

Cultural Vitality **Social Equity** Economic Prosperity  
Environmental Sustainability

# PLAN TO CYCLE



## City-Wide Cycling Plan

December 2013

**infraPlan**  
InfraPlan (Aust) Pty Ltd




City of  
Norwood  
Payneham  
& St Peters

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# Table of Contents

<b>1</b>	<b>Introduction</b>	<b>1</b>
1.2	Acknowledgements	1
<b>2</b>	<b>Executive summary</b>	<b>2</b>
<b>3</b>	<b>Background</b>	<b>3</b>
3.1	Vision	4
<b>4</b>	<b>Benefits of cycling</b>	<b>5</b>
<b>5</b>	<b>Strategic framework</b>	<b>7</b>
<b>6</b>	<b>Existing cycling network and conditions</b>	<b>10</b>
6.1	Council roads	10
6.2	State-owned Department of Transport Planning and Infrastructure (DPTI) roads	11
6.3	Existing bicycle network	11
6.4	Traffic speed	14
6.5	Traffic volumes	14
6.6	Cyclist volumes	16
6.7	Cyclist crash analysis	16
<b>7</b>	<b>Consultation Summary</b>	<b>21</b>
7.1	Initial consultation phase	21
7.2	Final consultation phase: report for public consultation	22
<b>8</b>	<b>SWOT analysis</b>	<b>23</b>
8.1	Strengths	23
8.2	Weaknesses	24
8.3	Opportunities	25
8.4	Threats	26
<b>9</b>	<b>On-road cycling</b>	<b>27</b>
9.1	Streets for People (SFP)	27
9.2	Advisory Treatment (AT)	31
9.3	Bicycle Boulevard (BB)	33
9.4	Exclusive Bicycle Lanes (EBL)	35
9.5	Bicycle Car Park Lanes (BCPL)	35
9.6	Enhanced Bicycle Lanes (EnBL)	36
9.7	Reallocate Traffic Lanes (RTL)	37
9.8	Separated Bicycle Lanes (SBL)	37
9.9	Cyclist Refuge (CR)	38
9.10	Roundabout upgrading	39
9.11	Cyclist Head Start (HS)	40

9.12	Off-road Shared Path / Separated Path (SP)	40
9.13	Directional signage	41
9.14	Bicycle parking	42
<b>10</b>	<b>Infrastructure - the future cycling network</b>	<b>43</b>
<b>11</b>	<b>Infrastructure Action Plan</b>	<b>45</b>
11.1	Prioritisation principles	45
11.2	Priority Infrastructure Actions – description and rationale	47
<b>12</b>	<b>DPTI Roads</b>	<b>52</b>
12.1	Arterial Road Bicycle Facilities Program	53
12.2	Fullarton Road Upgrade Project	53
12.3	The Parade (between Fullarton Road and Portrush Road)	53
12.4	Payneham Road	54
12.5	DPTI road crossings	54
<b>13</b>	<b>River Torrens Linear Park - Greenway</b>	<b>55</b>
<b>14</b>	<b>The Business of Behaviour Change</b>	<b>56</b>
14.1	The job of shifting behaviours	56
14.2	Harnessing the culture of cycling	58
14.3	Program delivery model	58
14.4	Recommended actions for behaviour change	59
<b>15</b>	<b>Implementation</b>	<b>68</b>
15.1	Resources and funding	68
15.2	Resourcing and coordination	69
15.3	Monitoring and evaluation	69
<b>Appendix A</b>		<b>71</b>
	Priority Infrastructure Action Plan	71
<b>Appendix B</b>		<b>85</b>
	Priority Travel Behaviour Change Action Plan	85
<b>Appendix C</b>		<b>89</b>
	Beulah Road Bicycle Boulevard – a detailed assessment	89
<b>Appendix D</b>		<b>96</b>
	City of Burnside Bicycle Strategy, 2012 – relevant notes	96
<b>Appendix E</b>		<b>98</b>
	Super Tuesday Bicycle Counts	98

# 1 Introduction

InfraPlan in conjunction with Bike SA has been engaged by the City of Norwood Payneham & St Peters to prepare this City-Wide Cycling Plan.

The central aim of the City-Wide Cycling Plan is to increase overall cycling rates within the City, leading to health, environmental, economic and social benefits for the residents of Norwood, Payneham & St Peters. This City-Wide Cycling Plan aims to develop liveable neighbourhoods with a connected network of cycling streets; and develop a culture of cycling that will foster long-term behavioural change.

The key objectives of this City-Wide Cycling Plan are to:

- Improve cyclist safety
- Increase the range of people who cycle in the area, e.g., the elderly and young
- Increase local cycling trips (to shops, schools, etc)
- Improve permeability and connectivity within the local area, and with the adjoining municipalities and the Adelaide CBD
- Facilitate healthy communities through increased physical activity
- Improve the liveability of neighbourhoods and increase social connections
- Provide real transport alternatives to the personal car that are socially equitable
- Provide solutions for environmental sustainability
- Increase supporting infrastructure, such as bicycle parking
- Reduce traffic congestion
- Address cyclist black spots
- Encourage lasting travel mode shift through travel behaviour change initiatives
- Provide information and support communities to raise the profile of cycling as an alternative transport mode

## Acknowledgements

InfraPlan and Bike SA would like to thank all who provided valuable input into the preparation of this plan, including Norwood Payneham & St Peters Council staff and Elected Members; Department of Planning, Transport and Infrastructure's Office of Cycling & Walking staff; and everyone who completed the survey, attended the Plan to Cycle Consultation Workshop at Magill Road Alive in April 2013 or provided submissions on the draft City-Wide Cycle Plan.

## 2 Executive summary

This City-Wide Cycling Plan provides a framework to encourage more people to cycle by identifying a range of infrastructure improvements and travel behaviour change initiatives.

Extensive consultation was undertaken to identify the issues and opportunities relating to cycling in the City of Norwood Payneham & St Peters. This feedback was instrumental in the development of the City-Wide Cycling Plan, together with rigorous data analysis, site observations and auditing, and knowledge of the latest solutions in cycling initiatives and infrastructure design.

This City-Wide Cycling Plan builds and improves on the existing cycling network identified in the 1999 Regional Area Bike Plan and the State Government's *Bikedirect* metropolitan cycling network.

The recommendations herein are largely based on creating liveable neighbourhood streets that form part of the Council's overall on-road cycling network. Vehicle speed is cited as a major barrier to getting more people to cycle. The speed and unnecessary 'through' traffic should be reduced by traffic calming measures, enabling a more attractive and balanced urban environment that allows cyclists and motor vehicles to safely share the street.

The recommended network and infrastructure improvements must be integrated with education and encouragement strategies. A series of travel behaviour change interventions, programs and initiatives have been identified to develop a culture of cycling that will foster long-term behavioural change in relation to cycling for recreation and transportation within the City. Consultation feedback indicated that the general Norwood Payneham & St Peters community are at the 'Contemplation' stage; having a clear understanding that "something must change but I just don't know where to start". It is critical that the range of programs or intervention activities that are developed move people towards action and ongoing behaviour change as quickly as possible. The development of an ongoing 'support network' is essential to maintain the desired behaviour, in this case the uptake and/ or increased cycling, for a prolonged period until it becomes considered regular behaviour.

The future cycling network is illustrated on Figure 11: Future City-Wide Cycling Network. Due to the cost of infrastructure and available Council expenditure, the entire cycling network and behaviour change initiatives will need to be budgeted, programmed and implemented incrementally over a period of time. Therefore, a priority infrastructure action plan has been identified as illustrated on Figure 12: Priority Infrastructure Action Plan, with key actions that will improve cycling amenity and provide logical and connected routes. These priority actions should be implemented as soon as possible. In some cases, the priority actions will need to be further scoped out and investigated by the Council.

The infrastructure Priority Action Plan should be reviewed every five years to assess progress and prepare the subsequent priority actions, until the entire cycling network is complete. This five year review process provides the opportunity to evaluate the outcomes of the work implemented, and also incorporate the latest innovative solutions so that adjustments to the City-Wide Cycling Plan can be made as required.

## 3 Background

The City of Norwood Payneham & St Peters is a dynamic and vibrant inner urban municipality, home to 36,000 residents over 15.1km. It is ideal for cycling with relatively flat terrain and many services provided within short distances. It is close to the CBD, and includes the popular River Torrens Linear Park shared trail (Greenway).

The Austroads 2011 National Cycling Participation Survey reported that 20% (or 299,000) of South Australians ride their bicycle each week, with 59% of children under the age of 10 riding weekly as well (the highest in the nation). Despite South Australia having a high level of bicycle ownership, with 51% of households possessing a working bicycle, regular cycling participation is limited to the 25-30% level. Repeated research shows that 60% of Australians say they would ride their bicycle more if they felt it was safe to do so.

The 2011 census data found that 3.8% of Norwood Payneham & St Peters residents regularly cycle to work, which is a larger percentage of bicycle commuters compared to 1.6% for the Adelaide metropolitan area. Given the existing advantages for cycling in Norwood Payneham & St Peters, there is scope to further increase the number of people who cycle, attract new cyclists and encourage residents to choose their bicycle ahead of their personal car for various short trips.

Wicks Avenue, Felixstow is one of the furthest locations in the Norwood Payneham & St Peters Council area from the Adelaide CBD, yet is only 6 kilometres (or 20 minutes cycling) from the Adelaide City edge. The distance to services within the Council area (such as neighbourhood centres and schools) is also a significant advantage of the urban form of the Council area. A majority of Norwood Payneham & St Peters residents are able to access a major neighbourhood centre within a 5 minute (or less) cycling journey. This suggests that many more trips could be undertaken by cycling given an appropriate cycling environment and a change in community attitudes to one that embraces cycling as a transport mode of choice.

Through the encouragement and educational work that Bike SA has been delivering for over two decades, it is understood that concern over road safety is a major barrier to more people cycling. However, we also know that in the majority of cases, this is more of a perceived barrier than a real one and that modest investments in providing educational tools can significantly increase an individuals' confidence level, thereby mitigating their concerns over riding for transport or recreational enjoyment.

For decades, car focussed transport planning policy has delivered a fractured bicycle network, with a focus on the perceived affordability of a painted bicycle lane as a driver to cycling participation. In recent years however there has been a growing acknowledgment that a fairer investment ratio is required to ensure that the needs of People (education and encouragement) is as highly valued as the creation of Place (infrastructure).

While higher quality and higher quantity bicycle infrastructure plays a key role in getting more people cycling, it is critical that local authorities appreciate the need to adequately fund each of the Four E's – education, engineering, encouragement and enforcement, as only then will rapid and meaningful increases in transportation mode-share be achieved by a community. In this context, a community will benefit greatly from the development and delivery of evidenced based travel behaviour change interventions that seek to mitigate the barriers while enhancing the benefits of cycling.

### 3.1 Vision

Acknowledging the already high participation rate and growing levels of cycling by its community, a bold vision is established for the Norwood Payneham & St Peters City-Wide Cycling Plan.

- **Norwood Payneham & St Peters is a cycling-friendly city**
- **There is an effective, connected cycling network that can be used by inexperienced and experienced riders**
- **Residents have increased opportunities to choose cycling ahead of their car for short trips**
- **The community recognises the importance of sustainable transport, and that cycling is a legitimate and respected form of transport**
- **Cycling safety is improved**



Photo 1: Magill Road Alive Festival, April 2013, Plan to Cycle consultation event



## 4 Benefits of cycling

Significant benefits accompany the choice of cycling as a mode of transport, and for recreation including personal health, environmental, economic, improved road safety and a more vibrant urban lifestyle.

### Health

- 92% of Norwood Payneham & St Peters survey respondents identified 'health & fitness' as a motivator to cycling
- Physical activity and a healthy weight are major contributors to good health
- Access to enjoyable cycling and walking routes supports an active population

### Economic

- Cycling is low cost, compared to owning and maintaining a car
- Cycling reduces traffic congestion and associated costs caused by travel delays
- Cycling encourages shopping in the local area
- Better cyclist connectivity to local retail/commercial precincts could result in economic benefit to those businesses
- Economic benefit analyses of cycling provide a convincing argument for governments of all persuasions to invest in cycling infrastructure and program development. From the Department of Infrastructure and Transport's "Walking, Riding and Access to Public Transport - Draft Report for Discussion - October 2012" report, the benefit to the community for every kilometre cycled equates to \$1.43 and is itemised as follows;

Benefit	Value (\$/km)	Lower	Upper
Health (walking)	\$1.680	\$1.230	\$2.500
Health (riding)	\$1.120	\$0.820	\$1.670
Injury costs (walking)	-\$0.240		
Injury costs (riding)	-\$0.370		
Decongestion	\$0.207	\$0.060	\$0.340
Noise reduction	\$0.009	\$0.007	\$0.012
Air quality	\$0.028	\$0.028	\$0.029
Greenhouse gas emissions	\$0.022	\$0.020	\$0.025
Infrastructure provision	\$0.052		
Parking cost savings	\$0.016		
Vehicle operating costs	\$0.350		
<b>Total benefit (walking)</b>	<b>\$2.12</b>		
<b>Total benefit (cycling)</b>	<b>\$1.43</b>		

Figure 1: Source: Walking, Riding and Access to Public Transport - Draft Report for Discussion October 2012, Australian Government Department of Infrastructure and Transport

### Environment

- Cycling does not emit greenhouse gas or other pollutants. Cycling trips can replace short vehicle trips which are the most polluting per kilometre compared with long car trips
- Increasing cycling is a high priority action whereby Council can improve transport sustainability

### Urban Lifestyle

- Cycling is a mode of transport that requires relatively little space (on the road and for parking), providing the opportunity to use that freed space to create more vibrant streets
- Cycling is a social activity and contributes to improved residential amenity
- Cycling is socially equitable, enjoyable and fun

### Road Safety

- Cycling poses a low road safety threat to other road users
- The more people that cycle, the safer it is for cyclists (Safety in Numbers). Higher bicycle use leads to modified vehicle driver conduct as cyclists are more visually present on the road
- Most cyclists are also motorists, therefore more cyclists will generate greater mutual respect between road users

### Time Saving

- Cycling (door to door) can be faster than driving for short trips, particularly when taking into account easy parking
- Cycling for transport combines travel and exercise time, and cyclists can spend less time doing other exercise

“More people on bikes means a more active, healthier population. It means fitter citizens who can live in cleaner, less congested cities. And it means more people who can travel or enjoy themselves while leaving only a fraction of the carbon footprint of other modes of transport.” National Cycling Strategy 2011-2016

## 5 Strategic framework

There are a number of Federal, State and local strategies and policies supporting the development of the City-Wide Cycling Plan. Planning for cycling has not always been a prevailing transport consideration in the past; however there has been a major shift in the last few years with the benefits of cycling starting to generate strategic momentum.

### **National Cycling Strategy 2011-2016**

The National Cycling Strategy aims to double the number of people cycling by the year 2016. The Strategy states that, “...all levels of Government, voluntary organisations, employers, schools and the community have a role to play in getting people onto bikes. There is a wealth of activity going on across the country which is having a real impact. This needs to continue. The programs and initiatives that are being implemented in each state and territory all contribute to the success of the national strategy and it is right that those who work in, live in and understand a local area make decisions about the right approach for that area.”

### **The 30-Year Plan for Greater Adelaide, 2010**

The State Governments’ 30-Year Plan for Greater Adelaide, 2010 (The 30 Year Plan) sets out policies to manage the population, housing and employment growth and change that is forecast to occur over the next 30 years (in greater metropolitan Adelaide).

One of the key growth objectives of The 30 Year Plan is to facilitate vibrant and sustainable, mixed use precincts by concentrating housing and jobs in transit corridors and regeneration areas such as Kent Town; and transit oriented developments. It also seeks the outcome of an extended bicycle network across greater metropolitan Adelaide, including the provision of bicycle and pedestrian routes within major transit corridors and cross-suburban connections.

### **Road Safety Action Plan 2013 – 2016, August 2013**

The State Government’s Road Safety Action Plan, called Towards Zero Together includes many priority actions that improve cyclist safety and reduce road trauma if they are involved in an accident with a vehicle.

The overarching focus is on creating safer communities and neighbourhoods through implementing the concepts from the “Streets for People” compendium, published by the State Government in 2012. The compendium promotes investing in safer roads in order to provide lower speed environments where motor vehicles and bicycles travel at comparable speeds on quiet streets. Key to this are education campaigns about sharing the road, grants and partnership programs that shift people towards safer, greener and more active travel and increasing the number of schools involved in the “Ride to School” program.

### **Building a Stronger South Australia – The Integrated Transport and Land Use Plan (DRAFT), October 2013**

The draft (October 2013) Integrated Transport and Land Use Plan (ITLUP) defines the key transport challenges facing South Australia and sets solutions to these problems. One of the challenges identified is “Supporting lively communities by encouraging active travel modes”.

Importantly, the ITLUP encourages greater preference of walking and cycling as mode of travel for South Australians. The solutions to this include:

- Extend and improve cycling and walking networks
- Expand walking/cycling catchments
- Incorporate cycling and walking options in planning

- Improve driver education and awareness

The ITLUP also identifies the Norwood Bikeway as a short-term solution/action which aligns with the proposed Beulah Road Bicycle Boulevard identified in this City-Wide Cycling Plan. Council will continue discussions with State Government to determine priorities, timing and opportunities for collaboration or funding opportunities.

It is also important to note that the ITLUP proposes an extended tram along the Norwood Parade (EastLink). Therefore the Norwood Bikeway, which runs adjacent to the proposed tram, provides alternative safe access for cyclists and limits the potential for conflicts between the two modes. Also the Norwood Bikeway is close enough so that the two can integrate as a convenient transport options.

### **Inner Metro Rim Structure Plan, 2012**

The Inner Metro Rim Structure Plan refines the directions of The 30 Year Plan by providing a strategic vision for the inner suburban areas of Adelaide within 2 kilometres from the outer boundaries of the Adelaide Park Lands. The Inner Metro Rim Structure Plan discusses the importance of the River Torrens Linear Park corridor, part of which runs along the northern boundary of Norwood Payneham & St Peters. The Plan states the following:

*“Reinforce the river corridor as an important greenway, providing efficient pedestrian and cyclist movement, improved recreation and increased biodiversity linking to the city. Create strong links with surrounding residential streets and achieve improved frontage to the river corridor including new focal points aligned with the surrounding streets, **and connection with Stephen Terrace and St Peters Street primary local network**”.*

### **A Functional Hierarchy for South Australia’s Land Transport Network, June 2013**

This document recognises that South Australia’s transport corridors are under increasing pressure to cater for growth in travel demand and has been developed to describe a functional hierarchy that identifies which corridors are important for different modes of transport. Relevant extracts include, *“The cycling network in Greater Adelaide and large regional towns enables direct, efficient and safe travel for cyclists. The cycling network consists of:*

#### Major cycling routes

- Arterial roads where bicycle transportation is emphasised;
- Inter-regional continuous links to the CBD, regional centres, district centres and major employment areas, as well as access to key cycle trip generators (eg strip and local shopping, educational institutions and places of cultural and social activity).

#### Greenways and Cycling Routes (local roads)

- A comfortable, low-stress cycling environment on low-traffic streets and off-road paths. Cycling routes on the local roads typically follow the metropolitan Bikedirect network.
- Any arterial road not covered in the above categories should still provide dedicated space for cyclists, typically included in new urban road projects or road upgrades.”

### **CityPlan 2030**

The Council’s Strategic Plan, *CityPlan 2030* provides the overarching strategic framework for all of the Council’s services, projects and decision-making.

*CityPlan 2030* is based on a Quadruple Bottom Line approach, which applies best practice sustainability principles to guide all decisions as to how the Council plans, delivers and measures the success of its programs and services. The four pillars of integrated sustainability upon which the Council has based its strategic plan are: social equity, cultural vitality, economic prosperity and environmental sustainability. *CityPlan 2030* includes the following:

Outcome 1 Social Equity: “A connected, accessible and pedestrian-friendly community”

Snapshot 2030:

- Less cars on the road and more people are walking, cycling and using public transport, maybe a tram as well
- The community is well connected and people move between areas and easily connect with each other and the council

Objectives:

- A people-friendly, integrated, sustainable and active transport network
- A strong, healthy and resilient community

Strategies:

- Promote the use of alternative transport to motor vehicles
- Provide improved and safer movement for cyclists, pedestrians and people using motorised personal vehicles
- Encourage increased physical activity and healthier lifestyles

Indicator:

- Percentage of residents riding bikes, walking or catching public transport at each Census
- Percentage of residents participating in weekly physical exercise activity surveyed every two years

Outcome 4 Environmental Sustainability: “A leader in environmental sustainability”

Snapshot 2030:

- There are less cars on the road and air quality has improved

Objectives:

- Sustainable and efficient management of water, waste, energy and other resources

Strategies:

- Promote sustainable and active modes of transport

Indicator:

- Annual amount of greenhouse gas emissions generated in the city

In 2012, the Council exceeded its target of a 20 percent increase on the 2001 baseline levels (8.9 percent for public transport and 6.8 percent for walking and cycling) by the 2011 Census, achieving a 26 percent increase. This target is currently under review.

This City-Wide Cycling Plan is complementary to the strategic level planning and policy work being undertaken by the Council. It will underpin future reviews of the form and function of all of the Council’s transport networks and allow for informed decisions to be made about integrating all forms of transport and land-use.

## 6 Existing cycling network and conditions

With vibrant shopping strips, cinemas, swimming pools, reserves, the River Torrens Linear Park Greenway, cafes, schools and places of employment, there are many cycling destinations and an emphasis on local living in the City of Norwood Payneham & St Peters.

The previous Regional Area Bicycle Plan (1990) was prepared for the former Councils of Kensington and Norwood, in conjunction with the City of Burnside and the Town of Walkerville. The implementation status of this plan was reviewed in 1999. In addition, the *Bikedirect* Network (Department of Planning, Transport and Infrastructure (DPTI)) identifies additional routes as part of their metropolitan wide cycling network. The following has been reviewed:

1. Desktop review of Council's 1999 Regional Area Bike Plan
2. Desktop review of the DPTI *Bikedirect* network
3. On-site audit of every street in the cycling network to identify the status of implementation and compliance with applicable standards
4. On-site review of road crossings throughout the network

This information is summarised below.

### 6.1 Council roads

It was observed that although the majority of the 1999 bicycle network recommendations had been implemented, infrastructure had not been maintained. Bicycle pavement logos indicating cycling routes or bicycle lanes were faded, non-existent or infrequent and in some instances had not been replaced when road resurfacing was undertaken. In addition to this, many of the routes with advisory bicycle lanes were of little use to cyclists as they were located in streets with a significant parking demand hence bicycle logos were located under parked cars.

The existing bicycle network is not well-connected between routes, across the Council area and adjacent Councils, and bicycle lanes often terminate prior to intersections.

There are a significant number of roundabouts throughout the City (approximately 60), which are often considered difficult to negotiate by cyclists, as the cyclist must be confident enough to '*claim their space*' in the centre of the roadway. Recent research has shown that roundabouts in Australia are designed to maximise vehicle safety but are not designed as best practice for cyclist safety. This is verified in the crash data at roundabouts along cycle routes in the Council area.

Roundabouts in William Street and Beulah Road have 'Watch for Cyclists' signs installed on every approach which assists in raising awareness of the possible presence of cyclists.

Perhaps the most significant realisation from the audit of the current cycling network (as per the 1999 Plan) was that although current at the time of implementation, the applied design standards are now mostly out-dated. Since the Council's 1999 Regional Area Bike Plan, planning, research and design for cycling has improved enormously with innovative approaches to infrastructure, hierarchy of routes, route selection and route definition.

## 6.2 State-owned Department of Transport Planning and Infrastructure (DPTI) roads

The Council does not have the authority to install cyclist infrastructure on roads that are managed by the State Government (DPTI), however these arterial roads form an important component of the Norwood Payneham & St Peters cycling network.

Most DPTI roads within the City of Norwood Payneham & St Peters have bicycle lanes where the road width allows. There are however, some missing links, particularly at intersections where additional turning lanes reduce the available road space.

Cyclist refuges in median islands are provided at some road crossings with cycling routes. Roads that can be difficult to cross due to high traffic volumes, queuing of traffic and/or lack of median refuges are Fullarton Road, Magill Road, Payneham Road, Portrush Road, and Kensington Road. Portrush Road, south of Magill Road does not have bicycle lanes installed, even though sufficient width exists to extend these lanes.

The 1999 Regional Area Bike Plan made a general recommendation that improvements were needed to address the lack of continuity across arterial roads from local streets. Specific recommendations from the 1999 Bicycle Plan which have not been implemented include:

- **Payneham Road**, between O.G. Road and Portrush Road. The 1999 Bicycle Plan recommended road widening at this location to achieve sufficient width for bicycle lanes.
  - DPTI has identified that restricted road width makes it difficult to install bicycle lanes on this section of Payneham Road
- **Nelson Street**. Although part-time bicycle lanes exist, they are not consistent. It was recommended that the bicycle lane operating periods be made consistent for the entire length of Nelson Street
  - This recommendation has been proposed again in this City-Wide Cycling Plan
- **Fullarton Road**. Road widening and safe crossing locations
  - DPTI has commenced this work which will be completed in 2014 (refer 12.2)
- **Portrush Road** - cyclist crossing facilities at William Street (similar to that implemented Beulah Road)
  - This recommendation has been proposed again in this City-Wide Cycling Plan
- **The Parade** – Bicycle lanes between Osmond Terrace and Portrush Road
  - This recommendation has been proposed again in this City-Wide Cycling Plan

## 6.3 Existing bicycle network

The current cycling network as recommended in the 1999 Regional Area Bike Plan and the DPTI *Bikedirect* network are illustrated on Figure 2. Although this is an extensive network, it is not reinforced with cyclist infrastructure or traffic calming measures that would attract more people to cycling.

