



CAMDEN LOCAL GOVERNMENT AREA

PEDESTRIAN ACCESS AND  
MOBILITY PLAN 2014



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## 1.0 INTRODUCTION

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### 1.1 BACKGROUND

Camden Local Government Area (LGA) is steeped in heritage, adventure and natural charm, with an expected population growth from 55,000 to 250,000 people over the next 30 years. Located just 60km south west of Sydney, Camden boasts that rural feel of yesterday, with all the luxuries and conveniences of today, offering locals and visitors the best of both worlds. It provides an exciting mix of heritage, new suburbs, and revitalisation of business centres and expansion of its employment lands.

To prepare for the expected population growth and ensure safe and convenient facilities for the community and its visitors moving into the future, Camden Council has reviewed the *Camden Local Government Area Pedestrian Access and Mobility Plan (PAMP) 2003*. The review has been undertaken in order to re-evaluate the previously recommended pedestrian networks and prioritised engineering actions in line with current information and behaviours and recommends new actions.

The PAMP has been prepared in conjunction with a number of documents including

The *Camden LGA PAMP 2014* has been prepared by Camden Council with funding assistance from Roads and Maritime Services (RMS) and aims to co-ordinate investment in safe, convenient and connected pedestrian routes within the Camden LGA.

### 1.2 STUDY OBJECTIVES

The Camden LGA PAMP 2014 seeks to:

1. Facilitate improvements in the level of pedestrian access and priority;
2. Identifies enhanced pedestrian crossing opportunities;
3. Identify and seeks to resolve pedestrian crash clusters;
4. Facilitate improvements in the level of personal mobility and safety for younger and older pedestrians and those with disabilities;
5. Provides links with existing and proposed bus services;
6. Completes missing links in the pedestrian network; and
7. Promote environmental sustainability and health and wellbeing of Camden LGA residents and visitors through the promotion of walking.

## 1.0 INTRODUCTION

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### 1.3 WHO IS A PEDESTRIAN?

A pedestrian includes:

- a person travelling on foot, whether walking or running;
- a person driving a motorised wheelchair that cannot travel over 10 kilometres per hour (on level ground);
- a person in a non-motorised wheelchair;
- a person pushing a motorised or non-motorised wheelchair;
- a person in or on a wheeled recreational device or wheeled toy.

Everyone is a pedestrian at some stage in their journey. This means pedestrians are a highly diverse road user group which includes children, older people, teenagers, joggers, the disabled and mobility impaired, and people using wheeled toys or recreational devices such as skateboards, rollerblades and foot scooters.<sup>1</sup> Pedestrians are particularly vulnerable in the road environment because most other road users are moving significantly faster than pedestrians, and pedestrians have little or no bodily protection in the event of a collision.<sup>1</sup>

### 1.4 METHODOLOGY OF PAMP

The Camden LGA PAMP 2014 has been prepared by:

1. Reviewing the Camden LGA PAMP 2003;
2. Collecting data such as population characteristics and journey to work data;
3. Identifying key pedestrian destinations and attractors, such as shopping centres, parks, schools and public transport routes;
4. Determining pedestrian routes within catchment areas surrounding these destinations and attractors;
5. Undertaking peak hour pedestrian counts;
6. Collecting pedestrian crash data;
7. Prioritising pedestrian routes for review and upgrade;
8. Seeking community feedback on prioritised routes and facilities;
9. Reviewing the submissions and conducting pedestrian route audits along prioritised PAMP routes;
10. Finalising the final plan and costing of prioritised works.

<sup>1</sup> <http://roadsafety.transport.nsw.gov.au/stayingsafe/pedestrians/index.html>

## 2.0 STUDY AREA

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### 2.1 STUDY AREA

Camden LGA is made up of established suburbs, such as Narellan, Elderslie, Currans Hill, Mount Annan, Harrington Park and Camden and emerging suburbs such as Leppington, Oran Park and Gregory Hills. The Camden LGA PAMP 2014 has been undertaken with a focus on the established suburbs, with the exception of Camden Town Centre, which is concurrently being studied as part of the *Traffic and Transport Study for Camden Town Centre* (2013). The emerging suburbs were not included in this study given that many are currently under construction and their pedestrian routes and facilities are being identified and implemented via the Development Assessment process and through Section 94 contributions made by developers.

The Camden LGA PAMP 2014 study area has been generally defined to include the following suburbs refer to figure 2.1:

1. Narellan Vale;
2. Narellan;
3. Elderslie;
4. Catherine Field;
5. Mount Annan;
6. Harrington Park;
7. Currans Hill;
8. Smeaton Grange
9. Camden;
10. Camden South;
11. Grasmere;
12. Cobbity; and
13. Bringelly.

## 2.0 STUDY AREA

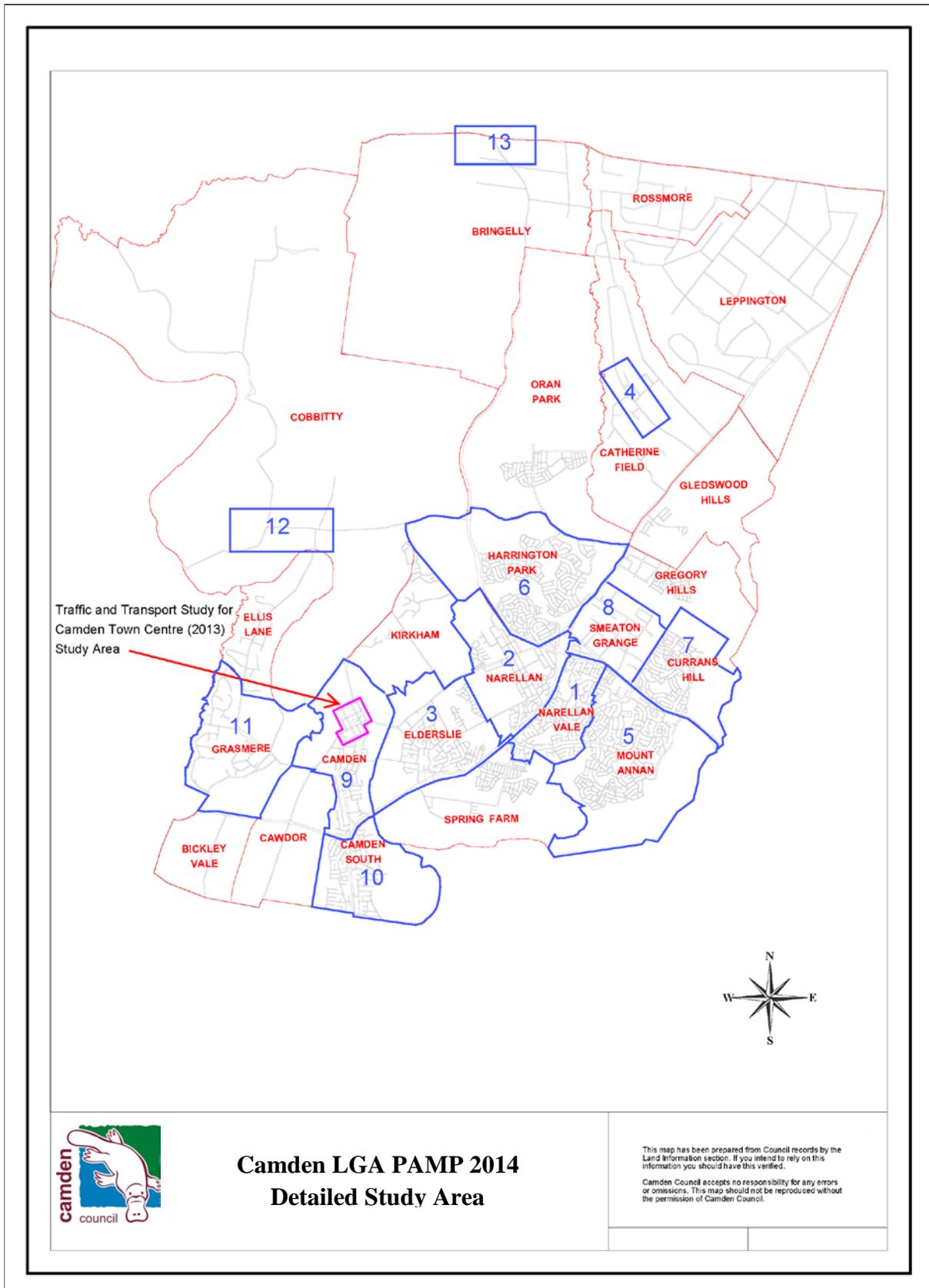


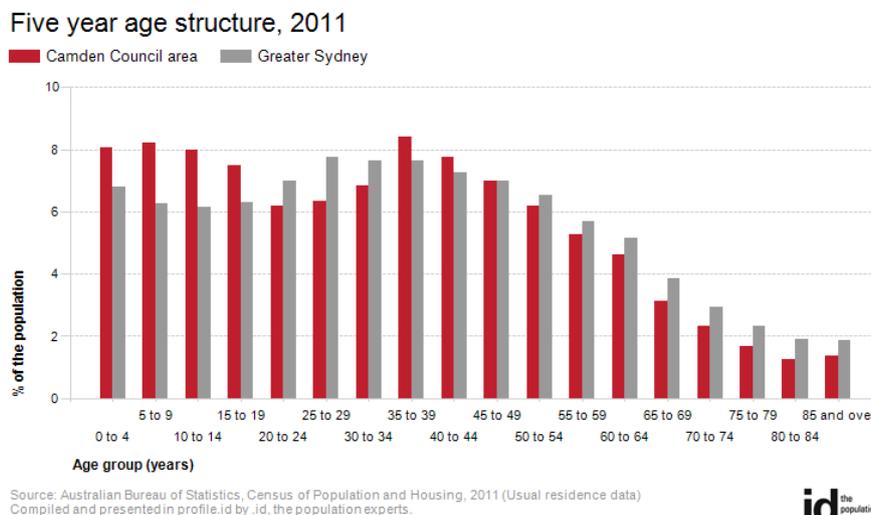
Figure 2.1

### 3.0 CHARACTERISTICS OF CAMDEN LGA

#### 3.1 POPULATION

In 2011 the population of Camden LGA was 56,720, with a slightly higher proportion of females (50.8%) than males (49.2%). The majority of the population is aged between 18 and 59 years of age (56.7%), however the proportion of babies and pre-, primary and secondary school children (28.9%) is high when compared with the Greater Sydney Area (22.9%). The proportion of the population 60 years of age or older (14.3%) was lower when compared with the Greater Sydney Area (18%).

There were 19,355 dwellings with an average household size of 3.03. Over the next 30 years the population is expected to grow to 250,000. Unemployment levels are low at 4.0%, compared to 5.7% in the Greater Sydney Area.



id the population experts  
Figure 3.1

#### IMPLICATIONS FOR PAMP

Camden LGA’s higher than average proportion of babies and pre-, primary and secondary school children (28.9%) suggests a greater need to focus on providing safe and efficient pedestrian facilities, particularly around schools, parks and fields, public transport routes and other locations that attract children and the adults that supervise them.

Children have a high dependency on walking as a principal mode of transport, often combined with public transport use. They are vulnerable road users, given that they are smaller, harder to see, can behave unpredictably and their lack of road experience means it can be difficult for them to identify and navigate dangerous situations. Children are also faced with high densities of cars parking, driving and maneuvering around areas of high activity in peak periods, such as schools, playing fields and public transport interchanges.

Although the proportion of the population 60 years or older is under-represented when compared with the Greater Sydney area, serious consideration of pedestrian facilities around local shops, libraries and retirement villages is necessary. Despite being experienced road users, this age group may not be as agile or alert as younger people and is over-represented in pedestrian crash statistics.



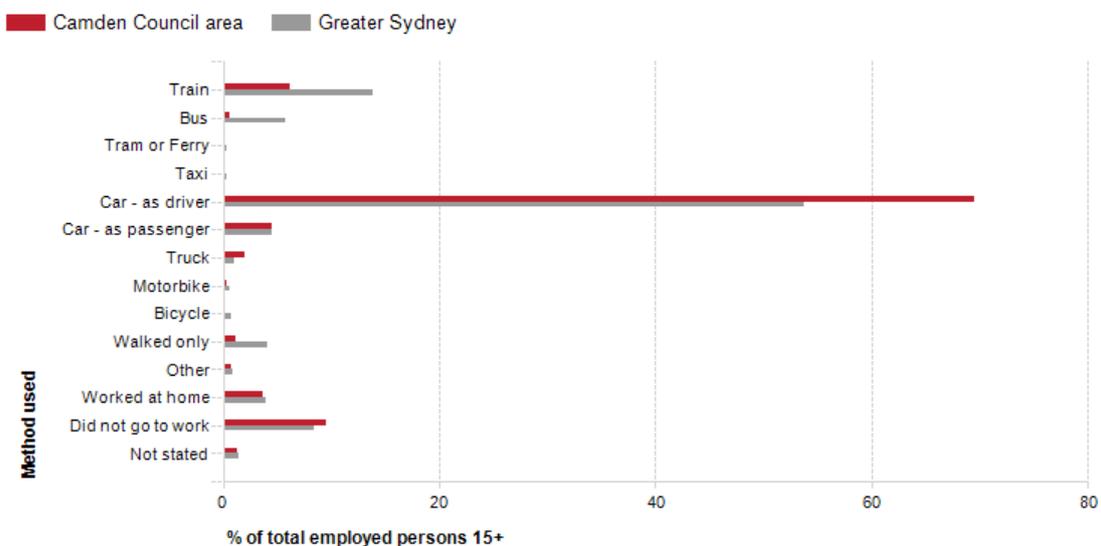
### 3.0 CHARACTERISTICS OF CAMDEN LGA

#### 3.2 JOURNEY TO WORK DATA

In 2011, 1.1% of the population (324 people) in the Camden LGA identified walking as their only mode of transport to and from work, as compared with 4.1% in the Greater Sydney Area. Another 6.9% of the population (1,940 people) caught public transport (train or bus), compared with 19.6% of people in the Greater Sydney Area. 69.4% of the population (21,730) drove in private vehicles (car – as driver, car – as passenger, motorbike, or truck) compared with 53.8% of people in the Greater Sydney Area. 68% of households in Camden LGA had access to two or more motor vehicles, compared to 44% in Greater Sydney.

The proportion of residents that lived and work within Camden LGA was 27.5% whereas 60.5% of residents worked outside of the area.

Method of travel to work, 2011



Source: Australian Bureau of Statistics, Census of Population and Housing, 2011 (Enumerated data)  
 Compiled and presented in profile.id by .id, the population experts.

**.id** the population experts  
 Figure 3.2

#### 3.3 LAND USE

The current land uses within the Camden LGA include a mixture of rural, industrial, residential and commercial areas. The land use of Camden is rapidly changing due the increasing provision of new residential developments within the LGA. Camden is part of the South West growth Centre and the rezoning of rural areas for new residential development will increase the residential population significantly in the next 30 years.

## 3.0 CHARACTERISTICS OF CAMDEN LGA

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### IMPLICATIONS FOR PAMP

In comparison to the Greater Sydney Area, relatively low numbers of Camden LGA residents walk or use public transport to travel to and from work, whilst a heavy reliance on private vehicle use is clear.

A fast growing population will be met with a significant growth of the transport network, including heavy rail infrastructure and higher frequency, more direct bus services. This potential for change in travel behaviour will present the community with the opportunity to significantly reduce its reliance on the private motor vehicle. As such, tools like this PAMP are vital in ensuring that, in this particular case, the established suburbs within Camden LGA are prepared through the construction of footpaths and associated crossing infrastructure to support walking as a vital link in this new transport network.

### 3.3 ROAD HIERARCHY

Roads are classified as follows:

- Arterial (State) – predominantly carry through traffic from one region to another forming principal avenues of communication for urban traffic movements;
- Sub-Arterial (Regional) – connect the arterial road to areas of development and carry traffic directly from one part of a region to another. They may also relieve traffic on arterial roads in some circumstances;
- Collector – connect the sub arterial roads to the local road system in developed areas, and;
- Local – these are used solely as local access roads.

Figure 3.3 details the various road classifications within the Camden LGA. State/Arterial Roads include Camden Valley Way (north of Narellan Road) and The Northern Road, which connect Camden LGA with Liverpool LGA, Narellan Road, an east-west road linking Camden LGA with Campbelltown LGA and Camden Bypass and Old Hume Highway (south of Burragorang Road), north-south roads that connect Camden LGA with Wollondilly LGA.

The Regional/Sub-Arterial Roads within the study area include Camden Valley (south of Narellan Road), Burragorang Road, Cawdor Road, Murray Street, Broughton Street, Old Hume Highway (north of Camden Bypass), Argyle Street and Camden Valley Way (south of Narellan Road).

There are numerous Collector Roads found within Camden LGA which form connections between the arterial and subarterial road network and the Local Road network.



## **IMPLICATIONS FOR PAMP**

The State/Arterial Road network within Camden LGA creates challenges in providing safe crossing opportunities for pedestrians, given the large volumes of traffic and higher traffic speeds that occur on these roads. At the same time these roads provide opportunity to encourage walking through the provision of bus stops and related services that operate along these roads, connecting major attractors within and around the Camden LGA, including shopping centres, railway stations, and recreational facilities. These roads are under the control of RMS and generally require the provision of traffic signals or grade separated facilities to allow for safe pedestrian crossing opportunities.

The sub-arterial road network can also carry high traffic volumes and pedestrians often require suitable crossing facilities, such as signals and refuge islands, to enable safe and efficient movements across these roads. Collector and local roads are often treated with pedestrian crossings (zebra), children's crossings and refuge islands along pedestrian desire lines.

The provision of footpaths along defined routes in all of these road types is necessary in ensuring a connected system that encourages safe and efficient pedestrian movement between land use/attractors and generators.

### 3.0 CHARACTERISTICS OF CAMDEN LGA

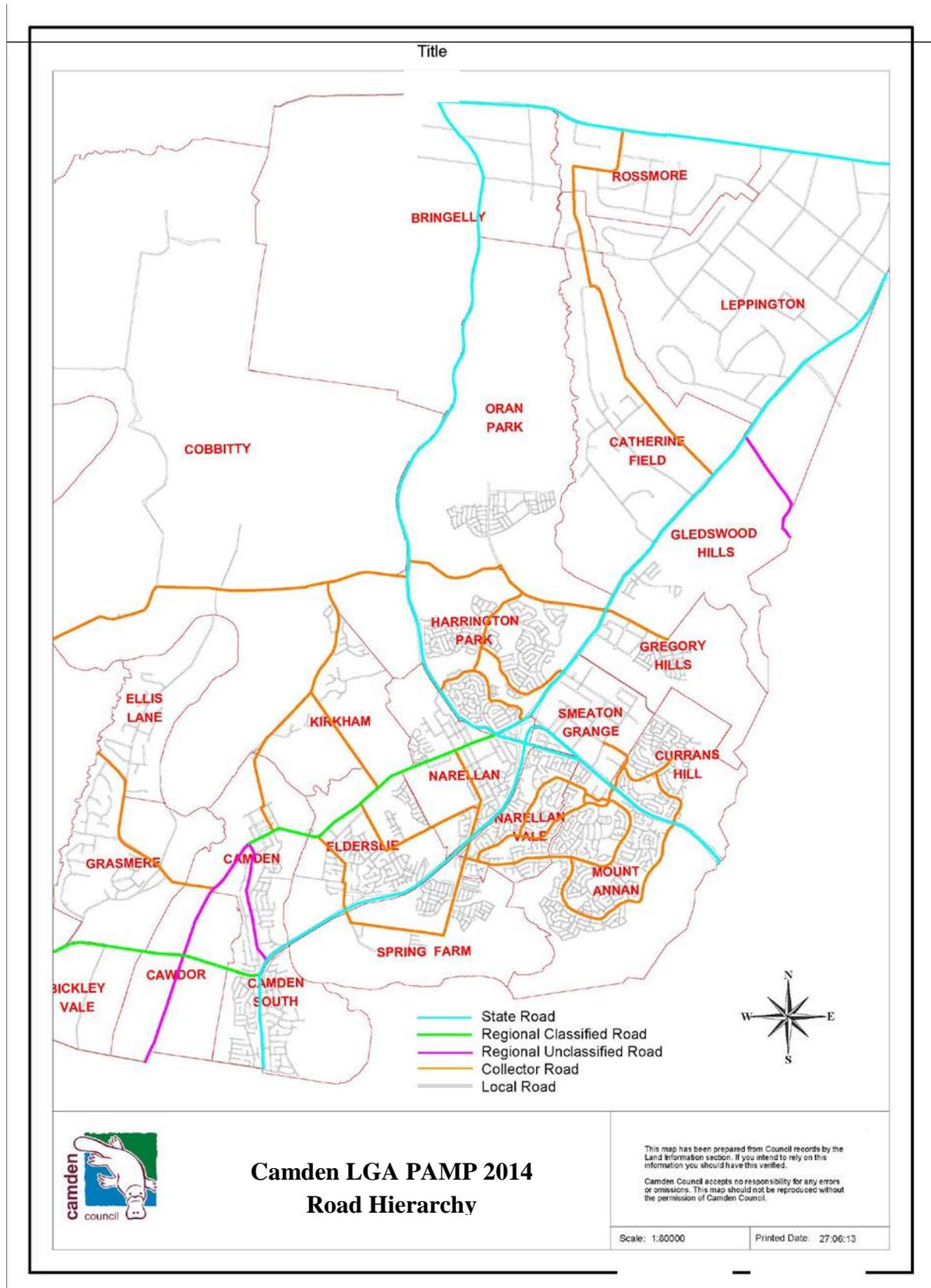


Figure 3.3



## 3.0 CHARACTERISTICS OF CAMDEN LGA

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### 3.4 PUBLIC TRANSPORT

The bus routes shown in Figure 3.4 provide general coverage of the established suburbs within Camden LGA and form links with the surrounding LGAs.

