervans and motorhomes. Encouraging these tourists to stay, or stay longer, in and around towns in the region will be a key component of any tourism strategy for the Pilbara. With the increasing popularity of active-lifestyle tourism, there is likely to be a growing number of visitors who embrace the opportunity to experience destinations on foot or by bicycle once they arrive.

Throughout the region, the opportunity to connect caravan parks to local destinations with safe, legible and connected cycling facilities has been identified, including in Paraburdoo (Yinjawangka country) and Tom Price (Eastern Guruma country).

- Tom Price Tourist Park is located approximately 4km from the Tom Price town centre. Tom Price is commonly used as a stop off point on route to the Karijini National Park and is also host to a range of transient workers. Providing a safe, off-street route into town will enable visitors of all ages and abilities to access and explore the town by bicycle.
- The Paraburdoo Caravan Park is only approximately 1km from the town centre, facilitating an easy walk or ride between the two. Constructing a new path between the Caravan Park and the town centre will allow visitors the option of an active journey for this short-distance trip.

4.2.6 CASE STUDY: BICYCLES, ELECTRIC BICYCLES AND MOTORHOMES

Bicycles and electric bicycles are becoming an increasingly popular addition to campervans and motorhomes, with many travellers choosing bicycles over towing a small car. Going by bike allows visitors more engaging opportunities to explore an area and interact with their host communities, and electric bicycles make it easier for more people of all ages and abilities to go longer distances, over varying terrains.

For the Pilbara, electric bicycles provide an opportunity for visitors to travel further afield than they may have ordinarily, which opens up unique experiences to people who may have found cycling too challenging physically, or the heat too intense. Conveniently located mid-trip facilities such as shelters, rest spots, electric bike charging stations, bike repair and water stations also make adventuring by bike more appealing.



Figure 4.15 Tourists enjoying Point Samson on their all-terrain electric bicycles after parking up at the local caravan park. Electric bikes make it easier to go longer distances in varying weather conditions and diverse terrains.

4.2.7 Opportunity: Linking to local attractions in Newman

A number of local attractions within Newman, which sit in Nyiyaparli country, were identified during community and stakeholder engagement, including the 793B Cat Haul Truck, Radio Hill lookout, and the new Newman Hospital. These destinations celebrate Newman's unique character and the natural beauty of its surrounds.

The Haul Truck exhibition welcomes residents and visitors to the town at the corner of Great Northern Highway and Kalgan Drive, providing information about the town and about the Shire of East Pilbara. The Haul Truck is accompanied by sculptures of iconic local fauna, presenting a photogenic learning opportunity for visitors to the region. To facilitate access to this destination, there is an opportunity to continue the path on Kalgan Drive, where it currently stops at Daniels Drive, only 250m from the Haul Truck.



Figure 4.16 Haul Truck Exhibition – Newman

Radio Hill Lookout was identified as an important local attraction, providing stunning views over the townsite and surrounds, as well as hosting several trails used for walking and mountain biking. There is an opportunity to provide a path connecting to Radio Hill lookout, ensuring accessibility for more ages and abilities.



Figure 4.17 Radio Hill Lookout – Newman

4.2.8 Opportunity: Cossack and Burrup Peninsula

The Pilbara region is rich in Indigenous and European heritage. Several heritage destinations have been developed (or have the capacity to be developed) into significant tourism attractors for the region, with the potential to be accessible and explored by bicycle.

The Burrup Peninsula is home to some of Australia's oldest rock art, which recent estimates date at approximately 30,000 years old. The Burrup's rock art has recently been nominated by the Federal Government to be placed on Australia's World Heritage tentative list, which is the first step to achieving UNESCO World Heritage List status. Deep Gorge, located approximately 26km from Karratha town centre and 11km from Dampier, is accessible off Hearson Cove Road and has a local walking trail that allows people to experience the rock art. In close proximity is Hearson Cove, one of the only swimmable beaches in the area. There is a unique opportunity to develop a safe, family-friendly cycling route to these destinations, linking to the proposed Karratha to Dampier Link (Section 4.1.2).

Cossack is a heritage-listed townsite located approximately 3.5km east of Wickham, between Roebourne and Point Samson. The townsite was once home to Western Australia's first pearling industry and provides a unique insight into what life was like in regional frontier boomtowns. Backpackers accommodation and a café already support tourism to this site and the City of Karratha has a designated 5km "Cossack Heritage Trail" that people have the option to walk or drive. This trail could be significantly enhanced by providing a cycling route that links to the proposed Roebourne to Point Samson cycle route. This would additionally support recreational trips from nearby towns, with the trail extending to Settlers Beach, noted as a popular fishing location.



Figure 4.18 Cossack

4.2.9 CASE STUDY: ROCK ART TRAILS

Rock art tourism is significant element of cultural tourism all over the world, with even cave replicas in France receiving tens of thousands of visitors per year. Rock art tourism allows the integration of culture, nature, landscape and cultural heritage.

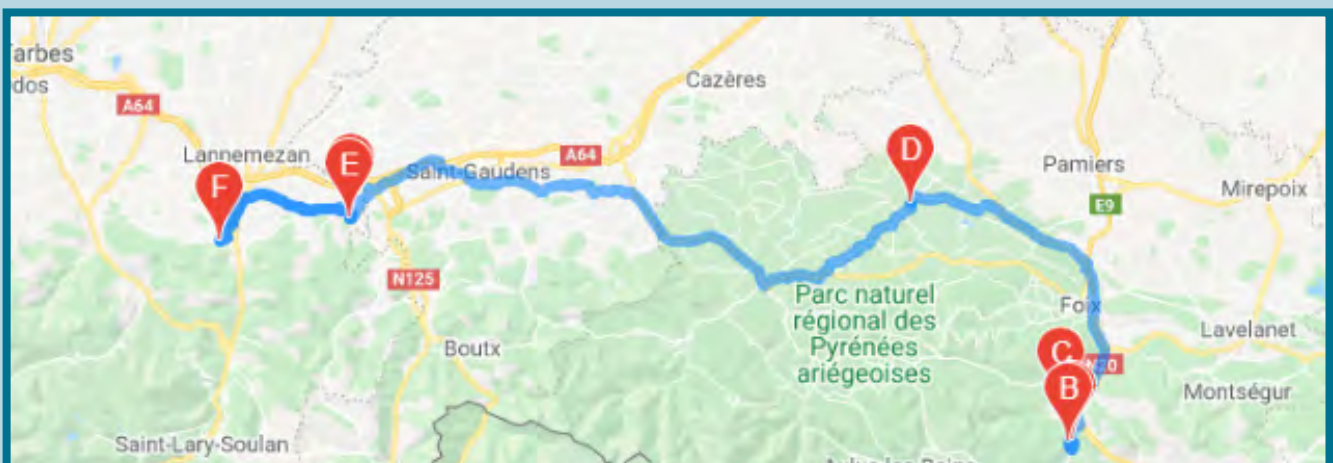
The Council of Europe, as part of the Cultural Routes program, has developed over 30 trails, designated as Cultural Routes. These Cultural Routes link significant rock art sites in Spain, Portugal and Southern France, in recognition of the importance of these sites as human cultural expression, and to promote their continued protection and conservation.

Cultural Routes have typically been developed as driving routes which link a series of relatively nearby interest points.

For example the 188km Pyrenean Route of Palaeolithic Rock Art in the South of France, which joins a series of nearby sites including the Cave of Niaux and Caves of Gargas, as well as a visitor or interpretation centres.

Combined, the sites making up the trail receive approximately 200,000 visitors per year.

The tens of thousands of years old petroglyphs at these sites, a range of figurative forms and abstract shapes found in rock shelters, caves and open-air outcrops, celebrate religion, local identities and nature. Low impact forms of access to sites, such as cycling, could become a key component of sustainable development of tourism to the sites.



Source: <http://www.prehistour.eu/carp-route/#>



Source: <https://www.donsmaps.com/bedeilhac.html>. Photos: Heinrich Wendel (© The Wendel Collection, Neanderthal Museum)

Figure 4.19 Providing a walking and cycling connection to cultural and heritage sites emphasises an active yet gentle way of engaging with the living landscape, its history and its people.

4.3 Encouraging healthy, active and safe communities

Australia is facing a nation-wide issue with physical inactivity. More than half of Australians are either not active at all, or do not meet the recommended guidelines⁷. Most people are simply not moving enough and this slow down in activity is seeing significant consequences to peoples' physical and mental health. Enabling people to walk and bike for more everyday journeys is one of the key ways to tackle inactivity and help reduce the burden of health conditions linked with a sedentary lifestyle.

There are numerous health benefits associated with walking and riding a bike, including promoting increased cardiovascular fitness, muscle strength and joint mobility, improved posture, and reduced stress. Regular exercise through walking and cycling also benefits peoples' emotional and mental wellbeing, encourages people into the outdoors, and promotes socialising. Importantly, these modes can be made accessible to all socioeconomic groups – walking is virtually free while the costs of cycling are minimal compared to the costs of buying and servicing a vehicle or even maintaining a gym membership.

Riding a bike is an activity on its own but can also be a way to get to places of recreation, including sport and recreation facilities and mountain biking trails.

Comfortable and connected routes will enable new and existing riders to cycle to an increased number of destinations, which will assist in improving the health and overall physical activity of people within the region.

Safety of such routes is paramount in encouraging those who are interested in cycling but may have some concerns to choose to ride. Safety can be promoted through greater consideration of people riding in on-road environments and by providing opportunities for people to improve their bike riding skills through community rides, skills training, and targeted bike education. Additionally, more people out and about on local streets and roads improves community safety through passive surveillance and community strengthening through increased social interactions on within neighbourhoods and across streets and paths.

Local governments, schools and workplaces have a role to play in supporting more people to choose to cycle by committing to travel behaviour change programs and community activities. These initiatives, in conjunction with appropriate infrastructure and connections, will support increased physical activity in the region.

4.3.1 CASE STUDY: COMMUNITY BIKE RIDING ACTIVITIES

Many local governments run bike riding events as part of their sport and recreation programs, working with local schools, workplaces and community service organisations to deliver a variety of engaging activities.

The Shire of East Pilbara has been hosting a range of bike related activities for a number of years, including regular Bike Week / Month events and the annual Newman Triathlon. The Shire's 2019 Bike Week 'Newman Bike Bingo' activity encouraged local families to get out by bike and explore the landmarks of Newman via their local bike network.

Fun events such as these increase awareness of the local path and trail network and provide an opportunity for people to practice their riding skills in a safe setting.



Figure 4.20 Newman Bike Bingo

4.3.2 CASE STUDY: THE TOM PRICE SCHOOL CHALLENGE

In 2016 the Nintirri Centre led a Bike Week event with Tom Price Primary School and North Tom Price Primary School in collaboration with the school P&C associations, WestCycle, the Department of Transport, Rio Tinto, WA Police and the Tom Price BMX Club.

Each school held an event and challenged each other to see who could get the highest percentage of bike riders on the day. Each event had group bike rides, bike safety talks, a bicycle riding Police Officer, bike maintenance talks from the President of the Tom Price BMX Club, bike related competitions (prizes provided by Rio Tinto), a prize for the class with the highest percentage of bike riders, and a free healthy breakfast provided by the school P&C associations. Participation at both events exceeded expectations and students reported that they liked riding with their friends and parents enjoyed riding to school with their children.

Across the two events, 513 people (students, teachers, parents, younger siblings) rode their bikes, which considering that Tom Price as a community has a population of approximately 4500 people, the event influenced around 11 per cent of the community to ride their bike.

At a school level, 84 per cent of students rode on the day of the event and each school tripled the number of students travelling to school by bicycle.

Beyond simply providing a fun activity for students, events such as these give parents confidence to let their children ride to school more often.

Recognised benefits of an active journey to school include:

- Students who travel actively arrive awake and alert—improving their readiness and ability to learn throughout the day.
- Physically active students are healthier, happier, and more socially connected.
- Bike riding is a sustainable mode of transport that reduces congestion and air pollution around schools.
- Riding and walking to school provides ongoing opportunities to teach children essential road safety skills.



Source: <https://www.facebook.com/NintirriCentre>
Photo credit: Tina Elliott Photography

Figure 4.21 Tom Price Bike Week Inter-school Challenge

4.3.3 Opportunity: Developing loop routes around towns for fitness and leisure

Cycling loop routes support access to local destinations while also providing additional opportunities for recreational cycling, leading to improved fitness and health outcomes for communities. Loop routes allow people to ride for longer, and do not require riders to backtrack, which many recreational and fitness riders seek to avoid.

This strategy identifies several opportunities for loop routes. These include:

- In Karratha, there is an opportunity to develop a high-quality loop that encircles a significant portion of the urban area. The loop includes cycling infrastructure Bayview Road, Searipple Road, Maitland Road, Millstream Road, and Dampier Road, with options to extend or reduce the size of the loop with a connecting route at Balmoral Road. This loop provides access to local schools and parks, the Karratha Health Campus and City Centre, community facilities including the public library, and dense connections to local routes.
- In South Hedland, a loop is proposed along North Circular Road and Murdoch Drive, supporting connections to schools, sport and recreation facilities, and the town's shopping precinct.
- In North Tom Price, completion of a shared path along Killawarra Drive and Canberra Drive will provide a convenient loop for residents and a connection via existing paths to Tom Price town centre.

The loop routes in this strategy have been designed to contribute to a complete, connected and comfortable network which provides access to local destinations as well as recreational opportunities.



Figure 4.22 Local resident on training loop in Gap Ridge, Karratha.

4.3.4 Opportunity: Mid-trip facilities and heat stress management

The Pilbara region has unique environmental challenges to walking and cycling participation, including extreme heat conditions and sun exposure concerns. For this reason, many Pilbara residents prefer to exercise and recreate during the cooler conditions in the early morning and late evening. For travel that needs to occur during hot conditions, mid-trip facilities are an important feature of the cycle network to manage heat stress.

These facilities can include:

- Vegetation and shade to help manage heat stress and provide a buffer to winds.
- Rest stops, which may include benches and public restrooms, and should include shade.
- Drinking points to ensure riders, particularly young and vulnerable riders, can hydrate.
- Lighting of paths to improve safety and comfort of cycling outside daylight hours.
- Wayfinding signage.

These mid-trip facilities complement end-of-trip facilities such as secure bike parking, showers and lockers.

Community responses collected during engagement revealed a clear desire for these facilities to be developed. The following specific opportunities have been identified:

- Providing lighting along recreational loops in Karratha would support early morning and evening cycling, as this is when many people choose to exercise to avoid the heat.



Figure 4.23 Touring cyclist taking a rest at informative roadside rest area outside Roebourne.

4.3.5 CASE STUDY: MID-TRIP FACILITIES

The term 'mid-trip facilities' describes facilities provided along a route that are provided to help create a more pleasant walking and riding experience by increasing natural landscaping, shade, shelter and amenity. These facilities can include lighting, wayfinding, seating, shady rest stops, drinking fountains, bike repair stations, interpretative signage, etc.

Existing facilities planned or already in place along roads and trails can be incorporated into route planning for bike riding. Road rest area locations, such as the one featured in the image below from outside Roebourne town site, allow people to take a break when travelling longer distances by vehicle or bicycle and can also provide visitors information.

The provision of mid-trip facilities has been featured in the development of cycling and active transport routes by state and local governments throughout Australia. Two key examples from WA include:

NorthLink WA Tonkin Highway Principal Shared Path

The walking and cycling route delivered as part of the NorthLink WA transport link from Morley to Muchea connects communities along the corridor with more than 65km of new shared paths. The project is trialling adaptive and smart lighting on the section of shared path between Hepburn Avenue and Gnangara Road.

Using motion sensors, the lights illuminate when a pedestrian or bicycle rider passes by on the path, with the lights turning up or down depending on their direction of travel.

Alongside vegetation, art works, wayfinding to nearby destinations, and a planned interpretative heritage trail, the innovative lighting forms a suite of mid-trip facilities designed to significantly improve peoples' safety and enjoyment along the route.

Turquoise Way Trail

The Turquoise Way is a coastal path being delivered to connect Cervantes and Jurien Bay, with a spur to the Pinnacles also planned. The project is being delivered in four stages, with Stage 1 from Jurien Bay to the Hill River completes in 2019 and the Stage 2 river crossing underway in 2020. Extensive mid-trip facilities have been provided along the 7.4km Stage 1 section, including tourism and heritage signage, bike parking at beach trailheads, and sheltered rest spots (pictured below).



Figure 4.24 Images of mid-trip facilities along the Turquoise Way Trail

4.3.6 Opportunity: Connections to sports and recreation facilities, including BMX

Participation in sport and recreation is important for community building as well as physical health. Providing direct cycling connections to sport and recreation facilities across the Pilbara region increases the capacity of a diverse range of people to access these facilities, as well as providing additional opportunities for exercise. This strategy has been designed to promote active connections to these active places, including swimming pools, recreation centres and sports ovals. Additionally, it is important that riders using the region's many BMX parks and trails are able to safely access these by bike.

Several opportunities to develop active links to sport and recreation facilities were identified throughout the planning and engagement for the strategy:

- In Karratha, a new path will link Baynton residents with the Karratha Leisureplex. A path will also link to the Karratha BMX Club as well as the Karratha Pump Track.
- In Onslow, a link has been identified to access the proposed BMX track at the Onslow Rodeo Grounds.
- In the Town of Port Hedland, the path network will support access to Sport and Recreation Masterplan precincts, including McGregor Street in Port Hedland, and Hamilton and Cottier Streets in South Hedland.
- In Tom Price, a site at Mine Road/Coolibah Street has been identified as a location for a Pump Track facility, featuring a track, skills loop and jump lines. The site will be connected to local schools and residences through a comprehensive local network.

4.2.7 CASE STUDY: REDLYNCH CONNECTION PATHWAY, CAIRNS, AUSTRALIA

The Redlynch Connection Pathway in Cairns is a 5km long, 3m wide sealed shared path that connects the Redlynch community to surrounding suburbs and town sites. The path winds through spectacular natural landscapes, including rainforest, cane fields and along a freshwater creek. It connects local school students to St Andrews School, Freshwater Christian College and Redlynch State College, and provides critical links to the local public library, swimming pool, BMX Track, and Goomboora Park walking and cycling trails.