Figure 3 illustrates the streets where there are bicycle lanes along the network, and highlights that there is a lack of cyclist connectivity due to the many missing links.

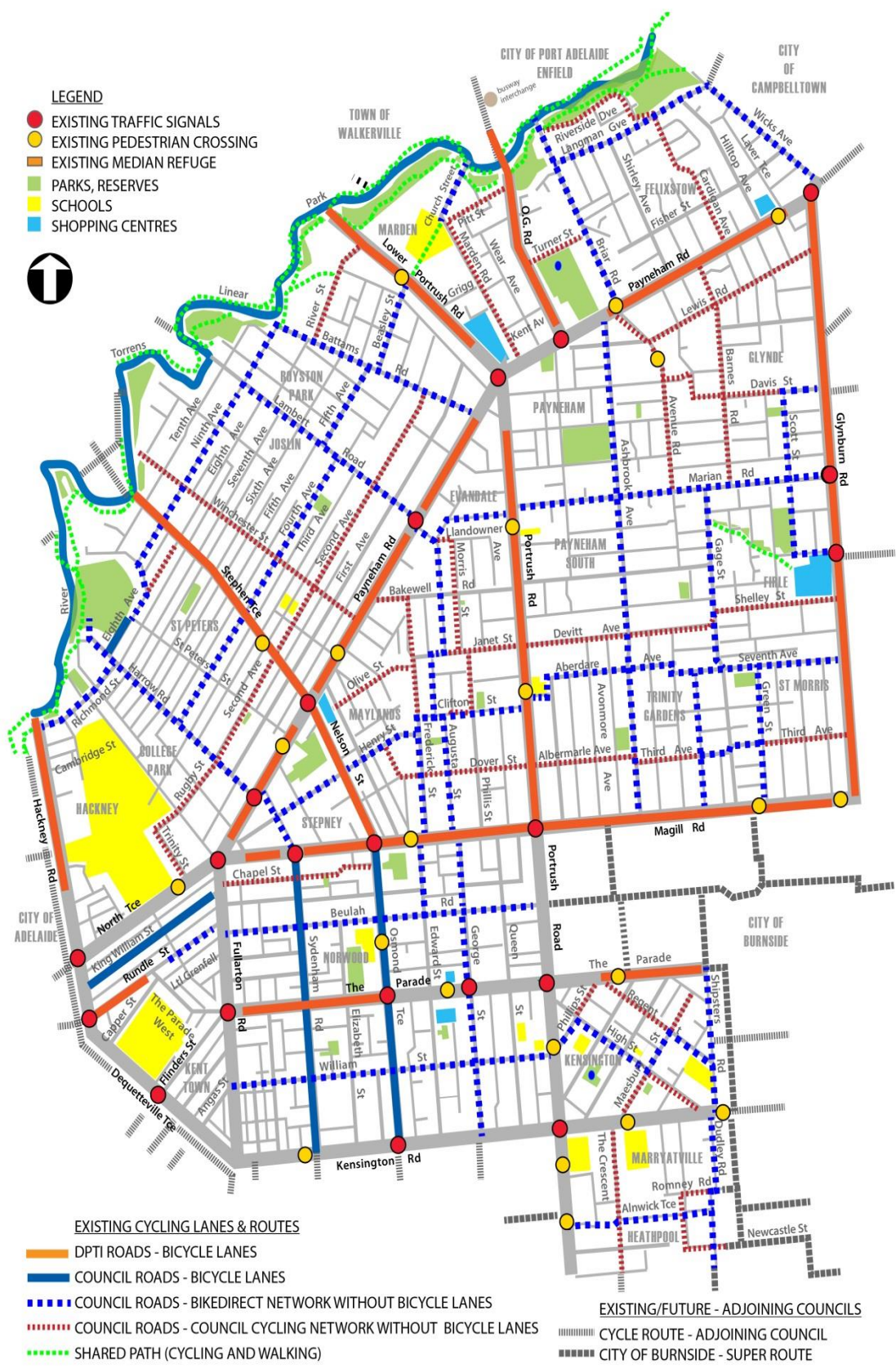


Figure 2: Existing Cycling Network



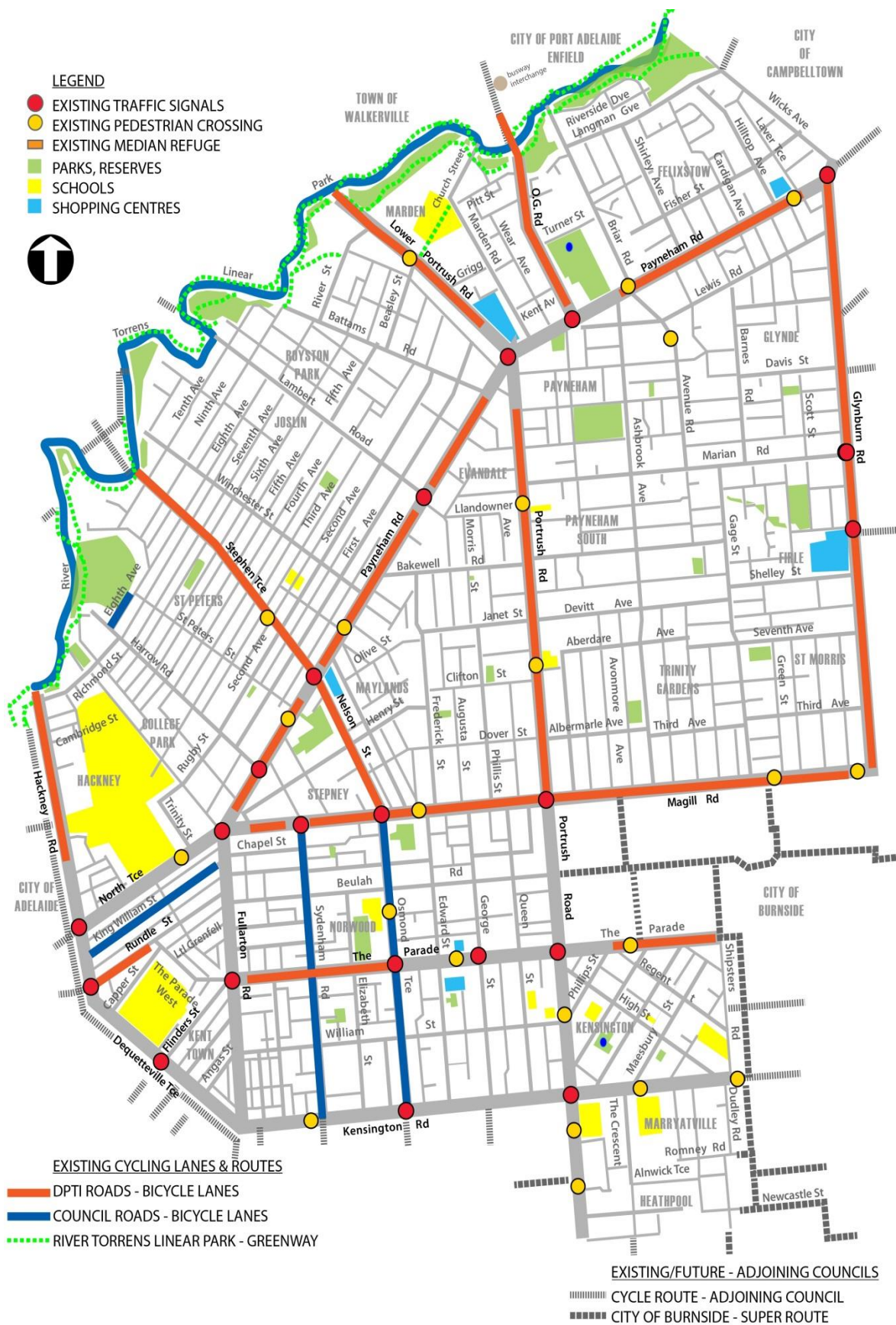


Figure 3: Location of Existing Bicycle Lanes (to Australian Standard)

## 6.4 Traffic speed

Assessing traffic speed along a road is critical in determining the appropriateness of a cycling network (refer Section 9.1.1). This City-Wide Cycling Plan either avoids designating cycle routes on high speed routes where possible, or recommends speed reduction measures where required.

The only current speed data available from Council (recorded in local streets) is bounded by Magill Road, Kensington Road, Portrush Road and Osmond Terrace. Within this quadrant, most 85<sup>th</sup> percentile speeds were measured above 50 km/h. The data that was available is listed in Table 1.

Street	Between	85 <sup>th</sup> percentile speed
Beulah Road	Osmond Terrace to Queen Street	50.4 – 52.2 km/h
Beulah Road	Queen Street to Portrush Road	49.3 km/h
William Street	Osmond Road to George Street	50.4 – 50.8 km/h
William Street	George Street to Portrush Road	45.4 to 48.6 km/h
Osmond Terrace	Magill Road to Kensington Road	53.3 to 56.2 km/h
Edward Street	Magill Road to The Parade	51.1-54.4 km/h
Edward Street	The Parade to William Street	47.2 km/h
Edward Street	William Street to Kensington Road	55.1 km/h
George Street	Magill Road to Kensington Road	50.4 – 56.2 km/h
Queen Street	Magill Road to The Parade	56.2 km/h
Queen Street	The Parade to Beulah Road	50.4 km/h
Queen Street	The Parade to William Street	44.3 km/h
Queen Street	William Street to Kensington Road	53.6 km/h

Table 1: Available speed data, source: City of Norwood Payneham & St Peters

Traffic speeds in all streets that had data collected was higher than 40 km/h. Of particular note were Queen Street, George Street, Edward Street and Osmond Terrace which all had speeds higher than 55 km/h.

## 6.5 Traffic volumes

High traffic volumes affects cyclist amenity, type of cyclist infrastructure required and therefore route selection when planning a cycling network. The Council area is criss-crossed by busy, higher speed (60km/h) arterial roads which cannot be avoided on most cycling trips, either as a route or a crossing. These are concentrated closer to the City of Adelaide.

Traffic volume data provided by the Council and DPTI has been reviewed and streets that carry more than 2,000 vehicles per day are illustrated on Figure 4. It is noted that data has not been collected on all roads and therefore this may not be an entirely accurate representation.

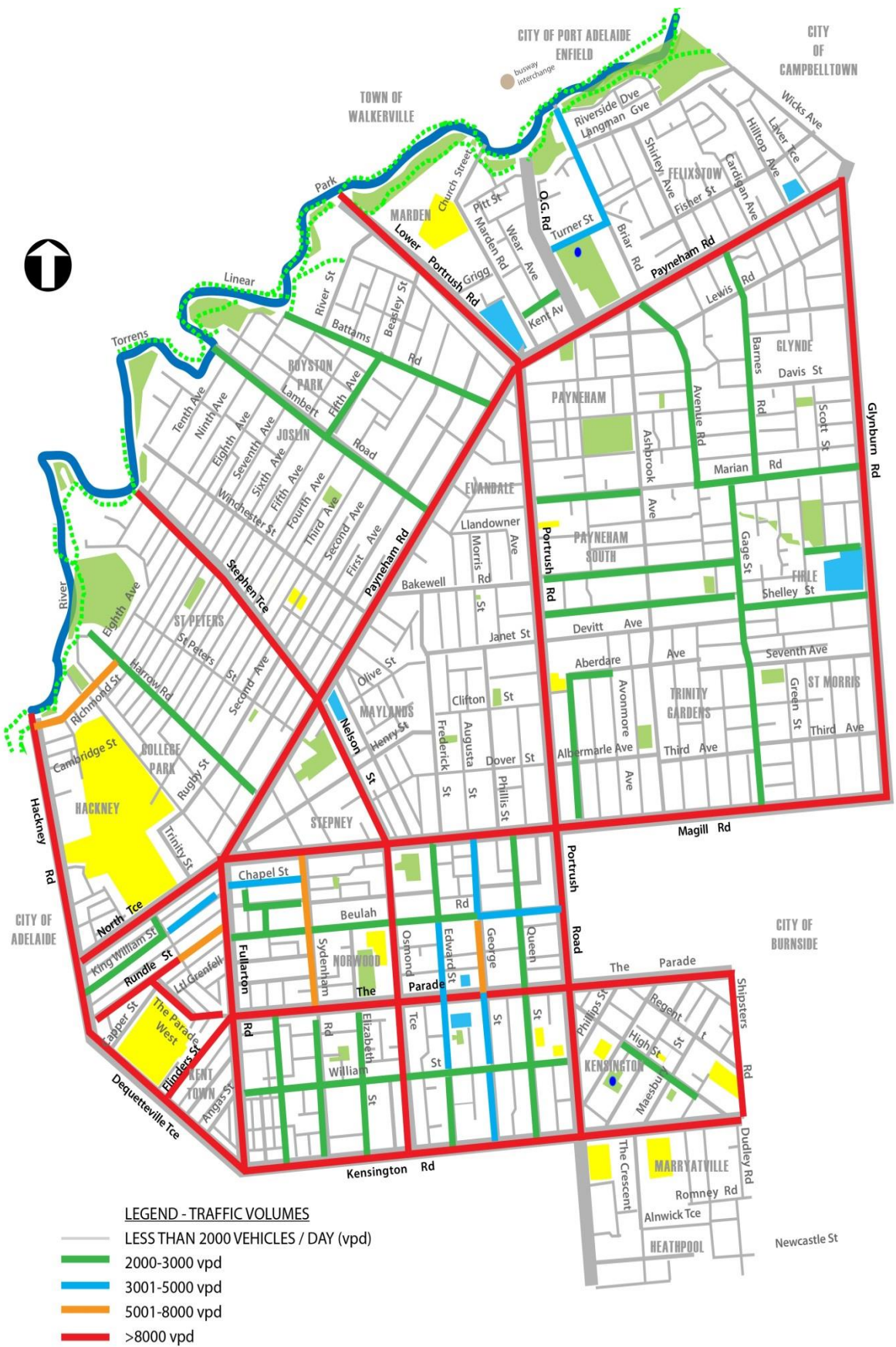


Figure 4: Traffic Volumes (Council/DPTI data)

## 6.6 Cyclist volumes

“Super Tuesday” is an annual nation-wide cyclist commuter count that was originally organised by Bicycle Network Victoria. Volunteers record the cyclist turning counts at a particular intersection between 7am and 9am on the first Tuesday in March.

The City of Adelaide undertake independent cyclist counts on Super Tuesday, some of which are on the border of, or encroach into Norwood Payneham & St Peters (refer to Appendix E). Data provided by Adelaide City Council from their Super Tuesday counts include the following:

- Beulah Road / Fullarton Road / Rundle Street, Kent Town - 244 cyclists (2013)
- Beulah Road / Osmond Terrace, Norwood – 216 cyclists (2012)
- Hackney Road / Dequetteville Terrace / North Terrace, Kent Town – 209 cyclists (2013)
- Hackney Road / Richmond Street, Hackney – 133 cyclists (2013)
- Beulah Road / Portrush Road, Norwood – 136 cyclists (2013)
- Fullarton Road / William Street, Norwood – 92 (2011)
- Dequetteville Terrace / King William Street, Kent Town – 91 cyclists (2013)
- Britannia Roundabout, Kent Town – 75 cyclists (2013)

This data further clarifies the consultation outcomes (refer Section 7) that Beulah Road is the most popular local road route. The high volumes at the intersection of Hackney Road / Dequetteville Terrace and North Terrace are surprising given the number of complaints about this intersection from the consultation (both survey and workshop), which indicates that cyclists use this intersection because there is no alternative.

## 6.7 Cyclist crash analysis

Locations where three or more cyclist crashes have occurred over a five year period represent a crash cluster. Although proven crash history is not a requirement for eligibility for funding from DPTI’s Cyclist Black Spot Fund, locations where there are crash clusters warrant consideration for infrastructure projects to improve cyclist safety. These locations have been analysed to determine the cause of a crash, and hence assist to recommend appropriate improvements. The crash cluster information provided by DPTI (years 2008-2013) is illustrated in Figure 5 and analysis is discussed thereafter.

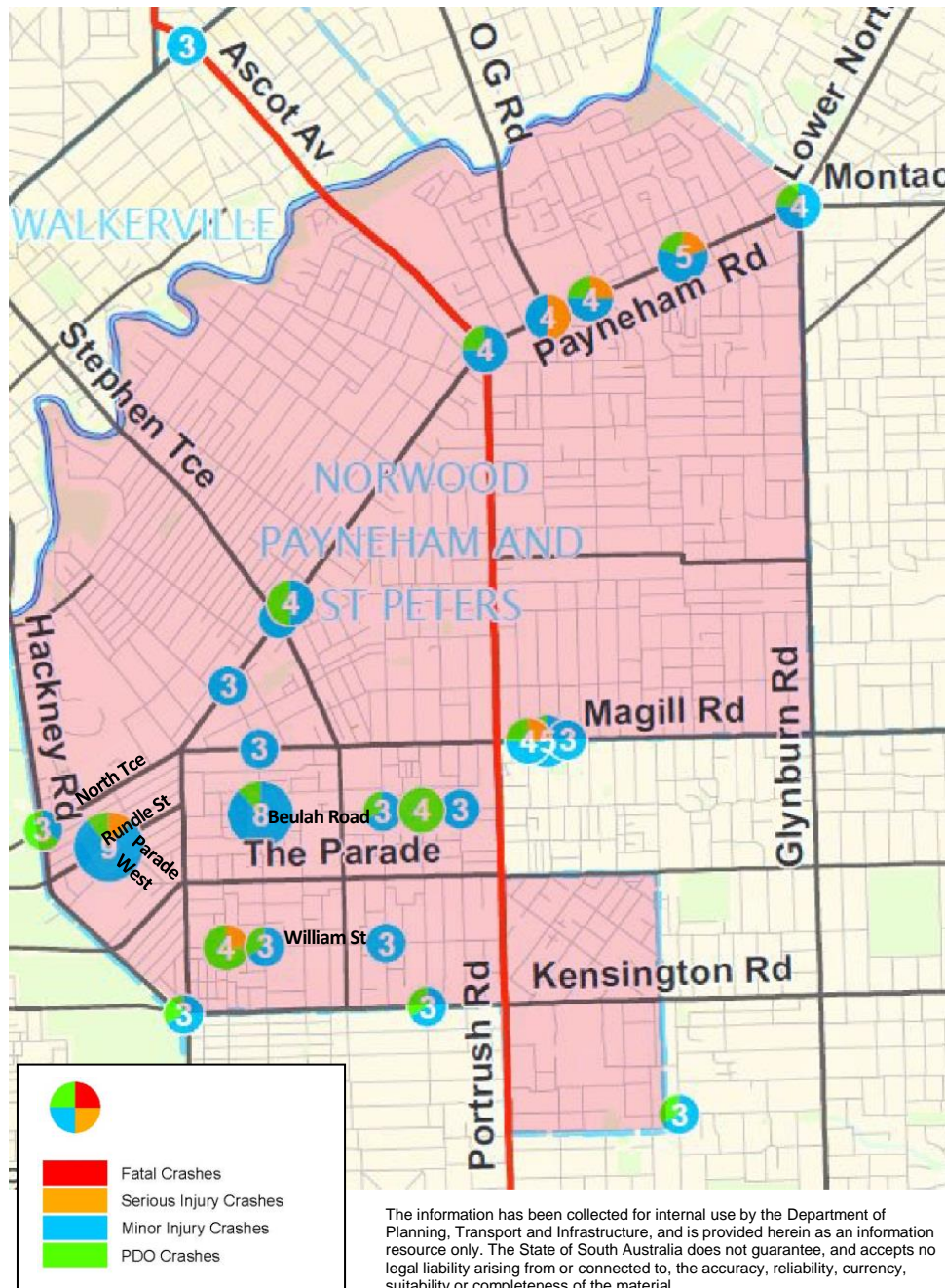


Figure 5: Casualty Crash Clusters (three or more crashes), 2008-2013 (note: PDO = Property Damage Only)

### Crash Cluster - Rundle Street/The Parade West, Kent Town

The junction of Rundle Street (DPTI maintained road) and The Parade West (Council road) in Kent Town had the highest crash cluster with nine casualty crashes (1 x serious injury) occurring during the five year period. This junction is controlled with a give-way sign at The Parade West; with free-flow traffic in Rundle Street.

All crashes occurred in daylight, on a weekday and included:

- Six crashes were a result of “failure to stand” by vehicles turning right into Rundle Street from The Parade West, hitting Rundle Street city-bound cyclists

During site observations (afternoon peak), there was a constant flow of traffic along Rundle Street, with very few gaps for right turning vehicles. It is likely that motorists become frustrated by the delay in crossing and fail to look for cyclists when undertaking the manoeuvre. In addition, the gradient of the road falls toward the city enabling cyclists to travel at higher speeds.

Other crashes were:

- A vehicle turning left into Rundle Street hit a city-bound cyclist (failure to stand)
- A northeast bound vehicle hit a cyclist while swerving into the bicycle lane to pass a car that was waiting to turn right (this manoeuvre was observed on site at the afternoon peak hour)
- A cyclist hit a car undertaking a parallel parking manoeuvre



Photo 2: Rundle Street / The Parade West junction

DPTI has recently installed green coloured bicycle lanes at this junction to raised motorist awareness of the bicycle lane (as shown in Photo 2), and DPTI will monitor the safety outcomes.

### Crash Clusters - Beulah Road, Norwood

Community consultation identified Beulah Road, Norwood as the most cycled local street, and traffic counts identified high volumes of cyclists along the route (refer Section 6.6). Community concerns regarding lack of safety at roundabouts due to motorists not seeing cyclists was verified by the crash data.

Every four-way intersection along Beulah Road, Norwood with a roundabout had a crash cluster. Most notably is the roundabout at Beulah Road /Sydenham Road (refer Figure 6), which had eight crashes over the five year period. Four crashes occurred at the Beulah Road /George Street intersection, and three occurred at Beulah Road /Queen Street, and Beulah Road /Edward Street intersections. This may be due to the compromised visibility at dawn/ dusk due to the east/west alignment.

All crashes at the junction of Beulah Street and Sydenham Road occurred in daylight, on a weekday, and were a result of “failure to give way” by southbound or northbound motor vehicles, hitting east or westbound cyclists (refer Figure 7 for the most common conflict zone).



Figure 6: Beulah Road / Sydenham Road roundabout

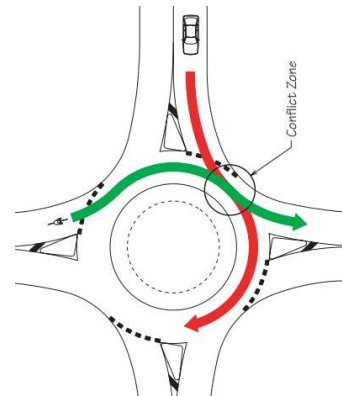


Figure 7: Conflict zone at a roundabout (from Bicycle Network Victoria)

### Crash Clusters - William Street, Norwood

William Street, Norwood had crash clusters at intersections controlled by roundabouts (similar crash scenarios to those in Beulah Road, Norwood). Four crashes occurred at the William Street /Charles Street intersection (1 of which was a serious casualty), three at the William Street /Sydenham Road intersection and three crashes at the William Street /Edward Street intersection. This may be due to the compromised visibility at dawn/ dusk due to the east/west alignment.

### Arterial Roads

All other recorded crash clusters occurred on DPTI maintained arterial roads, most notably Payneham Road. It is interesting to note that the majority of these crashes occurred with cyclists who were riding in a straight direction toward the city, with right turning outward bound motorists failing to give way to the cyclist.

### Crash Clusters - Payneham Road

- Five crashes occurred at Payneham Road and Barnes Road, Glynde. All cyclists were city-bound and were hit by a northbound vehicle turning right into Barnes Road (Note: the gradient of the road falls toward the city enabling cyclists to travel at higher speeds)
- Four crashes occurred at Payneham Road and Ashbrook Avenue, Payneham. All cyclists were city-bound, with crashes occurring by vehicles turning right onto Payneham Road from Ashbrook Avenue (failure to stand)

- Two crashes occurred when cyclists travelling in the north-east direction away from the city were hit by vehicles turning right into St Peters Street at St Peters. Two similar crashes occurred with vehicles turning right into Stepney Street, Stepney. It was noted at both locations that traffic was queued in both lanes leaving space for vehicle to turn through stationery traffic. Therefore, cyclists were not visible past queued traffic.

#### **Crash Clusters - Magill Road**

- Five crashes occurred at the junction of Magill Road and Howard Street, and four crashes at Magill Road and Verdun Street in Beulah Park. Although Magill Road is on the boundary with the City of Norwood Payneham & St Peters, these junctions fall within the City of Burnside. However it is worth noting that all crashes occurred while the cyclist was travelling straight, westbound, and the vehicles failed to give way while entering or leaving the side streets.

This City-Wide Cycling Plan aims to reduce crash risks through improvements to on-road bicycle facilities, and community education.