Leppington Railway Station will be located within Camden LGA, forming part of the South West Rail Link (SWRL), expected to commence operation in 2016. Camden LGA will benefit significantly from the construction of the SWRL, which will form part of an efficient public transport system with frequent and reliable links to major centres such as the Sydney CBD, Parramatta and Liverpool. Campbelltown, Macarthur and Leumeah Railway Stations (Campbelltown LGA) also connect Camden LGA, via bus services, providing direct services to the City, Liverpool and Sydney Airport, with connecting lines to other Sydney destinations.

### IMPLICATIONS FOR PAMP

The existence of bus routes and associated stops creates the need for safe and convenient footpath networks and crossing facilities that enable bus patrons to travel between their homes and local destinations and the bus services. Ensuring that bus stops throughout the Camden LGA are suitably connected with pedestrian infrastructure will help make public transport use more attractive and encourage new users into the system.

As development continues within the Camden LGA and bus services are improved with more frequent and reliable links to significant destinations, particularly Leppington Railway Station, Council has the opportunity to support the modal shift from the private vehicle to more sustainable modes of transport. The implementation of walking infrastructure around bus stops will form an integral part in creating a more attractive public transport system.

### 3.0 CHARACTERISTICS OF CAMDEN LGA

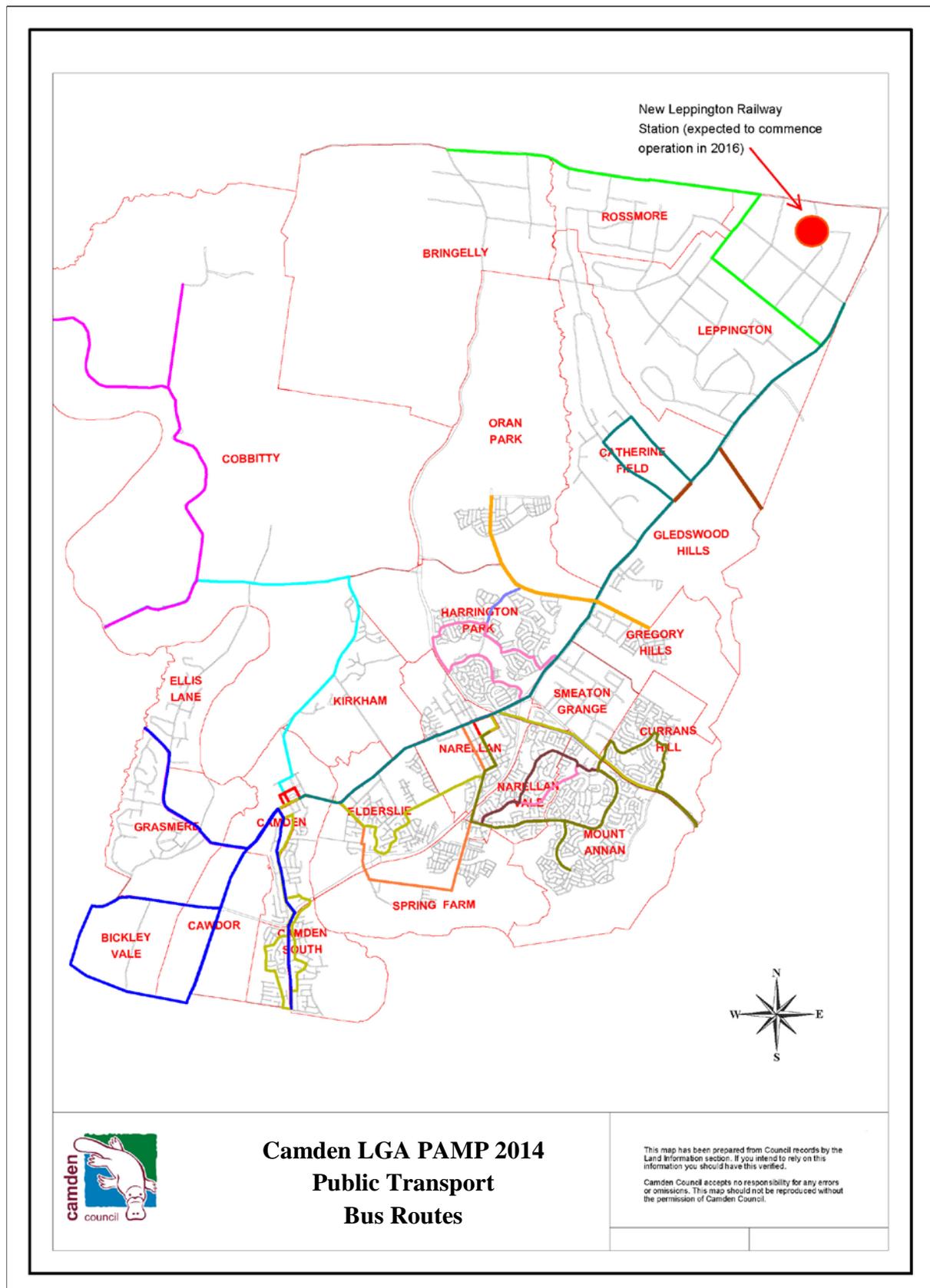


Figure 3.4

## 4.0 RESEARCH, REVIEW AND DATA COLLECTION

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### 4.1.1 CAMDEN DEVELOPMENT CONTROL PLAN (DCP) 2011

The *Camden DCP 2011* states that Camden is striving towards a safe and well maintained pedestrian and cycle network by monitoring, maintaining and expanding the network of footpaths and cycle lanes. The *Camden 2040 Community Strategic Plan* has acknowledged the need to provide increased walkability and linkages to and between dwellings, public transport, shopping centres and recreational facilities.

The objectives as stated in the *Camden DCP 2011* are to:

1. Provide a convenient, efficient and safe network of pedestrian and cycleway paths for the use of the community, within and beyond the Camden LGA.
2. Encourage residents to walk or cycle, in preference to using motor vehicles, as a way of gaining access to the schools, shops, and local community and recreation facilities.
3. Promote the efficient use of land by allowing pedestrian pathways and cycleways to be located within parks and corridors wherever practical.
4. Encourage and facilitate the use of existing and planned recreational routes for all residents of and visitors to Camden LGA.
5. Develop pedestrian and cycle routes that are accessible for all types of users.
6. Provide connections between existing or planned pedestrian and cycle paths which adjoin the urban release area.

### 4.1.2 CAMDEN LOCAL GOVERNMENT AREA PEDESTRIAN ACCESS AND MOBILITY PLAN 2003 (CAMDEN LGA PAMP 2003)

The *Camden LGA PAMP 2003* considered a study area smaller than that considered in this report. It did however similarly focus on the provision of safe and efficient pedestrian routes surrounding important attractors such as retirement villages, schools and shopping centres. A works schedule was completed proposing works based on high priority (1-5 years) and low priority (6-10 years) and included new construction as well as upgrading of existing facilities where required. Some of these proposed works have been implemented whilst other works remain incomplete to date.

The *Camden LGA PAMP 2003* did recommend that Council undertake a more detailed pedestrian plan for Camden Town Centre considering the high number of pedestrian crashes that are occurring on Argyle Street, the operation of multi-lane roundabouts and a

## 4.0 RESEARCH, REVIEW AND DATA COLLECTION

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proposal to reduce speed limits to improve pedestrian safety. At the time of compiling this report the *Traffic and Transport Study for Camden Town Centre* (2013) was being prepared with a view to consider these matters previously identified.

Mount Annan Town Centre and the Development Application process were also identified as key areas to consider for Council in improving pedestrian safety and in the provision of efficient and usable pedestrian networks.

### 4.1.3 CAMPBELLTOWN AND CAMDEN COUNCILS INTEGRATED TRANSPORT STRATEGY – Final Report September 2006

The Campbelltown and Camden Councils Integrated Transport Strategy was prepared to provide improved transport options for residents of Camden and Campbelltown, to reduce the dependence on the private motor vehicle and to encourage residents of the region to make more sustainable transport choices.

Walking and cycling strategies recommended by the report that are consistent with and supportive of the Camden LGA PAMP 2014 are listed below:

- Define objectives for the future walking and cycling environment and confirm the validity of existing pedestrian and bicycle plans and extend for new development areas.
- Complete the identified pedestrian and cycle network as outlined in current pedestrian and bike plans.
- Review standards for the public domain to ensure consistency and quality, particularly in town centres (e.g. path design, street furniture, lighting, kerb ramps and pedestrian crossings).
- Require high quality pedestrian and bicycle facilities along major roads for new and reconstructed roads. The level of segregation and design of such facilities should be related to the role of the road (i.e. road hierarchy and traffic conditions).
- Review and implement road safety plans to improve the safety of pedestrians and cyclists.
- Review pedestrian domain to ensure equitable access for disabled and mobility impaired users.

## 4.0 RESEARCH, REVIEW AND DATA COLLECTION

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### 4.1.6 PLANNING GUIDELINES FOR WALKING AND CYCLING 2004 – NSW Government

The Planning Guidelines for Walking and Cycling 2004 aim to assist land-use planners and related professionals to improve consideration of walking and cycling in their work. Planning has an important role to play, particularly as it influences urban form, which sets the scene for walkability and cycleability for decades to come. It is anticipated that improving practice in planning for walking and cycling will create more opportunities for people to live in places with easy walking and cycling access to urban services and public transport. This will help reduce car use and create healthier neighbourhoods and cities.<sup>2</sup>

#### 4.1.4 FOOTPATH NETWORK GAPS AND PEDESTRIAN LINKS

The Camden LGA *Footpath Network Gaps and Pedestrian Links* spread sheet identifies locations where the provision of footpath is required to complete a pedestrian link, such as a connection between a bus stop and a shopping centre or where footpath is missing in the vicinity of a school, making walking less attractive.

This document prioritises the proposed locations for upgrade as follows:

Priority 1: residential area bus routes to provide step free, level access (on one side as a minimum), requests for schools and pre-schools to provide enhanced pedestrian access and connections to bus stops on main roads to provide step free, level access.

Priority 2: industrial area bus routes to provide step free, level access and strategic pedestrian and cycle links.

Priority 3: Requests received for local roads and recreational trails (unless grant funding component available).

Locations identified in the *Footpath Network Gaps and Pedestrian Links* were considered and included where necessary in the preparation of the Camden LGA PAMP 2013 routes.

2. Planning Guidelines for Walking and Cycling 2004 – NSW Government - Summary

## 4.0 RESEARCH, REVIEW AND DATA COLLECTION

### 4.2.1 TRAFFIC AND PEDESTRIAN DATA

Pedestrian counts were undertaken at a number of locations within Camden LGA (See Figure 4.3), where a potential for pedestrian crossing enhancement had been identified. The purpose of the counts was to determine the number of pedestrians and vehicles at each location in order to propose and prioritise appropriate treatments. These pedestrian surveys undertaken are now a baseline on which annual reviews can be undertaken to measure growth.

It needs to be established that there is a realistic demand for a pedestrian facility. Facilities that are used infrequently may, in the case of time separated facilities, come to be ignored, or in the case of physical facilities, become an unnecessary obstruction in the roadway. Where demand is excessive for the type or size of facility provided, the facility may become a safety hazard for pedestrians and a disruption to vehicular traffic flow.<sup>3</sup>

The control of pedestrian/vehicle interaction can be achieved by means of one or more of the following strategies:

- (a) Time separation;
- (b) Spatial separation by use of physical pedestrian facilities;
- (c) Grade separation;
- (d) Advance warning of presence of pedestrians or pedestrian facilities.<sup>3</sup>

Classification	Objectives	Treatments
Time separated facilities	To minimise conflict between pedestrians and vehicles by allotting short time periods for use of section of road by pedestrians, alternating with periods for use by vehicles.	Pedestrian crossings (zebra) Children's crossings Pedestrian's actuated traffic signals (mid-block) Pelican crossings Pedestrians at signalized intersection
Physical pedestrian facilities	To increase the safety of pedestrians by use of physical aids within the roadway so as to reduce conflict between vehicles and pedestrians and simplify the decisions which both pedestrians and drivers have to make.	Pedestrian refuges Traffic islands Medians Kerb extensions Loading islands Safety zones Pedestrian fencing
Grade separation	To increase the safety of pedestrians by eliminating conflict between vehicles and pedestrians.	Subways and bridges
Warning signs	To warn of the presence of pedestrians or pedestrian facilities ahead.	

Figure 4.2<sup>3</sup>

3. AS 1742.10-2009 Manual of Uniform Traffic Control Devices Part 10: Pedestrian Control and Protection

## 4.0 RESEARCH, REVIEW AND DATA COLLECTION

### 4.2.2 PEDESTRIAN COUNTS

Location	Pedestrian flow per hour (AM & PM)	Vehicle traffic flow per hour (AM & PM)
1. Broughton Street, Camden, south of Little Byrne Street	5 AM	682 AM
	2 PM	747 PM
2. Catherine Fields Road, Catherine Fields, north west of Centenary Place	21 AM	104 AM
	6 PM	129 PM
3. Cawdor Road, Camden, adjacent to Camden RSL	0 AM	914 AM
	8 PM	826 PM
4. Cobbity Road, Cobbity, adjacent to general store	16 AM	404 AM
	29 PM	479 PM
5. Merino Drive, Elderslie, at Meriman Close	14 AM	381 AM
	38 PM	355 PM
6. Werombi Road, Grasmere, north of Small Road	0 AM	381 AM
	3 PM	416 PM
7. Waterworth Drive, Mount Annan, north of Welling Drive	2 AM	2159 AM
	17 PM	2278 PM
8. Macarthur Road, Elderslie, north west of Purcell Street/Harrington Street	2 AM	397 AM
	19 PM	605 PM
9. Macarthur Road, Elderslie, south east of Purcell Street/Harrington Street	3 AM	650 AM
	0 PM	605 PM
10. Richardson Road, Narellan, north of Wilton Street	2 AM	716 AM
	0 PM	1038 PM
11. Richardson Road, Narellan, south of Wilton Street	8 AM	862 AM
	4 PM	1038 PM
12. Elyard Street, Narellan, between Queen Street and existing ped. crossing	39 AM	530 AM
	47 PM	581 PM
13. Elyard Street, Narellan, at existing ped. crossing	32 AM	530 AM
	89 PM	581 PM
14. Elyard Street, Narellan, west of Somerset Avenue	13 AM	528 AM
	37 PM	551 PM
15. Somerset Avenue, Narellan, north of Slade Street	12 AM	504 AM
	14 PM	707 PM
16. Fairwater Drive, Harrington Park, east of Harrington Parkway	3 AM	279 AM
	11 PM	206 PM
17. Fairwater Drive, Harrington Park, west of Morton Terrace	10 AM	279 AM
	47 PM	227 PM
18. Richardson Road, Narellan, north of Mowatt Street	0 AM	845 AM
	3 PM	863 PM
19. Richardson Road, Narellan, south of Mowatt Street	0 AM	845 AM
	2 PM	863 PM
20. Remembrance Driveway, Camden, north of Ulmarra Avenue	3 AM	1581 AM
	3 PM	1628 PM
21. Remembrance Driveway, Camden, south of Elizabeth Macarthur Avenue	2 AM	1730 AM
	0 PM	1540 PM
22. Remembrance Driveway, Camden, north of Armour Avenue	0 AM	1669 AM
	2 PM	1521 PM
23. Remembrance Driveway, Camden, between Armour Avenue and Wire Lane	0 AM	1873 AM
	0 PM	1681 PM
24. Caroline Chisholm Drive, Camden South, at Greenaway Avenue	2 AM	144 AM
	2 PM	130 PM
25. Burraborang Road, Camden, west of Old Hume Highway	3 AM	735 AM
	6 PM	621 PM

Figure 4.3

## 4.0 RESEARCH, REVIEW AND DATA COLLECTION

### 4.3.1 PEDESTRIAN CRASH DATA BY AGE GROUP

32 pedestrian crashes have been recorded in Camden LGA over the most recent five-year period of available data (2007 – 2011), as detailed in Figures 4.4 – 4.6. An analysis of this data reveals an over-representation of two age groups, children aged 10 – 14 years and adults aged 65 years and older. Pedestrian crashes recorded within the *Traffic and Transport Study for Camden Town Centre* study area have been included in this section in order to give a clear overview of the trends within the entire Camden LGA. However, an exclusion of the crashes recorded within that study area results in a total of 19 recorded pedestrian crashes within the rest of Camden LGA.

Age group	0-4	5-9	10-14	15-19	20-24	25-64	65+	Unknown	Totals
% population	8.1	8.2	8	7.5	6.2	52.3	9.8	0	100
Total ped crashes	0	1	6	3	1	9	8	4	32
% total ped crashes	0	3.13	18.75	9.38	3.13	28.13	25	12.50	100
Fatal ped crashes	0	0	0	0	0	0	1	0	1

Figure 4.4

### IMPLICATIONS FOR PAMP

Children aged 10 -14 years often have a high dependency on walking as a principal mode of transport, combined with public transport use. They are vulnerable road users, given that they are smaller, harder to see, can behave unpredictably and their lack of road experience means it can be difficult for them to identify and navigate dangerous situations. This age group is considered to be further at risk given that it is in the unique position of transitioning from an age of close adult supervision whilst travelling to an age of relative travel independence. Consideration of travel routes to and from schools, playing fields and public transport interchanges is required to improve conditions for this age group.

Similarly, the over-representation of adults aged 65 years and older requires a consideration of pedestrian facilities around local shops, libraries and retirement villages and other facilities utilised by this age group. In contrast to the 10 -14 year age group, pedestrians within the over 65 year age group are generally experienced road users, however this age group may not be as agile or alert as younger people.

