

PO Box 215	Bondi NSW 2026
Phone	(02) 9332 2024
Fax	(02) 9332 2022
Mobile	0414 978 067
e-mail	o.s@tefconsult.com.au
www	http://www.tefconsult.com.au

HORNSBY BIKE PLAN REVIEW

FOR

HORNSBY SHIRE COUNCIL

WORKING PAPER 2 - DRAFT BICYCLE STRATEGY

Prepared for

Hornsby Shire Council

31 May 2018

17115 Hornsby Bike Plan Review WP2 Final.docx JOB No.: 17115

© This publication is copyright. Other than for the purposes and subject to conditions prescribed under the copyright act, no part of it may, in any form nor by any means (electric, mechanical, microcopying, photocopying, recording or otherwise), be reproduced, stored in a retrieval system or transmitted without prior written permission. Inquiries should be addressed to the company in writing.



Hornsby Bike Plan Review – Working Paper 2	Title
31/05/2018	Date
L. Hawley, A Tan and O. Sannikov	Author(s)
Hornsby Shire Council	Client
17115	Job No.
,	Quality
	Control
·	Reviewer
This report is believed to be true and correct at the time of writing. It is based on the information and data provided by the client and other relevant organisations during preparation. TEF Consulting does not accept any contractual, tortuous or other form of liability for any consequences arising from its use. People using the information in the report should apply and rely on their own skill and judgement to a particular issue they are considering.	Disclaimer
©This publication is copyright. Other than for the purposes and subject to conditions prescribed under the copyright act, no part of it may, in any form nor by any means (electric, mechanical, microcopying, photocopying, recording or otherwise), be reproduced, stored in a retrieval system or transmitted without prior written permission. Inquiries should be addressed to the company in writing.	

Title	Date	Author/s	Reviewer
		Names	Name
Working Paper 1 v1	22 March 2018	A T/L H	L Hawley
Working Paper 1 v2	27 March 2018	A T/L H	L Hawley
Working Paper 2	31 May 2018	A T/L H	L Hawley



Contents

1.	INTRODUCTION1
2.	NORTHERN DISTRICT ROUTES
2.1	MT KURING-GAI AND MT COLAH
2.2	HORNSBY HEIGHTS
2.3	BEROWRA AND BEROWRA HEIGHTS9
3.	CENTRAL DISTRICT ROUTES11
3.1	ASQUITH11
3.2	HORNSBY AND HORNSBY NORTH13
3.3	WAITARA AND WAHROONGA17
4.	SOUTHERN DISTRICT ROUTES
4.1	NORMANHURST, THORNLEIGH AND WESTLEIGH
4.2	PENNANT HILLS AND PENNANT HILLS WEST25
4.3	CHERRYBROOK AND CASTLE HILL
4.4	CHELTENHAM, BEECROFT AND EPPING NORTH
5.	SCHEDULE OF WORKS
5.1	SCHOOL ROUTES
6.2	MODEL ROUTES

List of Figures

FIGURE 2.1 MT KURING-GAI AND MT COLAH BICYCLE ROUTES	4
FIGURE 2.2 HORNSBY HEIGHTS BICYCLE ROUTES	7
FIGURE 2.3 BEROWRA AND BEROWRA HEIGHTS ROUTES	10
FIGURE 3.1 ASQUITH BICYCLE ROUTES	12
FIGURE 3.2 HORNSBY AND HORNSBY NORTH BICYCLE ROUTES	14
FIGURE 3.3 WAITARA AND WAHROONGA BICYCLE ROUTES	18
FIGURE 4.1 NORMANHURST, THORNLEIGH AND WESTLEIGH BICYCLE ROUTES	22
FIGURE 4.2 PENNANT HILLS AND PENNANT HILLS WEST BICYCLE ROUTES	26
FIGURE 4.3 CHERRYBROOK AND CASTLE HILL BICYCLE ROUTES	30
FIGURE 4.4 CHELTENHAM, BEECROFT AND EPPING NORTH BICYCLE ROUTES	34



List of Tables

TABLE 1.1 PLANNING DISTRICTS AND SUBURBS	1
TABLE 2.1 MT KURING-GAI AND MT COLAH BICYCLE ROUTES	5
TABLE 2.2 HORNSBY HEIGHTS BICYCLE ROUTES	8
TABLE 2.3 BEROWRA AND BEROWRA HEIGHTS BICYCLE ROUTES	10
TABLE 3.1 ASQUITH BICYCLE ROUTES	12
TABLE 3.2 HORNSBY AND HORNSBY NORTH BICYCLE ROUTES	14
TABLE 3.3 WAITARA AND WAHROONGA BICYCLE ROUTES	18
TABLE 4.1 NORMANHURST, THORNLEIGH AND WESTLEIGH BICYCLE ROUTES	23
TABLE 4.2 PENNANT HILLS AND PENNANT HILLS WEST BICYCLE ROUTES	27
TABLE 4.3 CHERRYBROOK AND CASTLE HILL BICYCLE ROUTES	31
TABLE 4.3 CHELTENHAM, BEECROFT AND EPPING NORTH BICYCLE ROUTES	35
TABLE 5.1 SCHEDULE OF WORKS - SCHOOL ROUTES	36
TABLE 5.2 SCHEDULE OF WORKS COSTING - MODEL ROUTES	37

APPENDICES

- A DRAFT 2018 BICYCLE NETWORK
- **B** SCHOOL ROUTES SCHEDULE OF WORKS AND MAPS
- C MODEL ROUTES SCHEDULE OF WORKS AND MAPS



1. INTRODUCTION

The 2018 bicycle network takes into consideration:

- The National and State policies and funding which presently address cycling access to the Sydney CBD. On the North Shore, the plans only extend as far north as Roseville for the next ten years. The State policy for Hornsby Shire is to progress local, not long distance cycling links.
- Previous Bike Plans and Updates which placed a priority on regional routes, many of which are on RMS roads which require RMS co-operation in development and funding.
- Hornsby Shire growth and land use distribution, specifically the higher density residential developments and the industrial/business zones, some of which are in construction phase.

This 2018 Bike Plan has an emphasis on local cycling facilities and links between suburbs. The longest distances are proposed for commuter links to the Hornsby Town Centre/Hornsby Station, Pennant Hills Shopping Centre and Cherrybrook Station.

The basis of this Bike Plan, are the three Planning Districts in the settled urban areas of the Shire. These are further divided into ten Planning Sub Districts which contain suburb groupings as illustrated in Table 2.1 below.

Sub District	Suburbs
North 1	Mount Colah & Mount Ku-ring-gai
North 2	Hornsby Heights
North 3	Berowra, Berowra Heights
Central 1	Asquith
Central 2	Hornsby
Central 3	Waitara, Wahroonga
South 1	Westleigh, Thornleigh, Normanhurst
South 2	Pennant Hills West Pennant Hills
South 3	Cherrybrook, Castle Hill
South 4	Beecroft, Cheltenham, Epping North

Table 1.1 Planning Districts and Suburbs

The Planning District maps have been used as a basis for developing the local networks. These maps have used Council's GIS data as well as generated data by TEF to present the road hierarchy as well as cycling generators and attractors.

Bicycle routes both on street and off street have been developed taking into consideration the following acceptable user risk exposure levels:

- Vulnerable cyclists (inexperienced, elderly, children);
- Experienced cyclists (adult, able bodied);
- Very experienced (adult commuters, fit and agile).

The trip purpose also has input into the appropriate facility type which have varying catchment areas and levels-of-service requirements. Specific engineering works are required to establish a bicycle network. Essentially the 2018 bicycle network consists of a hierarchy of routes in the following four categories:

1. <u>Local school routes</u> to public primary schools which constitute shared paths of 2.5m immediately around the school and continuous footpaths for up to 500m radius around each school. Where



necessary, traffic management is recommended to address crossing streets. 20 public primary schools are addressed.

- <u>Model cycling routes</u> which are evenly dispersed throughout the Shire and serve the purpose of introducing higher level facilities for a range of cycling proficiencies as examples of contemporary cycling facility provision. Seven such routes are identified.
- 3. <u>Local routes</u> to attractors such as neighbourhood centres, recreation areas and ovals, as well as local railway stations.
- 4. <u>Commuter routes</u> to the Hornsby Town Centre and Hornsby railway station, which would be used by experienced cyclists. The routes are continuous and have consistent signage and pavement markings as well as motor vehicle traffic speed management and bicycle facility accommodation though devices and intersections where necessary.

In this Bike Plan, the emphasis on 'bike/parking lanes' is reduced. From experience, it is clear that in many cases this does not constitute a usable facility, due to the rider exposure to doors being opened by car drivers into the space designated as the cycling area. The law in NSW has been changed, and drivers must allow at least one metre in distance when passing a cyclist. For roads with a speed limit of more than 60 kilometres per hour, 1.5 metres is needed when passing. If it is safe to pass a cyclist, drivers are allowed to move across a centre dividing line, broken or unbroken, into the other lane. They can also drive on a flat dividing strip and a painted island.

Council's traffic volume and speed data has been examined, and in those cases where an unseparated bike facility is proposed to share with cars, traffic calming devices are also proposed. It is highly recommended that these are implemented at the time of bicycle facility implementation with the appropriate community consultation. It is stressed that unless existing speeds on some roads in the Shire are lowered there will be community resistance to exposing themselves and their families to the unsafe road environment.

Maps 1 and 2 in Appendix A illustrate the 2018 Bicycle Network for the urban area of the Shire.



2. NORTHERN DISTRICT ROUTES

2.1 MT KURING-GAI AND MT COLAH

Mt Kuring-gai is a very small settlement spanning west and east of the Pacific Highway. There are three distinct areas – the eastern side has a primary school, community centre and access to the railway station while west of the Pacific Highway there are two settlements. The Beaumont Road industrial area is isolated on a ridge one kilometre north of the railway station area. The local primary school (Kuring-gai PS) has an estimated 10 cyclists per day. This school is the main cycling generator in the suburb. There were 178 children enrolled in the school in 2017, and the school is expected to grow modestly to 190 enrolments in the next five years. The new Aldi supermarket and associated shops lie on the western side, this is a potential cycling attractor due to the level of service in the centre.

The traffic environment is as follows:

- Beaumont Road in the industrial area is classified as a collector, all other streets are classified as local.
- Brisbane Avenue is a local road with volumes of 426vpd and 85th percentile speeds of 55km/h in a 50km/h speed limit.
- Bicycle crashes have occurred only on the Pacific Highway.
- The 1998 Bike Plan proposed no facilities in this area.
- The principal constraint is the Pacific Highway which dissects the suburb and isolates half the catchment from the school and the shops, however this is spanned by a pedestrian/cyclist bridge over the Highway. The connection to the road bridge on the eastern side is not safe for child pedestrians/cyclists.

The main opportunities are:

- To ensure that as many children as possible are able to cycle to school, from both sides of the Highway.
- That shoppers are encouraged to cycle to the shops.

Mt Colah is an expanding settlement spanning west and east of the Pacific Highway. There are three distinct ridge areas on the western side of the Highway and a small settlement on the eastern side eastern side which has a primary school, community centre and access to the railway station. The new development is five storey residential bounded by the Pacific Highway and the railway line north of Yirra Road which will yield 477 dwellings. The local primary school (Mt Colah PS) has an estimated 10-15 cyclists per day. This is the main cycling generator in the suburb. There were 460 children enrolled in the school in 2017, and the school is expected to grow to 500 enrolments in the next five years. The principal constraint is the topography which constrains development to isolated ridges west of the Highway.