## 7 Consultation Summary

An intensive and detailed consultation process was undertaken to inform the development of the draft and final City-Wide Cycling Plan. A supplementary report (Consultation Report, August 2013) contains more details on the consultation process, the raw data and feedback from community submissions that contributed to the key findings and incorporated into the final City-Wide Cycling Plan.

### 7.1 Initial consultation phase

Initial consultation with the community to inform the development of a draft City-Wide Cycling Plan took place through the following actions:

- The distribution and collection of a cycling questionnaire. Over 350 responses were collected over four weeks
- A community workshop marquee at Magill Road Alive (7th April 2013), where the opportunity was open to everyone to 'Map your preferred route', highlight any issues with the cycling network and suggest opportunities to improve the network
- One-on-one consultation with staff from surrounding Councils and the Department of Planning, Transport and Infrastructure (Office of Walking and Cycling and Metropolitan Region)

A summary of the main issues and cycling barriers that were identified during the initial consultation phase are best summed up as:

I *could* ride to the local shops but I always take my car. I don't cycle because I feel intimidated riding next to fast cars, and I need to cross a busy arterial road without a safe crossing point. I would ride on the footpath to get to the pedestrian crossing but it is illegal. Also the bicycle lanes stop suddenly at intersections or there are often cars parked in them. Then when I get to the shop, there's nowhere to lock my bicycle.



Photo 3: Consultation Workshop at Magill Road Alive Event, April 2013

## 7.2 Final consultation phase: report for public consultation

In July 2013, the Council endorsed the release of the Draft City-Wide Cycling Plan for consultation. It was placed on Council's website for public viewing and feedback. The Council advertised this consultation process by placing pavement stickers around the city, emails to people who had previously provided input, and alerts sent through social media, Bike SA newsletter, various websites and advertisements. The Council also directly wrote to approximately 500 residents and businesses on or in close proximity to Beulah Road, specifically to draw their attention to the proposal contained in the draft City-Wide Cycling Plan that Beulah Road to be considered for implementation of a Bicycle Boulevard.

During the four week consultation period 70 submissions were received. In general, there was a high level of support for the draft City-Wide Cycling Plan. Of the 70 respondents, 39 (or approximately 55%) answered the question, 'Do you generally support, or not support the Plan? Of these, 36 (or over 90%) supported the City-Wide Cycling Plan and 3 (or less than 10%) did not.

The draft City-Wide Cycling Plan was also referred to the Council's Traffic Management and Road Safety Committee who were supportive of the draft City-Wide Cycling Plan. They noted their preference for a reduced speed limit along Beulah Road of 40km/h or 30 km/h.

Much of the feedback was constructive as to how the draft City-Wide Cycling Plan could be improved – either at specific locations, intersections or cycling routes and major roads or on specific topics including safety, speed limits, traffic calming measures (including surface treatments and car parking), funding, end of trip facilities and signage.

Where applicable, feedback from this consultation phase was used to update the draft City-Wide Cycling Plan.



Figure 8: Example of Promotional Material developed for consultation on the draft City-Wide Cycling Plan

## 8 SWOT analysis

After the research, audit, review and initial consultation stages, a SWOT analysis was prepared to provide a summary of the existing cycling climate in the City of Norwood Payneham & St Peters. The result of the analysis is detailed below. These findings provided the context for the content in the draft City-Wide Cycling Plan that was released for consultation. These results remain valid following analysis of submissions received during the public consultation phase on the draft City-Wide Cycling Plan.

### 8.1 Strengths

- Engaged and active cycling community or people who would like to cycle (represented by volume and quality of community feedback to survey)
- Indicative support for improving the cycling network by local community
- Historical Council support of cycling initiatives (as per implementation of most recommendations in the 1999 Regional Area Bike Plan)
- A well connected local street network with low traffic volumes (particularly key east-west linkages into the City of Adelaide)
- Access to and utilisation of River Torrens Linear Park for commuting and recreational cyclists
- Comparatively high cycling participation rate - at 3.8%, Norwood Payneham & St Peters has a higher percentage of bicycle commuters in comparison to 1.6% for the Adelaide Urban average
- Indicative annual growth in commuting cycling from/through the Council area based on intersection counts (Super Tuesday)
- Location and geography of Council area: close to the City of Adelaide and relatively flat terrain (there are no significant gradients or hills to deter cyclists)
- Accessibility to services/shops due to spread and proximity of residents to neighbourhood centres (The Parade, the Avenues Shopping Centre, Magill Road, Glynburn Shopping Centre and Marden Shopping Centre)
- Diversity in cycling opportunities, such as commuting, utility and recreational cycling
- Representation of a broad range of demographics by cyclists (age-groups, genders) based on survey feedback
- Partnership opportunities with adjoining Councils such as Adelaide City Council, City of Burnside in providing co-ordinated cycling programs and infrastructure

## 8.2 Weaknesses

- Lack of end of trip facilities at key land uses (e.g., bicycle parking)
- Preference given to other transport modes (specifically vehicle movements) at key intersection locations
- Main roads (such as Magill Road, Payneham Road, Portrush Road and Kensington Road) provide unfriendly cyclist environments (poor cycling infrastructure, high speed vehicles)
- Highly built-up urban area with competing demands for road space
- Current cycling infrastructure (bicycle lane marking, painted logos) not maintained, particularly cycling infrastructure not being reinstated when roadwork such as resealing or other asset management tasks undertaken
- Existing pavement bicycle logos hidden/obscured by parked vehicles
- Current cycling infrastructure not aligned with updated design options (as described in Section 9)
- Discontinuous cycling network, especially at intersection locations
- There is a significant number of roundabouts throughout the City, which are considered difficult to negotiate by cyclists
- Limited opportunities for further dedicated shared use path corridors (similar to River Torrens Linear Park)
- Real or perceived safety issues discouraging people from taking up cycling
- Lack of any (or highly visible) signage of current bicycle networks
- Current Council Development Plan provides very few requirements or guidance for bicycle parking and end of trip facilities
- Many people do not want to ride alone
- Many people are not confident cyclists
- Lack of knowledge of existing safe routes and skills required to select safe routes
- Lack of Council-run or facilitated travel behaviour change and education programs

## 8.3 Opportunities

- Initial consultation found that the community considered cycling to be a highly enjoyable / fun activity
- Many services are provided within the Council area and are within short distances from many dwellings, and could therefore be destinations for cycling
- The Adelaide CBD is within easy cycling distance and could attract more people to cycle instead of drive
- Innovation in cyclist infrastructure design has evolved over the past 10 years and enables more solutions (e.g., Bicycle Boulevards, green lanes, sharrows)
- Portrush Road and Fullarton Road are planned for upgrade in the near future, and represent a good opportunity to upgrade cycling infrastructure
- Although already higher percentages of commuter cyclists exist in the Council area, cycling participation has not reached its peak; attract the latent demand
- There is political-will for increasing cyclist participation from all three-tiers of government (Commonwealth, State and Local)
- Review capital works programs to ensure that cycling infrastructure is always considered when new works are planned, eg line marking, footpaths
- Support local businesses by providing end of trip cycling facilities (e.g., bicycle parking)
- Improve the general health and quality of life of the Council's population through increased cycling participation
- Encourage and promote cycling as a transport option to school aged children
- A strategic bicycle network will enable funding opportunities
- Review infrastructure opportunities aligned with population growth areas, such as the Norwood Parade and Kent Town (identified as growth areas as per the Kent Town and The Parade Strategic Growth and the Residential Development Plan Amendments)
- Way-finding and distance signage at key locations would assist and encourage cycling, both on the road network and the off road Torrens River Linear Park trail
- Enhanced availability of information (web, apps and print) of where priority cycling routes are, where places of interest to ride to are and actual time between destinations compared with driving
- Short to medium term focus on delivering strategic key cycling routes, with long term aims of expanding cycling network
- Promote cycling as a cost effective transport option once upfront costs of purchasing the bicycle and accessories have been met
- Promote the social independence, increased speed compared with walking and freedom to travel when you need that a bicycle provides
- Programs that encourage social interaction as well as ensuring basic riding skills can significantly increase participation
- Programs that encourage access to free or low cost bicycles can significantly increase participation
- Organised social rides, targeted basic cycling proficiency skill development programs and bicycle maintenance workshops would significantly increase participation
- Reconditioning and gifting or low cost recycling of bicycles to provide greater access to a bicycle
- Promote the health benefits of engaging in active transport

## 8.4 Threats

- Opposition by some local residents based on perceived reduction in travel speed or amenity for motorists if cycling infrastructure is implemented or increased
- Not integrating the cycling network with surrounding Councils, therefore creating a discontinuous cycling network
- Accepting currently constructed infrastructure design standards, without consideration to innovative design solutions
- Some main roads identified as being unfriendly to cyclists are under the jurisdiction of State Government, therefore Council does not have direct control over the application of cyclist facilities
- Failing to work with the Department of Planning, Transport and Infrastructure
- Conflicts between cyclists and on-street parked vehicles; specifically at locations near schools and shopping centres where vehicle travel is still the dominant travel mode
- Failure to integrate this City-Wide Cycling Plan into Council's policies and procedures leading to missed opportunities or non-implementation
- Costs in implementing cycling infrastructure can be high: competing Council and DPTI budgets
- General cost of living pressures are the primary barrier to cycling – purchasing a bicycle is seen as an unaffordable luxury, particularly in families with multiple children. Combined with concerns over bicycle theft, the associated risks to buy and ride a bicycle become prohibitive
- Time-poor lifestyles become a barrier that prevents parents from teaching children to ride and riding with them.
- Some sectors of the community are social within their own population but lack integration with the general community which can lead to isolation and limited awareness of cycling opportunities
- General lack of cycle proficiency (riding and general maintenance skills) means cycling is less likely to be sustained
- Older resident groups are sensitive to extremes of weather, are managing a delicate health profile and are conscious of the time spend on transport
- Issues of safety (both on the road environment as well as theft of bicycle at destination) are cause for concern
- Time-poor lifestyles coupled with free and available car parking makes driving a car more attractive than riding a bicycle

The following chapters discuss the recommended cyclist infrastructure, the future City-wide cycling network and travel behaviour change strategies that together will assist the Council in achieving its vision (refer 3.1).

## 9 On-road cycling

The City-wide cycling network comprises a range of infrastructure recommendations that will improve cyclist amenity. Infrastructure selection is based on design criteria that include safety, traffic volumes, traffic speeds, road width, type of cyclist that would use the road, urban design factors and street layout.

This chapter aims to provide the reader with a clear understanding of infrastructure options that are available and the reasons behind their selection.

### 9.1 Streets for People (SFP)

Street design has long been focussed around motorised transportation. This has resulted in an imbalance in our local streets, where cyclists and pedestrians are often squeezed out. Local streets are an integral component in the urban landscape, they are not just isolated corridors to move cars as quickly as possible; they are *places for people*.

The South Australian Government, Heart Foundation SA and the Active Living Coalition have recently published a Compendium for South Australian Practice, "*Streets For People*". This compendium describes practical ways to redress the balance in the street, put people first, and create pedestrian and cycle friendly environments that will make communities vibrant and healthy.



Photo 4: From the "Streets For People" Compendium

### 9.1.1 Speed reduction is the key

Reducing traffic speed is the single most important change that can make streets safer, vibrant and more enjoyable to cycle. High traffic speeds not only affect street amenity, but also have serious consequences when a pedestrian or cyclist is involved in a vehicle conflict or accident. At higher speeds, motorists are less likely to see a pedestrian or cyclist, and are less likely to be able to stop in time to avoid a collision. The risk to pedestrians and cyclists is significantly decreased with traffic speeds of 30 km/hr or lower, refer Figure 9: Cyclist collision speed graph. Traffic calming measures that reduce speed or volume of traffic can redress the imbalance on the road and allow cyclists and motorists to safely share the space.

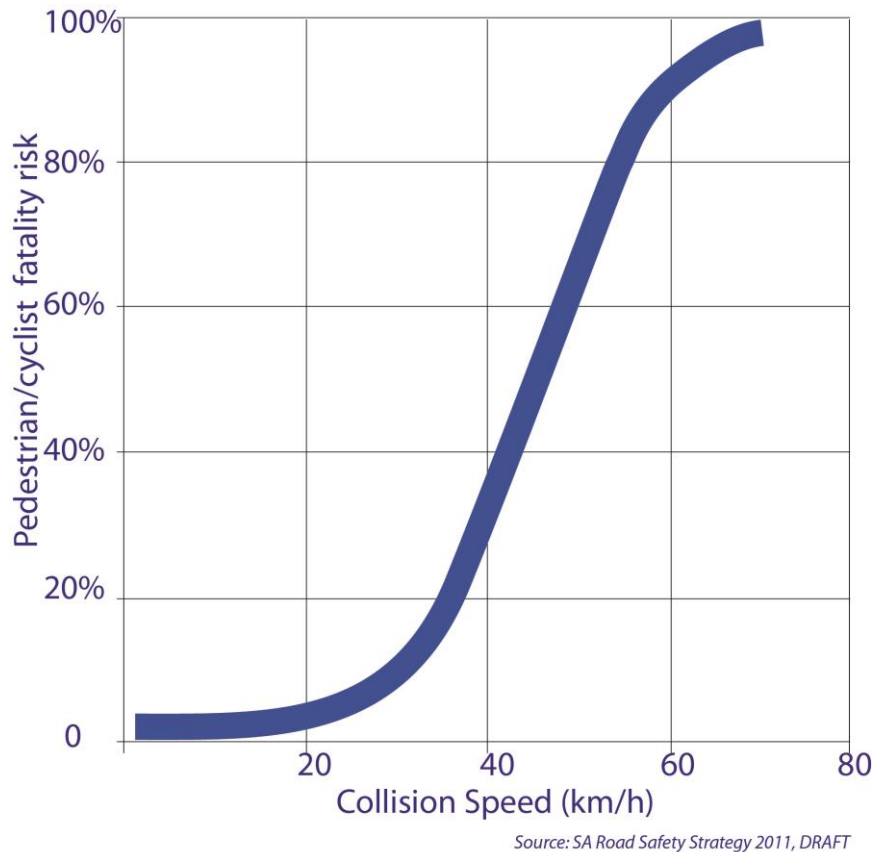


Figure 9: Cyclist collision speed graph

On busier roads where traffic speed cannot be reduced, cyclist infrastructure needs to be installed that provides more separation for cyclists. Where possible, buffer zones should be provided between parked cars and bicycle lanes; and moving traffic and bicycle lanes.

As speed and traffic volumes increase so does the required amount of separation between cyclists and motorists, refer Figure 10. This graph suggests that separate bicycle lanes are not generally required below a vehicular speed environment of 40 km/h and traffic volume of 5,000 vehicles per day. This graph is based on speed and volume alone, and other factors must be assessed which include; whether or not the street is a strategic bicycle route, cyclist volumes, type of cyclist (e.g., experienced, inexperienced or both), and land use (e.g., schools, shops).



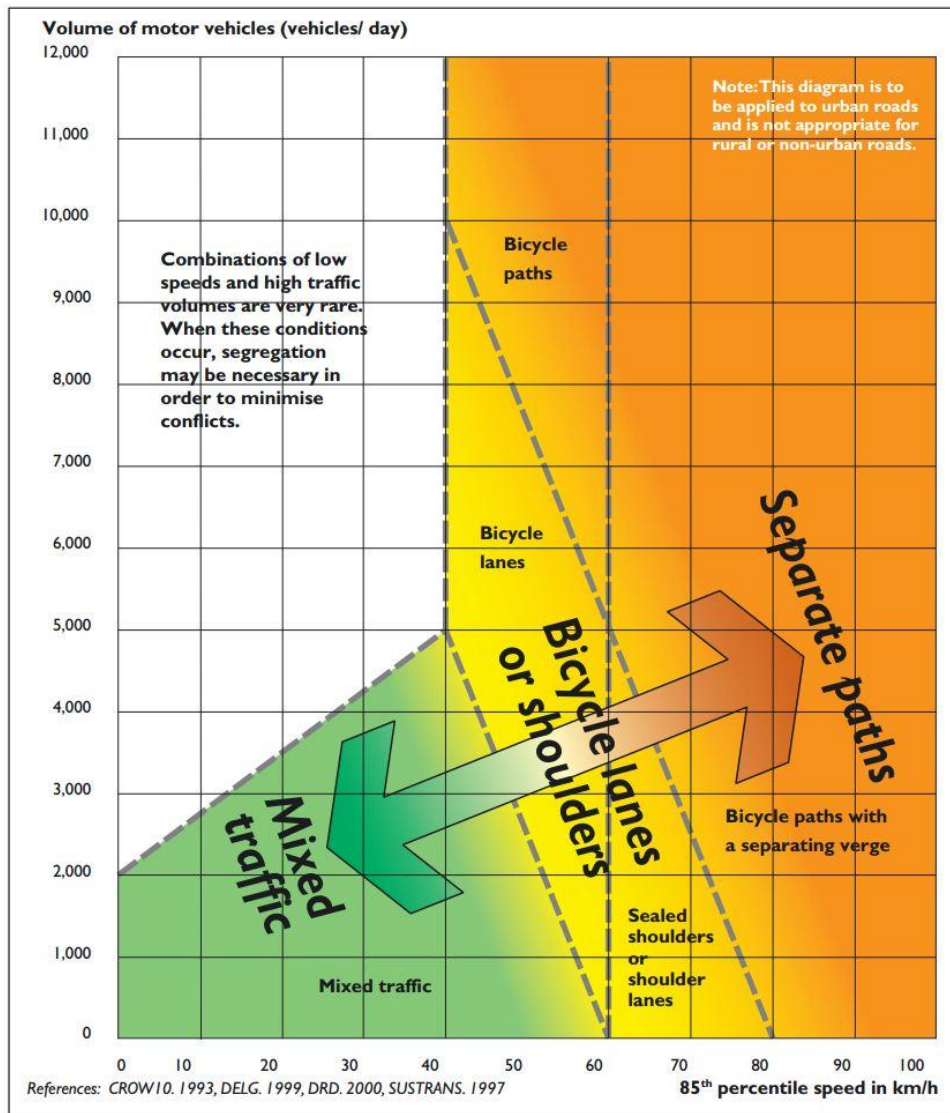


Figure 10: Separation of bicycles and motor vehicles according to traffic speed and volume  
 (source: 'Cycling Aspects of Austroads Guidelines')

### 9.1.2 Traffic speed and volume criteria

Assessment of traffic data is critical in determining the most appropriate cycling infrastructure, or whether any infrastructure is needed at all. The following traffic speed criteria, refer Table 2, and volume criteria, refer Table 3, have been applied when developing where the future cycling network could be. These guidelines have also been used as a basis for the cyclist infrastructure recommendations within this City-Wide Cycling Plan.

85 <sup>th</sup> percentile traffic speed	Traffic Calming
Exceeds 35/km/h	Preferred
Between 35km/h and 50km/h	Assess risk on street by street basis
Exceeds 50km/h	Required

Table 2: Traffic speed criteria

<b>Traffic Volume (Average Annual Daily Traffic, 2-way)</b>	<b>Traffic Diversion</b>
1000 – 1500 vehicles per day	Not required
1500-3000 vehicles per day	Likely not required - assess risk on street by street basis
3000 – 5000 vehicles per day	Preferred, assess risk on street by street basis
Exceeds 5000 vehicles per day	Required

Table 3: Traffic volume criteria

### 9.1.3 Traffic calming options

To reduce serious injuries from conflict between people and motor vehicles, and encourage more people to cycle, the speed environment should desirably be less than 35 km/h.

Traditional approaches to reducing speed are based on installing traffic calming devices at 80-120 metres apart. Vehicle speeds are reduced to 20 km/h at each device, but may reach over 40km/h between each device. To maintain consistently slower speeds throughout the length of the street (less than 30km/h), the devices need to be placed at less than 80 metres apart (40 to 70 metres desirable). However traffic calming devices are not the only way to reduce traffic speed. Other options include landscaping, signage and streetscape changes, alternate paving sections or reducing the width of a roadway.

Key principles for reducing vehicle speeds along a street include:

- narrowing road width to create slow points
- reducing lengths of straight road sections
- limiting forward sight lines and driver’s field of vision by incorporating landscaping
- introducing bends (a meandering street), horizontal deflection, at intervals less than 80 metres
- Vertical deflection (road humps or speed cushions), 40 to 70 metres apart
- Change in pavement texture (paving at junctions or other materials that have audio-tactile properties for motor vehicles, but do not impact on cyclists)

The installation of traffic islands and slow points will result in the loss of some car parking. The installation of road humps and surface treatments will not impact on car parking.

Reduced lane widths should be less than 3 metres wide, so that a vehicle must overtake by indicating and entering the other side of the road, but not squeezing past the cyclist within the lane.

Speed reduction treatments can also reduce traffic volume as they can make arterial roads more attractive to cut-through traffic. Other ways to reduce volume include half-road or full-road closures, banning of some turns and junction rearrangement.

Examples of streets with slow speeds are shown below (note: Photo 5 to Photo 10 are taken from the Streets For People Compendium). The selection of a speed reduction device varies depending on the existing street environment.



Photo 5: Landscaped islands, road narrowing, Campbelltown SA



Photo 6: Meandering Street, Unley SA



Photo 7: Shared Space, Adelaide SA



Photo 8: Paved Junction, Mawson Lakes SA



Photo 9: Painted intersection, Bowden SA



Photo 10: Cobblestone strips, Canberra ACT



Photo 11: Tree between car parks, Perth WA



Photo 12: Slow points, typical



Photo 13: Speed cushions / Road humps, typical

## 9.2 Advisory Treatment (AT)

Advisory Treatments do not have legal status as a bicycle lane.

They are used to indicate or advise motorists that cyclists may be present and defines way-finding for cyclists along part of the network. These treatments are usually used on low volume, low traffic streets. Advisory Treatments do not mark a separate space for bicycles and may not suit a wide range of potential riders. However, where the available road space is constrained and lanes will not fit, Advisory Treatments can be useful for bridging short sections of a bicycle route; or for designating any route; or for increasing motorist awareness of a possible presence of cyclists. Where these routes meet busy roads, safe crossing points must be provided to ensure connectivity. Traffic calming options can be considered if speed reduction is necessary.

There are three types of Advisory Treatments, refer to Photo 14 to Photo 16. Their form and application is a matter for local jurisdictions in consultation with DPTI Traffic and Access Standards Section. It is now recommended that Logos be placed outside the “dooring zone” if there is demand for on-street car parking.

Cars are allowed to park on top of Advisory Treatment Type 3, which is simply a bicycle logo painted next to the kerb. They go unseen if a car is parked over them so they are generally not preferable and should only be used on streets with low parking demand.

Streets with a higher parking demand use Advisory Treatment Type 2 whereby the logos are placed adjacent to the car parking space.

Advisory Treatment Type 1 is similar to Type 2 but also include an edge-line on the outside of the bicycle logos. They therefore look similar to a bicycle lane, but it is important to note that they do not have legal status as a bicycle lane. Type 1 Advisory Treatments are used when the road width is not sufficient for a legal bicycle lane, but only on low volume streets, due to their restricted width resulting in cyclists feeling squeezed between the opening car door and moving traffic. Examples of these are on William Street in Norwood, the eastern end of Beulah Road in Norwood, and Ninth Avenue in St Peters.

Many local streets in Norwood Payneham & St Peters have been marked with Advisory Treatments as recommended in the 1999 Regional Area Bike Plan, but have not been consistently maintained.



Photo 14: Advisory Treatment Type 1



Photo 15: Advisory Treatment Type 2



Photo 16: Advisory Treatment Type 3

### 9.2.1 Sharrows (SH)

Sharrows are a form of advisory treatments (bicycle logos with directional arrows, refer to Photo 17 to Photo 18) painted in the centre of the lane to designate the cyclist path of travel and highlight the presence of cyclists to motorists. Because cyclists are guided to ride in the centre of the lane, there is clear space between them and opening car doors, and traffic must use a full overtaking manoeuvre to pass the cyclist instead of squeezing past.

Simply put, sharrows are similar to Advisory Treatment 3, but are strengthened with arrow heads and placed in the centre of the road instead of under parked cars on the edge of the road.

DPTI has recently approved for installation sharrows for trial use in South Australia with monitoring and evaluation to be undertaken to determine the effectiveness of the device and future use.



Photo 17: Sharrow



Photo 18: Sharrow

### Sharrows - case studies from other cities:

1. Evaluation of a sharrow trial in San Francisco found:
  - the distance between cyclists and parked cars increased, both with and without the presence of passing vehicles (i.e. lower risk of cyclist hit by opening door)
  - the distance between cyclists and passing cars increased (i.e. drivers gave cyclists more room)
  - the distance between passing cars and parked cars increased when no cyclists were present
  - the number of wrong-way bicycle riders decreased
  - the number of cyclists riding on the footpath decreased (i.e. improved cyclist compliance)
2. An evaluation of a sharrow trial in Melbourne found:
  - the distance between cyclists and parked cars increased at 2 of 3 sites.
  - It was recommended that effective applications are likely to include:
    - approaches to local road roundabouts (where there is a good safety case to encourage cyclists to 'claim the lane'), and
    - local streets that form important parts of the bicycle network where providing bicycle lanes is impractical and where there is adjacent parallel or angle parking.

## 9.3 Bicycle Boulevard (BB)

A Bicycle Boulevard is an integrated approach to applying existing treatments on a strategic cycling route. They are suitable for routes that are direct and continuous, and link to important destinations. They offer a lower traffic volume/speed alternative to a parallel arterial road. They can be installed in streets that are not wide enough to fit a bicycle lane and they do not require the removal of a significant amount of car parking, if any.