## 4.0 RESEARCH, REVIEW AND DATA COLLECTION

### 4.3.2 PEDESTRIAN CRASH DATA BY RUM CODE

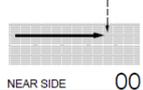
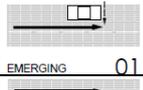
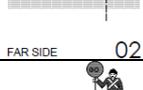
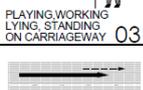
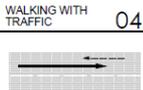
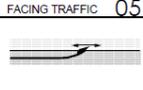
Rum Code	Age 0-4	Age 5-9	Age 10-14	Age 15-19	Age 20-24	Age 25-64	Age 65+	Unknown	Total
 NEAR SIDE 00	0	0	4 (29%)	1 (7%)	1 (7%)	3 (21%)	3 (21%)	2 (14%)	14
 EMERGING 01	0	1 (100%)	0	0	0	0	0	0	1
 FAR SIDE 02	0	0	2 (33%)	2 (33%)	0	0	2 (33%)	0	6
 PLAYING, WORKING, LYING, STANDING ON CARRIAGEWAY 03	0	0	0	0	0	1 (33%)	1 (33%)	1 (33%)	3
 WALKING WITH TRAFFIC 04	0	0	0	0	0	3 (75%)	0	1 (25%)	4
 FACING TRAFFIC 05	0	0	0	0	0	0	0	0	0
 ON FOOTPATH/ MEDIAN 06	0	0	0	0	0	1 (100%)	0	0	1
 DRIVEWAY 07	0	0	0	0	0	1 (100%)	0	0	1
OTHER PEDESTRIAN 09	0	0	0	0	0	0	1 (100%)	0	1
OTHER 49	0	0	0	0	0	0	1 (100%)	0	1
<b>Total pedestrian crashes</b>	0	1	6	3	1	9	8	4	32
<b>% total pedestrian crashes</b>	0.00	3.13	18.75	9.38	3.13	28.13	25	12.50	100
<b>% Camden LGA population</b>	8.1	8.2	8	7.5	6.2	52.3	9.8	0	100

Figure 4.5

The majority of recorded crashes are a result of a pedestrian being hit in either the near side lane (RUM Code 00) or far side lane (RUM Code 02). There are also a significant number of crashes involving pedestrians walking with traffic (RUM Code 04) and playing, working, lying or standing on the carriageway (RUM Code 03). The only recorded fatal pedestrian crash (RUM Code 49) involved a motor vehicle colliding with a mobility scooter. The total number of recorded crashes within Camden LGA has dropped significantly from 45 identified in the Camden LGA PAMP 2003 (over 5 year period between 1996 and 2001), which included 5 fatalities, to 32 identified in this report (over 5 year period between 2007 and 2011), including 1 fatality. This represents a reduction of approximately 30% in recorded pedestrian crashes.

## 4.0 RESEARCH, REVIEW AND DATA COLLECTION

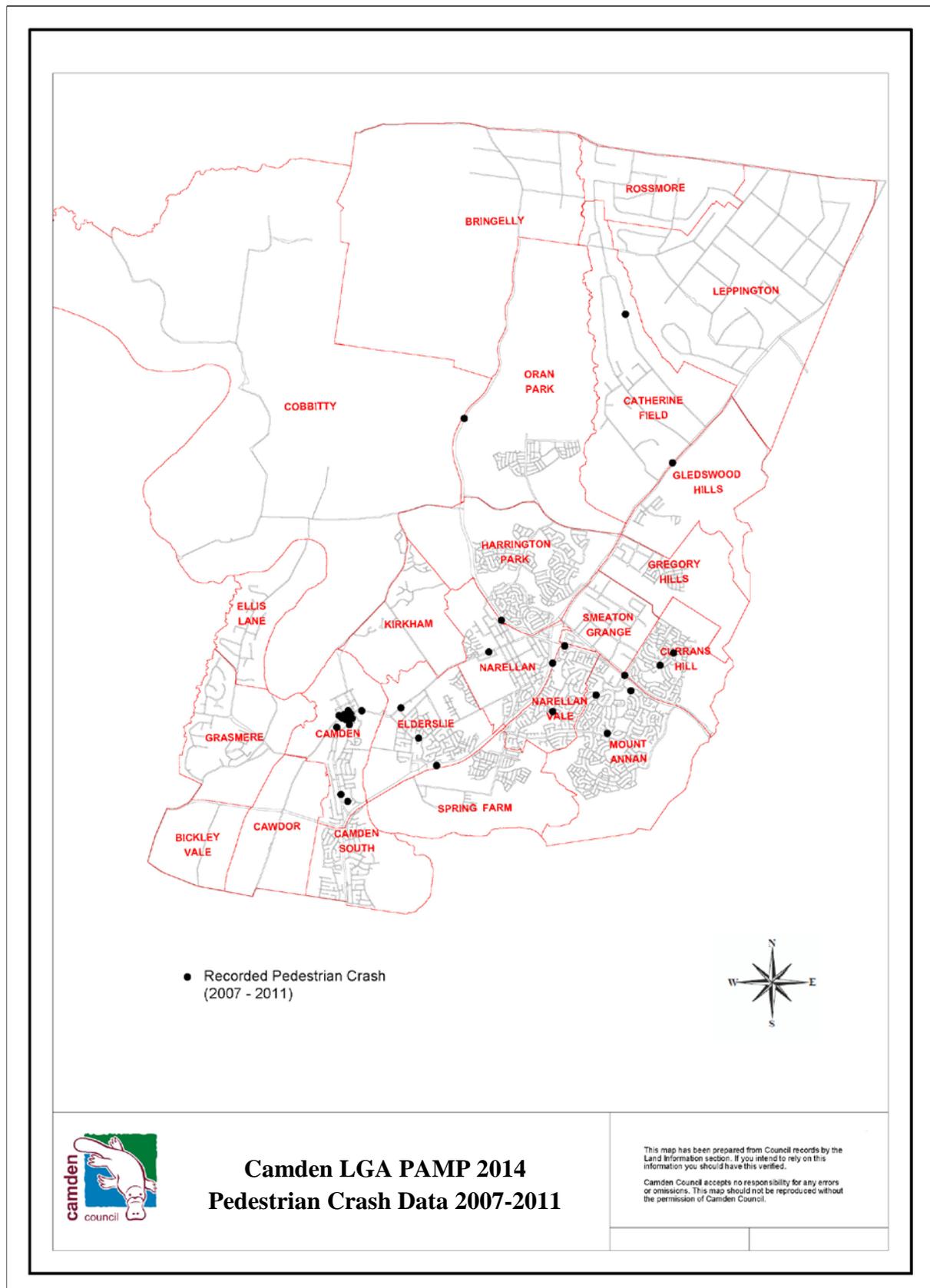
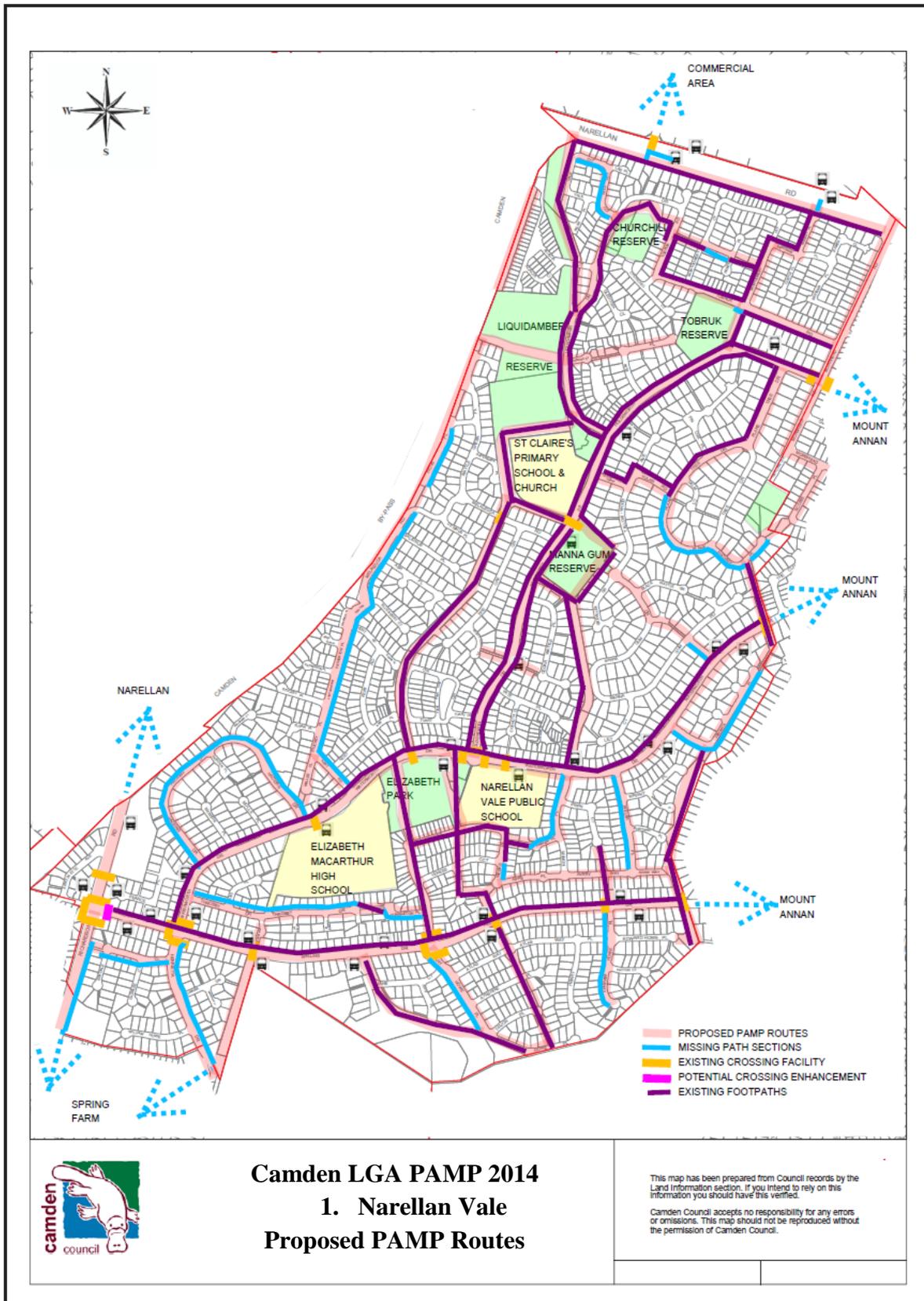
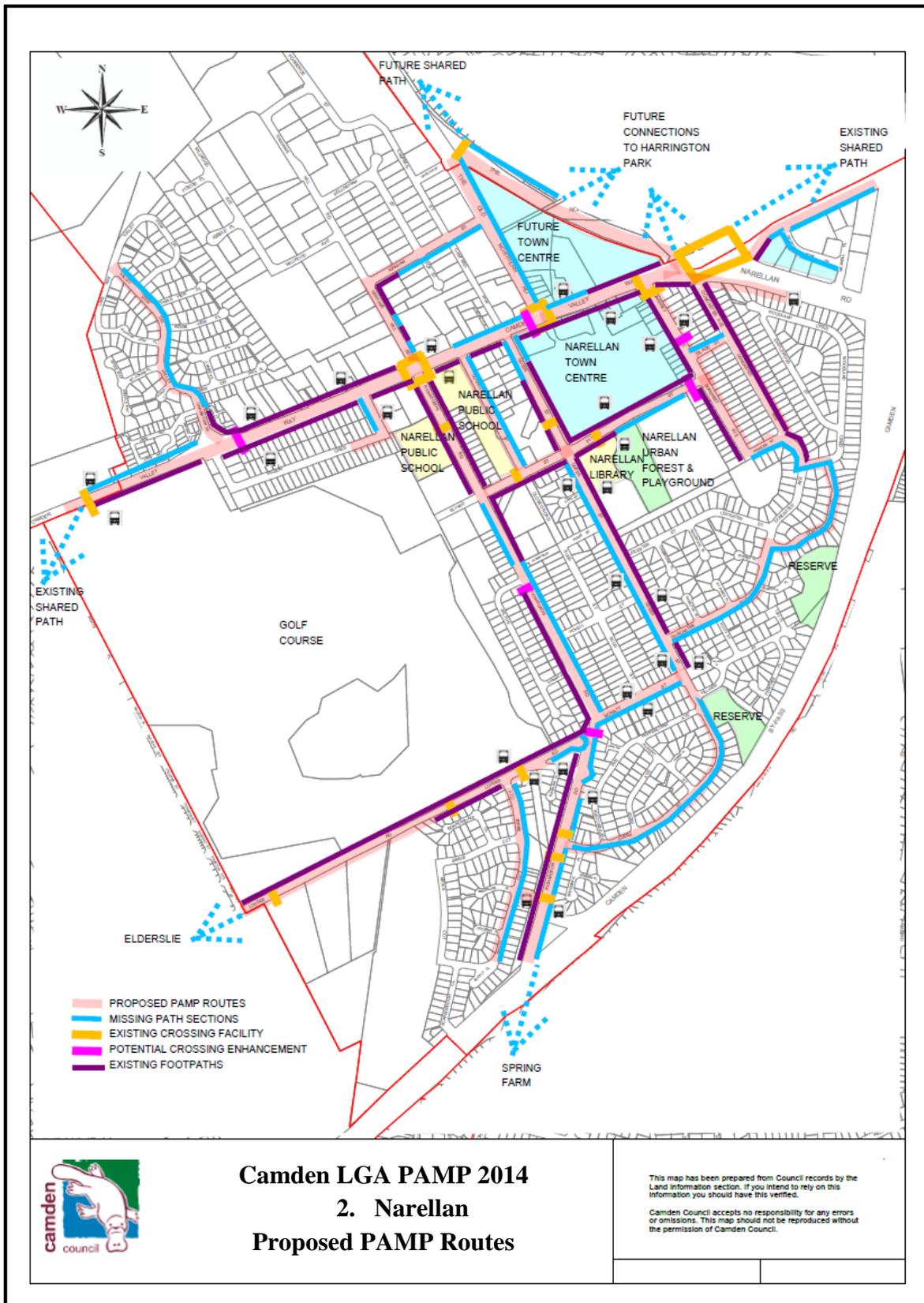