Surrounding residents also use the path for recreational rides as well as to commute to work, with the average length of a commuter trip spanning 8km. An independent evaluation of the project has found a significant shift in choice of transport, with 78 per cent of bike riders saying that they would have travelled by car if the path was not there. Economic analysis of the path indicates that for every dollar spent on the path, \$12 in economic benefit to the local community is received, capturing health outcomes, traffic congestion, and transport costs.



Source: <https://www.tmr.qld.gov.au/Travel-and-transport/Cycling/Infrastructure/projects/Redlynch-Connection-Pathway>

Figure 4.25 Safe, active links from where people live, work and learn to sports and recreation facilities allow more people of all ages and abilities to access these community places.

4.3.8 Opportunity: Linking to mountain biking trails

As well as developing increased opportunities for active tourism, mountain biking is a popular recreation activity for people in the region. Throughout the Pilbara, trails are typical component of paths strategies, including in *Shire of East Pilbara Pathways and Trails Strategy 2012 – 2017*, *Town of Port Hedland Trails Masterplan (2013)* and *Shire of Roebourne Trails Master Plan (2013)* (now City of Karratha).

The need for cycling links to mountain biking facilities within and near townsites in the region was emphasised by participants in community consultation, with respondents indicating the location of a number of popular riding trails.

Providing residents and visitors with safe and accessible links to recreational areas and facilities will be an ongoing opportunity for the region, and work is ongoing to integrate regional planning for transport cycling with the development of mountain biking trails.

In Newman, the Strategy develops links to the following sites identified as hubs for local trails:

- Radio Hill Lookout, a popular site where a number of trails were identified.
- TV Transmission Site, where the gold course at the base of the hill was suggested to be developed as a hub for local trails.

Passionate local support for the development of trails was indicated during community consultation and feedback has been shared with the Department of Local Government, Sport and Cultural Industries (DLGSC) for use in their ongoing work coordinating the planning, development and management of quality trails and trail experiences across the region.

4.3.9 CASE STUDY: CONNECTING TO MOUNTAIN BIKE TRAILS IN COLLIE, WA

In recent years the Shire of Collie has undertaken extensive work to establish Collie as WA's premier trail adventure town. In 2018 the Shire released the *Collie River Valley Trails Strategy 2018-2021*, which outlines a plan to formalise trails for walking, cycling (on and off-road), horse riding, paddling and diving. A significant part of this plan includes progressively upgrading and extending the network of paths and trails that run along the banks of the Collie River.

The Collie River Trail is a high-quality shared path that connects the Collie town centre to a host of community, recreational and cultural sites, including Minninup Pool, Collie Senior High School, the South Regional TAFE Collie Campus, Lions Park, Soldiers Park, and Jack Mears Spring.

The trail also forms part of larger loop trails that link to purpose-built mountain biking facilities and to the Munda Biddi Trail and Bibbulmun Track, linking these trails through to the CBD.

Development of this network of shared paths and trails has supported new economic opportunities for the region through tourism, improved amenity for residents, and connection with places of natural and cultural interest.

The Collie River upgrades have been largely funded through a combination of local, State and federal government grants, including through the RBN grants program, as well as funding provided by private enterprise.



Figure 4.26 Collie River trail

4.3.10 Opportunity: Supporting safer road cycling

Road cycling, as described in Section 2.5, is typically carried out on rural and semi-rural roads that feature scenic landscapes, challenging or undulating terrain and low traffic volumes. Road cyclists do not typically require, or use, protected cycling infrastructure (such as shared paths) in these environments.

Clear signage and delineation of popular road cycling routes can help to reduce actual and perceived levels of conflict between road users. It also helps to reinforce the point that the road is a shared asset and that cyclists are legitimate road users.

Signage and delineation can be used to highlight known conflict areas (for example, where cycling routes cross major haulage routes) as well as inform motorists that they are likely to encounter cyclists in particular areas. Delineating road cycling routes is also helpful for visitors and could be tied to a promotional campaign to attract more road cyclists to the area, and encourage them to stay longer or explore larger parts of the region.

In the Pilbara, while traffic volumes can be relatively low, significant concerns over road sharing and conflicts with heavy vehicles were expressed by the community. In particular, people were concerned about the availability and width of sealed shoulders, as well as implementing regular upkeep and cleaning schedules for shoulders.

Based on feedback from existing riders, known road cycling routes around Karratha, Onslow and Tom Price are identified in the Strategy. There are several opportunities which could result in improved safety outcomes for riders on these routes, including:

- Holding road cycling events;
- Developing and maintaining a cleaning schedule to ensure debris is cleared from roadways;
- Increasing awareness of road cycling routes through signage and road markings; and
- Sealing shoulders of road cycling routes used by heavy vehicles.

Increased visibility of people riding bikes on the roads has also been demonstrated to improve safety outcomes for all riders.

4.3.11 Opportunity: Travel Behaviour Change Programs

There are numerous benefits of active transport, including increased community safety from additional 'eyes on the street', supporting local business by increasing access opportunities, reducing greenhouse gas emissions by reducing the number of vehicle trips, and improved community health from physical activity.

Travel behaviour change programs are intended to support voluntary shifts towards active and sustainable transport.

Your Move is a free travel behaviour change program run by DoT that supports individuals, schools and workplaces in swapping a few car trips each week for sustainable and active transport modes, including riding a bike.

Community feedback during consultation for this strategy highlighted that many people are keen to cycle but feel they lack support by workplaces and schools. Both community-level and personalised behaviour change initiatives will support these people to build their motivation, confidence and skills for riding for more everyday trips.

There is an opportunity for local governments to sign up to Your Move and participate in a program of events that support active travel by building peoples' competency and confidence, as well as supporting walking and riding through activation and facilities. Individual schools and bike education, maintenance and skills courses, wayfinding, access guides, Ride to School/ Work events, group rides, and more. Your Move resources are designed to be tailored to the local context and participants earn points through the program that can be spent in the 'shop' on resources and activities.

4.3.12 CASE STUDY:

LAKE GRACE DISTRICT HIGH SCHOOL, YOUR MOVE PROGRAM

Lake Grace District High School in the eastern Wheatbelt region of WA joined the Your Move Schools Program with the aim of encouraging more students walk, ride bikes and scooter to and from school each day. The school caters for Kindergarten to Year 12 students (Year 11-12 via Distance Education) and signed onto the program as part of their school's health and wellbeing focus.

They kicked off by undertaking a 'Hands Up' survey to gauge how students were travelling to school each day (so they could measure the impact of their efforts later on) and started a Student Team who determined the school would offer at least three events per term to promote increased activity, greater mobility and overall road safety practices.

The school also focused their efforts outside of the school gates, looking at the local road and pat network and suggesting improvements to their local government and Main Roads WA.

Their program has included road and bike safety workshops run by local Police, an inaugural walk or ride to school day, staff and parent workshops, parent surveys, a walking school bus, a school infrastructure audit, Fume Free Friday promotion, ride to school day for Bike Month and more.

Their follow up 'Hands Up' survey in their first year in the program showed a 47 per cent decrease in driving, 53 per cent increase in walking, and 110 per cent increase in cycling. Their efforts earned them a Connecting Schools grant for a new shaded bike shelter.



Figure 4.27 Lake Grace's full bike racks

4.4 Supporting youth cycling

Being active is essential for many aspects of a young person's health and development. Children in regional areas have been found to be more likely to overweight or obese (29 per cent) than children living in major cities (23 per cent), and a World Health Organisation study indicated that 90 per cent of Australian children between the ages of 11 and 17 do not get enough daily physical activity.

Cycling is a fun and physically active way to get around, which provides a sense of independence and helps build healthy exercise habits for all children and youth. One of the most effective ways to encourage youth cycling is to make it a safe, easy and convenient method of transport to school and recreational activities. This relies on a network of routes, separated from traffic where possible, that link to key youth destinations, including schools, parks, shops, sport and recreational facilities including skill tracks.

Community and stakeholder consultation on the strategy repeatedly emphasised the need for fun, safe, active environments for beginner and young cyclists. This included paths, community facilities such as skills and pump tracks, school programs and bike education, and convenient, accessible, sheltered end-of trip facilities such as those pictured below at Dampier Primary School.

4.4.1 Opportunity: Safer routes to schools

To effectively encourage kids to ride to school, in addition to behaviour change programs and educational measures, the surrounding infrastructure also needs to be inherently safe. This is particularly relevant where schools are located on major roads and conflict with heavy vehicles is frequent. Dedicated infrastructure must be provided to allow school children safe passage and consideration needs to also be given for crossing points in areas that surround schools.

The network in this strategy has been designed to ensure that all schools located within townsites are accessible, with opportunities identified to enhance the safety of cycling school children including (but not limited to):

- In South Hedland, paths are proposed to connect Hedland Senior High School and TAFE with Port Hedland as well as surrounding residential areas.
- In Karratha, a path on Dampier Road safely connects all Karratha residents to Karratha Senior High School or St Luke's College.



Figure 4.28 Bikes at Dampier Primary School

4.4.2 Opportunity: Ensure cycling routes are optimised for young riders

Kids have specific infrastructure needs that are distinct from those of even less-confident adult riders. Cycling can provide significant independence and improve kids' development, however children are vulnerable road users affected by conflict with other modes.

To support safe and convenient cycling for all ages and abilities there is a need to develop separated infrastructure to reduce contact with vehicles in areas with high volumes and/or high-speed traffic. Ensuring safe cycling routes may include:

- Separated paths wide enough to accommodate cycling adults accompanying young children;
- Facilities well away from the road, on quiet roads;
- Self-explaining signage and wayfinding such as on-path markings;
- Forgiving infrastructure so errant riders don't hurt themselves or others;
- Infrastructure which mirrors that which they will engage with as they get older (to build road – and path, sense);
- Infrastructure that teaches young riders to share the path/road;
- Infrastructure being developed in areas with good passive surveillance and adequate lighting; and
- Encouraging youth engagement with local governments over cycling infrastructure so that needs are met, including having children as part of the auditing process of existing infrastructure and involved in activating new routes.

4.4.3 CASE STUDY: BUSSELTON SCHOOL LINK PROJECT

The City of Busselton, located in the South West region of WA, delivered a 1.4km long shared path project to extend their local path network and provide local students a safe, direct link to the local school, St Mary MacKillop College. The College caters for students from Kindergarten to Year 12 and the route was identified in the *Leeuwin Naturaliste 2050 Cycling Strategy* as a priority project. The College was highly supportive of the path and the whole campus participated in planning and activation events, including a ride to school breakfast and class rides.

Maps of the route were sent to all families and the College Physical Education Teachers were enthusiastic to use the path in cross country events and running group training circuits.

Alongside a range of behavioural and engagement initiatives, including bike education and road safety workshops, the path has contributed to more students being able to ride safely to school and the bike parking is regularly over capacity. Alongside the health benefits of students being more active in their day, enabling students to walk, ride and scoot has also reduced parking demand and congestion around school drop-off and pick-up times.

Figure 4.29 Routes designed with students in mind enable active travel to school



4.4.4 Opportunity: Linking to skills-building facilities and programs

Community consultation revealed widespread concern over the ability for people, in particular children, to develop skills related to bike riding. This includes things like access to safe places to learn how to ride, improve their riding skills and develop their confidence on a bike and on the road, as well as knowledge of bicycle upkeep, maintenance and basic repairs.

To provide access to skills-building facilities, as well as recreation opportunities, this strategy provides improved access to a number of destinations where children can safely develop confidence and competency. The following opportunities for linking infrastructure have been identified:

- In Karratha, linking to Balyarra Park and Pump Track, and Karratha BMX Club (both in Baynton);
- Linking to the proposed Pump Track on Mine Road in Tom Price.;

- In Port Hedland, linking to the BMX track on Anderson Street;
- In Newman, linking to the BMX park near Les Tutt Drive; and
- Linking to skate parks in Karratha, Roebourne, and Tom Price.

With many towns in the region not having bike stores, residents have limited access to bicycle parts and professional servicing options. It was reported during consultation that when the need for bike servicing arises it can be more accessible and cost effective for community members to purchase a new bike altogether.

This strategy aims to support the development of skills for the upkeep, maintenance and servicing of bikes, as part of sustained behaviour change programs. The opportunity to implement programs which develop skills for youth has been identified.

4.4.5 CASE STUDY: DISMANTLE'S BIKE RESCUE PROGRAM

Dismantle, a Western Australian not-for-profit organisation, uses bikes as a tool for empowering at-risk youth, and has developed a successful program for building technical skills in bike maintenance in youth. In the BikeRescue program, BikeRescue mentors work with participants to build knowledge, skills, confidence and teamwork via stripping and rebuilding two bikes per participant – one donated to charity and one kept by the participant.

They have recently launched their “BikeRescue Local” program in the towns Karratha, Wickham and Roebourne. In addition to supporting at-risk youth, developing a range of their skills including bike mechanics, this program also builds the capacity of local teams to run these programs.



Source: <https://www.facebook.com/NintirriCentre>
Photo credit: Tina Elliott Photography

Figure 4.30 Bike Rescue participant

4.5 Supporting Aboriginal cycling participation

Bicycles are a relatively low-cost and convenient transport option, promoting mobility for people who may have little access to private vehicles and in areas where there are not available or accessible public transport options. As an active mode, the regular physical activity of cycling also supports enhanced health outcomes.

Throughout the region a number of Aboriginal communities are located close to townsites. By providing safe and convenient cycling routes between these communities and town centres, this strategy supports access to local schools, shops, jobs, community facilities, sport and recreation destinations, and government and health services that are necessary for daily life.

4.5.1 Opportunity: Linking to Aboriginal communities

Some Aboriginal communities are already located within or in close proximity to town centres, while others are a reasonable distance that can be made by bike. Some of the links to nearby communities to be investigated include:

- In Onslow, the Bindi Bindi Community is located off Second Avenue, only a short distance (approximately half a kilometre) from the town centre.
- Near Roebourne the Cheeditha and Mingullatharndo Communities are within comfortable cycling distances to the Roebourne town centre, being about 4km and 9km from Roebourne respectively. They are both located off North West Coastal Highway, with Cheeditha sited to the northwest of the town and Mingullatharndo to the south east.
- Near Marble Bar (Nyamal country), the Gooda Binya Community is approximately 3km distance from town, with a route along General Street providing connectivity between the community and town centre.
- Between Tom Price and Paraburdoo are the Wakathuni and Bellary Springs communities. These are longer cycling distances from town centres, with Wakathuni community being approximately 27km cycling distance from the Tom Price town centre along Tom Price-Paraburdoo Road, and the Bellary.

4.5.2 Opportunity: Social programs

The Strategy emphasises capacity building for local communities by encouraging targeted programs teaching riding and bike maintenance skills, and providing cheap bikes to people in need. These programs teach not only necessary skills, but also train people on how to teach necessary bike skills and in doing so create additional job opportunities in the region.

There is an opportunity for organisations, particularly local governments and schools, to implement programs that recycle bikes, teach refurbishment and maintenance skills, and provide low-cost bikes to those in need. The aim is to provide not only increased mobility options but also to provide activities and support for social events. One example is Bikes 4 Life, a program built around the restoration and supply of bikes as well as teaching basic mechanic skills.



Source: <https://www.resourcerecovery.org.au>

Figure 4.31 Bikes bound for Kununurra

4.5.3 Opportunity: Connecting to Aboriginal health services

An comprehensive cycle network can be an essential way to access community services, especially in rural areas where limited transit and car ownership can result in social exclusion.

In Newman an opportunity has been identified to support active access to Puntukurnu Aboriginal Medical Service (PAMS), an Aboriginal Community Controlled Health Service located on Stojic Road. PAMS plays an important role building strong communities and families. Developing a path on this route, between Mindarra Drive and Stojic Road, would additionally support connectivity between the Newman House building, aquatic centre and local shops, and Newman Hospital.

4.6 Fostering connections between industry and towns

The Pilbara is recognised as a globally significant mining and resources region. These industries make a significant contribution to regional development, with towns throughout the Pilbara being established or renewed to further support these industries' requirements, as well as companies using non-resident fly-in fly-out (FIFO) transient workforces.

While mine sites are sometimes located within proximity to established towns, transient workers are typically accommodated in residential camps that are disconnected from these nearby townsites. Many workers have limited access to transport to travel to destinations within towns and there are opportunities to increase their active transport mobility and ability to pursue outdoor recreation.

Providing links for industry to connect into towns will have numerous benefits, from encouraging physical activity through walking and cycling to improving quality of life by supporting social and economic interaction between local communities and visiting workers.

4.6.1 Opportunity: Linking airports to town centres

Significant air transport networks have been developed to support travel for largely FIFO workforces to the region's towns, as well as supporting a growing tourism market. This means that many small towns throughout the region have airports and regular flights.

With the support of emerging electric mobility options, including electric bicycles and e-scooters, FIFO workers may not need to be reliant on car hire or sharing arrangements to travel between the airport and work/accommodation. The opportunity to develop e-bike rental facilities at airports has been identified as a way of supporting the mobility of FIFO workers and tourists in the Pilbara. Hire/loan facilities will need to be accompanied by the development of safe and convenient routes and/or shuttle services between airports and town centres.

The following locations have been identified as places that could support bike routes, shuttle services, or loan/hire/assembly facilities:

- In Port Hedland, the Airport would connect to Port and South Hedland via a shared path connection along Great Northern Highway;
- In Onslow, a path will connect the town centre to the Airport via Onslow Road;
- In Newman, a link between the townsite and the airport has been identified as an aspirational route for further feasibility study;
- In Paraburdoo, a potential trail connecting the Airport with the townsite will be investigated;
- In Karratha, the Airport will be linked to the Primary Route along Dampier Road; and
- At all airports, bike hire, shuttle services and/or bike assembly areas for visitors to utilise.

4.6.2 CASE STUDY: LINKING TO AIRPORTS – VANCOUVER INTERNATIONAL AIRPORT

Routes connecting to airports, bike loan/hire services at terminals, and bike assembly facilities in terminals are becoming increasingly popular around the world. These services and facilities are designed to serve commuters, tourists, competitive cyclists, and even those waiting for transferring flights.

Sea Island, which is home to the Vancouver International Airport, has a number of cycle routes which allow for access to the various terminals of the airport, as well as connecting to public transport options (buses and trains are both equipped to carry bikes), non-airport destinations on the island including local parks, and to cycle routes leading off Sea Island and in to the broader Vancouver area.