All types of vehicles are generally allowed, but the look and feel of the roadway is that of a cycling street (refer to Photo 19). Bicycle Boulevards are not a 'traffic control device' and therefore do not require DPTI approval. Regulatory signage is not required as cyclists are permitted to ride in the carriageway when bicycle lanes (with legal status) do not exist.

For cyclists not to feel intimidated in mixed traffic, traffic speed should be moderate so that there is not a large speed differential between travel modes. Traffic calming and/or diversion may be required to achieve acceptable speed and volume (refer Section 9.1.3). Guidelines recommend that Bicycle Boulevards are suitable for streets that have traffic volumes of less than 3,000 vehicles per day, and speeds less than 35km/h. Therefore, it is important that data is collected to assess these criteria prior to implementing. It is recommended that 3,000 vehicles per day and 30km/hr are the 'target' volumes and speeds for a Bicycle Boulevard, and traffic calming options adopted to aim for this target. However,

Bicycle Boulevards will operate effectively with up to 5,000 vehicles per day, but should be assessed on a street by street basis (refer to Figure 10).

Measures for a successful Bicycle Boulevard require careful consideration to achieve the most appropriate and location-specific outcomes. To create an environment for cyclists and motorists to share the road, these measures include:

- Reduce vehicle speeds through traffic calming. This can be achieved through a number of measures including speed cushions, median islands, kerb extensions, slow points, streetscape modifications, landscaping, alternate paving sections of roadway
- Reduce vehicle volumes (if required) through traffic diversion measures
- Provide crossing improvements at intersections with major streets and arterial roads (median refuge islands, signals, kerb extensions)
- Way-finding signage (refer to Photo 20)
- An environment that raises awareness for vehicles (and all road users) that cyclists are encouraged and it is a cyclist-friendly route. This can be done through urban design features, public art, signage, sculptures and entrance statements or alike.

Portland, Oregon, has over 100 km of Bicycle Boulevards with sharrows, traffic calming, way-finding and crossing improvements. Since installation, cycling has increased by 60% on new routes.



Photo 19: A typical Bicycle Boulevard



Photo 20: Bicycle Boulevard sign

Bicycle Boulevards are a recent innovation in Australia. DPTI endorses the concept of Bicycle Boulevards in South Australia.

The recently endorsed City of Burnside Bicycle Plan includes a spine of 'super-routes' which are similar to the Bicycle Boulevards recommended herein. A number of these super-routes directly connect to Norwood Payneham & St Peters, and Bicycle Boulevards are recommended within this City-Wide Cycling Plan to connect to those routes (refer to Figure 11).

Bicycle Boulevards are recommended for some strategic routes in the Norwood Payneham & St Peters cycling network. Beulah Road is the highest priority and is discussed in detail (as an example) in Section 11.2.1 and Appendix C.

## 9.4 Exclusive Bicycle Lanes (EBL)

An Exclusive Bicycle Lane (refer to Photo 21) provides the basic level of separation between cyclists and motor vehicles. Cars are prohibited from parking in the lane, unless it is designated as part-time (typically in Clearways). They provide a visibly delineated space for cyclists and assist motor vehicles to leave some road space for cyclists. Bicycle lanes are suitable for many urban roads with moderate speeds (40-60km/h) and volumes (3,000-8,000 vehicles per day), but do not encourage less confident riders on higher speed roads (above 50km/h).



Photo 21: Exclusive Bicycle Lane, Nelson Street, Stepney

## 9.5 Bicycle Car Park Lanes (BCPL)



Photo 22: Bicycle Car Park Lane, Osmond Terrace, Norwood

Bicycle/Car Parking Lanes (BCPL's), refer to Photo 22, do not require removal of car parking but do require a wide road width. They are located between parked cars and moving traffic and cyclists can feel squeezed between car doors opening and moving traffic. Wide bicycle lanes are preferred that give a buffer between vehicles. Sufficient road width is not always available to provide this treatment.

Very few roads in Norwood Payneham & St Peters have sufficient road width for BCPL's.

Note: Although some bicycle lanes in the City of Norwood Payneham & St Peters appear similar to exclusive bicycle lanes, they do not comply with the Australian Standards and therefore do not have status as legal bicycle lanes. They are instead Advisory Treatments (refer Section 9.2). Examples of these are on William Street in Norwood, the eastern end of Beulah Road in Norwood, and Ninth Avenue in St Peters.

## 9.6 Enhanced Bicycle Lanes (EnBL)

Enhanced bicycle lanes can be Exclusive Bicycle Lanes or Bicycle Car Parking Lanes but provide a stronger separation to motor vehicles (parked and/or moving) through various measures such as wider line-marking, green coloured line-marking, or tactile marking (refer to Photo 23 and Photo 24).

These treatments provide more separation than a white line but do not physically prevent vehicles from crossing over it. It is a more cost effective treatment than physical separation (i.e. kerbing), and takes up less space.

Research shows that coloured bicycle lanes have significant safety benefits, and DPTI have recently been rolling these out over metropolitan Adelaide, including Rundle Street in Kent Town. The DPTI guidelines for the installation of coloured green bicycle lanes stipulate that they are to be used only in areas of 'high potential conflict' between motor vehicle and bicycle traffic. These include:

- between multi-lane approaches to signalised intersections i.e. between two left turn and multiple through lanes
- where cyclists are exposed to motor vehicle traffic crossing the bicycle lane over significant length of road i.e. greater than 80m
- where significant volume of motor vehicle traffic crosses the bicycle lane i.e. 2,800+vpd
- where there is a recorded pattern of collision between cyclists and motor vehicles
- at bicycle storage boxes
- at contra-flow bicycle lanes
- where a bicycle lane is located next to or between motor vehicle lanes but the desirable minimum vehicle and bicycle lane width requirements are not achievable
- where a bicycle lane is located on a left hand curve where vehicles routinely cut into the bicycle lane



Photo 23: Chevron Separated lanes



Photo 24: Tactile line-marking and green coloured lane



Photo 25: Flexible lane delineator



## 9.7 Reallocate Traffic Lanes (RTL)

Space for bicycle lanes can sometimes be found by reallocating road space. For example, the City of Adelaide has adopted narrow 2.7 metre wide traffic lanes in Pirie Street so that they can provide 1.5 metre wide bicycle lanes with a 400mm buffer between parked cars (refer to Photo 26 and Photo 27). Traffic lanes were a minimum of 3.0 metres, so this shows Councils dedication to improving cycling. The narrow traffic lanes change the feel of the street environment often resulting in reduced speeds.

The City of Yarra (inner metropolitan Council, Victoria) has gone further and has adopted 2.5 metre wide lanes to provide bicycle lanes where previously they were thought not possible.



Photo 26: Pirie Street - previous narrow bicycle lanes



Photo 27: Pirie Street - reallocated lane widths and more cyclist space

## 9.8 Separated Bicycle Lanes (SBL)

### 9.8.1 Separated Bicycle Lanes - between kerb and parked cars

Separated Bicycle Lanes between the kerb and parked cars are common in Europe and are now being introduced in Australia (refer to Photo 28 and Photo 29). They are installed by "flipping" the parking and the bicycle lane so that cyclists ride alongside the kerb and parked cars sit between the cyclist and the moving vehicles.

Considerable road width is required to fit this treatment and design is critical near driveways and side streets to ensure sight lines (car parking removal is generally required either side of road crossings and driveways). Other design criteria include:

- Traffic volumes greater than 3,000 vehicles per day (if road speed is 50km/h)
- Traffic volume greater than 5,000 vehicles per day (if road speed is 40km/h)
- On a street with few side streets and driveways

The description of these lanes are included in this chapter for reference and may be deemed suitable for use on some DPTI roads in the future, but they are not recommended on any Council roads as one or more of the design criteria are not met on any roads in the cycling network.



Photo 28: Separated Bicycle Lanes between the kerb and parked cars in Copenhagen



Photo 29: Separated Bicycle Lanes between the kerb and parked cars in Melbourne

### 9.8.2 Separated Bicycle Lanes – ‘Kerb’ separated

Kerb Separated bicycle lanes include physical separation (usually kerbing) between cyclists and motor vehicles (refer to Photo 30 and Photo 31). The physical separation results in less traffic stress for some cyclists than a traditional painted line. There are however safety concerns due to the cyclist being less visible to the traffic lane by vehicles turning into side streets and parking removal is usually required to ensure sufficient sight lines at all crossings. This treatment is often a high-cost solution and requires a wide road cross section.



Photo 30: Kerb Separated Lane, Swanston Street Melbourne



Photo 31: Kerb Separated Lane, Cecil Street Melbourne

They are included in this document for reference and are not recommended on any Council roads as the design criteria are not met.

## 9.9 Cyclist Refuge (CR)

A cyclist refuge provides a protected space for cyclists to wait before crossing a road. They can be on the left side of the road (refer to Photo 32) to provide a waiting space and a Bicycle Push Button at a cyclist crossing (signalised), or in a central median to enable a busy road crossing to be undertaken in two stages (refer to Photo 33).



Photo 32: Cyclist Refuge for right turn at traffic signals (Grenfell Street/East Terrace, Adelaide)



Photo 33: Cyclist Refuge in median island (Portrush Road/Beulah Road, Norwood)

## 9.10 Roundabout upgrading

Austrroads produces Australian road design guidelines and are currently preparing a new publication with roundabout design guidance that considers cyclist safety. In the past, Australian roundabouts have been design as 'tangential' which directs cyclists to the edge of the lane while motor vehicles remain in the centre of the lane. Recent research which will be included in the updated Austrroads Guideline has found that 'radial' design is preferred as it directs cyclists to the centre of the lane where they 'claim their space' in front of motorists, and are hence more visible to motorists (refer to Photo 34 and Photo 35).



Photo 34: Tangential Roundabout at Winchester Street/ Fourth Avenue – faster speed (note: arrow shows direction of motor vehicle)



Photo 35: Radial Roundabout at Fletcher Road/Wills St, Largs Bay – slower speed (note: arrow shows direction of motor vehicle)

Tangential roundabouts can be reviewed to ascertain if their approach and departure can be modified to a more radial design. If a roundabout with a history of crashes cannot be improved through design, other measures should be employed. These include signage, and also speed reduction measures on the approach to the roundabout, such as installing distinctive pavement, strips of alternate pavement to change the road texture or raised platforms.

## 9.11 Cyclist Head Start (HS)

A major hazard for cyclists is that motorists do not see them. Priority given to cyclists at traffic signals can increase motorist awareness and provide cyclists with a head-start so they are in front of motorists. Cyclist lanterns can be set to turn green a few seconds before the vehicle green, and bicycle storage areas provide a designated up-front space for cyclists to sit in front of motorists (Refer to Photo 36 and Photo 37).

Current design only allows bicycle storage areas to be installed at the end of a bicycle lane. However, this is currently under review for change of legislation, to be in line with Victorian Standards. It is therefore likely that in the near future bicycle storage areas will be able to be installed without a bicycle lane leading into it. This would be advantageous on DPTI roads in Norwood Payneham & St Peters as there are numerous major intersections where the bicycle lanes terminate before reaching the signals. Assessment for feasibility and installation would be at the discretion of DPTI. Intersections which could be considered include: Portrush Road & Payneham Road; Payneham Road, Stephen Terrace and Nelson Street; Payneham Road, Magill Road, Fullarton Road and North Terrace; and The Parade and Portrush Road.



Photo 36: Head-start cyclist lantern at traffic signals



Photo 37: Bicycle storage area at traffic signals

## 9.12 Off-road Shared Path / Separated Path (SP)

It is illegal to cycle on a footpath in South Australia unless the rider is under 12 years of age or with someone under 12 years. However, there are locations where short sections of footpath riding along an arterial road can bridge missing links along an otherwise low-stress cycle route. This can be made legal by designating the footpath as a shared path or separated path, with line marking and signage (if footpath width allows), refer to Photo 38. This can be of particular assistance where a local street meets an arterial road and a short section of shared path can link the local road with a signalised pedestrian crossing or other safe crossing point (refer to Photo 39).

The River Torrens Linear Park forms the northern boundary of the City of Norwood Payneham & St Peters. This route is popular with commuters and recreational cyclists, providing a pleasant meandering off-road route. The river bends result in a longer trip than using direct streets, but low-volume streets near the river also provide alternative short-cuts to avoid some bends, e.g. Ninth Avenue in St Peters.

There are very few other opportunities for off-road routes, except for some footpath links along second creek (discontinuous sections between Glynburn Road (near Firlie Shopping Centre) and O.G. Road (near the River Torrens), a link through Marden Sports Ground/Education Centre, and a shared use connection extending from St Peters Street to Linear Park.



Photo 38: Typical shared path



Photo 39: Shared path section on footpath to link street with signals

### 9.13 Directional signage

Directional signage helps to guide people to find their way without reference to a map (refer to Photo 40 and Photo 41). Once a continuous route has been implemented, signage can be useful to guide people and inform them of distances to interesting destinations, such as River Torrens Linear Park, The Parade, Adelaide City, etc.

Ideally the use of signs should be minimised to reduce visual clutter and installation costs, with pavement logos also assisting continuity along a route, and consistency for ease of use. Locations for installation of directional signage are listed within the priority actions.



Photo 40: Directional signage



Photo 41: Directional signage with distances

## 9.14 Bicycle parking

It is critical that bicycle parking is provided at destinations. It should be in places that have a high level of passive surveillance, or be a secured enclosure. Some destinations are obvious to locate rails, such as shops, parks, swimming pools and along shopping strips. However, local businesses should be able to apply for rails to be installed near their business if they find the demand exists. This not only encourages cycling, but also stops footpath clutter with bicycles parked against posts and fencing (which can also damage bicycles). Bicycle parking needs to comply with *Australian Standards AS 2890.3 – 1993 Part 3: Bicycle parking facilities*.

Photo 42 illustrates a bicycle Pod that can incorporate showers, personal lockers and secure bicycle parking in one location. This kind of unit is designed to fit within existing car parking bays in multiple configurations, depending on the specific demand. These are suited for existing undercover car parks and are used by staff who require all-day secure parking. The showers and lockers can encourage staff who live long distances away to cycle to work, when the building they work in does not already have these facilities.

It is suggested that an application process be developed where businesses and commercial operations can apply to council for the installation of bicycle parking to be associated with their business. The decision on the suitability and installation the bicycle parking ultimately lies with Council staff but the location/suggestion be given preferential consideration.

The Norwood Payneham & St Peters Development Plan has recently been amended to require bicycle parking for employees, residents and visitors in a new development, in accordance with a new table of parking requirements. The bicycle parking rates which are now contained in the Council's Development Plan have been set at double the rate suggested in the SA Planning Policy Library (Technical Information Sheet 4 – Vehicle Bicycle Parking Rates).



Photo 42: Secure bicycle parking in underground car park



Photo 43: Short-term outdoor bicycle parking

## 10 Infrastructure - the future cycling network

The future City-wide cycling network consolidates and improves the existing DPTI *Bikedirect* routes and Council routes into one legible and strategic network.

The network is based on a strategic spine of major routes that is connected to an expansive local network. Route selection has been identified through rigorous analysis of the following:

- Infrastructure issues, barriers and missing links
- Common routes
- Cyclist origins and destinations
- Cyclist volumes
- The wider metropolitan Adelaide bicycle network
- Existing and future bicycle routes in adjacent Councils
- Locations of existing road crossings (traffic signals, pedestrian crossing, median refuge)
- Available traffic data, vehicle speed and volume
- Road width
- Car parking demand
- Off-street parking opportunities
- Cyclist crash clusters
- A site visit and audit of every street on the cycling network

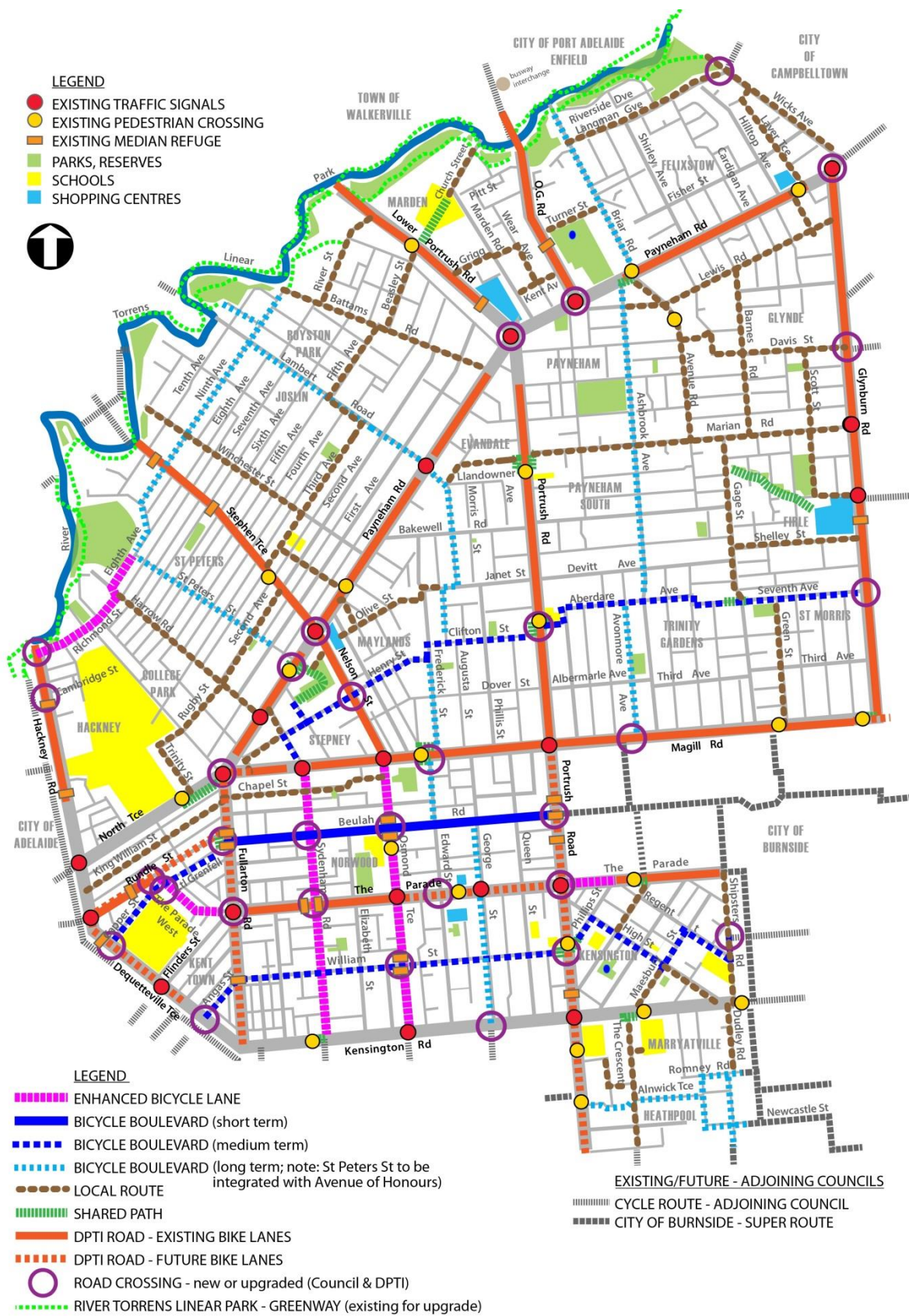
The future City-wide cycling network is illustrated on Figure 11.

Due to available budgets, the entire cycling network is recommended to be implemented incrementally over the long term. Therefore, this City-Wide Cycling Plan identifies priority works and key actions that should be undertaken as soon as funding can be achieved.

An infrastructure Priority Action Plan is provided in Section 11 and implementation of this infrastructure Priority Action Plan is recommended.

This City-Wide Cycling Plan is a live document and should be reviewed every five years. The next infrastructure Action Plan should be prepared for 2020-2025, and this process should be continued until the entire City-wide cycling network is completed.

The five year review process provides the opportunity to evaluate the outcomes of the work implemented, and also incorporate the latest thinking in innovative solutions so that adjustments to the Plan can be made as required.





# 11 Infrastructure Action Plan

## 11.1 Prioritisation principles

Due to the high cost of infrastructure, the upgrade and improvements to the entire cycling network will need to be budgeted, programmed and implemented incrementally over a period of time. Therefore, it is important to identify priorities and key actions that should be undertaken as soon as possible.

High priority actions have been selected to improve connectivity and safety and support cyclists to travel to, from and within the city of Norwood Payneham & St Peters.

The initial consultation feedback together with rigorous assessment, research and analysis found that the most significant issues were lack of connectivity, difficulty in crossing roads, lack of motorist awareness and safety concerns. Therefore, the principles for assigning the priority infrastructure actions have been selected by addressing the following:

- Improve hazardous locations
- Improve road crossings to ensure connectivity
- Reduce traffic speed along strategic routes
- Select routes that are direct and already have high cyclist volumes
- Align with community expectations: addressing initial consultation feedback, e.g. identified safety concerns, missing links, opportunities
- Select routes that connect to cyclist destinations; schools, shops, parks, community facilities
- Select routes that connect to other routes and form the spine of the network that can be added to over the long term
- Select routes that connect to routes in neighbouring Councils (existing or future)
- Increase awareness of the potential presence of cyclists with highly visible line marking and signage
- Achieve Councils Vision (refer 3.1)

The routes that are considered highest priority are illustrated on Figure 12, and a description and rationale of each route is provided within this section of the City-Wide Cycling Plan. A detailed list of the implementation actions is provided in table form in Appendix A.

Bicycle Boulevards are recommended on a number of strategic routes and their priority for installation is illustrated (as short term, medium term or long term) on Figure 11.

Given that this is an innovative cycling solution in South Australia, a detailed description of the design assessment required for implementing a Bicycle Boulevard is provided in Appendix C. Beulah Road is identified as the highest priority route for a Bicycle Boulevard given its strategic location (alternative route to The Parade), connectivity, high cyclist volumes and relatively low traffic volume; and so has been selected for this detailed assessment. Following the scoping, implementation and evaluation of the outcomes of a Bicycle Boulevard on Beulah Road in Norwood, other locations identified for Bicycle Boulevards in this Plan would be considered for implementation and budget allocation. This includes ensuring the proposed St Peters Street Bicycle Boulevard will be integrated with the St Peters Civic Plaza and Avenue of Honour Project.

It is recommended that every five years, this City-Wide Cycling Plan be reviewed to identify the action plan for the following five years. This should be repeated every five years until the network is complete. This regular review process also provides the opportunity to evaluate the outcomes of the work implemented, and make adjustments as required.

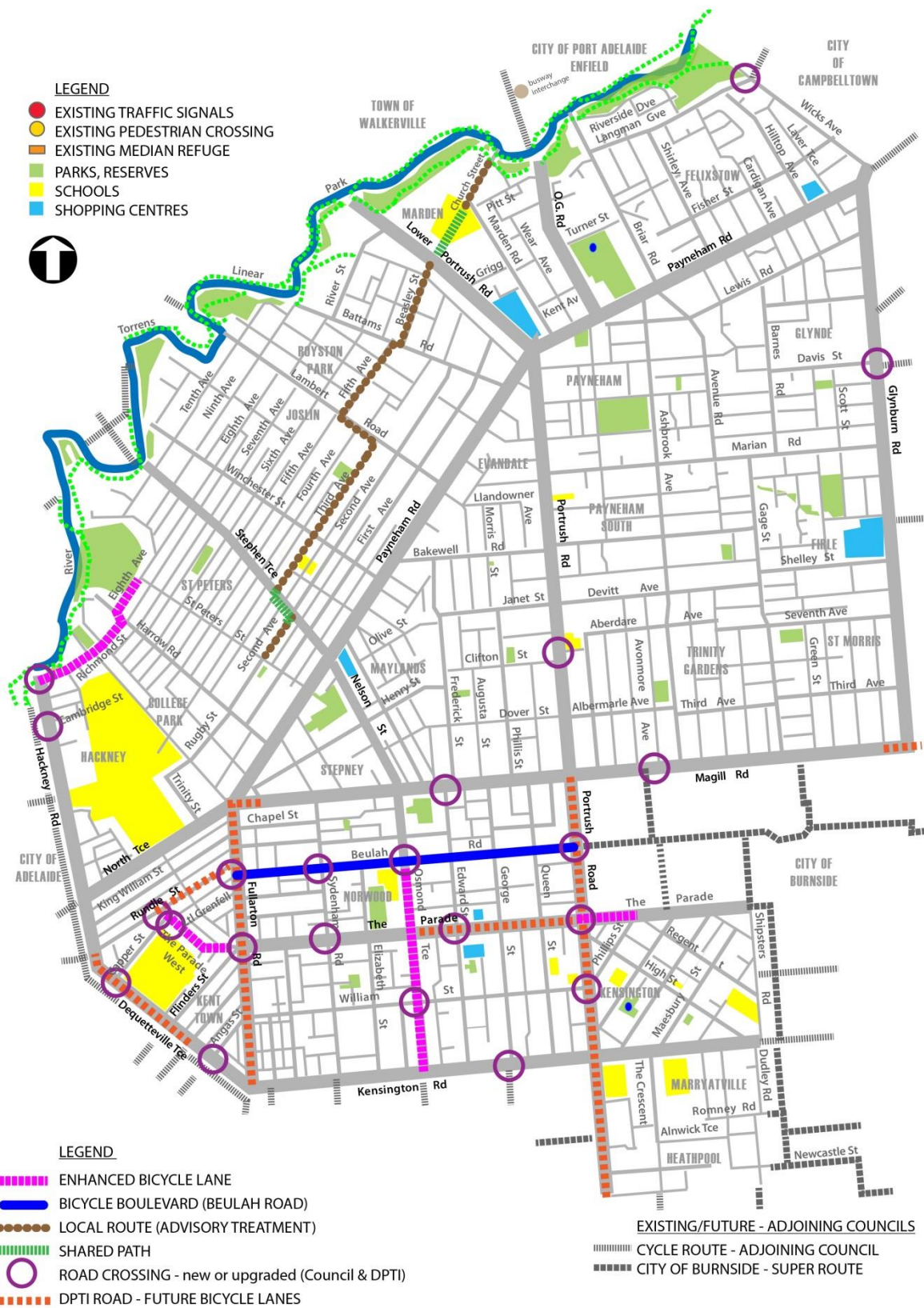
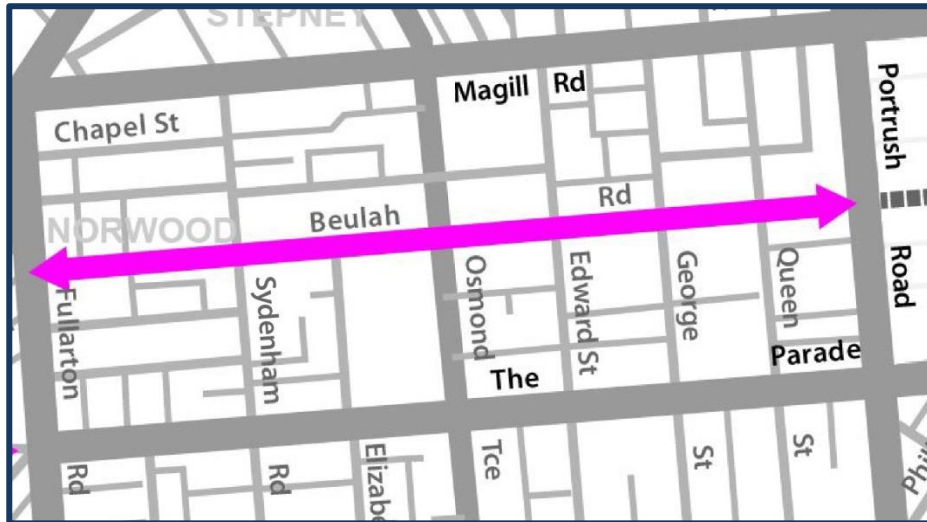


Figure 12: Priority Infrastructure Action Plan (refer to Appendix A for details)

## 11.2 Priority Infrastructure Actions – description and rationale

The description and rationale for selecting each priority route is described in this section. Refer to Appendix A for details of actions for implementation.