Figure 4.6

## 5.0 PAMP ROUTES



## 5.0 PAMP ROUTES



## 5.0 PAMP ROUTES

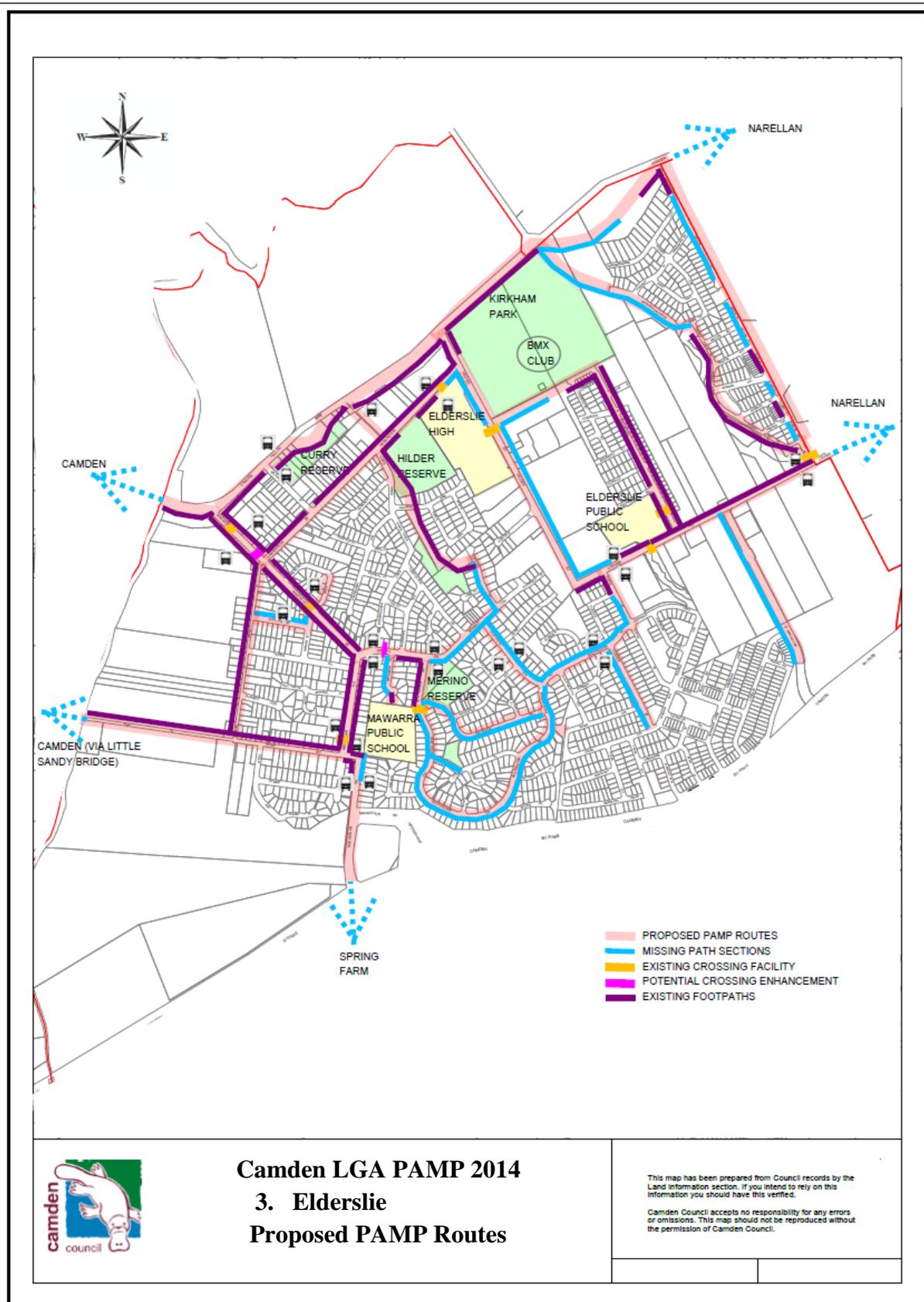


Figure 5.3

## 5.0 PAMP ROUTES

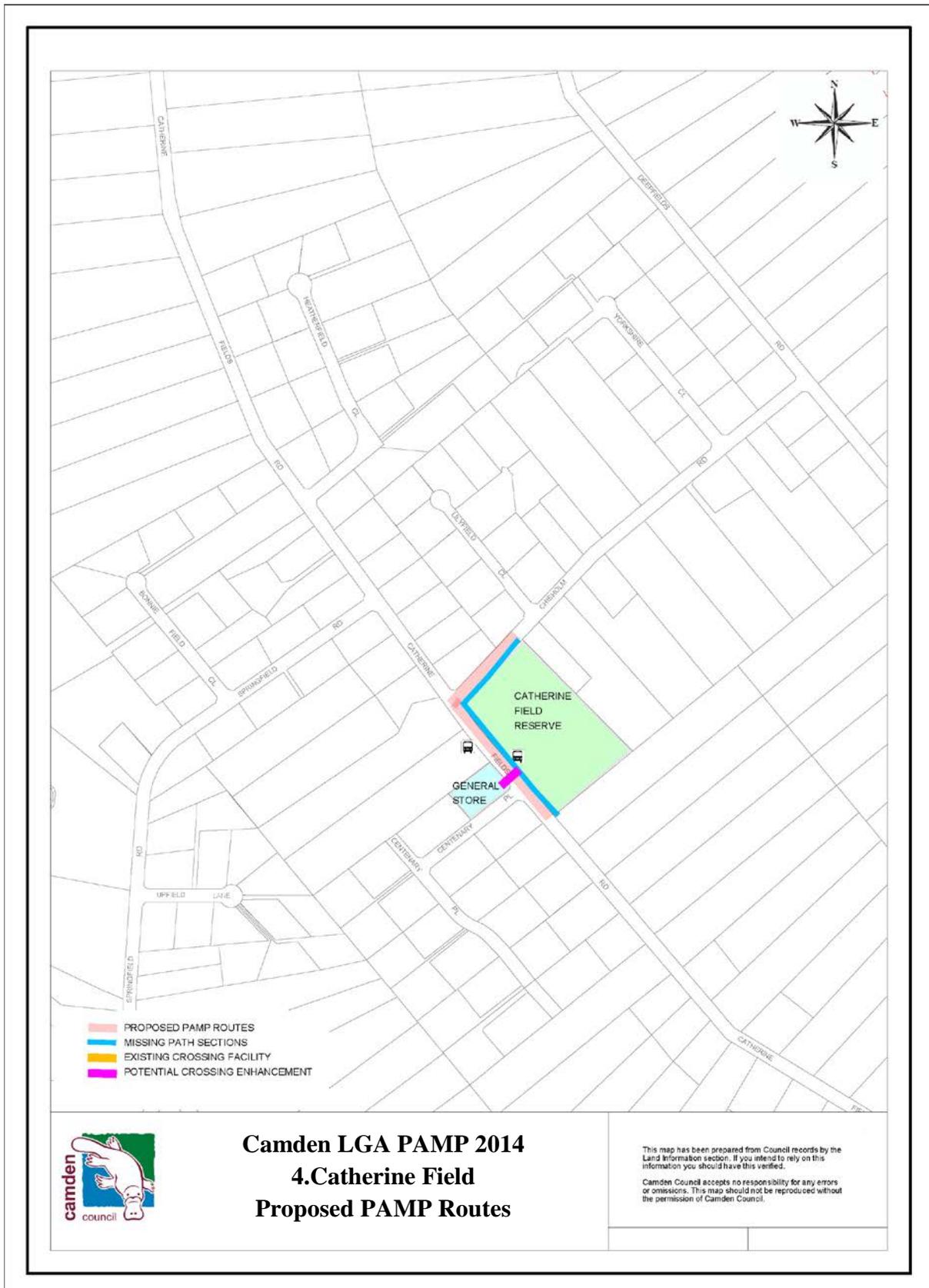


Figure 5.4

## 5.0 PAMP ROUTES

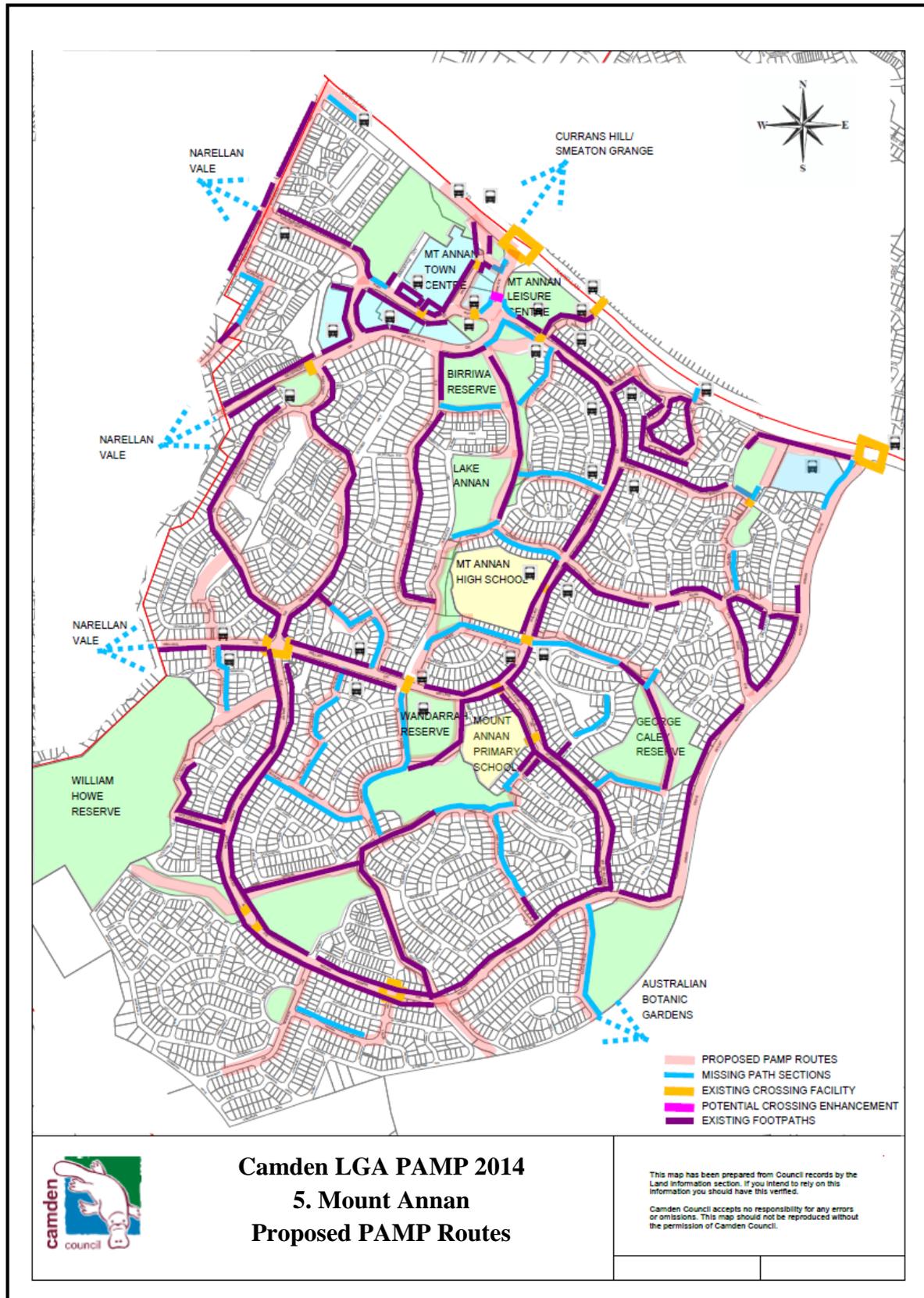


Figure 5.5

## 5.0 PAMP ROUTES

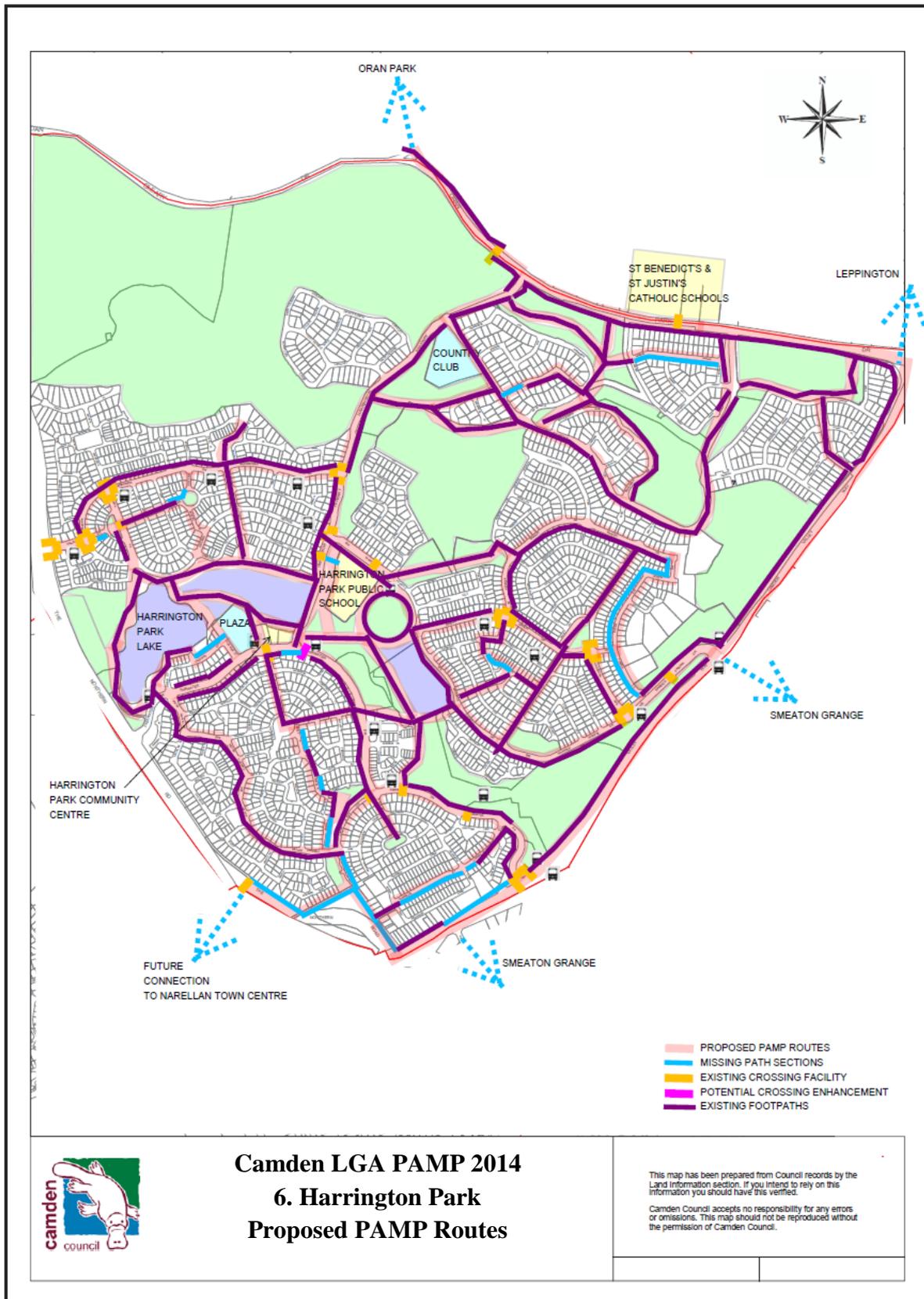


Figure 5.6

## 5.0 PAMP ROUTES

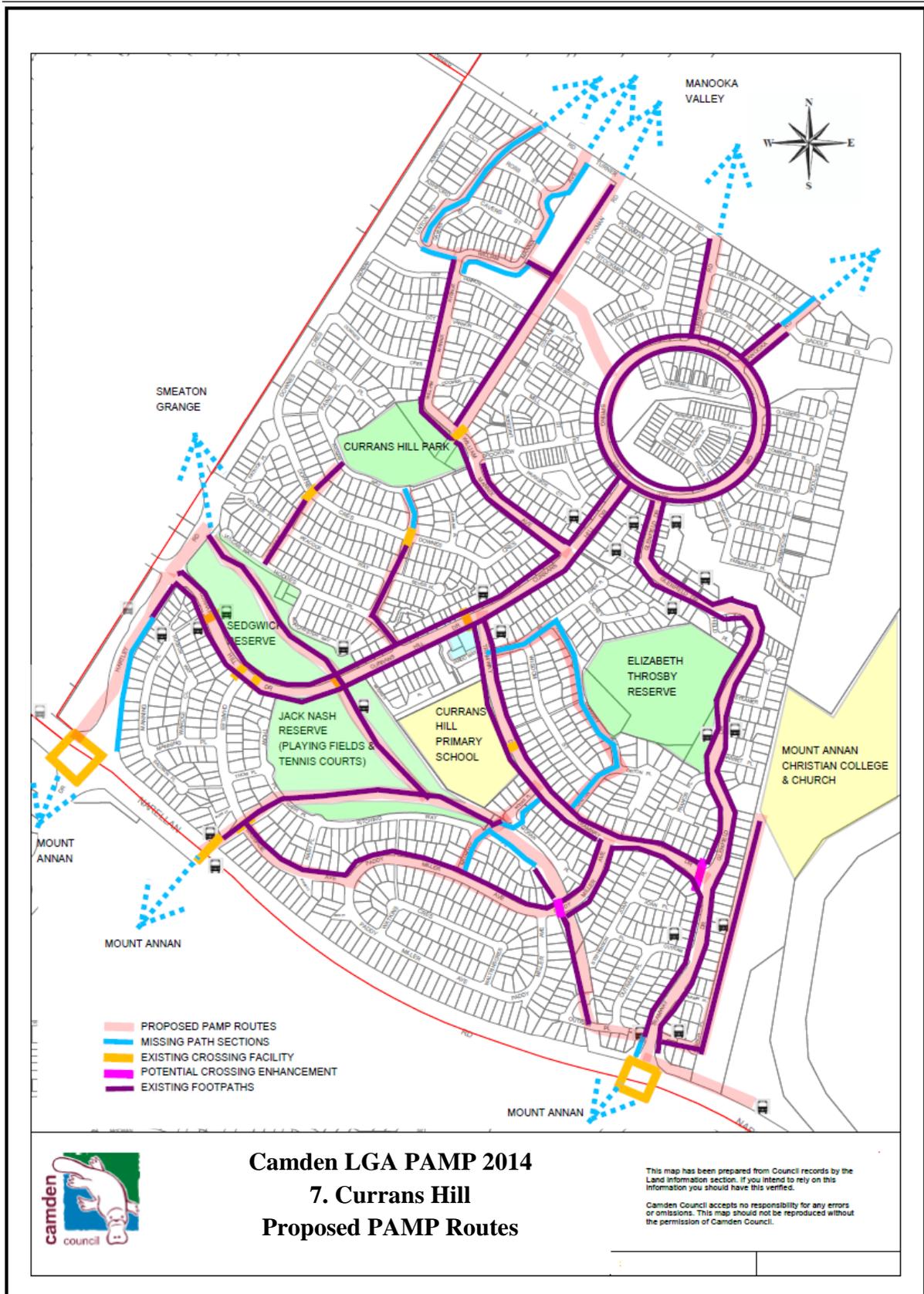


Figure 5.7

## 5.0 PAMP ROUTES

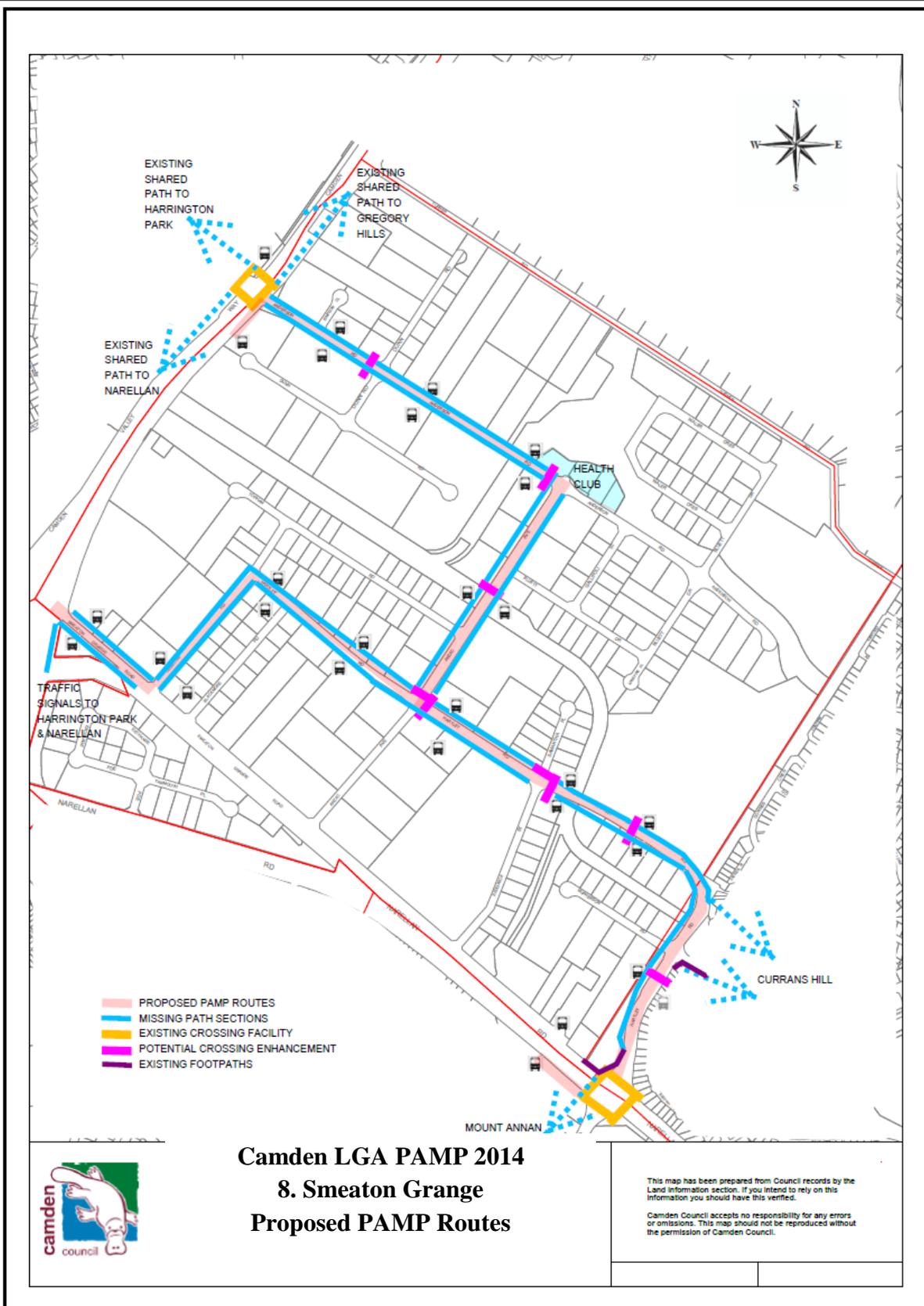


Figure 5.8

## 5.0 PAMP ROUTES

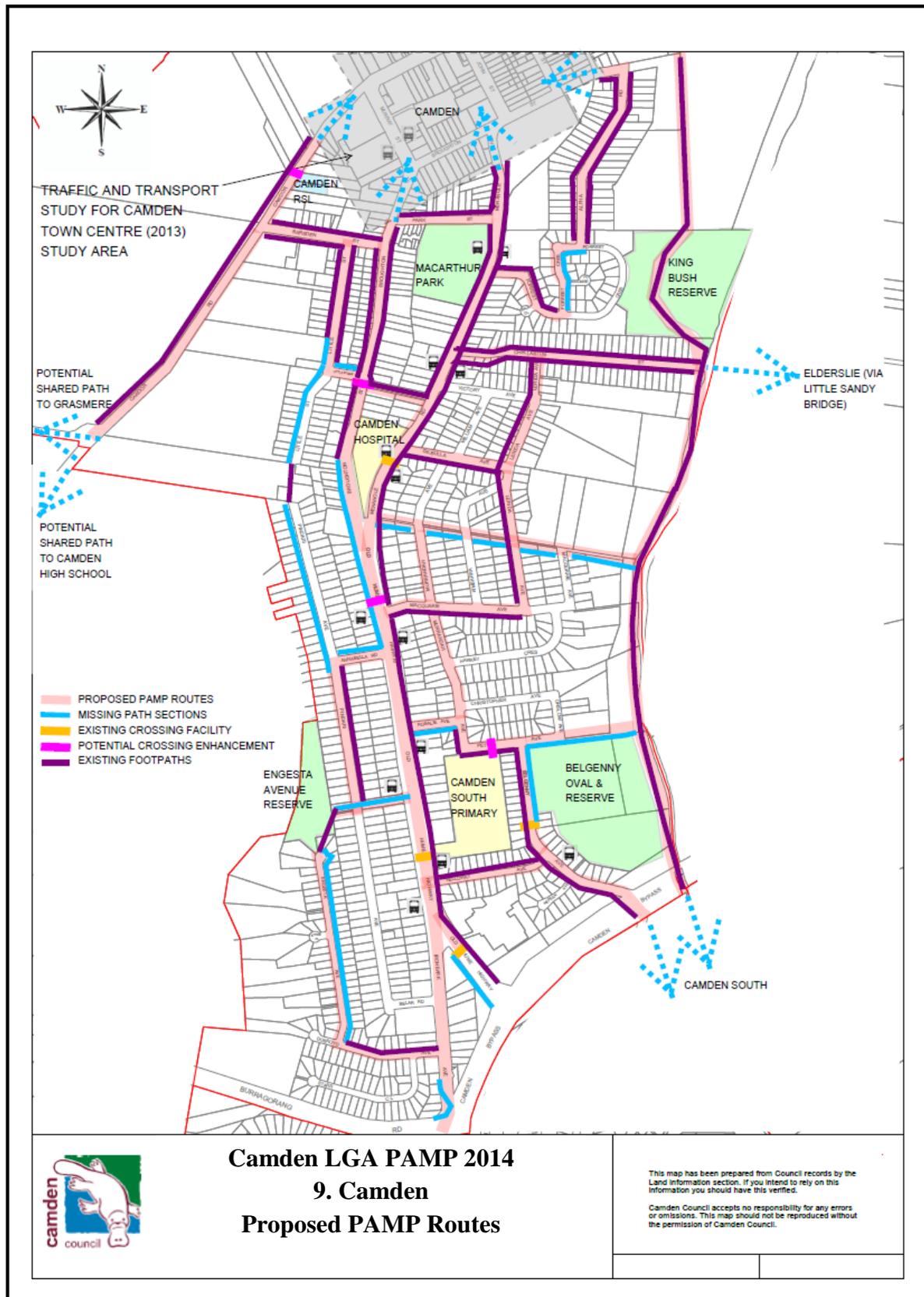


Figure 5.9

## 5.0 PAMP ROUTES

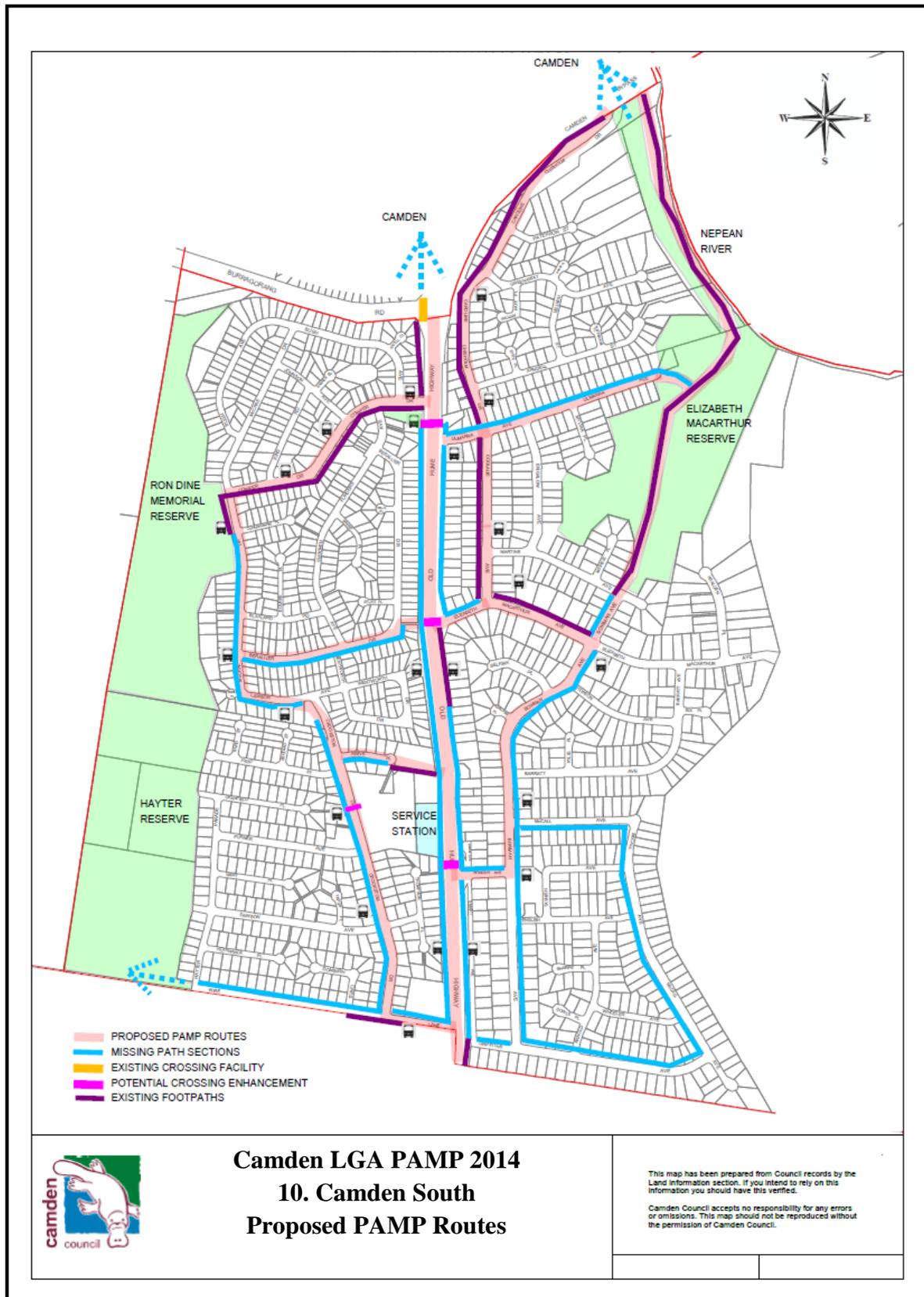


Figure 5.10

## 5.0 PAMP ROUTES

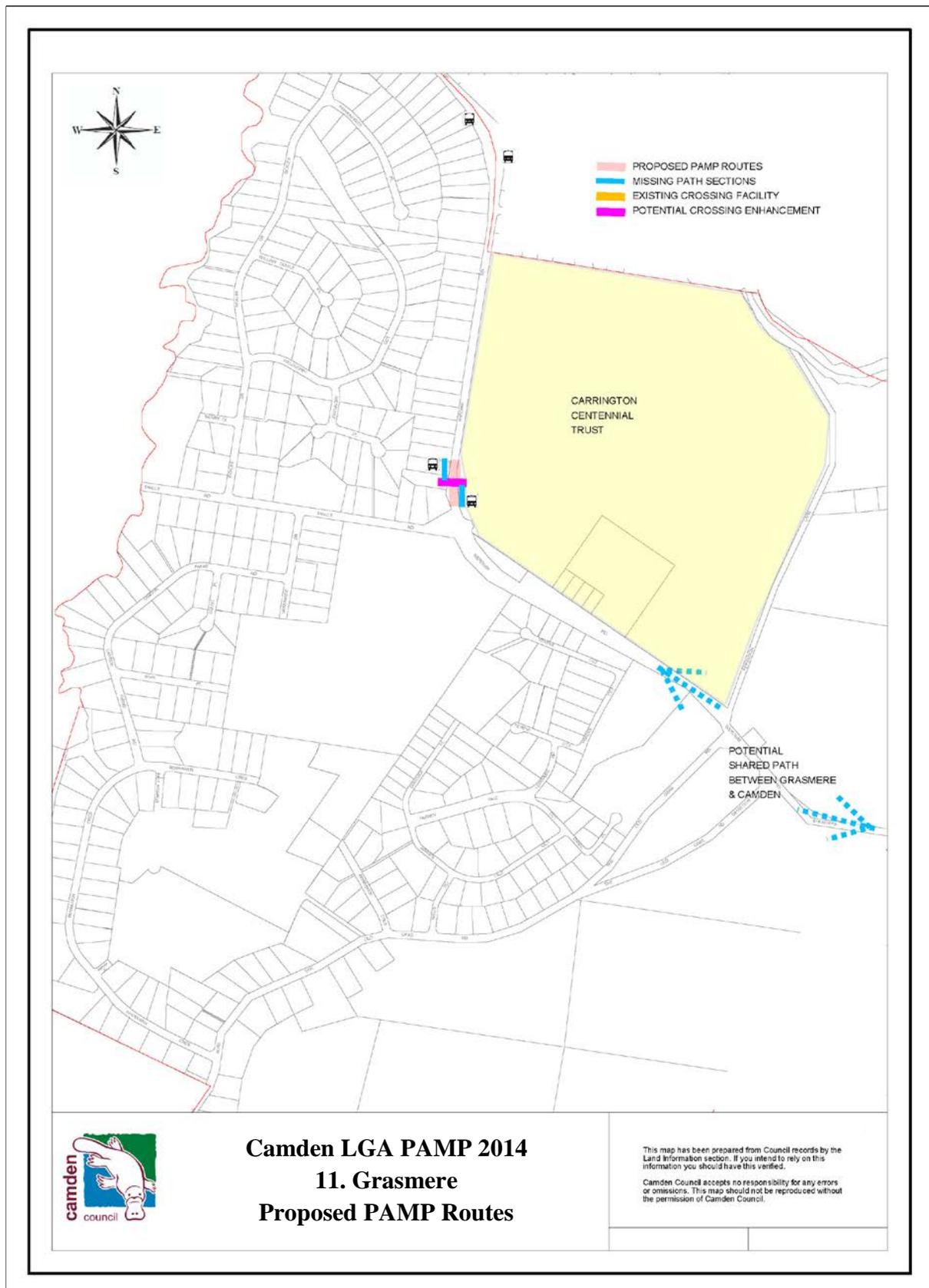


Figure 5.11

## 5.0 PAMP ROUTES

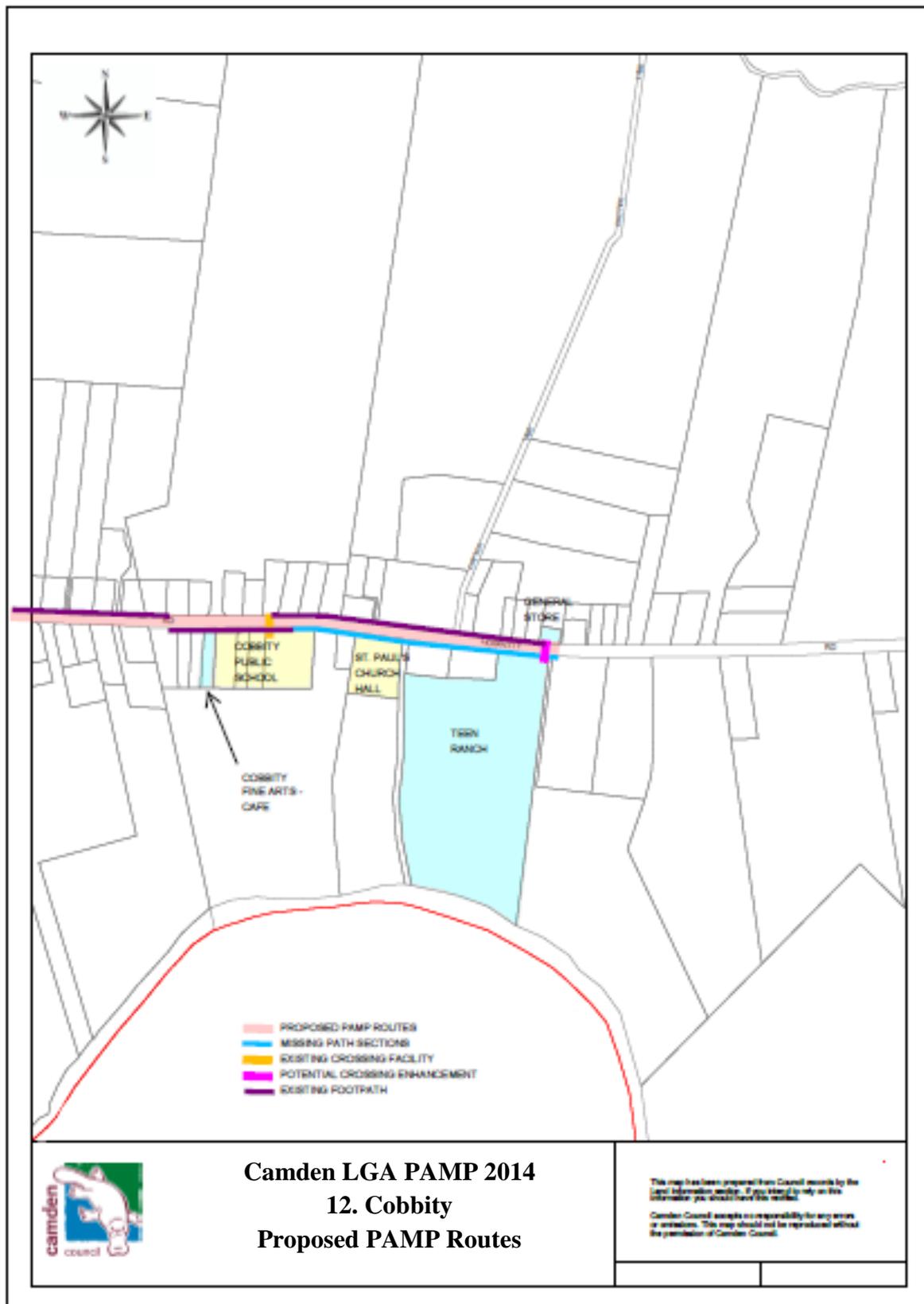


Figure 5.12



## 6.0 PHYSICAL WORKS SCHEDULES

Physical Works Schedule - Narellan Vale

Item	Street	Location	Proposal	Cost
1	Narellan Rd	Southern side, adjacent to Exchange Pde	Footpath to provide connection to bus stop	100 \$ 9,000
2	Narellan Rd	Southern side, adjacent to Blamey Pl	Footpath to provide connection to bus stop	20 \$ 1,800
3	Vale Ct	Southern side	Footpath & kerb ramps	220 \$ 22,800
4	Winston Pl	Southern side	Footpath & kerb ramps	75 \$ 8,250
5	Tobruk Rd	At Montgomery Ct	Footpath & kerb ramps	20 \$ 2,800
6	Plane Tree Dr & Phoenix Pl	Southern side	Footpath & kerb ramps	450 \$ 41,500
7	Manna Gum Rd	Southern side	Footpath & kerb ramps	80 \$ 7,700
8	Veronica Pl	Southern side	Footpath	340 \$ 30,600
9	Welsh Pl	Western side	Footpath	280 \$ 25,200
10	Ambler & Norris Pl	Northern & Eastern sides	Footpath & kerb ramps	200 \$ 19,500
11	Weeks Pl	Eastern side, south of Veness Ct	Footpath & kerb ramps	60 \$ 5,900
12	Ephraim Howe Pl	Western side	Footpath & kerb ramps	260 \$ 24,400
13	Mary Howe Pl	Western side	Footpath & kerb ramps	250 \$ 23,500
14	Gumbleton Pl	Southern side	Footpath	130 \$ 11,700
15	Throsby Dr	Northern side	Footpath & kerb ramps	420 \$ 48,250
16	Henrietta Dr	Eastern side	Footpath & kerb ramps	300 \$ 28,000
17	Eskdale Cl	Southern side	Footpath & kerb ramps	150 \$ 16,500
18	Richardson Rd	Eastern side	Footpath	260 \$ 23,400
19	Welling Dr	East of Richardson Rd	Break in existing island & provision of kerb ramps	\$ 7,000
20	Hacking Dr	Western side	Footpath & kerb ramps	740 \$ 67,600
21	Kent Rd & Stuckey Pl	Eastern side	Footpath & kerb ramps	240 \$ 22,600
22	Lady Anne Way & Patherton Pl	Eastern side	Footpath & kerb ramps	200 \$ 18,500
23	Kent Rd & Melaleuca Rd	Eastern side	Footpath & kerb ramps	320 \$ 32,800
24	Ficus Pl	Eastern side	Footpath & kerb ramps	150 \$ 14,500
<b>Total Estimated Cost</b>				<b>5265 \$ 466,500</b>