Source: <https://www.resourcerecovery.org.au>

Figure 4.32 Airport cycle path on Sea Island

4.6.3 Opportunity: Connecting residential camps to town facilities

This strategy aims to establish a clear path for industry to provide cycling connections between towns and existing and future residential camps throughout the region. These camps are typically self-contained and can effectively function in isolation from nearby townsites. Shift workers within these camps typically can have limited opportunity for outdoor recreation and to connect with local town sites, their communities and facilities.

The following opportunities have been identified as having the potential to increase quality of life for transient workers by providing opportunities for active transport and outdoor recreation, as well as greater social connection by enhancing personal mobility and integration of these workforces with townsites and town-based populations:

- In Port Hedland, the ESS Port Haven Village camp will be connected to the network at Walkabout Hotel, and a new path will link to the proposed Wilson Street shared path;

- In Karratha, Civeo Karratha Village is proposed to connect to the network on Dampier Road;
- In Tom Price, a link to Jundunmunna Village is proposed on Mine Road, which feeds in to the town centre; and
- In Paraburdoo, a link along Camp Road to Kurra Kulli Village is proposed.

Caravan parks, which frequently support overflow and key worker accommodation, have also been identified as needing better connections into town, and have been discussed under Section 4.2.

Provision of bicycle fleets is also a significant opportunity for employers in the Pilbara region and would be particularly beneficial to transient workers who are unable to bring their own bicycle.

Community Bike Libraries and/or bike share schemes also have great potential to support more people to ride more often.

4.6.4 CASE STUDY: FLEET AND LOAN BIKE FACILITIES AND PROGRAMS

It is becoming more and more popular for organisations to provide their staff with fleet bicycles for use for business trips and on work campuses. Some of the most prominent tech companies in the world, including Apple, Facebook, Google and LinkedIn, have provided employees with campus bikes for years, and closer to home a growing number of WA-based organisations and Government agencies are providing bikes for staff to use.

The City of Vincent provides staff pool electric bicycles as well as a Community Bike Library that includes a wide range of well-maintained bikes for the community to access on a short-term basis. The City's view is that these resources greatly reduce the barriers for people to try cycling. The Bike Library includes a ZAP Electric cargo bike with seats, Zap Step through Electric Bikes, standard adult and kids' bikes, a cargo trailer, and a kiddie trailer with seats and seatbelts for two children.

Many commercial accommodations now also provide bicycles and bike equipment as standard amenities for guests, promoting local paths, trails and destinations to visitors.

Several RAC Holiday Parks in WA, for example, offer bicycle rental as part of their 'features and facilities', some including electric bicycles.

These initiatives recognise the social, health and business benefits of enabling people to travel by actively, while also addressing the barrier of people not having their own bicycle and acknowledging the growing tourism trend and desire in WA workplaces and communities for access to bike riding facilities and activities.



Source: www.yourmove.org.au/city-of-vincent/staff-e-bikes/

Figure 4.33 City of Vincent staff e-bicycle

5. ACTION PLAN AND MAINTENANCE

This section outlines the strategic priorities that are proposed to be progressed over the next five years. This approach will help enable the Pilbara region to realise its long-term cycling potential over time. The priorities have been informed by community and stakeholder consultation throughout the project, as summarised in Appendix C.

5.1 The existing cycle network

To inform the action plan's strategic priorities, each route within the 2050 cycling network was classified as one of the following:

- **Existing (adequate)** – the level of service reflects current best practice for this type of cycling route (as defined in the route hierarchy);
 - **Existing (substandard)** – although possible to cycle along this corridor, the level of service provided does not reflect current best practice for this type of cycling route (as defined in the route hierarchy); or
 - **Non-existent (proposed)** – it is either not possible to cycle along this route due to the corridor being non-existent, or, because of existing road conditions, most people are unable to cycle comfortably.
- These classifications are reflected in the maps on the following pages, with each route classified as either existing (adequate), existing (substandard) or proposed, and considered in the context of the five-year timeframe of this action plan.