### 11.2.1 Norwood – Kent Town Route



**Recommendation:** Bicycle Boulevard

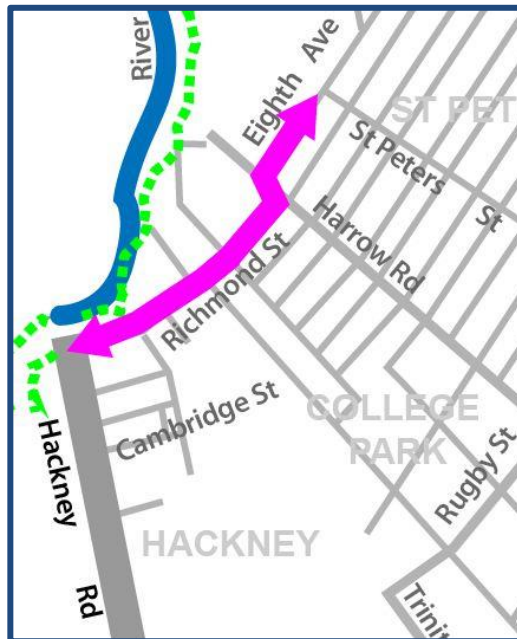
**Streets:** Beulah Road, Norwood; Little Grenfell Street, Kent Town; Capper Street (Kent Town).

- Beulah Road was cited as the most commonly cycled Council road route within Norwood Payneham & St Peters in every component of the initial consultation phase
- The Super Tuesday count found 254 cyclists at the junction of Beulah Road and Fullarton Road during the 2-hour morning peak
- Initial consultation feedback included overwhelming requests to improve cycling on Beulah Road and associated road crossings
- Connects to City of Burnside's Beulah Road Super-Route
- Commuter route to the Adelaide CBD
- Alternative, parallel route to The Parade and Magill Road which carry high volumes, high traffic speed, commercial vehicles and are bus routes
- Links to Norwood Primary School and The Parade and Magill Road as destination shopping strips
- Connects to Rundle Street, Kent Town (DPTI road) which has bicycle lanes
- Connects to Fullarton Road which is programmed for upgrade by DPTI (including proposed improvements for cyclists to cross Fullarton Road at Beulah Road)

**Implications:**

- Traffic calming options will be required
- Some car parking may need to be removed (depending on traffic calming option)
- Overall cost range is \$50,000 to \$300,000

### 11.2.2 Hackney Link

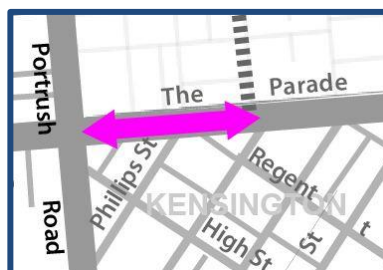


**Streets:** Richmond Street, Hackney and College Park; Eighth Avenue, St Peters

**Recommendation:** Enhanced bicycle lanes

- Important high cyclist volume link to Adelaide CBD (137 cyclists / 2 hr AM peak)
- High Traffic volumes (5,600 vehicles per day)
- Lack of alternative cyclist route due to large parcel of College land
- Links to Parklands, River Torrens Linear Park shared path at Torrens Street
- Links to Adelaide Caravan Park
- Links to St Peters College
- Links to Ninth Avenue (river short-cut used by cyclists to avoid windy sections of River Torrens Linear Park shared path)
- Links to River Torrens-Dunstone Grove route

### 11.2.3 The Parade Link

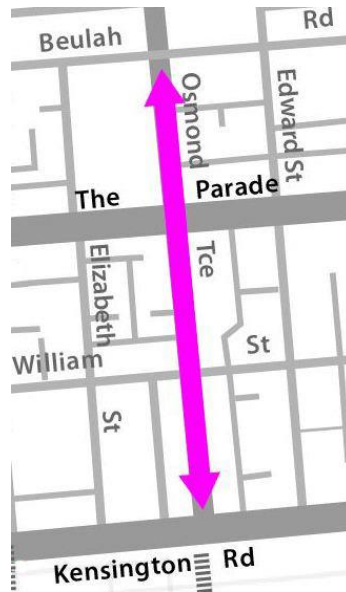


**Street:** The Parade, Kensington

**Recommendation:** Bicycle lanes

- Completes missing links along The Parade
- Links to The Parade shopping precinct

#### 11.2.4 Norwood Link

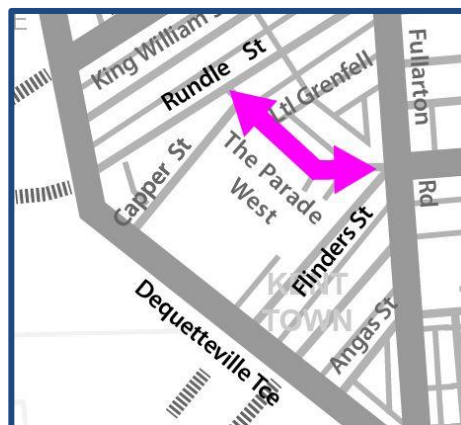


**Street:** Osmond Terrace, Norwood

**Recommendation:** Enhanced Bicycle Lanes on Osmond Terrace

- Completes high priority north-south link through Council area
- Adjoins Burnside Council (Prescott Terrace cycle route)
- Links to Beulah Road and William Street Bicycle Boulevards
- North-south link to The Parade Shopping precinct
- Links to Norwood Primary School
- Links to traffic signals at The Parade and Kensington Road for safe road crossings

#### 11.2.5 Kent Town Link

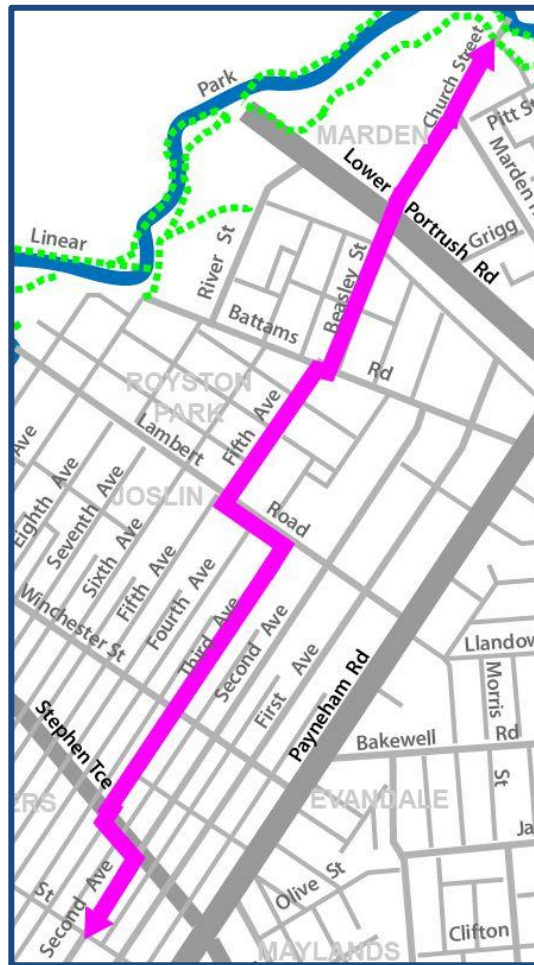


**Street:** The Parade West, Kent Town

**Recommendation:** Enhanced bicycle lanes

- Important cycling link between The Parade and Rundle Street
- 8,100 vehicles per day
- Existing Bicycle Car Parking Lanes do meet the current Standard
- Links to Prince Alfred College

### 11.2.6 Marden - St Peters Route



**Streets:** Church Street, Marden; Marden Road, Marden; Marden Education Centre; Beasley Street, Marden; Fifth Avenue, Royston Park; Lambert Road, Royston Park; Third Avenue, Joslin and St Peters; Second Avenue, St Peters.

**Recommendation:** Local route, Advisory Treatments and shared path connections

- Links to River Torrens Linear Park at Church Street
- Links to Pedestrian Actuated Crossing at Lower Portrush Road via off-street path through Marden Education Centre
- Links to East Adelaide Primary School, Marden Education Centre, Mars Stadium
- Links to Pedestrian Actuated Crossing at Stephen Terrace
- Links to Joslin Reserve
- Links to north-south route at St Peters Street which link to library, community centre and Dunstone Grove- Linde Reserve

### 11.2.7 City-Wide Priority Actions

Isolated road crossings, DPTI/Council (ie, not part of routes) are illustrated on Figure 12 and Appendix A.

- River Torrens Linear Park upgrade of shared path
- City wide actions, e.g. roundabout upgrade plan, enforcement of banned parking in part-time bicycle lanes, data collection and planning policy
- End of trip facilities; short and long term bicycle parking
- Directional, way-finding signage

### 11.2.8 State Government Controlled (DPTI) Roads – Priority Actions

- DPTI have planned bicycle lanes on Portrush Road, The Parade, Fullarton Road, Rundle Street and Dequetteville Terrace; refer to Appendix A, Table 10.
- Road crossings, where the future cycle network intersects with a DPTI road
- Road crossings at locations of cyclist crash clusters
- Improved lighting of traffic control devices
- Installing green bicycle lanes at junctions
- Installing head start bicycle storage areas
- Extending operating hours of part-time bicycle lanes
- Assess The Parade in terms of reducing traffic speed, reallocating road space, installing continuous bicycle lanes and improving crossings at Edward Street and Sydenham Road
- Install Bicycle Car Parking Lanes on The Parade, between Osmond Terrace and Portrush Road

## 12 DPTI Roads

The Council does not have the authority to install cycling infrastructure on roads that are managed by the State Government (Department for Planning, Transport and Infrastructure). However, these arterial roads form an important component of the Norwood Payneham & St Peters cycle network.

Recommendations are provided herein to assist the Council and DPTI to effectively integrate their cycling networks. DPTI roads are often the most direct route and for that reason are the routes of choice for many experienced cyclists.

Of particular importance is to provide safe crossing points where a Council road meets a DPTI road. The Council can make improvements to footpaths along a DPTI road and there are a number of locations where it has been recommended in this City-Wide Cycling Plan to install a short section of Shared Path on the footpath between a Council road cycle route and a safe crossing point on a DPTI road.

Many DPTI road corridors have several functions and cater for some or all of the following: public transport, freight, pedestrians, cyclists and private vehicle traffic.

The roads managed by DPTI are illustrated on Figure 13: DPTI Roads (note that Portrush Road is shown red because it is part of the National Land Transport Network).

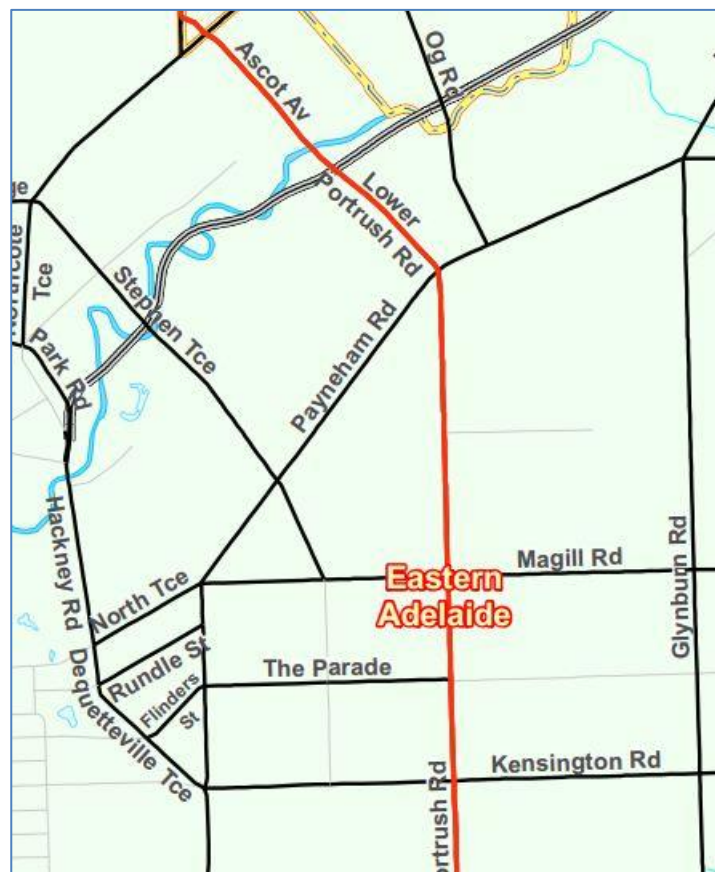


Figure 13: DPTI Roads (map sourced from DPTI)

Crash data indicated that most cyclist crashes on arterial roads were with city-bound cyclists riding in a straight direction being hit by a motorist turning in or out of a side street.

Research shows that coloured bicycle lane treatments have significant safety benefits for cyclists and DPTI has recently been rolling these out over metropolitan Adelaide. Green bicycle lanes reduce the



chance of conflict between cyclists and motor vehicles by enhancing the visibility of cyclists in high crash risk areas.

Green lanes have recently been installed along Rundle Street, Kent Town which was identified as a cyclist black spot. Monitoring and evaluation of crash data at this junction is being undertaken by DPTI and will be useful to determine whether additional improvements are required at this location.

## 12.1 Arterial Road Bicycle Facilities Program

The DPTI Arterial Road Bicycle Facilities Program provides \$450,000 each year to provide bicycle facilities on arterial roads. DPTI is currently undertaking investigations to prioritise cycling infrastructure projects for further investigation and possible inclusion in the 2013-14 program. Potential projects are identified based on the number of reported bicycle crashes or crash risk factors including cyclist volumes, motor vehicle volumes and posted speed. Strategic value, requests and locations where there are opportunities for improvements (recent development projects or road works for example) were also considered. There are several projects under consideration for next financial year that fall within the City of Norwood Payneham & St Peters. These are listed in the Action Plan (refer Appendix A, Table 10).

## 12.2 Fullarton Road Upgrade Project

DPTI's Fullarton Road Upgrade Project involves the section of road between Magill Road and Rundle Street and is being undertaken in two stages. Stage 1 works, to place overhead electrical cables underground, was considered and endorsed by the Council and is nearing completion. Stage 2 involves widening the carriageway and installing a raised solid median to restrict traffic movements to only "left-in and left-out" movements, except for Rundle Street.

DPTI is also currently finalising options for how to improve the safety for cyclists at the intersection of Beulah Road and Fullarton Road. These options will almost certainly result in some traffic movement restrictions at this location although the Council has yet to receive details of the options or the impacts resulting from any traffic movement restrictions at this intersection. These options need to be considered together with the Fullarton Road Upgrade Project Stage 2.

## 12.3 The Parade (between Fullarton Road and Portrush Road)

The Parade is a key bus route and east-west traffic link carrying approximately 20,000 vehicles per day. It serves an important function as a bus route and providing a balanced solution that integrates all transport modes, including mass transit, vehicular traffic and bicycles is required. The central area between Osmond Terrace and Portrush Road is signed at 50 km/h and is an important destination with high numbers of people choosing to spend time; meet, congregate, eat, watch, interact, shop, relax, do business etc. The quality of this public domain is eroded by the high volume of traffic running through it. There are bicycle lanes between Osmond Terrace and Fullarton Road, but they do not continue east of Osmond Terrace.

The Streets for People Compendium provides guidance to determine appropriate speeds and facilities on certain roads. Known as the 'Link and Place' matrix, (refer Figure 14), it has been used in this report to assess The Parade. A 'link' component is the *through* movement of traffic, and the 'Place' component is the *destination* status of the street. The Parade is classified as a 'District Link' (20,000 vehicles per day), and a 'District Place' (Moderate intensity of on-street staying activities with outdoor dining, public seating and public transport stops). The resulting Link and Place classification of C3 recommends a 40 km/h traffic speed, and a preference for cycle lanes.

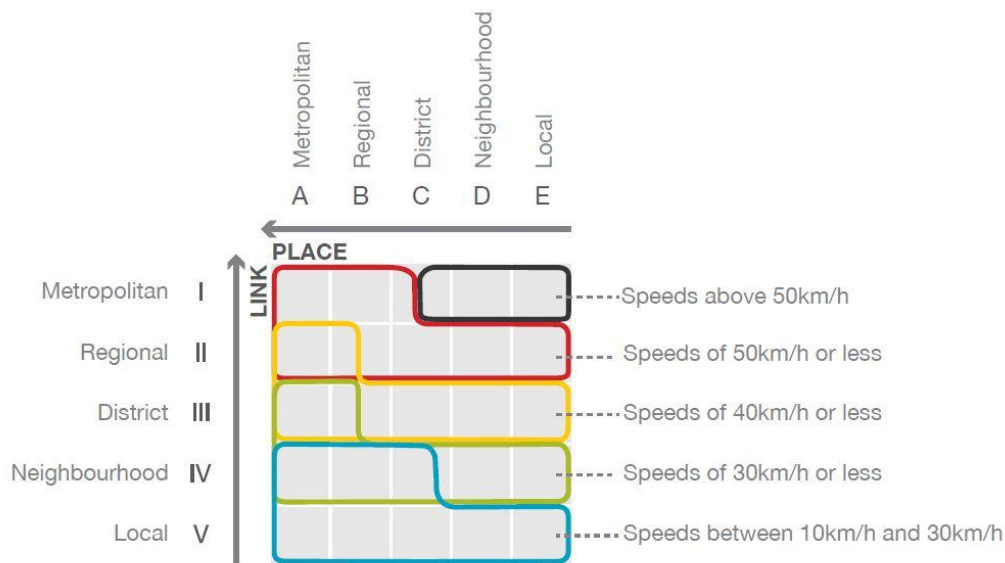


Figure 14: The Link and Place Matrix (from the Streets for People Compendium)

The reduction from 50km/h to 40km/h along The Parade would reduce risk next to moving traffic, but would not improve the potential of car-doors opening onto cyclists. It may also be possible to reallocate the road space by reducing travel lane widths to gain space for bicycle lanes. Enhanced bicycle lanes and greening across intersections should also be considered.

Even with reduced speed and wider bicycle lanes, the high traffic volumes will still dissuade some people from cycling along The Parade. It is critical that high quality, parallel cycling routes for less experienced cyclists are provided along Beulah Road, Norwood and William Street, Norwood.

There are two critical local road crossing locations on The Parade that need improving. These are junctions with Sydenham Road and Edward Street.

## 12.4 Payneham Road

Discussions with DPTI have led to an understanding that extending the bicycle lanes along Payneham Road at the missing links is extremely cost prohibitive and difficult to achieve. This will not occur in the short to medium term, but installing green bicycle lanes across junctions may reduce risk, particularly at crash cluster locations.

## 12.5 DPTI road crossings

Of particular importance to the Council is the interface of a Council road bicycle route with a DPTI road and that a safe crossing is provided. In metropolitan Adelaide, busy roads should generally have safe crossing points about every 400 metres, representing a five minute walk, (although this will vary depending on land-use) to provide a good level of accessibility. There are some stretches of arterial roads that do not have regular crossing locations, and safety concerns due to lack of crossing points is exacerbated on roads that do not have median islands, such as Magill Road and Payneham Road.

In addition, some median islands that do exist are not designed to Australian Standards, such as on Dequetteville Terrace, Rundle Street, Stephen Terrace and Fullarton Road (at Beulah Road).

## 13 River Torrens Linear Park - Greenway

The River Torrens Linear Park was formally established in 1982, primarily designed for flood mitigation. It has since become very popular for both recreational and commuter cyclists, and also provides cyclist access to the O’Bahn Interchange where bicycle lockers are provided. The City of Norwood Payneham & St Peters is fortunate to have the shared path trail along its northern boundary as it provides significant open space and off-road cycling opportunities for the community.

The popularity of the River Torrens Linear Park has outgrown its original design and it does not have sufficient width to cater for its high rate of use, particularly with the different types of users (eg, high speed cycling commuters and relaxed walkers). The initial consultation survey found users have issues with its meandering alignment resulting in many cyclists exiting the River Torrens Linear Park to cycle the more direct roads (eg, Ninth Avenue, Royston Park, Joslin and St Peters) where possible.

There are opportunities for more way finding and directional signage to be installed to show recreational cyclists the accessibility and relatively short distance to points of interest, such as St Peters Library, Dunstone Grove, Marden Shopping Centre, Patterson Sports Ground, Payneham Library and Swimming Pool and the Avenues Shopping Centre.

In 2012, the River Torrens Linear Park Coordinating Committee was formed that includes State and Local Governments. A Memorandum of Understanding was prepared that aims to promote and foster a cooperative approach to the management and development of the whole of the River Torrens Linear Park. It is recommended that the City of Norwood Payneham & St Peters works with the coordinating committee and allocate funds each year to incrementally upgrade the shared path trail.

## 14 The Business of Behaviour Change

...towards a cycle friendly community

The feedback obtained during the consultation (refer Section 7), identified and confirmed a number of existing barriers and benefits that have informed the travel behaviour change strategies discussed in this chapter.



### 14.1 The job of shifting behaviours

The behaviour change methodology used in this City-Wide Cycling Plan is based on the community based social marketing work of Doug McKenzie–Mohr and the five stage behaviour change model of Prochaska and DiClemente, which defines the five stages through which people move as their behaviours shift, often in a ‘cyclical’ pattern.

The sustainable behaviour change methodology of community based social marketing, as championed by Doug McKenzie-Mohr ([www.cbsm.com](http://www.cbsm.com)), identifies the following processes;

- Desired behaviours are selected
- Barriers and benefits of that desired behaviour are identified
- Strategies are developed and programs implemented

McKenzie-Mohr notes seven considerations when developing strategies and programs;

- Commitment: Good Intentions to Action
- Social Norms: Building Community Support
- Social Diffusion: Speeding Adoption
- Prompts: Remembering to Act
- Communication: Creating Effective Messages
- Incentives: Enhancing Motivation to Act
- Convenience: Making it Easy to Act

The five stages of Prochaska and DiClemente are summarised as follows;

- ‘Pre-contemplation’ is the first stage where there is no intent to change behaviour in the near future
- ‘Contemplation’ acknowledges the issue and the need for action – though not action itself
- ‘Preparation’ aligns intent with small shifts in behaviour
- ‘Action’ sees a commencement in actual behaviour modification, and finally
- ‘Maintenance’ is defined by the need to avoid relapse and work to consolidate the benefits of the desired change

Any behaviour change interventions that are developed must also account for the likelihood that a person’s construct of their behaviours will develop in a cyclical process – involving progress and periodic relapse.

Within the general community of the City of Norwood Payneham & St Peters, the majority are at the ‘Contemplation’ stage, with a clear understanding that “something must change but I just don’t know where to start”. It is critical that the range of programs or intervention activities that are developed move people through these stages of change as quickly as possible. The development of an ongoing ‘support network’ is essential in order to maintain the desired behaviour for a prolonged period until it becomes considered normative.