Physical Works Schedule - Narellan

Item	Street	Location	Proposal	Cost	Priority (1 high, 3 low)
1	George Hunter Dr	At Camden Valley Way	Shared Path	30 \$ 8,000	3
2	Slade St	Northern side	Footpath & kerb ramps	100 \$ 10,000	1
3	Somerset Ave	North of Slade St	Pedestrian refuge	\$ 20,000	1
4	Elyard St	West of Somerset Ave	Pedestrian refuge	\$ 20,000	1
5	Elyard St	Southern side	Footpath	200 \$ 18,000	2
6	Frances St	Southern side	Footpath	100 \$ 9,000	3
7	Doncaster Ave	Western side north of Woodland Cres	Footpath & kerb ramps	100 \$ 9,500	3
8	Woodland Cres	Southern side, west of Clinton Dr	Footpath	50 \$ 5,500	3
9	Clinton Dr	Eastern side	Footpath & kerb ramps	330 \$ 30,700	3
10	Doncaster Ave	Eastern side, south of Clinton Dr	Footpath & kerb ramps	350 \$ 33,500	3
11	Queen St	Eastern side, south of Hillview St	Footpath & kerb ramps	710 \$ 65,900	3
12	Richardson Rd	Eastern side, south of Queen St	Footpath	300 \$ 27,000	2
13	Richardson Rd	Eastern side, btn Queen St & Mowatt St	Footpath & kerb ramps	220 \$ 19,800	2
14	Richardson Rd	Btn Mowatt St & Lodges Rd	Ped/Cyclist Ref & associated Shared Path & F/path	\$ 50,000	1
15	Sirius Ct	Western side, south of Lodges Rd	Footpath	500 \$ 45,000	3
16	Mowatt St	Southern side	Footpath & kerb ramps	200 \$ 19,000	2
17	Queen St	Western side, btn Mowatt St & Elyard St	Footpath & kerb ramps	600 \$ 56,500	2
18	Queen St	Western side, north of Elyard St	Footpath	200 \$ 18,000	2
19	Queen St	Eastern side, south of CVW	Footpath	65 \$ 5,850	1
20	Richardson Rd	Western side, south of Elyard St	Footpath & kerb ramps	340 \$ 31,100	3
21	Coghill St	Eastern side	Footpath	330 \$ 39,700	3
22	Wilson Cres	Western side, south of CVW	Footpath	100 \$ 9,000	2
23	CVW	North side, west of Camden View Dr	Footpath & kerb ramps	150 \$ 14,000	2
24	Camden View Dr	Eastern side, north of Maple Gr	Footpath & kerb ramps	400 \$ 40,500	2
25	Camden Valley Wy	East of Camden View Dr	Pedestrian refuge	\$ 20,000	2
26	Graham Hills Rd	Eastern side, north of CVW	Footpath	70 \$ 6,300	2
27	Kirkham St	Southern side	Footpath & kerb ramps	200 \$ 20,500	2
28	Camden Valley Wy	Northern side, adj The Old Northern Rd	Footpath & kerb ramps	350 \$ 33,500	2
29	Camden Valley Wy	At The Old Northern Rd	Addition of western ped crossing leg at signals	\$ 10,000	1
30	The Old Northern Rd	Eastern side	Footpath & kerb ramps	420 \$ 38,300	2
31	The Northern Rd	At The Old Northern Rd	Footpath	250 \$ 22,500	2
32	CVW	Southern side, west of Fairweather Dr	Footpath & kerb ramps	270 \$ 24,800	3
33	Richardson Road	Eastern side bt Elyard and Mowatt Sr	Footpath and Kerb ramps	375 \$ 35,750	
<b>Total Estimated Cost</b>				<b>7310 \$ 817,200</b>	