Figure 5.1 Overall 2050 cycling network for Onslow



Figure 5.2 Overall 2050 cycling network for Paraburdoo

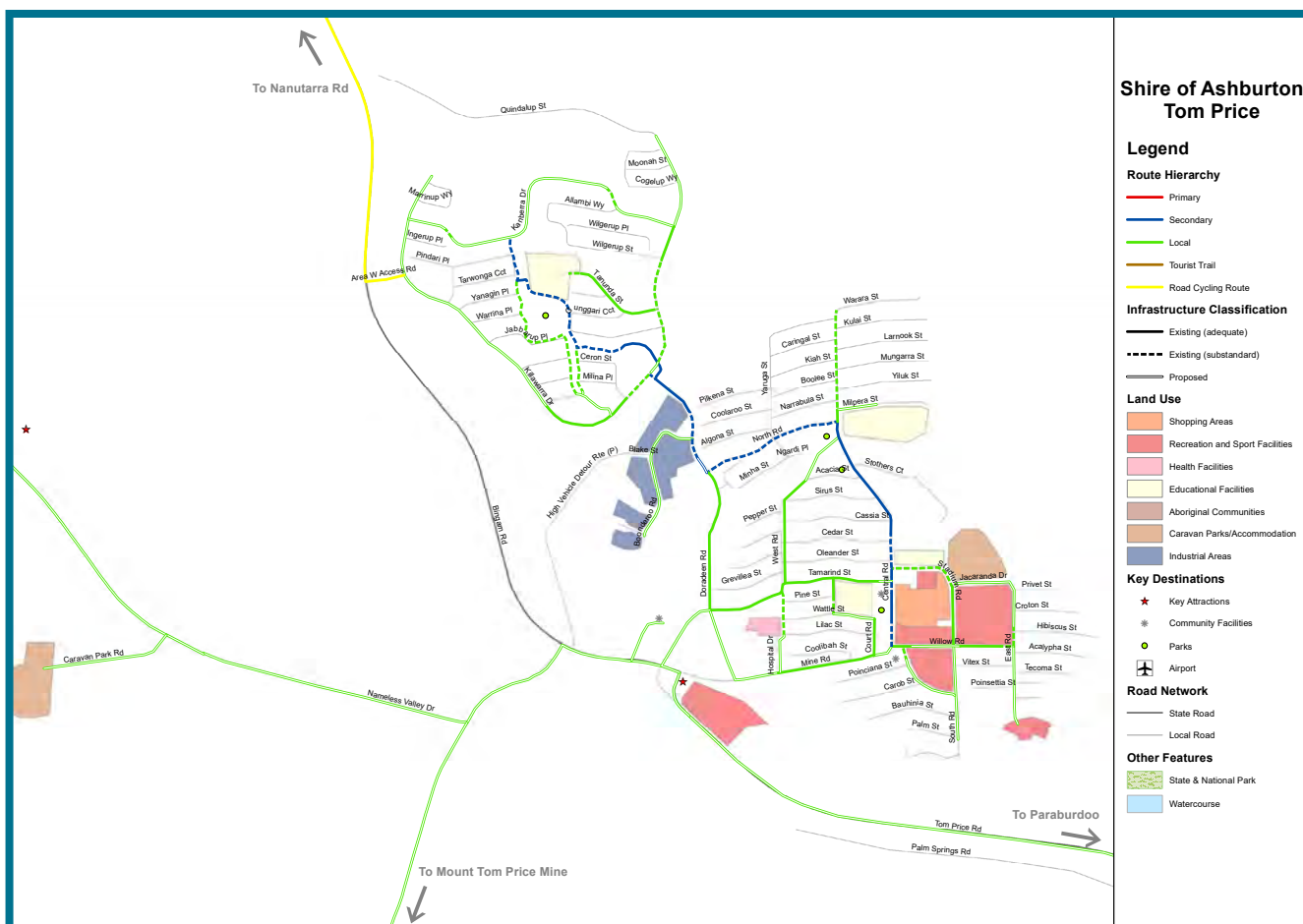


Figure 5.3 Overall 2050 cycling network for Tom Price

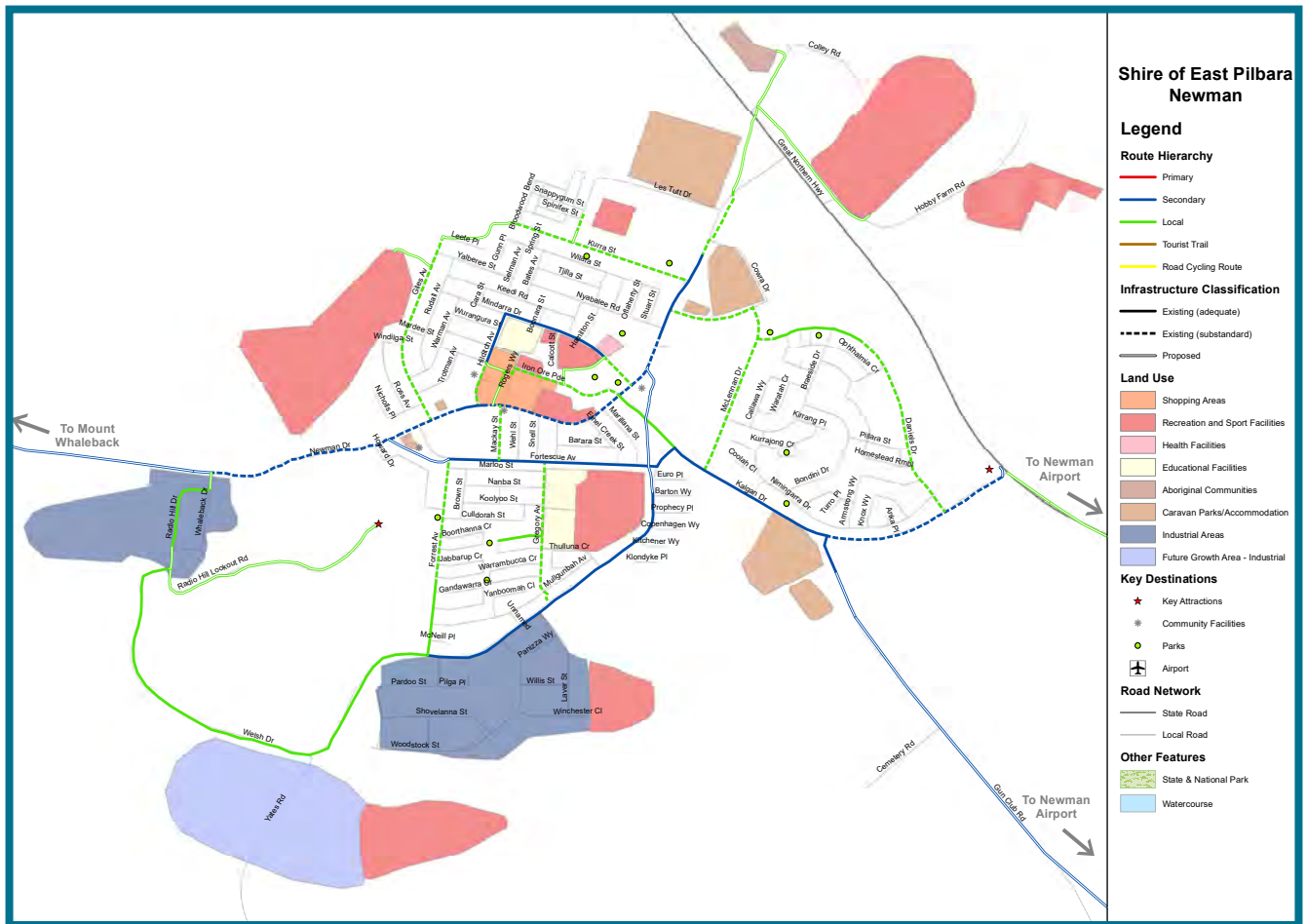


Figure 5.4 Overall 2050 cycling network for Newman

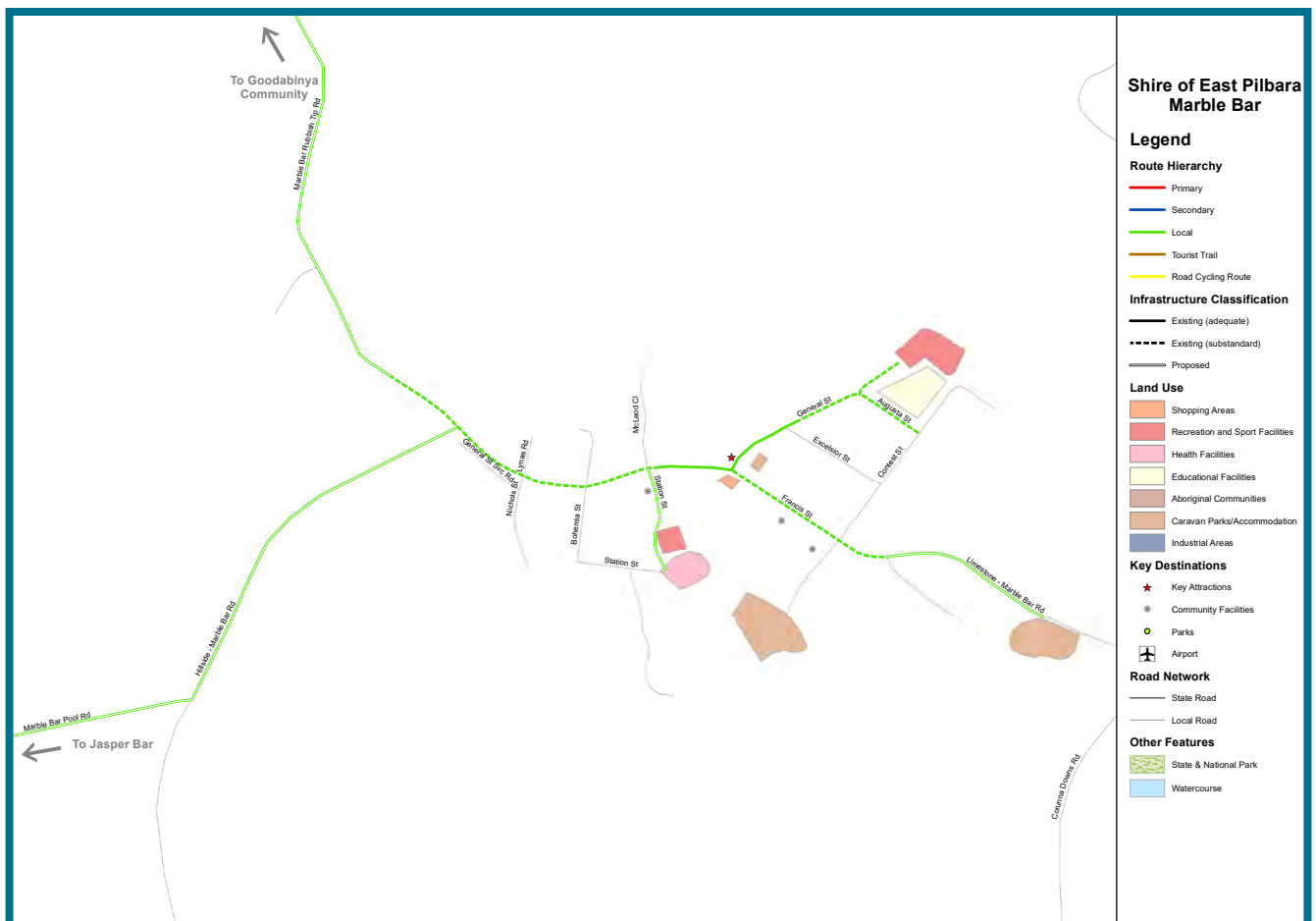


Figure 5.5 Overall 2050 cycling network for Marble Bar

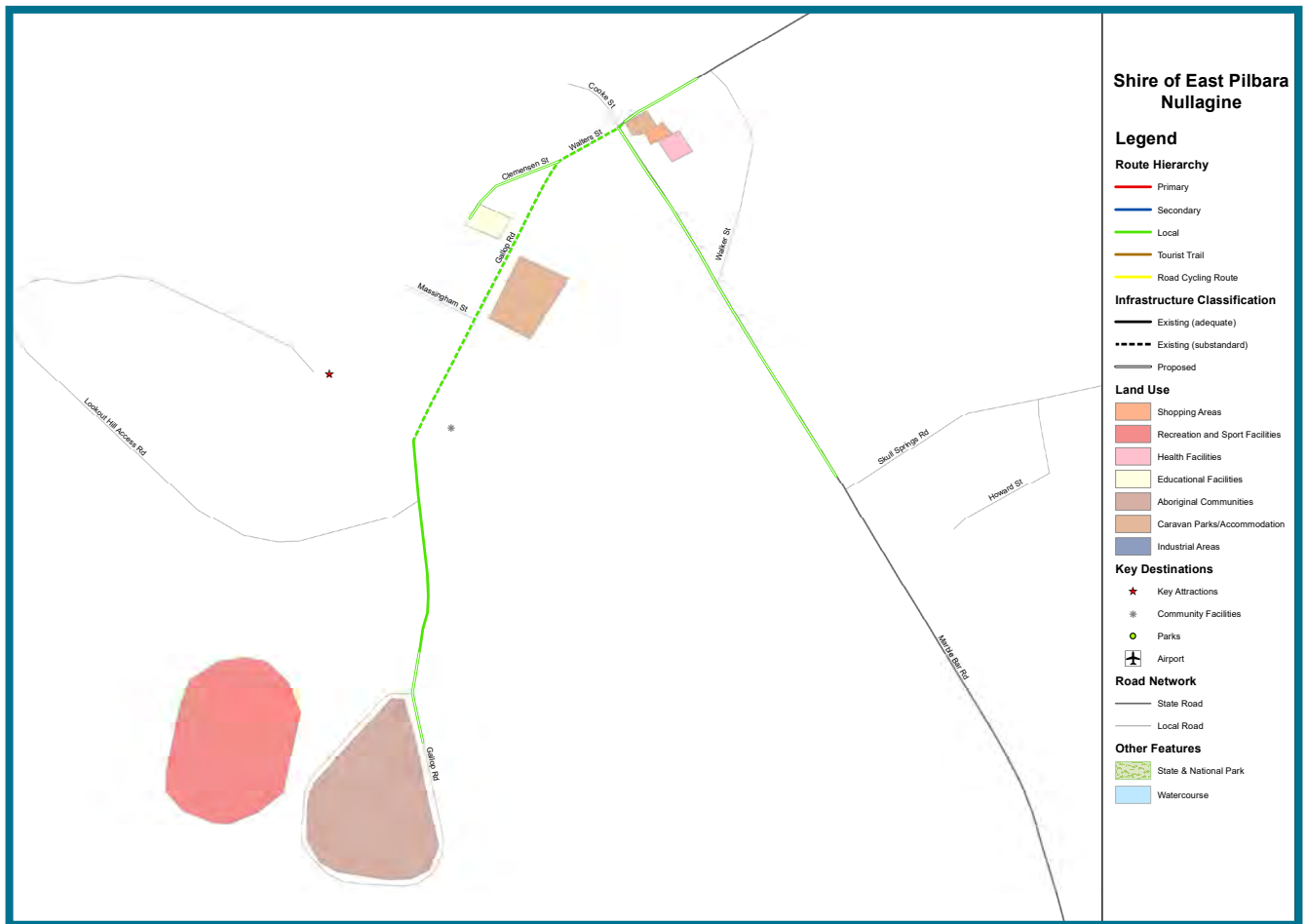


Figure 5.6 Overall 2050 cycling network for Nullagine

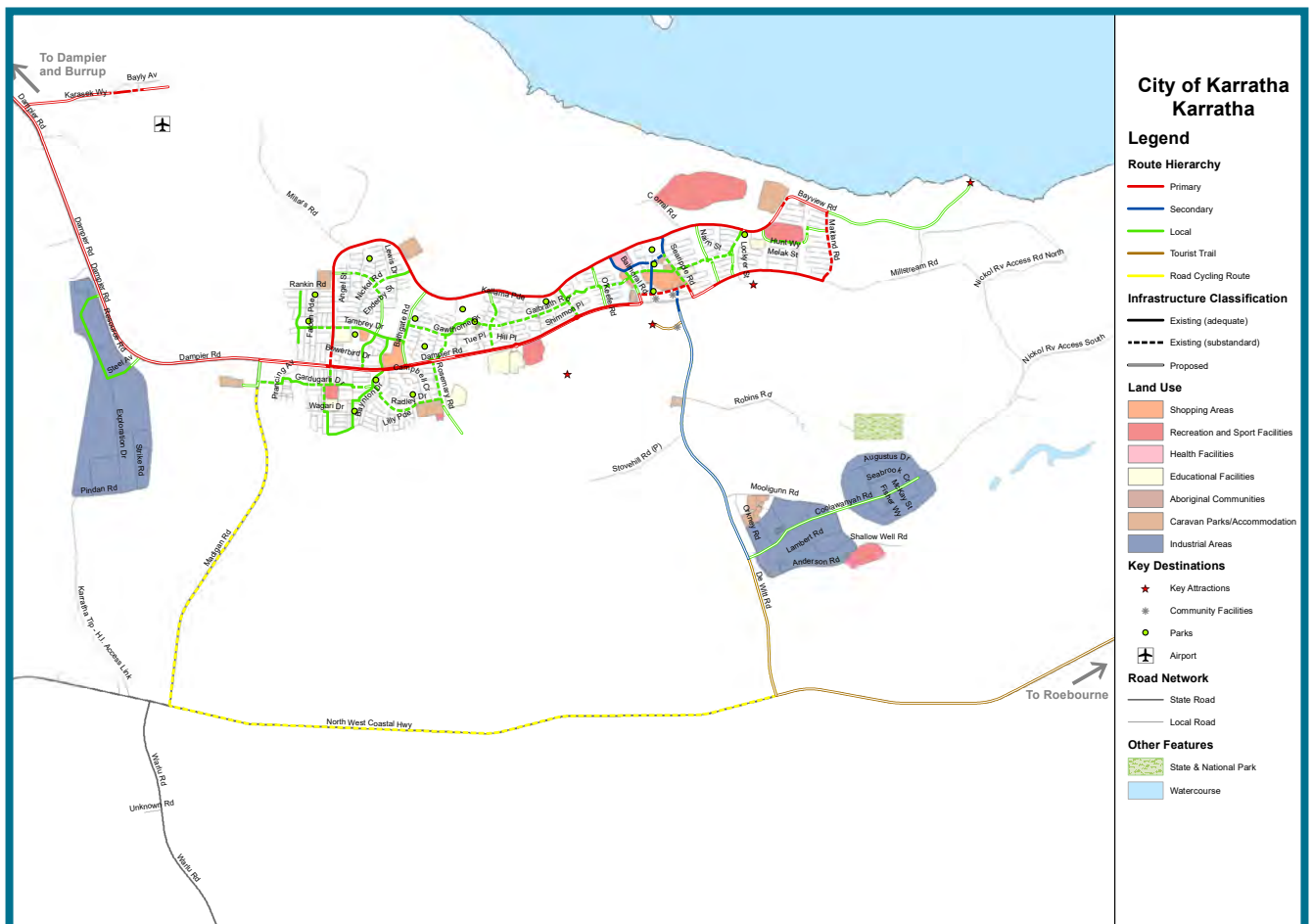


Figure 5.7 Overall 2050 cycling network for Karratha

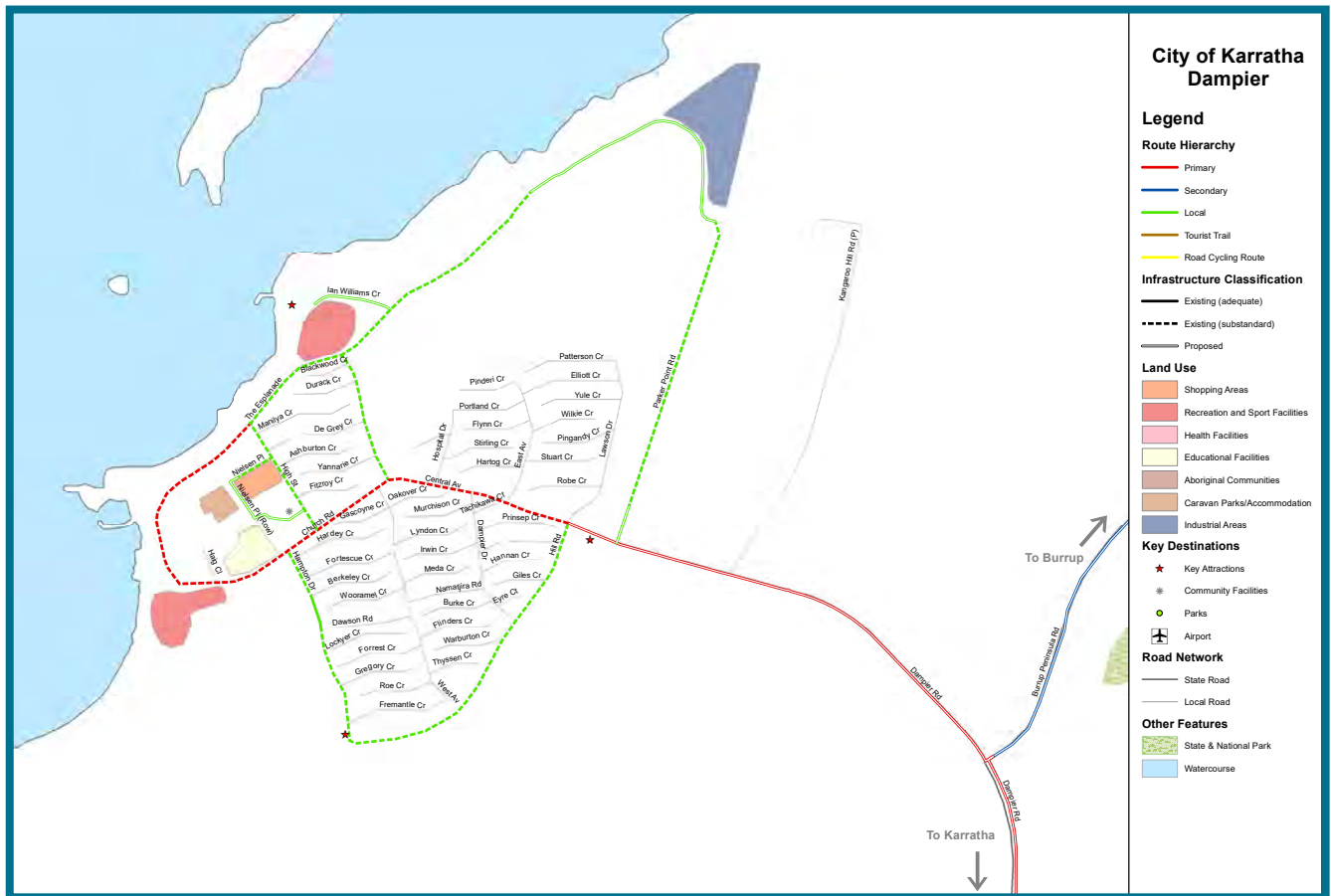


Figure 5.7 Overall 2050 cycling network for Dampier

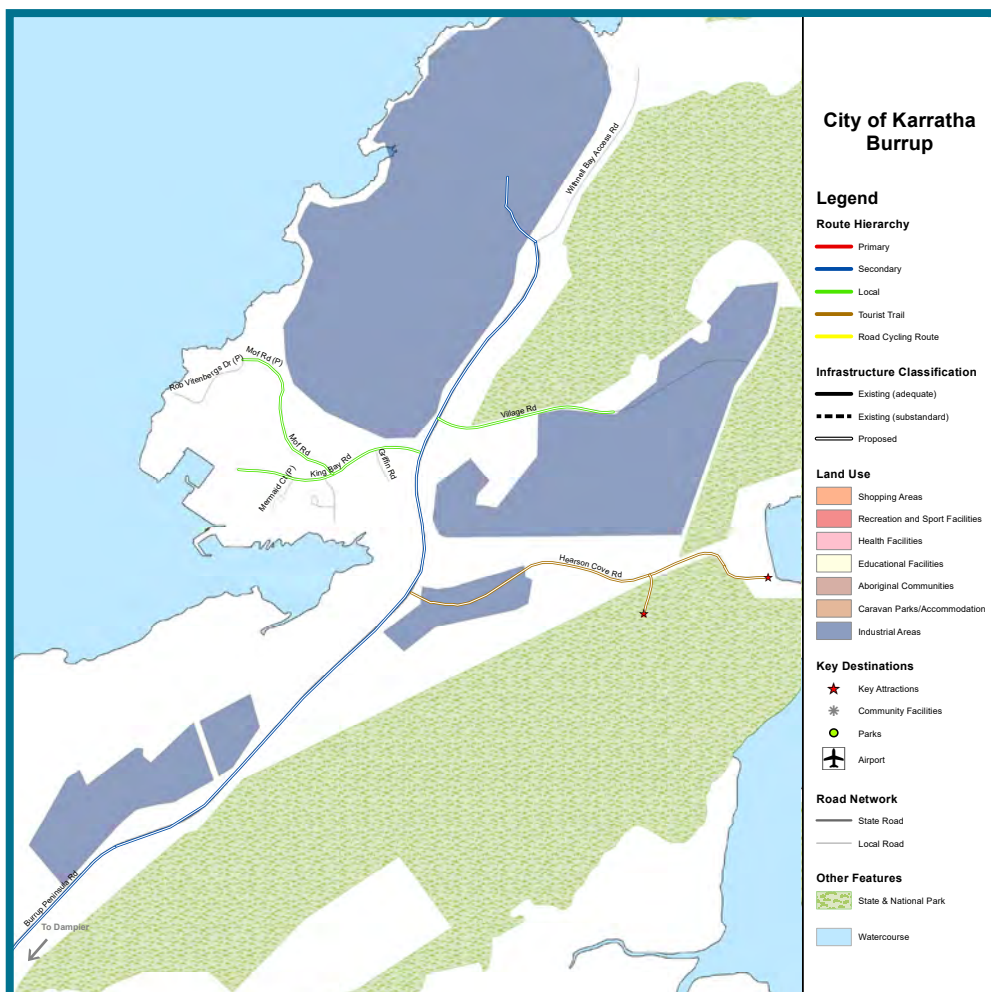


Figure 5.8 Overall 2050 cycling network for Burrup



Figure 5.9 Overall 2050 cycling network for Roebourne

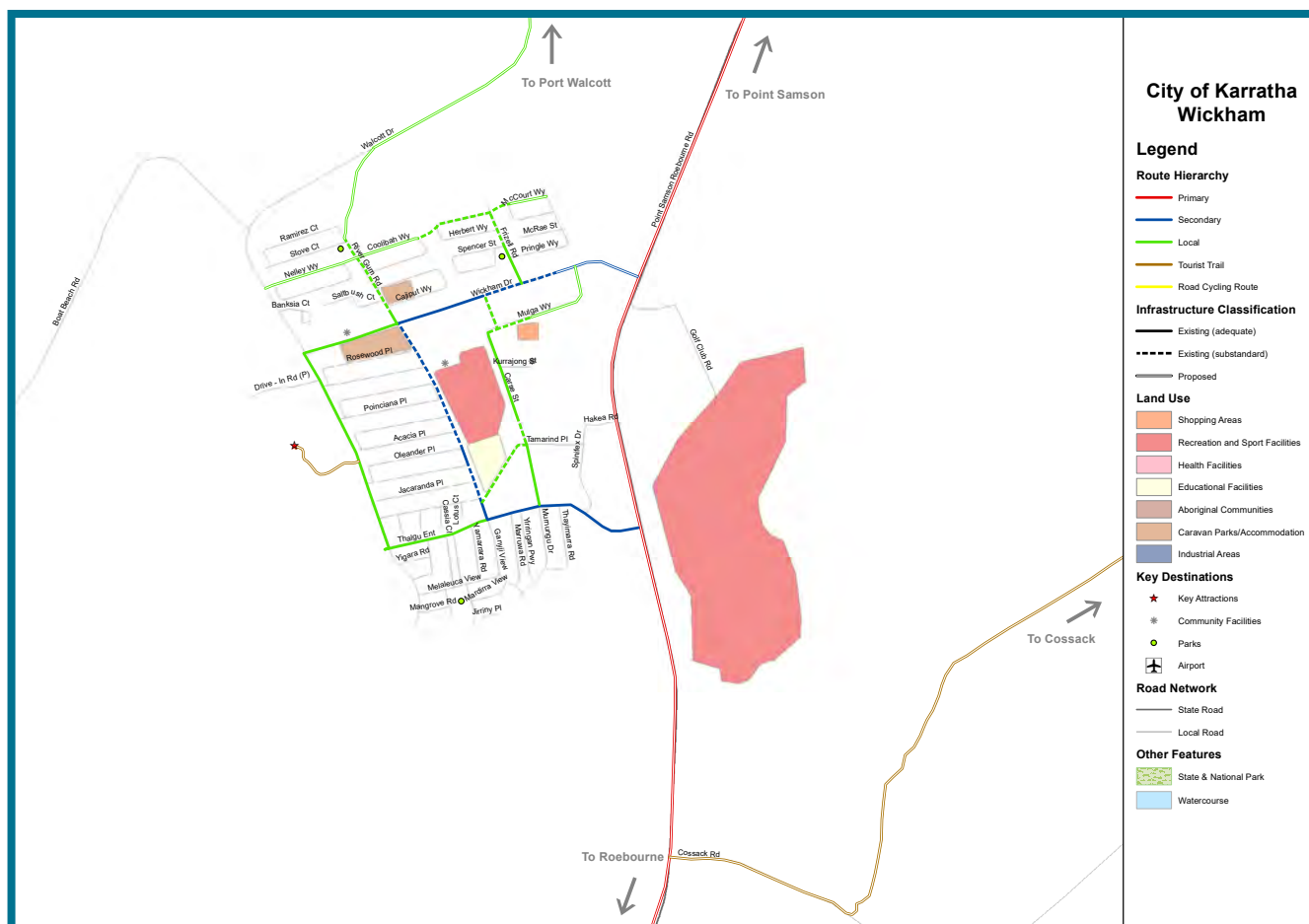


Figure 5.10 Overall 2050 cycling network for Wickham



Figure 5.11 Overall 2050 cycling network for Cossack



Figure 5.12 Overall 2050 cycling network for Point Samson

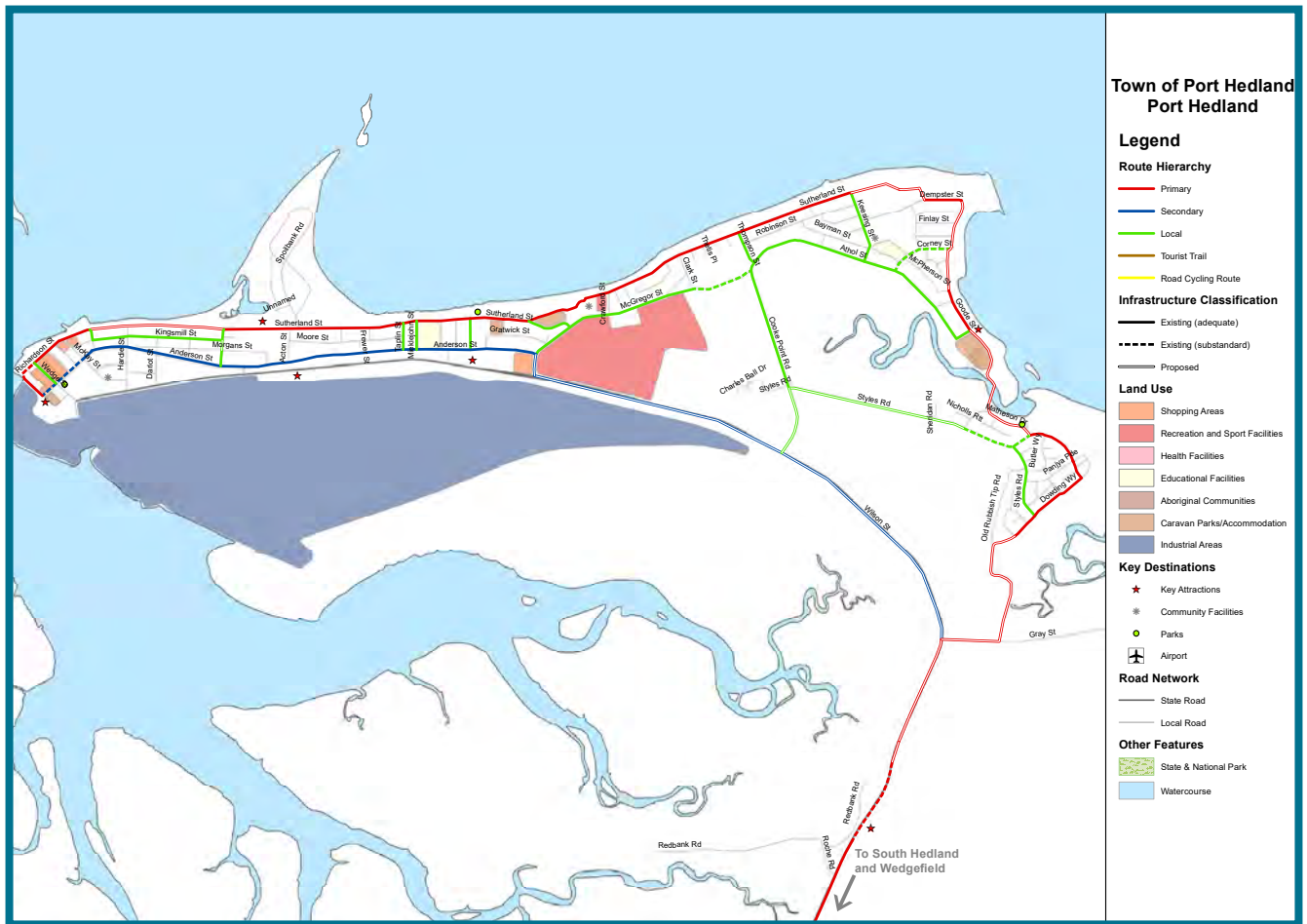


Figure 5.13 Overall 2050 cycling network for Port Hedland

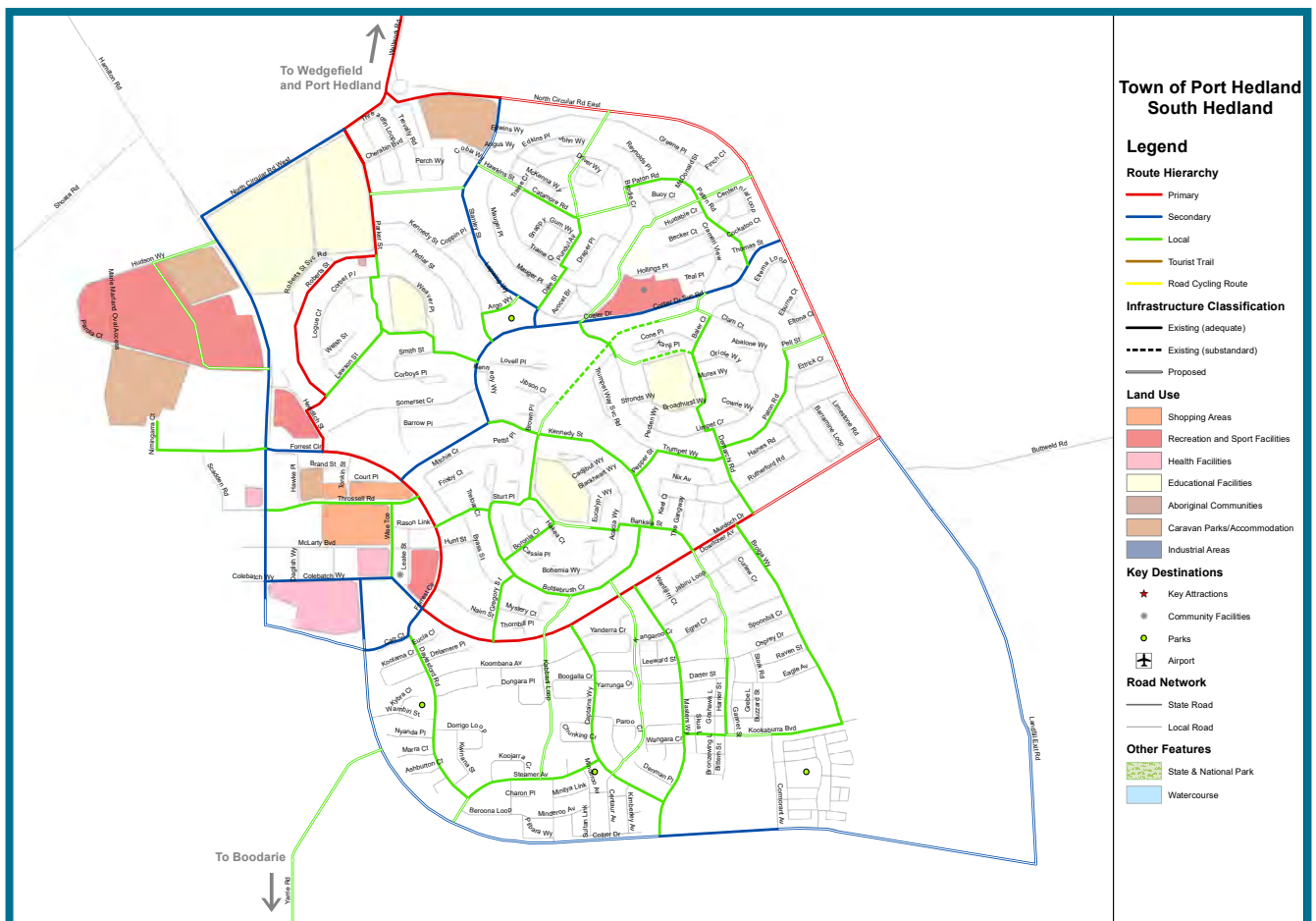


Figure 5.14 Overall 2050 cycling network for South Hedland

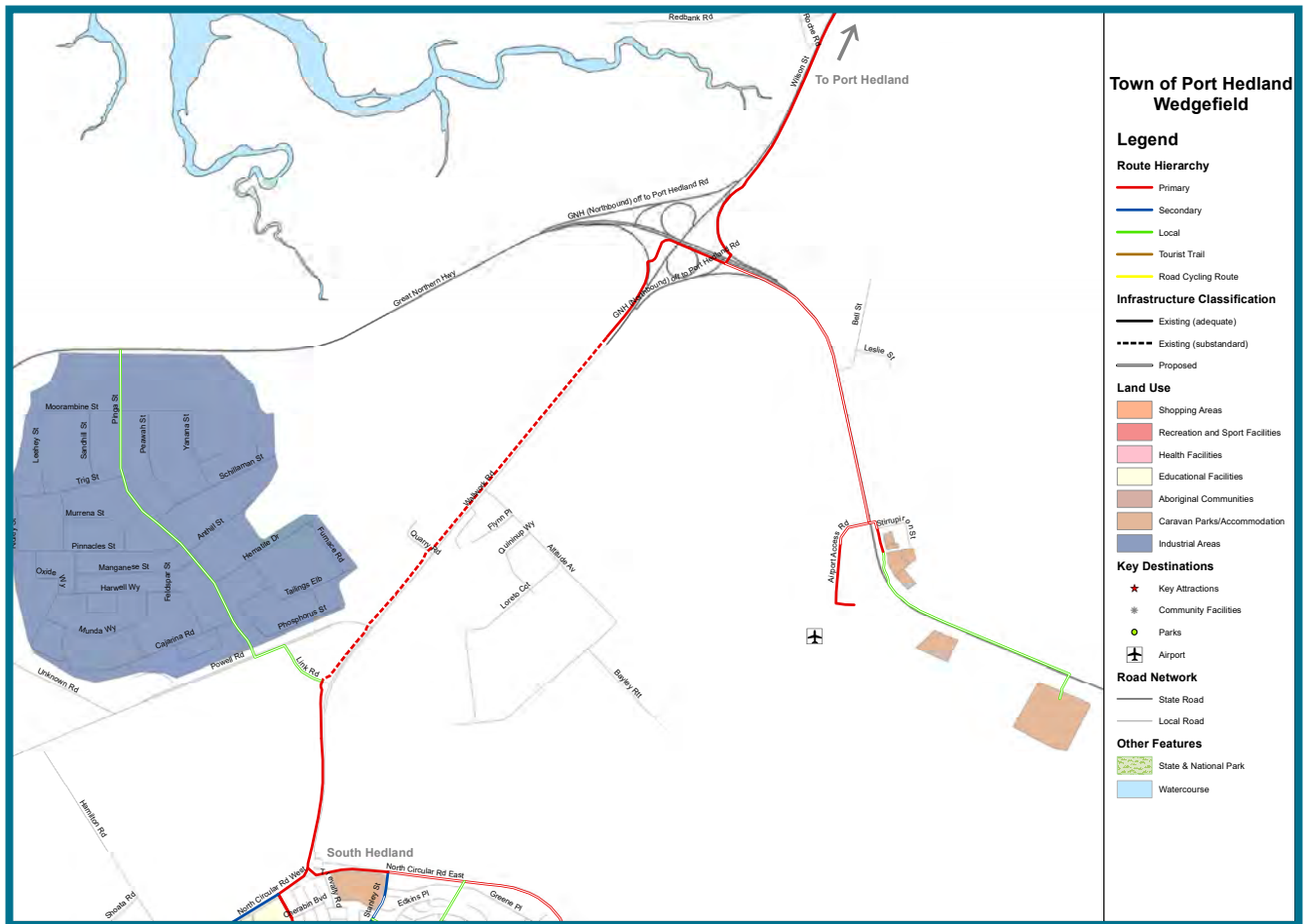


Figure 5.15 Overall 2050 cycling network for Wedgefield

5.2 Priority Projects

The following tables identify the strategic priorities for cycling in the Pilbara region over the next five years and are organised by financial year and local government area.

5.2.1 Shire of Ashburton

Ref	Action	Project Type	Objective / Justification	Hierarchy
2020-21				
A1	Tom Price – Boardwalk	Feasibility and design	Shire of Ashburton to undertake detailed feasibility study and prepare a design to develop a boardwalk link between Mine Road and Doradeen Road, where there are existing informal tracks. This project will be the first stage in a connection from Tom Price town centre to the Tom Price Tourist Park and Mine.	Local
A2	Tom Price – Oval Link	Construction	Shire of Ashburton to construct a path around the Clem Thompson Oval Block including Jacaranda Drive, East Road and Willow Road, extending the existing path on Stadium Road. Providing this path will support safe access to the numerous sport and recreation destinations on this block.	Local
A3	Tom Price – Area W Loop	Construction	To complete a missing link of the Area W Loop, Shire of Ashburton to extend the existing Killawarra Drive path to the north east, as well as constructing a path along Canberra Dr and Allambi Way to link to another existing segment of the loop.	Local
A4	Tom Price – Willow Rd/South Rd Link	Construction	In Tom Price, Shire of Ashburton to construct paths along South Road between Willow Road and Palm Road, and along Willow Road between South Road and the existing path at the eastern edge of the softball field. As part of this link the Shire is to formalise an existing informal track at the eastern boundary of the softball field between Willow Road and South Road.	Local
2021-22				
A5	Paraburdoo – Hospital to Information Bay	Construction	In Paraburdoo, Shire of Ashburton to construct a path connecting to the existing path at the hospital on Rocklea Road.	Local, Secondary
A7	Paraburdoo – Loop Fortescue Rd /Nickol Ave	Design and construction	In Paraburdoo, Shire of Ashburton to design and construct paths on Fortescue Road north of Channar Ave, Nickol Avenue, and Meharry Road, to connect to existing paths and create a complete loop around key destinations in the town.	Local

Ref	Action	Project Type	Objective / Justification	Hierarchy
2022-23				
A6	Onslow – Bidan St to Beadon Creek Harbour	Feasibility	In Onslow, Shire of Ashburton to undertake feasibility study to extend the Second Avenue path to run along Second Avenue and Beadon Creek Road, from Bidan Street to the Boat Ramp. This will provide connection between the Bindi Bindi Aboriginal Community, Caravan Park, Boat Ramp and Onslow town centre, as well as serving future development at Beadon Creek Harbour.	Local, secondary
A6	Onslow – Bidan St to Beadon Creek Harbour	Construction	Following feasibility study in the previous financial year, Shire of Ashburton to construct an extension to the Second Avenue path in Onslow, to run along Second Avenue and Beadon Creek Road, from Bidan Street to the Boat Ramp. This will provide connection between the Bindi Bindi Aboriginal Community, Caravan Park, and Onslow town centre, as well as serving future development at Beadon Creek Harbour.	Local, secondary

5.2.2 Shire of East Pilbara

Ref	Action	Project Type	Objective / Justification	Hierarchy
2020-21				
EP1	Extend Newman Drive (Fairways Estate to Fortescue Ave)	Design	Shire of East Pilbara to design an extension to the Newman Drive path from Fortescue Avenue to Fairways Estate. This link will connect residents with the main spine of Newman's cycling network, providing access to destinations and services.	Secondary
2021-22				
EP1	Extend Newman Drive (Fairways Estate to Fortescue Ave)	Construction	After completing the design process in the previous financial year, Shire of East Pilbara to construct an extension to the Newman Drive path from Fortescue Avenue to Fairways Estate. This link will connect residents with the main spine of Newman's cycling network, providing access to destinations and services.	Secondary
EP2	Calcott Crescent (Mindarra Dr to Calcott St)	Design	Shire of East Pilbara to design a path on Stojic Road between Mindarra Drive and Iron Ore Parade. This link will provide connection to a number of key community services and recreation destinations, including Puntukurnu Aboriginal Medical Service (PAMS), new development at Newman Hospital, Newman House, Leisure Centre and Shopping Centre.	Local

Ref	Action	Project Type	Objective / Justification	Hierarchy
2022-23				
EP2	Calcott Crescent (Mindarra Dr to Calcott St)	Construction	This link will provide connection to a number of key community services and recreation destinations, including Puntukurnu Aboriginal Medical Service (PAMS), new development at Newman Hospital, Newman House, Leisure Centre and Shopping Centre.	Local
EP3	Extend Kalgan Drive to Dump Truck (Daniels Drive to Great Northern Highway)	Design	Shire of East Pilbara to design an extension to the existing path on Kalgan Drive east of Daniels Drive. This path will provide access to the iconic Haul Pack truck display. This road forms part of the RAV network, and so separating riders and heavy vehicles will be an important consideration.	Secondary
EP4	Connect Newman Caravan Park to Kurra Street	Design	Shire of East Pilbara to design an extension to the existing path on Newman Drive north of Kurra Street to connect to the new caravan park.	Secondary
2023-24				
EP3	Extend Kalgan Drive to Dump Truck (Daniels Drive to Great Northern Highway)	Construction	This path will provide access to the iconic Haul Pack truck display. This road forms part of the RAV network, and so separating riders and heavy vehicles will be an important consideration.	Secondary
EP4	Connect Newman Caravan Park to Kurra Street	Construction	After completing the design process in the previous financial year, the Shire of East Pilbara is to construct an extension to the existing path Newman Drive north of Kurra Street to connect to the new caravan park.	Secondary
EP5	Radio Hill Lookout (Welsh Drive to the Lookout)	Design	Shire of East Pilbara to design a path along Radio Hill Lookout Road, from Welsh Road to the Lookout. The lookout is a noted destination for tourists and visitors to the area, as well as serving as a hub for local trails.	Local
2024-25				
EP5	Radio Hill Lookout (Welsh Drive to the Lookout)	Construction	After completing the design process in the previous financial year, Shire to construct a path along Radio Hill Lookout Road from Welsh Road to the Lookout. The lookout is a noted destination for tourists and visitors to the area, as well as serving as a hub for local trails.	Local

5.2.3 City of Karratha

Ref	Action	Project Type	Objective / Justification	Hierarchy
2020-21				
K1	Wickham to Point Samson	Feasibility	City of Karratha in collaboration with MRWA to conduct detailed feasibility for a connection between Wickham and Point Samson, including over Pope Nose Bridge. This path is expected to generally follow, but be separated from, Point Samson to Roebourne Road.	Primary
K2	Bulgarra – Bayview Road, Searipple Camp to ex High School site (bridges only)	Construction	The City of Karratha is to construct a bridge to connect Bulgarra to Bayview Road, as part of a two phase project.	Primary, Local
K3	Karratha, Dampier Highway to Welcome Road (and adjacent to Balmoral Road)	Design and construction	City of Karratha to design and construct a primary path connection along Dampier Highway and Millstream Road from Balmoral Road to Searipple Road, and continue this connection as a local path on Searipple Road between Dampier Road and Welcome Street.	Primary, Local
K4	Nickol, Tambrey Drive – Tambrey Pavilion to Bayview Road roundabout	Construction	City of Karratha to construct a new path on the southern side of Tambrey Drive, extending from the Tambrey Pavilion to the Bayview Road roundabout, which will pass Tambrey Primary School and connect to existing paths on Bayview Road.	Local
2021-22				
K5	Bulgarra, Bayview Road – ex High School site to Golf Club	Construction	As part of the second phase of the Bulgarra to Bayview Road project, the City will construct a footpath along the bridge.	Primary
K6	Bulgarra, Bayview Road – Maitland Road to Searipple path	Design and construction	City of Karratha to design and construct a path along Mystery Road, connecting to existing paths on at the Mystery Road and Maitland Road intersection, and Searipple Road. This connection will support a safe loop route around Karratha City Centre.	Primary
K7	Stove Hill/Karratha, De Witt Road – Dampier Highway to Coolawanyah Road	Feasibility	City of Karratha to conduct a feasibility study into a secondary path alongside DeWitt Road, between Dampier Highway and Coolawanyah Road, separated from traffic. This path would provide a connection between the Karratha City Centre and light industrial area.	Secondary

Ref	Action	Project Type	Objective / Justification	Hierarchy
2022-23				
K8	Baynton, Dampier Highway – Rosemary Road to Karratha Senior High School	Design and construction	City of Karratha to design and construct a path along Dampier Highway from Rosemary Road to Karratha Senior High School. The construction of this path will link the residential developments in Baynton to Karratha Senior High School, also passing North Regional TAFE. The path will also connect to existing paths which link to the Karratha Leisureplex.	Primary
K9	Gap Ridge, Dampier Highway – Bayview Road to Gap Ridge LIA (Exploration Drive)	Feasibility	In collaboration with asset owner MRWA, City of Karratha to conduct a feasibility study into the provision of a path linking the Karratha City Centre with the Gap Ridge Light Industrial Area. It is likely the path will align with Dampier Highway, between Bayview Road and Exploration Drive.	Primary
2023-24				
K10	Roebourne, Sholl Street to Roe Street	Design and construction	The City to design and construct an extended path in Roebourne, to connect Sholl Street to Roe Street. This will close the gap between the two streets, creating a continuous path.	Local
K11	Millars Well, Bathgate Road – existing path Gawthorne Drive to Bayview road	Design and construction	In Karratha, City of Karratha to design and construct a path along Bathgate Road between Gawthorne Drive and Bayview Road, to connect to existing paths. Filling this gap in the network will connect residents to higher order cycling infrastructure and additional local destinations.	Local
K12	Wickham, Wickham Drive – adjacent to Mulga Way	Design and construction	The City to design and construct an extended path as an extension to the infrastructure that already existing. This will allow for a connection from Wickham Drive to Mulga Way.	Local
K13	Karratha, Delambre Drive – Tambrey Drive roundabout to Smith Delambre Park	Design and construction	In Karratha, City of Karratha to design and construct a path along Delambre Drive between Tambrey Drive and Smith Delambre Park, to connect to existing paths. Filling this gap in the network will connect residents to higher order cycling infrastructure and additional local destinations.	Local
K19	Karratha On-Road Cycling Loop	Feasibility	In Karratha, the City is to prepare a feasibility study for improvements to develop road cycling loop along Dampier Highway, Bayview Road, Maitland Road and Millstream Road.	Road Cycling

Ref	Action	Project Type	Objective / Justification	Hierarchy
2024-25				
K14	Roebourne, Cleaverville Road – Andover Way to Harding Road	Design and construction	In Roebourne, City of Karratha to design and construct paths on Cleaverville Road between Andover Way to Harding Road, these paths will help connect north western residences to key City destinations, including the aquatic centre and primary school.	Primary, Local
K15	Wickham, Nelley Way – River Gum Road to Walcott Drive	Design and construction	In Wickham, City of Karratha to design and construct a path on Nelley Way between Walcott Drive and River Gum Road, to connect to existing paths on River Gum Road. This path will support local connectivity in the town's residential areas, including the park at the corner of Stove Ct and River Gum Road.	Local
K16	Roebourne, Hampton/Queen Street – Hampton Street to Sholl Street	Design and construction	The City of Karratha to design and construct a path, in addition to the existing infrastructure, which will connect Hampton Street to Sholl Street.	Local
K17	Madigan Road and North West Coastal Highway Seal Widening	Planning and liaison	MRWA to investigate seal widening on Madigan Road and North West Coastal Highway to support safe road cycling on the identified road cycling loop.	Road Cycling
K18	Roebourne, Crawford Way – Crawford Way to Todd Street	Design and construction	The City to design and construct an extended path in Roebourne, to create a connection between Crawford Wat and Todd Street.	Local

5.2.4 Town of Port Hedland

Ref	Action	Project Type	Objective / Justification	Hierarchy
2020-21				
P1	Port Hedland Coastal Cycling – Cooke Point to Pretty Pool Section	Feasibility	Town of Port Hedland to undertake a detailed feasibility study to construct a pedestrian bridge and boardwalk connecting Cooke Point and Pretty Pool. The path will facilitate coastal loop rides and improve access to Pretty Pool.	Primary
P2	Port Hedland to South Hedland Link – Wilson Street Redbank Bridge to Cooke Point Road Section	Planning and construction	Town of Port Hedland, in collaboration with MRWA, to undertake feasibility study, design and construct a separated shared path on Wilson Street between Redbank Bridge and Cooke Point Road as part of the planned duplication works.	Primary

Ref	Action	Project Type	Objective / Justification	Hierarchy
cont.				
P3	Port Hedland to South Hedland Link – Wilson Street from Cooke Point Road to McGregor Street Section	Feasibility and design	Town of Port Hedland, in collaboration with MRWA, to undertake feasibility study and develop design for a separated shared path on Wilson Street as part of the planned duplication works, as well as a segment of McGregor Street (between Wilson Street and Anderson Street).	Primary
P4	Port Hedland to South Hedland Link – Wilson Street and Pretty Pool Section	Feasibility and design	Town of Port Hedland to undertake feasibility study and prepare designs for a shared path link between Pretty Pool and Wilson Street, potentially via an existing track used between Grey Street and Dowding Way. This will link the proposed route on Wilson Street with the bridge connecting Pretty Pool and Cooke Point, and the coastal path.	Primary
P6	Port Hedland Coastal Cycling Route – Richardson Street to Sutherland Street Section	Planning and construction	Town of Port Hedland to undertake feasibility, design and construct a shared path connecting Richardson Street to Sutherland Street along an existing unconstructed road reserve.	Primary
2021-22				
P7	Port Hedland Coastal Cycling – Sutherland Street to Dempster Street Section	Feasibility	Town of Port Hedland to construct a path along the coast, joining Sutherland street with Dempster Street. This will connect two existing segments of path, and contribute to the development of a continuous coastal route from the town centre to Pretty Pool.	Primary
P9	Port Hedland Airport Link – Interchange to Airport Section	Feasibility and design	In collaboration with MRWA, Town of Port Hedland to undertake feasibility study and design for a shared path linking the Port Hedland Airport with the existing shared path at the Wedgefield interchange. This project will provide access to the Airport and Walkabout Hotel complex.	Primary
P10	Port Hedland Airport Link – Airport to Mining Camp Section	Design	In collaboration with MRWA, Town of Port Hedland to design a path connecting the Port Hedland Airport with nearby mining accommodation camps.	Secondary
P15	South Hedland Loops – North Circular Drive to Cottier Street Drainage Link	Design	Town of Port Hedland to design an appropriate local connection along the drainage swale between Cottier Drive and North Circular Drive. This will provide connection to development at the JD Hardie Youth Zone, as well as connecting to higher order routes.	Local

Ref	Action	Project Type	Objective / Justification	Hierarchy
cont.				
P3	Port Hedland to South Hedland Link – Wilson Street section	Construction	Town of Port Hedland, in collaboration with MRWA, to construct a shared path along Wilson Street to complete the connection between Port Hedland and South Hedland.	Primary
P4	Port Hedland to South Hedland Link – Wilson Street to Pretty Pool Section	Construction	Town of Port Hedland to construct a shared path linking Pretty Pool to Wilson Street, along the alignment identified in the feasibility study.	Primary
P8	Port Hedland Coastal Cycling – Goode Street Section	Construction	Town of Port Hedland to construct a coastal path segment on Goode Street between Corney Street and McPherson Street, to link the existing Goode Street coastal paths.	Primary
2022-23				
P12	South Hedland Loops – North Circular Road to Cottier Drive Section	Design	Town of Port Hedland to develop design to connect to the existing path at North Circular Road and continue eastwards between Stanley Street and Cottier Drive. The path will contribute to establishing a loop route around the South Hedland centre, connecting residents to a route that accesses the town centre, as well as recreational opportunities	Primary
P13	South Hedland Loops – North Circular Road, Cottier Drive to Murdoch Drive	Design	Town of Port Hedland to prepare a design to connect to the existing path at North Circular Road and continue eastwards between Cottier Drive and Murdoch Drive. The path will contribute to establishing a loop route around the South Hedland centre, connecting residents to a route that accesses the town centre, as well as recreational opportunities.	Primary
P9	Port Hedland Airport Link – Interchange to Airport Section	Construction	In collaboration with MRWA, likely to be considered as part of MRWA's Great Northern Highway realignment north of Port Hedland Airport, Town of Port Hedland to construct a shared path linking the Port Hedland Airport with the existing shared path at the Wedgefield interchange. This project will provide access to the Airport and Walkabout Hotel complex.	Primary
P14	South Hedland Loops – Murdoch Drive, North Circular Road to Brolga Way Section	Construction	Town of Port Hedland to construct a path along Murdoch Drive, which will connect the existing path on Murdoch Drive to paths being designed (P12 and P13) as part of this same financial year, contributing to a loop route connecting residents with the South Hedland activity centre.	Primary

Ref	Action	Project Type	Objective / Justification	Hierarchy
cont.				
P15	South Hedland Loops – North Circular Drive to Cottier Street Drainage Link	Construction	Following design in 2021-22, Town of Port Hedland to construct a path connecting Cottier Drive and North Circuit via the existing drainage swale.	Local
2023-24				
P11	Wedgefield LIA – Pinga Street	Design and construction	Town of Port Hedland to design and construct a path on Link Road and Pinga Street that connects to the existing shared path on Wallwork Road, providing access to the Wedgefield area.	Secondary
P16	South Hedland Loops – Collier Drive, Masters Way to Steamer Avenue Section	Design	Town of Port Hedland to design a path on Collier Drive between Masters Way and Steamer Avenue, developing a loop around the urban core of South Hedland	Secondary
P17	South Hedland Loops – Collier Drive, Steamer Avenue to Carr Court Section	Design	Town of Port Hedland to design a path on Collier Drive between Steamer Avenue and Carr Court, developing a loop around the urban core of South Hedland and connecting to the existing paths on Collier Drive north of Carr Street.	Secondary
2024-25				
P5	Port Hedland to South Hedland Links – Wallwork Road Upgrade	Construction	Town of Port Hedland to upgrade existing older segment of shared path on Wallwork Road, between Pinga Street and the Wedgefield Interchange, to a similar standard as the remainder of the Port to South Hedland Link.	Primary
P10	Port Hedland Airport Link – Airport to Mining Camp Section	Construction	Following design in financial year 2021-22, Town of Port Hedland to construct a path connecting the Port Hedland Airport with surrounding mining accommodation camps and providing additional connection to Port Hedland Town Centre and South Hedland.	Secondary
P16	South Hedland Loops – Collier Drive, Masters Way to Steamer Avenue Section	Construction	Following design in the previous financial year, Town of Port Hedland to construct a path on Collier Drive between Masters Way and Steamer Avenue, developing a loop around the urban core of South Hedland .	Secondary
P17	South Hedland Loops – Collier Drive, Steamer Avenue to Carr Court Section	Construction	Following design in the previous financial year, Town of Port Hedland to construct a path on Collier Drive between Steamer Avenue and Carr Court, developing a loop around the urban core of South Hedland and connecting to the existing paths on Collier Drive north of Carr Street.	Secondary

5.2.5 Social infrastructure and capacity building activities (all local governments)

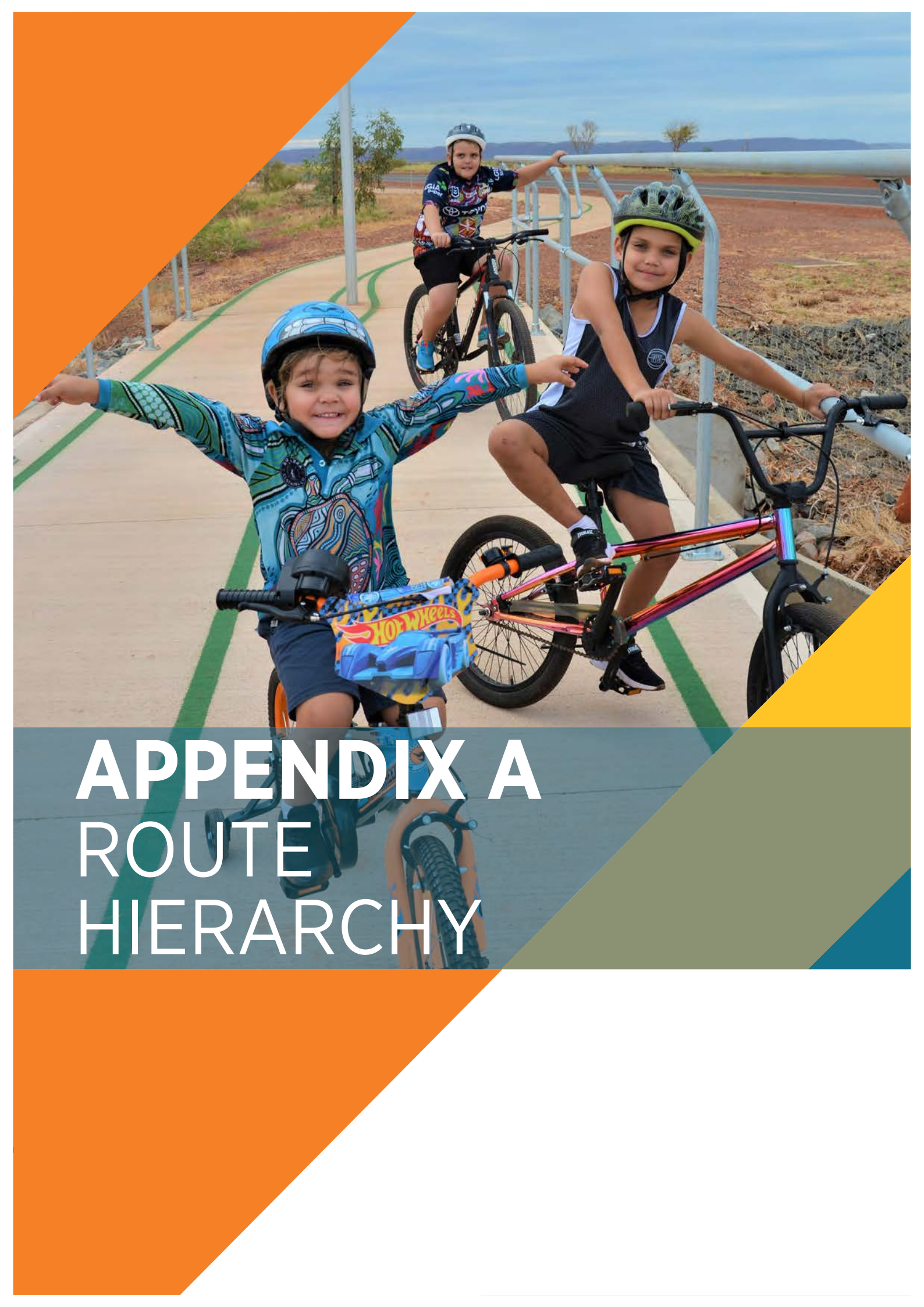
Ref	Action / Type	Objective / Justification
Ongoing		
G1	Your Move Local Government Program and community activities, including Bike Month	Local governments to give consideration to role modelling adoption of cycling in the community through signing up to the Your Move Local Government Program and/or delivering community bike riding and Bike Month activities.
G2	Your Move School and Workplace Programs	Local governments and DoT to encourage local schools and workplaces to run cycling activities and improve soft infrastructure (including mid-and-end-of-trip facilities) through available Connecting Schools Grants and Your Move Program engagement.
G3	Community skills building and social inclusion	Local governments and DoT to promote and support community cycling programs, with a focus on skills building and social inclusion.
G4	Mapping and promoting safe routes to school	Mapping of safe routes to school to be undertaken as practical to enable more active travel to school. Consideration to be given to Your Move resources, including the Safe Routes to School Stencil Art Activity and Creation of an Access Guide.
G5	Cycle network activation	Local governments to consider initiatives in line with new bicycle infrastructure delivery, working to leverage greater cycle participation on and around key cycle routes.
G6	Cycle network monitoring and evaluation	Local governments to undertake monitoring and evaluation of new bicycle infrastructure to measure impact and ensure facilities are well maintained.
G7	Supporting cycle tourism and trails development	Local governments and DoT to work DLGSC, DBCA, Tourism WA and other relevant agencies to support the development and promotion of cycle trail and tourism projects.
G8	Developing cycling sport and recreation facilities	Local governments to consider applying to the Community Sporting and Recreation Facilities Fund (CSRFF) to develop local facilities.

5.3 Plan Maintenance

Progress on the priority actions identified in Section 5 of this strategy will be reported to DoT on an annual basis by local government.

The Pilbara 2050 cycling network should remain consistent over the medium term. A review of the overarching strategy document every 8-10 years will allow new opportunities to be identified and incorporated into a revised document.

The strategic priorities will be reviewed every five years to ensure current conditions are reflected and relevant projects are prioritised. This review will include reassessing each route's classification as either existing (adequate), existing (needs improving), or non-existent (proposed) and updating the existing network maps.



APPENDIX A

ROUTE HIERARCHY

A1. ROUTE HIERARCHY SUMMARY

Network Principles

The Western Australian Cycling Network Hierarchy designates routes by their function, rather than built form. Function considers the type of activities that take place along a route, and the level of demand (existing and potential). The built form of a route is based on the characteristics of the environment, including space availability, topography, traffic conditions (speed, volumes), primary users, and so on.

When considering appropriate built forms for primary, secondary and local routes, an all ages and abilities design philosophy should be adopted.

	1. PRIMARY ROUTE	2. SECONDARY ROUTE	3. LOCAL ROUTE
Function	Primary routes are high demand corridors that connect major destinations of regional importance. They form the spine of the cycle network and are often located adjacent to major roads, rail corridors, rivers and ocean foreshores. Primary routes are vital to all sorts of bike riding, including medium or long-distance commuting / utility, recreational, training and tourism trips.	Secondary routes have a moderate level of demand, providing connectivity between primary routes and major activity centres such as shopping precincts, industrial areas or major health, education, sporting and civic facilities. Secondary routes support a large proportion of commuting and utility type trips, but are used by all types of bike riders, including children and novice riders.	Local routes experience a lower level of demand than primary and secondary routes, but provide critical access to higher order routes, local amenities and recreational spaces. Predominantly located in local residential areas, local routes often support the start or end of each trip, and as such need to cater for the needs of users of all ages and abilities.
Design Philosophy	An <u>all ages and abilities</u> design philosophy is about creating places and facilities that are safe, comfortable and convenient for as many people as possible. By planning for and designing infrastructure that caters for the youngest and most vulnerable users, we create a walking and bike riding network that everyone can use. At the heart of this approach is fairness and enabling all people to use the network regardless of age, physical ability or the wheels they use.		
Form	All routes can take a number of different forms and are designed to suit the environment in which they are located. These forms include: <ul style="list-style-type: none"> • Bicycle only, shared and/or separated paths; • Protected bicycle lanes (uni or bi-directional, depending on the environment); and • Safe active streets Principal Shared Paths (PSPs) are often built along primary routes. A PSP is a high quality shared path built to MRWA PSP standard which generally means the path will be 4m wide, have adequate lighting and be grade separated at intersections (where possible). In some locations, quiet residential streets incorporating signage and wayfinding may be appropriate for local routes.		

Road Cycling Routes and Transport Trails form part of the complementary network, supporting more select user groups, primarily for recreational, sport and/or tourism purposes.

	ROAD CYCLING ROUTE	TRANSPORT TRAIL
Function	Road cycling routes are designated routes for bike riders undertaking long distance rides in (predominantly) on-road environments, for training, sports or recreational purposes.	Transport trails provide long-distance, off-road (predominantly unsealed) riding experiences through natural settings, away from motorised traffic. They often support recreational and tourism trips between towns and regions.
Form	Road cycling routes are predominantly located on lower order, rural or semi-rural roads on the outskirts of cities and towns. Sections may follow busier roads, particularly as road cycling routes typically begin and end in built up areas and often follow scenic roads popular with other road users. These routes support bike riders undertaking challenging longer distance rides by raising awareness and encouraging safe behaviour by all road users. This is achieved through advisory signage, warning technology and other road safety initiatives.	Transport trails are typically located within underutilised transport and service corridors in rural areas. Due to their relatively gentle gradients, former railways and certain utility corridors make excellent candidates for these trails. Transport trails should be constructed from materials appropriate to the environment and level of service required. Well drained, compacted gravel with supporting infrastructure such as wayfinding signage is a common form. In some instances transport trails will be sealed, such as where they intersect with busy roads or run through town sites. They will often change classification to a primary or secondary route when they pass through a town, reflecting the more holistic role they perform in the transport network in these situations.

Other supporting cycling infrastructure – footpaths

Footpaths	<p>Since April 2016 all cyclists, irrespective of age, are permitted to ride on footpaths in Western Australia (unless otherwise signposted). Footpaths support low speed, low volume cycling, and are particularly important for young and inexperienced user groups.</p> <p>However there are some reasons why people choose to not ride on footpaths. These include:</p> <ul style="list-style-type: none"> - Speed: Footpaths are rarely afforded priority across intersecting side roads, riding on footpaths is slow, and stop-start. The geometric design of footpaths at many intersections often results in cyclists needing to deviate from their intended desire lines. - Ride quality: As footpaths are typically constructed from concrete slabs or bricks, the ride quality is lower than that of parallel roadways, or purpose-built (asphalt) shared paths. - Blind driveways: Riding on footpaths can be dangerous, particularly on streets which contain large numbers of driveways. At walking speed this isn't normally a problem however for cyclists it is often impossible to see reversing vehicles until the last minute, particularly where paths butt-up against property boundaries. <p>Despite footpaths not forming part of the official cycling network, it is important that developers and local governments design, construct and maintain footpaths that provide a safe alternative for people who prefer to ride at low speeds and away from motorised traffic.</p>
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Figure A.1 Poor ride quality, parked vehicles, blind driveways and unfavourable intersection designs make riding on footpaths unattractive for many people.

Other supporting cycling infrastructure – roads without dedicated cycling infrastructure

Roads without dedicated cycling facilities	<p>Cyclists are, and will continue to remain, legitimate users of all roads in Western Australia (with the exception of freeways and controlled access highways). It is important to remember that roads without purpose-built cycling facilities serve an important function for some cycling journeys. Wayfinding signage can be a valuable tool to direct cyclists (particularly novice cyclists) to the most suitable streets or corridors.</p>
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A2. INTER-MODAL HIERARCHICAL PRIORITISATION

In Western Australia, it is common practice for off-road active transport infrastructure (footpaths, shared paths, bicycle paths) to terminate at minor road intersections. This lack of priority can significantly impact network continuity, reduce the attractiveness of off-road paths and ultimately, disadvantage people who choose to ride or walk.

High-order active transport routes should not stop and start by default each time they intersect with a low-order road. Consideration should be given to the relationship between the route within the functional Cycling Network Hierarchy, and the intersecting road within the MRWA road hierarchy. We call this 'inter-modal hierarchical prioritisation' or 'I'M-HiP' for short.

The Department of Transport encourages priority across minor roads for people riding and walking, where safe to do so.

Local Context

Where active transport infrastructure crosses minor roads, intersections should be designed in a manner that ensures safe use by everyone. This means:

- Both people driving and those on the path are aware of the existence of the crossing, and the priority that applies; and
- The location and design of the crossing, and the priority adopted, does not put people, whether on the road or on the path, at risk when turning.

Application

The local appropriateness of continuing active transport infrastructure and/or surface treatments through intersections should be considered, and road infrastructure should not automatically sever path infrastructure as a standard intersection treatment.

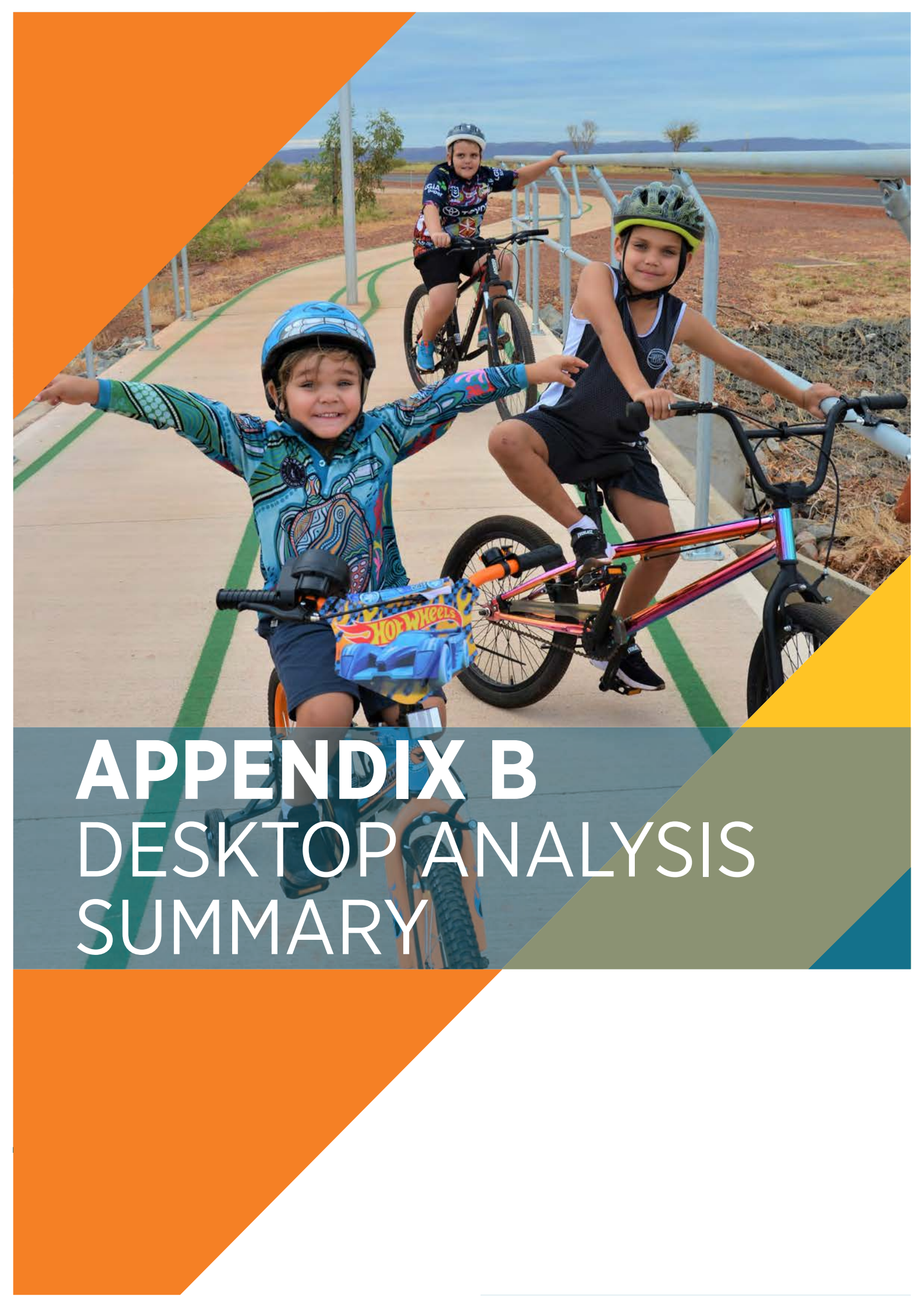
Primary bicycle route bisected by minor access road (Wellington Street, Perth, WA)



Primary bicycle route maintaining priority over access road (Bourke Street, Sydney, NSW)



Note: For further guidance on applying priority at intersections, please refer to Department of Transport – Planning and Designing for Bike Riding in Western Australia: Shared and Separated Paths.



APPENDIX B

DESKTOP ANALYSIS

SUMMARY

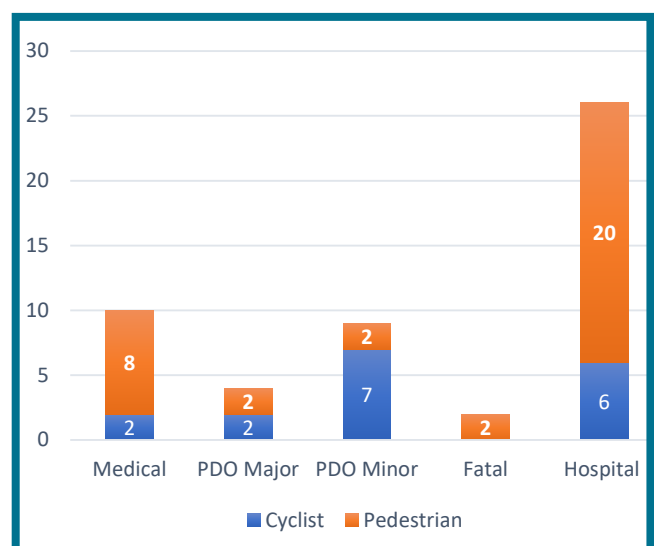
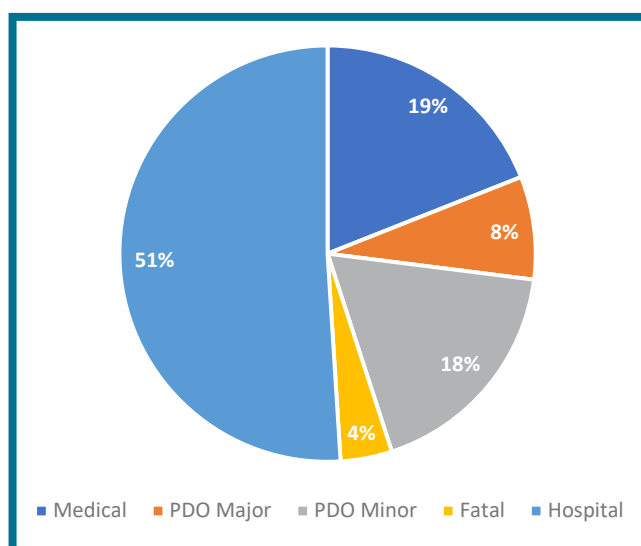
B1. ANALYSIS OF PEDESTRIAN AND CYCLIST CRASH DATA (2015-2019)

Analysis was undertaken of the location of cyclist and pedestrian crashes occurring in the Shires of Ashburton and East Pilbara, City of Karratha and Town of Port Hedland. Figure B1.1 provides a breakdown of these crashes by severity (based on figures from 2015-2019).

On reviewing the crash data, the following findings were noted:

- Two (2) fatal crashes were recorded within a five-year period, both involving pedestrians.
- There are more recorded pedestrian crashes (34) than cyclist crashes (17).
- There were several major clusters of pedestrian and cyclist crashes along key/busy roads, including:
 - Baynton Drive (Karratha);
 - Dampier Road (Karratha);
 - Forrest Circle (South Hedland);
 - Great Northern Highway;
 - Hamilton Road (South Hedland); and
 - Murdoch Drive (South Hedland).

- There were six (6) reported crashes where cyclists required hospitalisation and a further two (2) where cyclists required some form of medical attention.
- As mentioned above, the available data set covers the period between 2015 and 2019 only. It also only captures reported incidents. Currently there is no reliable data available on near misses, accidents between cyclists and pedestrians, or single cyclist crashes in the Pilbara. It has been estimated that cycling incidents reported to WA Police make up only 20 per cent of all cycling related incidents that result in hospitalisation.



Notes: "PDO" refers to "Property Damage Only"

Figure B1.1 Pedestrian and bicycle crashes by severity

B2. ANALYSIS OF GPS TRAVEL DATA

The GPS mapping tool, Strava Labs, was employed to better understand which parts of the Pilbara road and path networks are most heavily utilised by cyclists.

Strava is a website and mobile app used to track athletic activity via GPS. Despite the usefulness of this information, it should be noted that GPS travel data is typically representative of people who cycle for training or high-intensity recreational purposes.

The following trends/generalisations were noted with respect to the GPS travel data:

- High levels of cycling activity along existing coast line paths, including:
 - Seaview Drive in Onslow, Shire of Ashburton;
 - Sutherland Street in Port Hedland, Town of Port Hedland;
 - Boat Beach Road, between Wickham and Point Walcott, City of Karratha; and
 - The Esplanade in Dampier, City of Karratha.
- Evidence of long-distance cycling using:
 - Karijini Drive between Tom Price and Karijini National Park;
 - Tom Price-Paraburdoo Road, with small numbers of cyclists recorded using the route between Tom Price and Paraburdoo;
 - Marble Bar Road for a distance from Newman, for road cycling; and
 - Great Northern Highway between Newman and Coolbina Road (and back), in line with road cycling routes reported by the community during consultation.
- Karratha, Port Hedland and Newman were the most popular locations for cycling, which likely relates to their position as the largest population centres. Popular routes within these towns included:
 - Bayview Road and Dampier Road in Karratha, connecting the Karratha town centre with the Karratha Light Industrial Area, as well as Dampier town centre and the Burrup Peninsula;
 - Anderson Street, Sutherland Street and Wilson Street in Port Hedland were the most used; and
 - Great Northern Highway and Newman Drive in Newman were the most used, with Newman Drive being a key spine through the town, and Great Northern Highway likely being used for longer distance tourism or training rides.
- Mountain biking is clearly popular, with many of the highest-frequency routes relating to this type of cycling, including south the Karratha city centre, the Newman TV Transmission site to the north east of the townsite.

Tools such as Strava Labs assist in understanding existing demand patterns for cycling across different regions/areas.

B3. DOCUMENT REVIEW

A number of documents have been considered as part of the background review. This includes, but is not limited to:

- Austroads National Cycling Strategy (2010)
- Cycling Aspects of Austroads Guides (2017)
- Main Roads WA Policy for Cycling Infrastructure (2000)
- State Planning Policy 2.6 – Coastal Planning (2003)
- State Planning Strategy 2050 (2014)
- Western Australian Mountain Bike Strategy 2015-2020 (2015)
- Western Australian Strategic Trails Blueprint 2017-2021 (2017)
- Western Australian Cycle Tourism Strategy (2018)
- Pilbara Development Commission: Pilbara Regional Investment Blueprint Summary Report (2015)
- Town of Port Hedland, Cycle Plan (2008)
- Austroads National Cycling Strategy (2010)
- Shire of Ashburton, Cycle Plan 2010 – 2015 (2010)
- Shire of East Pilbara, Pathways and Trails Strategy 2012 – 2017 (2012)
- Shire of Roebourne , Future Works Report: Footpaths 2013-2023 (2013)
- Shire of Roebourne, Trails Master Plan (2013)
- Town of Port Hedland, Trails Masterplan (2013)
- City of Karratha Footpath Strategy, 2018 – 2028 (2018)
- City of Karratha, Footpath Lighting Strategy (2019)
- Town of Port Hedland, Parks and Paths Strategy 2018 (draft)
- Shire of Roebourne, Sport, Recreation and Leisure Strategic Plan (2013)
- Shire of East Pilbara, Newman Recreation Masterplan (2014)
- City of Karratha, Strategic Community Plan 2016-2026 (2016)
- Shire of Ashburton, Strategic Community Plan 2017-2027 (2017)
- Town of Port Hedland, Strategic Community Plan 2018-2029 2018 – 2028 (2018)
- Shire of East Pilbara, Strategic Community Plan 2018-2028 (2018)
- City of Karratha, Local Planning Strategy (2015)
- Shire of Ashburton, Local Planning Strategy (2018)
- Shire of East Pilbara, Local Planning Strategy (2016)
- Town of Port Hedland, Local Planning Strategy (2012)



APPENDIX C COMMUNITY AND STAKEHOLDER CONSULTATION

C1. ENGAGEMENT OVERVIEW

An engagement strategy was developed in partnership with the four local governments of the Pilbara region, designed to maximise input from the local community and stakeholders.

C1.1 Objectives

The objectives of community and stakeholder engagement included:

- Disseminate information to stakeholders, residents and visitors to raise their awareness of the project.
 - Increase understanding of the regional cycling strategy, including its context, aims, opportunities and constraints.
 - Collect feedback from stakeholders, residents and other impacted groups to inform project development and ensure that outcomes meet the needs of the people impacted.
- Engagement outcomes sought:
- Identify any existing barriers and constraints to the uptake of cycling as a transport mode.
 - Discover initiatives that would support people to cycle more frequently.
 - Establish the themes, opportunities and projects that are most prioritised by the community.
 - Develop aspirational, big picture ideas for the future of cycling in the Pilbara region.
- Provide updates about the community consultation outcomes, to keep stakeholders informed.

C1.2 Engagement Overview

With support from the four Pilbara Shires, DoT ran an engagement across the region in October 2019 with communities and stakeholders to increase awareness and understanding of the project and collect feedback to inform the development of the strategy. Information on the project and opportunities to offer feedback were provided via the online My Say Transport engagement platform and in hard copy at drop-in sessions and Shire Administration Centres.

6 drop-in sessions were held in Onslow, Tom Price, Port Hedland, South Hedland, Wickham and Karratha, and the Project Team was also contactable by phone throughout the engagement. Information provided included:

- An overview of the regional cycling strategy and its purpose, scope and delivery timeframe.
- Preliminary network maps for each Shire (with various town sites covered).
- Major themes each sub-region, focusing on opportunities to promote bike riding and support local outcomes.

Feedback was gathered via a number of channels:

- Interactive online maps
- A short survey (online and in hard copy)
- An online forum
- Face-to-face at drop-in sessions
- Meetings with local groups and stakeholders
- Phone calls made to the Project Team

Participants were encouraged to identify their existing cycling routes, as well as any constraints they faced in cycling in the region, and ideas for expanding or improving the existing network.

The engagement was promoted through various Department of Transport and local government media, and via direct contact with a wide range of local stakeholder groups who promoted the sessions and online engagement platform to their internal networks.

Over 130 people engaged online and in-person and over 80 organisations were contacted directly.



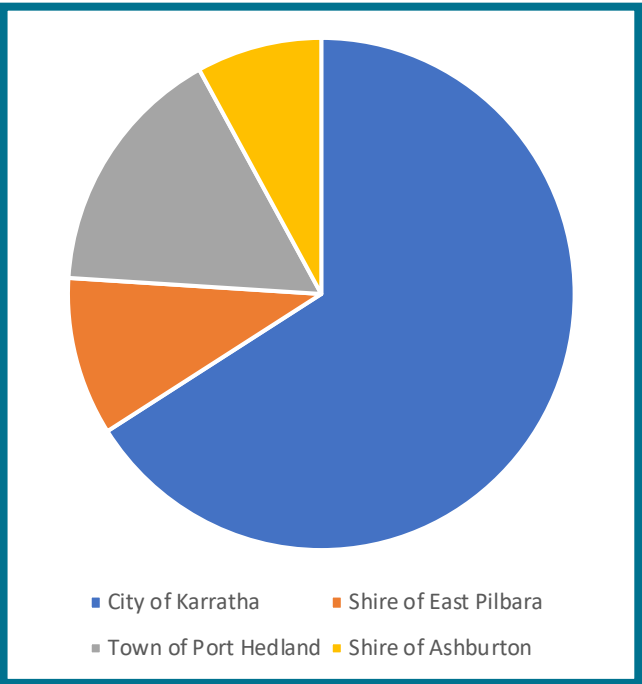
Consultation promotional banner

C2. COMMUNITY COMMENT SUMMARY

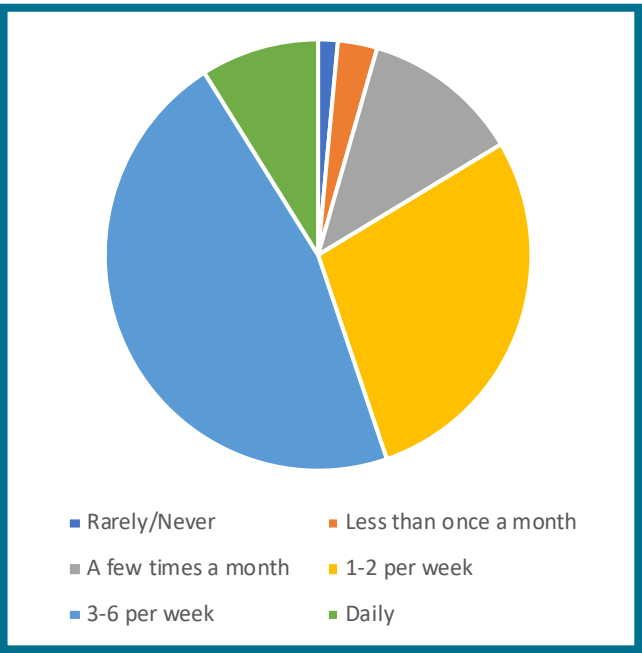
C2.1 Survey Results Summary

Primary questions and responses are listed below.
Note: responses to questions with open answers are not listed as they cannot be graphed. These responses were analysed and grouped by theme.

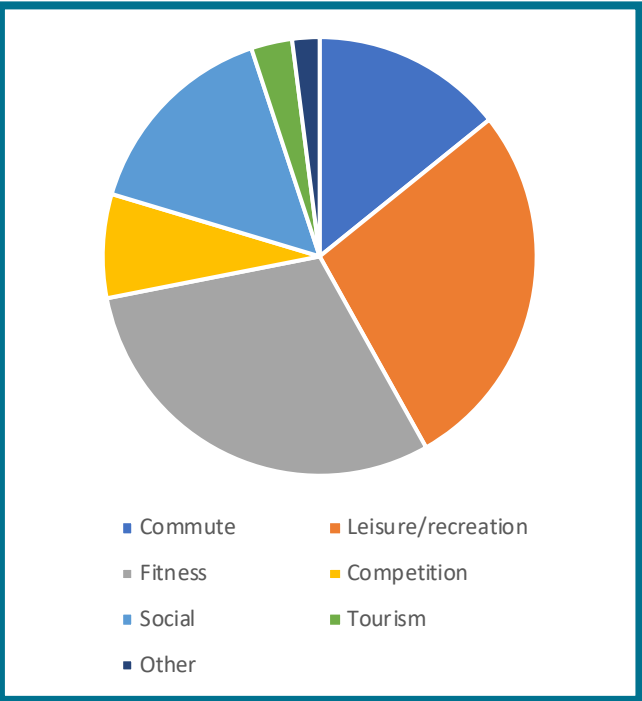
1. Where do you primarily live or stay in the Pilbara?



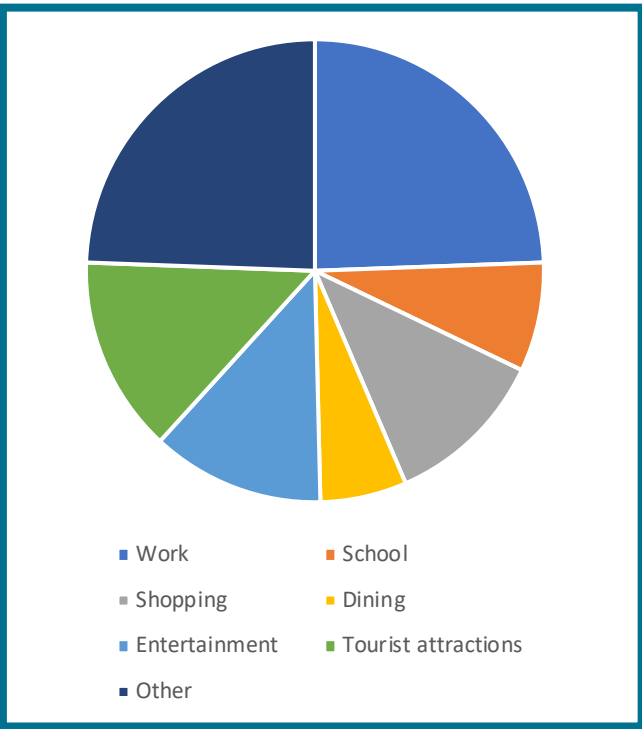
2. How often do you ride a bike?



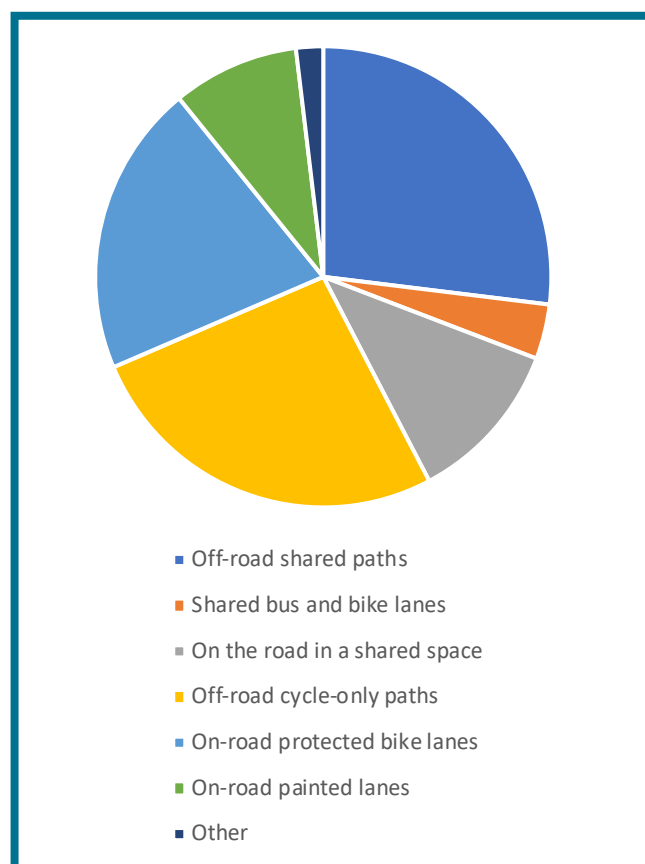
3. Why do you ride a bike?



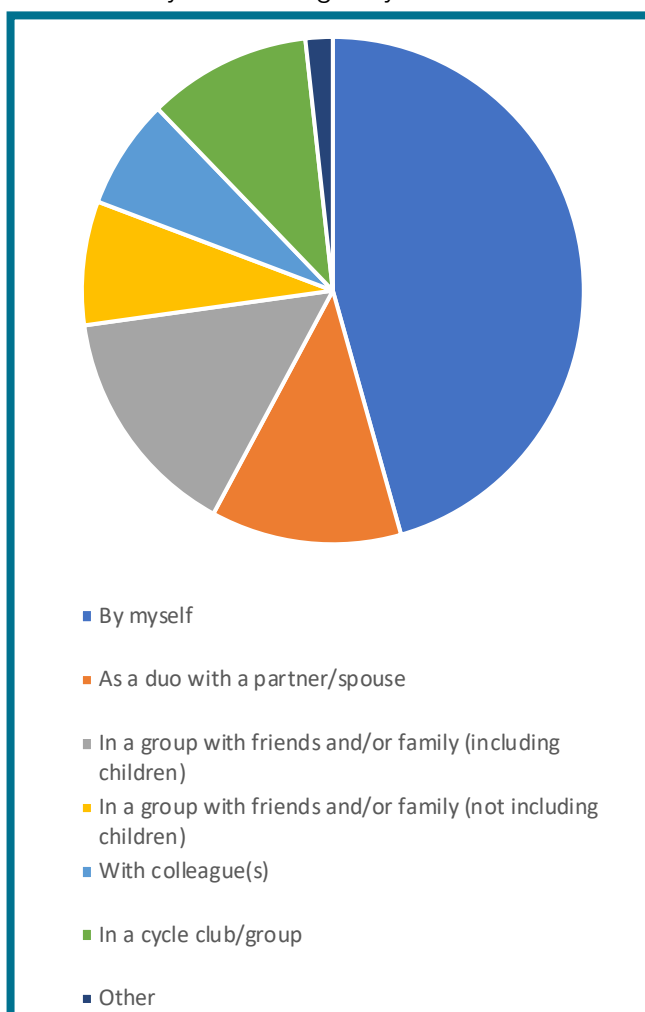
4. What destinations are you most likely to cycle to?



5. What type/s of cycle facilities do you feel most comfortable riding on?



6. Who do you most regularly ride with?



Open ended questions that were analysed and grouped by theme included:

- Are there any main reasons preventing you from riding more often?
- Are there any initiatives or activities that would encourage you to ride a bike more often?
- The following themes have been identified as being important to the development of the cycling network in the Pilbara region. Please rank these themes according to how important they are to you.
- Can you identify any additional themes that are relevant to cycling in the Pilbara Region which have not been listed?

Some key themes in the comments included providing shade and drinking spots to combat the heat, providing good cycling road surfaces, regularly sweeping cycle paths and road shoulders to remove debris, more mountain bike trails, bike rental services, safer bike storage options, investment in green amenity along paths, community activities, bike education in schools, skills building programs.

11. The following opportunities have been identified to support the identified themes. Please select up to three opportunities that you think will contribute to cycling in the Pilbara region.

All 14 suggested opportunities received responses, with 'creating routes between towns', 'developing mid/end-of-trip facilities', 'developing recreational loops, and links to mountain bike trails and BMX facilities', and 'creating safe, comfortable and convenient cross-town connections' receiving the highest responses.

C2.2 Response analysis and theming

Comments received throughout the engagement, including via all online tools and in person engagement sessions, were grouped into a number of themes and are listed in the table below with responses that informed the final strategy.

Table C2.2 Summary of community consultation themes

Comment	Response
A number of participants called for additional dedication towards the provision of mountain biking trails for tourism and local recreation purposes. This included recommendations of specific places where trails infrastructure may be developed.	This strategy is intended to focus primarily on transport cycling, connecting people to where they live, work, learn and play. In that context, providing cycling connection to mountain bike trails is identified as an opportunity in the Strategy, supporting the theme Healthy, active and safe communities. Responses regarding mountain biking will be shared with local governments DLGSC with the intention they will be used as part of future trails strategies.
A safe, separated connection between Port and South Hedland was the subject of a significant amount of comments from the community and stakeholders during the engagement process.	A primary route is proposed, involving upgrade and extension, to facilitate safe access between the two. This link is identified as an opportunity under the theme Creating connected towns.
Many comments were received reinforcing the importance of high quality, safe links between the Karratha Town Centre, Dampier, KIA and significant employment generators, Burrup Peninsula Heritage Sites and Hearsons Cove.	A combination of route types have been included in the Strategy. These route types include a primary route, secondary route, and transport trail. All route types are proposed to be separated from roads. Elements of this route are identified as an opportunity under the themes Creating connected towns and Developing unique cycle tourism experiences.
Engagement revealed a number of Road Cycling Routes frequently used by the community in Karratha, Tom Price, Onslow and Port Hedland.	These routes have been identified in the Strategy's revised network maps to support safer road cycling. This opportunity falls under the theme Healthy, active and safe communities and is intended to help facilitate progressive improvements to the road network.
Many people referenced the extreme climate experienced throughout the region as a barrier to cycling more often, and reinforced the necessity of infrastructure to be supported by mid-trip and heat stress management facilities. This includes shade, water fountains, drinking and rest spots, and repair equipment. At destinations, secure bike parking is ideally situated in sheltered locations.	Mid-trip facilities and heat stress management techniques are considered as an opportunity supporting the theme Healthy, active and safe communities.
Generally, people expressed a preference for separated infrastructure that provides loop routes and continuous access to local destinations, including schools, shopping, employment centres, hospitals, and recreation opportunities to be made a priority. One particular priority noted by the community was a loop around South Hedland.	Connections to destinations including sport and rec facilities and schools are opportunities explored within the themes Healthy, active and safe communities and Supporting youth cycling.
Responses indicate desire for the development of additional recreational opportunities, including recreational loops and longer distance routes, and skills building facilities including pump and jump tracks, and BMX parks.	Recreational opportunities, including loops and longer distance routes, particularly coastal paths, are supported by this Strategy, including paths in Karratha, Port Hedland, and Onslow. Where possible, in other towns, networks have been designed to provide opportunity for off-road recreational loops. These are supported by opportunities under themes including Healthy, active and safe communities.
Many participants indicated their interest in cycling events and passion for recreation/sports activities, both as ways to build community and ways to encourage cycling tourism in the region. Barriers to events cited included regulations for road cycling events and lack of local champions.	This is explored within the behaviour change opportunity within the theme Healthy, active and safe communities.

Comment	Response
<p>A significant number of safety concerns were expressed by participants, including the interface of cycling environments with other road users, particularly heavy vehicles and motorists, the condition of existing infrastructure both in terms of construction material and cleanliness, and perceived criminal threats to person and property. These safety concerns are additionally reflected in the overwhelming preference for separated (off-road) cycling infrastructure, as well as the desire for education programmes which emphasise considerate approaches to road sharing for all road users. Many participants reported that existing routes (with particular reference to sealed shoulders) are constructed of unsuitable material, are degraded and are frequently littered with debris.</p>	<p>All elements of safety are key concerns within the Strategy. Under the theme Creating connected towns the strategy identifies the opportunities to provide high quality separated infrastructure linking Port Hedland and South Hedland and Karratha to Dampier. All upgrades and improvements, as well as new routes throughout the strategy are intended to promote safety for cyclists. In response to the large volume of safety considerations, the preliminary theme “healthy, active communities” has been extended to reinforce safety, becoming Healthy, active and safe communities.</p>
<p>A number of comments from the community also revealed concerns over safety of cycling environments, particularly for children. There was emphasis on providing locations for children to develop cycling skills, as well as safe cycling routes to school and sporting facilities. These comments also raised the opportunity to provide for increased educational opportunities aimed at children and their parents could support the uptake of the cycling mode for kids travelling to school.</p>	<p>Safety has been incorporated into the theme Healthy, active and safe communities, which includes opportunities to sport and recreation facilities including cycling skills facilities. Providing safe cycling opportunities for youth is addressed under the theme Supporting youth cycling.</p>
<p>It was reported that a lack of bike shops throughout the region limits the ability of people to maintain and service their bikes, and leads to repurchasing of new bikes rather than upkeep. People expressed a desire for increased opportunities to build skills in maintenance and servicing of bikes. Additionally, several comments expressed concern over limited bike rental facilities or what they view as excessive cost barriers inhibiting the uptake of cycle tourism.</p>	<p>The strategy supports opportunities for capacity building in the local community with respect to bike servicing and upkeep, expressed in the themes Healthy, active and safe communities and Supporting youth cycling. The strategy emphasises the cycle tourism opportunities available with respect to bike rental under the theme Developing unique cycle tourism experiences.</p>
<p>Several people indicated a desire for a coastal route in Port Hedland, connecting Cooke Point and Pretty Pool.</p>	<p>Completing the foreshore path, including providing connection between Cooke Point and Pretty Pool has been identified in the Strategy under the theme Developing unique cycle tourism experiences. This route is additionally accessible from the route connecting Port and South Hedland, an opportunity identified to support the theme Creating connected towns.</p>
<p>In Port Hedland, a desire for connection between accommodations surrounding the Port Hedland Airport, Port and South Hedland, and the Wedgefield industrial area was expressed.</p>	<p>Providing these connections for Town of Port Hedland has been identified as an opportunity to support the theme Creating connected towns.</p>
<p>Several participants indicated a desire to connect Wickham and Point Samson.</p>	<p>A high level concept route is proposed in the Strategy to connect Roebourne, Wickham and Point Samson. The connection between Wickham and Point Samson is the current subject of a feasibility study by City of Karratha. The route alignment is to be determined by results of that study. This has been identified as an opportunity supporting the theme Creating connected towns.</p>

Some reasons provided by participants which prevent them from cycling cannot be resolved by this Strategy. This includes laziness and time constraints due to their other obligations (e.g. work and home life).



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