This support network will better manage the likelihood that, as people progress through the ‘stages of change’ at varying rates, they will often move back and forth along the continuum a number of times before attaining the goal of ‘maintenance’ (as can be seen in Figure 15).

Effective self-change requires people to do the ‘right thing’ (programs or activities) at the ‘right time’ (stages) and success or failure is often determined by ensuring that the programs or activities are tailored to match a person’s ‘readiness’ or ‘stage of change’.

For people not yet contemplating riding their bicycle more, encouraging a step-by-step movement along the continuum of change may be more effective than encouraging them to move directly into action.

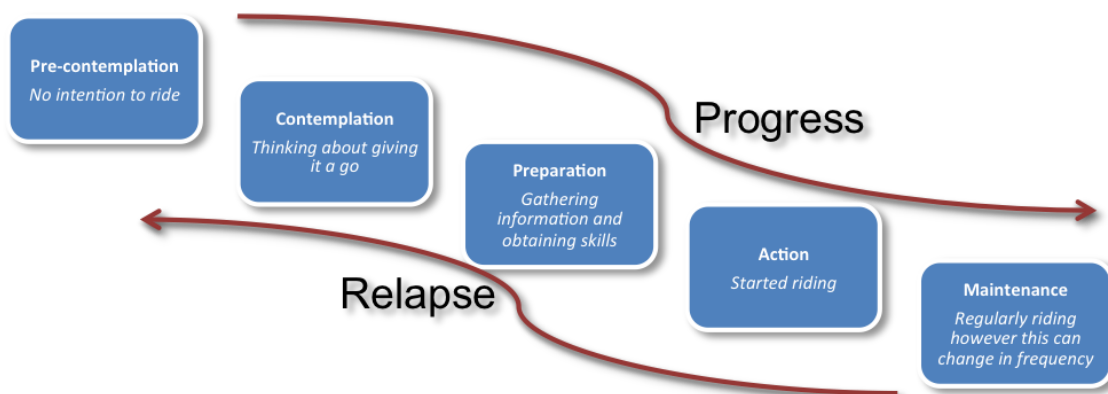


Figure 15: The Five Stages of Behaviour Change by Prochaska and DiClemente

## 14.2 Harnessing the culture of cycling

The City of Norwood Payneham & St Peters already has an established cycling identity, predominantly through the many recreational road riders on the weekends and those who commute to their place of work as well as the long established Norwood Cycling Club and the City's investment in the Tour Down Under.

Behaviour change is significantly influenced by repeated exposure to public space messaging. For the City-Wide Cycling Plan therefore, a key requirement will be a more strategic development of the City's cycling cultural identity. In achieving this, the development of a comprehensive communications strategy that supports the delivery phase for each program will be required - effectively strengthening the interconnectedness of each program.

Throughout this process, a community public arts program dedicated to showcasing the City's existing and future relationship with cycling is an effective mechanism to further normalise riding. It is important to note that this is effectively a community cultural development program where a range of community artists, local businesses, schools and the like all engage to create and share their own "identity and experiences" of what it means to ride a bicycle in "my community".

Out of this broad based community engagement, a desired outcome is the development of a strong visual presence of cycling that will assist in the definition of PLACE and will support the targeted messaging of the City-Wide Cycling Plan. The objective is for non-riders to see cycling as a 'community activity' and encourage an association with the simple act of riding a bicycle.

## 14.3 Program delivery model

Sustainable behaviour change programs require delivery in a manner that fosters a culture of sustainability and ownership within the community. It therefore follows that such programs will continue to be supported by Council in an ongoing capacity.

In proposing the range of programs and activities in this City-Wide Cycling Plan, consideration has been given to two delivery models;

- Model 1: A pre-determined and structured delivery of identified programs to targeted groups
- Model 2: A more fluid process of community capacity building through engagement networks that will continue to deepen the relationships between key stakeholders across the community, business and government.

In order for a behaviour change to take place, a supportive environment needs to first exist which will enable people to initiate and sustain positive behaviours. The fabric of this supportive environment varies according to what types of behaviour are targeted for change. A supportive environment for an anti-smoking campaign will be vastly different to that of a 'ride to work' campaign. The supportive environment consists of a variety of factors including social, cultural, ethical and spiritual, legal, political and resource, refer to Figure 16 – The Program Delivery Model.

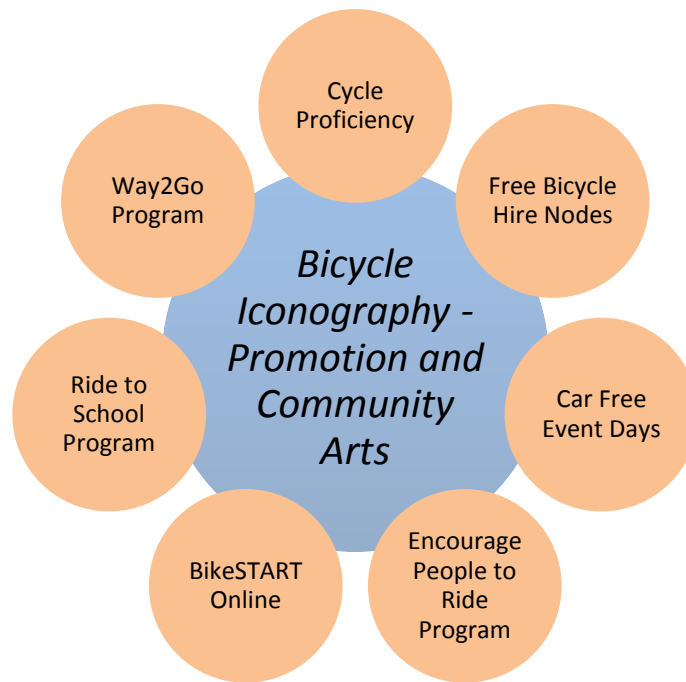


Figure 16: The Program Delivery Model

## 14.4 Recommended actions for behaviour change

The recommended actions for behaviour change are summarised in Table 4: Behaviour Change Actions, summary and described below. Refer to Appendix B for the detailed Priority Travel Behaviour Change Action Plan.

Program of Activity	Indicative Cost of Services
<b>Set up Community Advisory Group</b>	<b>From \$2,000</b>
<b>Bicycle Iconography – Promotion and Community arts</b>	<b>From \$8,000</b> Subject to the Council’s marketing policy
<b>Encourage People to Ride Program</b>	<b>From \$5,000</b> Assumes target of 10 Rides Leaders are active across at least one of each target group
<b>BikeSTART Online Resource</b>	<b>From \$2,500</b> Dedicated Council website page and re-brand
<b>Cycle Proficiency</b>	<b>From \$20,000</b> 35 programs: Integrated delivery – Council’s programs as well as via community networks
<b>Car Free Event Days</b>	<b>From \$5,000</b> Incorporated into existing event
<b>Free Bicycle Hire Scheme</b>	<b>From \$10,000</b> Establish bicycle nodes plus ongoing maintenance costs
<b>Ride to School Program</b>	<b>\$15,750</b> Assumes one pilot school project
<b>Way2Go Program</b>	<b>No Cost</b> Partnership with DPTI

Table 4: Behaviour Change Actions, summary

#### 14.4.1 Community Advisory Group

It is recommended that the Council establish a Community Advisory Group to provide advice and evaluation of the City-Wide Cycling Plan, and assist with travel behaviour actions.

The representation of the Community Advisory Group should include:

- Representative from Council
- Community Members - 4 representatives
- School representative
- Road Safety representative (MAC / CASR)
- Health SA
- SAPOL
- Bike SA
- Project Administration Officer (Council)

The role of the Community Advisory Group is to:

- Encourage the formation of a local Bicycle User Group;
- Review outcomes and provide input into the implementation of the City-Wide Cycling Plan;
- Provide broad advice on a range of cycling related opportunities and challenges;
- Ensure the interests of at-risk, marginalised and disadvantaged community members are considered;
- Ensure the interests of primary and secondary children are given adequate consideration; and
- Represent the community and user group interests to the delegated Council representative.

The Community Advisory Group would also advise on matters arising from time to time. Examples include consideration of;

- **Velo-city Global 2014 Conference** – the world’s largest cycling planning conference will be hosted in Adelaide in May 2014. The City has a unique opportunity to engage with the world’s foremost thinkers in cycling planning as well as put forward case studies to the Programming Director for consideration.
- **National Ride2Work Day** – held each year in October to herald the start of the Spring riding season, Ride2Work Day is an ideal opportunity for the City to work with workplaces and employers to encourage active travel behaviours – whether walking or cycling.
- **National Ride2School Day** - held each year in March, Ride2School Day is an ideal opportunity for the City to work with schools and parent groups to encourage active travel options – whether walking or cycling.



#### 14.4.2 Bicycle Iconography – Promotion and Community Arts

##### Barriers:

- Have not thought of cycling to work or for utility purposes
- Perceptions that cycling is not safe
- Perception that the car is more convenient
- May have not considered that cycling can be fun and enjoyable

##### Objective:

- To engage the community through the widespread use of cycle branding such as Bicycle Iconography

##### Strategy:

- The Bicycle Iconography will trigger broad awareness that cycling is to be an accepted part of living in the City
- The Bicycle Iconography will communicate there are a range of programs that improve accessibility to cycling
- Foster a sustainable sense of belonging to the community of cycling

##### Summary:

- Develop cycling brand for Norwood Payneham & St Peters

##### Delivery:

- Determine delivery/placement policies – stickers, pavements, community arts
- Develop distribution program, eg existing community programs

##### Measurement:

- Assessed incorporating relevant survey question re: awareness of cycling (at 5-year review of Plan)

##### Council's Role:

- The Council's role in this program is to take a leadership position in supporting the normalisation of cycling. In that, the culture of cycling engages the entire breadth of the community and it is important to support the expression of this identity. Council will encourage its (and other) artists, local businesses and schools to participate in a community public arts project that asks "what my bicycle means to me". Council will work with their Community Arts Officer to align cycling promotion with community based arts projects for example well designed bicycle parking as an art form. Council's communications team will promote the artwork and seek to integrate appropriate iconography into its everyday business.

### 14.4.3 Encouraging People to Ride Program

#### Barriers:

- Unsure of where to ride
- Lack of friends to ride with

#### Objective:

- To encourage the growth of community based ride groups that offer regular rides to suit a broad range of cycling interests and skills in a safe and encouraging manner

#### Strategy:

- To encourage cycle leadership within the community
- To develop the cycling network that is rooted within and owned by the community
- Foster a sustainable sense of belonging within the community that cycling is a valued part of its identity

#### Summary:

- A program that encourages people to ride is a series of regular, organised community based rides delivered by qualified "Ride Leaders"
- These rides provide an encouraging and safe environment for inexperienced riders to engage and are delivered at no cost to participants
- An example is Bike SA's Rides Program which currently delivers over 1,500 free rides each year throughout the State

#### Delivery:

- Engage with target groups to invite/identify potential City of Norwood Payneham & St Peters Ride Leaders
- Develop appropriate educational training module
- Rides Leader training – ride planning, route selection, first aid/police checks, ride safety policies
- Insurances – public liability, personal accident and professional indemnity
- City-Wide Cycling Plan "Rides Program – Ride Leader" jersey
- Ongoing ride support from allocated BSA Ride Angel (or similar)
- Each ride will be promoted via the City-Wide Cycling Plan web page and through the third party's own print and online marketing materials (eg Bike SA's Rides Program printed and online to 25,000 subscribers fortnightly)

#### Measurement:

- Participation rates measured via the distribution of rides cards with optional online log-book

#### Council's Role:

- The Council's role in this program would be to take a leadership position in increasing the access and opportunity that its residents have to ride a bicycle. It will provide marketing support to promote the program through its communication channels to residents, businesses and community organisations; or
- The Council may choose also to deliver and promote through community groups and partners, for instance Bike SA Rides Program

#### 14.4.4 BikeSTART Online Resource

**Barriers:**

- Wanting to ride but not knowing where to start

**Objective:**

- Develop an easy and engaging ten minute online assessment tool that will highlight the barriers to riding and provide a personalised report card for each user

**Strategy:**

- Personalise Bike SA's free BikeSTART online assessment tool to the City of Norwood Payneham & St Peter's residents

**Summary:**

- Access to online tools are a key educational and information resource. BikeSTART is a free online assessment tool that identifies the key needs of each user based on a ten minute barrier analysis. A series of video, static image and Question & Answer forms guide the user through a fun, easy and engaging process, with a "report card" provided at the conclusion of the assessment.
- Personalise and brand the [www.bikestart.com.au](http://www.bikestart.com.au) assessment tool for the City-Wide Cycling Plan program. This will provide an effective engagement and educational tool for those asking the question "I want to ride but just don't know where to start". Access to this resource is clearly limited to those with internet access and with a moderate degree of IT literacy.

**Delivery:**

- Prepare a design brief, incorporating content and 'look and feel' to ensure local relevance for the community

**Measurement:**

- This program has an extensive evaluation methodology, including;
  - Site analytics
  - Assessment completion rates
  - Access to an online log book to record ride histories

**Council's Role:**

- The Council's role in this program would be to take a leadership position by providing free online educational content to its residents, thereby assisting them in making informed decisions on what they need to do to ride a bicycle more often. The Council would attach its corporate brand to the BikeSTART website and use its communications channels to market and promote the program to residents.

#### 14.4.5 Cycle Proficiency

**Barriers:**

- Lack of confidence in riding and therefore not feeling safe riding on the road
- Lack of bicycle maintenance skills
- Not knowing how to report an incident or accident

**Objective:**

- Provide an affordable (preferably free through Council or external funding sources) and accessible range of bicycle education programs to the target client groups

**Strategy:**

- Develop skilled networks within the community to ensure bicycle education programs are accessible and affordable to those in need
- Community partners and stakeholders to include and encourage bicycle education programs within their existing activities – workplaces, schools, community associations

**Summary:**

- Cycle Proficiency is the term used to bundle a number of education and encouragement programs together
- These programs include Bicycle Maintenance (Basic Bicycle Care, Gears and Brakes), CycleSafe (Essentials, New Arrivals and For Women), BikeFun4Kids, One-on-One, Commuter Cycling Series as well as other programs from alternate providers

**Delivery:**

- As per needs identified within the community through appropriate consultation

**Measurement:**

- Delivery of each includes post course evaluation, three monthly participant survey to measure ongoing behaviour

**Council's Role:**

- The Council's role in this program would be to take a leadership position through the provision of targeted bicycle education program delivery. Council would work with the education provider and instructor to identify the key programs to be delivered, promote access to these programs within the community and provide a staffing resource to respond to queries and take bookings.

#### 14.4.6 Car Free Event Days

**Barriers:**

- Widespread acceptance that 'car is king'

**Objective:**

- Demonstrate leadership through hosting an event similar to a Cyclovia (traditional term) event where roads in a determined precinct are closed to cars thereby encouraging walking, cycling and general recreation

**Strategy:**

- To establish partnerships between the Council, business and community organisations to deliver regular mass participation community events
- Work with existing civic and community events program, with cost and resource efficiencies, for example at the 'Magill Road Alive' event

**Summary:**

- Cyclovia's have proven to be highly effective in encouraging the general population to participate in physical activity. They are an event concept, delivered with a strong community engagement methodology and used increasingly within major cities. Cyclovia's deliver best results when held regularly in a local area – to ensure this style of community event builds to critical mass.

**Delivery:**

- To be delivered in consultation and design with the Council's events staff with community and business representation

**Measurement:**

- Attendance results and data collection from Super Tuesday Commuter Counts and Super Sunday Recreational Counts will be analysed to determine whether more people are riding bicycles

**Council's Role:**

- Councils role is to take a leadership position by incorporating a car-free event with other social, cultural and festival events.

#### 14.4.7 Free Bicycle Hire Scheme

##### Barriers:

- Does not own or have access to a bicycle
- Would like to “try before I buy”
- A visitor to the City of Norwood Payneham & St Peters would like to travel around by bicycle but does not have access to a bicycle

##### Objective:

- Establish a series of free bicycle hire nodes for the City of Norwood Payneham & St Peters

##### Strategy:

- Liaise with Adelaide City Council to learn from their experiences with their free bicycle hire scheme
- Work with key stakeholders to prioritise the roll out of a series of free bicycle hire nodes

##### Summary:

- Those target client groups that share a lack of financial resources as the primary barrier to purchasing a bicycle or for those wanting to “try before they buy”, access to free bicycle hire is preferred
- This program aims to provide community access to a bicycle/helmet/lock at a number of service oriented locations throughout the City.

##### Delivery:

- Council, Key Stakeholder, and community involvement
- Determine appropriate ‘client’ groups who will benefit from access to a bicycle, helmet and lock
- Establish locations for nodes and roll-out over agreed budget period
- Establish bicycle drop off methodology, maintenance program, insurances and promotional materials

##### Measurement:

- Level of participation, consideration for expanded nodes if successful

##### Council’s Role:

- The Council’s role in this program would be to take a leadership position by establishing bicycle hire nodes at key locations (for example The Parade in Norwood, Council’s libraries, the Hackney Caravan Park) and providing free access to the use of bicycles to residents. The Council would provide appropriate volunteer insurances and basic funding for tools and spare parts to support participating community groups that restore donated bicycles. The Council will use its communications resources to promote the program to residents and recognise the efforts of volunteers.

#### 14.4.8 Ride to School Program

**Barriers:**

- Parents not allowing their children to ride to school because of potential unsafe conditions  
Children not being skilled bicycle riders

**Objective:**

- To address the real and perceived barriers that prevent parents from supporting active travel options for their children

**Strategy:**

- Provide relevant and meaningful information to parents on the issues surrounding riding to school
- Establish a support network where parents and children can ride together in a supportive and safe environment

**Council Role:**

- Council's role in this program would be to take a leadership position in getting more children active by walking and riding to school as well as more generally within their daily lives. The Council would actively engage with the DPTI to commit to the Way2Go Program.

#### 14.4.9 Way2Go Program

**Strategy:**

- The City of Norwood Payneham & St Peters will work with the Department of Planning, Transport and Infrastructure (Community Programs Section) to assess the potential for implementing the Way2Go schools program. Priority and particular focus will be given to schools that are to be connected into the future cycling network, as detailed in Section 11 of this report (East Adelaide Primary School, Norwood Primary School, St Peters College, Prince Alfred College, Trinity Gardens Primary School, Marden Education Centre).

**Objectives:**

- Way2Go education consultants from the Department of Planning, Transport and Infrastructure made available to support teachers in participating schools
- School travel routes are reviewed and may be improved to provide opportunities for families to increase their daily physical activity by walking or cycling
- School Travel Plans include structured programs for teaching road safety skills and knowledge for students and their families

**Measure:**

- Number of schools participating in the Way2Go program equivalent to or exceeding other participating Councils

## 15 Implementation

### 15.1 Resources and funding

Implementing the future cycling network will require significantly higher levels of investment than has previously been allocated to cycling. Implementation relies on internal funding allocation as well as external funding. The timing and delivery of the infrastructure actions and behaviour change programs will be dependent on Council budgetary processes and the receipt of grants / funding from State and Federal sources.

#### 15.1.1 State Bicycle Fund

The State Bicycle Fund is an annual subsidy scheme that provides financial assistance of up to a dollar for dollar basis for Councils to progress cycling initiatives in their local area. The Fund has fostered a long-standing partnership between the State Government and local Councils to respond to Federal, State Government and Council strategies relating to encouraging cycling.

Suitable projects for funding include:

- development or review of Local Area Strategic Bicycle Plans
- construction of on-road bicycle lanes
- construction of off-road shared use paths
- construction or modification of median refuges or road crossings.

Subsidy funding is up to 50% of the total project cost and Council is required to provide the remaining amount. The maximum total project cost is limited to \$100,000 (maximum funding contribution of up to \$50,000).

#### 15.1.2 Black Spot funding

The State Black Spot Program is directed towards bringing about significant reductions in crashes by the identification and treatment of locations and sections of road that have an unsatisfactory casualty crash record or that have a significant crash potential. Funds from the State Black Spot Program are specifically available to Councils as subsidy funding for cycling safety infrastructure projects.

South Australian Councils can apply for the State Bicycle Fund - Black Spot Program. Applications can be submitted late in the year for the following financial year's program.

Subsidy funding is two-thirds of the total project cost and Council is required to provide the remaining one-third. The maximum total project cost is limited to \$100,000 (maximum funding contribution of \$66,667)

- construction of on-road bicycle lanes
- construction of off-road shared use paths
- construction or modification of median refuges or road crossings.

#### 15.1.3 Places for People

Places for People is a State Government grants program available to all South Australian Councils to strategically plan, design and develop public places of community significance.

The principal objective of the program is to help create new public places or revitalise existing public spaces that contribute to the social, cultural and economic life of the community they serve.

Places for People assists Councils and their communities to:

- Add to their area's vitality



- Enhance public places in terms of use ability, safety and visual appeal
- Develop a 'sense of place' and identity that reflects local culture, heritage and character
- Improve the efficiency and economic performance of urban and rural centre's and other strategic places
- Improve the relationship between public and private areas
- Projects must be carried out on land with free public access.

The program also aims to foster the development of an urban design culture within Councils, ensuring a commitment to strategic collaborative practices and high quality, sustainable outcomes. Specific to this City-Wide Cycling Plan, the Places for People grants recognises within its objectives to provide safe walking and cycling links between communities and land uses, as well as improving the environment for pedestrians and cyclists where appropriate.

#### 15.1.4 Community Grants

Although not aimed towards Councils, the Department of Planning, Transport and Infrastructure offers Community Grants to groups and organisations to deliver small scale projects that support safer, greener and more active travel choices. Projects can focus on improving road safety, getting people cycling, walking or catching public transport, replacing car journeys with technology, doing things locally, or using the car smarter.

The City of Norwood, Payneham & St Peters can play a role in encourage its resident groups, schools, businesses or other active organisations to consider applying for the Community Grants.

## 15.2 Resourcing and coordination

A detailed Implementation Plan will be developed allocating timing for the detailed design work and consultation required for the delivery of recommended outcomes of the City-Wide Cycling Plan. The Implementation Plan will allocate responsibility for the agreed actions and will be used as the basis for support for subsequent Council budget requests and external funding applications.

In delivering these actions, it is critical that Council integrate the City-Wide Cycling Plan actions with the opportunities that arise through the Council's existing capital works programs for works such as :

- Footpath upgrading for shared paths linked to arterial road crossings
- Kerb replacement program and road upgrades
- Resealing works
- Roundabout upgrades

In 2011, Council adopted its Pedestrian Actuated Crossing (PAC) whole-of-Life Implementation Plan, which sets out the upgrade of PAC's which are under its care, control and management throughout the City.

## 15.3 Monitoring and evaluation

Monitoring and evaluation of the outcomes of this City-Wide Cycling Plan is required to inform reporting on successful progress towards a cycle-friendly City, as part of the Council's CityPlan 2030 Indicators, annual reports and other publications prepared by the City of Norwood Payneham & St Peters. The monitoring of progress will feed into improvements as part of future Action Plans.

Monitoring and evaluation is required for:

- Data collection - speed/volume data on traffic calmed routes
- Cyclist volumes- undertake Super-Tuesday commuter counts and Super-Sunday recreational counts
- Crash statistics

- Cyclist behaviour
- Cycling infrastructure and safety

Data collected on improved cycling participation will also be used to measure success against the Council's *CityPlan 2030* indicator for the Social Equity Objective of "A people-friendly, integrated, sustainable and active transport network".