## Physical Works Schedule - Elderslie

Item	Street	Location	Proposal		Cost	Priority (1 high, 3 low)
1	Liz Kernohan Dr	Btn Camden Acres Dr & CVW	Footpath	804	\$ 72,360	3
2	CVW	Rheinbergers Hill	Shared Path (Cost excl. land acquisition)	500	\$ 93,750	2
3	Geary Pl & Rheinbergers Ct	Western side	Footpath & kerb ramps	150	\$ 14,500	3
4	Whyte & McLeod Pl	Western side	Footpath & kerb ramps	400	\$ 47,000	3
5	Preston Ave	Western side	Footpath & kerb ramps	150	\$ 15,500	3
6	Liz Kernohan Dr	Western side, south of Lodges Rd	Footpath & kerb ramps	400	\$ 40,500	2
7	Clissold St	Southern side	Footpath & kerb ramps	230	\$ 20,700	2
8	Hilder St	Western side, adj Harrington St	Footpath & kerb ramps	250	\$ 24,500	1
9	Harrington St	North & South sides at Hilder St	Footpath	200	\$ 18,000	1
10	Irvine St	Western side, btn Folkes & Southdown	Footpath & kerb ramps	100	\$ 9,500	2
11	Southdown Rd	Northern side, east of Cashmere Dr	Footpath & kerb ramps	350	\$ 34,000	1
12	Folkes St	Western side	Footpath & kerb ramps	300	\$ 28,500	3
13	Southdown Rd	Southern side, west of Cashmere Dr	Footpath & kerb ramps	980	\$ 91,700	3
14	Drysdale Rd	Southern side, west of Southdown Rd	Footpath	325	\$ 29,250	2
15	Cashmere Dr	Eastern side	Footpath & kerb ramps	260	\$ 24,900	1
16	Suffolk Pl	Western side	Footpath & kerb ramps	160	\$ 15,400	2
17	Lowe Cres	Eastern side	Footpath	100	\$ 9,000	2
18	Merino Dr	Southern side	Footpath & kerb ramps	270	\$ 25,300	2
19	Merriman Cl	Western side	Footpath	140	\$ 12,600	1
20	Merino Dr	At Merriman Cl	Pedestrian refuge		\$ 20,000	1
21	Macarthur Rd	Eastern side, south of River Rd	Footpath	60	\$ 5,400	1
22	Church St	Northern side, west of Macarthur Rd	Footpath & kerb ramps	230	\$ 21,200	3
23	Macarthur Rd	At Purcell St	Pedestrian refuge		\$ 20,000	3
24	Drysdale Reserve	From Southdown Rd to Cormo Cl	Footpath through reserve	100	\$ 9,000	2

Total Estimated Cost	6359	\$ 702,560
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## Physical Works Schedule - Catherine Field

Item	Street	Location	Proposal		Cost	Priority (1 high, 3 low)
1	Chisholm Rd	Southern side, east of Catherine Fields Rd	Footpath & kerb ramps	135	\$ 12,150	2
2	Catherine Fields Rd	Eastern side, south of Chisholm Rd	Footpath & kerb ramps	230	\$ 21,700	2
3	Catherine Fields Rd	North of Centenary Pl	Pedestrian Refuge		\$ 20,000	1

Total Estimated Cost	365	\$ 53,850
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## Physical Works Schedule - Harrington Park

Item	Street	Location	Proposal		Cost	Priority (1 high, 3 low)
1	Lonigan Pde	Southern side	Footpath & kerb ramps	310	\$ 30,400	2
2	Justis Drive	Western side	Footpath & kerb ramps	700	\$ 64,000	3
3	Towra Ct	Western side	Footpath	200	\$ 18,000	3
4	Olsen Pl	Northern side	Footpath	110	\$ 9,900	2
5	Sharman Cl	Northern side	Footpath & kerb ramps	210	\$ 19,400	2
6	Stewart St	Western side	Footpath	200	\$ 18,000	1
7	Correllis St	Southern side	Footpath & kerb ramps	310	\$ 29,400	3
8	Albury Ct	Western side	Footpath & kerb ramps	120	\$ 11,800	1
9	The Northern Rd	Northern side, connection to Stewart St	Footpath & small structure over creek	400	\$ 76,000	1
10	Hayes Ct	Western side, north of W Campbell Ave	Footpath & kerb ramps	150	\$ 15,000	2
11	Carabeely Pl	Eastern side, north of Hope St	Footpath & kerb ramps	150	\$ 14,500	3
12	Parson Pl	Eastern side, south of Hope St	Footpath & kerb ramps	100	\$ 10,000	3
13	Fairwater Dr	East of Harrington Parkway	Break in existing island & provision of kerb ramps		\$ 7,000	1
14	Harrington Parkway	South of Sir Warwick Fairfax Dr	Footpath & small structure over creek		\$ 40,000	1
15	Lockhart Ct	Northern side, west of Lakeview Ct	Footpath	130	\$ 11,700	2
16	Kinnear St	Northern side, east of Lord Eldon Dr	Footpath & kerb ramps	75	\$ 7,250	3

Total Estimated Cost	3165	\$ 382,350
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## Physical Works Schedule - Mount Annan

Item	Street	Location	Proposal	Cost	Priority (1
1	Narellan Rd	Southern side, east fo Morshead Rd	Footpath	100 \$ 9,000	2
2	Waterworth Dr	Western side, south of Narellan Rd	Footpath & kerb ramps	50 \$ 4,500	1
3	Waterworth Dr	North of Main St	Pedestrian refuge	\$ 15,000	1
4	Waterworth Dr	Eastern side, north of Main St	Footpath	80 \$ 7,200	1
5	Waterworth Dr	Western side, north of Main St	Footpath	100 \$ 9,000	1
6	Main St	Northern side, east of Holdsworth Dr	Footpath	44 \$ 3,960	1
7	Scobie Pl	Western side	Footpath	150 \$ 13,500	3
8	Morshead Rd	East of Scobie Pl	Footpath	100 \$ 9,000	3
9	Fitzpatrick Rd	Western side	Footpath	200 \$ 18,000	2
10	Birriwa Ct	Northern side	Footpath	180 \$ 16,200	2
11	McEwan Ct	Northern side of northern leg	Footpath	220 \$ 19,800	2
12	Dunbar Pl	Southern side	Footpath	350 \$ 31,500	2
13	Hines Pl	Northern side	Footpath	400 \$ 36,000	2
14	Packenhams Pl	Southern side	Footpath & kerb ramps	200 \$ 18,000	2
15	Mueller Way	Northern side	Footpath	230 \$ 20,700	3
16	Fraser Pl	Western side	Footpath & kerb ramps	50 \$ 4,500	3
17	Hop Bush Pl	Northern side	Footpath	100 \$ 9,000	2
18	Hop Bush Pl	Southern side	Footpath	180 \$ 16,200	2
19	Kurrajong Ct	Northern side, west of Crebra Way	Footpath	80 \$ 7,200	2
20	Crebra Way	Northern side	Footpath	100 \$ 9,000	2
21	Angophora Ct	Northern side, east of Crebra Way	Footpath	70 \$ 6,300	2
22	Angophora Ct	Eastern side, south of Crebra Way	Footpath & kerb ramps	300 \$ 27,000	3
23	Eucalyptus Ct	Eastern side of eastern leg	Footpath	360 \$ 32,400	3
24	Westringia Ave	Northern side	Footpath & kerb ramps	250 \$ 22,500	3
23	Banksia Rd	Eastern side	Footpath	560 \$ 50,400	2
24	Boronia Ave	Southern side, east of Mount Annan Dr	Footpath & kerb ramps	320 \$ 28,800	3
23	Callistemon St	Eastern side, north of Boronia Ave	Footpath & kerb ramps	150 \$ 13,500	3
24	Lomandra Cres	Eastern side, south of Kennedia Pl	Footpath & kerb ramps	170 \$ 15,300	3
23	Butterfield Pl	Eastern side	Footpath	80 \$ 7,200	3
24	Smith Pl	Western side, south of Matthew Cl	Footpath & kerb ramps	170 \$ 15,300	3
25	Matthew Cl	Northern side	Footpath	150 \$ 13,500	3
26	Persoonia Cl	Eastern side, south of Welling Dr	Footpath & kerb ramps	240 \$ 21,600	3
27	Narellan Rd	At Watson Rd	Footpath	20 \$ 1,800	2
28	Mount Annan Dr	South of Narellan Rd	Footpath & kerb ramps	250 \$ 22,500	2
29	Burnett Ave	Northern side, east of Collins Gr	Footpath & kerb ramps	100 \$ 9,000	3
30	John Hunter Gr	Eastern side, south of Baragil Mews	Footpath & kerb ramps	130 \$ 11,700	3
31	Charles Place	Western side	Footpath and ker ramps	200 \$ 18,000	2

Total Estimated Cost	6434	\$ 594,060
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## Physical Works Schedule - Currans Hill

Item	Street	Location	Proposal	Cost	Priority (1 high, 3 low)
1	William Mannix Ave	Southern side, east of Linton Rd	Footpath & kerb ramps	160 \$ 15,400	2
2	Thomas Way	Eastern side, north of Downes Cr	Footpath & kerb ramps	100 \$ 9,500	2
3	Lackey Pl	Southern side, btn Tramway dr & Rae Pl	Footpath & kerb ramps	130 \$ 13,700	2
4	Rae Pl & Cowdery Way	Eastern side	Footpath	310 \$ 27,900	2
5	Orton Pl	Western side, south of Cowdery Way	Footpath & kerb ramps	110 \$ 11,900	2
6	Moore Pl	Eastern side	Footpath	70 \$ 6,300	1
7	Munday Pl	Eastern side	Footpath & kerb ramps	100 \$ 10,000	2
8	Munday Pl	Northern side	Footpath	100 \$ 9,000	2
9	Tramway Dr	West of Glenfield Dr	Break in existing island & provision of kerb ramps	\$ 7,000	3
10	Tramway Dr	Eastern side, north of Narellan Rd	Footpath	65 \$ 5,850	1
11	Linton Rd	Southern side, west of William Mannix Ave	Footpath & kerb ramps	\$ 7,000	2
12	Ashford Ct	North-south reserve	Footpath & kerb ramps	320 \$ 29,800	2
11	Manooka Rd	Western side, north of Saddle Cl	Footpath & kerb ramps	80 \$ 8,200	2
13	William Mannix Ave	Eastern side, north of Cavers St	Footpath & kerb ramps	200 \$ 18,500	2
14	Paddy Miller Ave	Adjacent to Reserve	Pedestrian Refuge	\$ 20,000	2

Total Estimated Cost	1745	\$ 200,050
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## Physical Works Schedule - Smeaton Grange

Item	Street	Location	Proposal		Cost
1	Hartley Rd	Western side, south of McPherson Rd	Footpath & kerb ramps	310	\$ 28,400
2	Hartley Rd	South of McPherson Rd	Pedestrian refuge		\$ 20,000
3	Hartley Rd	Southern Side	Footpath & kerb ramps	1400	\$ 129,000
4	Hartley Rd	Northern side	Footpath & kerb ramps	1400	\$ 129,000
5	Hartley Rd	At bus stop north of McPherson Rd	Break in existing island & provision of kerb ramps		\$ 7,000
6	Hartley Rd	At Samantha Pl, northern & eastern legs	Break in existing island & provision of kerb ramps		\$ 14,000
7	Hartley Rd	At Anzac Ave, northern & eastern legs	Break in existing island & provision of kerb ramps		\$ 14,000
8	Orielton Rd	Western side	Footpath & kerb ramps	380	\$ 35,200
9	Orielton Rd	Eastern side	Footpath & kerb ramps	380	\$ 35,200
10	Smeaton Grange Rd	Southern side, west of Orielton Rd	Footpath & kerb ramps	390	\$ 35,600
11	Smeaton Grange Rd	Northern Side	Footpath & kerb ramps	390	\$ 35,600
12	Camden Valley Way	Eastern side, south of Smeaton Grange Rd	Footpath	160	\$ 14,400
13	Anzac Ave	Western side, north of Hartley Rd	Footpath & kerb ramps	600	\$ 55,000
14	Anzac Ave	Eastern side	Footpath & kerb ramps	600	\$ 55,000
11	Anzac Ave	South of Bluett Ave	Break in existing island & provision of kerb ramps		\$ 7,000
12	Anderson Rd	Northern side, west of Anzac Ave	Footpath & kerb ramps	820	\$ 75,800
13	Anderson Rd	Southern side	Footpath & kerb ramps	820	\$ 75,800
13	Anderson Rd	At Anzac Ave	Break in existing island & provision of kerb ramps		\$ 7,000
14	Anderson Rd	At Dunn Rd	Break in existing island & provision of kerb ramps		\$ 7,000
<b>Total Estimated Cost</b>				<b>7650</b>	<b>\$ 780,000</b>

## Physical Works Schedule - Camden (outer ring)

Item	Street	Location	Proposal	Length	Cost	Priority (1 high, 3 low)
1	Ironbark Ave	At Burragorang Rd	Footpath & stairs	50	\$ 60,000	2
2	Engesta Ave	Eastern side	Footpath	500	\$ 45,000	2
3	Old Hume Highway	Western side, south of Ironbark Ave	Footpath & kerb ramps	170	\$ 16,300	1
4	Belgenny Ave	Eastern side, south of Peter Ave	Footpath & kerb ramps	150	\$ 14,500	2
5	Peter Ave	Southern side, east of Belgenny Ave	Footpath	200	\$ 18,000	2
6	Rosalie Ave	Southern side	Footpath	100	\$ 9,000	2
7	Annabella Rd	Northern side	Footpath & kerb ramps	100	\$ 9,500	2
8	Old Hume Highway	Western side, adjacent to houses	Footpath	400	\$ 36,000	2
9	Old Hume Highway	North of Macquarie Ave	Pedestrian refuge & associated footpath		\$ 25,000	1
10	Broughton St	Western side	Footpath	100	\$ 9,000	2
11	Easement	East of Menangle Rd, south of Hospital	Footpath & kerb ramps	500	\$ 48,000	2
12	Broughton St	South of Little Byrne St	Pedestrian refuge		\$ 20,000	2
13	Little Byrne St	Northern side	Footpath	65	\$ 5,850	2
14	Forrest Cres	Eastern side, south of Alpha Rd	Footpath & kerb ramps	170	\$ 18,300	3
15	Cawdor Rd	Outside Camden RSL	Pedestrian Refuge		\$ 20,000	1
16	Peter Ave	Outside School	Pedestrian refuge		\$ 20,000	1
17	Little Street	Western side to Pindari Street	Footpath	230	\$ 27,600	3
18	Pindari Street	Western side from Little to Annabella	Footpath	350	\$ 42,000	3
19	Barsden Street	Near Little Street	Pedestrian Refuge		\$ 20,000	3
20	John St/Mitchell St	Near Schools	Pedestrian crossings and raising of existing crossings		\$ 100,000	1
21	Murray Street	Centrelink	Upgrade existing Crossing		\$ 30,000	2
<b>Total Estimated Cost</b>				<b>2505</b>	<b>\$ 594,050</b>	

## Physical Works Schedule - Grasmere

Item	Street	Location	Proposal	Length	Cost	Priority (1 high, 3 low)
1	Werombi Rd	North of Smalls Rd	Pedestrian Refuge & associated footpath/kerb ramps	200	\$ 30,000	2
<b>Total Estimated Cost</b>				<b>200</b>	<b>\$ 30,000</b>	

## Physical Works Schedule - Cobbitty

Item	Street	Location	Proposal	Cost	Priority (1 high, 3 low)
1	Cobbitty Road	Adjacent the General Store	Pedestrian Refuge	\$ 20,000	1
2	Cobbitty Road	Southern side, btn school & gen. store	Footpath	\$ 29,700	2
<b>Total Estimated Cost</b>				<b>\$ 49,700</b>	

## Physical Works Schedule - Camden South

Item	Street	Location	Proposal	Length	Cost
1	Ulmarra Ave	North side	Footpath	570	\$ 52,300
2	Old Hume Highway	Btn Cowper Dr & Ulmarra Ave	Break in existing island & provision of kerb ramps		\$ 10,000
3	Old Hume Highway	Eastern side, btn Ulmarra Ave & Elizabeth Macarthur Ave	Footpath & kerb ramps	400	\$ 36,500
4	Elizabeth Macarthur Ave	Northern side, west of Coolalie Ave	Footpath	100	\$ 12,000
5	Bowman Ave	Western side, north of Elizabeth Macarthur Ave	Footpath & kerb ramps	120	\$ 14,800
6	Bowman Ave	Eastern side, btn Armour Ave & Elizabeth Macarthur Ave	Footpath & kerb ramps	570	\$ 53,800
7	Armour Ave	Northern side	Footpath & kerb ramps	115	\$ 10,850
8	Old Hume Highway	Eastern side, north of Armour Ave	Footpath	300	\$ 27,000
9	Old Hume Highway	North of Armour Ave	Break in existing island & provision of kerb ramps		\$ 10,000
10	Old Hume Highway	South of Armour Ave	Footpath & kerb ramps	370	\$ 33,800
11	Wire Lane	North side, west of Old Hume Highway	Footpath & kerb ramps	130	\$ 12,200
12	Old Hume Highway	Western side, btn Cowper Dr & Wire Ln	Footpath	1400	\$ 126,000
13	Old Hume Highway	At Elizabeth Macarthur Ave	Break in existing island & provision of kerb ramps		\$ 10,000
14	Crookston Dr	Western side	Footpath & kerb ramps	600	\$ 57,200
15	Reeve Pl	Southern side	Footpath & kerb ramps	120	\$ 11,800
16	Lawson Ave	Southern side, west of Crookston Dr	Footpath & kerb ramps	125	\$ 12,250
17	McCrae Dr	Western side, south of Cunningham Pl	Footpath	350	\$ 31,500
18	Berallier Dr	Southern side	Footpath & kerb ramps	370	\$ 35,300
19	Crookston Drive	Outside Camden Downs Retirement Village	Refuge		\$ 20,000
<b>Total Estimated Cost</b>				<b>5640</b>	<b>\$ 577,300</b>

## Physical Works Schedule - Bringelly

Item	Street	Location	Proposal	Cost	Priority (1 high, 3 low)
1	Greendale Rd	Southern side, west of The Northern Rd	Footpath	\$ 22,500	1
<b>Total Estimated Cost</b>				<b>\$ 22,500</b>	

## Total cost of works

Suburb	Length of footpaths (M)	Cost
Narellan Vale	5265	\$466,500
Narellan	7310	\$817,200
Elderslie	6359	\$702,560
Catherine Field	365	\$53,850
Mount Annan	6434	\$593,060
Harrington Park	3165	\$382,350
Currans Hill	1745	\$200,050
Smeaton Grange	7650	\$780,000
Camden	2505	\$594,050
Camden South	5640	\$577,300
Grasmere	200	\$30,000
Cobbitty	390	\$49,700
Bringelly	150	\$22,500
<b>TOTAL</b>	<b>47178</b>	<b>\$5,269,120</b>

## 7.0 CONCLUSIONS AND RECOMMENDATIONS

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### Conclusions

In preparation of expected significant population growth over the next 30 years, Camden Council, with funding assistance from the Roads and Maritime Services (RMS) has prepared the *Camden LGA Pedestrian Access and Mobility Plan (PAMP) 2014*. This document has been prepared to ensure that safe and convenient walking facilities are planned for the community and our visitors moving into the future. As part of the compilation of this report, Council has reviewed the *Camden LGA Pedestrian Access and Mobility Plan (PAMP) 2003* in order to re-evaluate the previously recommended pedestrian networks and prioritised engineering actions in line with current information and behaviours and recommends new actions.

A key aim of the *Camden LGA PAMP 2014* is to co-ordinate investment in safe, convenient and connected pedestrian routes within the Camden LGA.

The Camden LGA PAMP 2014 has been undertaken with a focus on the established suburbs, with the exception of Camden Town Centre, which is concurrently being studied as part of the *Traffic and Transport Study for Camden Town Centre (2013)*. The emerging suburbs were not included in this study given that many are currently under construction and their pedestrian routes and facilities are being identified and implemented via the Development Assessment process and through Section 94 contributions made by developers.

Camden LGA's higher than average proportion of babies and school children (28.9%) suggests a greater need to focus on providing safe and efficient pedestrian facilities around schools, parks and fields, public transport routes and other locations that attract children and the adults that supervise them. Children have a high dependency on walking as a principal mode of transport, often combined with public transport use. They are vulnerable road users, given that they are smaller, harder to see, can behave unpredictably and their lack of road experience means it can be difficult for them to identify and navigate dangerous situations. Children are also faced with high densities of cars parking, driving and maneuvering around areas of high activity in peak periods, such as schools, playing fields and public transport interchanges.

Although the proportion of the population 60 years or older is under-represented when compared with the Greater Sydney area, serious consideration of pedestrian facilities around local shops, libraries and retirement villages is necessary. Despite being experienced road users, this age group may not be as agile or alert as younger people and is over-represented in pedestrian crash statistics.

In comparison to the Greater Sydney Area, relatively low numbers of Camden LGA residents walk or use public transport to travel to and from work, whilst a heavy reliance on private vehicle use is clear. A fast growing population will be met with a significant growth of the transport network, including heavy rail infrastructure and higher frequency, more direct bus services. This potential for change in travel behaviour will present the community with the

## 6.0 CONCLUSIONS AND RECOMMENDATIONS

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opportunity to significantly reduce its reliance on the private motor vehicle. As such, tools like this PAMP are vital in ensuring that, in this particular case, the established suburbs within Camden LGA are prepared through the construction of footpaths and associated crossing infrastructure to support walking as a vital link in this new transport network.

PAMP routes have been identified for each suburb in section 5 of this document, with missing footpath sections identified in blue and opportunities for potential crossing enhancements shown. Potential crossing enhancements available for consideration include time separated facilities, such as signalised crossings, physical pedestrian facilities, such as pedestrian refuge islands, grade separation, such as subways and bridges and warning signs designed to alert motorists to the possible presence of pedestrians.

The appendices include initial physical works schedules for each suburb identified within the study area, with each proposed item costed and prioritised with a number from 1 to 3, with 1 being the higher priority.

### Recommendations

The methodology of the Camden LGA PAMP 2014 was followed in the preparation of this DRAFT document, with the following steps outstanding:

1. *Seeking community feedback on prioritised routes and facilities*

This draft document should be made available to the community for consideration and comment, including public exhibition of the document and proposed PAMP routes through Council's website, libraries and offices. The local community along with individuals and groups who have an interest in the Camden LGA will be invited to suggest alterations to proposed PAMP routes, identify additional locations for consideration of pedestrian facilities and raise any other issues related to pedestrian safety and amenity.

2. *Reviewing the submissions and conducting pedestrian route audits along prioritised PAMP routes*

Following community consultation, adjustments to the proposed PAMP routes will be undertaken as necessary, the routes should be finalised and an audit of routes is recommended to be undertaken to confirm that existing kerb ramps, footpath and crossing facilities are to standard and where not, documented and prioritised for remedial action.

3. *Finalising the final plan and costing of prioritised works*

The proposed PAMP routes should be finalised along with the physical works schedule, including all proposed new work and remedial work.

4. *Annual review and revision of PAMP*



The PAMP will be reviewed annually in order to ensure that changing priorities, competing needs and development in each area are reassessed. If significant changes in pedestrian demand or behaviour are observed additional pedestrian surveys will be undertaken if considered essential. Based on these annual reviews applications for funding or the allocation of funds from Council's budget can be reallocated to the changed priorities.

PEDESTRIAN & CYCLE  
NETWORKS  
DEVELOPING AREAS

## C6.4 Pedestrian and Cycle Network

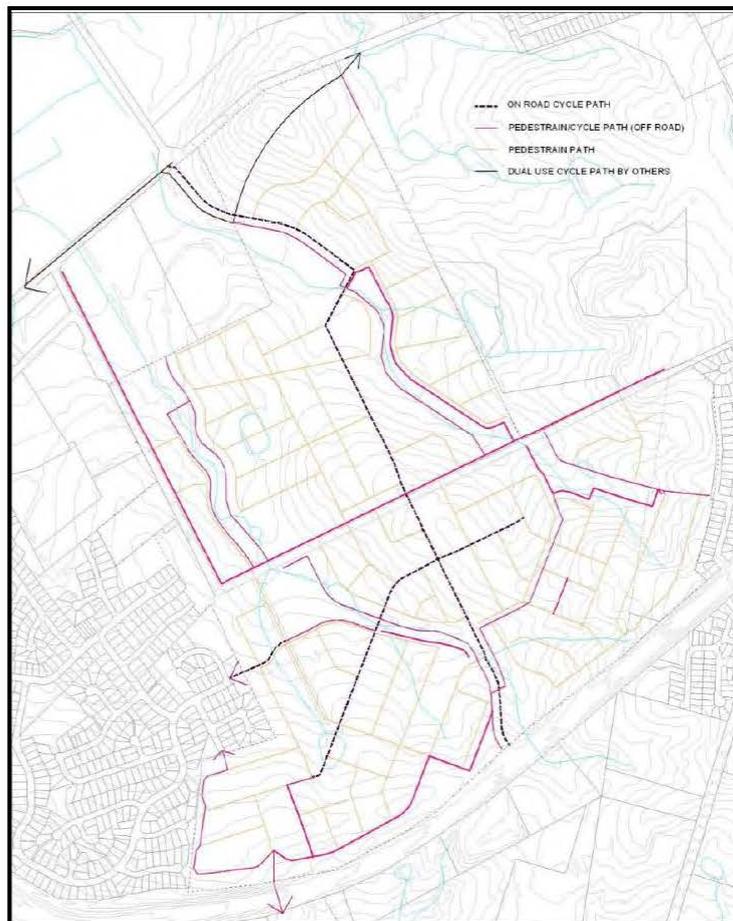
The Elderslie Release Area encourages walking and cycling by providing safe, convenient and legible routes to points of attraction within and beyond the suburb.

### Controls:

1. The cycle network for the Elderslie Release Area is to be designed, constructed and clearly marked in accordance with Elderslie Release Area Pedestrian/Cycle Network Map (Figure C15).

**Figure C15 Elderslie Pedestrian / Cycle Network**

2. Cycle paths shown in the Elderslie Release Area Pedestrian/Cycle Network that go through or parallel to open space, may be located either in the road reserve or in the open space/drainage land.
3. Cycle and pedestrian bridges must be located above the 20 year ARI flood level.



## C7.4 Pedestrian and Cycle Network

### Controls

1. The pedestrian and cycle path network for Spring Farm is to be constructed to comply Figure C23.
2. Cycle and pedestrian bridges shall be located above the 20 year ARI flood level.

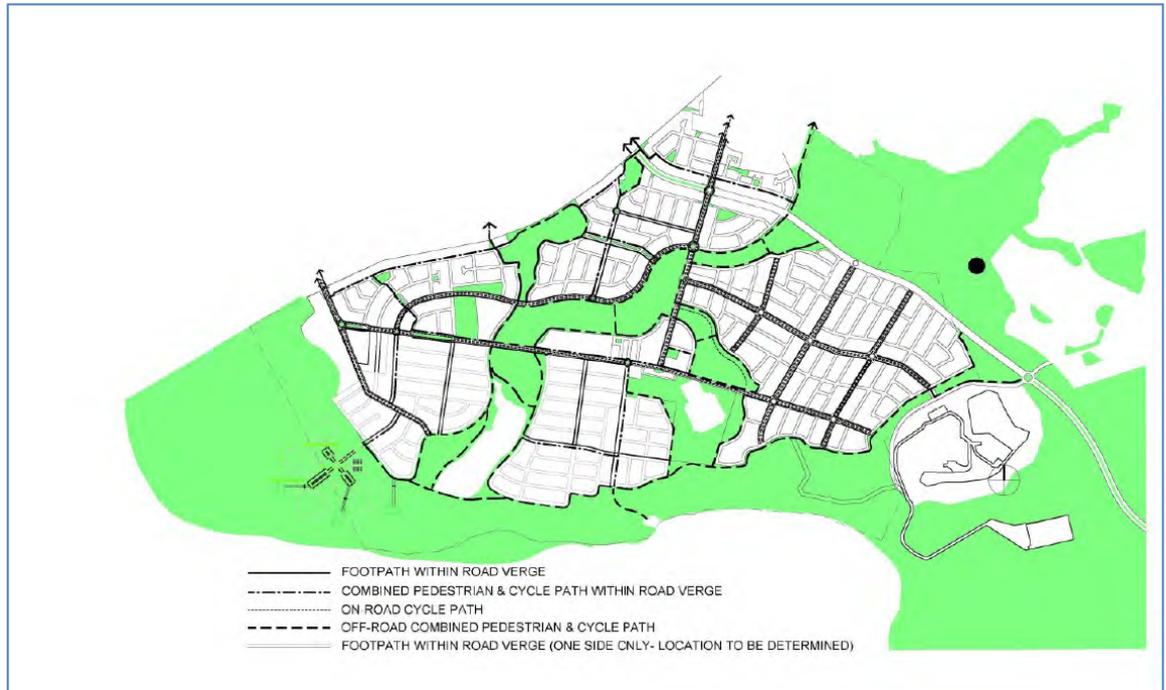
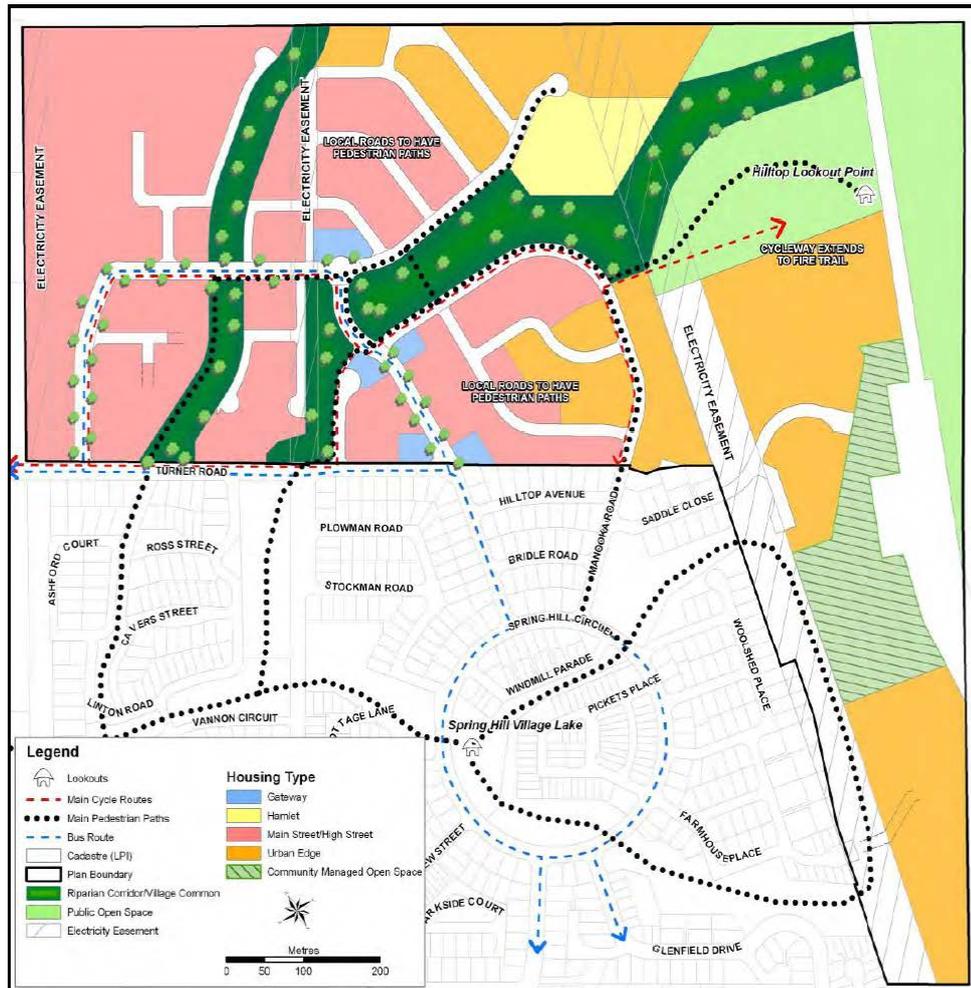


Figure C23 Spring Farm Pedestrian and Cycle Path Network

Figure C27  
Manooka Valley  
Master Plan



Controls

1. All developments within Manooka Valley shall comply with the above planning principles and the Manooka Valley Master Plan shown at Figure C27.
2. Management of the public domain shall comply with the management principles and objectives contained in the Plan of Management for the Environmental Protection Zones (EPZs), prepared by Conacher Travers (Ref: 3167) dated April 2003.

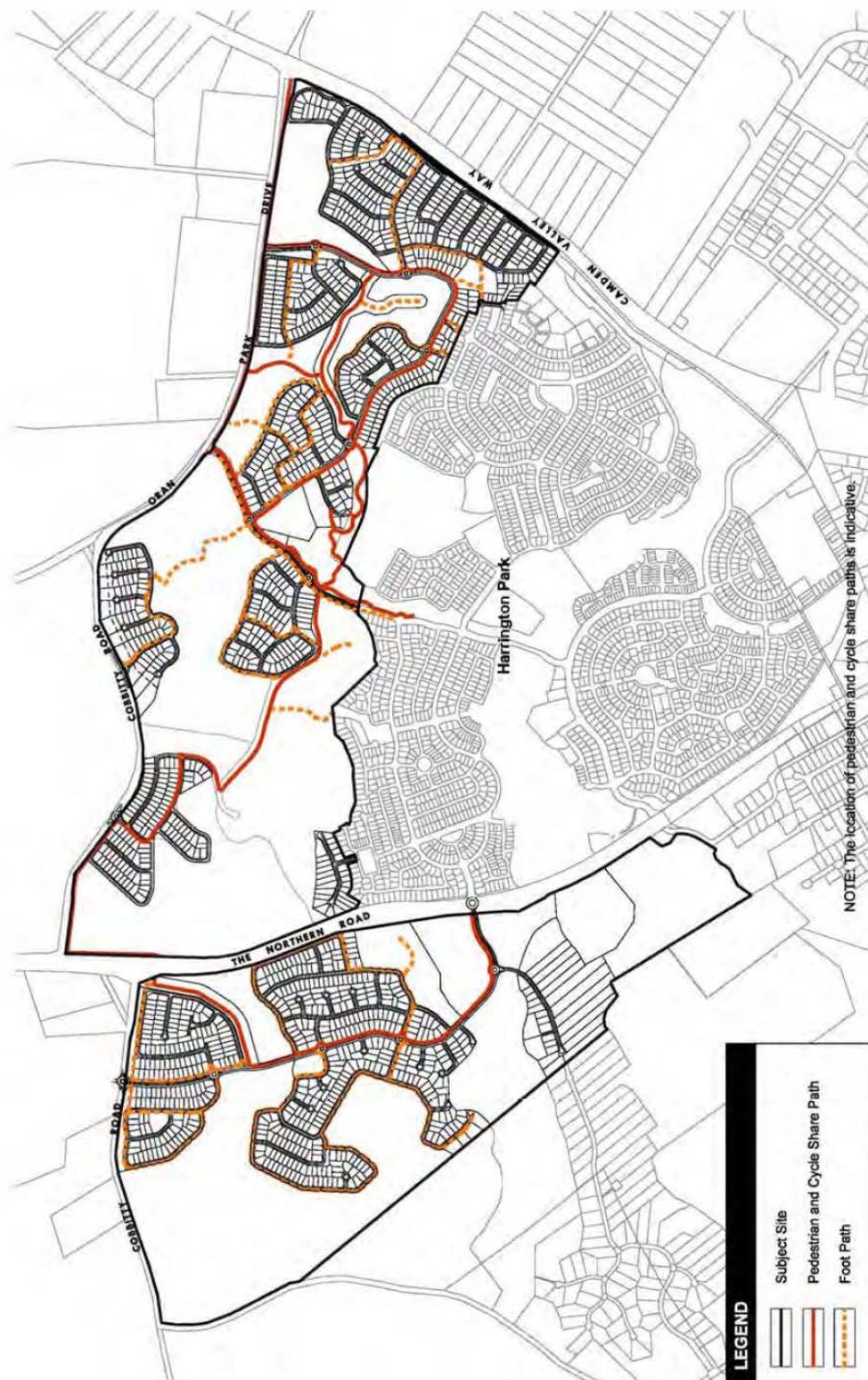


Figure C35 Harrington Grove Indicative Pedestrian and Cycle Network

## C10.4 Pedestrian and Cycle Network

### Controls

1. The off road pedestrian and cycle network is made up of shared walking and cycling paths, dedicated walking paths and informal trails which must be in accordance with figure C58.
2. Shared walking and cycling paths are to provide connection through out the residential area and link the Mater Dei access road, Macquarie Grove Road and Cobbitty Road. Shared paths will be 2.5m wide.
3. Walking paths are located around the perimeter of the residential areas to provide high amenity walking paths within the conservation areas. Walking trails of 1.5m wide also run near the rear of bush frontage lots.
4. Informal trails are provided within the conservation area and provide pedestrian linkages to Cobbitty, Oran Park and the Mater Dei School. Informal trails will be 1.5m and constructed out of a pervious material. The trails have been aligned to avoid areas of aboriginal archaeological sensitivity.