The traffic environment is as follows:

- There is signalised access to the railway station and Yirra Road.
- All the entry ridge roads from the Highway are classified as collectors; most of the other streets are local.
- There are no speed/volume counts in the area.
- Bicycle crashes have occurred only on the Pacific Highway and Kuring-gai Chase Road a State Road.
- The 1998 Bike Plan proposed no bicycle facilities in this area.
- The Pacific Highway which dissects the suburb and isolates most of the school catchment from the school is a major constraint.



The main opportunity is to ensure that as many children as possible are able to cycle to school, from both sides of the Highway, and especially from the new high rise residential developments.



Figure 2.1 Mt Kuring-gai and Mt Colah Bicycle Routes



- Separated Two Way Bike Lane



	nd Mt Colah Bicycle Routes	
Route	Location	Facility Type
Mt Kuring-gai PS shared paths	Church St southern side from Low St to Leeming St (school side)	2.5m shared path
	Leeming St (school side) from Church St to King St	2.5m shared path
	King St (school side) to Brisbane Avenue	2.5m shared path
	Church St west from Leeming St to narrowing of footpath on overbridge	2.5m shared path
	Access roads from Pacific Highway to	a foot crossing (zebra) to access pedestrian
	railway overbridge	bridge over Pacific Highway
Mt Kuring-gai Local Connector Routes	Pacific Highway western side from Glenview St to Excelsior Road	2.5m shared path
	Pacific Highway on eastern side from Glenview St to Kuring-gai station	2.5m shared path
	Glenview St from Pacific Highway to Crawford Road	Mixed traffic lanes with logos
Mt Kuring-gai commuter routes	Pacific Highway on eastern side from Glenview St to Kuring-gai station	2.5m shared path
	Mt Kuring-gai Industrial area from	Road shoulder travelling north and south –
	Beaumont Road intersection on Pacific	crossing over at Glenview St signals to travel
	Highway to Mt Kuring-gai Station.	north
Mt Colah PS shared paths	Pierre Close from Community Centre on school side to Cowan Road	2.5m shared path
	Cowan Road (south side) to Gray St	2.5m shared path
	Pierre Close from Cowan Rd east side (school side) to Berowra Road	2.5m shared path
	Cross over new pedestrian refuge on	2.5m shared path
	Pierre Close north of Berowra Road to west side then to Yirra Road bridge	Pedestrian refuge
	Yirra Road bridge (north side) onto Pacific Highway east side along the frontage of the new high rise	2.5m shared path
	Pacific Highway on western side from signals at Mt Colah railway station north to Northumberland Road	2.5m shared path
	Pacific Highway western side from signals at Mt Colah railway station south to Rupert Street	2.5m shared path
Mt Colah Local Connector Routes	Excelsior Road from Pacific Highway to Galahad Close	Mixed traffic lanes with logos
	Lancelot St from Excelsior Road to Foxglove Oval	Mixed traffic lanes with logos
	Beryl Avenue from Pacific Highway to Oxley Drive	Mixed traffic lanes with logos
	Chestnut Road	Mixed traffic lanes with logos
	Northumberland Road from Pacific Highway to Landra Avenue	Mixed traffic lanes with logos
	Landra Avenue to Sprigg Place	Mixed traffic lanes with logos
Mt Colah commuter route	Pacific Highway western side from Excelsior Road to Parklands Road	2.5m shared path
	signals then across to Mt Colah station	

Table 2.1 Mt Kuring-gai and Mt Colah Bicycle Routes



2.2 HORNSBY HEIGHTS

Hornsby Heights is a ridge settlement focussed on Sommerville Road with an entry to Galson Road. The local primary school (Hornsby Heights PS) has an estimated 20 cyclists per day. This is the main cycling generator in the suburb. There were 432 children enrolled in the school in 2017. The closest small shopping centre with a supermarket and associated shops is on the northern side of Galston Road.

The traffic environment is as follows:

- Galston Road a State road.
- Sommerville Road is a collector with volumes of 5-6,000vpd and 85th percentile speeds of 58km/h in a 50km/h speed limit, indicating a measure of speeding.
- A bicycle/ parking lane is the bicycle facility on Galson Road, however the width of this facility is constrained with cyclists subject to parked car door collisions. Local cyclists tend to use the footpath.
- A bicycle crash has occurred at the intersection of Galson Road with Sommerville Road in the last five years.
- The 1998 Bike Plan proposed on road facilities on Sommerville Road in this area.
- The principal constraint is Galston Road which dissects the suburb and isolates the southern catchment from the school and the shops, however the intersection with Sommerville Road is signalised.

The main opportunities are:

- To ensure that as many children as possible are able to cycle to school, especially down Sommerville Road which is essentially flat.
- That shoppers are encouraged to cycle to the local shops on Galston Road.
- That the open space/oval complex at Rofe Park is easily accessible to children and their parents by cycling.



Figure 2.2 Hornsby Heights Bicycle Routes





Mixed Traffic Lanes with Logos
 Two Way Shared Bike Path
 Bike Parking Lanes with logos
 Traffic Signals on Proposed Routes



Location	Facility Type
Sommerville Road from Galston Road to Altona Street on eastern side	2.5m shared path
Galson Road eastern side from Sommerville Road to Evans St	2.5m shared path
Galson Road eastern side from Evans St to Rofe Park	2.5m shared path
Galson Road eastern side from Sommerville Road to Montview Parade	2.5m shared path
Montview Parade from Galson Road along frontage of Montview Park & Oval	2.5m shared path
Sommerville Road from Galston Road to entry to Berowra Valley Regional Park	Mixed traffic lanes with logos
Sommerville Road from Galston Road to entry to Berowra Valley Regional Park – - at 40km road pavement marking - midpoint Camiri St/Armen Way - south of Retford Way -entry/exit from Berowra Valley Regional Park	4 raised thresholds
Sommerville Road from Galston Road to entry to Berowra Valley Regional Park close to bus stops –	4 pedestrian refuges
- north of Koala Close	
	Sommerville Road from Galston Road to Altona Street on eastern side Galson Road eastern side from Sommerville Road to Evans St Galson Road eastern side from Evans St to Rofe Park Galson Road eastern side from Evans St to Rofe Park Galson Road eastern side from Sommerville Road to Montview Parade Montview Parade from Galson Road along frontage of Montview Park & Oval Sommerville Road from Galston Road to entry to Berowra Valley Regional Park Sommerville Road from Galston Road to entry to Berowra Valley Regional Park – - at 40km road pavement marking - midpoint Camiri St/Armen Way - south of Retford Way -entry/exit from Berowra Valley Regional Park Sommerville Road from Galston Road to entry to Berowra Valley Regional Park Commerville Road from Galston Road to entry to Berowra Valley Regional Park

Table 2.2 Hornsby Heights Bicycle Routes



2.3 BEROWRA AND BEROWRA HEIGHTS

These two suburbs merge west of the Pacific Highway. There is one continuous area which is bisected by Berowra Waters Road. The railway station is east of the Highway accessed by signals. It is the northernmost substantial village settlement before the Hawkesbury River. There are two public primary schools in the area. Wideview PS has 390 students, with a prediction of only 10 or so student increase in the next 5 years. Berowra PS did not respond to the survey. Additionally there are two private schools in the area. There are two supermarkets with associated shops on the western side of Turner Road in Berowra Heights.

The traffic environment is as follows:

- Berowra Waters Road is a Regional Road with speed/volume counts at two separate locations.
 - At 27 Berowra Waters Road there were volumes of approximately 12,600vpd and 85th percentile speeds of 52km/h in a 50km/h speed limit zone.
 - At 1 Kita Road there were volumes of approximately 1404vpd and 85th percentile speeds of 49km/h in a 50km/h speed limit zone.
- Alan Road is also a Regional Road with volumes of approximately 4,300vpd and 85th percentile speeds of 56km/h with a speed limit of 50km/h.
- All other streets are classified as collectors or local streets.
- Bicycle crashes have occurred only on Berowra Waters Road and at the intersection of the Pacific Highway. One crash on Turner Road has occurred in the last five years.
- The 1998 Bike Plan proposed access to local facilities and bike parking at the railway station. A cycling loop incorporating Galston Road and Berowra Waters Road for cycling clubs and distance cyclists was also proposed, with no specific infrastructure for this, except signage.
- Presently there is a bike/parking lane on Berowra Waters Road, used on weekends by club cyclists, while local families and children tend to use the footpath.

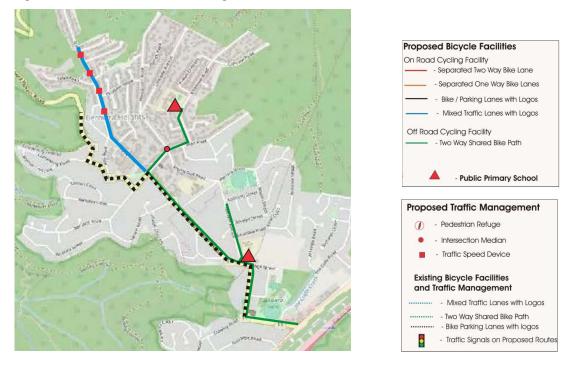
The principal constraint is Berowra Waters Road which dissects the suburb and is a regional road. There are no signals but pedestrian refuges and crossing facilities to accommodate schools and shops.

The main opportunities are

- To ensure that as many children as possible are able to cycle to school, from both sides of Berowra Waters Road.
- Shoppers are encouraged to cycle to the local supermarkets and shops.
- Children are able to access the parks and ovals by bicycle where the gradient is not prohibitive.
- Commuters can access the railway station the full length of Berowra Waters Road.



Figure 2.3 Berowra and Berowra Heights Routes



	• • • • •	
Route	Location	Facility Type
Wideview PS shared paths	Wideview Road from school gates to Alan Road on western side	2.5m shared path
	Alan Road from Berowra Waters Road to Wideview Road on northern side	2.5m shared path
	Woodcourt Road northern intersection with Alan Road	Centre median with gap to accommodate cyclists
	Berowra Waters Road from Alan Road to Warrina St on north-eastern side	2.5m shared path
Berowra PS shared paths	Hillcrest Road from Koorong St to Berowra Waters Road on eastern side	2.5m shared path
	Berowra Waters Road from Warrina St to Hillcrest Drive on north-eastern side	2.5m shared path
	Berowra Waters Road from Hillcrest Drive to Crowley Road on eastern side	2.5m shared path
Local Connector Routes	Turner Road from Alan Road to Gooraway Place	Mixed traffic lanes with logos
	Turner Road from Mangaloo St to Gooraway Place	4 Speed humps
Local connector / Commuter Route	Berowra Waters Road from Crowley Road to Pacific Highway on northern side	2.5m shared path



3. CENTRAL DISTRICT ROUTES

3.1 ASQUITH

Asquith is a growth area spanning west and east of the Pacific Highway. There are two distinct areas – the eastern side has a primary school, while west of the Pacific Highway is the commercial centre - a Coles supermarket and various strip shops. The Asquith residential growth area is on the Pacific Highway from Mt Colah to Hornsby either side of the Highway in the following precincts:

- Lord Avenue five storey residential 715 dwelling units yield.
- Baldwin Avenue town houses 118 dwelling units yield.
- Stokes Avenue town houses 47 dwelling units yield.
- Jersey Street North five storey residential 353 dwelling units yield.
- Hyacinth Street five storey residential 332 dwelling units yield.
- Bouvardia Street five storey residential 363 dwelling units yield.
- Citrus Avenue/Pacific Highway five storey residential 162 dwelling units yield.
- Asquith Commercial Centre ten storey mixed use 265 dwelling units and 8,000 m² retail/commercial.