# Appendix A

## Priority Infrastructure Action Plan



**Table 5: Priority actions – routes (refer to Figure 12 for illustration of route location)**

Location	Recommendation	Priority
<b>Norwood – Kent Town Route</b>	<ul style="list-style-type: none"> <li>Cost estimate, \$50,000 - \$300,000</li> </ul>	
Beulah Road Portrush Road to Fullarton Road <i>Parking review</i>	<ul style="list-style-type: none"> <li>Review car parking utilisation data from Norwood Local Area Traffic Management reviews</li> </ul>	High
Beulah Road Portrush Road to Fullarton Road <i>(Bicycle Boulevard)</i>	<ul style="list-style-type: none"> <li>Review design of existing roundabouts with view to improving cyclist safety (refer Section 9.10)</li> <li>Collect and analyse traffic volume and speed data</li> <li>Undertake detailed design, including consideration of landscaping features, kerb-extensions, lane marking, pavement treatments, speed limit reduction, signage</li> <li>Subject to DPTI trial and approval, design for and install ‘Sharrow’ linemarking</li> <li>Install Bicycle Boulevard directional signage</li> </ul>	High
Beulah Road/Osmond Terrace <i>Crossing</i>	<ul style="list-style-type: none"> <li>Upgrade bicycle path across median island (widen, install logos, assess alignment and improve if possible)</li> <li>Install Bicycle Boulevard directional signage</li> </ul>	High
Beulah Road / Fullarton Road/Rundle Street/ Little Grenfell Street <i>Crossing</i>	<ul style="list-style-type: none"> <li>Support DPTI proposal to install median island and cyclist refuges</li> <li>Some vehicle movements will be restricted as a result of median installation. This traffic diversion will improve cyclist amenity along Beulah Road.</li> </ul>	High
Beulah Road / Portrush Road <i>Crossing</i>	<ul style="list-style-type: none"> <li>Liaise with DPTI to install “KEEP CLEAR” markings in Portrush Road into Beulah Road at cyclist crossing to facilitate gaps in queuing cars for cyclists to cross through</li> <li>Consider banning right turn from Portrush Rd to prevent ‘cut-through’ traffic. If adopted, median cyclist refuge can be significantly improved for cyclists, e.g. made larger.</li> </ul>	High  Low
Rundle Street, Kent Town <i>Upgrade</i>	<ul style="list-style-type: none"> <li>Listed on the Arterial Roads Program for cycling improvements</li> <li>Lobby DPTI to prioritise</li> </ul>	High
<b>Marden-St Peters Route</b>	<ul style="list-style-type: none"> <li>Cost estimate, \$35,000</li> </ul>	
Church Street <i>Advisory Treatment</i>	<ul style="list-style-type: none"> <li>Install Advisory Treatment (Location of logos to be determined after assessment of car parking demand undertaken)</li> </ul>	Medium

Shared path Church Street to OG Road (through Marden Education Centre) <i>Upgrade</i>	<ul style="list-style-type: none"> <li>▪ Determine path ownership and access rights</li> <li>▪ Upgrade signs and bollards to current Standards</li> <li>▪ Install way-finding signage</li> </ul>	Medium
Lower Portrush Road/Beasley Street junction <i>Footpath</i>	<ul style="list-style-type: none"> <li>▪ Install Shared Path logos on footpath, west side of Lower Portrush Road, between Pedestrian Actuated Crossing and Beasley Street</li> </ul>	Medium
Beasley Street <i>Advisory Treatment</i>	<ul style="list-style-type: none"> <li>▪ Install Advisory Treatment (Location of logos to be determined after assessment of car parking demand undertaken)</li> </ul>	Medium
Beasley Street / Battams Road/Fifth Avenue offset junction <i>Signage</i>	<ul style="list-style-type: none"> <li>▪ Strengthen route connection across Battams Road with way finding signage</li> </ul>	Medium
Fifth Avenue Battams Road to Lambert Road <i>Advisory Treatment</i>	<ul style="list-style-type: none"> <li>▪ Install Advisory Treatment (Location of logos to be determined after assessment of car parking demand undertaken)</li> </ul>	Medium
Lambert Road Fifth Avenue to Third Avenue <i>Advisory Treatment</i>	<ul style="list-style-type: none"> <li>▪ Upgrade existing Advisory Treatment (Location of logos and/or edge line to be determined after assessment of car parking demand undertaken)</li> </ul>	Medium
Third Avenue Lambert Road to Winchester Street <i>Advisory Treatment</i>	<ul style="list-style-type: none"> <li>▪ Install Advisory Treatment (Location of logos to be determined after assessment of car parking demand undertaken)</li> </ul>	Medium
Third Ave/ Winchester St <i>Roundabout</i>	<ul style="list-style-type: none"> <li>▪ Review design of roundabout with view to retro-fitting radial design (refer Section 9.10)</li> </ul>	Medium
Third Avenue Winchester Street to Stephen Terrace <i>Advisory Treatment /Footpath</i>	<ul style="list-style-type: none"> <li>▪ Install Advisory Treatment (Location of logos and/or edge line to be determined after assessment of car parking demand undertaken)</li> <li>▪ Pave footpath full width to increase width on south side at school</li> </ul>	Medium

Third Avenue/Stephen Terrace <i>Advisory Treatment /Footpath</i>	<ul style="list-style-type: none"> <li>Upgrade footpath (north side) between Third Avenue and Pedestrian Actuated Crossing</li> <li>Install shared path logos on footpath (both sides)</li> </ul>	Medium
Second Avenue Stephen Terrace to St Peters Street <i>Advisory Treatment</i>	<ul style="list-style-type: none"> <li>Upgrade existing Advisory Treatment (Location of logos and/or edge line to be determined after assessment of car parking demand undertaken))</li> </ul>	Medium
<b>Hackney Link</b>	<ul style="list-style-type: none"> <li>Cost estimate, \$80,000</li> </ul>	
Richmond Street/Hackney Road <i>Line marking, refuge, connection to path</i>	<ul style="list-style-type: none"> <li>Install bicycle stand-up lane at junction (liaise with DPTI)</li> <li>Liaise with DPTI to install area for cyclists within existing central median seagull island</li> <li>Liaise with DPTI/Adelaide City Council to provide link to Linear Park shared path</li> <li>Install directional signage</li> </ul>	High
Richmond Street Hackney Road to Hatswell Street <i>Exclusive Bicycle Lanes/ Enhanced line marking</i>	<ul style="list-style-type: none"> <li>Note: existing road is 8.3 metres wide with No Stopping on both sides</li> <li>Install 1.2 metre wide Exclusive Bicycle Lanes on each side</li> <li>Traffic lanes to be 2.95 m wide</li> <li>Edge bicycle lanes with flexible delineator (refer Photo 25)</li> </ul>	High
Richmond Street Hatswell Road to Torrens Road <i>Exclusive Bicycle Lanes/ Enhanced edge line</i>	<ul style="list-style-type: none"> <li>Note: Existing road is 8.4 metres wide with No Stopping on north side s</li> <li>50 metres of Resident Only parking 7pm-3am exists on south side – to remain</li> <li>Install 1.2 metre wide Exclusive Bicycle Lanes on both sides (south bicycle lane not operational during residential parking times (overnight))</li> <li>Traffic lanes to be 3.0m wide</li> <li>Edge bicycle lanes with flexible delineator (refer Photo 25)</li> </ul>	High
Richmond Street Torrens Road to Harrow Road <i>Enhanced edge-line</i>	<ul style="list-style-type: none"> <li>Note: Existing road is 12.7 metres wide</li> <li>Upgrade existing Advisory Treatment Type 1 (refer to Section 9.2)</li> <li>Edge bicycle lanes with flexible delineator (refer Photo 25)</li> </ul>	High
Eighth Avenue Harrow Road to St Peters Street <i>Enhance Bicycle Lane</i>	<ul style="list-style-type: none"> <li>Note: Existing road is 13.3 metres wide</li> <li>Upgrade Existing bicycle Car Parking Lanes (faded)</li> <li>Edge bicycle lanes with flexible delineator (refer Photo 25)</li> </ul>	Low

<b>The Parade Link</b>	<ul style="list-style-type: none"> <li>Cost estimate, \$70,000</li> </ul>	
The Parade (just west of Portrush Road – DPTI road) <i>Line marking</i>	<ul style="list-style-type: none"> <li>Install green line marking in bicycle lane west approach to intersection (Liaise with DPTI)</li> </ul>	High
The Parade (Council Road) Portrush Road to end of median island <i>Green bicycle lane</i> <i>Edge line</i>	<ul style="list-style-type: none"> <li>Note: squeeze point for cyclists around bend, detail design required to reduce traffic lane width.</li> <li>Edge bicycle lanes with flexible delineator (refer Photo 25) to guide traffic to the right, so that some space is provided for cyclists</li> </ul>	High
The Parade (Council Road) Bend to Bowen Street <i>Exclusive Bicycle Lane</i>	<ul style="list-style-type: none"> <li>Note: existing No Standing 7-9am – vehicles travel as two lanes and create squeeze point for cyclists</li> <li>Remove on-street parallel car parking in this section and replace with Exclusive Bicycle Lane</li> </ul>	High
The Parade (Council Road) Bowen Street to Phillips Street <i>Advisory Treatment</i>	<ul style="list-style-type: none"> <li>Install Advisory Treatment with Logos to the right hand side of car parking</li> </ul>	High
The Parade (Council Road) Phillips Street to existing <i>Bicycle Car Parking Lanes</i>	<ul style="list-style-type: none"> <li>Transition Advisory Treatment to match in to existing Bicycle Car Parking Lane</li> </ul>	High
<b>Norwood Link</b>	<ul style="list-style-type: none"> <li>Cost estimate, \$25,000</li> </ul>	
Osmond Terrace Beulah Road to Kensington Road <i>Enhanced Bicycle Lanes</i>	<ul style="list-style-type: none"> <li>Note: Existing 85<sup>th</sup> percentile speeds recorded up to 56km/h (signed at 50km/h)</li> <li>Strengthen separation. Reallocate lanes and line marking to provide painted island buffer between cyclists and parked cars ; and cyclists and moving traffic</li> <li>Install green bicycle lanes at side streets</li> <li>Liaise with DPTI for work at intersection with The Parade and Kensington Road</li> </ul>	Medium



<b>Kent Town Link</b>	<ul style="list-style-type: none"> <li>Cost estimate, \$10,000</li> </ul>	
The Parade West, Fullarton Road to Rundle Street <i>Enhanced Bicycle Lanes</i>	<ul style="list-style-type: none"> <li>Remove painted median and replace with single centreline</li> <li>Reduce traffic lane width to 3 metres</li> <li>Reduce car parks to 2.1 metres wide</li> <li>Install chevron separated bicycle lanes (1.3m wide) between parked and moving cars with a 400mm wide painted buffer on each side of each bicycle lane (refer Section 9.6).</li> </ul>	Low
The Parade West/Rundle Street junction <i>Black Spot</i>	<ul style="list-style-type: none"> <li>Liaise with DPTI re: monitoring and evaluation of green bicycle lanes</li> <li>Liaise with DPTI to upgrade junction with Rundle Street, if green bicycle lanes do not reduce risk</li> <li>Apply for Black Spot funding for junction upgrade</li> </ul>	High
The Parade West / Fullarton Road <i>Signalised intersection</i> <i>Green Bicycle Lanes</i>	<ul style="list-style-type: none"> <li>Liaise with DPTI to improve bicycle lanes at the signalised intersection with The Parade and Fullarton Road</li> <li>Green Bicycle Lanes and improved cyclist delineation</li> </ul>	High

**Table 6: Priority actions – Isolated road crossings, DPTI/Council (ie, not part of routes, Table 5)**

<b>Location</b>	<b>Recommendation and Rationale</b>	<b>Priority</b>
<b>The Parade /Edward Street Median</b>	<ul style="list-style-type: none"> <li>Work with DPTI to develop design solution to improve road crossing</li> </ul>	High
<b>William Street/Osmond Terrace Crossing</b>	<ul style="list-style-type: none"> <li>Cost estimate \$1500</li> <li>Upgrade bicycle path across median island (widen, install logos, assess alignment and improve if possible)</li> </ul>	High
<b>William Street / Portrush Road crossing Footpath</b>	<ul style="list-style-type: none"> <li>Cost estimate \$300</li> <li>Install shared path logos on footpath between William Street and Pedestrian Actuated Crossing</li> </ul>	High
<b>Angas Street/Dequetteville Terrace Crossing</b>	<ul style="list-style-type: none"> <li>Liaise with Adelaide City Council re: connection to Park Lands shared trail</li> </ul>	Medium
<b>The Parade/ Sydenham Road Median</b>	<ul style="list-style-type: none"> <li>Work with DPTI to develop design solution to improve road crossing</li> </ul>	High
<b>Little Grenfell Street / Capper Street / The Parade West Crossing</b>	<ul style="list-style-type: none"> <li>Detail design required to determine feasibility of median refuge/s</li> </ul>	Medium
<b>Capper Street / Dequetteville Terrace Crossing</b>	<ul style="list-style-type: none"> <li>Cyclists use existing pedestrian refuge to cross. Liaise with DPTI and Adelaide City Council with view to upgrading crossing and access to Adelaide Park Lands Route</li> </ul>	High
<b>Langman Grove/Wicks Avenue Crossing</b>	<ul style="list-style-type: none"> <li>Cost estimate \$1000 - \$3000</li> <li>Review intersection layout with view to improving with better delineation for cyclists crossing road</li> <li>Replace existing “cyclists crossing” sign with sign to current Standards</li> </ul>	High
<b>Edward Street, near Magill Road Signage Crossing</b>	<ul style="list-style-type: none"> <li>Install additional “Pedestrian signals on side road” warning sign closer to junction.</li> <li>Note that Pedestrian Actuated Crossing is so close to junction that motorists turning left out of Edward St do not see the red light and drive straight through (noted by several people during consultation)</li> <li>Advise DPTI of this issue and work with them to find a solution, possibly a cyclist and pedestrian refuge in median</li> </ul>	High

<p><b>Jones Avenue/Portrush Road/ Clifton Street</b> <i>Crossing</i></p>	<ul style="list-style-type: none"> <li>▪ Cost estimate: \$1000 - \$5000</li> <li>▪ Note: Pedestrian Actuated Crossing is located 30 metres north of Jones Ave</li> <li>▪ If possible, increase footpaths width of both sides of Portrush Road - assess feasibility of moving bus stops/shelters to facilitate widening</li> <li>▪ Liaise with Trinity Gardens Primary School, Department of Education and Childrens Services, and DPTI to increase footpath width between pedestrian actuated crossing and Jones St and mark with shared path logos (encroaching into school property). Note ETSA transformer exists which forms a squeeze point - consider path design to straddle it</li> <li>▪ Increase width of concrete footpath on west side of Portrush Rd between pedestrian actuated crossing and Clifton St – as wide as possible between fence line and trees. Mark shared path logos.</li> </ul>	<p>Medium</p>
<p><b>Magill Road / Avonmore Road</b> <i>Crossing</i></p>	<ul style="list-style-type: none"> <li>▪ Cost estimate –liaison with DPTI required</li> <li>▪ Liaise with DPTI and City of Burnside to install pedestrian crossing. This intersection is on the existing and future cycle network and links to Trinity Gardens Primary School. This location is close to central between other pedestrian crossings</li> <li>▪ Also links to City of Burnside Cycle north-south route</li> <li>▪ (Application to DPTI would be a joint project between City of Burnside and City of Norwood Payneham St Peters)</li> </ul>	<p>Medium</p>
<p><b>Hackney Road/Cambridge Street</b> <i>Crossing</i></p>	<ul style="list-style-type: none"> <li>▪ Cost estimate - Liaise with DPTI and Adelaide City Council</li> <li>▪ Review cyclist delineation across Hackney Road. Guides cyclists the wrong way into Botanic Drive (one-way road).</li> <li>▪ Redirect cyclists to shared path</li> </ul>	<p></p>
<p><b>George Street/ Kensington Road</b> <i>Median</i></p>	<ul style="list-style-type: none"> <li>▪ Cost estimate \$500</li> <li>▪ Work with City of Burnside and DPTI re: painted median in Kensington Road. Use median width George St to create stand-up lane for cyclists between left and through/right lanes</li> </ul>	<p>Medium</p>
<p><b>Glynburn Road / Davis Street</b> <i>Crossing</i></p>	<ul style="list-style-type: none"> <li>▪ Cost estimate: liaison with DPTI required</li> <li>▪ Work with DPTI to install cyclist refuge in median</li> </ul>	<p>Low</p>

**Table 7: Priority Actions – River Torrens Linear Park**

Location	Recommendation and Rationale	Priority
<b>River Torrens Linear Park Greenway</b> <i>Advisory Treatment</i> <i>Signage</i> <i>Footpath</i>	<ul style="list-style-type: none"> <li>▪ Work with the River Torrens Linear Park Management/Coordinating Committee to upgrade paths</li> <li>▪ Allocate annual funds for upgrading of:               <ul style="list-style-type: none"> <li>○ Path widening</li> <li>○ Directional and regulatory signage</li> <li>○ Pavement marking upgrade</li> <li>○ Links to on-road cycling network</li> </ul> </li> </ul>	High (Ongoing)

**Table 8: Priority Actions – End of trip facilities**

Location	Recommendation and Rationale	Priority
<b>Bicycle Parking</b> <i>Rail installation</i>	<ul style="list-style-type: none"> <li>▪ Cost estimate \$12,000 / year</li> <li>▪ The Council to review its bicycle parking facilities and develop a plan to increase the service level</li> <li>▪ Install 25 parking rails per year in easy to find locations near the entry to destinations</li> <li>▪ Priority locations include Avenues Shopping Centre, neighbourhood shopping centres, shopping strips (The Parade, Magill Rd), cinema, parks, swimming pools and shopping malls.</li> </ul>	High (Ongoing)
<b>Bicycle Parking</b> <i>Safe, secure</i>	<ul style="list-style-type: none"> <li>▪ Cost estimate \$3,000-\$20,000</li> <li>▪ Install bicycle parking at the Webbe Street car park (Council-owned)</li> <li>▪ Ensure enclosed, secure bicycle parking and lockers for all-day staff</li> <li>▪ Consider including showers if surrounding businesses do not already have access to these facilities for staff who live long distances away and cycle to work</li> <li>▪ Monitor and evaluate usage and demand</li> </ul>	Medium

**Table 9: Priority Actions - City-wide**

Location	Recommendation and Rationale	Priority
<b>Roundabouts, city-wide</b> <i>Upgrade</i>	<ul style="list-style-type: none"> <li>▪ Cost estimate \$1000 – \$10,000 per roundabout</li> <li>▪ Review all existing roundabouts with view to improving design for cyclists, and aim to retro-fit as radial instead of tangential. This should be undertaken in a staged approach with priorities being along designated cycling routes (refer Action Plan) and crash clusters. If improvements cannot be made, install speed reduction measures on roundabout approach.</li> </ul>	High (long-term procedure to complete)
<b>Part-time bicycle lanes</b> <i>Enforcement</i>	<ul style="list-style-type: none"> <li>▪ Enforce operating hours of part-time bicycle lanes on a regular basis</li> </ul>	High
<b>Super Tuesday Commuter Counts</b> <i>Data collection</i>	<ul style="list-style-type: none"> <li>▪ Enrol volunteers to collect Cyclist counts at key locations</li> <li>▪ Work with Bicycle Network Victoria, or others to facilitate counts</li> </ul>	1 <sup>st</sup> Tuesday in March (yearly)
<b>Super Sunday Recreational Counts</b> <i>Data collection</i>	<ul style="list-style-type: none"> <li>▪ Enrol volunteers to collect Cyclist counts at key locations</li> <li>▪ Work with Bicycle Network Victoria, or others to facilitate counts</li> </ul>	November each year
<b>Development Plan</b>	<ul style="list-style-type: none"> <li>▪ Review Development Plan to include provisions for cyclist access and bicycle parking at new developments (specifically retail/commercial)</li> </ul>	High

The following recommendations will require Council to liaise and work with DPTI.

**Table 10: Priority Actions - DPTI roads**

<b>Location</b>	<b>Recommendation and Rationale</b>	<b>Priority</b>
<b>Fullarton Road</b> <i>Support</i>	<ul style="list-style-type: none"> <li>▪ Support DPTI proposal to install median island and cyclist refuges</li> <li>▪ Lobby DPTI to prioritise for 2013/14</li> </ul>	High
<b>The Parade</b> <i>Various</i>	<ul style="list-style-type: none"> <li>▪ Assess The Parade in terms of reducing traffic speed, reallocating road space, installing continuous bicycle lanes and improving crossings at Edward Street and Sydenham Road</li> <li>▪ Install Bicycle Car Parking Lanes between Osmond Terrace and Portrush Rd</li> </ul>	High
<b>Part-time bicycle lanes</b> <b>City-wide</b> <i>Times</i>	<ul style="list-style-type: none"> <li>▪ Review part-time bicycle lanes with view to either making them full-time, extending the operating times or consider shared footpaths at pinch points on:               <ul style="list-style-type: none"> <li>○ Nelson Street</li> <li>○ Rundle Street</li> <li>○ Magill Road</li> <li>○ Payneham Road</li> <li>○ Stephen Terrace</li> </ul> </li> <li>▪ Enforce banning of parking outside of operating hours</li> </ul>	High
<b>Payneham Road</b> <i>Bicycle lanes</i>	<ul style="list-style-type: none"> <li>▪ Liaise with DPTI to install green bicycle lanes at junctions and side-streets where possible. In particular at Barnes Road, Avenue Road, Ashbrook Avenue, Ann Street and George Street.</li> </ul>	High
<b>Dequetteville Terrace</b> <i>Bicycle lanes</i>	<ul style="list-style-type: none"> <li>▪ Bicycle lanes from Wakefield Road to Rundle Street –listed on DPTI’s Arterial Roads Program . Lobby DPTI to prioritise for 2013/14</li> </ul>	High
<b>Portrush Road</b> <i>Bicycle lanes</i>	<ul style="list-style-type: none"> <li>▪ Bicycle lanes from Magill Road to Greenhill Road - listed on DPTI’s Arterial Roads Program. Lobby DPTI to prioritise for 2013/14</li> </ul>	High
<b>Magill Road</b> <i>Bicycle lanes</i>	<ul style="list-style-type: none"> <li>▪ Extend bicycle lanes to intersections at: Fullarton Rd and Glynburn Road - listed on DPTI’s Arterial Roads Program.</li> <li>▪ Green bicycle lanes at Sydenham Road</li> </ul>	High
<b>Rundle Street, Kent Town</b> <i>Upgrade</i>	<ul style="list-style-type: none"> <li>▪ Cycling improvements - listed on DPTI’s Arterial Roads Program. Lobby DPTI to prioritise for 2013/14</li> <li>▪ Monitor and evaluate Green bicycle lanes</li> </ul>	High

<b>Payneham Road / Glynburn Road / Lower North East Road</b> <i>Crossing</i>	<ul style="list-style-type: none"> <li>▪ Work with DPTI for cyclist improvements. Review possibility to:               <ul style="list-style-type: none"> <li>○ Cyclist refuge and head-start storage boxes/lanterns</li> <li>○ improve lane layout</li> </ul> </li> </ul>	Low
<b>Payneham Road / Portrush Road / Lower Portrush Road</b> <i>Crossing</i>	<ul style="list-style-type: none"> <li>▪ Review possibility to:               <ul style="list-style-type: none"> <li>○ Cyclist refuge and head-start storage boxes/lanterns</li> <li>○ improve lane layout</li> </ul> </li> </ul>	Low
<b>Magill Road/Payneham Road/North Terrace</b> <i>Crossing</i>	<ul style="list-style-type: none"> <li>▪ Review possibility to:               <ul style="list-style-type: none"> <li>○ Cyclist refuge and head-start storage boxes/lanterns</li> <li>○ improve lane layout for cyclists</li> </ul> </li> </ul>	Medium
<b>O.G. Rd / Payneham Road</b> <i>Crossing</i>	<ul style="list-style-type: none"> <li>▪ Review possibility to:               <ul style="list-style-type: none"> <li>○ Cyclist refuge and head-start storage boxes/lanterns</li> <li>○ improve lane layout for cyclists</li> </ul> </li> </ul>	





# Appendix B

## Priority Travel Behaviour Change Action Plan

Partners	Recommendation and Rationale	Priority	Cost Estimate
	<b>Establish Community Advisory Group</b>		
Any of the following: Council, Community representatives, School representatives, Road Safety representative (MAC / CASR), Health SA, SAPOL, Bike SA (or similar), Motorist representative	Establish a Community Advisory Group to: <ul style="list-style-type: none"> <li>• Undertake/coordinate travel behaviour change actions</li> <li>• Encourage the formation of a local Bicycle User Group</li> <li>• Review outcomes and provide input into the implementation of the City-Wide Cycling Plan</li> <li>• Provide broad advice on a range of cycling related opportunities and challenges.</li> <li>• Ensure the interests of at-risk, marginalised and disadvantaged community members are considered.</li> <li>• Ensure the interests of primary and secondary children are given adequate consideration.</li> <li>• Represent the community and road user groups' interests to the delegated Council representative</li> </ul>	High	\$2,000
	Promote/be involved with specific events, including: <ul style="list-style-type: none"> <li>• Velo-city Global 2014 Conference</li> <li>• National Ride to Work Day</li> <li>• National Ride to School Day</li> </ul>	High	\$2,000-\$10,000
	<b>Bicycle Iconography – Promotion and Community Arts</b>		
Council, Community Representatives	Develop cycling brand for Norwood Payneham & St Peters (NB investment levels dependant on delivery process, potentially undertaken in-house) to support and promote	High	\$500-\$10,000
Council Community Representatives Community Arts Network/Arts SA	Determine delivery/placement policies – stickers, pavements, community arts	Medium	\$2,500
Council Community Representatives	Develop distribution program – feed insertion of icon through all appropriate current program delivery, existing City community programs	Low	\$5,000
Council	Measurement – set criteria		
	<b>Encourage People to Ride Program</b>		
All Stakeholders	Establish engagement methodology with community groups to source ride leaders	High	\$1,500
Bike SA (or similar)	Develop the Council's Ride Leaders Training Module	High	\$500
	Deliver training module	Medium	\$450 per session
Council All stakeholders adelaidecyclists.com Bike SA (or similar)	Develop marketing strategy to promote Council's Rides Programme to the community: <ul style="list-style-type: none"> <li>• Add to existing Rides Programmes</li> <li>• Programme (print &amp; online)</li> <li>• Council collateral</li> </ul>	Medium	\$2,500

Partners	Recommendation and Rationale	Priority	Cost Estimate
All stakeholders	<ul style="list-style-type: none"> <li>Community networks</li> <li>Stakeholder networks</li> </ul>		
Council	Develop and deliver Quality Assurance schedule	Low	\$250
All Rides Leaders bicycle (or similar)	Measurement – set criteria		\$5,200
<b>BikeSTART online resource</b>			
Council	Develop Council 'branding' for the BikeSTART online resource	High	\$750
Bike SA (or similar)	Initiate site review with incentives for participation	Medium	\$1,500
Council	Develop communications strategy to promote the ease of access of this free resource	Low	\$250
Council	Determine/deliver launch strategy of the program with Council staff/elected members	Low	\$500
Council	Measurement – set criteria		\$2,500
Bike SA (or similar)	Assess need for localised content – this would incorporate significant upgrading of video and the online content		\$7,500 if video required
<b>Cycle Proficiency</b>			
Council	Identified needs within the target client groups to be matched with appropriate programming e.g. women, employers, high school students	High	\$250
All stakeholders	Seek funding in order to deliver programs and education materials at least cost to ensure greatest uptake		
Accredited instructors	Delivery of programs and provision of appropriate education material to participants	Medium	\$450 p/prog <i>Est only</i>
Council	Determine communications strategy to 'share the success stories' and encourage / inspire others to engage	Medium	\$500
All stakeholders			
<b>Car Free Event Days</b>			
Council	Hold a series of internal workshops with Council staff to determine the key issues	High	\$1,500
Advisory Group			
Council	Formulate 'community engagement methodology' with business, community and government stakeholders –	Medium	\$1,500
Advisory group			
Stakeholder clients			
Council	Develop event design plan (Event Coordinator – if required)	Low	\$2,000
Stakeholder clients	Event delivery – marketing, traffic management, governance	Low	\$25,000 if specific event scheduled
Council	Measurement		

Partners	Recommendation and Rationale	Priority	Cost Estimate
	<b>Free Bicycle Hire Scheme</b>		
Council Key stakeholders – SAPOL	Work with identified stakeholders to determine appropriate 'client' groups who will benefit from access to a bicycle, helmet and lock	High	Staff resources
Council Stakeholders	Establish bicycle drop-off locations, methodology and ongoing insurances, promotional materials	High	\$250
	Establish a bicycle hire node / series of bicycle hire nodes	High	\$8,000- \$20,000
Stakeholder clients	Develop and deliver appropriate bicycle education programming as required to clients	Medium	\$450 p/prog
Council Stakeholders	Maintenance ongoing (costs dependant on number of bicycles through the program)	Medium	\$3,500 pa
Council	Measurement - by level of participation		
	<b>Ride to School Programs</b>		
Schools Council SAPOL Bike SA (or similar)	Engage with an appropriate school, determine key stakeholders and establish the Council's Ride to School pilot program (similar to or building upon the successful pilot run at Trinity Gardens Primary School)	High	\$250
Council DPTI	Engage with DPTI to review the potential for Council participation in the Way2Go program - review existing safe routes requirements and prioritise funding in association with Way2Go bicycle education delivery	Medium	
School Council SAPOL Bike SA (or similar)	Undertake a 'barriers-benefits' analysis to establish a number of intervention programs that focus on influencing parental choices to increase the rates of safe independent travel behaviours of children – eg. parent information nights, bicycle racks and shedding, maintenance courses, identify park'n'ride locations, community champions, involvement with 'Ride2School' 'Day/Hands Up' programs and appropriate 'rewards'	Medium	\$15,000 <i>indicative</i>
Bike SA (or similar)	Establish pre-program baseline travel behaviour data and post program evaluation	Low	\$500
	<b>Way2Go program</b>		
Council and DPTI	A Way2Go education consultant meets with Council officers to describe the program and invite the Council's commitment to it.	High	Council/ DPTI staff resources
Council Elected Members	Council consults with elected members and makes a commitment to participate	High	Council Staff resources
Council Education consultant and School	The Way2Go education consultant meets with Principals of all schools in the council area that have a primary enrolment, to describe the program and initiate their participation	High	Council Staff resources

## Appendix C

### Beulah Road Bicycle Boulevard – a detailed assessment

## Beulah Road Bicycle Boulevard - a detailed assessment

Beulah Road, between Portrush Road and Fullarton Road, was cited as the most commonly cycled Council road route within Norwood Payneham & St Peters in every component of the initial stakeholder consultation phase. In addition, the Super Tuesday count found 254 cyclists at the junction of Beulah Road and Fullarton Road during the 2-hour morning peak. Consultation feedback included overwhelming requests to improve cycling on Beulah Road and associated road crossings.



Photo 44: Beulah Road, existing scenario

Beulah Road is well located as a direct, lower traffic volume and lower traffic speed alternative route to The Parade or Magill Road, and also connects to the City of Burnside's proposed Super-Route east of Portrush Road: this route will also comprise traffic calmed environment and line marking.

This data and feedback, combined with the crash history at each roundabout (refer Section 6.7), has identified cycling improvements along this route as high priority.

The cycling infrastructure options for Beulah Road are limited due to the narrow road width and car parking on both sides. To install bicycle lanes would require removal of all on-street car parking along one side of the road for the entire road length (or equivalent).

To reduce the impact of car parking removal, but provide a high quality street for cycling, it is recommended that Beulah Road be designed as a Bicycle Boulevard.

Photo 45 to Photo 46 are artist impressions of recommendations to develop the Beulah Road Bicycle Boulevard, with traffic calming measures and an increase awareness to motorists of the presence of cyclists.



Photo 45: Artist impression of Beulah Road Bicycle Boulevard (by Oxygen)



Photo 46: Artist impression of entry to Beulah Road Bicycle Boulevard from side street (by Oxygen)



Photo 47: Artist impression of future entry to Beulah Road Bicycle Boulevard from Portrush Road (by Oxigen)

The width of Beulah Road varies between 12 and 12.5 metres. It currently has Advisory Logos installed, all-day parallel parking and a centreline. There are four roundabouts along the route, spaced at 200 metre intervals (Portrush Road to Osmond Terrace); and 400 metre intervals (Osmond Terrace to Fullarton Road).

To improve safety at the roundabouts, it is recommended that they each be reviewed with a view to modifying the design (refer Section 9.10). In addition, safety improvements will be made as an outcome of the proposed Bicycle Boulevard design, and associated pavement marking and signage.

From review of the traffic volumes, it is apparent that traffic uses the section of Beulah Road between Portrush Road and George Street as a cut-through route to avoid the intersection of The Parade and Portrush Road. Southbound vehicles on Portrush Road turn right into Beulah Road, left onto George Street, and right onto The Parade. Traffic volumes on Beulah Road are 3,600 vehicles per day between Portrush Road and George Street, reducing to 2,500 west of George Street. Traffic volumes are also higher near the intersection of Beulah Road with Fullarton Road (3,000 vehicles per day).

The 85<sup>th</sup> percentile speed was collected between Portrush Road and Osmond Terrace only, and measured at between 49 and 52 km/h.

For Beulah Road to become a low-risk, sustainable street for cycling, traffic volumes should be reduced to less than 3,000 vehicles per day and traffic speed reduced to 30km/h (desirable) and 40km/h (maximum). Speed reduction measures are required (refer Section 9.1.3) and can be achieved through landscaping features, entrance statements, kerb-extensions, lane marking, pavement treatments, speed limit reduction considerations, signage and other design feature.

During consultation, traffic calming devices were not favoured by some businesses and residents of Beulah Road (and surrounds) however they should not be totally ruled out if speed reduction measures through other means cannot be achieved. If Council resolves that traffic calming devices in the streets proposed to be Bicycle Boulevards are required, detailed investigations including costings and further consultation would need to be undertaken.



Some traffic calming devices require the removal of up to 6 on-street car parks per device (traffic islands, slow points), and others do not require any car park removal (road humps and surface treatment). The choice of traffic control treatment may also depend on the surrounding land-use, eg commercial or residential. The Council will also need to take into account the various cost implications of proposed traffic calming devices which range in order of \$1,300 for a pair of speed cushions to \$40,000 for a fully landscaped slow-point.

It is recommended that a review and update of the 2008 Beulah Road car park utilisation survey be undertaken to determine the current impact of car parking removal. Anecdotal evidence has identified that people parking along Beulah Road during the day include 'park and ride' employees of the CBD (parking their car then riding their bicycle into the city), and also staff from businesses near The Parade. This may indicate that the removal of some parking spaces may not result in a significant impact to residents and businesses in Beulah Road.

The target traffic volume for a Bicycle Boulevard is 3,000 vehicles per day, but it will still operate effectively with up to 5,000 vehicles per day. It is envisaged that traffic volumes will reduce as a result of the traffic calming installations, as cut-through traffic will not have a time-benefit by using this route and is more likely to remain on the arterial roads. Traffic volume should be monitored and if this is not the result, further traffic diversion techniques such as a reduced speed limit could be employed to improve cyclist amenity. Banning right turn movements into Beulah Road from Portrush Road could also be considered and this restriction would also enable sufficient space for the installation of a larger cyclist refuge at this intersection. However, this latter option is not recommended at this stage, but should be considered as a future option if required.

DPTI is planning an upgrade for Fullarton Road between Magill Road and Kensington Road for 2014/15. Their preliminary designs show significant improvement for cyclist crossings at strategic crossing points including proposals to restrict traffic movements at the Fullarton Road and Beulah Road intersection planned in the near future. Council has not yet considered or endorsed any DPTI proposal at the Fullarton Road and Beulah Road intersection; however restrictions at this intersection would provide significant safety improvements for cyclists. The significance of the cyclist east-west movements for safer continuity across Fullarton Road from Beulah Road must be recognised. It is recommended that Council consider any DPTI's proposal, even though there will be some inconvenience to motorists due to the restricted turns.

It is recommended that a phased approach to Bicycle Boulevards be undertaken with a commitment to monitoring and evaluation. For instance, Beulah Road is designated as a Bicycle Boulevard and has a target speed of 30km/h, a target traffic volume of less than 3,000 vehicles per day and significantly reduced cyclist crashes (commensurate to the increase in cyclist numbers). This evaluation would then be assessed prior to installing other Bicycle Boulevards that are recommended in this City-Wide Cycling Plan.

**Recommendation:**

- Review design of roundabouts with view to safety improvements for cyclists (as per new Austroads Guidelines)
- If roundabouts cannot be improved by design, install speed reduction measures at the roundabout approach such as a strip of paving that is safe for cyclists but has audio-tactile properties for vehicles.
- Install pavement logos and Bicycle Boulevard signage, refer 9.3, for entire length of Beulah Road (note; include the use of sharrows if approved by DPTI - currently only approved for trials in South Australia)

- Install speed reduction measures through landscaping features, kerb-extensions, entrance statements, lane marking, pavement treatments, speed limit reduction considerations, signage and other design features
- Other landscape or urban design features (such as public art, painted stobie poles etc) which signify the route is a 'cyclist- friendly' environment.
- Install signage on side-road approach to Beulah Road to alert motorists that they are approaching a Bicycle Boulevard
- If necessary, consider installation of traffic calming devices to reduce speed. Recommend slow points at 50-70 metre intervals (total 15), located between roundabouts
- Support DPTI's proposal to install median refuge at Beulah Road crossing at Fullarton Road (refer Section 12.2)
- Liaise with DPTI to install KEEP CLEAR pavement marking on the lanes opposite the Portrush Road cyclist refuge
- Council recognise the importance of improving the cyclist crossing at Fullarton Road and endorse DPTI's innovative solutions, even though there will be some inconvenience to motorists due to the banned turns
- Monitor and evaluate the outcomes



Figure 17: Illustration of Beulah Road with approximate location of traffic calming options and sharrows between roundabouts

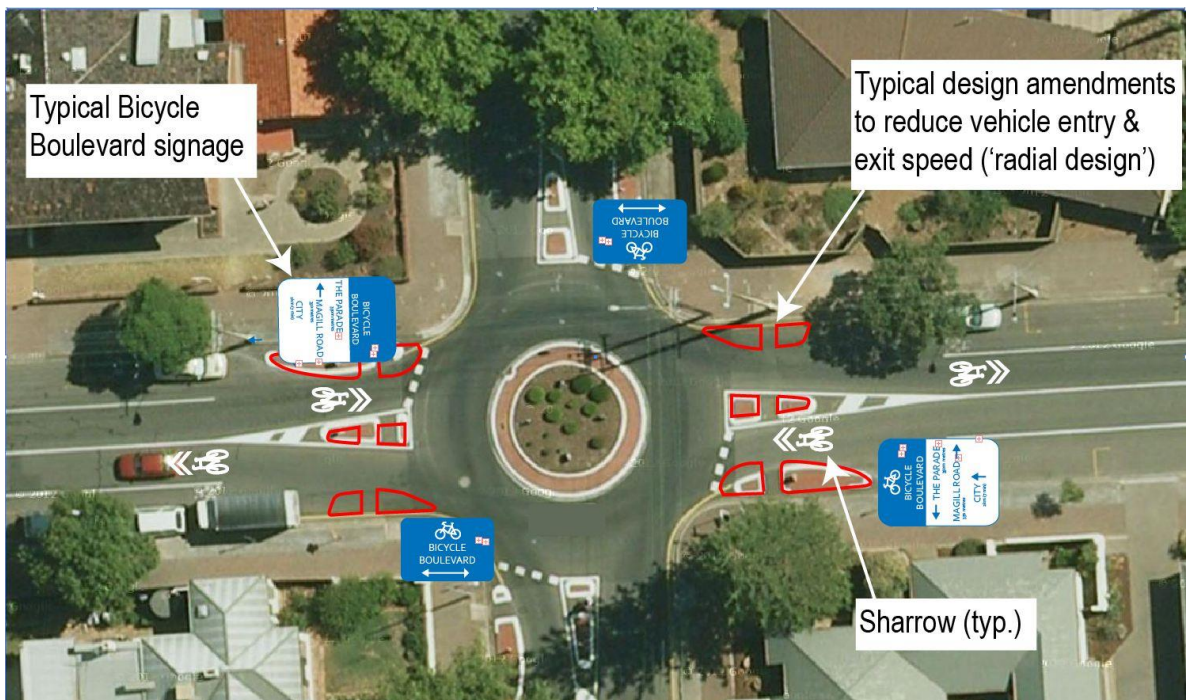


Figure 18: Bicycle Boulevard layout and roundabout improvements

## Appendix D

### City of Burnside Bicycle Strategy, 2012 – relevant notes

The following is taken from the City of of Burnside Bicycle Strategy and is relevant to the the City of Norwood Payneham & St Peters City-Wide Cycling Plan, as the recommendations share the Council boundaries.

#### **Portrush Road / The Parade**

From Burnside Plan Provide short section of one-way separated path from Portrush Road on northern footpath, which is wider in this area but with low pedestrian demand. Ramp back to road level past traffic merge point. From road wear marks, vehicles do not track close to the kerb at the north-eastern corner of the intersection. Mark this area with edge-lines and chevrons to discourage vehicles entering it and consider minor kerb re-alignment to suit cyclist kerb ramp. Extend bicycle lanes over slip lanes, eastern and western approaches.

#### **Portrush Road / Stafford Grove, Heathpool**

From Burnside Plan Consider marking footpath as SUP south of Grant Avenue and north of Stannington Avenue, leading to mid-block refuge in Portrush Road median. Implies use of Stannington Avenue instead of Stafford Grove, which would be subject to school traffic. Provide turning bays in Portrush Road between Grant Avenue and Stafford Grove, to help cyclists access right turn lanes.

#### **Kensington – Sydenham, Norwood**

From Burnside Plan: Widen painted median in Kensington Road to 1.0m wide minimum. Narrow departure lane at Victoria Terrace, use width to create bicycle stand up lane between left and through/right out traffic. Narrow painted median in Victoria Terrace to provide space, if required. Consider EBL on departure from Kensington Road. Match at Sydenham Road. Mark "keep clear" across Kensington Road east side of pedestrian signals. OR Consider moving pedestrian signals to signalise Kensington Road/ Sydenham Road/ Victoria Terrace intersection. OR Consider partial signalisation of the intersection, with pedestrian crosswalks immediately east and west of Sydenham Road/ Victoria Terrace.

#### **Kensington Road / George Street**

From Burnside Plan: Develop a 1.0m wide painted median in Kensington Road. Use median width George Street to create stand-up lane for cyclists between left and through/right lanes. Create left and through/right lanes in Giles Street and repeat treatment, with "bicycles excepted" subplate to peak hour left only sign.

#### **Magill Road / Ashbrook Avenue, Trinity Gardens**

From Burnside Plan: Change bicycle lanes to full-time, Avonmore Avenue to Ashbrook Avenue on the north side of Magill Road (significant off-street parking exists here) and Osborn Avenue to Ashbrook Avenue on the south side of Magill Road, plus at least 5 metres west of Osborn Avenue and east of Ashbrook Avenue (preferably up to 20 metres, but this will remove parking on the south side of Magill Road). Between Portrush Road and Glynburn Road, Magill Road is nominally

1.0 metre wider than at Glyburn Road to Gurrs Road. Use this width to paint a 1.0 metre wide median between Osborn Avenue and Ashbrook Avenue, and at least 5 metres west of Osborne Avenue and east of Ashbrook Avenue. Transition either side.

Super Route: provide pedestrian actuated crossing Brand Street. See Burnside Connector Route notes.

#### **Magill Road / Green Street, St Morris**

Relatively wide footpaths in this area, but also commercial development. Consider indented bicycle only path south side, Toowong Avenue to pedestrian signals, with bicycle button to call signals. Add bicycle lantern. Change peak hour bicycle lanes to full-time to suit. Repeat in other direction, for Green Street.

#### **Uxbridge Street / Oval Road**

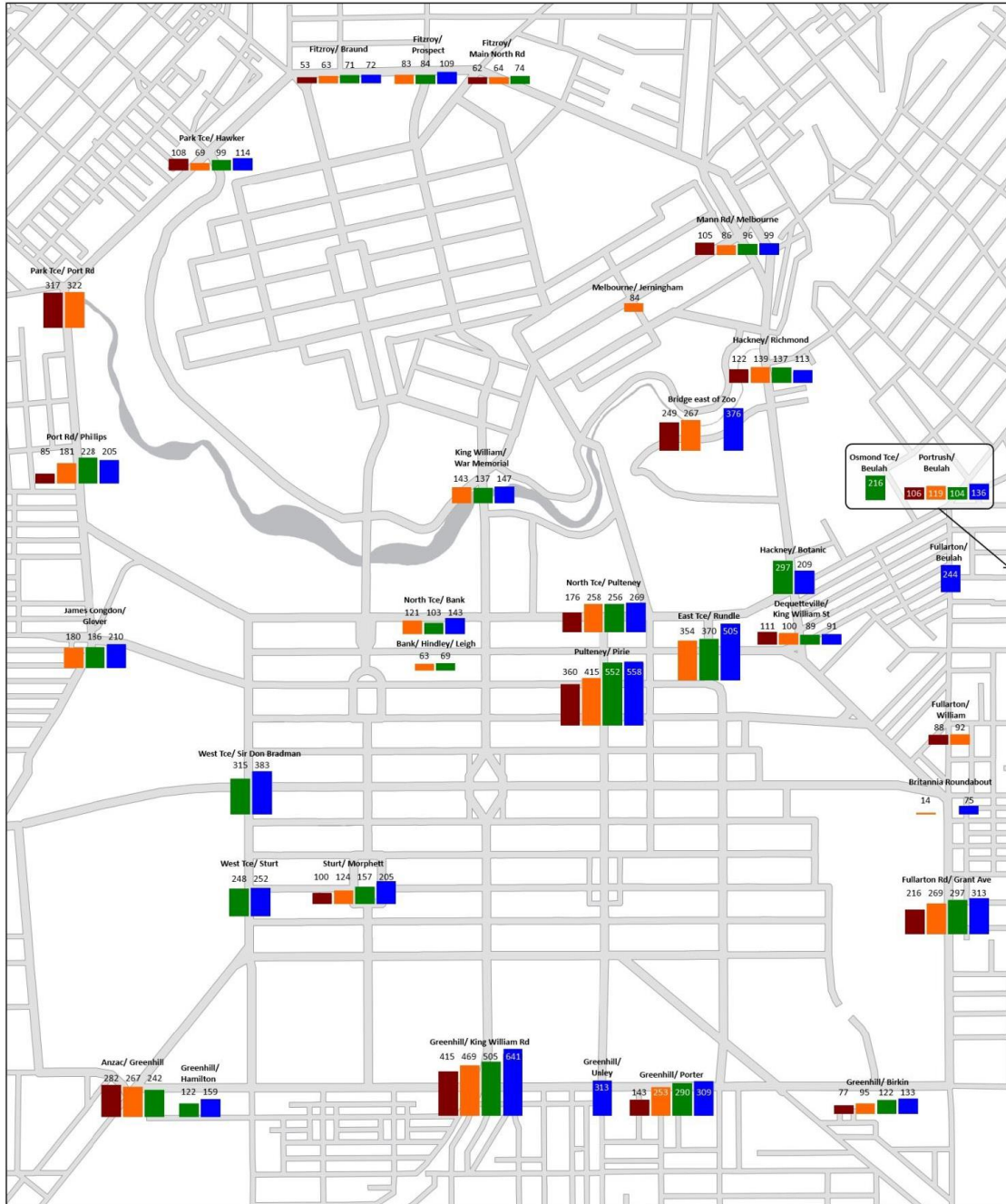
It should be noted that a proposed Super-route runs along Uxbridge Street and Oval Terrace, Kensington. This route runs parallel to the proposed north-south route along Shipsters Road in Norwood Payneham & St Peters, and will provide an alternative choice for cyclists.

# Appendix E

## Super Tuesday Bicycle Counts

# Super Tuesday Bike Counts 2010-2013

Bikes counted 7am to 9am, first Tuesday in March



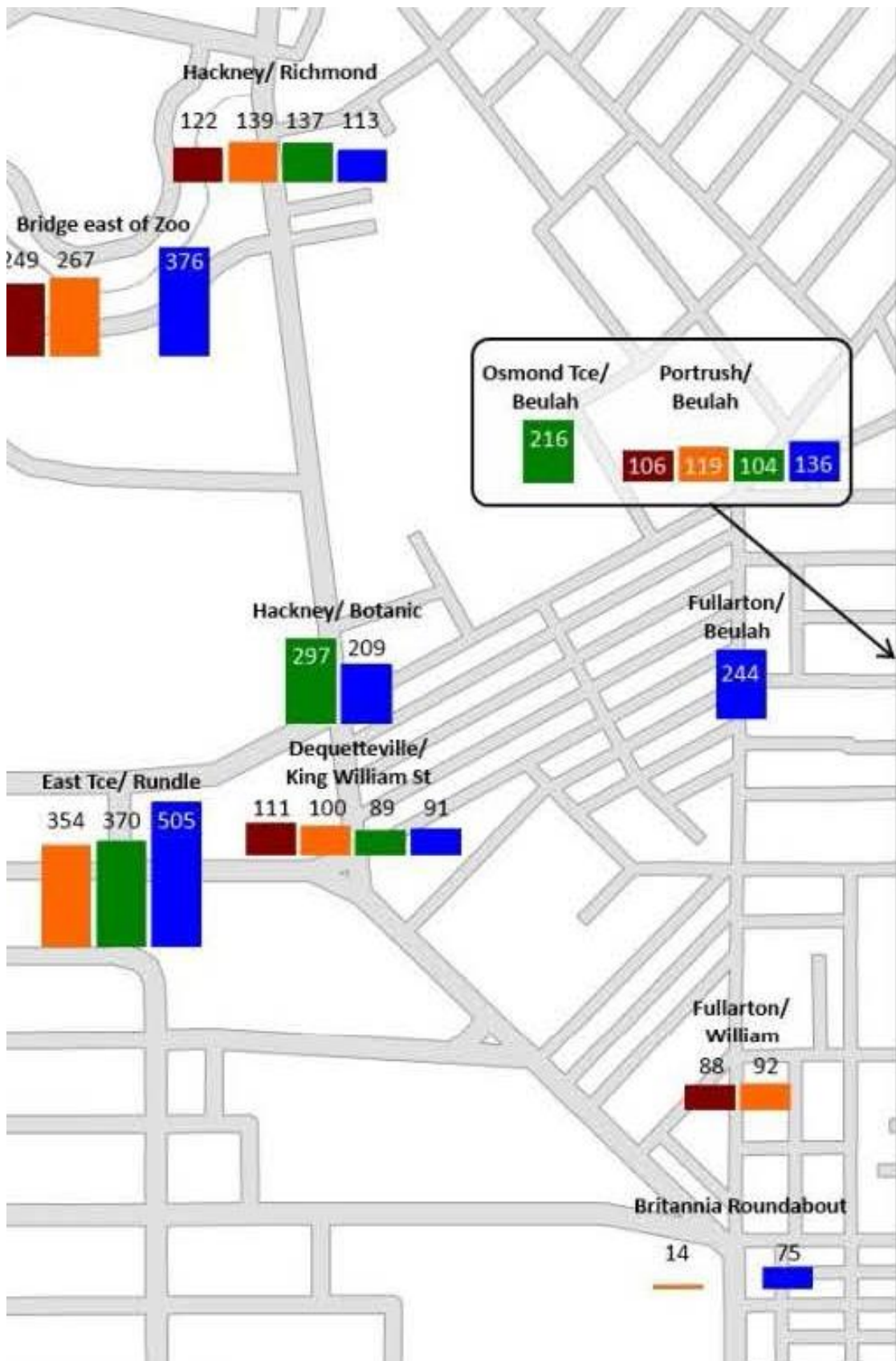
Thanks to the following volunteers for undertaking the counts:  
 Martin Barlage, Mike Brisco, Nick Carr, Alison Cusack, Jonathon Decono, Zoe Dreschler,  
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 Ben Sellar, Paul Smith, Nick Thomas and Damien White.

Thanks also to Ian Radbone and Fay Patterson for analysing the data and creating the graphics.

KEY



See enlargement, next page



Enlargement of specific area relevant to this City-Wide Cycling Plan