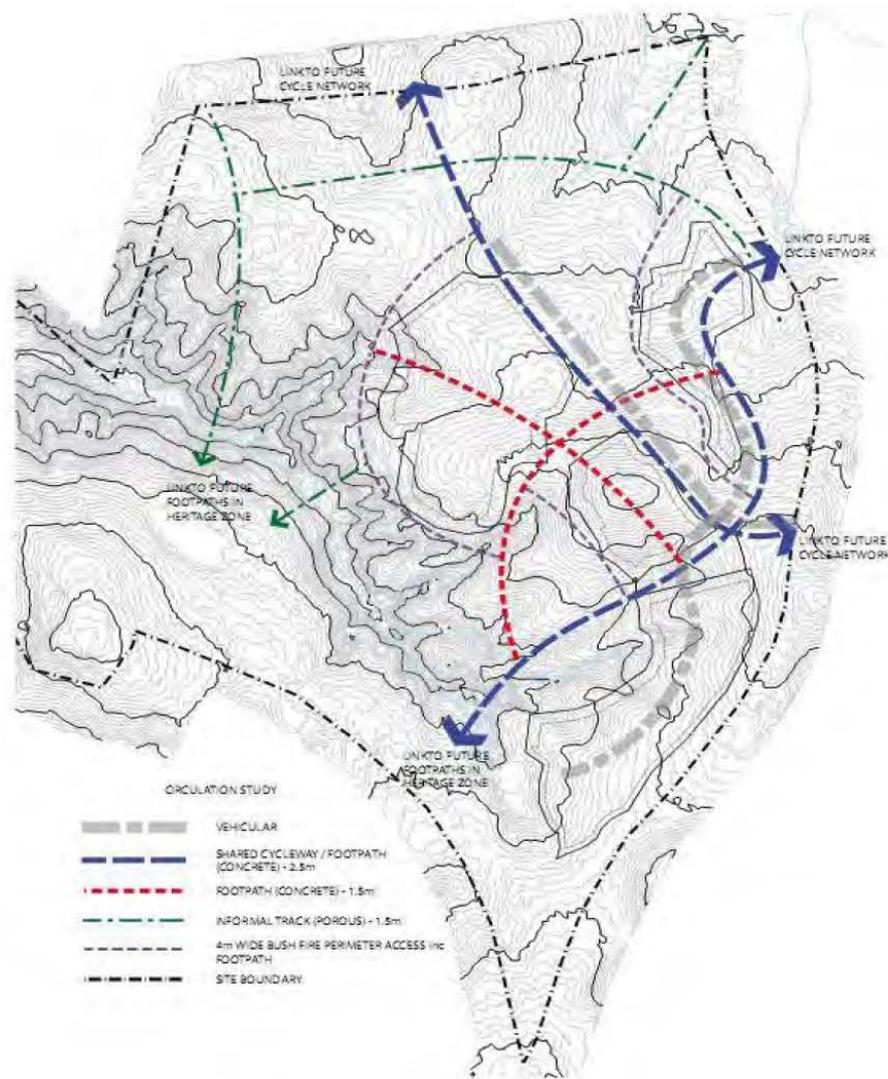


Figure C58 Mater Dei Pedestrian and Cycle Network

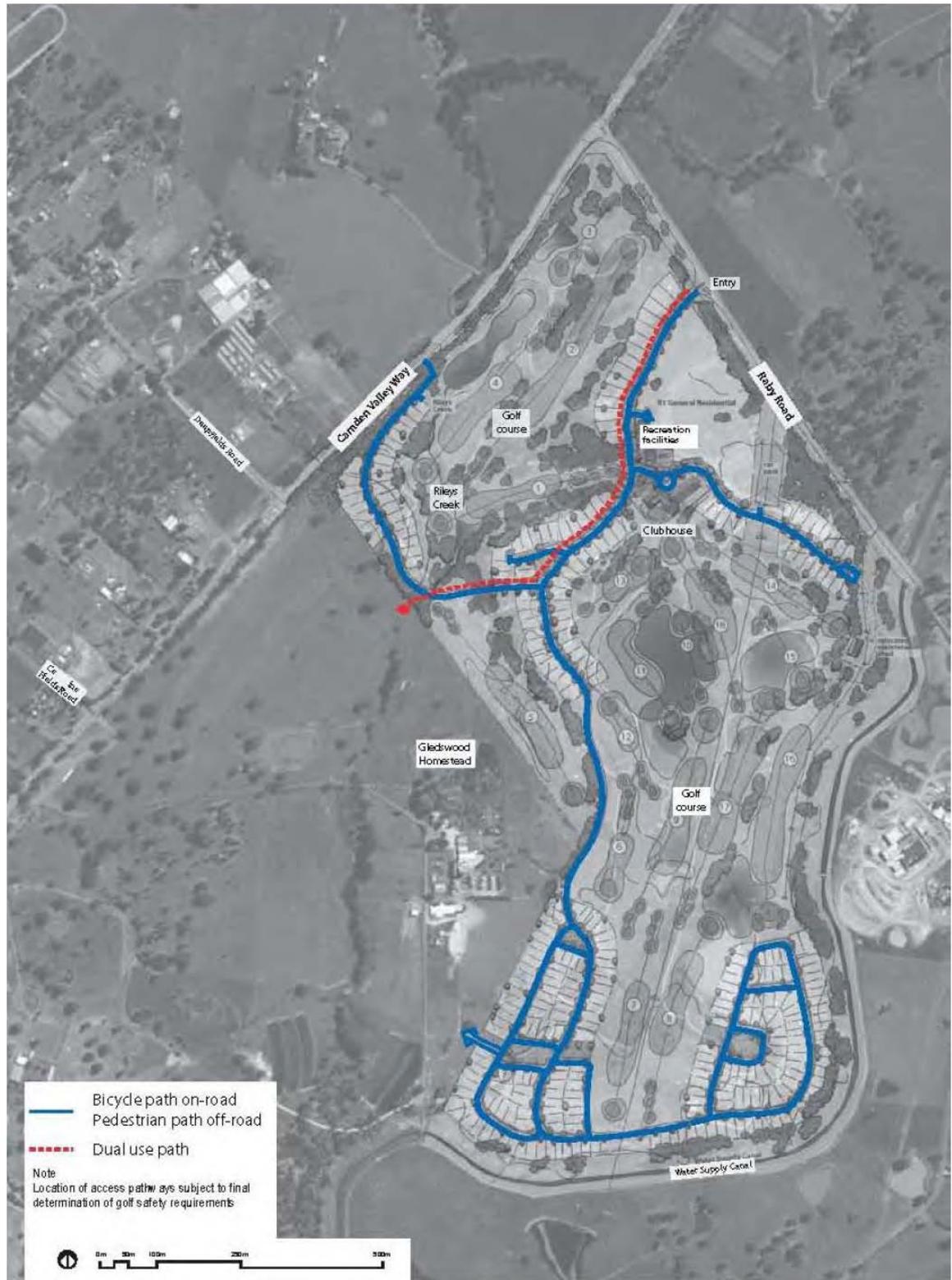


Figure C62 Camden Lakeside Pedestrian and Cycle Network



Figure C73 Pedestrian/Cycleway Routes

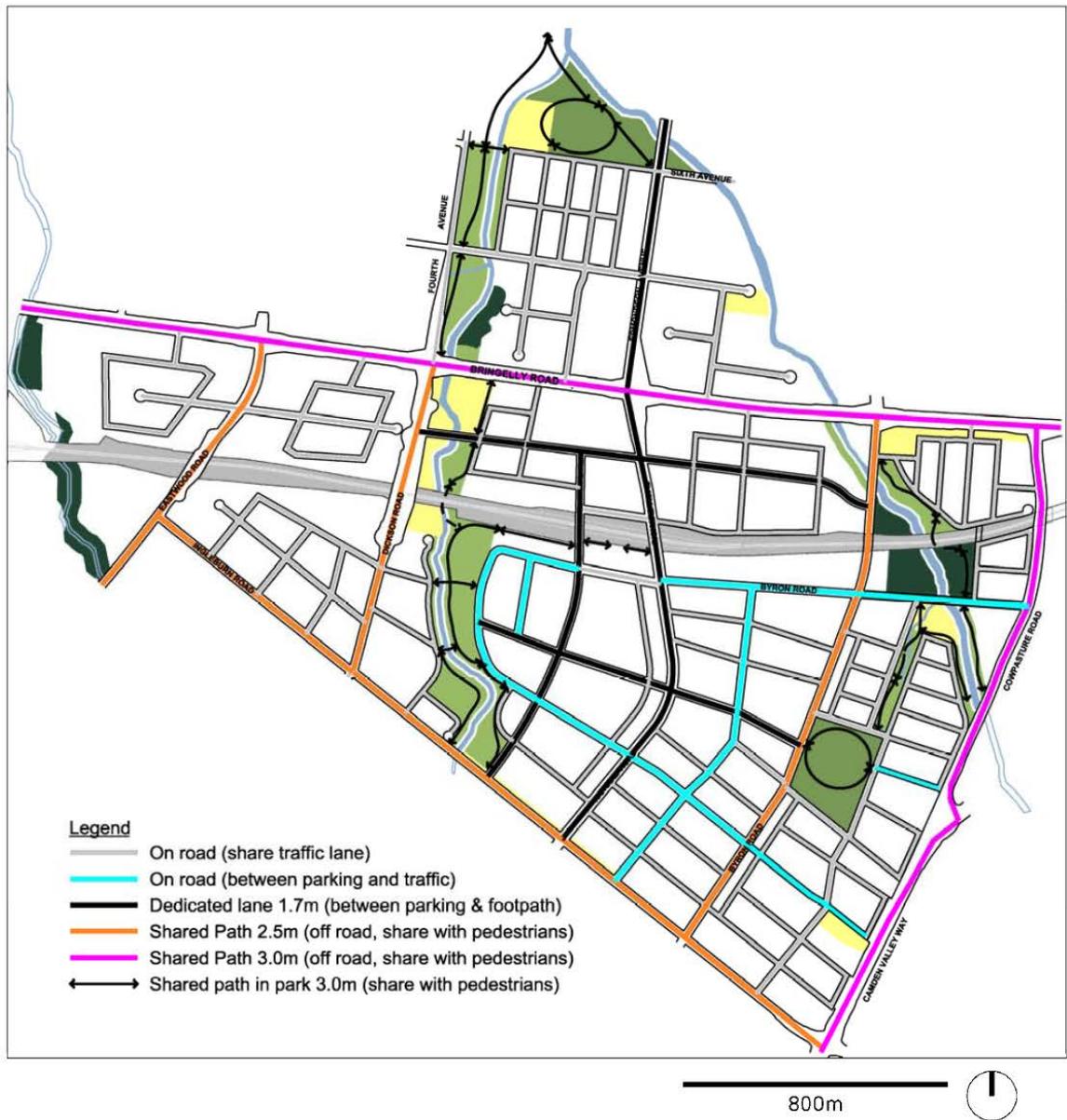


Figure 3-3: Pedestrian and cycle routes

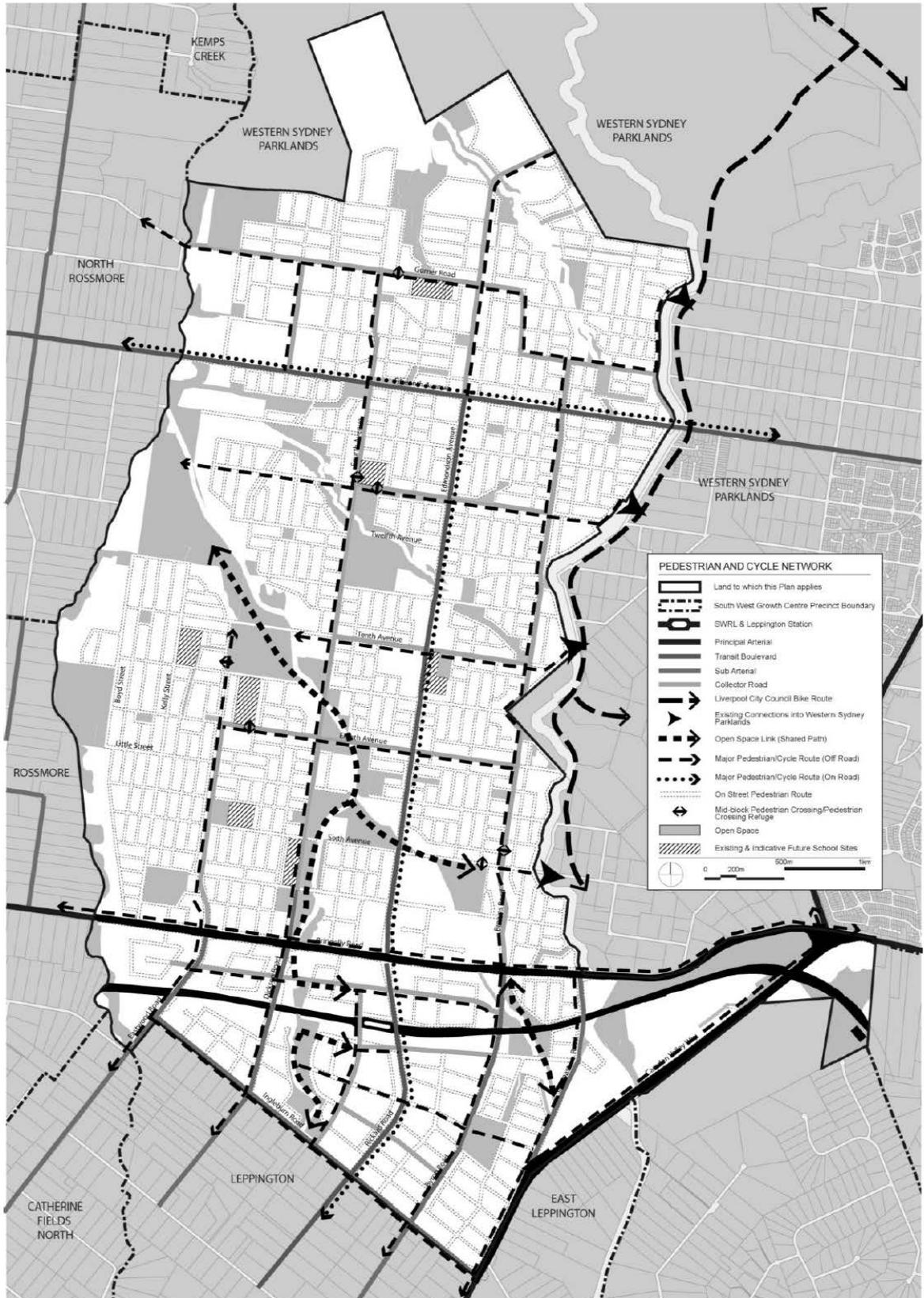


Figure 2-13: Pedestrian and cycle network

Austral and Leppington North Precincts

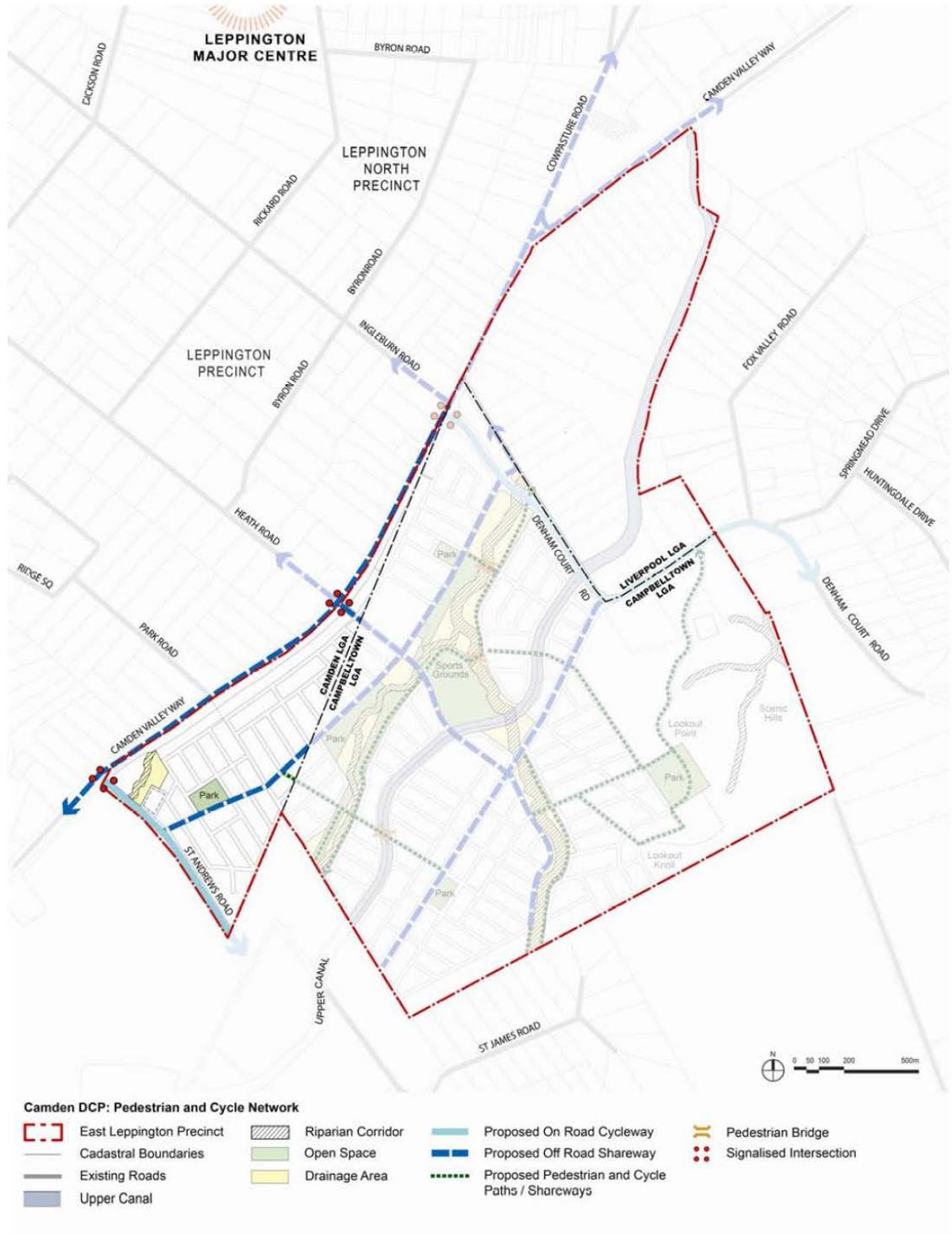
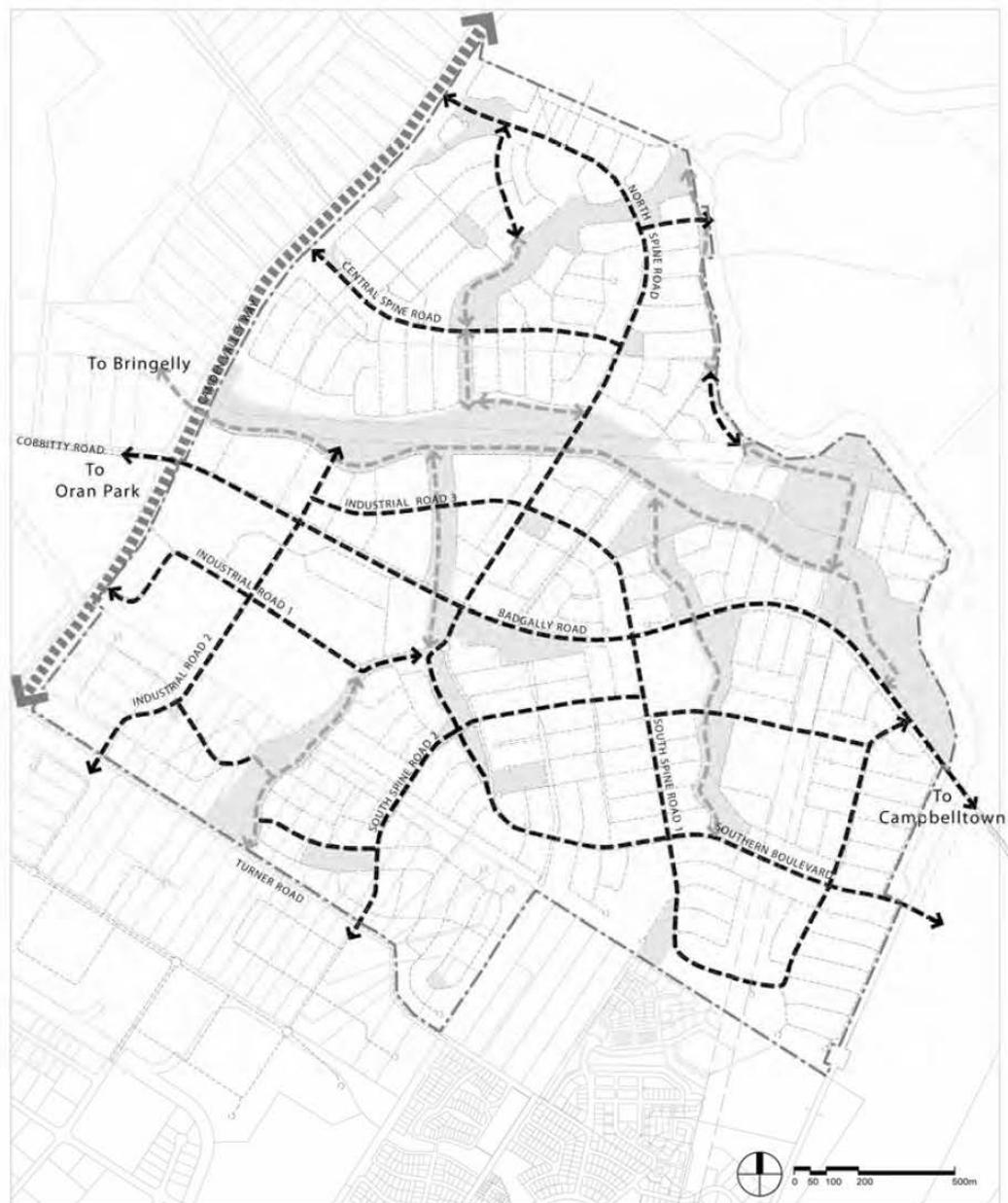


Figure 2-12 Pedestrian and cycleway network





### Pedestrian and Cycle Network

-  Precinct boundary
-  Pedestrian/cycleways within road reserve
-  Pedestrian/cycleways within open space system
-  RTA regional cycle route
-  Indicative local streets
-  Open space