The local primary school (Asquith PS) has an estimated 5-6 cyclists per day. There were 410 children enrolled in the school in 2017, and the school is expected to grow to 550 enrolments in the next five years.

The traffic environment is as follows:

- The principal constraint is the Pacific Highway/ Peats Ferry Road which dissects the suburb and isolates part of the school catchment from Asquith PS, and the eastern part of the suburb from the shops.
- Royston Parade is classified as a Regional Road with volumes of about 6,600vpd and 85th percentile speeds of 68km/h in a 60km/h speed limit area; Sherbrook Road, a regional road has volumes over 10,000vpd near Winston Street.
- Amor Street is a collector road with volumes of about 2,600vpd and 85th percentile speeds of 56km/h with a speed limit of 50km/h.
- Bicycle crashes have occurred at the intersections of Bridge Road with Peats Ferry Road and Sherbrook Road.
- The 1998 Bike Plan proposed a local route along Sherbrook Road linking to Bridge Road and a trunk route along Jersey Street linking to the station.
- Traffic management improvements as set out in the DCP include a pedestrian footbridge over the Highway south of the Baldwin Street, extension of Wattle Street to Amor Street, centre median on the Highway to prevent right hand turns and road widening of the Baldwin Avenue/Royston Parade intersection.

The main opportunities are

- Cycling shoppers/commuters both east and west of the Highway can access the Hornsby Town Centre and railway station safely.
- Cycling facilities are incorporated into the DCP traffic management improvements.
- Children who reside on the eastern side of the Pacific Highway can cycle safely to Asquith PS.



Figure 3.1 Asquith Bicycle Routes

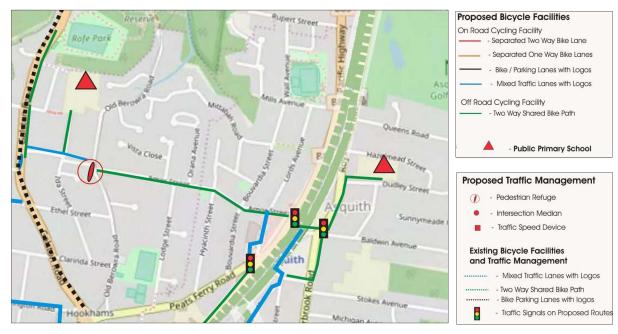


Table 3.1 Asquith Bicycle Routes

Route	Location	Facility Type
Asquith PS shared paths	Dudley St along school frontage and to Royston Parade	2.5m shared path
	Along Royston Parade on eastern side to signals, then across Baldwin Avenue on Sherbrook Road to Stokes Avenue	2.5m shared path
	Along Baldwin Avenue from signals to Haldane St pedestrian refuge	2.5m shared path
Local Connector Routes	Sutton Street from Galston Road to Ida Street	Mixed traffic lanes with logos
	Old Berowra Road south of Amor Street	Pedestrian/bike refuge
	Wattle Street from Amor Street to Pacific Highway signals	Mixed traffic lanes with logos
Commuter Route to Hornsby Town Centre - start of route	Haldane Street from Baldwin Avenue to Lockwood Street	Mixed traffic lanes with logos
Local Connector/ Commuter / Model Route	Amor Street from Pacific Highway to Old Berowra Road on southern side	2.5m shared path



3.2 HORNSBY AND HORNSBY NORTH

Hornsby and Hornsby North is a sprawling area which includes the Hornsby Town Centre, Hornsby Station, the old Hornsby Centre on Peats Ferry Road, the TAFE, the Aquatic Centre, a business/industrial area abutting the Hornsby Town Centre and the Hornsby Hospital. There are three distinct areas – the eastern side from George Street to the M2, the western section from the railway line to the Hornsby Quarry and the south western area which is primarily residential west of Pacific Highway and south of Hornsby Centre.

The Hornsby North growth area is:

- Galston road town houses 167 dwelling units yield.
- Belair Close five storey residential 217 dwelling units yield.
- Hornsby West Side 16-20 storey mixed use 1000 dwelling units and 30,000 m2 retail/commercial.
- Centre Masterplan on Peats Ferry Road indicates redevelopment with high rise housing up to 20 storeys high.

The local primary schools are Hornsby North PS and Hornsby South PS, and both are west of the Pacific Highway. Hornsby South PS on Clarke Road has an estimated 3 cyclists per day. There were 642 children enrolled in the school in 2017, and the school is expected to grow to 740 enrolments in the next five years. Hornsby North PS on Ida Parade did not respond to the survey. Waitara PS services the Hornsby suburb east of Sherbrook Road.

The Traffic Environment is as follows:

- The Pacific Highway, George Street and Jersey Street are State Roads.
- Regional roads include Edgeworth David Avenue, Sherbrook Road, College Crescent and the Pacific Highway from Galston Road to Jersey Road.
- The highest volumes on the Regional Roads are:
 - Edgeworth David Avenue with 13,000-22,000vpd
 - Sherbrook Road with over 13,000vpd,
 - Malsbury Road with over 13,000vpd,
 - Clarke Road with over 12,500vpd.
- The highest volumes and speeds on the local roads are:
 - Albert Street, is a local road accessing Hornsby Town Centre carries over 11,000vpd.
 - Silvia Street with 1800vpd and 85th percentile speeds of 46km/h with a speed limit of 50km/h in the area.
 - Stephen Street with 1000vpd and 85th percentile speeds of 45km/h with a speed limit of 50km/h in the area.
 - Clarinda Street with 450vpd and 85th percentile speeds of 44km/h with a speed limit of 50km/h in the area.
 - Pretoria Parade has 85th percentile speeds of 59km/h in a 50 km/h zone. No other speed counts were available.
- Bicycle crashes have occurred on Edgeworth David Avenue at the intersections with the Pacific Highway, Arthur Street and Balmoral Street; also in Derby Street behind the hospital. At Palmerston/Burdett intersection and on Peats Ferry Road in the shopping area.
- The 1998 Bike Plan proposed trunk facilities on Jersey Street, Sherbrook Road and an off road route from Pretoria Parade to Clarke Road. Local routes were also indicated.

The constraints to local cycling in this area are

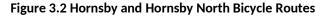
• The steep topography and poor visibility on road curves west of the Pacific Highway.



- State Roads, and high volumes on Regional Roads.
- The railway line with overbridges which form significant pinch points.

The main opportunities are

- To ensure that as many children as possible are able to cycle to school locally where the topography permits and streets are continuous away from the trafficked roads.
- Longer distance shopping and commuter routes encourage cycling to Hornsby Town Centre, the TAFE and Hornsby Station.







Route	Location	Facility Type
Hornsby North PS shared	Galston Road (east-side) from	2.5m shared path
paths	Cawthorne St to refuge near Sutton St Ida St west side from school to Link Road	2.5m shared path
Hornsby North Local connector routes	Sutton Street from Galston Road to Ida Street	Mixed traffic lanes with logos
connector routes	Link Road from Sutton Street to Old Berowra Road	Mixed traffic lanes with logos
	Old Berowra Road south of Amor Street	Pedestrian/bike refuge
Commuter Route Asquith to Hornsby station	Jersey Street on western side from Peats Ferry Road signals to Bridge Road signals	2.5m shared path
	Jersey Street from Peats Ferry Road signals to Station Street	Mixed traffic lanes with logos
Hornsby North Model Route/ Local Connector/ Commuter Route to HTC	Ethel Street from Galston Road to Rosamund Street	Mixed traffic lanes with logos
	Rosamund Street from Ethel Street to Carrington Road	Mixed traffic lanes with logos
	Carrington Road from Rosamund Street to Sylvia Street	Mixed traffic lanes with logos
	Sylvia Street from Carrington Road to Roper Lane	Mixed traffic lanes with logos
	Roper lane from Sylvia Street to Bridge Road	Mixed traffic lanes with logos
	Bridge Road on northern side from Roper Lane to Peats Ferry Road signals	2.5m shared path
	Bridge Road on northern side from Peats Ferry Road signals to Jersey Street signals	2.5m shared path
	Peats Ferry Road western side from Bridge Road signals to Dural Street	2.5m shared path
Commuter Route from HTC to Asquith	Lockwood Street from Heath Street to Lessing Street	Mixed traffic lanes with logos
·	Lessing Street from Lockwood Street to Stephen Street	Mixed traffic lanes with logos
	Stephen Street/Railway Parade to Denison Street	Mixed traffic lanes with logos
	Denison Street from Railway Parade to Miller Avenue	Mixed traffic lanes with logos
	Miller Avenue from Denison Street to Bridge Road signals	Mixed traffic lanes with logos
	Hunter Street from Bridge Road signals to Hornsby Town Centre	Mixed traffic lanes with logos
Hornsby South PS	Clarke Road from school crossing eastwards to Malsbury Road on school side (southern)	2.5m shared path
	Clarke Road from school crossing westwards on northern verge to bend in road	2.5m shared path
	Neutral Road on western side to Hall Road.	2.5m shared path
Recreation Route to Lisgar Gardens	William Street from Peats Ferry Road to Lisgar Road	Mixed traffic lanes with logos
	Lisgar Road from William Street to entry of park	Mixed traffic lanes with logos



Route	Location	Facility Type
Commuter Route to HTC from south-west	William Street from Peats Ferry Road to Frederick Street	Mixed traffic lanes with logos
	Frederick Street from William Street to No Stopping signs north of Nursery Street	Mixed traffic lanes with logos
	From No Stopping signs north of Nursery Street to Pretoria Parade roundabout	Separated one way bike lanes on both sides of the road
	Clovelly/Hall Roads from to Pretoria Parade roundabout to Neutral Road	Mixed traffic lanes with logos
	Neutral Road	Mixed traffic lanes with logos
	Clarke Road from Neutral Road to Malsbury Road	Mixed traffic lanes with logos
Commuter Route from HTC to Hornsby Hospital	Florence Street from Hornsby Mall to Muriel Street roundabout	Mixed traffic lanes with logos
	Muriel Street from roundabout to Edgeworth David Avenue	Mixed traffic lanes with logos
	Edgeworth David Avenue on northern side eastwards from Muriel Street to signals	2.5m shared path
	Edgeworth David Avenue on southern side eastwards from Muriel Street signals to Palmerston Road signals	2.5m shared path
	Palmerston Road from Edgeworth David Avenue signals to hospital entry	Mixed traffic lanes with logos



3.3 WAITARA AND WAHROONGA

The Waitara and Wahroonga area spans west and east of the Pacific Highway. It is adjacent to the Hornsby Town Centre, includes Waitara Station, a business/industrial area south of the railway line, existing high rise south of Edgeworth David Road to the railway line, which is still being developed. There are two distinct areas – the area east of the Highway, and the area west of the Highway which is low density residential with two large private colleges. There is a small shopping centre at the intersection of Palmerston Road/Edgeworth David Avenue. There is no shopping area west of the Highway, the nearest being Normanhurst.

The Waitara growth area is:

- Balmoral Street five storey residential 1213 dwelling units yield.
- Park Avenue ten storey residential 920 dwelling units yield.
- Palmerston Road five storey mixed use 91 dwelling units and 4,200 m² retail/commercial.

Waitara PS is the only public primary school in the area. It has an estimated 5 cyclists per day. There were 881 children enrolled in the school in 2017, and the school is expected to grow to 1000 enrolments in the next five years.

The Traffic Environment is as follows:

- The Pacific Highway and Pennant Hills Road are State Roads. Regional Roads include Edgeworth David Avenue and Sherbrook Road.
- The highest volumes on the Regional Roads are
 - Edgeworth David Avenue with 22,000vpd and 85th percentile speeds of 54km/h in a 60km/h speed limit area,
 - Sherbrook Road with over 13,000vpd,
 - Ingram Road with about 10,500vpd,
 - Alexandria Parade with between 8,500-10,000vpd and
 - Romsey Street with 9,000vpd.
- Jubilee Street is a local road with volumes of approximately 3,700vpd and 85th percentile speeds of 42km/h with a speed limit of 50km/h.
- Bicycle crashes have occurred on Edgeworth David Avenue at the intersection with Balmoral Street; at Unwin/Clarke Roads intersection and on the Pacific Highway at the M1 Motorway.
- The 1998 Bike Plan proposed a trunk facility on Yardley Avenue/Waitara Avenue/Sherbrook Road. Edgeworth David Avenue was indicated as a local route to Sherbrook Avenue.

The principal constraint is the Pacific Highway which dissects the area and isolates half the catchment from the Hornsby Town Centre. The crossings over the Highway are at signals.

The main opportunities are:

- Cycling a potential mode for local and cross suburban trips due to a fairly level topography.
- To ensure that as many children as possible are able to cycle to Waitara PS and the local parks and ovals, especially from the high rise developments and from both sides of Edgeworth David Avenue.
- Shoppers are encouraged to cycle to the local shops, as well as Hornsby Town Centre.
- A commuter route from Hornsby Station to Hornsby Hospital is developed which avoids the topographic constraints.



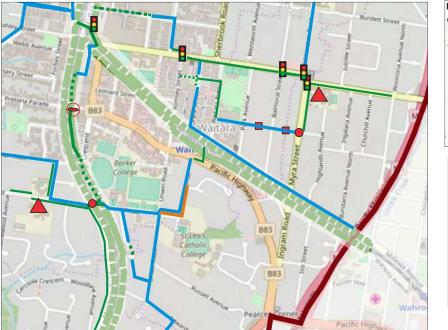


Figure 3.3 Waitara and Wahroonga Bicycle Routes



Table 3.3 Waitara and Wahroonga Bicycle Routes

Route	Location	Facility Type
Waitara PS shared paths	Edgeworth David Avenue eastwards from Myra St to Churchill Ave, southern side	2.5m shared path
	Edgeworth David Ave westwards from Myra St to Balmoral Ave, southern side	2.5m shared path
	Myra St (school side) to Oleander Rd	2.5m shared path
Local connector route Waitara	Edgeworth David Ave westwards from Balmoral Avenue to signals at Romney Street, southern side (as in Hospital Route)	2.5m shared path
Local connector/recreation route Waitara	Through open space from Romney Street to Orana Street cul-de sac	Existing shared path
	Orana Street cul-de sac to Waitara Avenue	2.5m shared path
	Waitara Avenue eastern side along reserve to Park lane	2.5m shared path
	Park Lane from Waitara Avenue to Myra Street	Mixed traffic lanes with logos
	Park Lane from Park Avenue to Myra Street	Speed humps
	Myra Avenue at Park Lane	Pedestrian/cyclist gaps in existing median
Waitara Commuter Route to HTC	Florence Street from Hornsby Mall to Muriel Street (as in Hospital Route)	Mixed traffic lanes with logos
	Muriel Street from Florence Street to Edgeworth David Ave (as in Hospital Route)	Mixed traffic lanes with logos
	Edgeworth David Avenue on northern side eastwards from Muriel Street to signals (as in Hospital Route)	2.5m shared path



Route	Location	Facility Type
	Orara Street from Edgeworth David Ave to cul-de-sec head	Mixed traffic lanes with logos
	Orara Street from cul-de-sec head to Alexandra Parade	Mixed traffic lanes with logos
	Alexander Parade from Orara Street to Kuring-gai Council boundary at freeway overbridge	Mixed traffic lanes with logos
Waitara/Wahroonga Commuter Route to Waitara Station	Clarke Road from roundabout at railway overbridge to Unwin Road	Mixed traffic lanes with logos
	Clarke Road from Unwin Road to Yardley Avenue eastbound	Mixed traffic lanes with logos
	Clarke Road from Yardley Avenue westbound to Unwin Road	Separated one-way bike lane
	Yardley Avenue from Clarke Road northbound to Pacific Highway Yardley Avenue southbound from	Mixed traffic lanes with logos
	Yardley Avenue southbound from Pacific Highway to Clarke Road Pacific Highway southern side from	Separated one–way bike lane 2.5m shared path
	Yardley Avenue to pedestrian signals Dismount and cross over to station	Mixed pedestrian/bike shared way
	entry	
Wahroonga Commuter Link to Normanhurst	Unwin Road from Clarke Road to Edwards Road	Mixed traffic lanes with logos
	Edwards Road from Unwin Road to Denman Parade	Mixed traffic lanes with logos
Wahroonga/Waitara Commuter Route to HTC	Karinya Place from Unwin Road to walkway	Mixed traffic lanes with logos
	Marillian Avenue from walkway to Clarke Road	Mixed traffic lanes with logos
	Clarke Road through roundabout to College Crescent off road path on western side	
	College Crescent off road path on western side to pedestrian refuge on Pretoria Parade	Existing 2.5m shared path on western side
	Pretoria Avenue Link from College	2.5m shared path behind residential
	Crescent to Pretoria Avenue	properties Pedestrian/bike refuge
	Across Pretoria Avenue east of railway overpass	reacsulariybike reluge
	Wanderers Way from Pretoria Avenue to Pound Road	Mixed traffic lanes with logos
	Pound Road and Government Road to Pacific Highway	Mixed traffic lanes with logos
	Pacific Highway from Government Road on southern side to High Street	2.5m shared path



4. SOUTHERN DISTRICT ROUTES

4.1 NORMANHURST, THORNLEIGH AND WESTLEIGH

Normanhurst and Thornleigh form a large low density residential settlement and industrial area west and east of the Pacific Highway. Westleigh is an outlying residential suburb. East of Pennant Hills Road, the topography slopes to Coups Creek. West of Pennant Hills Road, the topography is more level, but with some distinct valley areas.

There are two railway stations in this area - Normanhurst and Thornleigh.

The Normanhurst Road Commercial centre growth area is:

• Denman Parade - five storey mixed use - 79 dwelling units and 3,700 m² retail/commercial.

Thornleigh Station area growth is:

• Station Street - five storey residential - 439 dwelling units.

Pennant Hills Road Commercial Centre - ten storey mixed use - 390 dwelling units and 7,000 m² retail/commercial.

There are three public primary schools in the area. Thornleigh West PS in Giblet Avenue has an estimated 10-15 cyclists per day. There were 600 children enrolled in the school in 2017, and the school is expected to grow modestly to 630 enrolments in the next five years. Normanhurst West PS on Dartford Road and Normanhurst PS on Normanhurst Road did not respond.

The main shopping areas are Thornleigh shopping centre at the Pennant Hills Road/The Comenara Parkway intersection, Normanhurst Village near Normanhurst station and Westleigh neighbourhood centre on Duffy Avenue. A small local clutch of shops is on Sefton Road/Gilgandra intersection in Thornleigh.

The Traffic Environment is as follows:

- The area has highly trafficked Regional roads in the area some of which carry industrial traffic:
 - The Esplanade at Wells Street 24,400vpd+ (2009)
 - Sefton Road west of Adamson Street over 19,500vpd
 - Milson Parade between Harris Road and Bryan Avenue close to 18,700vpd with 85th percentile speeds of 63km/h in a 60km/h speed limit zone.
 - Chilvers Road south of Sefton Road over 18,500vpd (2009)
 - Duffy Avenue near Pioneer Avenue over 10,00vpd (2009)
 - Quarter Sessions Road between Duffy Avenue and Bottle Brush Road approximately 4,500vpd with 85th percentile speeds of 57km/h in a 50km/h speed limit zone.
- Bicycle crashes have occurred on the Pacific Highway, Sefton Road near Lockerbie Avenue, and in the Central Avenue industrial area, Thornleigh.
- The 1998 Bike Plan indicated RTA Regional routes on The Esplanade, Chilvers Road, Duffy Avenue. Trunk routes were also indicated on Midson Road/Malsbury Road.

The principal constraint is the number of regional roads which carry high volumes of industrial traffic. While Pennant Hills Road dissects the suburbs, connections across are available at signals and in one instance, an overbridge.



The main opportunities are:

- to create local bypass routes to the highly trafficked routes
- to ensure that footpaths are of a high standard and safe crossing facilities are installed in order to encourage children to cycle to school where the topography permits,
- shoppers are encouraged to cycle to local shops
- a safe commuting route is established to link to Hornsby Town Centre.

GE;

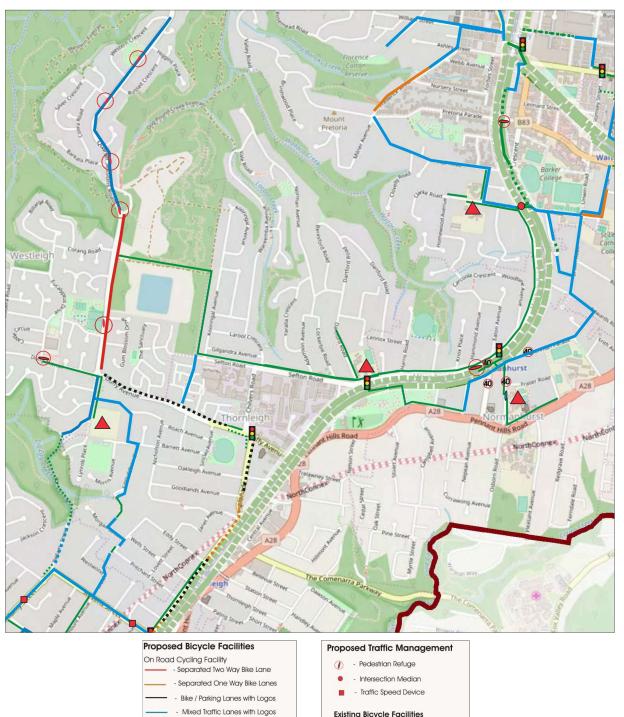


Figure 4.1 Normanhurst, Thornleigh and Westleigh Bicycle Routes

Existing Bicycle Facilities and Traffic Management

- Mixed Traffic Lanes with Logos
 Two Way Shared Bike Path
- Bike Parking Lanes with logos
- Traffic Signals on Proposed Route

Off Road Cycling Facility

- Two Way Shared Bike Path

- Public Primary School



Table 4.1 Normanhurst, Thornleigh and Westleigh Bicycle Routes	
--	--

Route	Location	Facility Type
Thornleigh West PS shared paths	Quarter Sessions Road on school side from Duffy Ave to pedestrian refuge south of Nicholson Ave.	2.5m shared path
	Duffy Ave west of Quarter Sessions Road southside to Eucalyptus Drive	2.5m shared path
	Duffy Ave east of Eucalyptus Drive	Pedestrian/bike refuge
Normanhurst West PS	Dartford Road from Sefton Road to bend on eastern side Sefton Road to Larool Crescent on	2.5m shared path2.5m shared path
	northern side Milson Parade from Dartford Road to	2.5m shared path
	Harris Rd northern side	
Normanhurst Rd PS	Normanhurst Road from pedestrian school crossing to Pennant Hills Road Normanhurst Road on western side	2.5m shared path 2.5m shared path
	from pedestrian school crossing to Denham Parade	2.5m shareu path
	Pennant Hills Rd from Normanhurst Road to Fraser Road northside	2.5m shared path
Normanhurst local Link to Brickpit Park/Kenley Park	Dartford Road from signals at Milson Parade to signals at Pennant Hills Road on western side	2.5m shared path
	Across signals at Pennant Hills Road on northern side to Huddart Avenue	2.5m shared path
	Huddart Avenue from Pennant Hills Road to Denman Parade Denman Parade from Huddart Avenue	Mixed traffic lanes with logos Mixed traffic lanes with logos
Westleigh local Link to	to railway overbridge Quarter Sessions Road from Duffy	Mixed traffic lanes with logos
Berowra Valley off road path	Avenue to Timbarra Road	
	Timbarra Road from Quarter Sessions Road to entry to off road shared path	Mixed traffic lanes with logos
Westleigh local Link from Sefton Road to Duffy Avenue	Wild Ash Way from Sefton Road to Duffy Avenue	Mixed traffic lanes with logos
Thornleigh/Normanhurst local Link to Brickpit Park/Kenley Park	Dartford Road from signals at Milson Parade to signals at Pennant Hills Road on western side	2.5m shared path
	Across signals at Pennant Hills Road on northern side to Huddart Avenue	2.5m shared path
	Huddart Avenue from Pennant Hills Road to Denman Parade	Mixed traffic lanes with logos
	Denman Parade from Huddart Avenue to railway overbridge	Mixed traffic lanes with logos
Westleigh/Pennant Hills Town Centre Link	Nicolson Avenue from Quarter Sessions Road to Dobson Street	Mixed traffic lanes with logos
	Dobson Street from Nicolson Avenue to Giblett Avenue from Dobson Street to Edmonson Close	Mixed traffic lanes with logos
	Over Zig Zag Creek and Reserve to Dale Close	2.5m shared path
	Dale Close to Morgan Close	Mixed traffic lanes with logos
	Morgan Close from Dale Close to Tillock	Mixed traffic lanes with logos



Route	Location	Facility Type
	Street	
	Tillock Street southbound to off road walkway	Mixed traffic lanes with logos
Westleigh/Thornleigh commuter route to Normanhurst Station	Off road from Quarter Sessions Road opposite Coorang Road through reservoir reserve to Sefton Road	2.5m shared path
	Sefton Road on northern side from off road path to Milson Parade east of Hammond Avenue	2.5m shared path
	Milson Parade between Hammond Avenue/Denman Avenue railway bridge	Pedestrian/bike refuge
	Milson Parade between pedestrian/bike refuge and Denman Avenue railway bridge on southern side	2.5m shared path
	Denman Avenue railway bridge on eastern side then northern side to railway station entry	2.5m shared path
Quarter Sessions Road Model Route / commuter / recreation & school link	Quarter Sessions Road from Duffy Avenue to Warrigal Drive (south)	On road separated 2 way bike lanes
	Quarter Sessions Road from Warrigal Drive to Western Crescent (north)	Mixed traffic lanes with logos
	Opposite Ruddock Park	Pedestrian/bike refuge
	Near Warrigal Drive (south)	Pedestrian/bike refuge
	Near Barkala Place	Pedestrian/bike refuge
	Near Silver Crescent	Pedestrian/bike refuge
	Opposite playground north of Western Crescent	Pedestrian/bike refuge
Normanhurst Commuter Route to HTC	Milson Parade/Malsbury Road from Hammond Avenue to Clarke Road on north/western side	2.5m shared path
	North of Clarke road rail bridge cross over Malsbury Road	centre median
	Malsbury Road short link to Normanhurst shops and station through Eaton Avenue signals, then on southern side of Malsbury Road to railway bridge	2.5m shared path
Thornleigh/Normanhurst local Link to Brickpit Park/Kenley Park	Dartford Road from signals at Milson Parade to signals at Pennant Hills Road on western side	2.5m shared path
	Across signals at Pennant Hills Road on northern side to Huddart Avenue	2.5m shared path
	Huddart Avenue from Pennant Hills Road to Denman Parade	Mixed traffic lanes with logos
	Denman Parade from Huddart Avenue to railway overbridge	Mixed traffic lanes with logos
Normanhurst Commuter Route from Normanhurst shops Wahroonga/Waitara	Denman Parade from railway station entry to Edwards Road	Mixed traffic lanes with logos
Commuter link from Duffy Avenue to The Esplanade	Duffy Avenue from end of bike/parking lane northern side to Chilvers Road signals	2.5m shared path
	The Esplanade eastern side from Duffy Avenue to start of bike/parking lane	2.5m shared path



4.2 PENNANT HILLS AND PENNANT HILLS WEST

Pennant Hills and Pennant Hills West are principally low density residential settlement with a small residential area east of Pennant Hills Road together with Pennant Hills Park. There is one railway station in the area which attracts commuters from Cherrybrook, Castle Hill and the villages in the rural area. A multistorey commuter car park services the parking demand, which is accessed from Pennant Hills Road.

Pennant Hills redevelopment is:

• Fisher Avenue - five storey residential - 133 dwelling units.

West Pennant Hills area growth is:

• Thompsons Corner - five storey mixed use - 347 dwelling units and 16,000m² retail/commercial.

There are two public primary schools in the area. Pennant Hills PS in Weemala Avenue which has about 8 cyclists per day. There were 550 children enrolled in the school in 2017, and the school is expected to grow modestly to 600 enrolments in the next five years. Pennant Hills West PS on Church Street has about 20 cyclists per day. There were 651 children enrolled in the school in 2017, and the school is expected to grow to 700 enrolments in the next five years.

The main shopping areas are Pennant Hills shopping centre accessed from Yarra Road and West Pennant Hills Shopping Centre at the Pennant Hills Road/Castle Hill Road intersection.

Bicycle crashes haven occurred on

- Pennant Hills Road,
- Yarra Road near Ramsay Road,
- Bellamy Street east of Boundary Road,
- Victoria Road west of Wilson Road and at New Line Road.

The Traffic Environment is as follows:

- The area has some highly trafficked Regional Roads in the area:
 - Yarra Road near Wells Street 24,100vpd+ (2016)
 - Bellamy Street between Malahide Road and Laurence Street approximately 17,200vpd with 85th percentile speeds of 55km/h in a 50km/h speed limit area.
 - Stevens Street near Willis Avenue over 15,500vpd (2010)
 - Bellamy Street near Boundary Road about 11,500vpd (2016)
 - Victoria Road between Loftus Road and Wilson Road around 3,400vpd with 85th percentile speeds of 56km/h in a 50km/h speed limit area.
- Ramsay Street is a local road with volumes of about 5,000vpd and 85th percentile speeds of 37km/h with a speed limit of 50km/h.
- The 1998 Bike Plan indicated RTA Regional routes on The Esplanade, Bellamy Road and Victoria Road. Boundary Road is indicated as a trunk route. The only local routes indicated are connectors to Pennant Hills High School.

The principal constraint is the trafficked Regional Roads which surround the Pennant Hills shopping centre area. These are all residential streets with driveways and on street parking.

The main opportunities are:

• Create local bypass routes to the highly trafficked routes and/or create high quality facilities by restricting on street parking where feasible and traffic management to restrict speeds.



- Ensure that footpaths are of a high standard and safe crossing facilities are installed in order to encourage children to cycle to school where the topography permits.
- Shoppers are encouraged to cycle to the Pennant Hills regional shopping centre and the local Pennant Hills West centre.

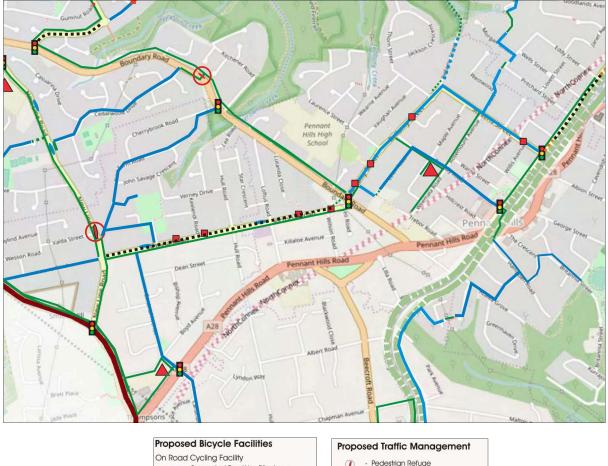


Figure 4.2 Pennant Hills and Pennant Hills West Bicycle Routes

 Pedestrian Refuge 	
 Intersection Median 	
 Traffic Speed Device 	
Existing Bicycle Facilities	
and Traffic Management	
- Mixed Traffic Lanes with Logos	
- Two Way Shared Bike Path	
- Bike Parking Lanes with logos	
- Traffic Signals on Proposed Routes	
•	



Route	Location	Facility Type
Pennant Hills PS shared paths	Weemala Road from Trebor Road to Ramsay Rd on north-western side Rosemount Avenue from Ramsay Road to Stephens Street on north-western side	2.5m shared path 2.5m shared path
	Ramsay Rd from Weemala Road to Bellamy Street south-west (school side) Greycliffe Avenue fronting school	2.5m shared path 2.5m shared path
Pennant Hills West PS shared paths	Church Street southern side	2.5m shared path
	Cardinal Avenue western side from Church Street to Pennant Hills Road Castle Hill Road eastern side from New Line Road to overhead bridge over	2.5m shared path 2.5m shared path
	Castle Hill Road	
Thornleigh/Pennant Hills Park Recreation Link	Yarra Road northside from Eddy Street to Ramsey Road signals	2.5m shared path
	Ramsey Road signals on southside to overpass on Pennant Hills Road	2.5m shared path
	On overpass to Hampden Road then to The Crescent	Mixed traffic lanes with logos
	The Crescent from Hampden Road to Charlotte Road/ Britannia Street into Pennant Hills Park	Mixed traffic lanes with logos
Westleigh/Pennant Hills Town Centre Link	From walkway on Tillock Street to Westwood Street	Mixed traffic lanes with logos
	Westwood Street from Tillock Street to Stevens Street From Westwood Street north to existing raised pedestrian crossing on	Mixed traffic lanes with logos 2.5m shared path
	Stephens Street Rosemount Avenue northern side from Stephens Street to Ramsay Road (also school route)	2.5m shared path
Cherrybrook/Pennant Hills Town Centre Link	Boundary Road eastern side from Francis Greenway Drive to Bellamy Street signals	2.5m shared path
	Bellamy Street south eastern side from signals to Malahide Road	2.5m shared path
	Malahide Road to shared path link to Leith Road	Mixed traffic lanes with logos
	Leith Road from shared path to Ramsay Road	Mixed traffic lanes with logos
	Ramsay Road from Leith Road to Yarra Road	Mixed traffic lanes with logos
Victoria Road/ Bellamy Street Commuter Route	Victoria Road from New Line Road to Boundary Street signals – change treatment	Mixed traffic lanes with logos
	Victoria Road from New Line Road to Boundary Street signals	4 speedhumps
	Bellamy Street from Boundary Road signals to Stephens Street Bellamy Street from Boundary Road	Mixed traffic lanes with logos 3 speedhumps
	signals to Stephens Street	



Route	Location	Facility Type
	Stephens Street from Bellamy Street to Yarra Road	Mixed traffic lanes with logos
	Stephens Street near Willis Avenue	1 speedhump
Shopping/station link	Cardinal Avenue from Victoria Road to Pennant Hills Road	Mixed traffic lanes with logos
	Pennant Hills Road north-western side from Cardinal Avenue to shopping centre	2.5m shared path
	Castle Hill Road eastern side from New Line Road to Cherrybrook Station	2.5m shared path
New Farm Road local links	New Farm Road from New Line Road to Boundary Road signals	Mixed traffic lanes with logos
	Cheyne Walk from New Farm Road to Campbell Park	Mixed traffic lanes with logos
	Attunga Avenue/Wilga Street to Campbell Park	Mixed traffic lanes with logos

4.3 CHERRYBROOK AND CASTLE HILL

Cherrybrook and Castle Hill are low density residential settlements on the fringe of the urban area.

The Cherrybrook station is being constructed on Castle Hill Road. This will be completed within the next 3 years. Presently there is a high reliance on the private car for commuting. The Cherrybrook Station Precinct will include - five storey mixed use - 2815 dwelling units and 2,400m² retail/commercial.

There are three public primary schools in the area:

- Oakhill Drive PS on Oakhill Drive has a catchment area which extends east over New Line Road to the James Henty Drive area, it has about 2-3 cyclists per day. There were 753 children enrolled in the school in 2017. The principal pointed out that the hilly area mitigates against cycling.
- John Purchase PS and Cherrybrook PS did not respond to the survey.

The main shopping areas are Cherrybrook Shopping Village on Shepherds Drive, the Apple Tree neighbourhood shopping centre on Shepherds Drive and the Oakhill Village Shopping Centre on David Road /Oakhill Drive intersection.

The existing Traffic Environment is as follows:

- Boundary Road is a State Road;
- The area has the following Regional Roads:
 - County Drive between Treetops Road and John Road approximately 15,900vpd with 85th percentile speeds of 65km/h in a 60km/h speed limit area.
 - New Line Road near Cedarwood Drive over 14,000vpd (2016).
- Major collectors and local collectors are:
 - Shepherds Drive -speed/volume counts at two separate locations.
 - 24 Shepherds Drive approximately 13,400vpd and 85th percentile speeds of 54km/h in a 50km/h speed limit zone.
 - 91 Shepherds Drive approximately 7,400vpd and 85th percentile speeds of 54km/h in a 50km/h speed limit zone.
 - Macquarie Drive near Callistemon Crescent over 6,300vpd (2016)
 - Purchase Road between Hancock Drive and Kentia Parade approximately 2,100vpd with



- 85th percentile speeds of 63km/h with a designated speed limit of 50km/h.
- Cedarwood Drive near Maybush Place around 1,400vpd with 85th percentile speeds of 60km/h in a 50km/h speed limit area.
- Only one bicycle crash was documented on Shepherds Drive at the Apple Tree neighbourhood shopping centre.
- The 1998 Bike Plan indicated a trunk route on Boundary Road to David Road, then along Oakhill Drive to Tawmii Place, then Old Northern Road.

The principal constraints are:

- Very steep gradients on approach to Castle Hill Road.
- Lack of speed restrictions and safe crossing points on collector roads.
- Curvilinear roads which encourage speeding and visibility problems for active transport.
- Lack of crossing facilities for pedestrians/cyclists at the Boundary Road/County Drive intersection encouraging vehicle use for short local trips.

The main opportunities are:

- Create a safer local road environment by restricting the speed of vehicles.
- Ensure that footpaths are of a high standard and safe crossing facilities are installed in order to encourage children to cycle to school.
- Upgrading of the Boundary Road/County Drive intersection to signals to encourage active transport for the shopping trip to Cherrybrook Village Centre and recreation facilities which exist in that precinct.



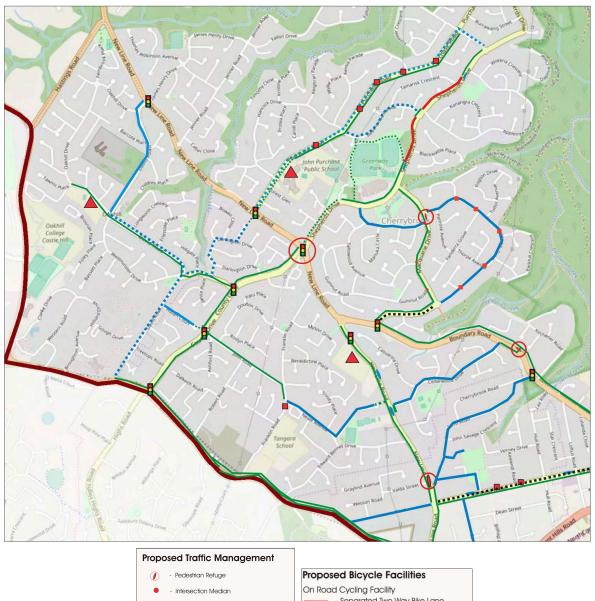


Figure 4.3 Cherrybrook and Castle Hill Bicycle Routes





Route	Location	Facility Type
Cherrybrook PS shared paths	New Line Road on western side (school side) from park/playground near Boundary Road roundabout to Victoria Road roundabout	2.5m shared path
	Near New Farm Road	Pedestrian/bike refuge
John Purchase PS shared paths	Purchase Road from Eldridge St to New Line Road on southern (school) side Purchase Road from school crossing to	2.5m shared path5 speed humps
	Eldridge Street	
Oakhill Drive PS shared paths	David Road from Oakhill Dr roundabout to Woodgrove Ave roundabout on southern (school) side	2.5m shared path
	Cross to south of roundabout Woodgrove Avenue southern side from David Road to County Drive signals	gap in roundabout median 2.5m shared path
	Oakhill Drive from David Rd roundabout southern (school) side to Springthorpe	2.5m shared path
East-west local connector route	Way Haven Court from David Road to path through reserve	Mixed traffic lanes with logos
	Path through reserve and cross at County Drive signals	2.5m shared path
	John Road on northern side from County Drive signals to Franklin Road	2.5m shared path
	Franklin Road western side from John Road to Neale Avenue	2.5m shared path
	Franklin Road south of Neale Avenue intersection at start of 40km/h school zone	speedhump
	Neale Avenue from Franklin Road to Bowerman Place	Mixed traffic lanes with logos
	Bowerman Place	Mixed traffic lanes with logos
	Bowerman Place path from Bowerman Place to New Line Road	2.5m shared path
	New Line Road from Bowerman Place path on western side shared path (school route) to existing pedestrian refuge	Signage
	New Line Road eastern side from existing pedestrian refuge to Cedarwood Drive	2.5m shared path
	Cedarwood Drive from New Line Road to Boundary Road	Mixed traffic lanes with logos
	Boundary Road on southern side from Cedarwood Road to new pedestrian/bike refuge	2.5m shared path
	Boundary Road 55m south of Cedarwood Drive intersection to link with Boundary Road shared path	Pedestrian/bike refuge
David Road/New Line Road connector	David Road from New Line Road to Oakhill Drive	Mixed traffic lanes with logos
Macquarie Drive / Francis Greenway Drive Link	Macquarie Drive western side from Shepherds Drive to Francis Greenway Drive	2.5m shared path

Table 4.3 Cherrybrook and Castle Hill Bicycle Routes



Route	Location	Facility Type
	Macquarie Drive between Kenburn Avenue and Francis Greenway Drive	Pedestrian/bike refuge
	Kenburn Avenue intersection with Macquarie Drive	Intersection median
	Tallowwood Avenue intersection with Macquarie Drive	Intersection median
	Gumnut Road intersection with Macquarie Drive	Intersection median
	Francis Greenway Drive on northern side from Macquarie Drive to Boundary Road signals	2.5m shared path
Kenburn Avenue connector to shops	Kenburn Avenue from Macquarie Drive to Shepherds Drive	Mixed traffic lanes with logos
Francis Greenway Drive connector	Francis Greenway Drive from Macquarie Drive near Kenburn Avenue to Macquarie Drive roundabout	Mixed traffic lanes with logos
	Mixed traffic lanes with logos	5 speed humps
Shepherds Drive Model Route/ school & shopping connector	Shepherds Drive on northern side from existing shared path to existing pedestrian refuge north of Macquarie Drive	2.5m shared path
	Shepherds Drive on western side from existing pedestrian refuge to 20m from roundabout at Beechworth Parade	Separated 2 way bike lanes
	Shepherds Drive on western 20m south and north of roundabout at Beechworth Parade	2.5m shared path
	Shepherds Drive on western side from shared path 20m north of Beechworth Parade roundabout to existing pedestrian refuge opposite Appletree Shopping Centre	Separated 2 way bike lanes
	Shepherds Drive on western side from existing pedestrian refuge opposite Appletree Shopping Centre to Elridge Street	2.5m shared path
Cherrybrook Station Castle Hill Road Commuter Route	Castle Hill Road from David Street to overpass at Pennant Hills West shopping centre	2.5m shared path
Cherrybrook Station north- south commuter connector	Shepherds Drive/County Drive/Boundary Road intersection	Traffic signals
	County Drive western side from Boundary Road to John Road	2.5m shared path
	County Drive eastern side from John Road to Castle Hill Road	2.5m shared path



4.4 CHELTENHAM, BEECROFT AND EPPING NORTH

Cheltenham, Beecroft and Epping North constitute that part of the Shire from which all land south of the M2 motorway was re-distributed to Parramatta Council. Links still exist with that land in the form of the Hornsby DCP designating land use changes, an operating school catchment, and links to a the Epping regional centre which services the Epping North area.

The commercial centres in the area are:

- Epping Town Centre just outside the Shire
- Beecroft Village at the railway station.
- Malton Road neighbourhood centre in North Epping.

The Beecroft area growth is:

Beecroft Road in commercial centre - five storey mixed use - 8557 dwelling units and 2,300m² retail/commercial.

There are three public primary schools which service the area. Unfortunately none of these schools responded to the survey:

- Beecroft PS (712 students in 2013) and Epping North PS (414 students in 2013) have a catchment which is fully within the Shire.
- Epping Heights PS (322 students in 2013) is located south of the M2 motorway with a catchment north of the motorway.

The area is serviced by the Beecroft and Cheltenham railway stations within the Shire as well as Epping station.

The Traffic Environment is as follows:

- Beecroft Road is a State Road.
- Copeland Road in Beecroft is classified as a Regional Road.
- All other streets are classified as collector and local Council roads.
- Volumes are available for the following roads:
 - Sutherland Road Beecroft, a collector over 1,300vpd (2016), with 85th percentile speeds of 62km/h in a 50km/h zone.
 - Kirkham Street Beecroft, a major collector over 5,300vpd (2012), with 85th percentile speeds of 50km/h in a 50km/h zone.
- Bicycle crashes have occurred:
 - At the Beecroft Road/Copeland Road intersection, and one on the overbridge of the M2 motorway.
 - At the On Castle Howard Road mid block
 - At the Dalton Road/Boundary Road intersection, Epping North.
- The 1998 Bike Plan proposed the following as trunk routes:
 - Sutherland Road.
 - Chapman Avenue/Cardinal Avenue linking across Pennant Hills Road to Victoria Road.

Beecroft Road redevelopment in the area bounded by Chapman Avenue and Wongala Crescent will yield 855 dwellings and 2,300m² of retail and commercial area.

The principal constraint is Beecroft Road which dissects the two northern suburbs and splits the school and



retail village catchments.

The main opportunities are:

- Ensure that as many children as possible are able to cycle to school, from both sides of the Beecroft Road.
- Shoppers and recreation cyclists are encouraged to cycle to the Beecroft shops and recreation facilities, and in the Epping North area to the oval and Epping North neighbourhood centre.



Figure 4.4 Cheltenham, Beecroft and Epping North Bicycle Routes





Table 4.4 Cheltenham, Beecroft and Epping North	Bicycle Routes
---	----------------

Route	Location	Facility Type
Beecroft PS shared paths	Copeland Road, on southern side from existing shared path to Beecroft Rd Cheltenham Rd (part)	2.5m shared path
	Beecroft Road on school side (southern side) to Cheltenham Road	2.5m shared path
	Kirkham Street from Beecroft Road to Boronia Avenue	2.5m shared path
Epping North PS shared paths	Boundary Road southern side from North Epping Oval to Norfolk Road Norfolk Road from Boundary Road	2.5m shared path 2.5m shared path
	eastern side to Grayston Road	
Epping North Local connector routes	Norfolk Road from Boundary Road to Epping Oval Athletic Track entry (part school route)	2.5m shared path
	Malton Road from Norfolk Road eastwards past shopping area to Boundary Road	Mixed traffic lanes with logos
Beecroft Centre local connector routes	Copeland Road east crossing over rail bridge into Wongala Crescent	shared path
	Wongala Crescent from rail bridge on eastern side to Chapman Avenue	2.5m shared path
	Chapman Avenue southern side from Wongala Crescent to Beecroft Road	2.5m shared path
	Beecroft Road eastern side from Chapman Road to Hannah Doyle Street	2.5m shared path
	Hannah Doyle Street	Mixed traffic lanes with logos
Beecroft/Cheltenham local routes	Cardinal Avenue from Pennant Hills Road to Copeland Road	Mixed traffic lanes with logos
	Beecroft Road northern side from overbridge to The Crescent	2.5m shared path
Cheltenham station connector	Cheltenham Road from Boronia Avenue to The Crescent	Mixed traffic lanes with logos
	Railway overbridge eastern side	2.5m shared path
Beecroft/Pennant Hills Park connector	Sutherland Road from north of Copeland Road to Tristania Way	Mixed traffic lanes with logos
	Tristania Way to shared path to Clement Close, Pennant Hills	Mixed traffic lanes with logos
	Clements Close /Azalea Grove/Liguori Way Pennant Hills connecting to Hampden Road	Mixed traffic lanes with logos
Sutherland Road model route/recreation/station commuter route	Sutherland Road from Copeland Road East intersection on eastern side to Brooke Park driveway gates	2.5m shared path
	From Brooke Park to M2 motorway	Separated one way bike lanes in both directions
	From Copeland Road East to M2 motorway	15-16 speedhumps



5. SCHEDULE OF WORKS

5.1 SCHOOL ROUTES

A Schedule of Works for school routes has been prepared for the school routes for all public Primary Schools in the study area; this is included in **Appendix B** together with maps which illustrate the routes which are in the schedule. The cost estimates for each item are based on site work and unit rates from Council and other sources for replacing footpaths with 2.5m shared paths, and constructing footpaths where none presently exist. Additional on-road traffic management such as medians, pedestrian/cyclist refuges and speed devices are not costed as they lie outside the sole domain of bicycle facility costing.

Table 5.1 summarises the estimated costs of upgrading the school routes so that there are continuous routes for cycling and walking to all public primary schools in the urban area of the Shire. While the 2.5m shared paths are part of Bike Plan costs, the extension of footpaths should not be included in the Bike Plan costs.

Sub District	School	2.5n footpa		Cost/m	2.5 m cost	1.2r footp		Cost/m	1.2 m cost	Total
N1	Mount Colah PS	2250	m	\$120	\$270,000	230	m	\$60	\$13,800	\$283,800
N1	Mount Kuring-Gai PS	480	m	\$120	\$57,600	0	m	\$60	\$0	\$57,600
N2	Hornsby Heights PS	1350	m	\$120	\$162,000	720	m	\$60	\$43,200	\$205,200
N3	Berowra PS	900	m	\$120	\$108,000	1200	m	\$60	\$72,000	\$180,000
N3	Wideview PS	650	m	\$120	\$78,000	1300	m	\$60	\$78,000	\$156,000
C1	Asquith PS	680	m	\$120	\$81,600	390	m	\$60	\$23,400	\$105,000
C2	Hornsby South PS	730	m	\$120	\$87,600	20	m	\$60	\$1,200	\$88,800
C2	Hornsby North PS	700	m	\$120	\$84,000	120	m	\$60	\$7,200	\$91,200
C3	Waitara PS	750	m	\$120	\$90,000	140	m	\$60	\$8,400	\$98,400
S1	Thornleigh West PS	480	m	\$120	\$57,600	1840	m	\$60	\$110,400	\$168,000
S1	Normanhurst West PS	1110	m	\$120	\$133,200	490	m	\$60	\$29,400	\$162,600
S1	Normanhurst PS	440	m	\$120	\$52,800	480	m	\$60	\$28,800	\$81,600
S2	West Pennant Hills PS	760	m	\$120	\$91,200	0	m	\$60	\$0	\$91,200
S2	Pennant Hills PS	1850	m	\$120	\$222,000	740	m	\$60	\$44,400	\$266,400
S3	Cherrybrook PS	1300	m	\$120	\$156,000	1770	m	\$60	\$106,200	\$262,200
S3	Oakhill Drive PS	1350	m	\$120	\$162,000	190	m	\$60	\$11,400	\$173,400
S3	John Purchase PS	1600	m	\$120	\$192,000	2960	m	\$60	\$177,600	\$369,600
S4	Epping North PS	2000	m	\$120	\$240,000	400	m	\$60	\$24,000	\$264,000
S4	Epping Heights PS	750	m	\$120	\$90,000	0	m	\$60	\$0	\$90,000
S4	Beecroft PS	3080	m	\$120	\$369,600	800	m	\$60	\$48,000	\$417,600
				Total	\$2,785,200			Total	\$827,400	
						Total	Cost	for Schoo	l Routes	\$3,612,600

Table 5.1 Schedule of Works - School Routes



6.2 MODEL ROUTES

In developing the rough costing for the Model Routes, the type of treatment recommended is based on the Engineering Design Principles discussed in Working Paper 1, as well as the 'AUSTROADS – Guide to Engineering Practice - Bicycles' and the RMS NSW Bicycle Guidelines. The following general principles, based on the AUSTROADS standards and RMS guidelines, are followed in calculating generalised costs:

- Bicycle warning signs are located on all side roads;
- Shared off-road path regulatory signage is located every 500 metres and/or at intersections;
- Bicycle lane regulatory signage is located every 500 metres and/or at intersections;
- Bicycle network route directional signage is located at decisions points; such as the beginning and end of a route, where two routes intersect or where a route changes direction;
- Bicycle lane logos are located every 75 metres and/or at intersections;
- Shared off-road path logos located every 200 metres and/or at intersections;

Table 5.2 summarises the costs of constructing the Model Routes. Concepts of some of the routes are in**Appendix C** together with the broad schedule of works.

Sub District	Route	Cost estimate
N2	Somerville Road, Hornsby Heights	\$23,319.34
C1 - C2	Amor Street / Jersey Street link, Hornsby/Asquith	\$247,755.36
C2	TAFE -Old Hornsby Town Centre link, Hornsby North/Hornsby	\$71,500.84
S1	Quarter Sessions Road, Westleigh	\$1,382,469.43
S2	Victoria Road, Pennant Hills	\$180,610.68
S3	Shepherds Drive, Cherrybrook	\$1,210,256.64
S4	Sutherland Road, Beecroft/Cheltenham	\$63,520.25
	Total cost	\$3,179,432.54

Table 5.2 Schedule of Works Costing - Model Routes



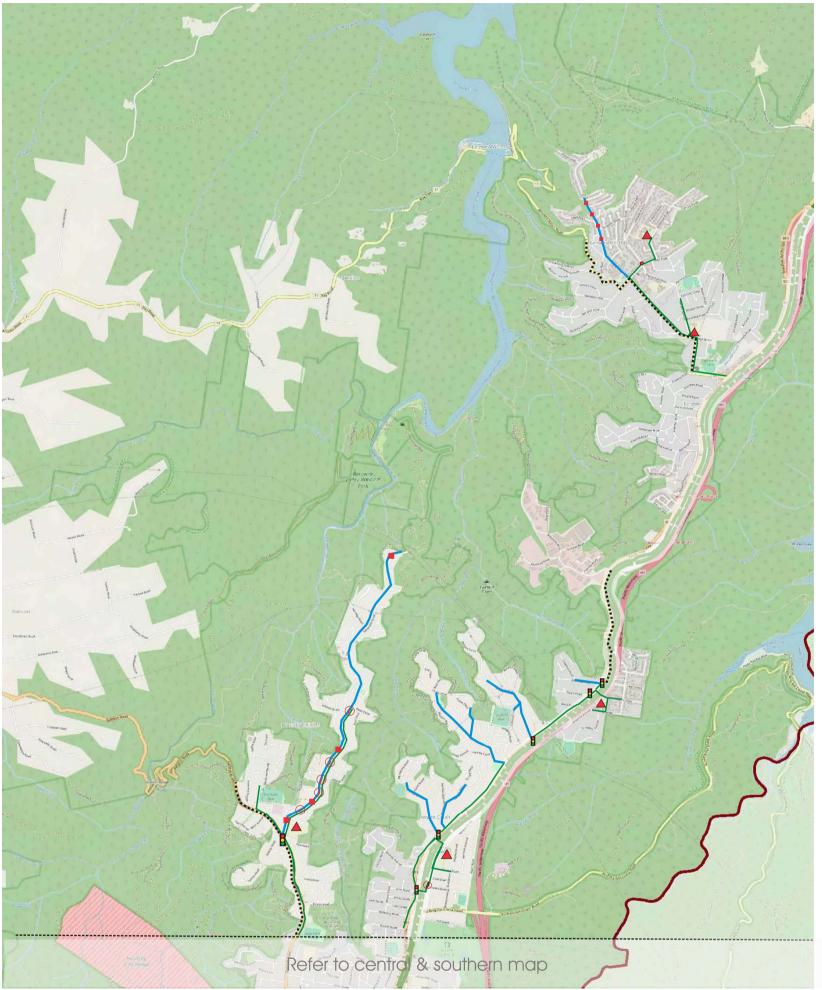
APPENDIX A

DRAFT 2018 BICYCLE NETWORK

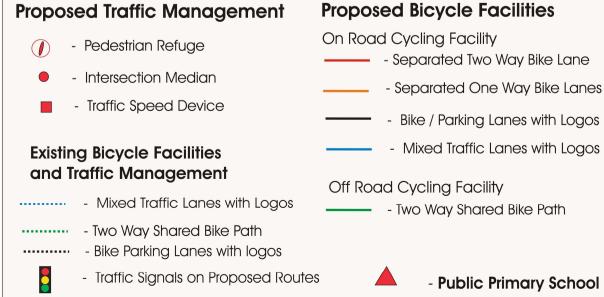
MAP 1 - NORTHERN DISTRICTS

MAP 2 - CENTRAL AND SOUTHERN DISTRICTS



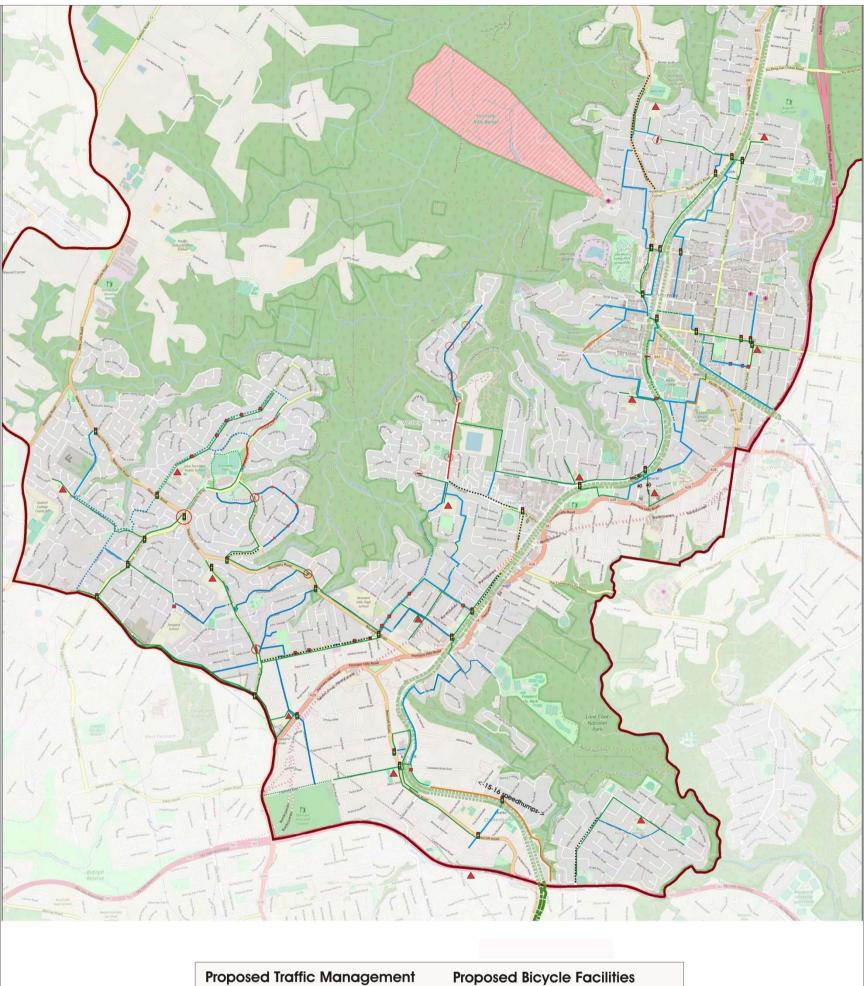


MAP 1 HORNSBY BIKE PLAN 2018 NORTHERN DISTRICT ROUTES



17115 Hornsby Bike Plan Review WP2 Map 1 TO UPDATE.docx





MAP 2 HORNSBY BIKE PLAN 2018 SOUTHERN AND CENTRAL DISTRICT ROUTES

Pedestrian Refuge

On Road Cycling Facility - Separated Two Way Bike Lanes



17115 Hornsby Bike Plan Review WP2 Map 2.docx



APPENDIX B

SCHOOL ROUTES MAPS AND SCHEDULE OF WORKS

-	
-	

Street name	Section	Road hierarchy		Footpath					mp	Verge width (m)			Comment/Explanation
			Yes/ No	Side	Width (m)	Condition	Footath required (m)	Location missing	Side	Grass	Туре	Location	
	Mount Colah Public School												
Pierra Close	Mount Colah Community Centre (MCCC) site frontage	Local	Yes	Е	1.5	Good	250			-	School	MCCC northern driveway	Footpath at kerb. Signposts in footpath.
	Mount Colah Public School - Cowan Rd	Local	Yes	Е	2.3	Good				-			Footpath at kerb. Signposts and power poles in footpath. Footpath narrows down to 1.3 m wide towards Cowan Rd
Belmont Parade	Cowan Rd - Berowra Rd	Local	Yes	Е	1.2	Good	300			3.5-8			No kerb. Verge width varies. Trees and cars parked in wide verge areas. New refuge proposed near Berowra Rd intersection
	Berowra Rd - Yirra Rd bridge	Local	Yes	w	1.3	Good				-			No kerb. Verge width varies. Safety fence towards bridge and very narrow towards bridge.
Cowan Rd	Pierra Cl / Belmont Pde - Gray St	Local	No	S	-	Good	200			4.5			No footpath. Trees and power poles in verge. No kerbs except at 10 Cowan Rd. Culvert at roadside.
Yirra Road bridge	Belmont Pde - Pacific Hwy	Local	Yes	Ν	1.5	ОК				-	Signalised	Pacific Hwy	Footpath at kerb. Signposts and power poles in footpath.
Pacific Highway	Yirra Rd bridge - Werombi Rd	State	Yes	Е	1.2	Good	200			1.6	Signalised	Yirra Rd bridge	Signposts, trees, power poles and traffic light poles in verge. 1.4 m to property boundary. Steep verge sloping to roadway near Werombi Rd
	Northumberland Ave - Parklands Ave	State	Yes	w	1.5	Good	1300			1.8	Signalised	Parklands Ave	Signposts and power poles in verge.
	Parklands Ave - Jim and Harry's Lotsa Food café	State	Yes	w	3.8	Good				-			Signposts, power poles, bench, phone box, bin, post box and traffic light poles in footpath.
	Jim and Harry's Lotsa Food café - Judith Ave	State	Yes	w	1.2	Good				1.6			Signposts and power poles in verge. Verge slopes slightly towards roadway near Judith Ave
	Judith Ave - Amaroo Ave	State	Yes	w	1.2	Good				3.6			Signposts, trees and power poles in verge. Verge slopes slightly towards roadway near Judith Ave. Wide verge near Amaroo Ave.
	Amaroo Ave - 559 Pacific Hwy	State	Yes	W	1.2	Good				5+			Wide verge which becomes car parking area. Tree roots, trees and power pole in verge.
	559 Pacific Hwy - Yirra Rd	State	Yes	w	1.2	Good				5-10	Signalised	Yirra Rd	Wide 10 m verge near at 559 which narrows down to 5 m. Signposts, power poles and culverts in verge. Steep from road. Flat surface at 543
	Yirra Rd - Jersey St	State	Yes	w	1.2	Good				1.7	Signalised	Yirra Rd bridge	3.8 m wide footpath at shop frontage. Signposts and power poles in verge. Signposts, power poles and traffic light poles in footpath.
	Jersey St - Lady St	State	Yes	W	1.2	Good				3			4 m wide footpath at shop frontage. Signposts, trees and power poles in verge.
	Lady St - Willarong Rd	State	Yes	w	1.2	Good				3.2			Signposts, trees and power poles in verge. Flat verge.
	Willarong Rd - Rupert St	State	Yes	W	1.2	Good				3			Signposts and power poles in verge. Verge steep towards roadway near Willawong Rd. No kerb
Bolton Avenue	Ku-Ring-Gai Chase Rd - Berowra Rd	Local	Yes	W	1.2	Good							
	Ku-Ring-Gai Chase Rd - Berowra Rd	Local	No	E	-	-							

Street name	Section	Road hierarchy		Footpath			Pram ran	np	Verge width (m)		Comment/Explanation	
Gray Street	Berowra Rd - 18 Colah Rd	Local	Yes	w	1.2	Good						
	18 Colah Rd - Cowan Rd	Local	No	w	-	-	160					
	Berowra Rd - Cowan Rd	Local	No	Е	-	-						
Parklands Road	Pacific Hwy - 47 Parklands Rd	Local	Yes	w	1.2	Good					Signalised	Pacific Hwy
	47 Parklands Rd - Binalong Rd	Local	No	w	-	-						
	Pacific Hwy - Flora Ave	Local	No	Е	-	-						
	Flora Ave - 56 Parklands Rd	Local	Yes	Е	1.2	Good						
	56 Parklands Rd - Binalong Rd	Local	No	Е	-	-	70					
Northumberland Avenue	Pacific Hwy - Landra Ave	Local	Yes	Е	1.2	Good						
	Pacific Hwy - Landra Ave	Local	No	w	-	-						
Landra Avenue	Northumberland Ave - 21 Landra Ave	Local	Yes	s	1.2	Good						
	21 Landra Ave - Spring Pl	Local	No	s	-	-						
	Northumberland Ave - 21 Landra Ave	Local	No	Ν	-	-						
	21 Landra Ave - Spring Pl	Local	Yes	Ν	1.2	Good						
Amaroo Avenue	Pacific Hwy - Carinya Rd	Local	Yes	Ν	1.2	Good						
	Pacific Hwy - Carinya Rd	Local	No	S	-	-						
	Mount Kuring-Gai Public School	Local										
King Street	Brisbane Ave - Leeming St	Local	Yes	Ν	1.2	Good	170			3		Signposts, trees and power poles in verge. Steep slope towards road near Brisbane Ave. No kerb at school frontage, car parked on grass verge.
Leeming Street	King St - Church St	Local	Yes	w	1.2	Good	150			3.2	School	7 Leeming St Power poles, trees, signposts and telephone distribution tube in verge.
Church Street	Low St - Leeming St	Local	No	S	-	Good	160			7		Wide verge. Trees and signpost in verge, No kerbs from Low St to 4 Church St

GEG

М	=	

Street name	Section	Road hierarchy			Fo	ootpath	Pram ramp	Verge width (m)			Comment/Explanation
	Leeming St - pedestrian overbridge	Local	Yes	s	1.4	Good		-			Signpost in footpath. Narrows to 0.7 m wide at end of footpath.
Seaview Street	Merrilong Ave - Harwood Ave	Local	Yes	w	1.2	Good					
	Merrilong Ave - Harwood Ave	Local	No	Е	-	-					
Hardwood Avenue	Seaview St - Low St	Local	Yes	s	1.2	Good					
	Seaview St - Low St	Local	No	Ν	-	-					
Low Street	Harwood Ave - Church St	Local	Yes	w	1.2	Good					
	Harwood Ave - Church St	Local	No	Е	-	-					
Brisbane Avenue	Flanders Ave - King St	Local	Yes	SE	1.3	Good					
	Flanders Ave - King St	Local	No	NW	-	-					
Pacific Highway	Alicia Rd - Glenview Rd	State	Yes	w	1.2	Good			Signalised	Nyara Rd	
	Alicia Rd - Glenview Rd	State	No	Е	-	-					
Glenview Road	Craw ford Rd - Pacific Hwy	Local	Yes	s	1.2	Good					
	Craw ford Rd - Pacific Hwy	Local	No	Ν	-	-					Footpath not costed as it is not feasible due to location (no pedestrian connections due to remoteness and topograpgy issues)

-		
	=	-

Street name	Section	Road hierarchy			Fo	ootpath		Pram rai	mp	Verge width (m)			Comment/Explanation
			Y/N	Side	Width (m)	Condition	Footath required (m)	Location missing	Side	Grass	Туре	Location	
	Hornsby Heights Primary School												
Somerville Road	Altona St - 84 Somerville Rd	Collector Road A	Yes	E	1.2	Good	950			3			Power poles, trees, signposts and bus bench in verge.
	84 Somerville Rd - 76 Somerville Rd	Collector Road A	Yes	E	1.2	Good				1.1			2 m to boundary.
	76 Somerville Rd - 50 Somerville Rd	Collector Road A	Yes	E	1.2	Good				2.4			Power poles and trees in verge.
	50 Somerville Rd - Camiri St	Collector Road A	Yes	E	1.2	Good				-			Footpath at kerb. Steep to property boundary and lots of vegetation.
	Camiri St- 26 Somerville Rd	Collector Road A	Yes	E	1.2	Good				2.6			Power poles, trees and signposts in verge. