From: Active Transport Fund
Sent: Monday, 13 January 2025 2:12 PM
To: s22(1)(a)(ii) ; Active Transport Fund; IMS Help
Subject: RE: Active Transport Fund application [SEC=OFFICIAL]

OFFICIAL

Hi s22(1)(a)

We are not using RPM yet.

As it's the last day to submit applications the IMS Help team (cc'd) is receiving a high volume of calls and emails but they will contact you as soon as practicable to help setup your IMS account.

IMS Help - T s22(1)(a)(ii)

Kind regards
s22(1)(a)(ii)
Active Transport Fund
Targeted Infrastructure Programs • Road and Vehicle Safety Division
GPO Box 594 Canberra, ACT 2601

Department of Infrastructure, Transport, Regional Development, Communications and the Arts
CONNECTING AUSTRALIANS • ENRICHING COMMUNITIES • EMPOWERING REGIONS

infrastructure.gov.au

I acknowledge the traditional custodians of this land on which we meet, work and live.
I recognise and respect their continuing connection to the land, waters and communities.
I pay my respects to Elders past and present and to all Aboriginal and Torres Strait Islander people.

OFFICIAL

From: s22(1)(a)(ii) @cottesloe.wa.gov.au>
Sent: Monday, 13 January 2025 2:02 PM
To: Active Transport Fund <ActiveTransportFund@infrastructure.gov.au>
Subject: Active Transport Fund application

Hi team,

Town wants to lodge Active Transport Fund application.

Add we are already logged in IMS System with Director of Engineering Services login details. But, there is no link for the application.

Do we need to login in the RPM Portal for the applying the application?

I tried to login in the RPM system with IMS login details, but it didn't work. Can I sign up directly and apply the application, or I need any permissions from CEO?

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Many thanks.

Kind regards,

s22(1)(a)(ii)
Asset Engineer

Town of Cottesloe
PO Box 606 | Cottesloe WA 6911
Phone: (08) 9285 5000
s22(1) @cottesloe.wa.gov.au
(W)(ii) www.cottesloe.wa.gov.au

Find us on

Town of Cottesloe acknowledges the Whadjuk Nyoongar people as the traditional custodians of the lands and waters where the Town is si

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Please consider the environment before printing this email

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Application Form

Active Transport Fund

31 October 2024

Instructions

Please read the Program Guidelines carefully before you apply. The Guidelines contain the rules for funding under the Program including eligibility requirements. The Program's website also contains frequently asked questions.

Please complete ALL sections of this application. This encompasses the eight sections called Eligibility Checklist, Applicant Details, Project Summary, Project Budget, Strategic Fit, Project Impacts and Benefits, Project Deliverability and the Declaration. If a specific section does not relate to your project, please respond with N/A.
All information requested in the application is mandatory, unless otherwise specified. Note that incomplete or incorrect applications cannot be assessed and will be deemed ineligible.

How we will assess applications

The Department will review all applications against the eligibility criteria. If eligible, applications will be assessed against the assessment criteria outlined in the guidelines and against other applications. The Department will consider each application on its merits, based on:
- how well it meets the criteria
- how it compares to other applications
- whether it provides value of relevant money.

When assessing the extent to which the application represents value of relevant money, the Department will have regard to:
- the overall objective/s to be achieved in providing the funding
- the relevant value of the funding sought
- the extent to which the evidence/information/analysis in the application demonstrates that it will contribute to meeting the outcomes/objectives.

In addition, the Department will also consider proper use of relevant money in accordance with the *Public Governance, Performance and Accountability Act 2013* .
The Department may contact applicants to clarify information provided in the application, however for probity reasons and to avoid bias, it will not consider new or additional information after the tranche that the application has been submitted under has closed.

Mandatory attachment requirements

You must include:
- evidence of your secured funding co-contribution(s) for your application to be deemed eligible
- evidence of how your project addresses one or more of the focus areas

Supporting documents to attach with your application

Attach all information and documentation that may assist with the assessment of your application.
The naming of attachments should align with the purpose of the document.

Examples of supporting documentation could include:
- a structural report of the asset
- a detailed risk assessment
- a preliminary design for construction
- a project plan
- a detailed project budget
- a road safety audit, assessment or other similar report
- consultation summary(ies) with affected stakeholder(s)

Submitting your application

All applications must be submitted through the Department's online portal by 11:59PM (AEDT) on 13 January 2025.
The Department will not consider an application submitted via email unless specifically requested by us.
You must complete a Nomination Form in addition to your application and supporting attachments.

If you do not have access to IMS, you will need to discuss permissions with your organisation's IMS permissions manager. If you are unsure who in your organisation holds these permissions, please contact the ATF team via the email below.

Questions

If you have any additional questions about this application or a project's eligibility, please don't hesitate to contact us at:
ActiveTransportFund@infrastructure.gov.au

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Eligibility Checklist

You must answer **YES to all questions** for your **project to be eligible**.

No.	Question:	Your Answers:
1	**Is your application made by a state/territory government or Local Government Authority (LGA)?**	Yes
2	**Does your application directly address at least one of the focus areas under the Program and have you attached evidence?** Refer to the Program Guidelines (section 2.2.2) for the list of focus areas.	Yes
3	**Is your project for the upgrade of an existing or construction of a new bicycle or walking pathway?** Refer to the Program Guidelines (section 2.2) for the definition of a pathway.	Yes
4	**Is your project on a publicly owned road asset or corridor that is accessible to the public?** The Program does not fund projects on privately owned roads or land.	Yes
5	**Is your project a standalone project that is not reliant on the completion of other works?** Artificial divisions of a larger project into smaller projects to fit under the Australian Government funding limit will be deemed ineligible.	Yes
6	**Is your project for new works that have not previously been funded?** The Program is designed to support pathway projects that cannot commence without funding support from the Australian Government.	Yes
7	**Is your project's proposed Australian Government contribution under the Program $5 million or less?** The Program will contribute a maximum of $5 million in Australian Government funding for each project.	Yes
8	**Is your project's percentage of Australian Government funding under the Program at least 50% of the total project cost?** - **For projects submitted by state and territory government** , the Program will contribute up to 50% of the total project cost, up to the cap of $5 million per project, unless otherwise agreed by the Minister. - **For projects submitted by LGAs**, the Australian Government recognises that some LGAs, particularly those in regional areas, may be limited in their ability to provide a 50% co-contribution. Alternative funding co-contributions can be sought as part of the application. **If No**, and you are seeking an alternate funding co-contribution under Section 2.3.1 of the Program Guidelines, please provide an explanation of the need for an alternative arrangement **in the Project Budget tab.**	No
9	**Have you secured your funding co-contribution and attached evidence of this with your application?** All co-contribution funding must have been secured at the time of your application.	Yes
10	**Are you in the planning/design stage only of the project (not commenced construction, not accepted public tender submissions, and not entered into any contracts for the purposes of delivery of this project)?** The Program will not fund projects already underway, including where tenders have been awarded, construction has already commenced or will commence ahead of an application being approved and funding offer signed.	Yes
11	**Is proposed funding for design/capital expenditure only and not for ongoing maintenance?** Maintenance and repair costs are ineligible under the Program.	Yes

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1. About your organisation

Item	Response
Lead Applicant Legal / Registered Entity Name	Town Of Cottesloe
Type of organisation	Local Government Authority
State/Territory	WA
Registered Postal Address (head office)	109 Broome St, Cottesloe WA 6011
Website address	https://www.cottesloe.wa.gov.au
Organisation email address E.g. info@councilname.state.gov.au	town@cottesloe.wa.gov.au
Is this application a joint application with another proponent and/or private entity?	No
Please list all other partners in this application Partners are typically those involved in the governance of the project and making decisions on the project, or committing funds to it such as a state government organisation, LGA or private organisations contracted to deliver a project will not typically be a partner.	

2. Your contact information

We will use this information to contact the Primary Person to clarify details within your application and the Authorised Person for decisions (such as whether your application is successful).

Item	Primary Person Contact Details The best-placed person to clarify information about the application	Authorised Person Contact Details The person authorised by the organisation to make this application (such as the Chief Executive Officer)
Title	s22(1)(a)(ii)	s22(1)(a)(ii)
First Name		
Surname		
Job title	Manager Projects and Assets	Director Engineering Services
Telephone Please ensure that you include all 10 digits	(08) 9285 5000	(08) 9285 5000
Email address	s22(1)(a)(ii) cottesloe.wa.gov.au	s22(1)(a)(ii) cottesloe.wa.gov.au

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FOI 26-193 - Document 2

1. About the Project

Tell us about your project

Item	Your Answer
What type of project are you proposing? Options: 1) Construction only project or 2) Design and Construction Project	Design and construction project
Project Name Name your project according to the naming convention below: [organisation's name] - [short project scope and its location] An example of a good project name is *Woodborough Council - Design and upgrade of the Turner Street pathway, Woodborough* . If required, during the assessment process, the Department may update your project name to reflect the naming convention. This is to maintain consistency in the Department's reporting and provide an at-a-glance indication of what the project will do.	Town of Cottesloe - Design and upgrade of the Marine Parade Shared Pathway, North Street to Curtin Avenue.
Project Scope A good project scope will include details such as road lengths, safety installations and other major changes. Do NOT include benefits in this section. An example of a good Project Scope description is: *The project will upgrade the existing pathway along Turner Street. Approximately 1km of pathway will be widened and upgraded to improve safety. The pathway is used by students travelling to and from the local high school.*	The project involves upgrading the existing pathway along Marine Parade between Curtin Avenue and North Street. The pathway has been recognised as a Primary Route in the Department of Transport's Long Term Cycle Network (LTCN). Approximately 4km of the pathway will be widened and upgraded to improve the safety of road users (cyclists, pedestrians) by diverting them off a high vehicle volume distributor road.

2. Estimated Project Timeline

Refer to the Program Guidelines for details.

Event	Date (month and year)
Project Commencement date When determining project commencement and completion dates, consider timeframes for the assessment and approval of the application (approximately 12 weeks) as well as any other project approvals required and seasonal weather-related issues that may affect the commencement of the project, and the timeframes allowed for delivery.	Jul-25
Completion of design (only applicable for design and construct projects) This date must be within 12 months of the Department sending you the Funding Offer. The Department will not fund any activities completed prior to the approval of the Funding Offer.	Jan-26
Commencement of construction This date must be within 12 months (for construction only projects) or 24 months (for design and construction projects) of the Department sending you the Funding Offer	Jul-26
Completion of construction This date must be within 36 months (for construction only projects) or 48 months (for design and construction projects) of the Department sending you the Funding Offer	Jun-27

3. Project Location

Ensure location information matches Geographical Information System (GIS) mapping.

Item	Your Answer
Name of road or intersection Please ensure this matches GIS information.	Marine Parade
Name of water course crossing For bridges only. Please ensure that this matches GIS information.	
Asset Name If the asset does not have a name, please provide the asset number.	Cottesloe Main Beach Footpath from North Street to Curtin Avenue
Locality/Suburb of project Please ensure this matches GIS information.	Cottesloe
Postcode of project Please ensure this matches GIS information.	6011
Local Government Authority of project A project can span multiple LGAs - please list all if the project is across more than one	
State/Territory	WA
Is your project in an urban or regional location?	Urban
Other location information (optional) Is this an LGA project on a state-owned road or has works that intersect with a state road? If so, provide details of the road here. If your project crosses the border of another State or Territory, provide details here	

GIS/Mapping Information

Please provide latitude and longitude geocodes to help us locate your project on a map. If you need help to do this, click the following hyperlink for Google Maps advice:
https://support.google.com/maps/answer/18539?hl=en&co=GENIE.Platform%3DDesktop&oco=2

Geocodes of your project location	Your Answer
Select: Option A if you have a single-point location **OR** Option B if you have multiple-point locations	Option B: Multiple-point locations

Option A - Point Geocode - use this if you have a single-point location

Item	Your Answer	Test your geocode. Does this link go to the project location?
Latitude (decimal degrees to 4 places)		https://maps.google.com/?q=,
Longitude (decimal degrees to 4 places)		

Option B - Lines Geocode - use this if you have multiple-point locations

Segment 1	Longitude (Decimal degrees to 4 places)	Latitude (decimal degrees to 4 places)	Test your geocode. Does this link go to the project location?
Segment 1 - Starting Point	-31.9819	115.754	https://www.google.com.au/maps/dir/-31.9819,115.754/-32.0137,115.7
Segment 1 - Ending Point	-32.0137	115.7525	
Segment 2	**Longitude (Decimal degrees to 4 places)**	**Latitude (decimal degrees to 4 places)**	**Test your geocode. Does this link go to the project location?**
Segment 2 - Starting Point			https://www.google.com.au/maps/dir/,/,
Segment 2 - Ending Point			
Segment 3	**Longitude (Decimal degrees to 4 places)**	**Latitude (decimal degrees to 4 places)**	**Test your geocode. Does this link go to the project location?**
Segment 3 - Starting Point			https://www.google.com.au/maps/dir/,/,
Segment 3 - Ending Point			

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FOI 26-193 - Document 2

Project Budget

For a list of **eligible** and **ineligible** expenditure, please see section 2.3.2 of the Program Guidelines.

Funding Profile

	Financial Years							
Funding Source	**2024-25**	**2025-26**	**2026-27**	**2027-28**	**2028-29**	**Total**	**Percentage**	**Please provide additional details as well as entity names of co-contributors/programs**
Active Transport Fund		$ 50,000.00	$ 4,125,000.00			**4,175,000**	**95.4%**	Active Transport Funds
Other Australian Government Please list all other Australian Government program/s funding for this project (such as Roads to Recovery). This funding must be confirmed.						**0**		
State/Territory Government(s) Please list all state/territory program(s) funding for this project. This funding must be confirmed.						**0**		
Local Government Authority(ies) Please list all Local Government Authority(ies) providing funding and the amount. This funding must be confirmed.		$ 50,000.00	$ 150,000.00			**200,000**	**4.6%**	Town of Cottesloe Contribution
Other (including private funding) Please list all other contributions. This funding must be confirmed?						**0**		
Total	**0**	**100,000**	**4,275,000**	**0**	**0**	**4,375,000**		

** Below cell automatically calculates**

Percentage check	**You are seeking a contribution of more than 50% from the Active Transport Fund. Please provide justification below to demonstrate the need for an alternative co-contribution**	This cell checks the percentage of the Australian Government contribution you are seeking from the Active Transport Fund.
Total check	Maximum AG contribution is within limits	This cell checks that your Australian Government contribution is below the maximum contribution of $5 million.

Individual Cost Items

Include potential escalation costs in the individual costing of each item, for the duration of project delivery.

Estimated Project Cost (Categories)		**Total ($)**
Design and Investigation (if done in-house) Design costs are eligible for funding only for design and construction projects, up to 10% of the total Australian Government funding, and only for costs incurred after the project has been approved. Please refer to section 2.3.3 in the Program Guidelines for the eligibility of internal costs.		s47G(1)(b)
Design and investigation (if outsourced to a consultant/contractor) See above.		

Funding co-contribution justification
If you are seeking an alternate funding co-contribution under Section 2.3.1 of the Program Guidelines, please provide justification to demonstrate the need for an alternative arrangement.
The Town of Cottesloe is classified as a Tier 3 local government and the Town has limitations in the capacity to provide a 50% co-contribution amount of 2.2 million. The Town operates with a relatively small ratepayer base and modest revenue streams, which are already allocated to maintaining critical essential services and infrastructure for the community. Given these limitations, the Town is unable to meet the required co-contribution amount, thus the Town is proposing an alternative contribution amount of $200,000 drawn from the Active Transport Reserve, noting the following reserve balances (period ending 30 June 2025) as outlined in the attached Annual Budget for the 2024/2025 financial year (Attachment A): • Active Transport Reserve $210,755 The upgrading of the Marine Parade pathway is important for the local community and cycle network as it will improve safety for cyclists and also create connection and access to strategic destinations such as Railway and Bus Stations, Shops and Activity Centres from main Cottesloe Beach. Hence, the Town respectfully request consideration of this alternative funding arrangement, recognising our financial constraints that limit our

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Client Management and Oversight Costs This includes the cost of management of the project.	s47G(1)(b)	
Insurance, Fees and Levies These costs must be directly related to the project.		
Acquisition of land costs These costs have to be directly related to the acquisition of land and can include purchase prices, transactional costs, business compensation and environmental offsets. If you have acquired land prior to submitting this application, you cannot claim expenditure for this purpose. Legal fees are considered indirect to the acquisition of land and cannot be included.		
Public Utilities Adjustment This includes service relocation/adjustment works including telecommunications, water, sewerage, electricity and gas.		
Traffic Management and Temporary Works This includes work undertaken for the purposes of enabling other construction, including temporary pathways.		
Traffic Signage, Signals and Controls This includes traffic light installation and setup, instruction/location signage.		
Bulk Earthworks This includes the movement of earth, both within the site and onto or off site.		
Retaining Walls This includes building walls and other mechanisms for retaining earth and other materials.		
Drainage works		
Bridge Costs This includes the construction and upgrade of bridges and related structures, such as culverts.		
Pavements/road surfaces		
Finishing Works This is for works following the substantive completion of construction.		
Other costs Include any costs not described above.		This cell below automatically calculates the percentage of your contingency cost according to your input for cell C34.
PROJECT COST		

Hence, the Town respectfully request consideration of this alternative funding arrangement, recognising our financial constraints that limit our ability to fulfil the 50% co-contribution.

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Contingency amount The contingency amount you contribute will depend on the maturity of your project and how advanced your costings are. You are required to explain the contingency amount you have allocated in cell B7 under the 'Project Deliverability' tab. <u>For construction only projects</u> The recommended percentage range is 15 to 22%. <u>For design and construction projects</u> The recommended percentage range is 20 to 30%.		s47G(1)(b)	It is in the recommended range
TOTAL PROJECT COST		**4,375,000**	

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Criterion 1 - Strategic Fit

Outline the rationale for the project, why there is a strong case for action, how it will achieve the stated objectives, and how it meets the needs of the community.

Attach all relevant information, evidence and analysis to support your responses.

Question	Answer
What focus area(s) does your project align with? Tick all focus areas that are relevant to your project. Supporting evidence must be provided. Examples of supporting evidence may include: •Safety plans, road safety audits and infrastructure asset reports •Existing Net Zero plans or strategies •Analysis that shows the project will increase cyclist or pedestrian numbers, increase use of public transport or remove cars from roads •Active Transport Strategies •Urban Strategies to connect communities and increase liveability	☑ Road safety ☐ Reduce transport emissions ☑ Active and liveable communities
How does your project align with the focus area(s) and what are the outcomes it aims to achieve? Refer to section 2.2.2 of the Program Guidelines for the target area of each focus area. Ensure you address all focus areas you have ticked under above. Attach relevant reports/information to support your response.	The Marine Parade Principal Shared Path Upgrade project is aligned with the focus area of 'Road Safety' by addressing critical safety concerns for vulnerable road users. The project seeks to provide a safer, more accessible, and well-designed shared path network that minimises the risk of conflicts between road users, improves connectivity, and enhances visibility in high-traffic areas. The proposed principal shared path (PSP) will provide a safe and clear separation between pedestrians, cyclists and vehicles, reducing the potential risks of collisions and improving safety for all users. In addition, the shared path will limit the need for pedestrians and cyclists to navigate high-risk zones, particularly near intersections and busy roads. Additionally, the project aligns strongly with the focus area of 'Active and liveable communities' by fostering a safe, inclusive and vibrant environment that promotes active transport, social interaction and community well-being. The upgraded wider shared path will accommodate users of all ages and abilities where everyone can navigate the areas safely and comfortably, thus, encouraging residents and visitors to spend more time outdoors engaging in social interactions and other recreational activities. Furthermore, the project will improve the local cycle network connectivity by allowing for an almost continuous circular route between the Curtin Avenue Perth to Fremantle Principal Shared Path (which services Grant Street Station, Cottesloe Station and Victoria Street Station). This will encourage people to use walking and cycling as primary modes of transport, creating healthier, more active lifestyles. In conclusion, the outcomes the project is aiming to achieve are to improve safety of the vulnerable road users and reduce reliance on vehicles by promoting active travel contributing to a quieter, cleaner and more sustainable urban environment.
Clearly explain the case for change, including what the problems and opportunities are, and how the works will address the issue(s). What is the existing state of the asset, what is the problem and what improvements will the project provide? Attach relevant reports/information to support your response.	Marine Parade is one of the longest corridors within the Town of Cottesloe with a significant number of vehicles travelling along the corridor. Cottesloe Beach is one of the major tourist attractions for Western Australia with the magnificent seashore view along its scenic coastline that attracts a considerable number of recreational cyclists and heavy number of pedestrians that uses the existing path for walking and exercise purposes throughout the day. There are multiple slow points and roundabouts along the road which create 'pinch points' for on-road cyclists, where overtaking options are limited, but speed differential between the bikes and cars are high, thereby creating an environment that can be hostile or dangerous for cyclists and inconvenient for drivers. In addition, extensive parking embayment along the road also create the possibility of 'dooring' cyclists colliding with car doors, often with disastrous consequences. Furthermore, the existing pathway along the western side of road; varies in width from 1.7m to 3m, also serves as shared path and well used by cyclists, joggers, walkers, people with pram, wheelchair users, and e-scooters, etc. Its limited width, coupled with high usage, creates frequent conflicts between pedestrians and cyclists particularly during peak times when pedestrians and fast-moving cyclists converge. Additionally, a road safety inspection undertaken in 2019 (refer to Attachment B) identified safety risks along the path where it intersects with parking bays. The proposed shared path upgrade will address these issues by widening and enhancing approximately 4km of pathway allowing for easier pedestrian and cycle traffic flow, line marking to help reduce collision hazards, and wider asphalt surface to replace the narrow and uneven concrete path. The proposed shared path will provide a safer option for cyclists and pedestrians to avoid potentially hazardous traffic incidents on a busy scenic route. To conclude, this project represents a vital opportunity to address long-standing safety concerns for vulnerable road users and promote active travel and improve connectivity along a key strategic corridor.

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Justify why the proposal is the most appropriate response to address the issue(s) and opportunities. What other options were considered? Why is this the preferred option? Attach relevant reports/information to support your response.	There were several alternatives considered to address the safety and connectivity issues along the Marine Parade corridor, each offering varying degrees of feasibility and alignment with the strategic goals for active transport. However, upgrading the existing pathway has been identified as the most effective and appropriate option to meet the current and future needs of cyclists and pedestrians while addressing the challenges posed by the corridor. One alternative considered was encouraging cyclists, particularly recreational and commuter groups, to use alternative routes in preference to Marine Parade (Attachment C). This is extremely unlikely to gain any traction and cannot be enforced, given the strong preference for the existing corridor as Marine Parade remains highly desirable route due to its scenic coastal views and direct access to key recreational and commercial destinations. Another option explored was the installation of on-road cycling lanes along Marine Parade. This approach provides dedicated space for cyclists but still retains significant safety hazards associated with 'dooring' from parked vehicles and high-speed traffic interactions. Additionally, implementing such option would require a substantial reconfiguration of the existing limited road space, resulting in the loss of on-street parking; a factor likely to generate community opposition and limit the overall feasibility of the approach. Reducing traffic speeds on Marine Parade through traffic calming measure, such as speed cushions or lowering the speed limit, was also considered. While this option could create a safer traffic environment, slower vehicle speeds alone cannot mitigate the risks associated with inadequate space for all user groups or the high demand for the shared pathway during peak periods. After considering all these alternative options, upgrading the existing pathway was identified as the most balanced and sustainable solution. This approach directly addresses the key issues of safety and connectivity while minimising disruption to the existing road infrastructure where feasible. The shared path upgrade not only will significantly reduce user conflicts and enhance safety for all but also preserves the scenic and recreational value of Marine Parade, ensuring it remains an attractive route for both locals and visitors.
Outline the support for the proposal and buy-in from stakeholders including the community? Note if the project responds to their needs. What consultation sessions have occurred with stakeholders? What were the views (include both positive and negative) of the community/industry? If this is an LGA project on a state-owned road/has works that intersect with a state road, do you have support from your state/territory government? An attached consultation summary will be highly regarded.	Several engagements with stakeholders including the community were conducted over the years involving multiple consultation through surveys, public meetings and targeted feedback sessions. One such engagement is that a community survey conducted in 2018 for the development of a Long-Term Cycle Network (LTCN) by the Town of Cottesloe in consultation with Department of Transport (DoT) to gain a better understanding of local cycling issues where a total of 419 responses had been collected (Attachment D). Furthermore, the Town of Cottesloe has undertaken a series of public consultation activities in 2019 as part of the needs and aspiration analysis for the Town's Foreshore Masterplan development. Feedback from these consultations consistently highlights key issues, including conflicts between cyclists and pedestrians, risks from vehicle interactions on road, and the inadequacy of the current narrow pathway in accommodating growing usage. Of the 419 survey responses collected for LTCN survey, a significant 64.9% identified Marine parade as a primary route for long-term cycling infrastructure. This underscores the pathway's importance as a connection for both recreational and commuter cyclists. More importantly, fear of sharing the road with motorists was identified as the most significant barrier to increased cycling activity, with 71.84% of respondents citing this concern. Additionally, 63.35% of respondents highlighted the lack of adequate cycling routes as a major limitation, further justifying the upgrade of Marine Parade to provide a safe, reliable, pathway to all users. Similarly, the Cottesloe Foreshore Masterplan consultation (Attachment E) further highlighted the community's priorities, with a strong focus on enhancing pedestrian and cyclist safety along Marine Parade and better integration of transport infrastructure with the foreshore environment. The consultation findings indicated strong support for pathway improvements to address safety concerns and reduce conflicts between cyclists and pedestrians. The proposed upgrade aligns with these community priorities by addressing current risks and accommodating the needs for all users. Whilst the feedback from these consultations and surveys was mainly positive, some concerns were raised regarding the potential impacts on parking and the broader streetscape which will be carefully considered during the design phase of the project planning, with solutions designed to balance the pathway improvements with the preservation of existing amenities and community needs.

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How does the project directly contribute to relevant national goals, objectives, policies and strategic plans? Examples of national policies and strategic plans to link to: -National Road Safety Strategy 2021-30 and Action Plan 2023-25 -National Urban Policy -Closing the Gap -National Freight and Supply Chain Strategy -Regional Investment Framework -Net Zero by 2050 Attach the documents you refer to, to support your response.	The proposed upgrade of the Marine Parade shared pathway into a Principal Shared Path (PSP) directly aligns with several national goals, policies, and strategic plans as it is a critical investment in active transport infrastructure that will enhance safety, promote sustainability, and foster social inclusion, while supporting Australia's broader strategic priorities. Upgrading the pathway to a PSP supports National Road Safety Strategy 2021-2030 and its associated Action Plan 2023-2025 (Attachment F & Attachment G) by addressing the safety risks posed to vulnerable road users such as cyclists and pedestrians. The widened and improved shared path will remove non-motorised traffic from the high traffic volume Marine Parade distributor road, significantly reducing the likelihood of road trauma and collisions. The design will also incorporate enhanced crossing points, signage and the separation of pedestrians and cyclists which will further contribute to the creation of a safer active transport corridor, directly supporting the strategy's goal of reducing deaths and serious injuries on Australian roads. The project also contributes to the objectives of the National Urban Policy (Attachment H) which prioritises sustainable, productive, and liveable urban environments. By encouraging walking and cycling, the upgraded shared path reduces reliance on private vehicles, promoting a shift toward low-emission transport modes and contributing to improved air quality and urban health outcomes. Additionally, the project will enhance connectivity between key recreational, retail and transport hubs in Cottesloe, creating a more vibrant and accessible urban community that aligns with the policy's vision of equitable and liveable cities. As part of the Regional Investment Framework (Attachment I), the project delivers economic and social value by enhancing access to key tourist and recreational destinations along Cottesloe foreshore. Improved infrastructure will attract greater visitation, supporting local businesses and fostering regional economic development. Moreover, the project will reduce Australia's carbon footprint in line with the environmental sustainability objective within the Commonwealth's Net Zero by 2050 plan through the promotion of cycling and walking as sustainable transport options. In conclusion, the proposed Marine Parade shared path upgrade contributes to national goals of safety, sustainability and economic resilience while enhancing the liveability and connectivity of Cottesloe.
How does the project directly contribute to relevant state/local government goals, objectives, policies and strategic plans? Examples of state/local government policies and strategic plans to link to: -Regional road safety strategies -State/territory freight action plan -Regional Organisations of local councils strategy/action plans -Council strategic/action plans Attach relevant plans/document to support your response.	The proposed upgrade of the Marine Parade shared pathway strongly align with the strategic goals, objectives, policies, particularly in relation to road safety, active transport, regional connectivity and sustainability. The project represents an important step in addressing safety and accessibility concerns while supporting a broader context of economic, social and environmental priorities at both the state and local levels. The project aligns with the Road Safety Strategy for Western Australia 2020-2030 (Attachment J) which emphasises the importance of creating safer environments for vulnerable road users by diverting active transport users from Marine Parade to a dedicated and upgraded Principal Shared Path; directly reduces the risk of road trauma and improves safety outcomes. The project, in its design stages, will address critical safety issues at the path intersections and implement design standards that enhance visibility and user experience which further complement the road safety strategy. The shared path upgrade also aligns with the Town of Cottesloe Council Plan 2023-2033 (Attachment K) which addresses the importance of providing healthy natural environments and infrastructure meeting the community needs and developing a safe, accessible and connected community. The PSP upgrade project contributes directly to these objectives by providing high quality infrastructure that supports and promotes walking and cycling, enhancing connectivity to other key destinations and transport hubs while providing a largely continuous safe route (i.e. form of cycling infrastructure identified in the WA Cycling Network Hierarchy) that is suitable for people of all ages and abilities. Furthermore, the project also supports the Western Australian Climate Policy (Attachment L) and the Town's climate action goals by reducing greenhouse gas emissions. By encouraging walking and cycling as alternatives to private vehicle use, the shared path upgrade contributes to the state's broader commitment to net zero emissions and sustainable urban development. Thus, the Marine Parade PSP upgrade is a vital project that contributes to the strategic priorities of both the WA State Government and the Town by addressing road safety, improving active transport infrastructure, and delivering significant benefits for the wider community.

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Criterion 2 - Project Impact and Benefits

Demonstrate the road safety, social, economic and environmental value of the project with supporting evidence-based analysis. This includes direct project benefits as well as benefits during the construction of the project.

Attach all relevant information, evidence and analysis to support your responses.

Question	Your Answer
Explain how the proposal will improve road safety for cyclists and/or pedestrians. Outline how the project will reduce road trauma for cyclists and/or pedestrians at locations where they are at greater risk.	The proposed upgrade of the Marine Parade shared path is a critical step in improving road safety for cyclists and pedestrians by addressing existing risks and reducing the likelihood of road trauma along this high-traffic corridor. Marine Parade currently accommodates a mix of vehicles, cyclists, and pedestrians, creating conflict zones that increase the potential for accidents and road trauma. Cyclists who share the road with vehicles are exposed to significant risks, including 'dooring' incidents, high-speed differentials and conflicts at intersections. Similarly, pedestrians sharing the existing narrow path with cyclists face hazards from inadequate space and poor separation of the user groups. The upgraded shared path will directly mitigate these risks through a combination of infrastructure improvements that will be designed to enhance safety and accessibility. In line with the Western Australian Cycling Route Hierarchy, this 4-metre wide shared path will be designed using an all-ages and abilities design philosophy. The widening of the pathway will introduce separate lanes for cyclists and pedestrians which will reduce conflicts between user groups providing a safer more accommodating environment. Additionally, the proposed shared path will encourage cyclists to use the path infrastructure diverting them from the Marine Parade corridor significantly reducing their exposure to vehicular traffic. This eliminates key hazards such as the risk of side-swipe or overtaking accidents and interactions with vehicles at 'pinch points' and narrow lanes, where accidents are most likely to occur. The design will also consider improving lighting and wayfinding along the shared path which will enhance visibility and user navigation, further contributing to a safer transport experience for all users. Thus, this upgrade project will reduce the causes of road trauma such as inadequate infrastructure and poor separation of transport modes and deliver a sustainable, long-term solution to the safety challenges faced on Marine Parade.
Explain how the project will reduce transport emissions. Outline how the project will encourage the use of active transport options over the use of private vehicle journeys.	The proposed shared path project is a significant step toward reducing transport emissions by promoting active transport as a viable and attractive alternative to private vehicle use. The proposed shared path will allow for an almost continuous circular route between the Curtin Avenue Perth to Fremantle Principal Shared Path, the Eric Street Shared Path and the Cottesloe foreshore and transport hubs (Grant Street Station, Cottesloe Station and Victoria Street Station), making active transport a convenient and efficient option for both residents and visitors. Hence, this proposed shared path infrastructure will make cycling and walking faster, safer and more comfortable options, particularly for short and medium-length journeys, thereby reducing the use of private vehicles. By reducing dependency on private vehicle journeys, the project will decrease carbon footprint and traffic congestion in the area. In addition, it will address key barriers that currently deter people from choosing walking or cycling, for instance, conflicts between cyclists, pedestrians and vehicles as well as inadequate shared path width, have discouraged active transport use along Marine Parade. The project at its completion will not only create a safer, more accessible, and user-friendly environment but also a more inviting environment for active transport users. In conclusion, by encouraging the use of active transport options over the use of private vehicles, the Marine Parade shared path project is a vital step towards creating a low-carbon future and supporting Australia's broader sustainability objectives.
Explain how the proposal will encourage active and liveable communities. Outline how the project will better connect communities, provide health and social benefits, including improving the quality of life for users by encouraging outdoor physical activity, reducing traffic-related air pollution and noise pollution, providing safety and accessibility benefits and/or advancing equity for Indigenous Australians and vulnerable communities.	The proposed upgrade to the existing Marine Parade shared path is a significant step towards fostering active and liveable communities by enhancing connectivity, and promoting outdoor physical activities that will greatly enhance the quality of life for users. The project also creates a safer, more inclusive public space that encourages active lifestyles, reduces environmental impacts and strengthens community ties by prioritising the safety and accessibility of pedestrians and cyclists. A key benefit of the shared path upgrade is its ability to encourage outdoor physical activities by providing a safe, scenic, attractive, and accessible environment for walking, cycling and other forms of active transport. The dedicated lanes along the widened pathway will remove barriers that currently deter people from engaging in physical activities. This is particularly important for families, elderly users and individuals with mobility challenges and the shared path design will ensure inclusivity offering access for these users. Increased physical activity improves health outcomes and the shared path's proximity to the beach and open spaces also enhances mental well-being, thus, contributing to a higher quality of life for the wider community. The project also enhances environmental and public health goals by reducing traffic-related air and noise pollution by encouraging active travel, and creating a healthier and more sustainable community. Connectivity is another significant advantage of this proposed shared path upgrade project. The upgraded pathway will provide connectivity from the Perth to Fremantle PSP to the Cottesloe Beach Foreshore Precinct and will link key recreational, retail, and residential areas within various local government areas thus connecting communities and supporting local economic activity. The proposed shared path also connects directly to Mudurup Rocks or 'Mudurup', an indigenous heritage site of deep spiritual, ceremonial and fishing sites located on the Western Australian metropolitan coast. The project in its design phase will consult with the relevant stakeholders to ensure proper representation, respect and conservation of the site and will incorporate culturally inclusive design elements recognising the significance of the area to the Whadjuk people of the Noongar Nation.

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Explain how the proposal provides economic benefits, including productivity and efficiency benefits, employment benefits and regional significance benefits.	The proposed upgrade of the Marine Parade shared path will deliver substantial economic benefits by improving transport efficiency, creating employment opportunities and enhancing the regional significance of the Cottesloe area. The project will enhance transport efficiency by providing a safer, more direct accessible route for cyclists and pedestrians, reducing travel times and improving traffic flow for all road users. The proposed PSP will also offer a faster and more reliable option for commuting and recreational trips, enabling greater productivity. Additionally, the project will generate considerable employment benefits by creating opportunities for local jobs in construction, engineering, landscaping and other associated industries. The Town has also got a plan to upgrade its foreshore in the future which will improve beach access, and create additional recreational space. The proposed shared path upon completion coupled with foreshore redevelopment in the future is expected to attract increased visitation to Cottesloe's foreshore, encouraging local economic activity in the tourism, retail, and hospitality sectors. This will in turn support ongoing job creation in local businesses including cafes, restaurants, and shops while also increasing spending in the local economy. Affectionately known as "Cott", Cottesloe is one of Perth's most iconic beaches characterised by the sun, crystal clear waters, white sand and shady Norfolk Island Pines at main Cottesloe Beach. This project will further elevate its appeal by offering enhanced public infrastructure that aligns with the area's coastal charm which in turn encourages investment in tourism, hospitality and residential development. The Marine Parade shared path upgrade project, thus, will provide significant economic benefits through improving the efficiency of transport systems, supporting local employment, and strengthening Cottesloe's role as a regional hub for tourism.

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Criterion 3 - Project Deliverability

Demonstrate the capability and capacity to deliver the project, including mitigating identified risks.

Attach all relevant information, evidence and analysis to support your responses.

Question	Your Answer
Outline your plan to deliver the project by its proposed timeframes. Tell us about your strategy to deliver your project within its timeframe and budget. An attached project plan will be highly regarded. Is your design completed? If not, what stage is your design up to and what is yet to be investigated? An attached design will be highly regarded.	The draft visual concept design (Attachment M) is completed in-house by the Town of Cottesloe's Engineering staff and the project will be a design and construction project. Following the award of the grant, the Town will advertise the request for a quote on the development of the design for the Marine Parade shared path upgrade into a Principal Shared Path for a 4-week duration. Assessment should take approximately 2 weeks and the contract can be awarded thereafter. The design component of the project is expected to commence in July 2025 and be completed by January 2026. Once the tender documentation which is expected to be finalised in 2 weeks after the design stage, the Town will advertise the tender for the construction of the shared path infrastructure for a 4-week duration. Similarly, the assessment of the tender proposal should take approximately 2 weeks and the tender decision can then be made by the Council. The construction is expected to commence mid-2026 and be completed by June 2027. The Town will deliver the project in three stages by breaking the route into three parts: • Marine Parade between Curtin Avenue and Forrest Street – Construction Stage 1 • Marine Parade between Forrest Street and Eric Street – Construction Stage 2 • Marine Parade between Eric Street and North Street – Construction Stage 3
Detail the skills, capacity and experience of those being engaged to deliver the project. What relevant skills, capacity and experience do key project personnel have to deliver this project successfully?	The Town of Cottesloe within its organisation structure has an Engineering Services Directorate with specialist staff that have successfully delivered a number of Municipal, State, Federal and partnership-funded major projects. s22(1) s22(1) Director of Engineering services who has over 12 years of experience in local government, will oversee the project. While at the Town, s22(1) together with the supporting engineering project team has successfully delivered a number of its own funded major works such as $2million Foreshore Upgrade to the south of Indiana Teahouse and $1million in beach access paths upgrades along the coastline. Additionally, our success in delivering partnership projects is best seen in the $1.5 million Eric Street Shared Path connecting the Perth to Fremantle cycle way to the Foreshore Precinct, a $1 million community aspired skatepark, a $1.6 million Anderson Sport Pavilion to promote female football participation and a further $1 million in the upgrade of both the Dutch Inn Foreshore Playground and the East Cottesloe Nature Play Area largely financed by the State and Federal Government.
Explain the size and adequacy of the project budget, including allowances for contingency. Who completed the costing for your project, what is their experience costing similar projects and what is the costing methodology? Provide an explanation for the contingency amount you have allocated for the project in cell C34 under the 'Project Budget' tab. A attached project budget will be highly regarded.	The costing of the project is completed in-house by the Town of Cottesloe Engineering Staff. Previous rates from similar projects (Shared Path Upgrade) were used for costing the different components under the 'Project Budget' tab in the main application form. When preparing the costing for the project, the team has also considered the annual CPI increase over the years. The contingency amount allocated for the project is $828,000 (25 percent of the project cost i.e. $3,312,000) based on the advancement of project costing depending on the in-house costing.
Outline the governance model for the project and how it is appropriate for successful delivery. What is the governance structure in your project, who makes decisions about the project?	As stated in part 2 of the Project Deliverability query, the Town of Cottesloe Engineering Services will be the core team responsible for project oversight. The project's decisions will be made by the Council and Executives which serves as the governing body. The directorate will also work in collaboration with key stakeholders, including State Government representatives, and community representatives to ensure that the project will align with both technical and community expectations. Furthermore, the Town's Project and Contract Management Framework provides ongoing governance in the delivery of infrastructure and has delivered outcomes certified as compliant by the Office of the Auditor General. This project assurance system addresses both planned and unplanned risk through the deployment of several management plans to ensure completion to the agreed scope, cost, quality and time. The shared path upgrade project will deliver the same successful outcomes through the use of an overarching project management strategy comprising a works program and expenditure monitoring to ensure actual progress follows the planned pathway. This will also include a contracts management plan to ensure variations are rationalised against instrumented terms and a stakeholder management plan to ensure ongoing community communications during construction. Other elements comprise a risk management plan to mitigate known and unplanned challenges relating but not limited to quality, environment, and safety.
Outline the procurement model for the project and how it may contribute to wider outcomes listed under *section 13* of the Program's Guidelines as well as deliver value of relevant money. You will need to seek a tender exemption from the Department if you are expecting to spend more than $100,000 without an open competitive process. A panel which has undergone a competitive tendering process is considered an open competitive process.	The Town will procure the design component of the project through selective tendering by inviting multiple consultants to apply for the tender. For the construction component of the project, the Town will procure through open tendering by advertising through the Town's portal, newspaper and the e-tendering portal (Tenderlink) that the Town uses. The Town will also apply its Corporate Purchasing Policy (Attachment N) when tendering to appoint a design consultant and a builder for the project. Consistent with this policy, our supporting procurement plan provides an assessment framework that fundamentally considers both the pricing component and technical capabilities when making purchasing decisions which is in line with value for money outcome principles. It's strong emphasis on ensuring a positive social procurement benefit prioritizes buying from First Nation suppliers. These factors align the Town's systems with the Commonwealth's procurement pillars of ensuring competitiveness, efficiency, effectiveness, economical, ethical, accountability and transparency towards value for money outcomes.

Approvals

State if you have obtained required approvals to deliver the project.
If any approval has not been granted, outline under 'Details' when it will be sought and the expected timeframe for approval.

Question	Your Answer	Provide details such as expected delays or dependencies

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Do you have/require Development Approval?	Yes	Approval is required.
Do you have/require Heritage Approval?	Yes	Approval is required.
Do you have/require Cultural Approval?	Yes	Approval is required.
Do you have/require Environmental and/or Fisheries Approval?	Yes	Approval is required.
Do you require any other approvals? List all required other approvals in the details column.	N/A	
Will there be any need to acquire land? If yes explain what steps have been taken to achieve this. Land acquisition can take time, delay milestones, change scope and costs. The more advanced any land acquisition process is, the lower risk it is.	N/A	
If you need to relocate utilities, have you gained the provider consent and been advised of the costs involved and timing? Utility movements are a volatile cost, increasing the risk of future cost overruns. Please provide details of utilities that need to be moved.	No	The Town will identify at the design stage and apply for relevant approval

Risk Assessment

What are your project risks and what are your mitigating strategies?
Outline project risks and mitigation strategies, including where there may be project delays, cost overruns and/or changes in scope.

Risks	Proposed Mitigation Strategy	Likelihood Following Implementation of Mitigation Strategy	Consequence Following Implementation of Mitigation Strategy	Resulting risk	Additional Comments
Changes to funding contributions/ contributors Evidence of secured co-funding contribution is mandatory. Is any of your funding contingent on other parties (for example State Government grant programs or private contributions)? How likely is it that those parties would withdraw funding? What contingency is in place if that were to happen?	The Town has provided a maximum amount $200,000 that can be co-contributed and allocated to the project.	Rare	Minor	Very Low	
Delays or rejections of approvals What is the likelihood of development and approvals not being granted? Why would any approval be rejected? If your approval is rejected, will this mean the project cannot go ahead? Are there other solutions?	The likelihood of development and approvals not being granted is rare. The Town will apply the required approval in early planning stages and regularly follow up with relevant authority to allow for any unforseen circumstances.	Rare	Insignificant	Very Low	
Changes to cost estimates What steps have you taken to ensure that your estimated costs don't change? Cost overruns must be met by the applicant, are you prepared to do that?	During design stage, the Town to engage quantity surveyor and confirm the accuracy of project budget.	Possible	Moderate	Medium	
Identification of additional works at pre-construction What steps have you taken to ensure that there are no unexpected surprises that will affect the cost, scope or timeframes for the project?	As this is the design and construction project, the Town will ensure to include contingency in its design stage for all unforseen circumstances.	Possible	Minor	Low	
Issues with contracting (such as receiving competitive tenders) Have you considered how you will deliver the project? Are costs for labour or materials likely to change before you deliver the project?	The Town, in the project budget estimate, consider the annual CPI increase of 15% over the years.	Possible	Moderate	Medium	
Changes to project timeframes Have you considered any delays to your project, such as adverse weather events?	Adverse weather events can delay project but 25 percent contingency is considered for such events.	Unlikely	Minor	Low	
Changes to scope How mature is your planning for this project? Are there likely to be changes to current design, due to site conditions, constructability, community concerns or any other reason?	Council's adopted foreshore redevelopment design has been taken into consideration when developing concept for the proposed shared path therefore the scope is unlikely to change.	Unlikely	Minor	Low	

Measure		CONSEQUENCE LEVELS				
		INSIGNIFICANT	MINOR	MODERATE	MAJOR	EXTREME
Likelihood	>80% Almost certain	LOW - 11	MEDIUM - 16	HIGH - 20	SEVERE - 23	SEVERE – 25
	60-79% Likely	LOW - 7	LOW - 12	MEDIUM - 17	HIGH - 21	SEVERE – 24
	30-59% Possible	LOW - 4	LOW - 8	MEDIUM - 13	MEDIUM - 18	HIGH – 22
	5-29% Unlikely	VERY LOW - 2	LOW - 5	LOW - 9	MEDIUM - 14	HIGH – 19
	<5% Rare	VERY LOW - 1	VERY LOW - 3	LOW - 6	LOW - 10	MEDIUM – 15

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Conflict of Interest

Please complete either **Option 1 (no known conflict of interest)** or **Option 2 (disclosure of actual, apparent or potential conflict of Interest)**.

Option 1 – No known conflict of interests

I confirm that at the time of signing, to the best of my knowledge I am unaware of any actual, apparent or potential conflicts of interest that would prevent my organisation from proceeding with the proposal outlined in this application or from accepting the funding offer and subsequent funding arrangement with the Australian Government to deliver a project which relates to this application.

I undertake that if at any time I become aware that I, or any other employees or persons associated with the applicant organisation have an actual, apparent or potential conflict of interest, then I will:
a) immediately notify the Commonwealth of Australia as represented by the Department of Infrastructure, Transport, Regional Development, Communications and the Arts (the department) in writing of that conflict and of the steps the applicant organisation propose to take to resolve or otherwise deal with the conflict;
b) make full disclosure to the department of all relevant information relating to the Conflict; and
c) take such steps as the department may, if it chooses to, reasonably require to resolve or otherwise deal with that conflict.

I understand that if I fail to notify the department of any actual, apparent or potential conflicts of interest or am unable or unwilling to resolve or deal with the conflict as required by the terms noted above, the department may seek to withdraw or cancel the funding offer and subsequent funding arrangement established in relation to a project which relates to this application.

Signature **Authorised Person**	
Printed name	s22(1)(a)(ii)
Date	13/01/2025
Signature of witness	
Printed name of witness	s22(1)(a)(ii)
Date	13/01/2025

Option 2 – Disclosure of conflict of interests

I disclose the following interests:

[input text]

I undertake that if at any time I have an actual, apparent or potential conflict of interest, then I will:

a) immediately notify the Commonwealth of Australia as represented by the Department of Infrastructure, Transport, Regional Development, Communications and the Arts (the department) in writing of that conflict and of the steps proposed in order to resolve or otherwise manage the conflict;
b) make full disclosure to the department of all relevant information relating to the conflict; and
c) take such steps as the department may, if they choose to, reasonably require to resolve or otherwise deal with that conflict.

I understand that if I fail to notify the department of any actual, apparent or potential conflicts of interest or am unable or unwilling to resolve or deal with the Conflict as required by the terms noted above, the department may seek to withdraw or cancel the funding offer and subsequent funding arrangement established in relation to a project which relates to this application.

Signature **Authorised Person**		
Printed name		
Date		
Signature of witness		
Printed name of witness		
Date		

Declaration and Authorisation

I confirm that:

1. I am authorised to make this declaration on behalf of my organisation and have made a full disclosure of information.

2. My project has funding co-contribution secured. My organisation has carefully considered market and inflation risk, and bears sole responsibility for cost overruns.

3. I acknowledge that my project is for new works which have not previously been funded under this Program.

4. I acknowledge that changes to this project must be approved by the department prior to any change in work being delivered.

5. I acknowledged that information from this application may be used for reporting purposes and details of funded projects (including the project name, project scope, funding recipient and project costs) will be made publicly available on the Department's website.

6. If this application is approved, funding will be for the project described in this application and may not be directed to any other project or purpose.

7. All information provided in this application form is true and correct.

8. I acknowledge that administration of the Program is dictated by requirements of the National Land Transport Act 2014, Federal Financial Agreement Infrastructure, Land Transport Infrastructure Projects Schedule and the Program Guidelines, and I agree to comply with all requirements outlined.

I declare that I am authorised to submit this form on behalf of the applicant and acknowledge that this is the equivalent of signing this application.

Full Name of Authorised Officer:	s22(1)(a)(ii)
Position/title:	Director Engineering Services
Organisation name	Town of Cottesloe
Date:	13/01/2025

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EDGE

TRANSPORT SOLUTIONS

ROAD SAFETY INSPECTION

EXISTING ROADS – ROAD SAFETY INSPECTION MARINE PARADE BETWEEN CURTIN AVENUE AND NORTH STREET, COTTESLOE

Abstract

THIS ROAD SAFETY INSPECTION IS A FORMAL EXAMINATION OF AN EXISTING ROAD, IN WHICH THE INDEPENDENT, QUALIFIED TEAM REPORTS ON THE CRASH POTENTIAL AND SAFETY PERFORMANCE

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Version 1.0 – Issue Date 31.05.2019 - FINAL

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CONTENTS

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1 SAFETY AUDIT DOCUMENT CONTROL SHEET

Project Location	Marine Parade (between Curtin Avenue and North Street), Cottesloe
Project Proposal	Existing Road Review
Audit Stage	Existing Roads, Road Safety Inspection
Prepared For	Town of Cottesloe
Prepared by:	s 47F , Edge Transport Solutions Pty Ltd
Audit Team Leader	s 47F
Organisation	Edge Transport Solutions Pty Ltd
Audit Reference	Version 1.0 – Final
Report Issue Date	31.05.2019

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2 INTRODUCTION

2.1 SCOPE OF AUDIT

A Road Safety Inspection is a formal examination of an existing road or road related area in which an independent, qualified team report on the crash potential and likely safety performance of the location. (Formerly known as an 'Existing Road Safety Audit')

This Road Safety Inspection has been undertaken in accordance with the requirements contained in the Main Roads Western Australia Policy and Guidelines for Road Safety audits.

This report is an Existing Roads, Road Safety Inspection for the Town of Cottesloe of Marine Parade, between Curtin Avenue and North Street (approximately 3.5km), inclusive of all intersections and the shared path along the western side of the road, which are all under the care and control of the Town of Cottesloe. The aim of the project is to identify safety risks to improve amenity and safety for all road users on Marine Parade.

All the findings described in Section 3 of this report are considered by the audit team to require action in order to improve the safety of the proposed project and to minimise the risk of crash occurrence and reduce potential crash severity.

Marine Parade

Marine Parade is a single carriageway road with a single northbound and southbound lane with a median island along the majority of its length, between the intersections of Curtin Avenue and North Street. There are bus stops located on both the western and eastern sides of Marine Parade north of Forrest Street, with business and residential accesses along its length. There are footpaths on both sides of Marine Parade. There are no provisions for cyclists on road.

Marine Parade is classified as a Distributor B road as per the Main Roads Hierarchy and is subject to a 50 km/hr speed limit, with the exception of the section between Eric Street and Pearse Street which is subject to a speed limit of 40 km/hr.

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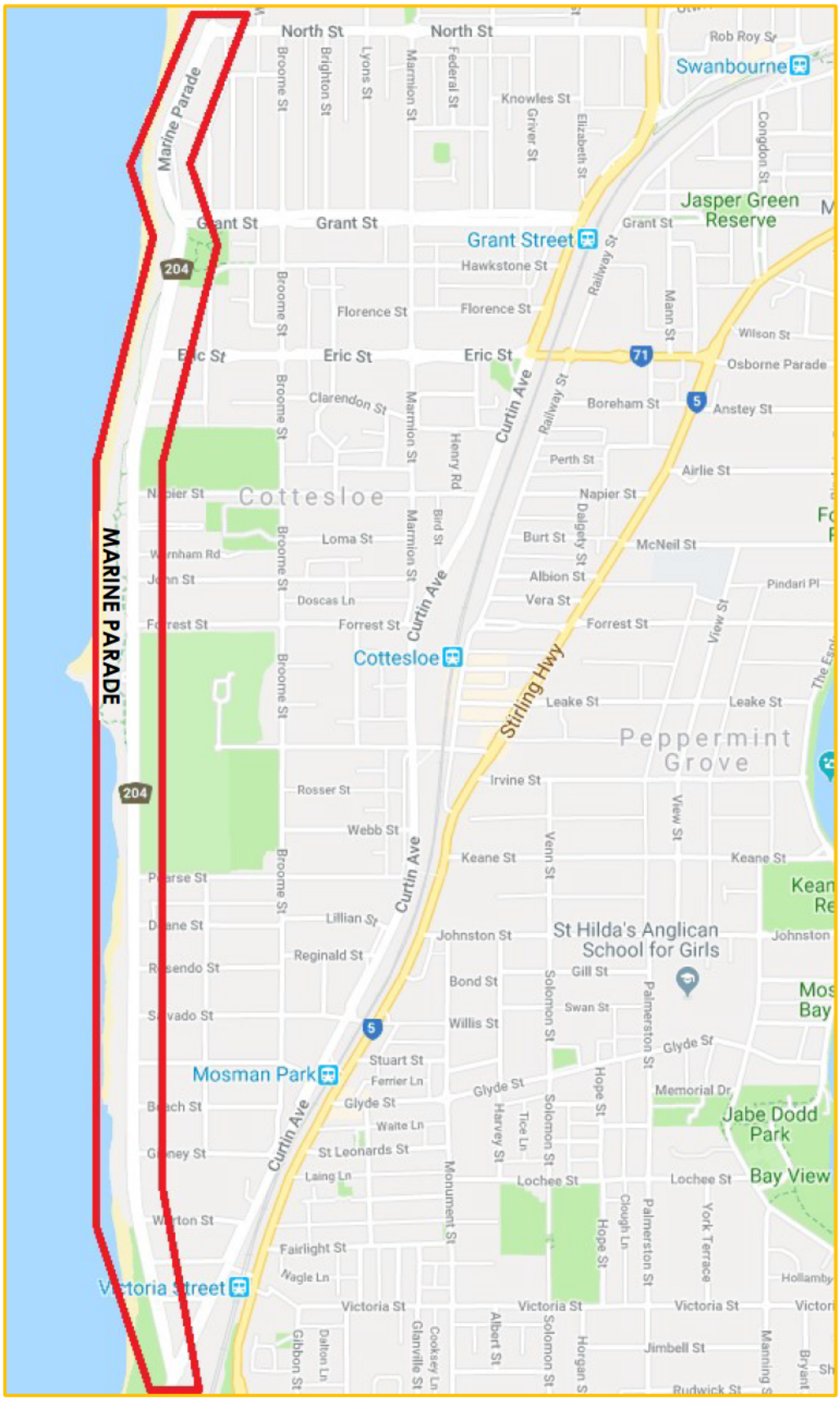

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Figure 1 – Marine Parade, between Curtin Avenue and North Street – Location of the Existing Roads Inspection.

The road safety inspection was led by Senior Road Safety Auditor, s 47F of Edge Transport Solutions Pty Ltd and undertaken with reference to the details provided in the Audit Brief and comprised an on-site review of the road section identified in Figure 1 above. All of the findings described in Section 3 of this report are considered by the audit team to require action to improve the safety of Marine Parade between Curtin Avenue and North Street and to minimise the risk of crash occurrences, and reduce potential crash severity.

The audit team has examined and reported only on the road safety implications as presented.

2.2 THE AUDIT TEAM

Auditor No.	Name	Role	Organisation
303 (S) (R)	s 47F	Audit Team Leader	Edge Transport Solutions Pty Ltd
318 (A)	s 47F	Audit Team Member	Edge Transport Solutions Pty Ltd
319 (A)	s 47F	Audit Team Member	Main Roads WA

The audit team undertook the site inspection on Tuesday 16 April 2019. At the time of the site visit, the weather was cloudy with momentary rain, and the existing road surface was wet. A night-time site visit was undertaken on the same day.

2.3 SPECIALIST ADVISORS

No specialist advisors were required for this safety inspection.

2.4 SAFE SYSTEMS FINDINGS

The aim of Safe System Findings is to focus the Road Safety Audit process on considering safe speeds and by providing forgiving roads and roadsides. This is to be delivered through the Road Safety Audit process by accepting that people will always make mistakes and by considering the known limits to crash forces the human body can tolerate. This is to be achieved by focusing the Road Safety Audit on particular crash types that are known to result in higher severity outcomes at relatively lower speed environments to reduce the risk of fatal and serious injury crashes.

The additional annotation "IMPORTANT" shall be used to provide emphasis to any road safety audit finding that has the potential to result in fatal or serious injury or findings that are likely to result in the following crash types above the related speed environment: head-on (>70 km/h), right angle (>50 km/h), run off road impact object (>40 km/h), and crashes involving vulnerable road users (>30 km/h), as these crash types are known to result in higher severity outcomes at relatively lower speed environments.

The exposure and likelihood of crash occurrence shall then be considered for all findings deemed "IMPORTANT" and evaluated based on an auditor's professional judgement. Auditors should consider factors such as, traffic volumes and movements, speed environment, crash history, the road

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environment, and road safety engineering and crash investigation experience to determine the likelihood of crash occurrence. The likelihood of crash occurrence shall be considered either "VERY HIGH", "HIGH", "MODERATE" or "LOW" and this additional annotation shall be displayed following the "IMPORTANT" annotation on applicable findings.

2.5 PREVIOUS SAFETY AUDITS

No previous Road Safety Audits or Inspections have been undertaken.

2.6 BACKGROUND DATA

2.6.1 CRASH HISTORY

A review of the crash data in the Main Roads WA Crash Analysis Reporting System (CARS) for the length of the route over the five-year period between January 2014 and December 2018 is summarised as follows:

Summary

There has been a total of 101 recorded crashes on Marine Parade between Curtin Avenue and North Street intersections. Crash types were 36% rear end, 18% right angle, and 3% Hit pedestrian. Out of the crashes, there has been 1 fatality, 6 required hospitalisation, 11 medical treatment and 50 PDO Major.

The abovementioned fatality occurred at the intersection of Marine Parade and Sydney Street in 2014, and was a result of a 'Thru-Right' crash.

2.6.2 TRAFFIC AND SPEED DATA

A summary of recent traffic data is provided below:

Location	Date	Direction of Flow	Heavy Vehicles (Weekday average % heavy vehicles)	Weekday Average Traffic Volumes	AM Peak	PM Peak
Marine Parade (south of Eric Street)	2018/19 (Mid-block traffic count)	North/ Southbound	4.6%	8,996	639 (8am to 9am)	680 (5pm to 6pm)

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Marine Parade (north of Curtin Avenue)	2017/18 (Mid-block traffic count)	North/ Southbound	6.7%	5,800	620 (8am to 9am)	517 (3pm to 4pm)
Eric Street (east of Marine Parade)	2017/18 (Mid-block traffic count)	West/ Eastbound	5.1%	2,994	239 (11am to 12pm)	235 (5pm to 6pm)

A summary of recent speed data is provided below:

Location	Date	Direction of flow	Posted Speed Limit (km/hr)	Average Speed (km/hr)
Marine Parade (south of Eric Street)	2018/19	Both directions	40	43 (average hourly 85 percentile speed – passenger vehicles)
Eric Street (east of Marine Parade)	2017/18	Both directions	50	44 (average hourly 85 percentile speed – passenger vehicles)

2.6.3 APPENDICES

Appendix A - Corrective Action Report
Appendix B – Crash Data
Appendix C – Traffic Data

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3 ITEMS RAISED IN THIS EXISING ROADS AUDIT

3.1 FINDING 1 – MARINE PARADE/ CURTIN AVENUE ROUNDABOUT

The sight distance between the approaching motorists on the north-western (Marine Parade) and north-eastern (Curtin Avenue) arms of the roundabout is limited due to the vertical alignments, and also the presence of vegetation/ property fencing. (see figure 2).

Figure 2. Looking west towards Maddington Road

JUSTIFICATION OF THE FINDING:

Based on a turning count sourced from Main Roads WA for the subject roundabout, the dominant movements are the northbound and southbound through movements on Curtin Avenue, whereas the traffic volumes at the Marine Parade approach are much lower in comparison (traffic data provided in Appendix C).

As such, it was expected (and observed on-site), that the approaching speed of southbound motorists are generally higher than desirable, in anticipation of not being required to giveway to the traffic from Marine Parade due to the high northbound demand on Curtin Avenue.

This driver behaviour, coupled with the limited sight distance, is likely to result in 'Right-Through' crashes from southbound motorists failing to giveway to eastbound motorists on Marine Parade and 'Rear-End' crashes at the north-eastern approach on Curtin Avenue. Both of these types of crashes are evident from the latest Crash History sourced from Main Roads WA.

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RECOMMENDATION:

Consider the countermeasures detailed below to address abovementioned road safety finding to reduce the approaching speeds entering the roundabout.

- Installing traffic calming device on the northern and southern approaches to the roundabout.
- Modifying the approach alignments of the roundabout to provide adequate pre-deflection.
- Undertake on-going maintenance of the vegetation in close proximity of the roundabout to ensure adequate sight distance available from each approach of the roundabout satisfies the criteria outlined in Section 3 of Austroads' Guide to Road Design Part 4B.

[IMPORTANT | HIGH]

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3.2 FINDING 2 – SIGNS AND LINE MARKING ON INTERSETING SIDE ROADS

A number of intersecting side roads along this section of Marine Parade are without 'giveway' line marking and/ or single barrier line/ unbroken separation lines.

Figure 3. – Typical examples where intersecting side roads on Marine Parade are without giveway line marking and/ or single barrier lines

Figure 4. – Marine Parade/ Pearse Street intersection looking east

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JUSTIFICATION OF THE FINDING:

Whilst T-junctions are controlled by legislation requiring the terminating road to giveway to the through road, it can be seen from the crash data that 'Through-right' and 'Right-Through' crashes are occurring with motorists entering Marine Parade from the side road intersections failing to giveway to the traffic on Marine Parade. This includes two high severity crashes resulting in a 'Fatal' and 'Hospitalised'. The lack of Approaching Sight Distance (ASD) and sight distance from the side roads is likely to be a contributing factor to some of these crashes.

RECOMMENDATION:

Consider improving the Approaching Sight Distance (ASD) to Marine Parade on intersecting side roads by providing giveway line marking. Where the carriageway width of the side road is above 6 metres, provide a single barrier line/ unbroken separation line with provision of Raised Reflective Pavement Markers (RRPM) in accordance with Main Roads' standards.

Inspect sight distances available from all intersecting side roads on Marine Parade in accordance with Clause 2.5.4 and Figure 2.2 of AS1742.2-2009. Where the minimum sight distance restrictions are not satisfied, the intersection control is to be changed to 'Stop Control' with the provision of a stop line and stop sign.

[IMPORTANT | HIGH]

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3.3 FINDING 3 – KEEP LEFT SIGNS ON MARINE PARADE

A number of central islands on the northern arm of side road intersections are without a 'Keep Left' sign, such as the Pearse Street, John Street, Warnham Road intersections with Marine Parade.

Figure 5. – Marine Parade/ John Street intersection looking north

Figure 6. – Marine Parade/ Warnham Road intersection looking north

JUSTIFICATION OF THE FINDING:

The lack of 'Keep Left' sign(s) at the start of central island(s) may result in turning vehicles from intersecting side road(s) on Marine Parade inadvertently entering the incorrect side of the island leading to a head on collision with another road user in the opposite direction.

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RECOMMENDATION:

Inspect all intersections on Marine Parade and provide 'Keep Left' (R2-3 L) signs as required in accordance with Clause 2.8.3 of AS1742.2-2009.

Alternatively, consider removing the physical central islands on Marine Parade and replace with continuous painted island with hatching.

[LOW]

3.4 FINDING 4 – SIGNS AT BLISTER ISLANDS

The blister island located on Marine Parade approximately 90m north of Napier Street is without the standard 'Slow Point (W5-33) advance signs' and the advisory speed limit signs.

In addition, all three existing blister islands on Marine Parade are without 'Unidirectional Hazard Markers' on the departure side of the island.

Figure 7. – Looking north on Marine Parade towards Blister Island north of Napier Street

JUSTIFICATION OF THE FINDING:

Motorists approaching blister islands on Marine Parade at inappropriate speeds and manoeuvring around the blister islands unaware of the geometry of the kerb, particularly in the evenings under low light condition. This could lead to motorists colliding into non-frangible road side items such as mature street trees and lighting columns.

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RECOMMENDATION:

Provide 'Slow Point (W5-33) advance sign' along with an appropriate advisory speed limit sign (W8-2) on the approach to all blister islands on Marine Parade and 'Hazard marker (D4-1-2) sign' on the outside of departure sides of all blister islands on Marine Parade, in accordance with Main Roads' standard drawing 200331-0135-4.

[IMPORTANT | MODERATE]

3.5 FINDING 5 – MOTORISTS LEAVING CARPARK ON CORNER OF ERIC STREET AND MARINE PARADE

The corner radii of the Eric Street carpark exit on Marine Parade is wide where it intersects with Marine Parade.

Figure 8. – Looking west from Eric Street carpark towards Marine Parade

JUSTIFICATION OF THE FINDING:

The geometry of the abovementioned Eric Street carpark exit, coupled with the absence of 'giveway' sign/ line marking may create the appearance of a continuous left slip lane from the carpark entering Marine Parade. This could result in vehicles entering Marine Parade failing to giveway to the southbound through traffic on Marine Parade resulting in right angle crashes.

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RECOMMENDATION:

Consider providing a 'giveway sign' at the carpark exit and a 'one-way (left) sign' in the central island and also tightening the corner radii on Marine Parade.

[IMPORTANT | MODERATE]

3.6 FINDING 6 – FOOTPATH ACROSS RIGHT ANGLED PARKING BAYS

There are sections of the footpath along the western side of Marine Parade that end without ramp(s) or alternative crossings, across the rank of 90 degree angled parking bays in the western verge.

Figure 9. – Looking south on Marine Parade towards Beach Street

JUSTIFICATION OF THE FINDING:

Accessible path users may not be aware of the path ending without provision of ramps at either end and find it difficult to negotiate the barrier kerbs, presenting trip hazard issues.

RECOMMENDATION:

Consider providing additional path(s) around the western end of all angled parking bays on Marine Parade to divert path users and avoid conflict between reversing vehicles and path users. Alternatively, consider raising the level of the parking bays to match the existing path level and continue the path across.

[LOW]

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3.7 FINDING 7 – ZEBRA CROSSING SIGNS AND LINE MARKING

A number of the zebra crossing signs are obscured by street lighting columns. In addition, some of the signs consist of the old style colour contrast which has now been superceded by Main Roads' updated standards (see figure 10 below).

The old style zig-zag line markings still used on the approach to the zebra crossing located on Marine Parade 25m north of Eric Street. This treatment is no longer complying with Main Roads standard for zebra crossings.

Figure 10. – Looking north on Marine Parade from Eric Street

Figure 11. – Looking north on Marine Parade from Forrest Street

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Figure 12. – Looking north on Marine Parade towards Eric Street

JUSTIFICATION OF THE FINDING:

Substandard and/ or affected signs, line marking leading to lower level of compliance of motorists giving way to pedestrians using the crossings.

RECOMMENDATION:

Review all zebra crossing signs and line markings on Marine Parade and modify where necessary to comply with Main Roads' standard drawing 200331-0164-5.

[IMPORTANT | HIGH]

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3.8 FINDING 8 – PRAM RAMPS

A number of pram ramps along the subject section of Marine Parade were found to be substandard and/ or disconnected to the surrounding path network. Examples provide below.

Figure 13. – Looking north on Marine Parade towards Blister Island north of Napier Street. Pram ramp disconnected to the surrounding path network.

Figure 14. – Looking north on Marine Parade towards Eileen Street. Undesirable/ substandard ramp gradient.

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Figure 15. – Looking north from Marine Parade towards the North Street roundabout. Pram ramp with insufficient landing area.

Figure 16. – Looking north from the south eastern corner of the Marine Parade/ Napier Street intersection. Substandard TGSI alignment directing vision impaired path users diagonally into the intersection.

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JUSTIFICATION OF THE FINDING:

Substandard pram ramps at various locations of the subject section of Marine Parade putting path users in unsafe locations, especially the visually impaired.

RECOMMENDATION:

Review pram ramps along the subject section of Marine Parade and modify where necessary to comply with Section 8.2.3 of Austroads Guide to Road Design Part 4 and AS/NZS 1428.4.1-2009.

[IMPORTANT | MODERATE]

3.9 FINDING 9 – STEEP BATTER AT THE SIDE OF PATHS ON RAILWAY STREET

Sections of the footpath/ shared path on Marine Parade, particularly north of Eric Street, it was observed difference in level between the edge of the footpath and the verge area.

Figure 17. – Looking north on Marine Parade just south of the Grant Street roundabout.

JUSTIFICATION OF THE FINDING:

Assessible path users and cyclists could inadvertently trip over the edge of the shared path resulting in injuries.

RECOMMENDATION:

Review the condition of the verge areas adjacent to the shared paths to ensure a flush transition between the edge of the shared path to the verge area is achieved.

[LOW]

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3.10 FINDING 10 – DARK PARTCHES ON ROAD AND PATHS

A number of dark patches on Marine Parade including the shared paths were identified. These were the result of a combination of factors including (but not limited to) street light spacings, presence of street trees and faulty street lights. Examples provided below.

As part of the evening inspection, the audit team identified a number faulty street lights that were unlit.

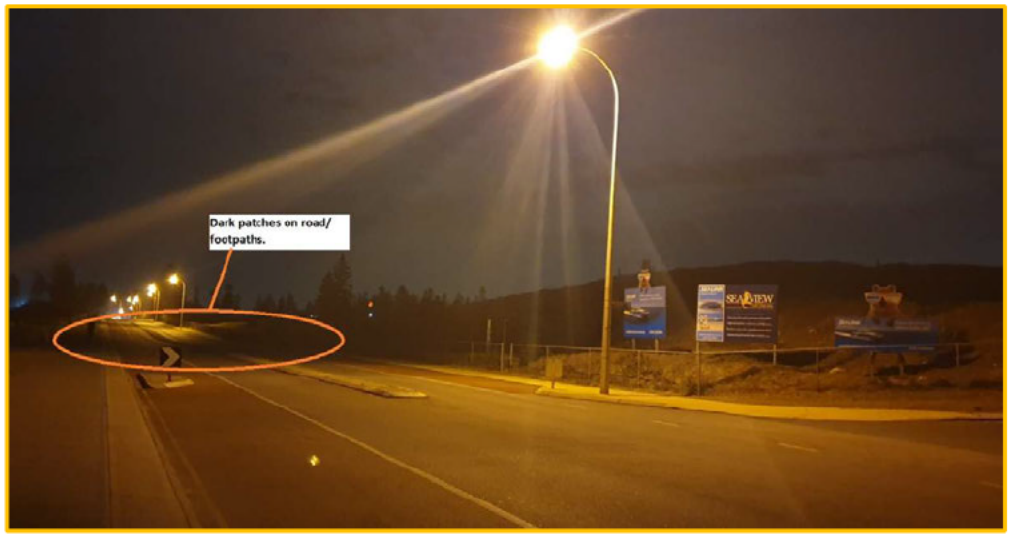

Figure 18. – Looking north on Marine Parade from the Pearse Street intersection – Dark patches on road and adjacent paths.

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Figures 19 & 20. – Unlit sections of the shared path on the western side of Marine Parade.

JUSTIFICATION OF THE FINDING:

At night, visibility is reduced and adequate road lighting may be able to improve safety. There is a risk that the lack of adequate lighting may result in road users not being aware of the road environment and/ or not seeing pedestrians or cyclists.

Road lighting has a significant road safety benefit, with good lighting assisting in the safety of pedestrians and cyclists by illuminating these vulnerable road users as well as hazards.

RECOMMENDATION:

Carry out an audit during the night of the street lights to ensure they are in good working order.

Ensure that the street lighting on Marine Parade including the shared path meets current AS1158 requirements.

[IMPORTANT | HIGH]

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4 AUDIT TEAM STATEMENT

I hereby certify that the audit team have examined the intersection in question on site and confirm that this audit has been carried out independently of the design team and in accordance with Main Roads Policy and Guidelines for Road Safety Audit.

Audit Team Leader

s 47F

Senior Road Safety Auditor – Team Leader

Edge Transport Solutions Pty Ltd

s 47F

s 47F

Signature s 47F

Date 31/05/2019

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APPENDIX A

CORRECTIVE ACTION REPORT

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CORRECTIVE ACTION REPORT - EXISTING ROADS – ROAD SAFETY INSPECTION MARINE PARADE BETWEEN CURTIN AVENUE AND NORTH STREET, COTTESLOE

Findings and Recommendations	Project Manager		
	Agree / Disagree	Reason for Disagreeing	Proposed Action and Comments
3.1 FINDING 1 – MARINE PARADE/ CURTIN AVENUE ROUNDABOUT The sight distance between the approaching motorists on the north-western (Marine Parade) and north-eastern (Curtin Avenue) arms of the roundabout is limited due to the vertical alignments, and also the presence of vegetation/ property fencing. (see figure 2).			
RECOMMENDATION: Consider the countermeasures detailed below to address abovementioned road safety finding to reduce the approaching speeds entering the roundabout. ➢ Installing traffic calming device on the northern and southern approaches to the roundabout.			

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➢ Modifying the approach alignments of the roundabout to provide adequate pre-deflection. ➢ Undertake on-going maintenance of the vegetation in close proximity of the roundabout to ensure adequate sight distance available from each approach of the roundabout satisfies the criteria outlined in Section 3 of Austroads' Guide to Road Design Part 4B. [IMPORTANT | HIGH]			
3.2 FINDING 2 – SIGNS AND LINE MARKING ON INTERSETING SIDE ROADS A number of intersecting side roads along this section of Marine Parade are without 'giveway' line marking and/ or single barrier line/ unbroken separation lines.			
RECOMMENDATION: Consider improving the Approaching Sight Distance (ASD) to Marine Parade on intersecting side roads by providing giveway line marking. Where the carriageway width of the side road is above 6 metres, provide a single barrier line/ unbroken separation line with provision of Raised			

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Reflective Pavement Markers (RRPM) in accordance with Main Roads' standards. Inspect sight distances available from all intersecting side roads on Marine Parade in accordance with Clause 2.5.4 and Figure 2.2 of AS1742.2-2009. Where the minimum sight distance restrictions are not satisfied, the intersection control is to be changed to 'Stop Control' with the provision of a stop line and stop sign. [IMPORTANT | HIGH]			
3.3 FINDING 3 – KEEP LEFT SIGNS ON MARINE PARADE A number of central islands on the northern arm of side road intersections are without a 'Keep Left' sign, such as the Pearse Street, John Street, Warnham Road intersections with Marine Parade.			
RECOMMENDATION: Inspect all intersections on Marine Parade and provide 'Keep Left' (R2-3 L) signs as required in accordance with Clause 2.8.3 of AS1742.2-2009.			

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Alternatively, consider removing the physical central islands on Marine Parade and replace with continuous painted island with hatching. [LOW]			
3.4 FINDING 4 – SIGNS AT BLISTER ISLANDS The blister island located on Marine Parade approximately 90m north of Napier Street is without the standard 'Slow Point (W5-33) advance signs' and the advisory speed limit signs. In addition, all three existing blister islands on Marine Parade are without 'Unidirectional Hazard Markers' on the departure side of the island.			
RECOMMENDATION: Provide 'Slow Point (W5-33) advance sign' along with an appropriate advisory speed limit sign (W8-2) on the approach to all blister islands on Marine Parade and 'Hazard marker (D4-1-2) sign' on the outside of departure sides of all blister islands on Marine Parade, in accordance with Main Roads' standard drawing 200331-0135-4. [IMPORTANT | MODERATE]			

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3.5 FINDING 5 – MOTORISTS LEAVING CARPARK ON CORNER OF ERIC STREET AND MARINE PARADE The corner radii of the Eric Street carpark exit on Marine Parade is wide where it intersects with Marine Parade.			
RECOMMENDATION: Consider providing a 'giveway sign' at the carpark exit and a 'one-way (left) sign' in the central island and also tightening the corner radii on Marine Parade. [IMPORTANT | MODERATE]			
FINDING 6 – FOOTPATH ACROSS RIGHT ANGLED PARKING BAYS There are sections of the footpath along the western side of Marine Parade that end without ramp(s) or alternative crossings, across the rank of 90 degree angled parking bays in the western verge.			

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RECOMMENDATION: Consider providing additional path(s) around the western end of all angled parking bays on Marine Parade to divert path users and avoid conflict between reversing vehicles and path users. Alternatively, consider raising the level of the parking bays to match the existing path level and continue the path across. [LOW]			
3.7 FINDING 7 – ZEBRA CROSSING SIGNS AND LINE MARKING A number of the zebra crossing signs are obscured by street lighting columns. In addition, some of the signs consist of the old style colour contrast which has now been superceded by Main Roads' updated standards (see figure 10 below). The old style zig-zag line markings still used on the approach to the zebra crossing located on Marine Parade 25m north of Eric Street. This treatment is no longer complying with Main Roads standard for zebra crossings.			

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RECOMMENDATION: Review all zebra crossing signs and line markings on Marine Parade and modify where necessary to comply with Main Roads' standard drawing 200331-0164-5. [IMPORTANT | HIGH]			
3.8 FINDING 8 – PRAM RAMPS A number of pram ramps along the subject section of Marine Parade were found to be substandard and/ or disconnected to the surrounding path network. Examples provide below.			
RECOMMENDATION: Review pram ramps along the subject section of Marine Parade and modify where necessary to comply with Section 8.2.3 of Austroads Guide to Road Design Part 4 and AS/NZS 1428.4.1-2009. [IMPORTANT | MODERATE]			

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3.9 FINDING 9 – STEEP BATTER AT THE SIDE OF PATHS ON RAILWAY STREET Sections of the footpath/ shared path on Marine Parade, particularly north of Eric Street, it was observed difference in level between the edge of the footpath and the verge area.			
RECOMMENDATION: Review the condition of the verge areas adjacent to the shared paths to ensure a flush transition between the edge of the shared path to the verge area is achieved. [LOW]			

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3.10 FINDING 10 – DARK PARTCHES ON ROAD AND PATHS A number of dark patches on Marine Parade including the shared paths were identified. These were the result of a combination of factors including (but not limited to) street light spacings, presence of street trees and faulty street lights. Examples provided below. As part of the evening inspection, the audit team identified a number faulty street lights that were unlit.			
RECOMMENDATION: Carry out an audit during the night of the street lights to ensure they are in good working order. Ensure that the street lighting on Marine Parade including the shared path meets current AS1158 requirements. [IMPORTANT | HIGH]			

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Corrective Action Report - EXISTING ROADS – ROAD SAFETY INSPECTION MARINE PARADE BETWEEN CURTIN AVENUE AND NORTH STREET, COTTESLOE

NOTE:

- This Corrective Action Report is to be read in conjunction with the full Road Safety Audit Report and its findings and recommendations.
- The asset owners (MRWA and/or LGA) **must** be informed of these findings, recommendations and proposed actions.
- Items not under the responsibility of this project representative must be forwarded to the persons/agencies who are responsible.

These findings and recommendations have been considered, and the actions listed will be taken accordingly.

Responsible Project Representative	**Company / Agency / Division**	**Position**	**Date**

Asset Owner Representative	**Company / Agency / Division**	**Position**	**Date**

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APPENDIX B

CRASH DATA

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Crash Factor Matrix

Parameter	Value
Job Id	227478798
Road	1160003 - Marine Pde - Curtin Av to Marine Pde and North St
From Date	2014
To Date	2018
Accident Type	All
Severity	All
Atmospheric Conditions	All
Horizontal Geometry	All
Vertical Geometry	All
Surface Type	All
Gender Of Driver	All
Road User Type	All
Crash Type	All
Rum Series	All
Crash Location	All
Traffic Control	All
Day of Week	All
Time of Day	All
Light Conditions	All
Hit Object Crashes	All
Approach Leg	All

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Crash Factor Matrix

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Crash Factor Matrix

ROAD USE MOVEMENT (RUM) CODES

	0	1	2	3	4	5	6	7	8	9
	PEDESTRIAN on foot, in toy/pram	INTERSECTION vehicles from adjacent approaches	VEHICLES FROM OPPOSING DIRECTIONS	VEHICLES FROM ONE DIRECTION	MANOEUVRING	OVERTAKING	ON PATH	OFF STRAIGHT, ON STRAIGHT	OFF PATH, ON CURVE	PASSENGERS AND MISCELLANEOUS
1	NEAR SIDE 1	THRU-THRU 11	SIDE SWIPE HEAD ON 21	Vehicles in same lanes REAR END 31		HEAD ON 51	PARKED 61	OFF CARRIAGEWAY TO LEFT 71	OFF CARRIAGEWAY RIGHT BEND 81	FELL IN/FROM VEHICLE 91
2	EMERGING 2	RIGHT-THRU 12	THRU-RIGHT 22	LEFT REAR 32	LEAVING PARKING 42	OUT OF CONTROL 52	DOUBLE PARKED 62	LEFT OFF CARRIAGEWAY INTO OBJECT/VEHICLE 72	OFF RIGHT BEND INTO OBJECT/VEHICLE 82	LOAD STRUCK VEHICLE 92
3	FAR SIDE 3	LEFT-THRU 13	RIGHT LEFT 23	RIGHT REAR 33	PARKING 43	PULLING OUT 53	ACCIDENT OR BROKEN DOWN 63	OFF CARRIAGEWAY TO RIGHT 73	OFF CARRIAGEWAY LEFT BEND 83	STRUCK TRAIN 93
4	PLAYING, WORKING LYING, STANDING ON CARRIAGEWAY 4	THRU-RIGHT 14	RIGHT RIGHT 24	U TURN 34	PARKING VEHICLES ONLY 44	CUTTING IN 54	CAR DOOR 64	RIGHT OFF CARRIAGEWAY INTO OBJECT/VEHICLE 74	OFF LEFT BEND INTO OBJECT/VEHICLE 84	STRUCK RAILWAY XING FURNITURE 94
5	WALKING WITH TRAFFIC 5	RIGHT-RIGHT 15	THRU LEFT 25	Vehicles in parallel lanes LANE SIDE SWIPE 35	REVERSING 45	PULLING OUT REAR END 55	PERMANENT OBSTRUCTION 65	OUT OF CONTROL ON CARRIAGEWAY 75	OUT OF CONTROL ON CARRIAGEWAY 85	ANIMAL OFF CARRIAGEWAY 95
6	FACING TRAFFIC 6	LEFT-RIGHT 16	LEFT LEFT 26	LANE CHANGE RIGHT 36	REVERSING INTO FIXED OBJECT 46	O.T.-RT 56	TEMPORARY ROADWORKS 66	LEFT TURN 76		PARKED CAR RAN AWAY 96
7	DRIVEWAY 7	THRU-LEFT 17	U TURN 27	LANE CHANGE LEFT 37	LEAVING DRIVEWAY 47		TEMPORARY OBJECT ON CARRIAGEWAY 67	RIGHT TURN 77		VEHICLE MOVEMENTS NOT KNOWN 97
8	ON FOOTWAY 8	RIGHT-LEFT 18		RIGHT TURN S/S 38	LOADING BAY 48					
9	STRUCK WHILE BOARDING OR ALIGHTING 9	LEFT-LEFT 19		LEFT TURN S/S 39	FROM FOOTWAY 49		ON CARRIAGEWAY 69			
	OTHER 98	OTHER 10	OTHER 20	OTHER 30	OTHER 40	OTHER 50	OTHER 60 (MISSILE/ FLYING OBJECT)	OTHER 70	OTHER 80	OTHER 90

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Crash Factor Matrix

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Crash Factor Matrix

Road: 1160003 - Marine Pde - Curtin Av to Marine Pde and North St

ROAD USER MOVEMENT CODE	Number of Crashes by Year						Severity					Surface			Light Condition						Day of Week							Time of Day								
	2014	2015	2016	2017	2018	Total	Fatal	Hospital	Medical	PDO Major	PDO Minor	Dry	Wet	Not Specified	Day	Dusk/Dawn	Dark lights On	Dark lights off	Dark no lights	Not Specified	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	00:00 - 02:59	03:00 - 05:59	06:00 - 08:59	09:00 - 11:59	12:00 - 14:59	15:00 - 17:59	18:00 - 20:59	21:00 - 23:59	Not Specified
00 Series : PEDESTRIAN																																				
3 - Far Side				1		1					1		1				1										1								1	
98 - Other		1	1			2			1		1			2	1		1										2				1			1		
00 Series Total		1	1	1		3			1		2		1	2	1		2										3				1			1	1	
10 Series : INTERSECTION																																				
10 - Other	1			2	1	4			1	2	1	2	1	1	3	1					1					1	2				1	1	1	1		
12 - Right - Thru	2	1		1		4				4		4			2	2					1		1			1	1				1		2	1		
14 - Thru - Right	3		1	1		5	1	1		2	1	4	1		5						1				2	1	1				1	2	2			
10 Series Total	6	1	1	4	1	13	1	1	1	8	2	10	2	1	10	3					3		1		2	3	4				3	3	5	2		
20 Series : VEHICLES FROM OPPOSING DIRECTIONS																																				
22 - Thru - Right			1			1					1	1					1								1								1		
20 Series Total			1			1					1	1					1								1								1		
30 Series : VEHICLES FROM ONE DIRECTION																																				
30 - Other	1					1			1			1			1									1						1						
31 - Same Lane Rear End	3	5	7	7	3	25			3	15	7	22	1	2	20	4	1				3	4	3	2	3	4	6			3	4	7	9	1	1	
32 - Same Lane Left Rear	1	1	1			3				1	2	3			2		1				1		2								1			1	1	
33 - Same Lane Right Rear	1	1				2		1		1		1	1		2						1						1					1	1			
34 - Same Lane U - Turn		1	1	1	1	4			1	3		4			2	2						1			1	1	1			1		1	1	1		
35 - Parallel Lanes - S/swipe	1			1		2				1	1	2			1		1				1				1								1	1		
30 Series Total	7	8	9	9	4	37		1	5	21	10	33	2	2	28	6	3				6	5	5	3	5	5	8			5	5	9	12	4	2	
40 Series : MANOEUVRING																																				
42 - Leaving Parking	1	3		3	1	8		3		5		8			8								3	2		2	1					4	4			
43 - Parking		1	2		1	4				2	2	1	1	2	4											1	3			1	1	2				
44 - Parking Veh Only	1		5	2		8				3	5	5		3	8						1			1	3	2	1			3	1	3			1
45 - Reversing In Traffic		1	1	5	1	8				1	7	7		1	8						1	2			1	1	3			3	1	4			

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Crash Factor Matrix

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Crash Factor Matrix

Road: 1160003 - Marine Pde - Curtin Av to Marine Pde and North St

ROAD USER MOVEMENT CODE	Number of Crashes by Year						Severity					Surface			Light Condition						Day of Week							Time of Day								
	2014	2015	2016	2017	2018	Total	Fatal	Hospital	Medical	PDO Major	PDO Minor	Dry	Wet	Not Specified	Day	Dusk/Dawn	Dark lights On	Dark lights off	Dark no lights	Not Specified	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	00:00 - 02:59	03:00 - 05:59	06:00 - 08:59	09:00 - 11:59	12:00 - 14:59	15:00 - 17:59	18:00 - 20:59	21:00 - 23:59	Not Specified
47 - Leaving Driveway		1		2	2	5				5		5			5							3					2			4			1			
40 Series Total	2	6	8	12	5	33		3		16	14	26	1	6	33						2	5	3	3	4	6	10			5	7	8	12			1
50 Series : OVERTAKING																																				
56 - Into Right Turn			1			1				1		1			1						1											1				
50 Series Total			1			1				1		1			1						1											1				
60 Series : ON PATH																																				
60 - Other					1	1					1			1						1						1							1			
61 - Parked	2		3			5			1	3	1	4		1	2	1	2				1			1	1		2		1	1		1		1	1	
60 Series Total	2		3		1	6			1	3	2	4		2	2	1	2			1	1			1	1	1	2		1	1		1	1	1	1	
70 Series : OFF PATH, ON STRAIGHT																																				
72 - Off Left Cway Obj					1	1		1				1			1								1							1						
75 - Lost Control On Cway	3		1	1		5			3	2		2		3	5						1		1				3			2	1	1	1		
70 Series Total	3		1	1	1	6		1	3	2		3		3	6						1		2				3			1	2	1	1	1		
90 Series : PASSENGERS & MISCELLANEOUS																																				
96 - Parked Car Ran Away		1				1					1			1	1							1									1					
90 Series Total		1				1					1			1	1							1									1					
All RUM Codes	20	17	25	27	12	101	1	6	11	51	32	78	6	17	82	10	8	0	0	1	14	11	11	7	13	15	30	0	1	12	19	23	31	10	4	1

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Crash Factor Matrix

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APPENDIX C

TRAFFIC DATA

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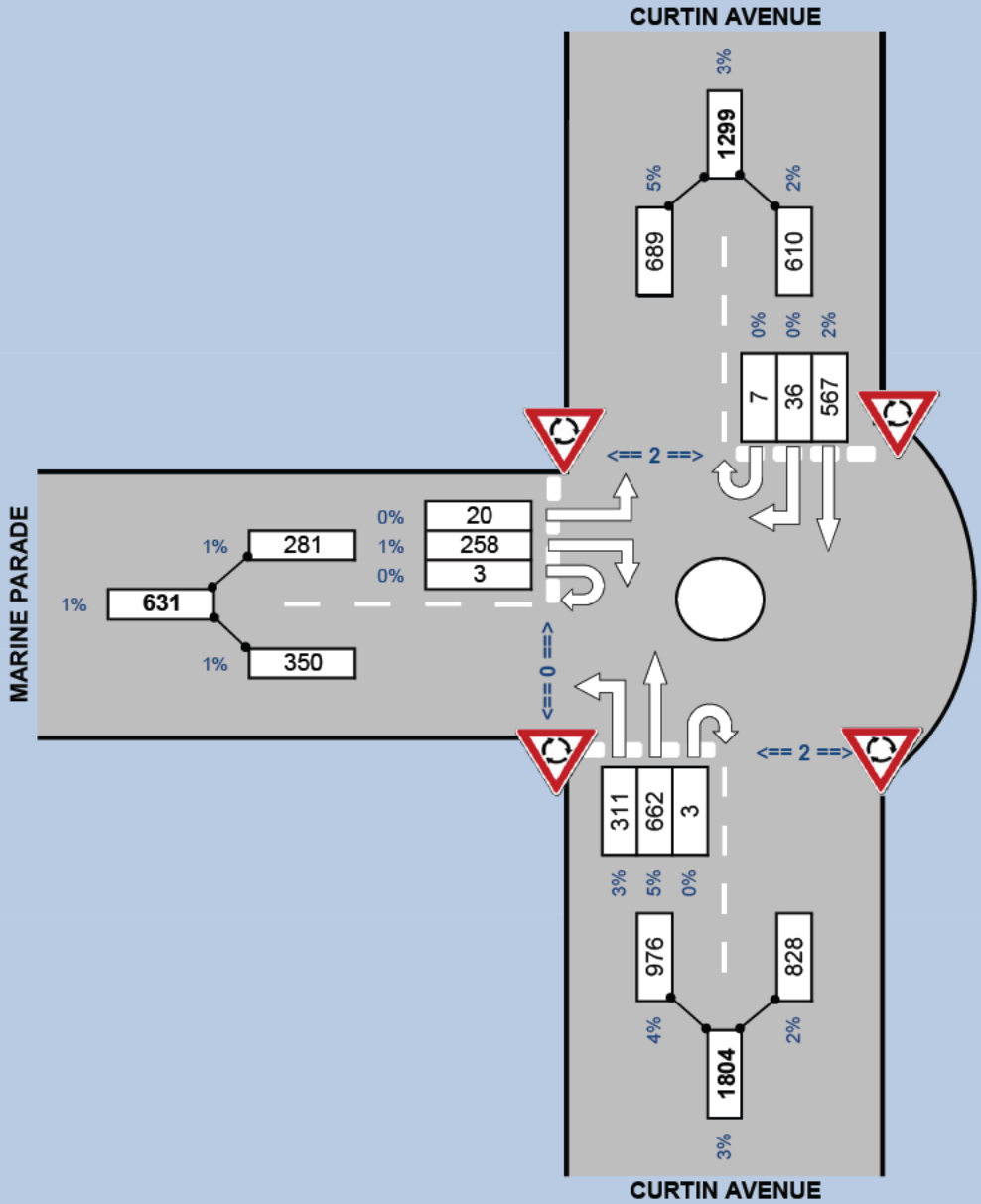
Project :	Curtin Avenue Study	**Date :**	Wed 23rd March 2016
Intersection:	Curtin Ave / Marine Pde	**Weather :**	Fine

Survey Time: AM Peak Hour - 0745 - 0845

All Vehicles

(% Heavy Vehicles)



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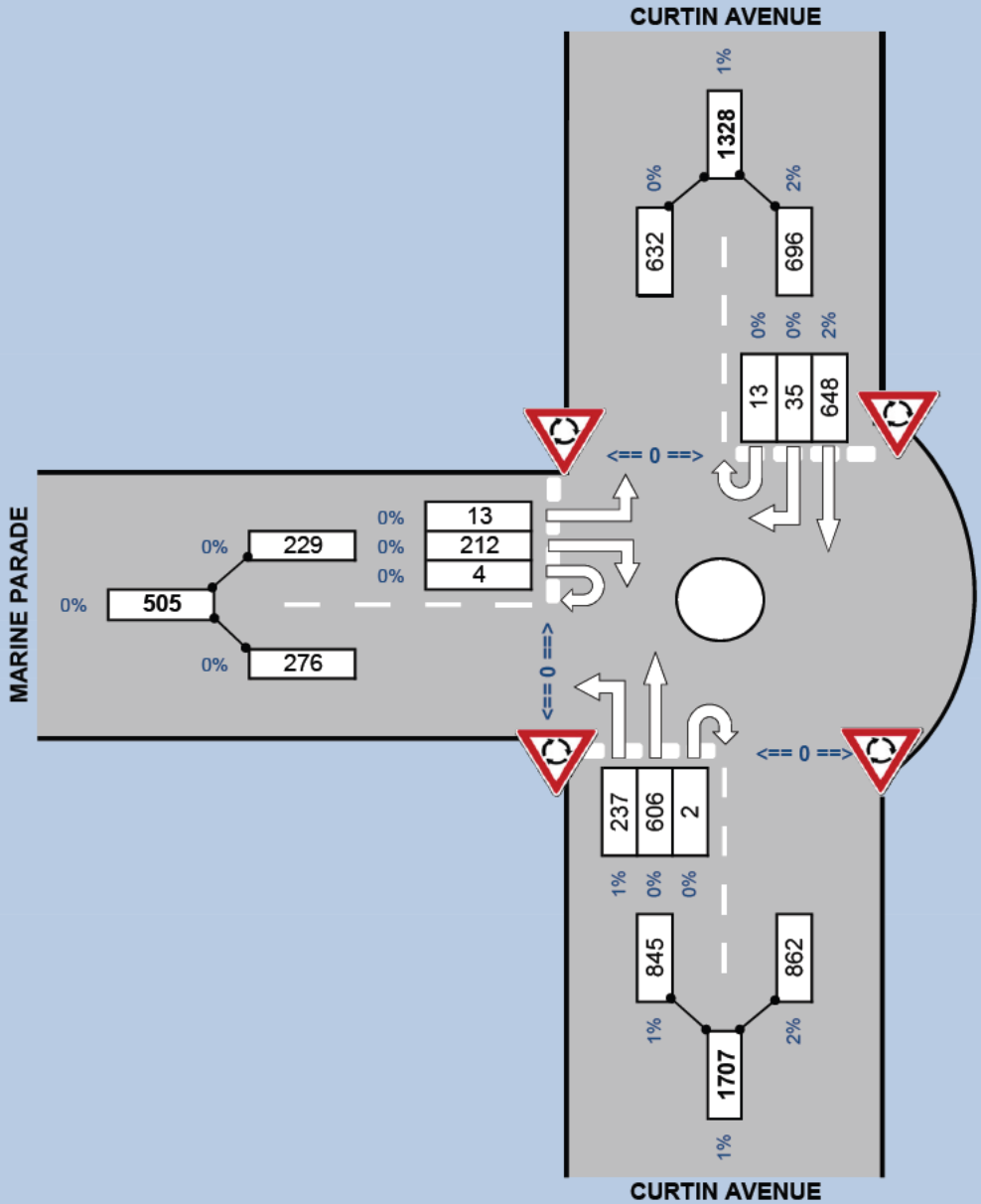
Project :	Curtin Avenue Study	**Date :**	Wed 23rd March 2016
Intersection:	Curtin Ave / Marine Pde	**Weather :**	Fine

Survey Time: PM Peak Hour - 1645 - 1745

All Vehicles

(% Heavy Vehicles)



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Town of Cottesloe

Local Bike Plan 2015 - 2025

CEP02417

Prepared for
Town of Cottesloe

21 April 2017

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Shaping the Future

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Revision	Date	Description of Revision	Prepared by:	Reviewed by:
A	21 Oct 2016	Amended Report	s 47F	s 47F
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C	27 March 2017	Updated Report		
D	21 April 2017	Minor Revision		

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Table of Contents

Appendices

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Acronyms and Abbreviations

AWT	Average Weekday Traffic Volume
DoT	Department of Transport
EoT	End of Trip Facilities
LATM	Local Area Traffic Management
LGA	Local Government Area
PSP	Principal Shared Path
PTA	Public Transport Authority
VPD	Vehicles per Day
WABN	Western Australia Bicycle Network

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1 Introduction

1.1 Purpose

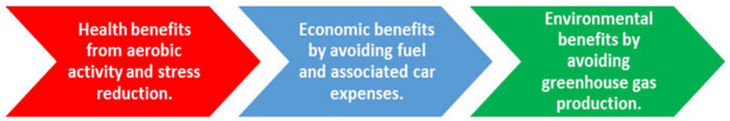
Cottesloe is a unique destination on the Western Australia coastline, with leafy tree-lined streets and unparalleled natural and cultural heritage.

The climate is well-suited to pedestrian and cycling activities, and a highly legible road network allows for efficient connections between residential, retail and recreational nodes.

Pedestrian and cycling activities have been proven to enhance the social, cultural, health and economic outcomes for local residents and businesses. Improvements to pedestrian and cycling infrastructure, therefore improves the lives of the local community.

In recent years, there has been significant growth in the number of people using a bicycle as their primary mode of transport for daily commuting trips. The reasons for this growth in cycle use are varied but are likely to include health, economic and environmental benefits.

Figure 1-1 Benefits of Cycling



The purpose of this Bike Plan is to promote and improve connections for pedestrians and cyclists to and within the Town of Cottesloe, through upgrades to infrastructure along key strategic corridors.

These corridors serve as connections between primary destinations, as recreational routes for leisure activities, as safe routes to schools and as a means to access employment within and beyond Local Government boundaries.

The Cottesloe Bike Plan 2015-2025, by defining the strategic direction for bike infrastructure, also provides a vehicle to attract funding from State Government grants, including the Department of Transport's Western Australian Bicycle Network (WABN) Grant Program.

1.2 Vision

This updated Bike Plan 2015-2025 is aligned with the Town's key planning policies and strategies.

The vision for Cottesloe in this context can be stated as:

"A safe and accessible town where people from all sectors of the community cycle for transport and enjoyment."

1.3 Objectives

To assist the Town in working toward this vision, the following objectives for the Bike Plan have been established to encourage new cycling trips and increase the safety and convenience of existing cycling trips:

> Provide a coordinated approach to implement a high-quality and connected bicycle network.

> Prepare a Bike Plan to guide professionals implementing bicycle network projects.

> Plan for maintaining and safeguarding the existing and future bicycle network.

> Encourage and promote cycling as a legitimate transport mode.

> Integrate cycling network development with other projects.

In addition, the revised Bike Plan 2015-2025 takes into consideration the previous Bike Plan objectives:

> To continue to increase the number of people cycling in the Town.

> To improve the actual and perceived safety of cyclists.

> To ensure the Town's strategies, policies, planning and practices fully take into account the needs of cyclists.

> The development of a network of connected and accessible cycle routes.

1.4 Study Area

This Bike Plan focuses on the function of key corridors within the Town of Cottesloe, identified as providing the greatest degree of connectivity for a range of active transport trips.

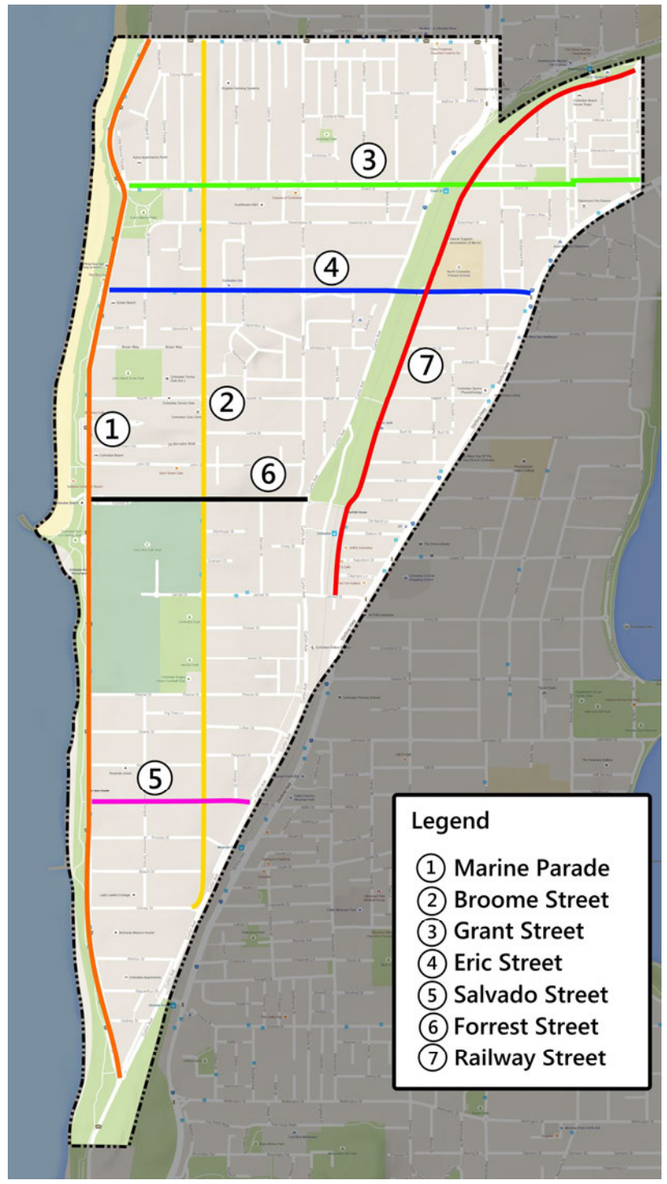
From this core network, connections are enabled to destinations across Cottesloe, and to the strategic network beyond.

A total of 7 primary corridors within the cycle network have been identified for this Bike Plan, and adopted as the study area for the purpose of infrastructure assessment and recommendations for improvement.

These corridors comprise:

1. Marine Parade.
2. Broome Street.
3. Grant Street.
4. Eric Street.
5. Salvado Street.
6. Forrest Street.
7. Railway Street.

Figure 1-2 Bike Plan 2015-2025 Study Area



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2 Analysis and Recommendations

2.1 Land Use Attractors and Generators

Analysis of the Town identifies a number of expected key bicycle trip attractors and generators. These land uses and trip attractors have been used to determine the route destinations for cycling trips within the Town, and the appropriate primary corridors for assessment.

Figure 2-1 Land Uses and Attractors in the Town of Cottesloe

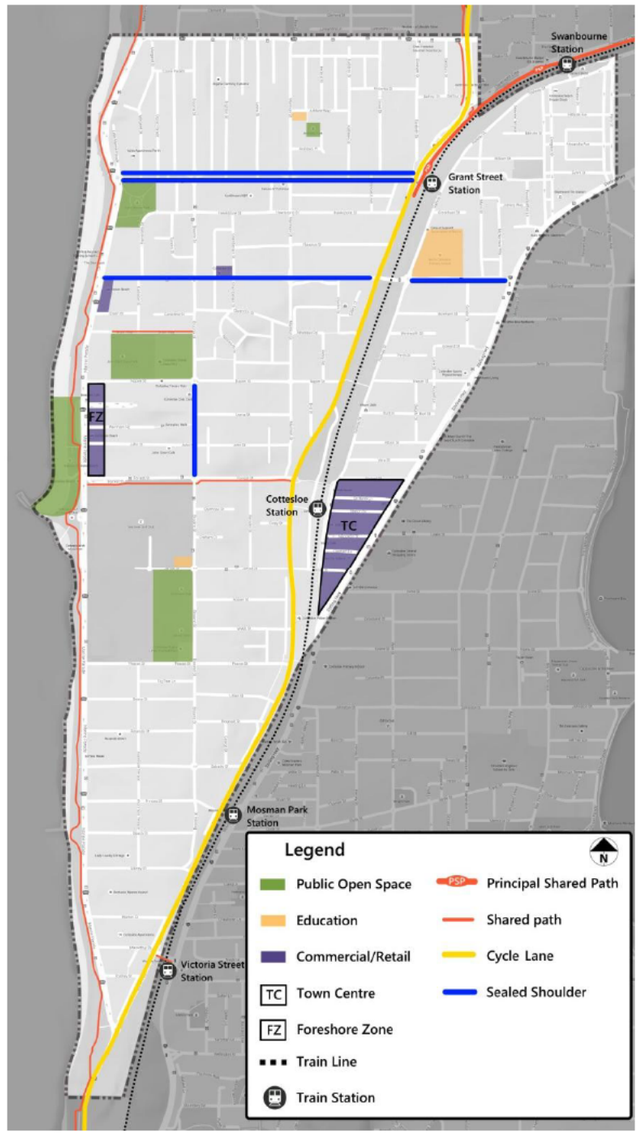


Table 2-1 Key Attractors in the Town of Cottesloe

Key Attractors within Cottesloe	Key Attractors outside Cottesloe
Tourist Sites ▪ Cottesloe Beach **Train Stations** ▪ Mosman Park ▪ Cottesloe ▪ Victoria Street ▪ Grant Street **Employment/Retail Sites** ▪ Cottesloe Town Council ▪ Cottesloe Town Centre ▪ Foreshore Centre ▪ Cottesloe Central Shopping Centre **Schools** ▪ North Cottesloe Primary School **Civic Centres** ▪ The Grove Library **Recreation Sites** ▪ Foreshore/ Parks **Supermarkets** ▪ Eric Street Local Centre **Future Developments** ▪ Cottesloe Foreshore Development **Regional Activity Centre** ▪ Station Street	**Tourist Sites** ▪ Freshwater Bay ▪ Showgrounds **Train Stations** ▪ Swanbourne **Employment/Retail Sites** ▪ Claremont Town Centre **Schools** ▪ St. Hilda's School for Anglican Girls ▪ Presbyterian Ladies College ▪ Methodist Ladies College ▪ Christchurch Grammar School ▪ Iona Presentation Primary School ▪ Iona Presentation College ▪ Cottesloe Primary School **Regional Activity Centres** ▪ Perth CBD ▪ Fremantle ▪ Claremont

Access to key attractors within Cottesloe is facilitated by the internal on-road and off-street pedestrian/cycling infrastructure managed and maintained by the Town.

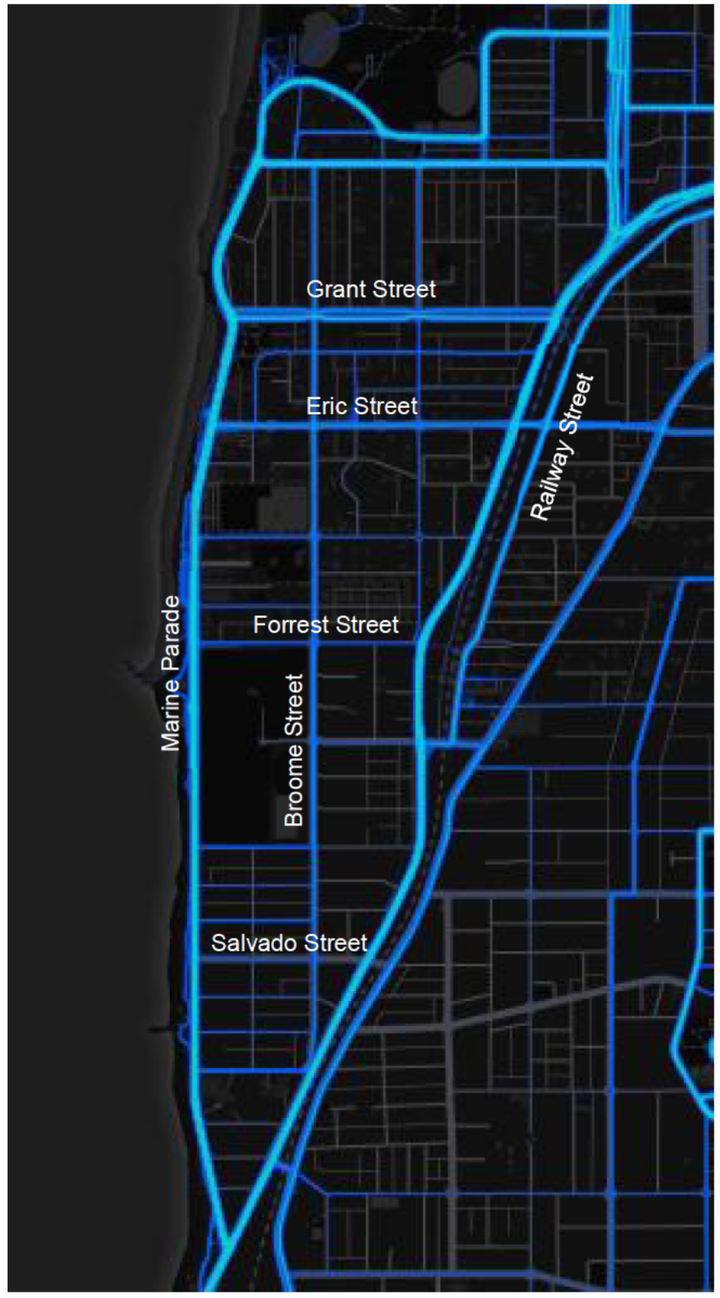
Where this infrastructure is used by commuters and recreational cyclists, Strava Heat Maps show existing demand, as in **Figure 2-2**. This data indicates the highest levels of demand along Marine Parade, the Fremantle Railway Principal Shared Path (PSP) alignment and North Street. Grant Street, Eric Street and Broome Street show lesser demands.

2.1.2 External Routes and Destinations

Beyond the Town's boundaries, pedestrian and cycling connections consist primarily of strategic corridors including Curtin Avenue, the Fremantle Railway PSP which runs alongside the rail line, Stirling Highway and West Coast Highway.

This infrastructure is generally outside of the Town's control, but is vital for commuting and other longer-distance trips. This plan focuses generally on connections to these strategic corridors, ensuring seamless integration with existing and future infrastructure.

Figure 2-2 Strava Heat Map for Cottesloe



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2.2 Principal Shared Path

The Fremantle Railway Principal Shared Path (PSP) is the main cycling thoroughfare within the Town. The PSP is currently discontinuous south of Grant Street. Therefore, the majority of the route through Cottesloe exists as an on-road cycle lane along Curtin Avenue. This infrastructure is significantly less attractive than the alternative off-street form, contributing to a suppression of demand in the order of 35%.

There is a lot of support from the local community on the PSP completion in the Town to provide a safer and direct route. According to the *WABN Plan 2014-2031*, the completion of this section of the Fremantle Railway PSP is programmed for delivery by 2023, with additional detail as provided by the *Principal Shared Path Program 2012-2031* map defining a delivery date of 2018/19.

Given the importance of the Fremantle Railway PSP from a strategic and safety perspective, and the high volume of cyclists using this section of the route, this Bike Plan supports the need to construct the off-street PSP in its final form.

Figure 2-3 Schedule for Perth-Fremantle PSP Completion

Source: Extract from DoT Principal Shared Path Program 2012-2031

2.3 Scope of Analysis

Detailed analysis has been completed for each of the 7 primary corridors selected as the focus for this Bike Plan.

To determine the requirements for infrastructure improvements, the intended function of each corridor was discussed with Town representatives and compared to the existing on-road and off-street environment with consideration for the *Planning and Design for Cyclists*.

Where existing infrastructure does not align with the needs of pedestrians and cyclists, recommendations have been made to provide a cost-effective solution.

The ultimate goal of these recommendations are to create a safe and attractive environment that furthers the vision for the network as a *safe and accessible town where people from all sectors of the community cycle for transport and enjoyment.*

Refer to **Appendix A** for the background information review of this Bike Plan.

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3 Marine Parade

3.1 Function

Marine Parade is the longest corridor among the other 6 primary corridors. There is a significant number of vehicles that travel along this corridor, in the order of 8,000 vehicles per day (vpd). With the magnificent seashore view, a considerable number of recreational cyclists are attracted to this route, either cycling along the shared path or in groups within the roadway.

Marine Parade currently operates to some extent as a bypass route to Curtin Avenue, with traffic associated with residential development further to the north connecting via the southern roundabout directly to Curtin Avenue. This increases the background volume of vehicular traffic beyond the natural demand.

Marine Parade also provides direct access to both the beachfront activity and recreation space, and the adjacent entertainment and restaurant area. These destination trips are likely to continue to use Marine Parade as the most effective connection into the future.

3.2 Assessment

The relatively high volume of vehicles travelling along this corridor are a combination of natural and cultural attractions, and the lack of obstructions to delay through movements.

3.2.1 On-Road

Slow points and roundabouts have been designed to accommodate bus movements at close to posted speed limits, and the result is a road that operates consistently at 50-60km/hr. These slow points then create 'pinch points' for on-road cyclists, where overtaking options are limited, but speed differentials between bikes and cars are high. The resulting environment can be hostile or dangerous for cyclists, and inconvenient for drivers.

Figure 3-1 Pinch Point on Marine Parade

Besides the intrinsic risk, extensive parking embayments along the corridor also create the possibility of 'dooring', cyclists colliding with car doors, often with disastrous consequences. This risk is increased during busy periods, during the evenings and the weekends, when activity is at its highest point.

Figure 3-2 Embayed Parking Along Marine Parade

3.2.2 Off-Street

A shared path is available along the western side of the road, well used by bikes, joggers, walkers, dog walkers and children. Cyclists who choose to use the shared path may primarily ride at lower speeds, but there is little space to maintain safe distances to pedestrians. There are therefore both real and perceived hazards where bikes and pedestrians share this path, particularly at higher speeds.

Moreover, the path runs downhill behind the North Cottesloe Surf Lifesaving Club, creating a higher-speed zone at an important pedestrian crossing and with poor sightlines. Another identified conflict zone is on the path near the Napier Street play area.

Figure 3-3 Path Behind North Cottesloe Surf Lifesaving Club

3.2.3 Marine Parade/Curtin Avenue Roundabout

The terminal roundabout intersection of Marine Parade with Curtin Avenue has been shown to have a history of side swipe and right angle crashes between vehicles and bikes.

Figure 3-4 Marine Parade/Curtin Avenue Roundabout

It is understood that there are plans for a realignment of Curtin Avenue further to the east. This would provide an opportunity to decouple Marine Parade from Curtin Avenue, reducing the attractiveness of rat-running trips while maintaining an attractive link for destination cycling trips to Cottesloe from the south.

In the context of this future realignment it would not be prudent to undertake significant modifications to the existing roundabout form. However, the history of crashes at this intersection makes it a priority for the Town.

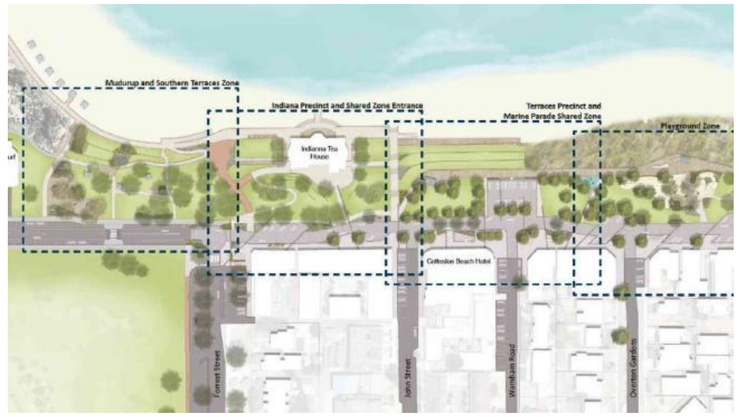
The future of cycling connection at this location has been considered for the existing Curtin Avenue geometry, should plans for realignment be delayed. However, the principles of safe access are consistent irrespective of the position of Curtin Avenue.

3.2.4 Cottesloe Foreshore Masterplan

The Town is planning a redesign of the Cottesloe Foreshore, and particularly the section of Marine Parade between Forrest Street and Eric Street. These plans are not yet finalised, but currently comprise a shared street format, suitable for slow speed traffic, pedestrian crossing and cyclists of all ages.

This format for the Cottesloe Foreshore is consistent with the Department of Transport's 'Bicycle Boulevard' Program, and is intended to provide a comfortable safe environment for bikes and cars in a slow, mixed-traffic space.

Figure 3-5 Excerpt from Cottesloe Foreshore Masterplan



Substantial changes are planned to achieve this vision, including realignment of a section of Marine Parade and the introduction of a number of traffic-calming measures.

The impact of this treatment should be twofold:

1. Enhancement of the Cottesloe Foreshore as a destination, and revitalisation of the natural and built-form activities in this precinct, increasing the number of pedestrian, cycling and private vehicle trips to the area; and
2. Reduced value of Marine Parade as a through-route, due to the increased travel time and slow speeds.

The combination of these two effects will change the dynamic of the entirety of Marine Parade, but also reinforces the need to provide attractive and safe pedestrian and cycling connections to the Cottesloe Foreshore, particularly via primary corridors such as Forrest Street and Marine Parade itself.

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3.3 Options

In order to improve the cycling route along Marine Parade, there is a need to provide some form of separation between cyclists and vehicles, and between fast cyclists and other path users, including along the Raia Roberts Path.

The following represents options and associated commentary:

1. *Cycling groups to be encouraged to use an alternative route in preference to Marine Parade.* This is extremely unlikely to gain any traction and cannot be enforced. Cycling groups already ride in the existing hostile environment despite the lower traffic volumes and conflicts along Broome Street. In addition, social cycling relies on attractive routes and destinations, both of which are provided by the Cottesloe Foreshore area. The desireline for these cyclists therefore lies along Marine Parade.

2. *Commuter cyclists to be encouraged to use an alternative route in preference to Marine Parade off-street paths.* There is potential for commuter cyclists to be drawn away from Marine Parade and into Broome Street or Curtin Avenue. The primary destination for commuters is towards Fremantle or the Perth CBD, both of which have easier access via the PSP. However, the infrastructure along the PSP link is currently sub-standard, and many commuter cyclists find the existing narrow bike lanes intimidating. Upgrade of the PSP would be an effective means of shifting high-speed on-path cycling away from Marine Parade.

3. *Separated cycling infrastructure along Marine Parade.* If high-quality separated bike infrastructure were available, either as a separated bike path or a dedicated Copenhagen-style buffered bike lane, this would provide an extremely attractive alternative to the shared path or road. This would also tend to increase the number of recreational cyclists along Marine Parade, activating the commercial and recreational spaces (see **Concept Design MP2** and **Concept Design MP5**)

   However, providing such infrastructure requires significant space, and would necessarily reduce on-street parking along the road. Other considerations such as pedestrian crossing and bus interactions should also be considered.

4. *Reducing the traffic speed along Marine Parade.* The speed differential between bikes and cars on Marine Parade makes it a daunting space for the majority of cyclists. Reducing the prevailing speed to 30km/hr would make it attractive for mixed-traffic cycling for a broader target demographic, and leave only slow-speed cyclists to share the pedestrian's path. The level of intervention required to create a safe and attractive mixed-traffic environment is currently being explored as part of the Cottesloe Foreshore development. Any street modifications will require liaison with Main Roads WA.

   An alternative would be to introduce vertical speed-calming devices to keep speeds to a safe level and bicycle symbols along the road to improve awareness by both cyclists and drivers of the mixed traffic environment (see **Concept Design MP1**). Speed cushions or platforms may have a number of disadvantages, however, including noise impacts and community pushback.

5. *Raia Roberts Path Duplication*: The existing Raia Roberts Path is an important shared path for pedestrians and off-street cyclists. The high demand along this path creates ongoing conflicts between these modes, and these risks are likely to increase following the redevelopment of the Cottelsoe Foreshore. To mitigate these conflicts, a segregated bike path has been proposed. This follows the alignment of the existing path, diverging at certain points to provide better visibility and reduce pedestrian/cycling conflicts (see **Concept Design MP2)**

6. *On-road cycle lanes.* On-road cycle lanes (see **Concept Design MP3**) may provide some of the more confident cyclists enough surety that they would be willing to use the road rather than the path. This would require some isolated widening, but retains the hazards associated with 'dooring' where on-street parking is located.

   In constrained positions, up-hill bike lanes may be used to separate slow cyclists from cars (see **Concept Design MP4**).

7. *Reducing Off-Street Cycling Speeds.* Along the Raia Roberts Path, the speed differential between bikes and pedestrians, particularly with dogs and children, creates an unsafe conflict mode. To reduce the speed in this area, and in other locations which experience a high demand for both pedestrians and cyclists, there are several options.

   Faster cyclists can be encouraged to use the road, or a separated path – where this type of infrastructure exists it has been shown to be extremely effective in reducing conflicts.

   Cyclists can be encouraged to slow down on the path, through the use of reminder signs, textured 'rumble strips' or pavement surfaces. Speed limit signage is not generally considered to be effective, and may not be enforceable, but can be placed alongside other warning signs to reinforce appropriate behaviour.

3.4 Recommendations

Marine Parade is the primary movement and activity corridor along this section of coastline. The ultimate objective for the Town may be to transform this corridor completely, to create a consistent slow-speed shared space akin to the current Cottesloe Foreshore Masterplan.

The extent of changes and cost of development to this scale suggests that an interim treatment will be required, sufficient to support access to and through the Cottesloe Foreshore Precinct by all modes of transport.

The existing conflicts surrounding the use of shared space suggest that, where the speed differential cannot be reduced, separated infrastructure is required. Therefore, this Bike Plan recommends the construction of 2-way dedicated and buffered bike lanes within the roadway, as described by **Concept Design MP5**. This would necessarily result in a reduction in car parking, which may be offset through increased formal parking in adjacent residential streets.

The buffered bike lane concept creates a space that is sufficient to accommodate a wide section of the cycling community, including the majority of group riders. Slow-speed cyclists (e.g. families cycling along the coast) can safely mix with pedestrians on the retained shared path.

Consideration has been given to the requirements for pedestrian crossing and public bus stops, to ensure that all modes can be accommodated without adverse safety impacts.

Separated pedestrian/bike paths, as described in **Concept Design MP2**, would also provide an improved facility for the majority of users. However, this facility is unlikely to be used by group cyclists, retaining these trips within the roadway.

Irrespective of the concept chosen, the priority should be to separate bikes and pedestrians within the foreshore precinct, consistent with the objectives of the Foreshore Masterplan.

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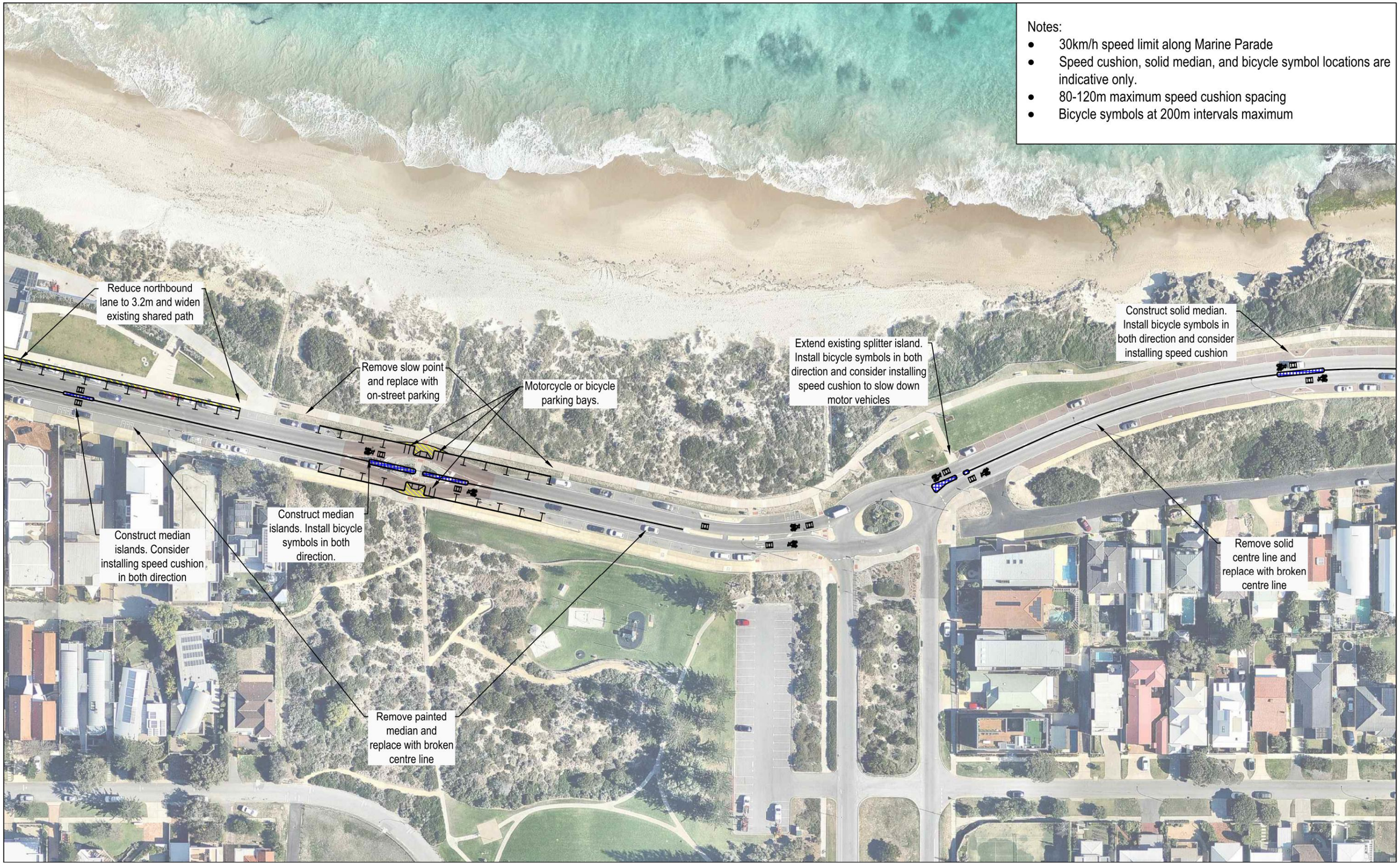
3.5 Concept Designs

Concept Design MP1: Reduced Speeds on Marine Parade through Speed-Reducing Devices



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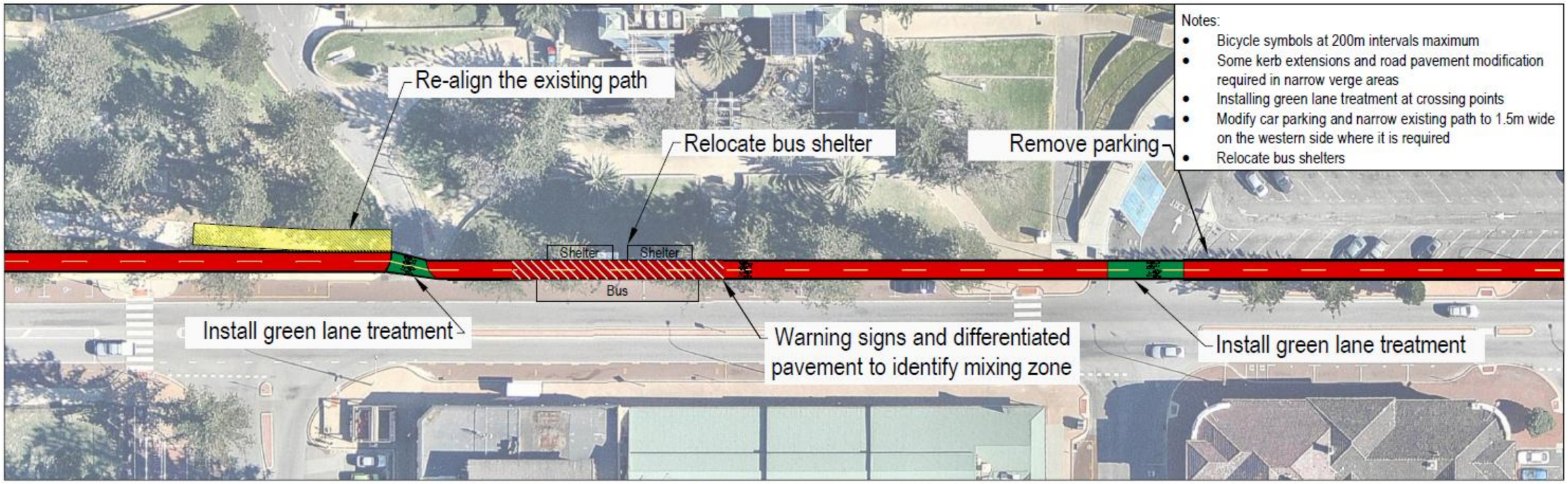
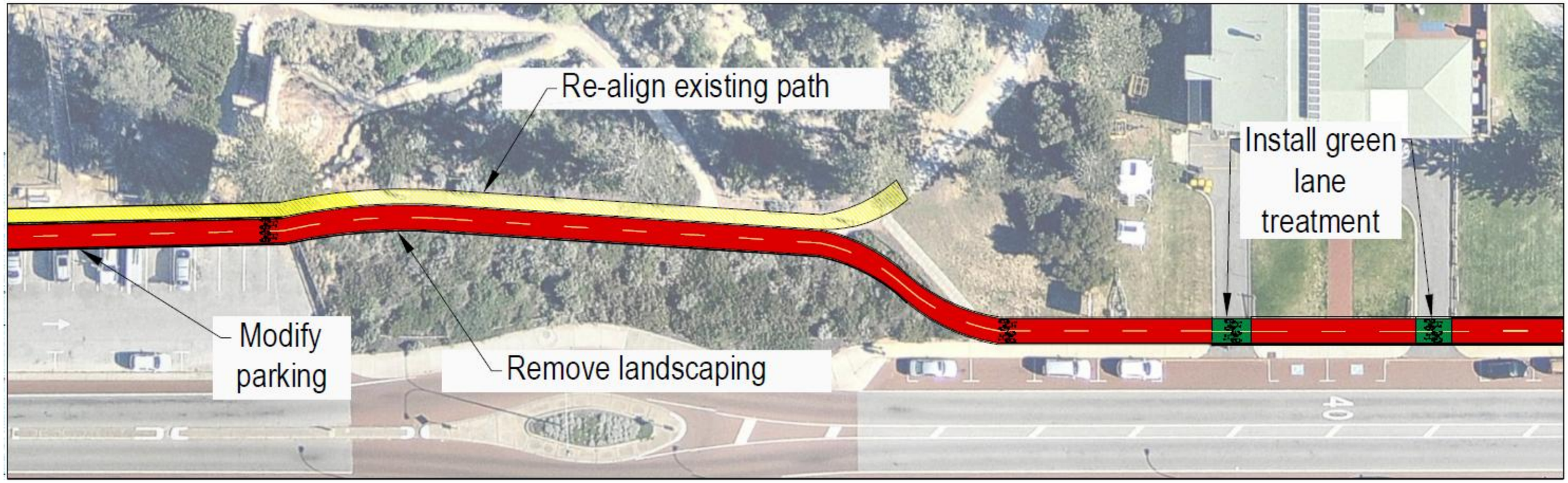
Concept Design MP2: Raia Roberts Path Duplication





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Concept Design MP3: Traditional Bike Lanes, showing Lane Termination Treatment.

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Concept Design MP4: Up-Hill Bike Lanes only

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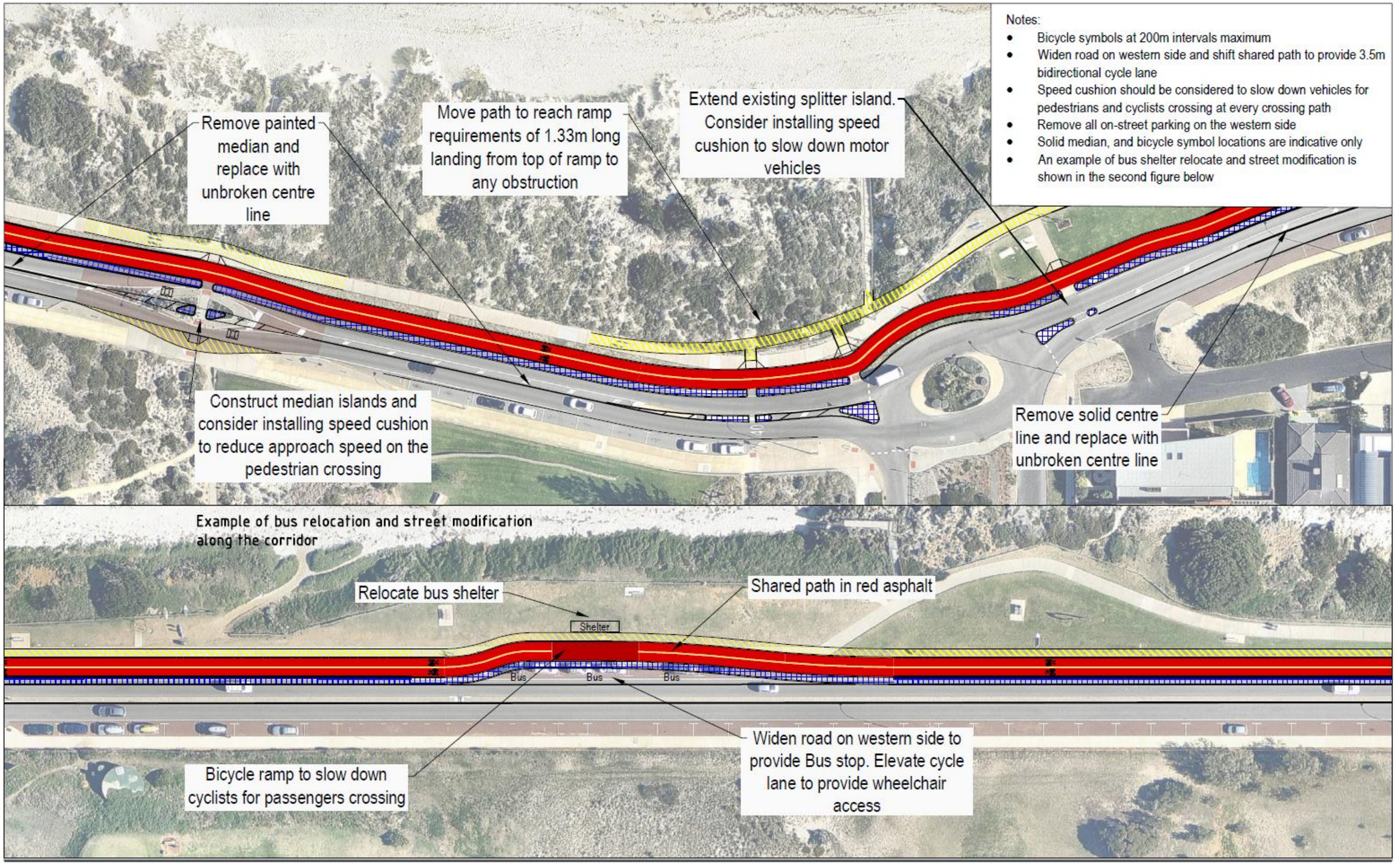
Concept Design MP5: Bi-Directional Separated Copenhagen-style Bike Lanes



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4 Broome Street

4.1 Function

Broome Street is an important north-south access street which serves the majority of Cottesloe, connecting to North Street and Curtin Avenue (via Gibney Street) at its end-points.

While Broome Street provides good quality transport linkages throughout Cottesloe, there are very few trip attractors along its length. This lack of cycling trip generation reduces the value of Broome Street for utility cyclists. The lower volume of traffic (in the order of 3,000vpd) and straight north-south alignment does suggest that it could attract on-road commuter cycling demand if the provision was conducive to such trips.

4.2 Assessment

Along Broome Street, narrow off-street footpaths are available on both sides for less-confident cyclists, including school children. However, these paths run along the property boundary, increasing the risk of conflicts between reversing vehicles from residential driveways and cyclists. A preferred alignment would position bikes near the roadway, with an appropriate offset (0.5-1m) to provide separation.

Figure 4-1 Narrow Footpath Along Broome Street

Existing roundabout intersections (Grant Street, Eric Street, Napier Street, Forrest Street, Jarrad Street and Salvado Street) are configured to maximise traffic throughput, with wide circulating lanes and minimal deflection. This geometry is not supportive of on-road cycling, as cyclists risk getting 'squeezed' as they navigate through the roundabout, creating a serious safety hazard.

Figure 4-2 Example of Wide Circulating Lanes on Broome Street

The environment along Broome Street is not considered to be attractive for cycling in its current form, and the lack of adjacent trip attractors means that cyclists would need to be shifted away from their primary route.

Broome Street outside of peak times is an attractive street for road cyclists, provided that their ultimate destination is beyond the Cottesloe boundaries. However, Strava data does show some interaction between Broome Street cycling and the Cottesloe Foreshore area, indicating that there are some local benefits to this activity.

4.3 Recommendations

4.3.1 Off-Street

As mentioned, the existing narrow footpaths adjacent to the property boundary are not considered to be appropriate for strategic cycling trips. In addition, the lack of activity along Broome Street reduces the importance of this off-street facility for much of its length.

However, there is value in connecting the recently-constructed Forrest Street Shared Path to the civic and recreation hub near Napier Street. A short, high-quality link between Forrest and Napier Streets would assist to connect adjacent activities to the Cottesloe Foreshore and the Cottesloe Station.

This infrastructure is illustrated in **Concept Design B1**. The chosen alignment allows for replacement or retention of the existing pedestrian path on the western side of Broome Street, and has been located to avoid impacts on trees and parking.

4.3.2 On-Street

If the use of Broome Street is to be promoted for commuting trips, two inexpensive options can be considered for reinforcing the route for cyclists.

Traditional cycle lanes, akin to those already in place between Forrest Street and Napier Street can be provided to separate cars from bikes. This treatment requires a minimum sealed width of about 8.8m to be effective, consistent with 3.2m travelling lanes and 1.2m bike lanes. It is noted that there is insufficient width in most sections of Broome Street to install bike lanes without pavement widening, as shown in **Concept Design B2**, resulting in a significant potential cost. Bike lanes also prevent on-street parking by cars.

Figure 4-3 Aerial View of Broome Street

An alternative treatment involves the use of 'sharrow' line marking. This provides a reminder to cyclists and drivers that the route is intended for shared use. Sharrow linemarking in the centre of the lane at the approach to slow points and roundabouts, and adjacent to formal parking serves to remind cyclists to ride in prime position, to reduce the risk of being overtaken or 'squeezed' at these points.

Figure 4-4 Example of Sharrow Line Marking

4.3.3 Bicycle Boulevard

A bicycle boulevard treatment consists of a variety of speed-reducing Local Area Traffic Management measures designed to reduce vehicle speeds to allow safe mixed-traffic cycling and improved safety outcomes. They are ideal for traffic environments consisting primarily of local traffic, or where there is a desire to deter rat-running movements.

Bicycle boulevards tend to be more beneficial for cyclists when they can create a legible connection along a strong desireline (e.g. as part of a commuting trip), and where traffic volumes stay below 1,500vpd.

Broome Street, while functioning as a parallel road to Marine Parade, is not currently a prime candidate for a bicycle boulevard, for the following reasons:

> The 6 roundabouts along Broome Street create high-speed cross-traffic with little protection for cyclists, irrespective of the prevailing speed along the Broome Street corridor.

> Marine Parade is proposed to be extensively traffic calmed through the Cottesloe Foreshore Masterplan. This is likely to deviate local through traffic away from Marine Parade, towards either Broome Street or Curtin Avenue – this suggests that the current 3,000vpd volumes are more likely to increase than decrease.

> Broome Street provides minimal direct connection to activities, nor does it form a clear route along a particular desireline. Bicycle volumes along the parallel road, Marine Parade, are primarily there as a form of destination route. That is, these trips specifically choose the Marine Parade corridor due to its position along the coast, or to access activities in the Precinct. Deviation of these trips to Broome Street is therefore unlikely.

The above points notwithstanding, Broome Street may benefit from traffic calming to address safety concerns or to redirect traffic to Curtin Avenue. This may be appropriate particularly in the longer-term, following the construction of the Fremantle Railway PSP through to Victoria Street Station, planed for a 2019 horizon.

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4.4 Concept Designs

Concept Design B1: Forrest Street to Napier Street Shared Path

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Concept Design B2: Broome Street Bike Lanes

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5 Grant Street

5.1 Function

Grant Street is a boulevard-style road that connects Curtin Avenue to the beachfront. Sealed shoulders along both sides of Grant Street and off-street paths on both sides form the active transport corridor.

Strava heatmap data shows that this is a strong east-west link from the PSP to Marine Parade for commuters and recreational/group riders.

Figure 5-1 Grant Street (typical)

5.2 Assessment

5.2.1 On-Street

The on-street cycling facilities along Grant Street are currently compromised by a substantial number of cars parked legally in the sealed shoulder. This reduces or removes the amenity for cyclists. In addition, the wide central median has created roundabout geometry at Broome Street and Marmion Street which supports high-speed traffic movements and an extensive 'pinch point' at the approach and departure.

5.2.2 Off-Street

The off-street pedestrian paths mostly run along the property boundary, with a corresponding safety risk from reversing vehicles. Transition from the northern path to the PSP requires pedestrians and cyclists to cross Grant Street close to its widest point to access the pedestrian-actuated signal. It is noted that WA Road Rules still prohibits cyclists from riding across a pedestrian crossing. The pedestrian crossing location aligns well with the connection to Grant Street Station and the at-grade rail crossing.

Figure 5-2 Grant Street Station Rail Crossing

An alternative route along Curtin Avenue to the north is available via a narrow pedestrian path, with crossing at the bus stop.

5.3 Recommendations

Grant Street is one of the most direct routes from the PSP to Cottesloe Beach, in addition to Forrest Street. It is, therefore, recommended to leverage the width of road and relatively low traffic volumes (approximately 2,000vpd) to reinforce cycling connectivity along the corridor.

To improve legibility to and from the PSP, it is recommended that minor changes be made to the path network to strengthen this link.

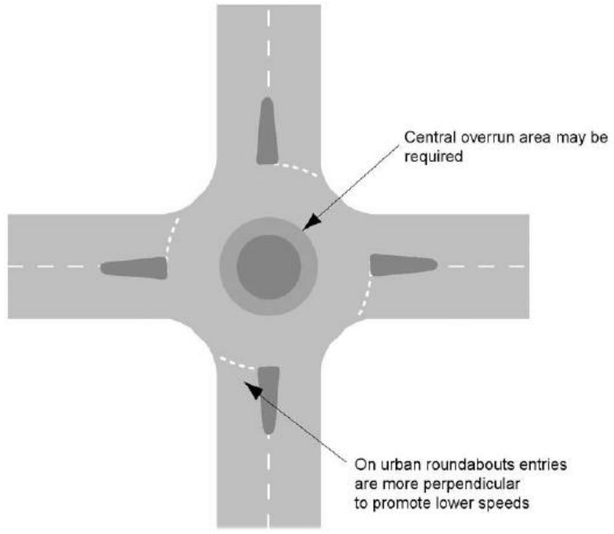
Recommendation for the improvements include:

1. *Upgrade of the sealed shoulder to a formal bike lane.* This would prohibit parking along Grant Street, but would improve safety and function for cyclists.
2. *Install speed humps and flexible bollards at roundabout approaches*. This would reduce vehicle speed at the roundabout and allow all cyclists to merge across into 'prime position' for safe navigation of the roundabout.
3. *Upgrade to a shared path at the Curtin Avenue connection*. This would better connect the refuge island crossing and pedestrian crossing.
4. *Parking replacement.* The impact of bike lanes could be mitigated by constructing formal car parking within the central median.

These improvements are shown in **Concept Design G1**.

To further improve cycling safety, it is recommended that the Town consider modifying the Grant Street and Broome Street roundabout intersection geometry to reduce through speeds and better integrate cycling movements. One such form of roundabout is often called a "European" or "Compact Roundabout", with guidelines available in the UK *Design manual for Roads and Bridges TD16/07.*

Figure 5-3 Compact Roundabout



Source: Design Manual for Roads and Bridges TD16/07

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5.4 Concept Designs

Concept Design G1: Grant Street Upgrades

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6 Eric Street

6.1 Function

Eric Street runs parallel to Grant Street, with connection over the Fremantle train line towards Stirling Highway. Adjacent land uses include North Cottesloe Primary School, Eric Street Shopping Centre and the retail/entertainment precinct adjacent to Ocean Beach Hotel.

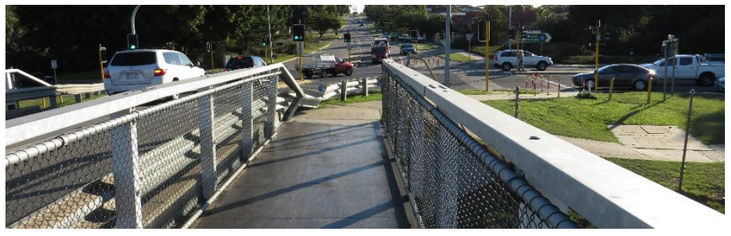
Strava heatmap data shows that Eric Street also functions as a strong connection to and from the east, likely due to its function as one of the few rail crossings in the Cottesloe area, and the provision of on-road bike facilities which are still sufficient to accommodate confident cyclists.

Slow points and roundabouts create 'pinch points' for cyclists, as the sealed shoulders terminate at these locations. However, off-street bypasses have been created to allow cyclists to avoid the conflicts created by the slow points.

Figure 6-1 Slow Points on Eric Street

Eric Street carries as much as 5,000vpd in some sections, and the bridge crossing is narrow, with cycling movements shared either with pedestrians or cars.

Figure 6-2 Eric Street Bridge Pedestrian and Bicycle Crossing



Path infrastructure is provided, as in other locations in Cottesloe, along the property boundary, with some sections located close to the kerb.

6.2 Assessment

Paths along Eric Street are constrained by a variety of issues that restrict the capacity for widening or realignment. These issues include the location of street trees, the position of off-street car parking within the verge area and the service road on the southern side (between Marmion Street and Charles Street).

These issues limit the utility of significant change to the off-street bicycle infrastructure, though there is some potential for an extension of the existing path, which currently terminates at the Cottesloe Scout and Community Centre, through to Chamberlain Street.

6.2.1 Rail Crossing

Of particular note is the bridge crossing over the rail line. The lanes are narrow (3.2m each), which creates a series of pinch points for approximately 120m between the termination of the sealed shoulder at Railway Street and Curtin Avenue. Transition between on-street cycling and the off-street path is poor when approaching from the east, and obstructed by grab rails and other street furniture from the west. The absence of bike lanterns means that cyclists are obliged to dismount to cross off-street.

6.2.2 Railway Street Roundabout

Traffic speeds are high through the Railway Street roundabout, with drivers focused on the signals at Curtin Avenue over cross-traffic. This creates additional risk particularly for cyclists using Railway Street.

6.3 Recommendations

> *Eric Street Bridge*. The Eric Street Bridge may be approaching the end of its useful life. The future replacement of this bridge may allow for improved cycling facilities, similar to works recently completed on the Seventh Avenue Bridge in Maylands. The extent of these changes and the timeframes for modification are currently unknown, and the extent to which cycling can be accommodated will be at the discretion of that future project. However, a wider off-street path along both sides of the road, in addition to on-street bike lanes, would complete the connection that is currently discontinuous over the bridge.

> *Railway Street Roundabout.* The intersection at Railway Street is a safety issue area for cyclists due to the pinch points at the roundabout and high speed of vehicles travelling on Eric Street. To address this, bike symbols will assist cyclists to position themselves correctly at the approach departure (to prevent them from being 'squeezed' out of the lane). Speed cushions are also recommended to reduce vehicle entry speeds.

> *Curtin Avenue Path Upgrade*. Minor modifications to the eastbound approach to the bridge will also improve safety, allowing cyclists to easily connect with the path from the bike lane. Textured surface treatments, including 'rumble strips' or other non-slip treatment may be used to remind cyclists to reduce speed across the narrow bridge path, reinforced by 'courtesy', 'cyclists dismount', or speed limit signage.

However, as the section of Eric Street from Curtin Avenue to Stirling Highway is under Main Roads WA control, the Town would need to liaise with Main Roads WA regarding any proposed works on this section of the road.

The localised minor improvements near the Eric Street Bridge are described by **Concept Design E1**.

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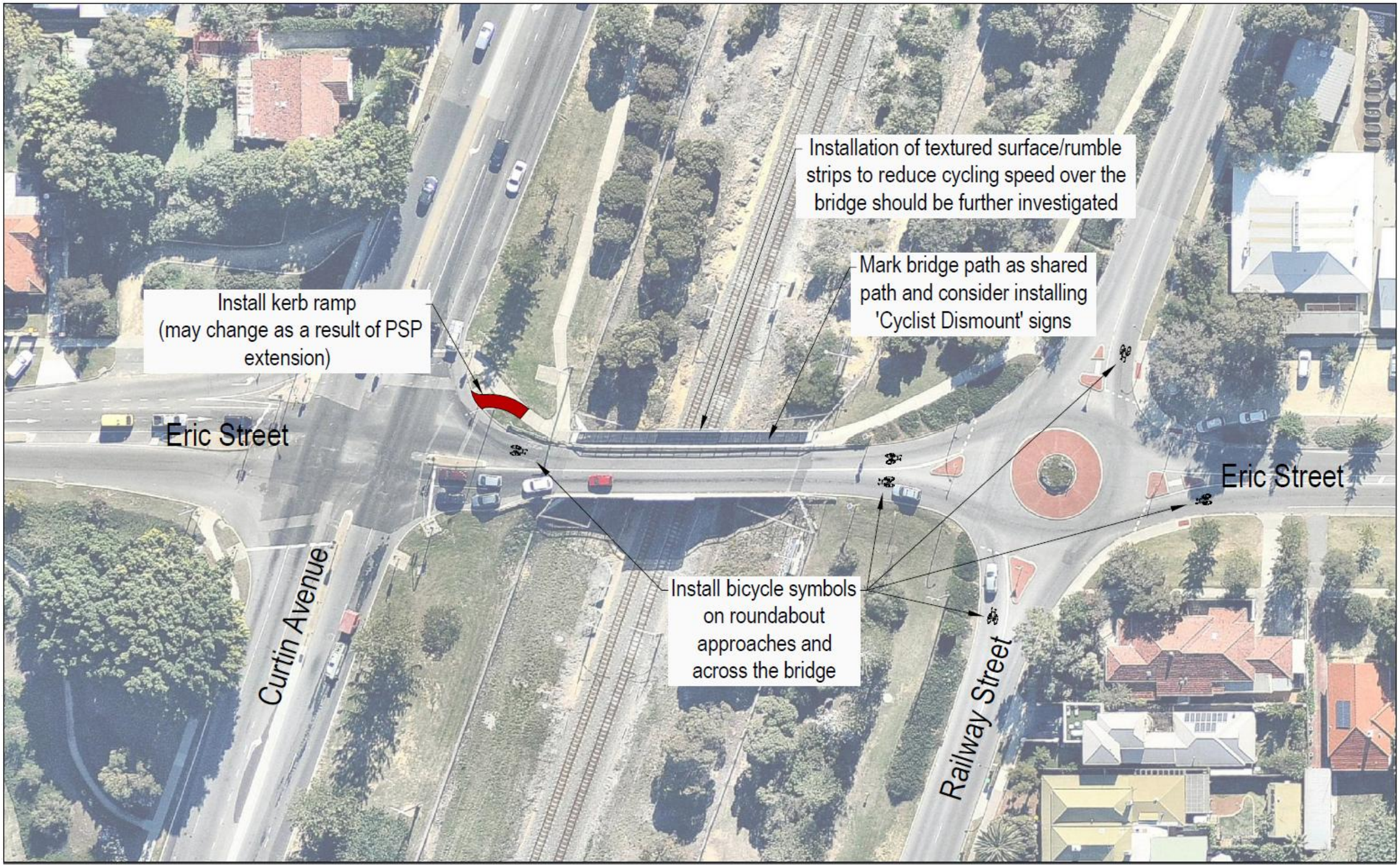
6.4 Concept Designs

Concept Design E1: Eric Street Bridge Upgrades (Minor works only)



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7 Salvado Street

7.1 Function

Salvado Street is a minor road that also provides connection via at-grade crossing over the Fremantle train line. Its location towards the southern tip of Cottelsoe means that Salvado Street links Stirling Highway, Curtin Avenue, Broome Street and Marine Parade within a very short distance.

Salvado Street carries relatively low traffic volumes, and is primarily used as a link between Stirling Highway and Curtin Avenue.

While there are no significant cycling generators in the Cottesloe area, Salvado Street does connect directly to highway retail land uses along Stirling Highway, and is only a short distance from Mosman Park Station and Glyde Street, with links to St Hilda's Secondary School, supermarkets and other attractions.

A pedestrian path runs along the south side of Salvado Street, between Curtin Avenue and Avonmore Terrace, before terminating. A similar pedestrian path runs on the north side, but continues through to Marine Parade. Both path alignments run along the property boundary between Curtin Avenue and Avonmore Terrace.

7.2 Assessment

The low volumes along Salvado Street make it suitable for on-road cycling, with connections to the Curtin Avenue bike lanes. Wide lanes at the rail crossing reduce the potential for conflict and there is an option for on-road cyclists to transition to pedestrian crossings on the south side.

Figure 7-1 Railway Crossing on Salvado Street

Crossing Curtin Avenue remains difficult due to the high traffic volumes and lack of median island protection. There is no signal on Curtin Avenue to the south that would create punctuation in traffic flow to permit bike or pedestrian crossing.

The roundabout intersection at Broome Street creates a minor pinch point for cyclists, exacerbated by the uphill slope.

Figure 7-2 Salvado Street (typical)

Off-street cycling carries inherent risk due to reversing vehicles from driveways.

7.3 Recommendations

7.3.1 Off-Street

Salvado Street could function as the preferred access route for cyclists commuting to Mosman Park Station, and from Mosman Park to the coast. To facilitate this movement, it is recommended that a shared path be constructed from Curtin Avenue, running alongside or replacing the southern path via an upgraded / relocated path west of Broome Street. The extension of this path through to Marine Parade would follow an alternative alignment closer to the kerb. This can be completed without adverse impact to street trees.

Improved passive wayfinding in the form of connections to Mosman Park Station and the Curtin Avenue service road are also recommended.

7.3.2 On-Street

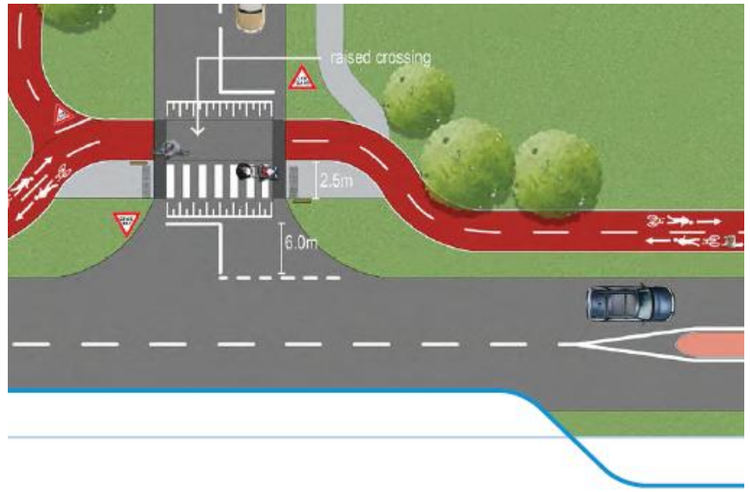
Salvado Street is generally quiet to the west of Curtin Avenue and is generally suitable for on-street cycling without the need for additional infrastructure. However, uphill cycle lanes could significantly improve the safety of all road users with only minor works required,

Provision for on-street bike lanes is possible along Salvado Street, but there is evidence of substantial on-street parking demand and insufficient need identified to warrant displacing these vehicles.

Improvement of on-street and off-street cycling in Salvado Street is shown in **Concept Design S1**, and may include green lane treatment at minor roads to provide priority for cyclists and pedestrians. This would also increase awareness by drivers of vulnerable road users at these crossing points.

An extract from Department of Transport's Shared Path Guidelines provides additional detail on the type of crossing necessary to support pedestrian and cycling priority.

Figure 7-3 Pedestrian / Cycling Priority Crossing



Source: DoT Shared Path Guidelines (2017)

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7.4 Concept Design

Concept Design S1: Salvado Street On-Street and Off-Street Upgrades

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8 Forrest Street

8.1 Function

Forrest Street creates a straight connection between Cottesloe Station and Cottesloe Beach. Since there is no continuation of this road across the train line, traffic volumes tend to be relatively low.

To facilitate bike and pedestrian movements to the beach, a high-quality shared path was constructed in 2014.

8.2 Assessment

Forrest Street marks the southernmost extent of proposed Cottesloe Foreshore Masterplan works. It is expected that the restrictions to traffic within the Foreshore Masterplan may result in additional traffic using Forrest Street. This, combined with the existing 90 degree parking along much of its length suggests that on-street facilities are less than ideal.

Forrest Street has recently been upgraded to include a high-quality red asphalt path between Curtin Avenue and Marine Parade. The alignment of this path keeps off-street cyclists away from primary hazards including vehicles reversing from driveways and the parking adjacent to Sea View Golf Course.

Figure 8-1 Forrest Street Shared Path

The path terminates at a zebra crossing connecting directly to the Cottesloe Foreshore.

The high-quality shared path is new and therefore exhibits few issues. Those identified are itemised as follows:

> The alignment of the shared path at Curtin Avenue creates a sharp turn and an awkward connection, particularly for eastbound travel

Figure 8-2 Salvado Street / Curtin Avenue Intersection

8.3 Recommendations

On-road cycling infrastructure (bike lanes) is not recommended along Forrest Street due to the inherent issues associated with the 90 degree parking. The shared path provides a high-capacity, high-quality link between the Station and beach, sufficient to cater for the majority of cycling demand.

Minor changes is recommended to the off-street environment is to realign the path at the corner, while identified as a potential issue, is not considered necessary.

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9 Railway Street

9.1 Function

Railway Street is the north-south corridor to the east of the train line, acting as a local bypass to Stirling Highway. While carrying significantly less traffic than Stirling Highway, Railway Street still has traffic volumes approaching 5,000vpd at some points.

Railway Street connects to retail, entertainment and employment along Stirling Highway, and to the town centre on Napoleon Street. It also provides access to Cottesloe, Grant Street and Swanbourne Stations.

9.2 Assessment

The existing footpath is located against the eastern property boundary. It is narrow with obstructions due to street furniture, electrical poles etc. There are several blind driveway crossings that result from high walls and hedges without any truncation.

Figure 9-1 Obstructions (Electrical Poles) Along Narrow Railway Street Footpath

In particular, the path in between Grant Street and Eric Street is extremely narrow and ill-suited for shared pedestrian/cycling use.

Figure 9-2 Railway Street (typical)

The road pavement width is also narrow, between 6.5m and 7.5m, precluding installation of bike lanes. In particular, the section between Albion Street and Jarrad Street, through the town centre is highly constrained due to the adjacent Cottesloe Station park ‘n’ ride.

9.3 Recommendations

Railway Street carries a large volume of traffic throughout the day at relatively high speeds. The available pavement width is narrow, requiring any bicycle separation to be created by reducing the verge area.

There may be some potential to reduce traffic speeds and volumes through strategic access restrictions and LATM treatments, should this be beneficial for other purposes. However, given the congestion and delay along Stirling Highway, the relocation of this traffic is not assured and could substantially impact other corridors.

Therefore, the recommendation for Railway Street is to upgrade and extend shared path infrastructure along the western verge, adjacent to the rail line.

A high-quality shared path and link from the PSP to the town centre is recommended, and can be incorporated into a future PSP duplication.

A future realignment of the shared path under the Eric Street Bridge would eliminate the existing crossing at the Eric Street roundabout, which does not provide adequate protection or priority for pedestrian and cycling crossing at this busy intersection.

Details of the proposed improvements are illustrated as in **Concept Design R1**.

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9.4 Concept Design

Concept Design R1: Railway Street Shared Path

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10 Wayfinding in the Town

The need for a wayfinding strategy was identified at the inception meeting to improve visitor orientation and connection to major destinations within the Town. Wayfinding is critically important, to ensure that unfamiliar users of the network can easily reach their destination along infrastructure designed for their benefit.

Existing signage was reviewed during the site visit in June 2015 and showed a lack of consistency. With observations as follows:

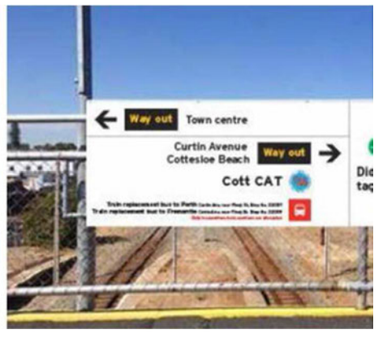
> There is currently no signage in place along the 'Train Station to Beach' route, with directional signage only at Cottesloe Station, within PTA boundaries.

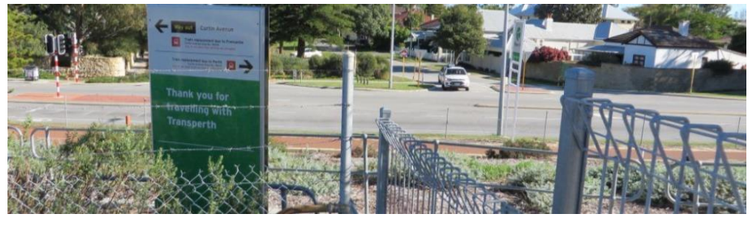
> 'Bush to Beach' trail markers, which are believed to have been placed along Forrest Street appear to have been removed since construction of the dual use path was undertaken in 2014.

> The Marine Parade shared path also requires better wayfinding, especially towards the intersection with Curtin Avenue, at Indiana Teahouse and Cottesloe Surf Lifesaving Club.

The extent of existing wayfinding is shown in images below:

Figure 10-1 Examples of Existing Wayfinding Signage in the Town





10.2 Ideal Wayfinding

Effective wayfinding is especially important to cater for recreational cyclists and visitors to the Town. It enables people to orient themselves and navigate from place to place with ease. Wayfinding can consist merely of signs, but may also include other elements of the public realm, such as street furniture and public art.

Wayfinding can assist cyclists to know where they are, where they are going and the best route to get there. A useful system should:

> Be highly visible.

> Lead the cyclist to their destination.

> Highlight key places within the immediate area.

> Integrate with existing signage.

The objectives for wayfinding include:

> Attractive and visually readable signage and wayfinding for both members of the community and visitors.

> Promote cyclist and pedestrian safety and accessibility.

> Create safe integration of vehicular, bicycle, and pedestrian traffic.

> Preserve and enhance the appearance of the Town.

> Consistency in design and installation.

> Create utilitarian signage within an affordable budget.

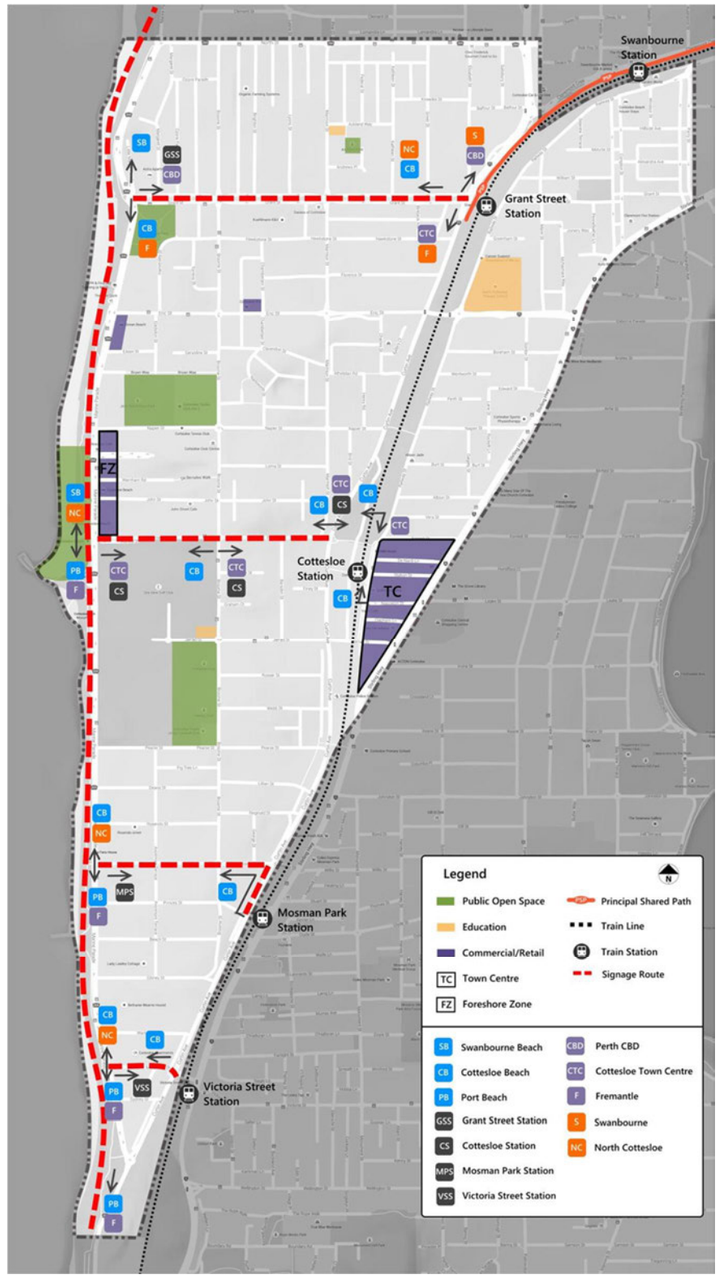
> Deliver a signage system that is unique and identifiable to the Town.

> Provide a guide for the installation of signage at key cycle routes.

10.3 A Wayfinding Strategy

The signage allocated for the Town should be made attractive to the cyclist and should encourage active modes of travel. The signs chosen should be colourful and informative and display the nearest facility in terms of approximate distance and cycle time to get to the destination. Wayfinding has been recommended for the most popular locations. A potential Wayfinding Strategy for the Town is summarised as follows:

Figure 10-2 Suggested Wayfinding Signage Placement for the Town



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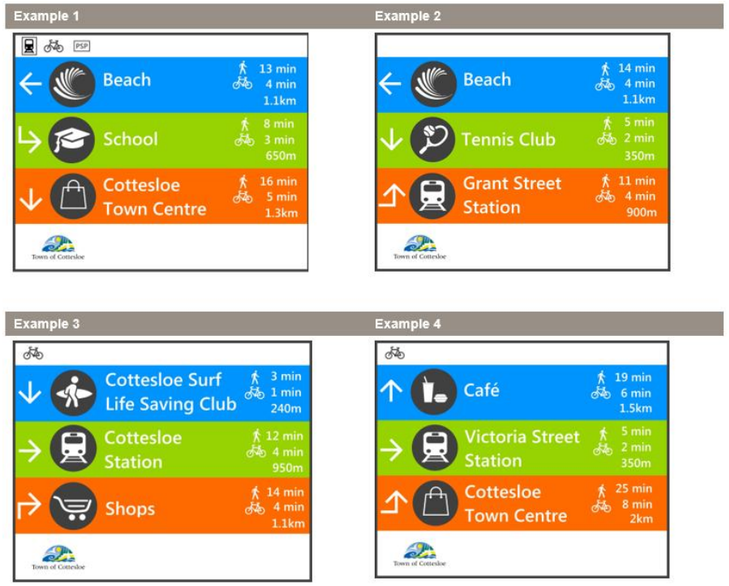
One way to display end of trip facilities and attractors in the area are pavement graphic decals. This type of display can be used to supplement other traditional forms of signage.

Pavement decals and wayfinding graphics are a convenient way to show cyclists where the nearest attractions are in the Town. This type of signage has been used effectively in Cockburn, and is one component of DoT's 'Your Move' program. These decals can be used without the ongoing maintenance and obstructive issues associated with vertical signage. Examples are shown below for reference:

Figure 10-3 Example Wayfinding Pavement Decals



11 Bicycle Interchange

Facilities that enable cyclists to continue their journey via public transport are important to promote and encourage the use of sustainable modes of transport. The main public transport nodes in the Town and the corresponding facilities they provide are as follows:

> Cottesloe Train Station – Bicycle Shelter

> Grant Street Train Station – Bicycle Shelter

> Victoria Street Train Station – Bicycle Shelter

> Mosman Park Train Station – No Bicycle Shelter

The lack of secure bicycle parking facilities at Mosman Park Station diminishes the attractiveness of cycling to this destination. It is acknowledged that there are several stations within a short distance, and thus demand for bike 'n' ride parking may be low at Mosman Park in particular. In this case, installation of u-rail bike racks at the station entrance may be sufficient to cater for local needs.

12 Maintenance

Regular maintenance is required to keep cycling facilities in a reasonable condition. Cyclists are particularly vulnerable to punctures and crashes caused by broken glass, loose gravel and vegetation. Regular maintenance activities should include the following:

> Regular sweeping of paths to remove gravel, sand/earth, broken glass and vegetation.

> Targeted sweeping of known problem areas – e.g. paths through parks after a Saturday night.

> Prompt clean up from storms, fires and other one-off events which cause damage to paths.

> Regular pruning of vegetation to ensure the full path width is available.

> A regular, documented system of visual path inspections to identify surface or structural defects. An allocation should be made in each financial year for preventative or remedial maintenance to address this type of issue.

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13 Encouraging Behaviour Change

While constructing new infrastructure is crucial to the promotion of cycling in the Town, it is imperative to encourage usage of new infrastructure through encouraging behaviour change. The following sections outline a variety of factors that influence cycling behaviour.

Table 13-1 Town of Cottesloe Mode of Travel

Main Method of Travel	2011	2006	Change
Train	437	259	+178
Bus	75	66	+9
Tram / Ferry	0	7	-7
Taxi	9	18	-9
Car, as driver	**2,158**	**1,957**	**+201**
Car, as passenger	121	136	-15
Truck	0	16	-16
Motorbike/Scooter	25	15	+10
Bicycle	**114**	**84**	**+30**
Walked only	65	67	-2
Other	23	19	+4

Source: ABS 2011

13.2 Recommended Behaviour Change Approach and Activities

There are many models for using promotion to encourage behaviour change. The table below provides an overview of the considerations based on Prochaska's model of the Stages of Change. This model is considered appropriate, and provides a clear framework for identifying suitable promotional activities in order to increase the uptake of cycling for transport purposes.

This framework focuses on activities that promote 'everyday' cycling in a positive manner and focuses on tools to overcome identified barriers to cycling.

Figure 13-2 Prochaska's Stages of Change Model

Stage of Change	Individuals Perception	Potential Activities and Interventions
Pre-contemplation	Not considering bike riding	**Raising the awareness of cycling** Introduce messages that portray riding as an activity that individuals associate with in a positive manner.
Contemplation	Aware of bike riding, the benefits and interested in finding out more	Ensure that **tools and resources are available** to support potential riders seeking *information*.
Preparing	Would like to give riding a go	**To be able to ride appropriately**, have access to a bicycle, to know how to ride it and have the relevant resources and facilities provided.
Action	Riding for the first time	Ensure **infrastructure and supporting facilities** are well maintained, safe, legible and convenient so that the new rider has a positive initial experience.
Maintaining	Riding again	**Positive reinforcement** – or the rider may not choose to ride again and relapse into their old behaviour (non-bike riding).
Relapse	Stopping riding	The rider may re-enter the stages of change at any of the above steps.

Raising the Awareness of Cycling

These activities ensure that positive messages regarding cycling are included wherever possible in order to raise awareness of cycling throughout the community. Particularly for the Town, celebrating the introduction of new infrastructure should provide an important opportunity to raise awareness of cycling and encourage the wider public to give the new infrastructure a go.

Examples: *Information regarding cycling related activities being included on the Town website, newsletters and community events. Opportunities to capture and promote feedback from riders regarding why they enjoy riding in the Town could also be included within this material. Positive imagery of cycling, and local infrastructure where possible, should be included in Council publications, plans and reports whenever appropriate.*

Tools and Resources

In order to support those who may be considering cycling, knowledge of the provision of infrastructure through route maps, visible bicycle parking in convenient locations, guidance on cycling etiquette, road rules and cycling safely is recommended to help encourage and equip them to take action.

Infrastructure and Supporting Facilities

This Bike Plan provides a detailed list of recommendations regarding potential cycling infrastructure requirements, supporting facilities (such as bike racks) and the importance of maintenance. Cycling and other community events could be associated with the opening of specific bicycle routes and facilities as completion of the recommended infrastructure programs occur, alongside ensuring appropriate promotion and education regarding the new facilities. Other supporting infrastructure could include signage and wayfinding tools, bicycle maintenance facilities such as air pumps and so on.

Positive Reinforcement

To encourage those who start riding, to continue riding, infrastructure must continue to meet users' needs and provide for a positive experience. To further reinforce this behaviour, opportunities to recognise and/or reward bike riders should be considered.

Examples*: Cycling surveys and counts to demonstrate and promote improvements to the wider public, alongside using community events to recognise bike riders. Several authorities also participate in Super Tuesdays, which is a national annual bike count event. Others use Bike Week to provide an opportunity to both promote cycling and recognise existing riders, often through cycling breakfasts.*

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14 End of Trip Facilities

14.1 Background

EoT facilities are a critical, but often forgotten, component of the cycling network. The presence and/or quality of EoT facilities can often make or break the decision to cycle for many trips. Different trip purposes would have different needs when it comes to EoT facilities. For example:

> A commuter may want a secure place to park their bicycle inside their workplace, along with showers, lockers and ironing facilities to enable them to freshen up before commencing work for the day.

> A shopper may only want a secure short stay place to park their bicycle, conveniently located to their destination (e.g. close to the entrance of a shopping centre, or on the footpath in a 'main street' environment) which is ideally protected from wet weather.

> A recreational rider generally has EoT facilities at their own home but may require a secure place to park their bicycle at an intermediate destination, such as a cafe or a park.

Long stay EoT facilities for commuters should generally be provided by the employer. Council's involvement in the provision of end of trip facilities should be in the form of:

> Requiring, through its Town Planning Scheme, new developments to provide a certain standard of end of trip facilities for both employees and visitors.

> Providing suitable EoT facilities for employees and visitors at its offices, depots, library etc.

Short stay EoT facilities should generally be in the form of simple u-rails or other design which facilitates the secure parking of a bicycle. In accordance with Austroads Guidelines, these should be located approximately every 30 metres along 'main street' type shopping strips and in small clusters at the entrances to shopping centres and other significant destinations.

Figure 14-1 Bike Corral on Forrest Street

Figure 14-2 Bike Corral Opposite North Cottesloe Primary School

14.2 Locations

The Council is responsible for providing bicycle parking on public land such as road reserves, parks, recreational facilities and Council buildings. U-rails, with capacity for a minimum of 10 bicycles, should be provided at all major recreational facilities and Council buildings. EoT facilities, such as showers, lockers, secure parking and washing/drying/ironing facilities should also be provided at Council workplaces for use by staff. Public bicycle parking in the form of U-rails should also be progressively installed in front of shops, businesses, cafes etc. across the urban area.

Bicycle parking adjacent to land uses should consider both the type of destination and the adjacent cycling infrastructure. Where cyclists are encouraged to ride in mixed traffic or within cycle lanes, on-street bike parking is particularly important. This can be provided in attractive 'bike corrals' which provide a high volume of bike parking within a small space, often a single car parking bay. This type of bike parking is ideally suited to main street environments.

Recommended locations for EoT facilities are shown in **Figure 14-3** to support adjacent land uses and trip destinations.

Figure 14-3 Proposed EoT locations

14.3 Development Provision

The latest Local Planning Scheme LPS 3 Parking Policy does not include any requirements for cycling parking and EoT facilities. During a subsequent revision of the LPS, the end-of-trip requirements for new commercial buildings should be considered in the context of parking. This includes minimum standards based on the type of land use, including:

> Showers.

> Lockers.

> Secure and/or undercover bicycle parking.

While simple bicycle parking may be sufficient for short-stay cycling trips, these facilities are critical to encouraging long-stay (i.e. commuter) cycling trips to private developments.

In many cases, workplaces, particularly in the hospitality industry, showers and lockers are already provided for staff therefore meeting these requirements for many developments is not considered to be particularly onerous.

Figure 14-4 Basic Bike Rack

Appropriate standards for bike parking are given in Green Star guidelines for particular land use types.

15 Conclusion

The Cottesloe Bike Plan 2015-2025 aims to promote, encourage and facilitate the greater use of cycling as a mode of transport. The Bike Plan sets out a variety of ways in which to achieve the goal of enabling the Town to become a cycle friendly LGA. The proposed changes to the cycling network were formed through comprehensive research and an analysis of cycling opportunities.

Changes to off-street paths have been suggested to complement and enhance the existing network. While off-street paths are desirable in most locations to maximise potential use, they are not always feasible, and, accordingly, on-street routes have been recommended throughout the Town. These on-street changes generally comprise cycle lanes, with mixed traffic treatments, including bicycle boulevards selected for locations that provide sufficient utility.

In particular, the Cottesloe Foreshore area along Marine Parade is an ideal location to create a successful Bicycle Boulevard, catering for the high volumes of pedestrian and cycling activity in the Precinct.

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16 Schedule of Works and Costs

16.1 Construction Costs

Typical unit costs for construction have been identified, based on previous experience and following refinement across a range of Local Government areas. These costs have been applied to the recommended works and are illustrated in the table below.

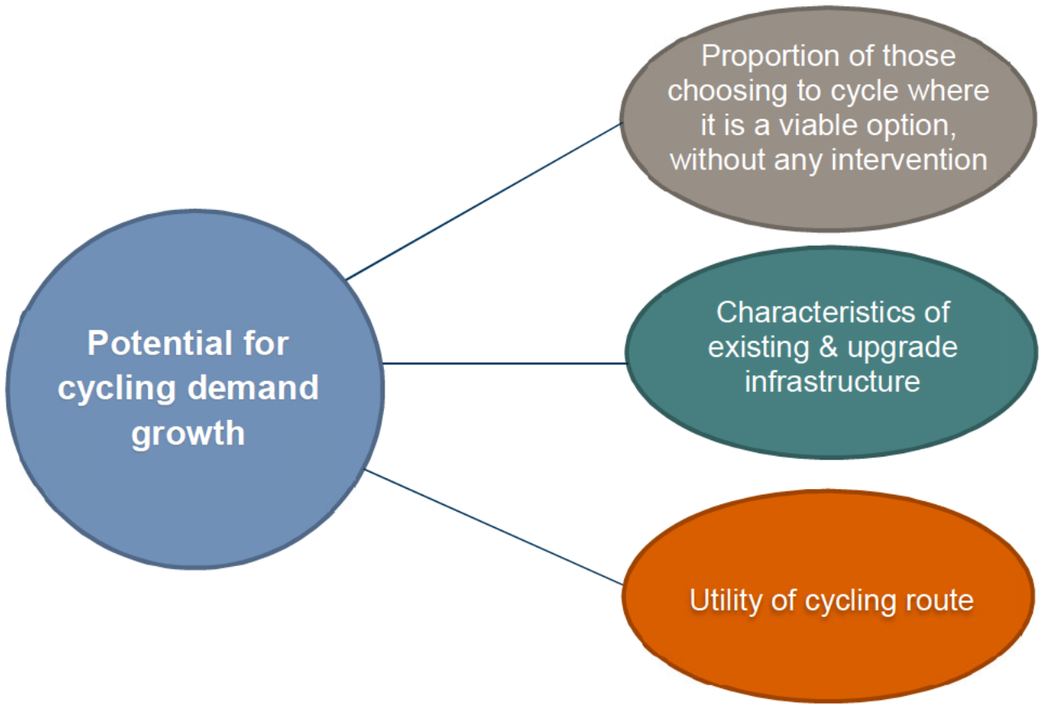
Table 16-1 Construction Costs

Green Lane (m2)	Pavement Removal	Concrete Path Removal (m2)	Kerb Removal (m)	Earthworks (cut)	Earthworks (fill)	Base (m2)	Asphalt (m2)	Concrete Path Installation (m2)	Kerb Install (m)	Kerb Ramps	Line Marking	Grab Rails	Signage
s47G(1)(b)													

16.2 Cyclist Demand Forecasting

Cardno has undertaken an estimation of the potential increase in cycling traffic resulting from the improvement of infrastructure, using a Cyclist Demand Forecasting Model. The effect of each proposed cycle network change and improvement can be calculated to determine the potential increase in mode share for the study area, and the increase in the number of cyclists which might use the cycle network following upgrade.

The potential increase in demand would be variable in corresponding to the following factors.



The characteristics of each existing project area will be defined according to on-site investigation and aerial assessment, and then compared to the characteristics of the proposed upgrades. It should be noted that it is assume a theoretical maximum of 40% cycling mode share in this instance, reflecting the large number of trips for which cycling does not represent a viable alternative to existing modes.

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16.3 Prioritised Schedule of Works

To assist with the project prioritisation, a multi-criteria analysis was conducted. The criteria used in the analysis are as follows:

> **Connectivity 55%** (e.g. strategic network completion, closure of gaps in the network, connection to transport hubs, connection to schools, employment centre, and activity centre)

> **Economic 10%** (e.g. potential value uplift of adjoining properties, future bicycle traffic increase)

> **Safety 20%** (e.g. cycling safety, pedestrian safety)

> **People and Communities 15%** (e.g. level of service, fit of project into land use intents)

Each project has been further differentiated into three different timeframes; short, medium and long term, to assist the Town on direction for implementation and staging.

Table 16-2 presents the prioritised project list. Where a corridor has multiple options, the highest scoring option is selected. Scores for options that were not selected are shown in italics.

Table 16-2 Prioritised Schedule of Works

Rank	Project No.	Project Name	Score (Weighted Average)	Estimated Increase in Cycling Traffic	Order of Cost Estimate	Delivery Timeframe			Comments
						Short-Term (Approx. 1-3 years)	Medium-Term (Approx. 4-6 years)	Long-Term (Approx. 7-10 years)	
1	**1e**	**Marine Parade** **Concept Design 5: Bi-directional Separated Copenhagen-style bike lanes**	**7.7**	20% increase in **off-road** cycling 160% increase in **on-road** cycling	s47G(1)(b)	Stage 1	Stage 2	Stage 3 & Stage 4	Two-way buffered bike lanes as shown in MP4 have the greatest financial cost and impact on existing function, but are the most attractive form for cyclists.
	1a	*Marine Parade Concept Design 1*	*3.6*	35% increase in **on-road** cycling					
	1b	*Marine Parade Concept Design 2*	*6.5*	110% increase in **on-road** cycling					
	1c	*Marine Parade Concept Design 3*	*5.4*	85% increase in **on-road** cycling					
	1d	*Marine Parade Concept Design 4*	*3.3*	20% increase in **on-road** cycling					
2	**5a**	**Salvado Street Shared Path**	**7.1**	5% increase in **off-road** cycling			One Stage		Significantly improves connection to Mosman Park Station, but demand growth not anticipated due to relatively small catchment.
3	**7**	**Railway Street Shared Path**	**7**	30% increase in **off-road** cycling				Stage 1 & Stage 2	
4	**3**	**Grant Street** **Cycle Lanes Improvement (All Projects)**	**6.3**	15% increase in **on-road** cycling		Stage 1 & Stage 2	Stage 3 & Stage 4		The installation of speed humps, flexible bollards, and bicycle symbols are relatively inexpensive and can be implemented first to reinforce east-west cycling connection between Marine Parade and Curtin Avenue, as well as Grant Street Station.
5	**2a**	**Broome Street** **Concept Design 1: Shared Path**	**5.4**	5% increase in **off-road** cycling			One Stage		
	2b	*Broome Street* *Concept Design 2: Cycle Lane*	*5.1*	15% increase in **on-road** cycling					
6	**5b**	**Salvado Street** **Uphill Cycle Lane**	**2.9**	Negligible increase in **on-road** cycling		One Stage			
7	**4**	**Eric Street Improvements**	**2.8**	5% increase in **on-road** cycling		One Stage			Notwithstanding the priority of this project, bicycle symbol installation at Railway Street roundabout is inexpensive and will provide better amenity for cyclists using Eric Street and therefore can be considered a 'quick-win' project that can be implemented quickly.

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16.4 Detailed Schedule of Works

According to the general costing from the search, **Table 16-3** sets out the estimated cost of recommendation for each corridor discussed in previous sections, including a detailed description.

Table 16-3 List of Improvement Options

Project No.	Corridor	Key User Group	Project Name	Start	End	Length (m)	Width (m)	Surface	Type (on/off)	Description of Work with Stage of Work (If Applicable)		Order of Cost Estimate
1a	Marine Parade	Recreational / Sports	Marine Parade Concept Design1: Speed Reduction on Marine Parade 	North Street	Curtin Avenue	N/A	N/A	N/A	On and Off	Provide a low speed traffic environment (30km/h) from North Street to Curtin Avenue by modifying the road and installing traffic calming devices: 1. Speed cushion at 80-120m interval spacing 2. Bicycle symbol at 200m intervals maximum spacing 3. Remove the painted median and replace with broken line 4. .Remove slow point treatment and replace with parking where feasible **Total**		s47G(1)(b)
										Stage 1: Between Napier Street and Forrest Street	Install grab rails	
											Install speed cushion at 80 – 120m interval spacing	
											Bicycle symbols at 200m interval maximum spacing	
											Remove painted median and replace with broken line	
										Stage 2: Between Grant Street and Napier Street	Install grab rails	
											Install speed cushion at 80 – 120m interval spacing	
											Bicycle symbols at 200m interval maximum spacing	
											Remove painted median and replace with broken line	
											Remove slow point treatment and replace with parking where feasible, including kerb ramp	
										Stage 3: Between Grant Street and Napier Street	Install grab rails	
											Install speed cushion at 80 – 120m interval spacing	
											Bicycle symbols at 200m interval maximum spacing	
											Remove painted median and replace with broken line	
											Remove slow point treatment and replace with parking where feasible, including kerb ramp	
										Stage 4: Between Salvado Street and Curtin Avenue	Install speed cushion at 80 – 120m interval spacing	
											Bicycle symbols at 200m interval maximum spacing	
											Remove painted median and replace with broken line	
										Stage 5: Between North Street and Grant Street	Install grab rails	
											Install speed cushion at 80 – 120m interval spacing	
											Bicycle symbols at 200m interval maximum spacing	
											Remove painted median and replace with broken line	
											Remove slow point treatment and replace with parking where feasible, including kerb ramp	

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Project No.	Corridor	Key User Group	Project Name	Start	End	Length (m)	Width (m)	Surface	Type (on/off)	Description of Work with Stage of Work (If Applicable)		Order of Cost Estimate
1b	Marine Parade	Recreation	Marine Parade Concept Design 2: Raia Roberts Path Duplication 	North Street	Curtin	3700	1.5	Shared Path	Off	Provide duplication cycling lane along the western side: 1. Provide 1.25m each way of cycle lane 2.Install bicycle symbols pavement markings 3. Realign the footpath whenever it is required to provide cycle lanes 4. Remove parking when it is necessary to provide space for the cycle lanes **Total**		s47G(1)(b)
										Stage 1: Between Forrest Street and Eric Street	Re-align the existing share path and remove parking to provide the space for cycle lanes	
											Install pedestrians grab rails	
											construct 1.25m each way cycle lane	
											Install bicycle symbols pavement markings	
										Stage 2: Between Eric Street and North Street	Re-align the existing share path and remove parking to provide the space for cycle lanes	
											Install pedestrians grab rails	
											construct 1.25m each way cycle lane	
											Install bicycle symbols pavement markings	
										Stage 3: Between Forrest Street and Salvado Street	Re-align the existing share path and remove parking to provide the space for cycle lanes	
											Install pedestrians grab rails	
											construct 1.25m each way cycle lane	
											Install bicycle symbols pavement markings	
										Stage 4: Between Salvado Street and Curtin Avenue	Re-align the existing share path and remove parking to provide the space for cycle lanes	
											construct 1.25m each way cycle lane	
											Install bicycle symbols pavement markings	

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Project No.	Corridor	Key User Group	Project Name	Start	End	Length (m)	Width (m)	Surface	Type (on/off)	Description of Work with Stage of Work (If Applicable)		Order of Cost Estimate
1c	Marine Parade	Recreational / Sports / Commuters	Marine Parade Concept Design 3: Traditional Bike Lanes 	North Street	Curtin Avenue	3700	1.5	Red asphalt	On	Cycle lanes along Marine Parade from North Street to Curtin Avenue: 1. Provide 1.5m cycle lanes with 0.5m buffer, where space is available, prioritising uphill grade. 2.Install bicycle symbols pavement markings 3.Reduce traffic lane to 3.2m 4. .Remove slow point treatment and replace with parking where feasible **Total**		s47G(1)(b)
										Stage 1: Between Napier Street and Forrest Street	1. Install grab rails 2. Install speed cushions at 80 – 120m interval spacing 3. Provide 1.5m cycle lane with 0.5m buffer on each way and re-align existing share path and parking where feasible 4. Bicycle symbols at 200m interval maximum spacing	
										Stage 2: Between Grant Street and Napier Street	1. Install grab rails 2. Install speed cushions at 80 – 120m interval spacing 3. Remove slow point treatment and replace with parking where feasible, including kerb ramp 4. Provide 1.5m cycle lane with 0.5m buffer on each way and re-align existing share path and parking where feasible 5. Bicycle symbols at 200m interval maximum spacing	
										Stage 3: Between Grant Street and Napier Street	1. Install grab rails 2. Install speed cushions at 80 – 120m interval spacing 3. Remove slow point treatment and replace with parking where feasible, including kerb ramp 4. Provide 1.5m cycle lane with 0.5m buffer on each way and re-align existing share path and parking where feasible 5. Bicycle symbols at 200m interval maximum spacing	
										Stage 4: Between Salvado Street and Curtin Avenue	1. Install speed cushions at 80 – 120m interval spacing 2. Provide 1.5m cycle lane with 0.5m buffer on each way and re-align existing share path and parking where feasible 3. Bicycle symbols at 200m interval maximum spacing	
										Stage 5: Between North Street and Grant Street	1. Install grab rails 2. Install speed cushions at 80 – 120m interval spacing	

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Project No.	Corridor	Key User Group	Project Name	Start	End	Length (m)	Width (m)	Surface	Type (on/off)	Description of Work with Stage of Work (If Applicable)		Order of Cost Estimate
											3. Remove slow point treatment and replace with parking where feasible, including kerb ramp	s47G(1)(b)
											4. Provide 1.5m cycle lane with 0.5m buffer on each way and re-align existing share path and parking where feasible	
											5. Bicycle symbols at 200m interval maximum spacing	
1d	Marine Parade	Recreational / Sports	Marine Parade Concept Design 4: Up-Hill Bike Lanes only 	North Street	Curtin Avenue	N/A	N/A	Red asphalt	On	Up-hill bike lanes only: 1. Provide 1.5m cycle lane with 0.5m buffer for all the uphill movement route 2. Widen the road and shift the shared path at some locations, if necessary 3. Realign the parking lots wherever cycle lane is required **Total**		
										Stage 1: Shift the necessary existing share path and re-align the parking to provide space for cycle lane		
										Stage 2: Provide a 1.5m cycle lane with 0.5m buffer on each way for all the uphill movement route		
1e	Marine Parade	Recreational / Sports	Marine Parade Concept Design 5: Bi-directional Separated Copenhagen-style bike lanes 	North Street	Curtin Avenue	N/A	N/A	Red asphalt		Provide a bi-directional cycling lane along the western side 1. Provide 1.75m each way of cycle lane with 1.5m buffer 2.Install bicycle symbols pavement markings 3. Realign the footpath whenever it is required to provide cycle lanes 4.Reduce traffic lane to 3.2m 5.Signage and markings denoting low speed environment at places that are absence of cycle lanes **Total**		
										Stage 1: Between Forrest Street and Eric Street	1. Install signage and markings denoting low speed environment between Forrest Street and John Street	
											2. Reconstruct median islands and install speed cushion on pedestrian crossings	
											3. Install pedestrians grab rails	
											4. Reduce traffic lane to 3.2m	
											5. Construct a 1.75m each way cycle lane with 1.5m buffer	
											6. Install bicycle symbols pavement markings	
										Stage 2: Between Eric Street and North Street	1. Reconstruct median islands and install speed cushion on pedestrian crossings	
											2. Reduce traffic lane to 3.2m	
											3. Re-align existing footpath to provide space for cycle lane	
											4. Install pedestrians grab rails	

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Project No.	Corridor	Key User Group	Project Name	Start	End	Length (m)	Width (m)	Surface	Type (on/off)	Description of Work with Stage of Work (If Applicable)		Order of Cost Estimate
											5. Construct 1.75m each way cycle lane with 1.5m buffer	s47G(1)(b)
											6. Install bicycle symbols pavement markings	
										Stage 3: Between Forrest Street and Salvado Street	1. Reconstruct median islands and install speed cushion on pedestrian crossings	
											2. Reduce traffic lane to 3.2m	
											3. Re-align existing footpath to provide space for cycle lane	
											4. Install pedestrians grab rails	
											5. Construct 1.75m each way cycle lane with 1.5m buffer	
											6. Install bicycle symbols pavement markings	
										Stage 4: Between Salvado Street and Curtin Avenue	1. Reduce traffic lane to 3.2m	
											2. Construct 1.75m each way cycle lane with 1.5m buffer	
											3. Install bicycle symbols pavement markings	
2a	Broome Street	Commuter	Broome Street Concept Design 1: Shared Path 	Napier Street	Forrest Street	330	2.5	Red asphalt	Off	Construct 2.5m shared path in red asphalt and green lane treatment at crossing points on western side of Broome Street from Napier Street to Forrest Street to link the Cottesloe Civic Centre to Cottesloe Station		
2b	Broome Street	Commuter	Broome Street Concept Design 2: Cycle Lane 	Grant Street	Napier Street	N/A	N/A	Red asphalt	On	Provide cycle lanes on each side of the road from Grant Street to Napier Street: 1. Construct 1.5m cycle lane in red asphalt on both sides of Broome Street and green asphalt at intersections 2. Bicycle symbols on the entry and exit of the green bicycle lane and 200m interval on red bicycle lane 3. Realignment of on-street parking **Total**		
										Stage 1: Between Eric Street and Napier Street	1. Provide red asphalt along the corridor and bicycle symbols	
											2. Provide green lane treatment between red asphalt cycle lane and bicycle symbols	
										Stage 2: Between Grant Street and Eric Street	1. Provide red asphalt along the corridor and bicycle symbols	
											2. Provide green lane treatment between red asphalt cycle lane and bicycle symbols	

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Project No.	Corridor	Key User Group	Project Name	Start	End	Length (m)	Width (m)	Surface	Type (on/off)	Description of Work with Stage of Work (If Applicable)	Order of Cost Estimate
3	Grant Street	Commuter	Grant Street Cycle Lane Improvements 	Marine Parade	Curtin Avenue	1050	1.5	Red asphalt	On	1. Install 1.5m cycle lane from Marine Parade to Curtin Avenue. Resurface to red asphalt and provide 0.3m buffer and ban parking along the cycle lane. Provide green lane treatment at intersections (excluding roundabouts). 2. Install speed humps on roundabout approaches prior to cycle/traffic lane merging point. Install flexible bollard between the cycle lane and speed cushion at cycle/traffic lane merging point. 3. Install bicycle symbols at roundabout approaches on Grant Street. 4. Re-align line marking on eastward approach of Curtin Avenue intersection to provide sufficient width for 1.5m wide cycle lane and 3.5m wide traffic lane. 5. Remove on-street parking at the southwest corner of Grant Street and Marmion Street. **Total** Stage 1: speed humps, flexible bollards, and bicycle symbols installations at roundabout approaches and long the length of the cycle lanes. 1. Install speed humps and flexible bollards along the corridor 2. Provide bicycle symbols on road approaches Stage 2: : Construct shared path connection at the eastern end to connect the refuge island crossing and pelican crossing at Curtin Avenue to Grant Street. Stage 3: Construct approximately 28 spaces of 60 degrees on-street parking at median between Ozone Parade and Margaret Street. Provide 1.5m wide footpath at the middle of the car park. Stage 4: resurface cycle lane to red asphalt with green lane treatment, coinciding with Grant Street resurfacing works to save cost 1. Provide red asphalt along the corridor 2. Provide green lane treatment red asphalt cycle lane 3. Provide bicycle symbols on the road approaches	s47G(1)(b)
4	Eric Street	Commuter/ Recreational	Eric Street Improvements. 	Curtin Avenue	Railway Street	5	2.5	N/A	On and Off	1. Install kerb ramp to allow cyclist traveling eastward to enter the path on the overpass bridge. 2. Install bicycle symbols on road across the bridge and roundabout approaches at Railway Street intersection. 3. Mark bridge path as a shared path.	
5a	Salvado Street	Commuter/ Recreational	Salvado Street Shared Path 	Curtin Avenue	Marine Parade	600	2.5	Red asphalt	Off	Construct 2.5m wide shared path connection at the western side of Curtin Avenue from mid-block crossing at Mosman Park Station pedestrian access/egress to the southern side of Salvado Street and continue until Marine Parade, including green lane treatment at the crossing points	

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Project No.	Corridor	Key User Group	Project Name	Start	End	Length (m)	Width (m)	Surface	Type (on/off)	Description of Work with Stage of Work (If Applicable)	Order of Cost Estimate
5b	Salvado Street	Commuter/ Recreational	Salvado Street Uphill Cycle Lane 	Curtin Avenue	Broome Street	150	1.5	Red asphalt	On	Construct 1.5m cycle lane in red asphalt on uphill section between Broome Street and Curtin Avenue	s47G(1)(b)
6	Railway Street	Commuter	Railway Street Shared Path 	Swanbourne Station	Cottesloe Station	1800	3	Red asphalt	Off	1. Construct 3m wide shared path in red asphalt on the western verges of Railway Street from Swanbourne Station to Cottesloe Station. 2. Provide shared path connections to train stations adjacent streets along the length of the path to provide access to neighbourhoods east of Railway Street. 3. For interim alignment at Eric Street intersection, provide island crossing. For future alignment, provide underpass as part of the new Eric Street Bridge redevelopment. 4. Connect shared path to Cottesloe Station car park roadway. **Total** Stage 1: Between Swanbourne Station and Grant Street Station Stage 2: Between Grant Street Station and Cottesloe Station	

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APPENDIX

A

BICYCLE PLAN BACKGROUND STUDY

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Cardno
Shaping the Future

Town of Cottesloe

Bicycle Plan Background Study

Prepared for
Town of Cottesloe

21 April 2017

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Cardno
Shaping the Future

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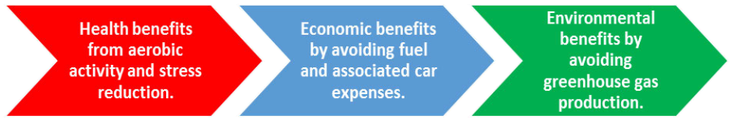
1 Introduction

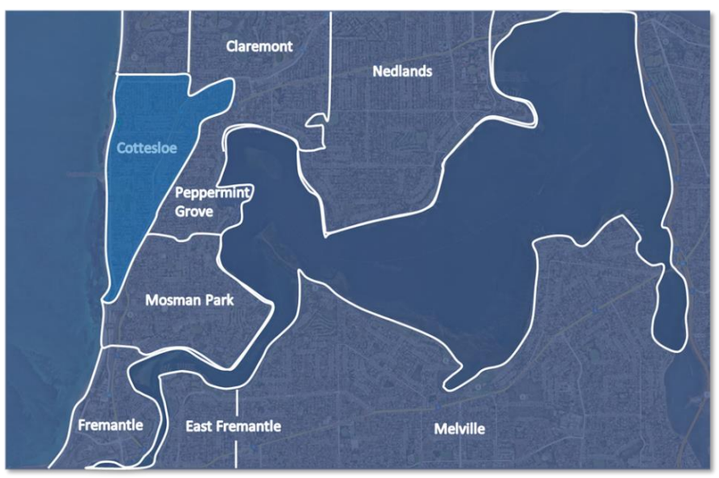
1.1 Background and Context

The Town has commissioned Cardno to undertake a review of the 2008 Bike Plan with the objectives of identifying modifications, upgrades and improvements to the study area. The Town is keen to increase cycling and promote this type of active travel. In recent years, there has been significant growth in the number of people using a bicycle as their primary mode of transport for daily commuting trips. The reasons for this growth in cycle use are varied but are likely to include health, economic and environmental benefits.



The Town is located in the Perth Metropolitan Region in Western Australia, approximately 11km west from the central business district (CBD) of Perth, as shown in **Figure 1-1**. The Town borders Cottesloe Beach to the west and is within close vicinity of the Swan River to the east. The Town contains a wide range of land uses and trip generators, including shopping centres, recreational parks and commercial land uses. The estimated population is 7,598 (2011 Census).

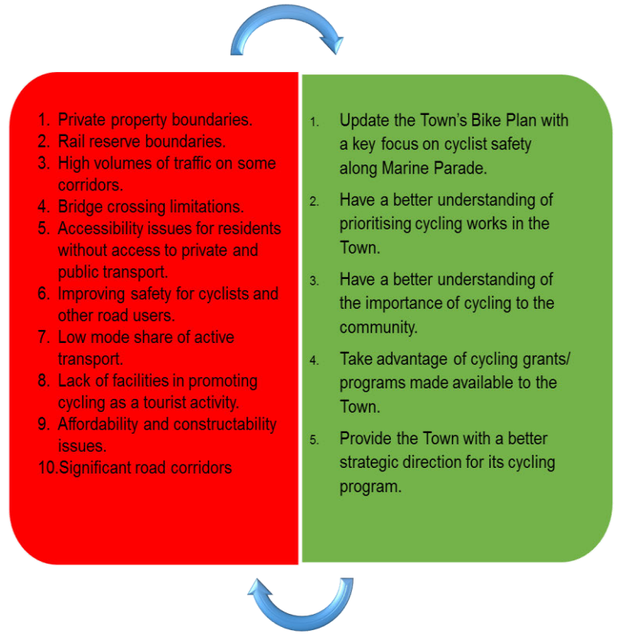
Figure 1-1 Town of Cottesloe and neighbouring Local Government Authorities



1.2 Issues and Opportunities

Cyclist issues and opportunities that are identified in the Town are shown in **Figure 1-2**.

Figure 1-2 Cyclist Issues and Opportunities



1.3 Objective

This report mainly focuses on the background study of the Town to provide an understanding of the existing behaviour and environment, including the study and review of the Bike Plan 2008. With this information, a further investigation will be made, providing options accordingly (refer: Bike Plan document) to improve the overall bike connectivity and cycle environment.

2 Review of 'Local Bike Plan 2008-2014'

In 2008, the Town commissioned a 5-Year Local Bike Plan for the 2008-2014 time horizon. With this Bike Plan nearing the end of its lifespan, an assessment of the Bike Plan needed to be undertaken. This is to assess the plan against its vision and intended outcome against the current state of cycling within the Town. The review would also identify the additions that were made in the last 5 years and proposals that have yet to materialise (refer to **Appendix B**).

The Bike Plan review is intended to provide a strategic direction for the development of cycling in the Town that meets the needs of the community. The new Bike Plan identifies priorities and incorporates contemporary best-practice for the design and implementation of bicycle infrastructure across the Town, appropriate for existing and future usage.

The current Bike Plan was completed in 2008 and since then there has been considerable growth and changes in cycling participation in the Town. Residents have been invited to take a short survey beginning in 2012, to comment on the existing bicycle infrastructure in the Town and to identify any changes they would like to make. It should be noted that this online survey is still an ongoing feature in the Community Feedback section of the Town's website. For this reason, dedicated Community Surveys were not a requirement of the Town as part of this Bike Plan.

The review of the current Bike Plan 2008-2014 briefly summarises the following:

> Cycling priorities in the Town.
> Performance monitoring.

While the Bike Plan 2015 – 2025 explores the following:

> Potential improvements to existing facilities.
> New routes / additions to the cycle network.
> Extension of the Principal Shared Path (PSP)
> Proposed additional cycle routes.
> Cycle parking.
> Promotion and encouragement.

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3 Policy Context

Strategies and policies provide a framework and direction for the development and coordination of programs and should constitute a commitment to various initiatives and actions. They also provide for the integration of cyclist needs into all planning and design activities including commercial and industrial building designs, land development plans, subdivision plans, road designs and road maintenance programs (*Cycling Aspects of Austroads Guides 2011*).

Planning for cycling in the Town takes place within the context of a number of national, state and local strategies and policies, aimed at encouraging cycling, as set out below (Refer **Table 3-1**). These have an impact in the formulation of the Town's Bike Plan 2015-2025.

To maximise the potential of the Town's Bike Plan 2015-2025, many of its initiatives follow the direction and ideals set out by these policies. This section of the plan summarises the important aspects of these policies and how they relate to the formulation of the Town's Bike Plan 2015-2025. Refer to **Appendix A** for additional detail

Table 3-1 Policies relevant to the Town of Cottesloe Bike Plan

	Policy	Federal	Metropolitan	Local
1	National Urban Policy: Our Cities, Our Future (2011)	X		
2	Moving Australia 2030 (2013)	X		
3	National Cycling Strategy (2010)	X		
4	Walking, Riding and Access to Public Transport (2013)	X		
5	Western Australian Bicycle Network (WABN) Plan 2014-2031		X	
6	Transport @ 3.5 Million – Cycling Network Plan		X	
7	Main Roads Western Australia Policy for Cycling Infrastructure (2000)		X	
8	West Australian Planning Commission Development Control Policy 1.5 – Bicycle Planning (1998)		X	
9	Liveable Neighbourhoods (2009)		X	
10	Activity Centres for Perth & Peel		X	
11	Town of Cottesloe Bike Plan 2008-2014			X
12	Town of Cottesloe Local Planning Scheme No. 3			X
13	Town of Cottesloe Strategic Community Plan			X
14	Town of Cottesloe – Traffic Management Policy			X

4 Cycling Demographic

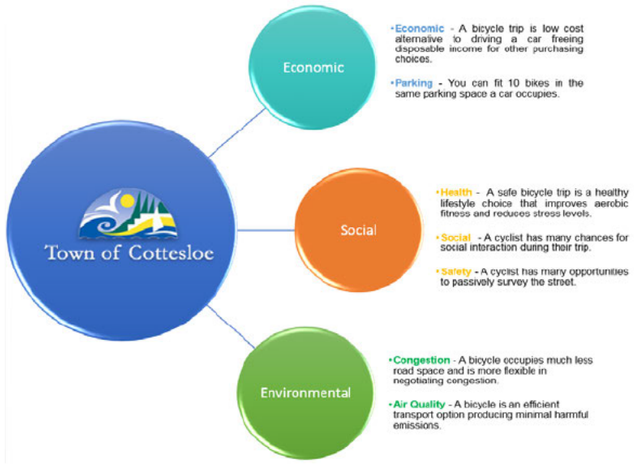
4.1 Bicycle Use

Cycling is a legitimate mode of transport for many people in the Town. According to the Australian Bureau of Statistics (ABS) 2011 census, 4.8% of occupied private dwellings in Cottesloe do not have a motor vehicle (excluding motorbikes and scooters). The number and percentage of people cycling to work from the Town has increased over the last few years with over 3.1% of employed residents cycling to work in 2011, an increase from the 2006 figure of 2.5%. This is nearly three times the average figure for the Greater Perth region (currently 1.1%).

4.2 Benefits of Cycling

Cycling is undertaken for both commuting and recreational purposes in the Town. Given the many benefits of cycling, there is considerable potential to increase the uptake of active transport modes, particularly as a viable commuter transport choice. The benefits are shown in **Figure 4-1**.

Figure 4-1 Benefits of Cycling



4.3 Types of Cyclist and their Requirement

Cardno has identified a range of cyclist trip types made within the Town. These differences dictate the type of infrastructure and facilities that would need to be provided. In formulating the Town's Bike Plan 2015-2025, these needs have also been addressed. For further information refer to **Table 4-1**.

Table 4-1 Types of Cyclists and their Requirements

Cyclist Type	Cycling Profile	Cycling Preference
Primary School Children	Cognitive skills not developed, little knowledge of road rules, require supervision.	Off-road path, footpath (where permitted) or very low volume residential street.
Secondary School Children	Skill varies, developing confidence.	Generally use on-road facilities or off-road paths where available.
Recreational Cyclists	Many recreational cyclists in the Town ride to experience this high amenity value in the Town or do it as a form of exercise. Their usual destinations would include the beach and the foreshore. They prefer riding on attractive and scenic routes at a low speed. Time is often not a major consideration and the skills and abilities of these cyclists vary quite a bit.	Comfort. Good surface. Preferably off-road paths. EoT facilities.
Commuter Cyclists	Most commuter trips are performed by students and adults commuting to either their education institution or place of work. The average trip length for this user group is 5km or more. These users are the main users of the Town's PSP and regional cycling links	Good quality road surfaces. Most direct routes to their destinations. Minimal delays. EoT facilities. Minimal conflicts at intersections. Good lighting for evening trips. Separate lanes.
Utility Cyclists	Neighbourhood cycling involve trips to local schools, shops, train stations and children playing on their bicycles. Most of these trips involve distances of less than 5km. Travel speeds typically less than 15km/h. Utility cyclists generally ride on local bike links while some may use the RSP and PSP.	Highest degree of safety. Comfort and personal security. Low traffic speeds/ volumes. Facilities to minimize road conflict and cross intersections. EoT facilities. Screening from weather.
Sports Cyclists	Sports cyclists often travel at speeds greater than 30km/h. These cyclists often travel distances of over 50km mainly along major urban arterial or regional roads. They often seek challenging terrain and frequently travel in groups of more than two.	High quality road surface. Minimal delays. Generous road widths.

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5 Existing Site Analysis

5.1 Land use and Attractors and Generators

Analysis of the Town identifies a number of expected key bicycle trip attractors and generators. The main land use and attractors are shown in **Table 5-1**. These land uses and attractors have been used to determine the route destinations for cycling trips within the Town.

Table 5-1 Key Attractors in the Town of Cottesloe

Key Attractors within Cottesloe	Key Attractors outside Cottesloe
Tourist Sites ▪ Cottesloe Beach **Train Stations** ▪ Mosman Park ▪ Cottesloe ▪ Victoria Street ▪ Grant Street **Employment/Retail Sites** ▪ Cottesloe Town Council ▪ Cottesloe Town Centre ▪ Foreshore Centre ▪ Cottesloe Central Shopping Centre **Schools** ▪ North Cottesloe Primary School **Civic Centres** ▪ The Grove Library **Recreation Sites** ▪ Foreshore/ Parks **Supermarkets** ▪ Cottesloe IGA (Eric Street) **Future Developments** ▪ Cottesloe Foreshore Development ▪ Station Street	**Tourist Sites** ▪ Freshwater Bay ▪ Showgrounds **Train Stations** ▪ Swanbourne **Employment/Retail Sites** ▪ Claremont Quarter **Schools** ▪ St. Hilda's School for Anglican Girls ▪ Presbyterian Ladies College ▪ Methodist Ladies College ▪ Christchurch Grammar School ▪ Iona Presentation Primary School ▪ Iona Presentation College ▪ Cottesloe Primary School **Regional Activity Centres** ▪ Perth CBD ▪ Fremantle ▪ Claremont

5.2 Road Hierarchy

The road hierarchy for the Town in accordance to Main Roads Western Australia is summarised shown below in **Table 5-2.**

Table 5-2 Road Hierarchy for the Study Area

Road	Hierarchy
Marine Parade	Distributor B
Broome Street	Local Distributor
Grant Street	Local Distributor
Eric Street	Distributor B
Salvado Street	Local Distributor
Forrest Street	Local Access
Railway Street	Local Distributor

5.3 Traffic Speeds

Austroads Guidelines states that where the difference between bicycle and motor traffic speeds is less than 20km/hr, full integration may be acceptable and bicycles and motor traffic can usually share the road pavement without any special provision being required. Austroads also indicates that segregation is desirable where the difference between bicycle and motor traffic speed exceeds 40 km/h. The Guideline also indicates that 85th percentile speeds of people cycling under free flow conditions can be expected to be in the order of 30 km/h. This is potentially representative of confident riders on flat terrain, but speeds are likely to be lower in hilly areas or for casual cyclists.

As residential streets within the Town are subject to a 50 km/h speed zone and are relatively wide, these streets typically do not require any additional specific bicycle provisions. Where streets experience higher 85th percentile speeds or in areas with steep inclines, separate off-road facilities may be warranted. Streets subject to 50-70 km/h speed zones are usually more suitable for on-road exclusive bicycle lanes or wide kerbside lane treatments. Refer to **Table 5-3** for details of the posted speed limit for streets within the Town and the status of cycle facilities in those streets.

Table 5-3 Primary Study Corridors Traffic Speeds in the Town

Road	Traffic Speed (km/hr)
Marine Parade	40: Marine Parade Middle 50: Marine Parade North 50: Marine Parade South
Broome Street	50
Grant Street	50
Eric Street	50
Salvado Street	50
Forrest Street	50
Railway Street	50

5.4 Traffic Counts

5.4.1 Vehicles

Austroads Guide to Traffic Engineering Practice Part 14: Bicycles, and the *Liveable Neighbourhoods* guideline indicates that provision for people cycling by way of a separate shared path or on-road cycle lanes should be included on roads where flows are above 3,000 vehicles per day (vpd) and near schools, stations, centres or where long distance commuter cycling and recreational cycling is undertaken.

On streets which experience flows of less than 3,000 vpd, cycling on roads shared with vehicles is generally considered acceptable. On roads which experience high volumes and/or high vehicle speeds, bicycles should be provided for by way of separate off-road facilities. Generally, the existing cycle network with recommended changes satisfies the stated criteria.

Traffic data was collated from various points within the Town for 2014-2015. **Table 5-4** shows that Marine Parade has the highest traffic flows with 8,389vpd. Broome Street has the lowest traffic flows with 1,792vpd.

Table 5-4 Traffic Data – (2014-2015)

Road Name	Location (Between)	Count Date	ADT	AWT	85% km/h
Marine Parade	Forrest Street and Pearse Street	Jan 2015	8,389	9,131	42.1
	Forrest Street and Pearse Street		7,994	8,727	49.0
	North Street and Grant Street		6,224	6,737	49.0
Grant Street	Broome Street and Marine Parade	Jul 2014	1,649	1,701	47.9
	Birkbeck Street and Kathleen Street		2,349	2,370	56.5
Broome Street	Grant Street and North Street	Jun 2014	1,792	1,660	61.9
	Napier Street and Eric Street	Aug 2014	3,376	3,354	56.5
	Rosser Street and Webb Street	Oct 2014	3,324	3,321	57.2
Eric Street	Curtin Avenue and Marmion Street	Jul 2014	5,544	5,722	55.4
	Broome Street and Hamersley Street		3,186	3,610	39.2
Railway Street	Napier Street and Perth Street	Aug 2014	5,054	4,647	56.9

**ADT: Average Daily Traffic volume, AWT: Average Weekday Traffic volume*

Source: Town of Cottesloe 2015

5.4.2 Cycle

Various cycle counts were undertaken within the Town during the Super Tuesday Survey. Cyclist numbers were collected for two hours between 7am and 9am. A total of 5 locations were surveyed with the Town. The list of cycle count locations and their relevant statistics can be seen in **Table 5-5** for 2013 and 2016. **Figure 5-1 to Figure 5-5** shows the cycling traffic flow at the count locations.

Table 5-5 Cycle Count Locations on Super Tuesday

Site Description	Total No. of Cyclists		Increase / Decrease
	2013	2016	
Curtin Avenue and Grant Street Intersection	192	207	+8%
Railway Street and Eric Street Intersection	144	133	-8%
Curtin Avenue and Marine Parade Intersection	137	198	+45%
Marine Parade and Forrest Street Intersection	100	120	+20%
Broome Street and Napier Street Intersection	47	33	-30%

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Figure 5-1 Curtin Avenue and Grant Street Intersection Cycle Count (Super Tuesday 2016)

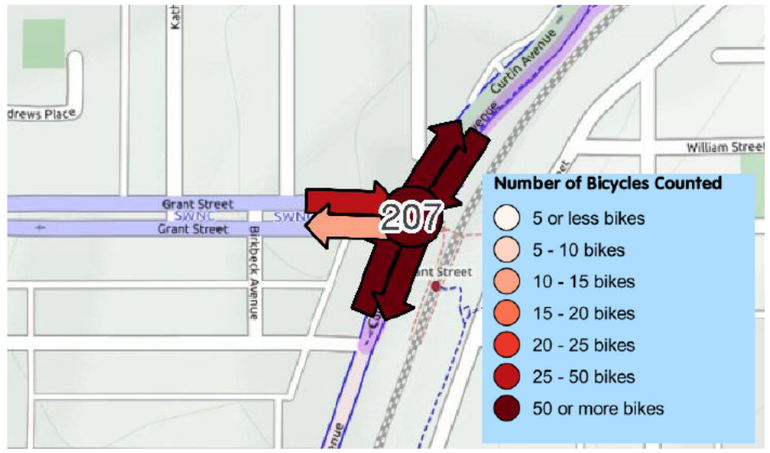


Figure 5-2 Railway Street and Eric Street Intersection Cycle Count (Super Tuesday 2016)

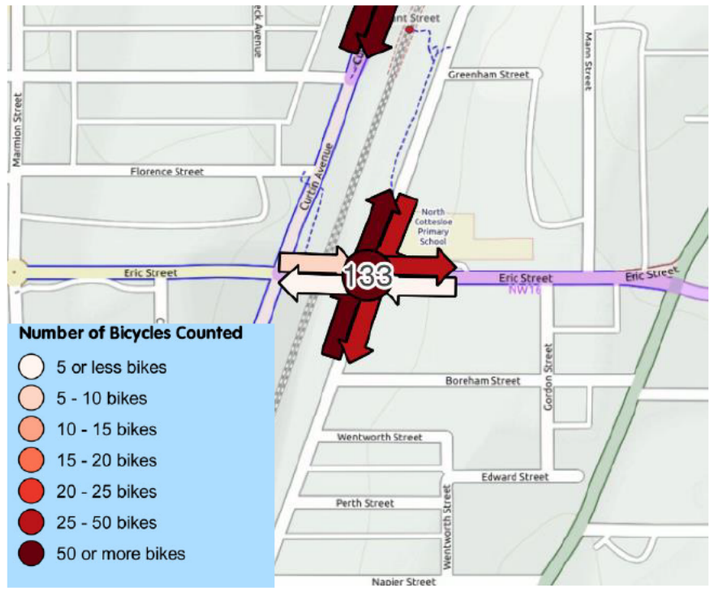


Figure 5-3 Curtin Avenue and Marine Parade Cycle Count (Super Tuesday 2016)

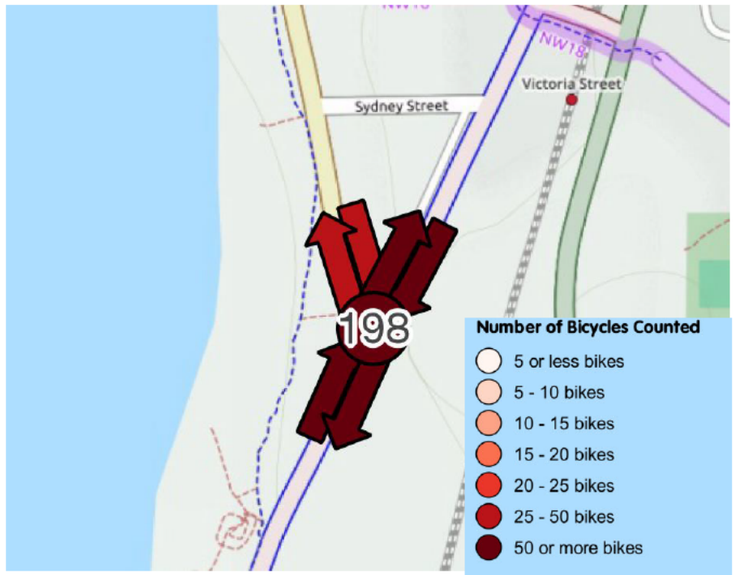
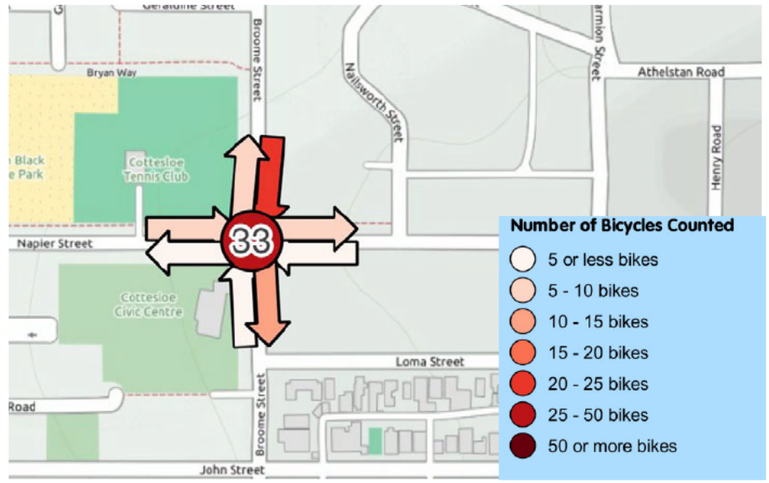


Figure 5-4 Marine Parade and Forrest Street Cycle Count (Super Tuesday 2016)

Figure 5-5 Broome Street and Napier Street Intersection Cycle Count (Super Tuesday 2016)



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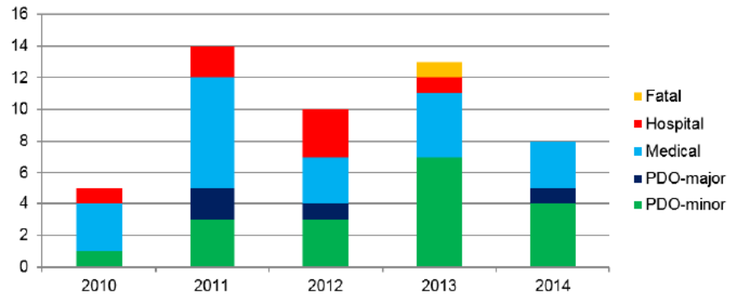
5.5 Crash Analysis

Safety is a very important factor in building a successful Bike Plan 2015-2025. The availability and quality of existing cycle facilities is a good way of determining the level of safety and performance within an area. Main Roads Western Australia (MRWA) crash data was utilised to identify the level of safety for the existing facilities within the Town. Over the past five year period from 1 January 2010 to 31 December 2014, a total of approximately 50 crashes have occurred within the Town, involving cyclists. The severity of crashes involving cyclists per year is shown in **Figure 5-6**.

Figure 5-6 Severity of Crashes Involving Bicycles (2010-2014)



There is an observed issue with vehicles identifying the pedestrian crossings on Marine Parade. As a result, there have been a number of rear end type accidents and a number of pedestrians struck. There are also a high number of accidents involving cyclists.

The causes of these accidents are varied:

- In a number of accidents, a cyclist has had a rear end type accident with a car.
- On two occasions cyclists have run off the road.
- On one occasion a cyclist had side swiped a car.
- On four occasions a cyclists has been hit by an opening car door.
- There are a number of right-angle accidents involving cyclists.
- A cyclist struck a pedestrian crossing the road (most likely stepping out between parked cars).
- Only one reported accident involved a cyclist being sideswiped by a car along Marine Parade.

Marine Parade and Curtin Avenue intersection has had a high number of accidents involving cyclists including a large percentage at the north Curtin Avenue entry to the roundabout. Most of the accidents along Marine Parade appear to be associated with interactions with parking cars. These accidents are low speed accidents generally resulting in property damage. Other than the Curtin Avenue intersection, other intersections along Marine Parade do not have a significant crash history.

5.6 Existing Cycle Network

The existing cycle network is shown as in **Figure 5-7**.

Figure 5-7 Existing Cycle Network

5.7 Strategic Regional Cycling Links

Strategic Regional cycling links for the Town is summarised as shown in **Table 5-6**.

Table 5-6 Strategic Regional Cycling Links

Regional Link	Description
Perth to Fremantle	The Perth-Fremantle PSP is the main cycling thoroughfare within the Town. The section that runs through Cottesloe exists as an on-road cycle lane along Curtin Avenue. Given the importance of the Perth-Fremantle PSP from a strategic and safety perspective, this section of the PSP needs to be addressed urgently. While PSPs come under the purview of the Department of Transport (DoT), it is Main Roads that has been tasked with overseeing its completion. As such there is little scope for the Town to improve that particular section other than to lobby state government for an expedited construction timeframe. The WABN 2014 Plan has identified the Perth-Fremantle PSP as a top priority project. Currently, it would take roughly 45 minutes for an average cyclist to reach Perth CBD from Cottesloe. Cycle time to Fremantle is roughly 40 minutes.
Cottesloe to City Beach and Beyond	The Sunset Coast Route links Cottesloe with beaches to the northern beach suburbs such as Scarborough and Trigg Beach. Its off-road coastal alignment of traversing along Marine Parade makes it a popular recreational path as well. This corridor is poorly served by public transport. Any improvements along this stretch could potentially reduce the number of car trips undertaken by the Town's residents to the northern beach suburbs. With City Beach being just 30 minutes away by bicycle, there is scope to increase the number of cycle trips taken along this corridor.
Forrest Street (East-West)	Forrest Street is one of the east-west links providing access to Peppermint Grove, Cottesloe Town Centre, Cottesloe Train Station and the foreshore.
Eric Street (East-West)	Eric Street is one of the east-west links providing access to Peppermint Grove and the foreshore.
Grant Street (East - West)	Grant Street is one of the east-west links providing access to Claremont and the foreshore.

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5.8 Connecting Links

The connecting links to nearby and adjacent Local Government Areas (LGAs) are key routes that should be prioritised and maintained to support increased usage, refer to **Table 5-7**.

> The Perth-Fremantle PSP provides an important link from the CBD to the Town and ultimately Fremantle. The Perth-Fremantle PSP also enables access to surrounding suburbs from Curtin Avenue in a north-easterly direction.

> Grant Street links the PSP and the railway station to Cottesloe Beach.

Table 5-7 Primary Cycle Routes for the Town of Cottesloe

Main Routes	Description
East – West Link (Eric Street/ Grant Street/Forrest Street)	There are three roads that act as east-west links for cyclists within the Town. They are Grant Street, Forrest Street and Eric Street. The former two provide access between the PSP/ train station and Cottesloe Beach.
Perth – Fremantle PSP	The Perth-Fremantle PSP runs through the Town as an on-road cycle lane. Main Roads WA and DoT are in the process of providing an off-road PSP path alongside the Fremantle train line. There is little scope for the Town to propose any works of its own as the PSP is a state government project.
North – South Movements	The Bike Plan 2008-2014 reiterates the need to extend the existing PSP from Grant Street through Cottesloe in order to provide a safe, coherent, direct and comfortable north-south route, with appropriate grade separated treatments (with connections) at: > Eric Street. > Salvado Street. PSP extension from Grant Street Station to Victoria Street Station is currently planned for June 2019 completion.
Sunset Coast	The Sunset Coast route along the off-road cycle path on Marine Parade is the Town's recreational path. It traverses along the shoreline running from Fremantle in the south to Scarborough in the north. This recreational route is both popular with locals and tourists alike. However, this route generally sees higher cycling traffic during the summer months compared to the winter months.

The facilities that enable cyclists to continue their journey via public transport are important to promote and encourage the use of sustainable modes of transport. The main transport nodes in the Town and the corresponding facilities they provide are as follows:

Table 5-8 Train Stations and Bicycle Shelters

Train Station	Bicycle Shelter
Cottesloe Train Station	Yes
Grant Street Train Station	Yes
Victoria Street Train Station	Yes
Mosman Park Train Station	No

While Mosman Park Station does not offer a bicycle shelter, there are other stations nearby such as North Fremantle and Cottesloe where cyclists can park their bicycles and commute into work. Site observations revealed that the bicycle park facilities were fully occupied. This suggests that more bike parking facilities would be beneficial at all stations in the area.

5.9 Travel Smart to Schools

North Cottesloe and Cottesloe Primary Schools encourage students to walk or cycle to school with "Car Free Fridays" and "walk to school days". As part of these initiatives the Town funds breakfasts for the students to celebrate the reduced emissions and promote healthy eating.

5.10 Sustainable Travel for Staff

The Town provides staff who commute to work, via sustainable means, an allowance to cover their expenses. This initiative encourages staff to ride or catch public transport and rewards positive behaviour. The Town could provide facilities such as:

> pool bikes, to incentivise staff to ride a bike for short trip to meetings, train station, restaurants, cafes, or shops around the Town;

> better change rooms and shower;

> providing staff with SmartRider cards to encourage public transport intake.

By reducing the number of car trips each week, this reduces greenhouse gas emissions, limits congestion and contributes towards a happier and healthier workforce.

5.11 End of Trip Facilities

There is limited reference to End of Trip (EoT) facilities in the *Local Planning Scheme No. 3.* However, the provision of bicycle lockers and other parking facilities is generally good (Refer from **Figure 5-8** to **Figure 5-11**). As train stations are the responsibility of the Public Transport Authority (PTA), the Town would need to work together with PTA with regards to provision of EoT facilities around the stations.

Other factors that should be considered include:

> Storage areas need to be open and attractive and in easily supervised areas that have good active and passive public surveillance.

> Bicycle parking should be as close as possible to station platform entrances with a maximum walking distance of 100m.

> Bicycle parking U-rails should be located under cover and out of the weather.

> Bicycle parking facilities need to be easy to find, well signed and marked.

> Bicycle riders need to be able to access the parking facilities easily and quickly from the local routes.

Cyclists should also be aware of train etiquette when using public transport and while it is primarily the responsibility of the PTA, signage should be implemented to inform those using the facilities of the restrictions.

Figure 5-8 End of Trip Facilities – Grant Street Station

Figure 5-9 End of Trips Facilities on Marine Parade (Grant Street intersection)

Figure 5-10 End of Trip Facility on Railway Street (opposite North Cottesloe Primary School)

Figure 5-11 Bike Parking at Cottesloe Station

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6 Community Consulation

The results of community feedback collected from the online survey have been highly relevant to the development of the Bike Plan 2015-2025. This feedback from the community allows for a better understanding of local cycling issues – both from the perspective of cyclists as well as non-cyclists.

Consultation provides an opportunity to access cyclists' extensive local knowledge and experiences as well as to identify local attitudes. The summary of the community consultation in 2012 is as shown below in the **Table 6-1**.

Table 6-1 Summary of Community Consultation

Keys	Description
Completion of the Perth-Fremantle PSP	▪ Foremost issue for cyclists in Cottesloe ▪ Super Tuesday results from 2012 indicate that Curtin Avenue is the most used route for cyclists ▪ It would provide a safe and convenient north-south link ▪ Lack of understanding within the community (responsibility for the construction improvements) ▪ The Town should continue to lobby Main Roads for a timely completion of the PSP
Improved and expanded Bike Paths	▪ Most common throughout the responses ▪ The Bike Path is related to on-road and separate dual use paths ▪ Recommended easy option for the Town: formalise existing paths (e.g. Grant Street) where lines exist but cars are still allowed to park within the sealed shoulder to provide safer east-west link
Parked cars	▪ Marine Parade continues to be hazard for cyclists ▪ Limited space available makes improvements difficult ▪ Recommendation from Bike Plan 2014 on removing parking at Marine Parade is unlikely to resolve itself ▪ Recommended that the Town adopt a position on the recommendation and for additional community consultation to be completed
Pedestrian and Cyclist Conflict	▪ Widening the Raia Roberts path would reduce some conflict between pedestrians and cyclists ▪ An application submitted in 2013 was rejected by the DoT ▪ The application could be submitted again regarding this project

7 Conclusion

The Town has the foundations of a legible and interconnected cycling network, with the Principal Shared Path (PSP) being the main arterial route for the Town. However, further investment is required to enable the LGA to develop a network which is safe, friendly and convenient for cyclists of all confidence levels. In particular, forming connections between the two arterial routes; PSP and Marine Parade, as well as other routes in the LGA, is imperative. The continuity and connectivity of a cycling network often determines the frequency of use.

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Bicycle Plan Background Study

APPENDIX A

POLICIES

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Cardno
Shaping the Future

Policies

There are several policies that oversee cycling in the three levels of government. These would have an impact in the formulation of the Town's next Bike Plan 2015-2025. Some of these policies have a statutory implication on the Bike Plan; for example, the Town's Local Planning Scheme. While others have a more strategic implication; for example, the WABN Plan 2014-2031. To maximise the potential of the Town's Bike Plan, many of its initiatives would have to follow direction and ideals set out by these policies. This section of the plan summarises the important aspects of these policies and how they relate to the formulation of the Town's Bike Plan.

National Policies

The National Policies to be discussed in this section include:

> National Urban Policy: Our Cities, Our Future (2011).
> Moving Australia 2030 (2013).
> National Cycling Strategy (2010).
> Walking, Riding and Access to Public Transport (2013).

National Urban Policy: Our Cities, Our Future (2011)

Our Cities, Our Future is the guiding national framework for shaping the future of our cities, focusing on improving their productivity, sustainability and liveability. The report identifies that although nearly 40% of Australians commute less than 10km to work or study, less than 1.6% cycle (p. 55). The absence of safe and convenient cycling routes is a major contributor to this low mode share. The report also notes that the infrastructure must meet the needs of its target users (p. 63), a key component of the network design philosophy for this Bike Plan.

Moving Australia 2030 (2013)

Moving Australia 2030 – A Transport Plan for a Productive and Active Australia was produced in 2013 by the Moving People 2030 Taskforce. The report outlines a whole-of-system approach to how we fund transport infrastructure, how we move people, how we move goods, and how we better integrate our spatial planning systems with effective transport networks.

Cycling is addressed within the report mainly in the context of a healthy and active Australia. The key relevant recommendation for this Bike Plan is to "Provide sustainable infrastructure funding that supports active travel". This Bike Plan supports this recommendation by identifying the highest priorities for allocating funding to cycling and a clear message that funding needs to be provided in all future years.

National Cycling Strategy (2010)

The Australian National Cycling Strategy 2011-2016 (NCS) was prepared by Austroads and the Australian Bicycle Council in September 2010. The purpose of this strategy is to double the existing rates of cycling in a holistic manner by supporting its myriad of benefits through promotion, infrastructure provision, integrated planning and safety improvements.

Benefits identified in the NCS (pp. 8-11) include:

> Societal Benefits - reduced traffic congestion as a result of commuters shifting to cycling modes, as well as increasing the land area available for urban activity.

> Environmental Benefits - reduced carbon footprint as a result of a transition to active, zero-carbon transport.

> Health Benefits - increased fitness has both a social and economic benefit to the community by encouraging interaction, improving quality of life and reducing health care costs arising from a sedentary lifestyle.

> Equity Benefits - a comprehensive cycling network reduces the proportion of household income necessary to provide mobility. This is particularly beneficial for low income families and households located near the urban fringe, where public transport may be lacking.

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> Convenience - where cycling infrastructure provides a safe, comprehensive network for access to education, employment and entertainment precincts, cycling presents an efficient travel mode. Short trips are most affected by good cycling facilities.

A series of actions have been identified (pp. 27-29) to achieve the goal of doubling cycling mode share. This implementation framework focuses on the following priorities and objectives:

> Cycling Promotion - Promote cycling as both a viable and safe mode of transport and an enjoyable recreational activity.

> Infrastructure and Facilities - Create a comprehensive network of safe and attractive routes to cycle and end-of-trip facilities.

> Integrated Planning - Consider and address cycling needs in all relevant transport and land use planning activities.

> Safety - Enable people to cycle safely.

> Monitoring and Evaluation - Improve monitoring and evaluation of cycling programs and develop a national decision-making process for investment in cycling.

> Guidance and Best Practice - Develop nationally consistent technical guidance for stakeholders to use and share best practice across jurisdictions.

This Bike Plan incorporates all the key actions listed above. In addition, the Bike Plan aligns with the NCS objective of “creating a comprehensive network of safe and attractive routes to cycle and EoT facilities” (p. 22).

Walking, Riding and Access to Public Transport (2013)

This document is a Ministerial Statement from the Australian Government, setting out how the Government would increase the proportion of people walking and riding for short trips, and accessing public transport, in our communities. The document provides a summary of the benefits of greater use of active transport and guidelines for the coordination of land use and transport planning and development to achieve high quality outcomes. It also lists the average benefits per kilometre cycled for an average project. It has been calculated that $1.40 per kilometre cycle can be reaped through the provision of cycle infrastructure.

There are no direct actions involving Local Government, however this Bike Plan is generally consistent with the aims and objectives of the document.

State Policies

The State Policies to be discussed in this section include:

> Western Australian Bicycle Network (WABN) Plan 2014-2031 (2014).

> Western Australia Planning Commission Development Control Policy 1.5 – Bicycle Planning (1998).

> Liveable Neighbourhoods (2009).

> Main Roads WA (MRWA) Policy for Cycling Infrastructure (2000).

> Activity Centres for Perth and Peel.

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Metropolitan

Western Australian Bicycle Network (WABN) Plan 2014-31

The Western Australian Bicycle Network (WABN) Plan was released by the Department of Transport in 2014. This plan replaces the Perth Bicycle Network (PBN) and provides a framework for infrastructure improvements across Western Australia including Metropolitan and Regional areas.

The WABN Plan focuses on network improvements as a way of creating attractive and safe cycling corridors. The key aspects of this plan are as follows:

> Implementation - Coordination between Government and non-Government Groups to ensure that the proposed infrastructure is delivered in an effective manner and to identify opportunities to integrate delivery across jurisdictions

> Principal Shared Path Network Expansion - The Principal Shared Path network forms the backbone of the cycle network through Perth. The WABN focuses on funding improvements within 15km of the CBD to create safe and efficient links along major cycling routes to maximise the benefit of infrastructure funding

> Perth and Regional Bicycle Network Grants - Additional funding to LGAs to plan and provide cycling infrastructure within their jurisdictions. This includes funding of Local Bike Plans, path infrastructure, signage and line marking

> Connecting Schools Grant Program – Specific funding to LGAs for projects that improve bicycle access and EoT facilities for schools, as well as providing behaviour change initiatives to promote cycling.

> Network Focus - Improvements to the network would be prioritised to promote strategic connections to schools, major rail/bus stations and activity centres. To assist this process, Department of Transport is undertaking studies in consultation with Local Government to identify gaps and potential route alignments which would tend to attract funding

> Review of Traffic Management on Local Roads- Local Government has a role in undertaking road works to reduce vehicle volumes and speeds through built-up areas. Some of the measures implemented through these programs have resulted in a reduction of on-road cyclist safety and an increase in conflict. The review would include a mix of what is seen as best practice and situations of reduced cycling safety, and consider safety aspects for all roads users, in keeping with the state road safety strategy 'Towards Zero'.

Significant increases in Local Government Regional Bicycle Network Grants funding for bicycle facilities were recommended in the WABN and committed to by the State Government. Many of the projects recommended as part of this Bike Plan would be eligible for grant funding and the Town should apply for grants each year.

Transport @ 3.5 Million People and Beyond

Perth Transport Plan provides long term vision for Perth's transport network as its population grow to 3.5 million people published by the Department of Transport. The plan covers 4 major transport network: Public Transport, Road, Active Transport, and Freight.

The plan recognised that Perth has the attributes for a great cycling city and cycling will be a big part in reducing congestion, air pollution, and encourage more people to live a healthy and active lifestyle.

The emphasis of the plan for cycling in Perth is to provide high quality, safe, and comfortable cycling infrastructure, especially around activity centre, as well as high quality end-of-trip facilities with a broad objective of increasing cycling trips from 100,000 per day (2011 Census Data) to 500,000 and to extend the off-road cycle network from 172km to 850km when the population of Perth reached 3.5 Million in 2050. On-road cycling routes will be assessed on a case-by-case basis and developed as appropriate to the local road environment, e.g. bike boulevards for older suburbs with grid-like road network.

Objective from the plan that can be applied directly to the bike plan include:

> Gaps in the current off-road cycle network will be filled

> End-of-trip facilities will be available at all major centres

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> Strengthen on-road strategic network

The document proposed new (or formalise) routes for the Town including:

> Anticipated completion of the Fremantle Railway PSP by 2031 provides the continuation of existing path from Claremont and connect to Mosman Park and Fremantle.

> Proposed of Recreational Shared Path (RSP) extension along Marine Parade from North Street to West Coast Highway via the suburb of Swanbourne.

> Proposed of upgrade of existing West Coast Highway shared path to PSP standard by 2050.

> Proposed Local Route on Grant Street – providing connection from the north-west coastline to Claremont, through Grant Street Train Station.

> Proposed Local Route on Forrest Street – providing connection from the west coastline to Peppermint Grove, through Cottesloe Train Station.

> Propose Local Route on Princes Street – providing connection from west coastline to the proposed PSP on Curtin Avenue and Mosman Park Train Station.

Main Roads Western Australia (MRWA) Policy for Cycling Infrastructure (2000)

This document sets out MRWA's policies for the provision of cycling infrastructure on its network. All new road works and upgrades involving road widening will meet the requirements of these guidelines. Existing roads and cycling facilities that do not meet the above requirements will be progressively upgraded. The timing of retrofit work will be determined by the availability of funds and priorities.

Key elements of this policy relevant to the Shire of Kalamunda include:

On-Street Facilities

> New urban roads will be constructed with an edge line separated sealed shoulder in accordance with the desirable standards within Austroads' Guide to Traffic Engineering Practice "Bicycles" Part 14 (1999). Where this cannot be achieved, a shared path will be constructed adjacent to the road.
> On existing highways and main roads, the facility described above for new roads, will only be provided in conjunction with any upgrades involving widening the road where land is available within the existing road reserve or, if land is being resumed for other purposes, the cost of acquiring the additional land is not proportionately higher than that for the other purpose.
> Sections of rural main roads that are regularly used by more than 25 cyclists per day will comply with urban area guidelines indicated above. Roads not used regularly by cyclists will comply with MRWA Technical Standards for the provision of shoulders.

Off-Street Facilities

> Main Roads will provide shared paths adjacent to highways and main roads which are not considered appropriate for cyclists or where the lane widths required by these guidelines cannot be achieved.
> Path widths and layouts will generally be in accordance with Austroads Part 14 (1999), with the use of red oxide coloured asphalt for the path surface.

Note that the previous Austroads Guide to Traffic Engineering Practice Part 14 - Bicycles has now been integrated throughout the new Austroads series of guides.

Western Australia Planning Commission Development Control Policy 1.5 – Bicycle Planning (1998)

This policy describes the planning considerations which should be taken into account in order to improve the safety and convenience of cycling. Both State and Local Government agencies have been encouraged to promote cycling as a mode of transport because of:

> Recognition of the adverse environmental effects of motor vehicles, particularly the private car.

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> Moves towards the development of low-energy lifestyles, initially as a response to the “energy crisis” of the mid-1970s.

> The need to make more efficient use of transport infrastructure.

> Increasing awareness that cycling reduces congestion and the need for car parks.

The policy sets out a requirement to ensure cycling is considered in all aspects of land use and transport planning. In particular, the policy recommends (pp. 5-6) that a cycling network should be developed for urban areas by:

> improving the existing road network and new subdivisional roads to meet the needs of cyclists more effectively

> providing off-road facilities of adequate standard where there is a strong demand (such as near schools) and where the opportunity exists

> providing information to enable cyclists to make the most effective use of the network

> Ensuring that the needs of cyclists are adequately catered for in the planning, design and construction of extensions to the existing road network.

This Bike Plan has been prepared in accordance with these principles. The Bike Plan contains proposals to improve the existing road network, provide off-road facilities, provide information (by way of pavement markings and signs) to enable cyclists to use the network and ensure that cyclists are adequately catered for in future infrastructure projects.

The policy also supports the provision of appropriate EoT facilities through the imposition of development conditions dealing with such matters as the type, number and location of bicycle parking facilities, and the installation of showers and change rooms with an emphasis on locations including:

> Shopping centres.

> Factories.

> Offices.

> Educational establishments.

> Sport, leisure and entertainment centres;

> Health centres and hospitals.

> Libraries and other public.

> Buildings.

> Rail and bus stations.

> Major places of employment.

> Parks.

> Beaches and recreation venues.

> Tourist attractions.

Recommendations for the location of future end-of-trip facilities have been included in this Bike Plan 2015-2025.

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Liveable Neighbourhoods (2009)

Liveable Neighbourhoods was produced to implement the objectives of the previous State Planning Strategy which guides the sustainable development of Western Australia to 2029. Its primary function is as a guide to more sustainable structure planning and subdivision, applicable to new urban areas and large urban infill sites. The key element of Liveable Neighbourhoods relevant to, and consistent with, this Bike Plan is Element 2, Objective 9:

> To provide a safe, convenient and legible bike movement network to meet the needs of both experience and less experienced cyclists, including on-street and off-street routes.

Main Roads WA (MRWA) Policy for Cycling Infrastructure (2000)

This document sets out MRWA's policies for the provision of cycling infrastructure on its network. All new road works and upgrades involving road widening would meet the requirements of these guidelines. Existing roads and cycling facilities that do not meet the above requirements would be progressively upgraded. The timing of retrofit work would be determined by the availability of funds and priorities.

Key elements of this policy relevant to the Town include:

On-Street Facilities.

> New urban roads would be constructed with an edge line separated sealed shoulder in accordance with the desirable standards within Austroads' Guide to Traffic Engineering Practice "Bicycles" Part 14 (1999). Where this cannot be achieved, a shared path would be constructed adjacent to the road.

> On existing highways and main roads, the facility described above for new roads, would only be provided in conjunction with any upgrades involving widening the road where land is available within the existing road reserve or, if land is being resumed for other purposes, the cost of acquiring the additional land is not proportionately higher than that for the other purpose.

> Sections of rural main roads that are regularly used by more than 25 cyclists per day would comply with urban area guidelines indicated above. Roads not used regularly by cyclists would comply with MRWA Technical Standards for the provision of shoulders.

Off-Street Facilities

> Main Roads would provide shared paths adjacent to highways and main roads which are not considered appropriate for cyclists or where the lane widths required by these guidelines cannot be achieved.

> Path widths and layouts would generally be in accordance with Austroads Part 14 (1999), with the use of red oxide coloured asphalt for the path surface.

Activity Centres for Perth and Peel

The State Planning Policy 4.2- Activity Centres for Perth and Peel made under part 3 of the Planning and Development Act 2005 describes the Perth and Peel regional planning framework. The policy provides an overview of the requirements for the planning and development of new activity centres and the redevelopment and renewal of existing centres in Perth and Peel. It is mainly concerned with the distribution, function, broad land use and urban design criteria of activity centres, and with coordinating their land use and infrastructure planning.

Section 5.3.2: Traffic and parking: General requirements (2) states that the planning of activity centres should:

> take account of the need for access and parking priority accorded to different users and modes including public transport, freight/delivery, people with a disability, bicycles, pedestrians and private cars, and balance competing user needs such as workers and visitors; and

> Identify necessary improvements to public transport, walking and cycling infrastructure and capital and recurrent service funding needs.

Appendix 2: Model Centre Framework within the policy engenders a framework that incorporates planning considerations and activity centre structure plan requirements in the development phase of works. Section 3.4 within Appendix 2 covers the cycling guidelines for activity centres and outlines planning considerations. The planning considerations include:

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Network Provision	To promote cycling as a viable mode of transport provision should be made for a comprehensive network that connects the Centre safely and conveniently to other local destinations. This includes dedicated or shared paths and the reallocation of road space to provide more space for cyclists, such as cycle lanes or bus lanes where cyclists are permitted.
EoT facilities	Facilities should be provided to cater for and promote cycling within commercial and community developments such as showers, change rooms and lockers.
Cycle Parking	Standards to ensure the supply of adequate cycle parking for public and private use should be adopted and mandated as part of the development control process.

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Local Policies

Town of Cottesloe Bike Plan 2008-2014

The Town of Cottesloe *'Local Bike Plan 2008-2014'* (LBP2008) was prepared with the aim of setting out a new strategic direction for cycling in Cottesloe in the five years preceding 2014. The LBP2008 set out to achieve the following goals:

- To continue increasing the number of people cycling in the Town.
- To improve the actual and perceived safety of cyclists.
- To ensure the needs of cyclists are always taken fully into account in the Town's strategies, policies, planning and practice.
- On-going development of cycle route connectivity and accessibility.

In achieving these goals, the LBP2008 outlined various works that needed to be carried out. Some of the works proposed included:

- Upgrading the Town's section of the Perth-Fremantle PSP.
- EoT facilities at Transperth train stations and other locations.
- Provision of off-road dual use bike path at Forrest Road.
- Various TravelSmart programmes.

Since the endorsement of the plan by the Town, a number of cycle infrastructure upgrades have occurred with the Town. Many of these upgrades were performed in line with the broader vision of the previous Bike Plan. That said, there are areas within the Town where further improvements can be made.

Town of Cottesloe Local Planning Scheme 3

The Town's Local Planning Scheme No. 3 (LPS3) was gazetted on Friday 1st August 2014. According to section 1.6 of the LPS3, one of the aims of the scheme is to…

> *"(g) ensure that residents and visitors continue to experience a high level of access to a range of transport modes within the Scheme.*

Strategic Community Plan

The Strategic Community Plan (the Plan) is part of the management process. It is a forward looking document that provides a framework for the community's ongoing sustainability and a sense of direction for the Council and staff when making decisions with long-term ramifications. It is a requirement under the State Government's Integrated Planning Framework and would assist with planning for community needs and aspirations, no matter what form any future local government may take.

Council's Mission

The Council's mission is to:

"To preserve and improve Cottesloe's natural and built environment and beach lifestyle by using sustainable strategies. Members of the community would continue to be engaged to shape the future for Cottesloe and strengthen Council's leadership role."

One of the major strategies for the Town is to develop an 'integrated transport strategy' that includes cycling, park and ride, Cott Cat, public transport and parking management strategies to meet the needs of pedestrians, cyclists and other non-vehicular traffic. This is how the updated Bike Plan 2015-2025 would provide guidance and advice on how cycling can be integrated into the Town contributing to an enhancement in economic, social and environmental sustainability.

Traffic Management Policy

The objectives of this policy are:

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> The establishment of appropriate traffic flow and access into and through the Town, which maximises road safety and local amenity.

> The establishment of a procedure from which necessary traffic management works are undertaken in a cost effective and equitable manner.

> Integration of the traffic management policy into the Council's Strategic Plan.

Council wishes to encourage pedestrian and cycle use within the Town. Therefore, Council would include usage surveys, community consultation and liaison with the Department of Transport to fulfil this objective.

The Policy states that for all traffic management matters reference should be made to the Local Bike Plan 2008-2014 and the Perth Bicycle Network Plan. However this Traffic Management Policy should be updated to reflect the new Bike Plan 2015-2025.

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Bicycle Plan Background Study

APPENDIX B

LOCAL BIKE PLAN 2008-2014 LIST OF RECOMMENDATIONS

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Local Bike Plan 2008 – 2014 Recommendations

The following is a summary of recommendations from the expired Bike Plan 2008-2014, highlighting both completed and uncompleted actions. As shown in the **Table B-1** to **Table B-4** below, there are a number of cycling priorities proposed and that are still to be implemented in the Town.

Table B-1 Cycling Priorities in the Town of Cottesloe

Activity	Priority	Yes / No
SURVEYS AND MONITORING		
Biennial Residents Cycle Survey	Medium	Yes, Super Tuesday Bike Count
6 Monthly cycle counts	Medium	No
Cycle parking Survey at train stations/schools	Medium	No
STUDIES/INVESTIGATIONS		
School travel pattern assessment studies	High	No
Undertake cycle audits	High	No
Investigation of widening sections of Raia Roberts Dual Use Path and design (see D13)	High	Yes. Not considered suitable
Investigation into lockage cycle parking cage at Pearse Street footbridge	Medium	Unknown
Assessment of on-street parking demand: Broome Street, Eric Street and Grant Street (see D6)	High	No
Study into the impact of the removal of parking on one side of Marine Parade and design	High	No
PLAN CHANGES		
Amendments to Town Planning Scheme – cycle parking/trip end facilities	High	No. R-code provisions apply
INFRASTRUCTURE PROVISION		
Kathleen Street/North Street path improvement	Medium	Yes
West Coast Highway/North Street/Curtin Avenue/Claremont Crescent/Grant Street traffic signal crossing improvements	Medium	Nedlands/MRWA
Forrest Street/Marine Parade	Medium	Yes
Eric Street blister island treatments	Medium	Part
Marine Parade blister island treatments	High	Yes
Broome Street, Eric Street and Grant Street pavement cycle symbol markings (see B5)	Medium	No, not supported due to on-street parking
Jarrad Street/Stirling Highway/Irvine Street route improvement	Medium	MRWA/Peppermint Grove
Station access road – Forrest Street to Jarrad Street	Medium	Yes
Pearse Street footbridge wheeling ramp	Low	Yes
Bryan Way	Low	No
Provide PSP along railway reserve	High	State Project
Reconstruct Eric Street Railway Bridge	High	State Project
Widen Raia Roberts dual use path (see also B3)	High	No
Forrest Street off-road dual use path	Medium	Yes
CYCLE PARKING		
Grant Street Railway Station	High	Yes
Jarrad Street car park	Medium	Yes
PROMOTION		

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Supporting and assisting TravelSmart officer	High	N/A
EDUCATION		
Supporting and assisting TravelSmart officer	High	N/A
ENFORCEMENT		
Supporting and coordinating activities with Police	High	Safety and Crime Prevention Committee

Table B-2 Performance Monitoring

PERFORMANCE	YES / NO
PHYSICAL WORKS PROGRAMME	
Monthly monitoring of planned general or reactive maintenance	Yes, ongoing
Annual review of progress on implementing the infrastructure works programme	Yes, ongoing
CYCLE USE	
Census data assessment of numbers/percentage of people cycling to work (2011)	No
Biennial survey of residents' cycle usage (2010, 2012)	Yes, Super Tuesday Bike Count
6 monthly cycle counts at selected sites on cycle routes to establish seasonal variations	No
Annual assessment of cycles parked at train stations	No
Assessment in 2009 and 2014 of cycles parked at schools	No
CYCLE CRASHES/SAFETY	
Annual review of Police reported cycle crashes (5 year trend)	No
Biennial survey of residents rating of level of safety for cycling	No
SATISFACTION LEVELS	
Bi-annual survey of residents rating of cycle facilities	No
CYCLE FACILITIES	
Audit each infrastructure project for compliance with design standards	N/A
CYCLE NETWORK IMPLEMENTATION	
Annual review of implemented schemes to ensure fitness for purpose of facilities	No
Ongoing assessment of development applications with respect to cycling impact	Limited
Ongoing assessment of traffic/transport projects from a cycling perspective	N/A

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Table B-3 Potential Improvements to Existing Facilities

LOCATION	DESCRIPTION	COMPLETED YES / NO
Curtin Avenue/ Claremont Crescent	Relocate shared path sign closer to path. Provide cycle crossing symbols to match existing pedestrian crossing symbols across Curtin Avenue (south) approach.	Outside of Town boundary
Curtin Avenue/ Grant Street	Provide cycle crossing symbols to match existing pedestrian crossing symbols across Curtin Avenue at pelican crossing. Provide a northbound cycle lane in the verge on approach to pedestrian pelican crossing to allow cyclists to gain access to crossing point.	No symbols at crossing. Ramp to crossing on north bound lane installed.
Forrest Street/ Marine Parade	Connect 'pram' crossing providing access to Marine Parade to Raia Roberts Dual Use Path across narrow verge area.	Yes
Eric Street – Blister island	Install shared path signs/pavement markings. Rectify ramps on eastern side of blister island to allow 1 in 15 slopes.	N/A
Eric Street – Blister island	Install shared path signs/pavement markings.	N/A
Eric Street – Blister island	Following a cycle audit, consider providing a cycle bypass around the blister island outside School.	Yes
Marine Parade – Blister island	Following a cycle audit, consider providing cycle bypass of blister island.	No
Broome Street	Assess on-street parking demand and consider installing pavement markings.	No
Eric Street	Assess on-street parking demand and consider installing pavement markings.	No
Grant Street	Assess on-street parking demand and consider installing pavement markings.	No
Cottesloe Station (parking access road)	Resurface access road to provide a smooth road surface from Forrest Street path to Jarrad Street.	Yes
Various	Undertake cycle audit of existing roundabout facilities from a cyclist perspective as well as a footpath/pram ramp audit given usage by children under 12 years of age.	No

Table B-4 Other Cycling Priorities

NEW ROUTES / ADDITIONS TO THE CYCLE NETWORK	LOCATION	YES / NO
PSP Connection – Curtin Avenue at Eric Street.		
Proposed treatment: underpass.	Underpass	State Project
PSP Connection – Curtin Avenue at Jarrad Street	Under or overpass	State Project
Bike crossings for Curtin Avenue at Jarrad Street, Eric Street, Salvado Street.	Overpass	State Project (PSP Extension)
EXTENSION OF THE PSP		
Eric street		No
Salvado Street		No
CYCLE PARKING		
Additional Cycle Parking	Grant Street Station	Yes
PROMOTION AND ENCOURAGEMENT		
Cycle Maps up to date	Work with DoT	Unknown
Travel Smart Officer	Work with TravelSmart Officer	No

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About Cardno

Cardno is a professional infrastructure and environmental services company, with expertise in the development and improvement of physical and social infrastructure for communities around the world. Cardno's team includes leading professionals who plan, design, manage and deliver sustainable projects and community programs. Cardno is an international company listed on the Australian Securities Exchange [ASX:CDD].

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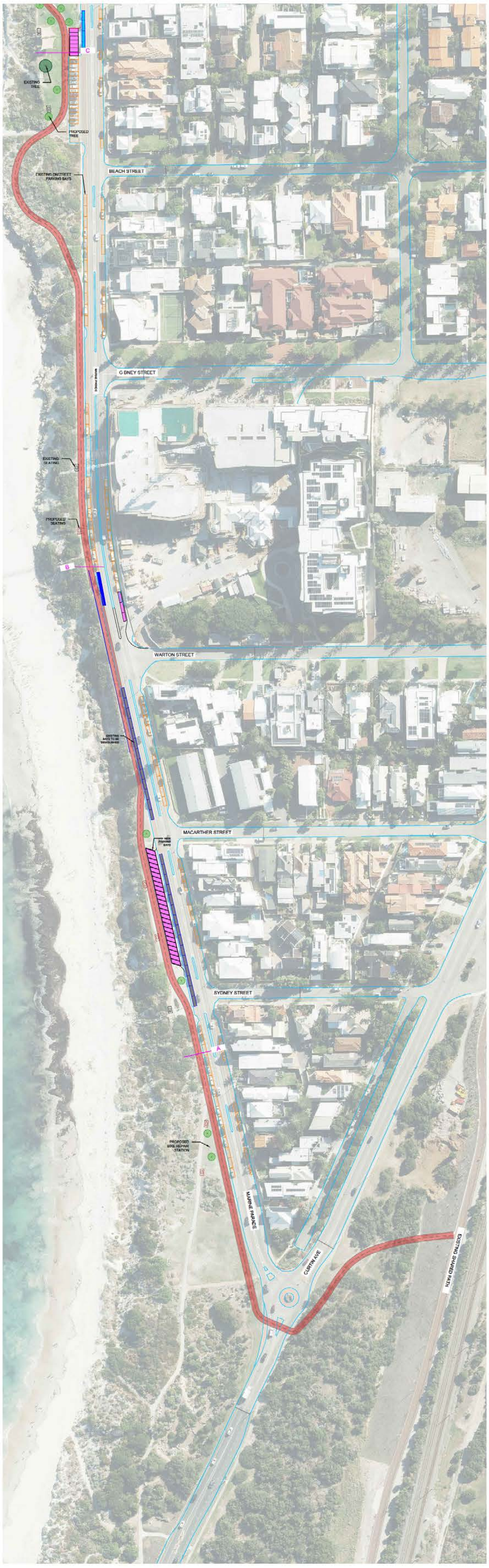

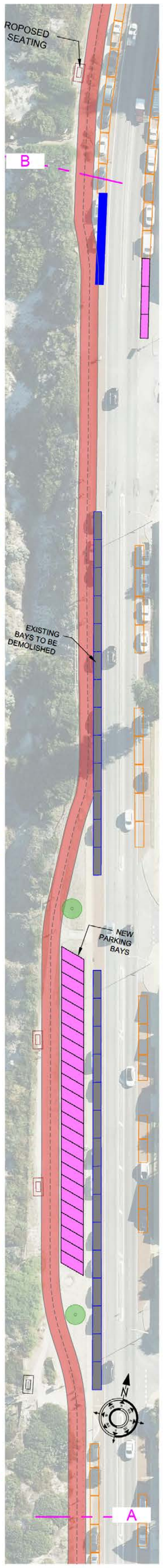

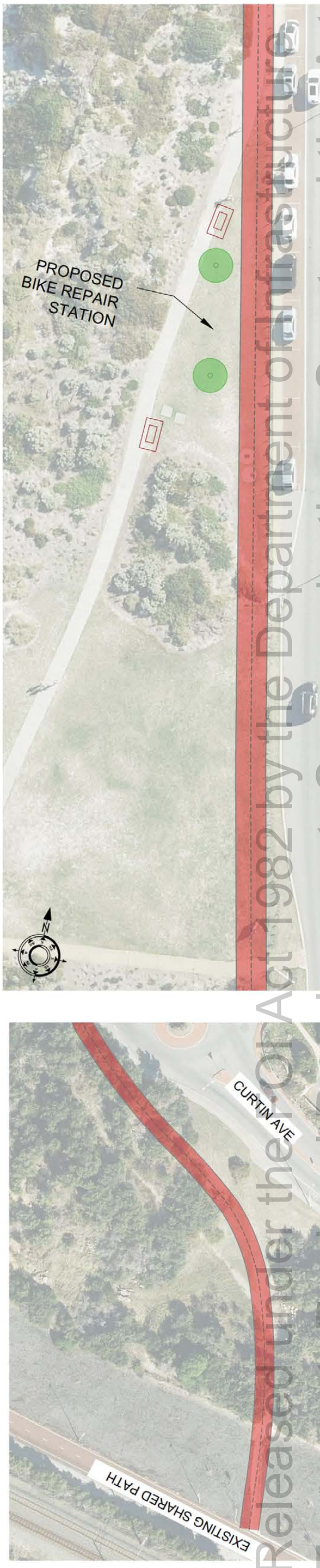

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1	ISSUED FOR INFORMATION	R.I	--	07/01/24
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3				
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	INITIALS	DATE	SIGNATURE
DESIGNED:	TOC	03/12/24	
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APPROVED:	--	XXXXXX	

TITLE:

MARINE PARADE

CURTIN AVENUE TO NORTH STREET

SHARED PATH - DRAFT CONCEPT

SHEET 01 of 04

DRAWING NUMBER: -

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SCALE NTS

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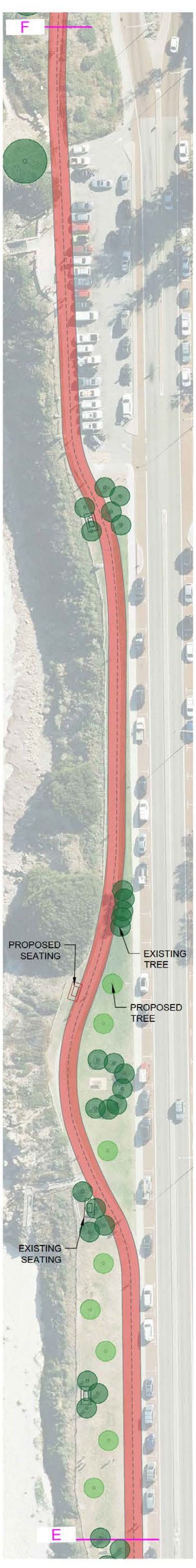

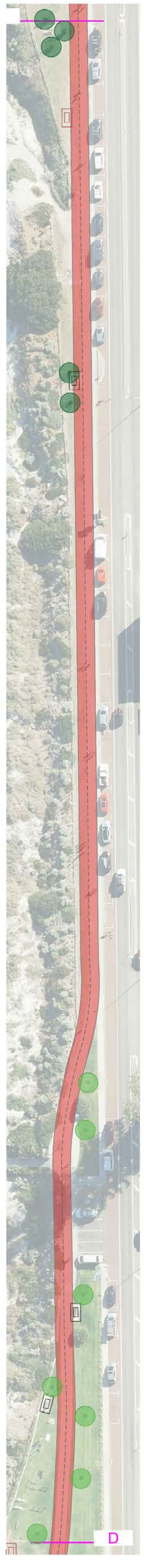

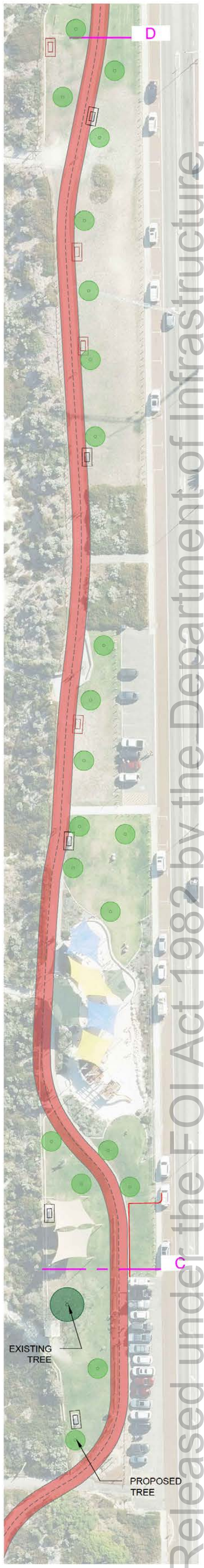

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0	ISSUED FOR INFORMATION	R.I	--	03/12/24
1	ISSUED FOR INFORMATION	R.I	--	07/01/24
2				
3				
4				

Town of Cottesloe

TOWN OF COTTESLOE
109 BROOME STREET
PO BOX 606
COTTESLOE WA 6011

TEL (08) 9285 5000
FAX (08) 9285 5001

www.cottesloe.wa.gov.au

	INITIALS	DATE	SIGNATURE
DESIGNED:	TOC	03/12/24	
CHECKED:	--	XXXXXX	
APPROVED:	--	XXXXXX	

TITLE:

MARINE PARADE

CURTIN AVENUE TO NORTH STREET

SHARED PATH - DRAFT CONCEPT

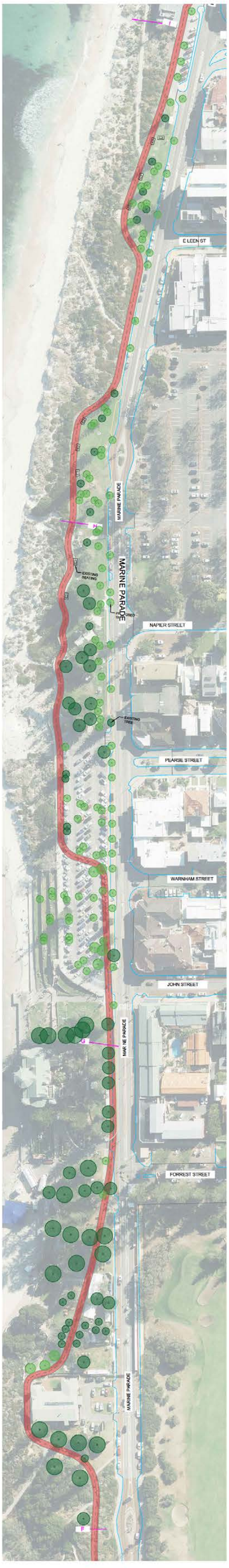
SHEET 02 of 04

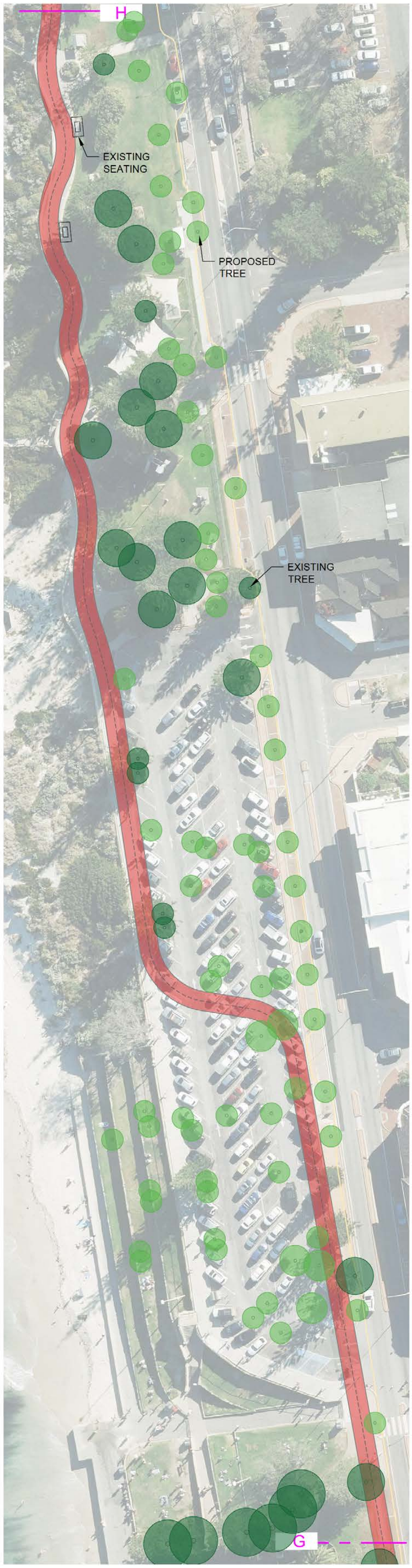
REV 0

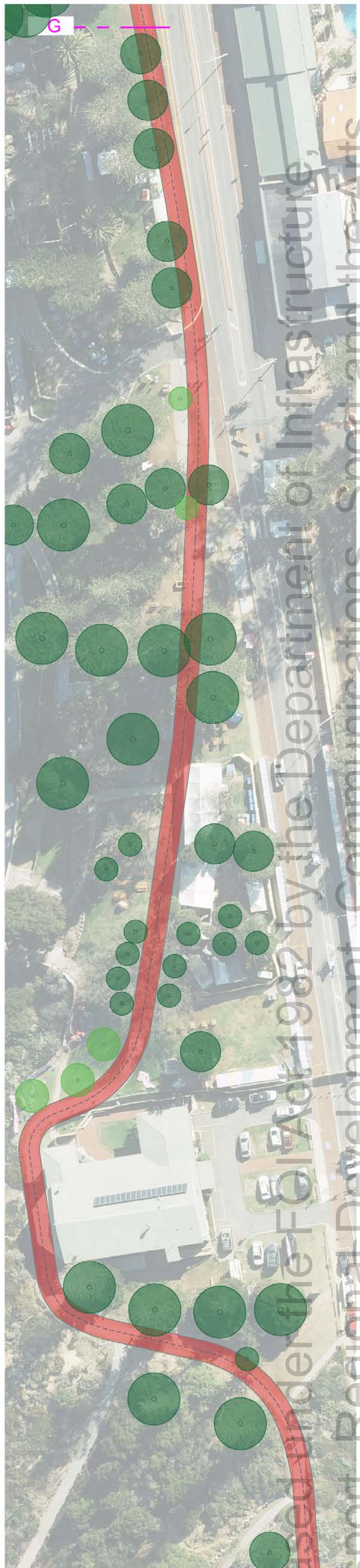
SCALE NTS

DRAWING NUMBER: -

A1







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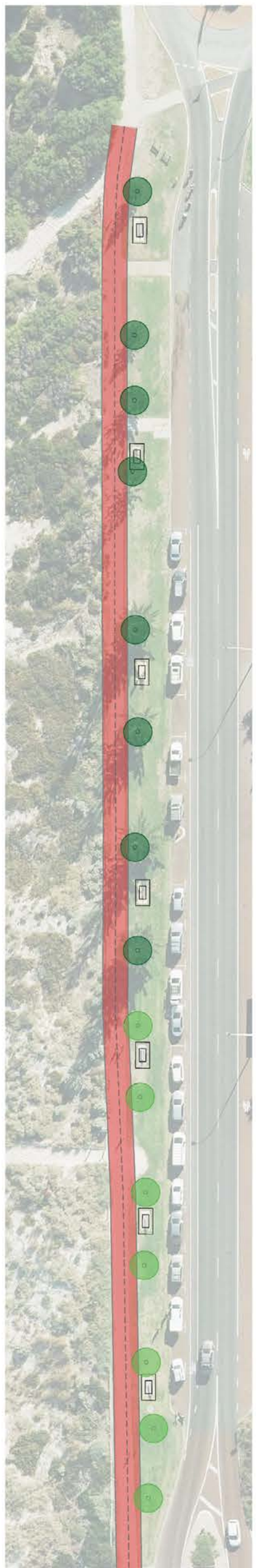

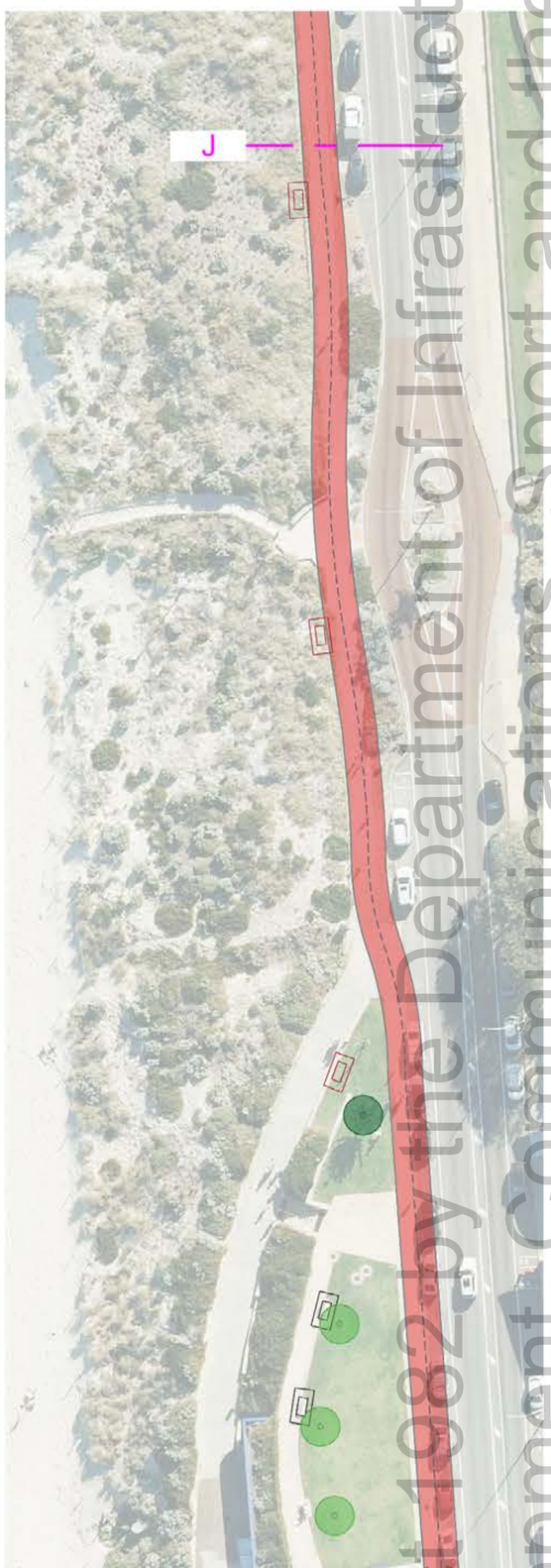

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TITLE:

MARINE PARADE

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SHARED PATH - DRAFT CONCEPT

SHEET 04 of 04

REV 0

SCALE NTS

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A1

Conflict of Interest

Please complete either **Option 1 (no known conflict of interest)** or **Option 2 (disclosure of actual, apparent or potential conflict of Interest)**.

Option 1 – No known conflict of interests

I confirm that at the time of signing, to the best of my knowledge I am unaware of any actual, apparent or potential conflicts of interest that would prevent my organisation from proceeding with the proposal outlined in this application or from accepting the funding offer and subsequent funding arrangement with the Australian Government to deliver a project which relates to this application.

I undertake that if at any time I become aware that I, or any other employees or persons associated with the applicant organisation have an actual, apparent or potential conflict of interest, then I will:
a) immediately notify the Commonwealth of Australia as represented by the Department of Infrastructure, Transport, Regional Development, Communications and the Arts (the department) in writing of that conflict and of the steps the applicant organisation propose to take to resolve or otherwise deal with the conflict;
b) make full disclosure to the department of all relevant information relating to the Conflict; and
c) take such steps as the department may, if it chooses to, reasonably require to resolve or otherwise deal with that conflict.

I understand that if I fail to notify the department of any actual, apparent or potential conflicts of interest or am unable or unwilling to resolve or deal with the conflict as required by the terms noted above, the department may seek to withdraw or cancel the funding offer and subsequent funding arrangement established in relation to a project which relates to this application.

Signature **Authorised Person**	s22(1)(a)(ii)
Printed name	
Date	13/01/2025
Signature of witness	s22(1)(a)(ii)
Printed name of witness	
Date	13/01/2025

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Option 2 – Disclosure of conflict of interests		
I disclose the following interests:		
[input text]		
I undertake that if at any time I have an actual, apparent or potential conflict of interest, then I will: a) immediately notify the Commonwealth of Australia as represented by the Department of Infrastructure, Transport, Regional Development, Communications and the Arts (the department) in writing of that conflict and of the steps proposed in order to resolve or otherwise manage the conflict; b) make full disclosure to the department of all relevant information relating to the conflict; and c) take such steps as the department may, if they choose to, reasonably require to resolve or otherwise deal with that conflict. I understand that if I fail to notify the department of any actual, apparent or potential conflicts of interest or am unable or unwilling to resolve or deal with the Conflict as required by the terms noted above, the department may seek to withdraw or cancel the funding offer and subsequent funding arrangement established in relation to a project which relates to this application.		
Signature **Authorised Person**		
Printed name		
Date		
Signature of witness		
Printed name of witness		
Date		

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Declaration and Authorisation

I confirm that:

1. I am authorised to make this declaration on behalf of my organisation and have made a full disclosure of information.

2. My project has funding co-contribution secured. My organisation has carefully considered market and inflation risk, and bears sole responsibility for cost overruns.

3. I acknowledge that my project is for new works which have not previously been funded under this Program.

4. I acknowledge that changes to this project must be approved by the department prior to any change in work being delivered.

5. I acknowledged that information from this application may be used for reporting purposes and details of funded projects (including the project name, project scope, funding recipient and project costs) will be made publicly available on the Department's website.

6. If this application is approved, funding will be for the project described in this application and may not be directed to any other project or purpose.

7. All information provided in this application form is true and correct.

8. I acknowledge that administration of the Program is dictated by requirements of the National Land Transport Act 2014, Federal Financial Agreement Infrastructure, Land Transport Infrastructure Projects Schedule and the Program Guidelines, and I agree to comply with all requirements outlined.

I declare that I am authorised to submit this form on behalf of the applicant and acknowledge that this is the equivalent of signing this application.

Full Name of Authorised Officer:	s22(1)(a)(ii)	
Position/title:	Director Engineering Services	
Organisation name	Town of Cottesloe	
Date:	13/01/2025	

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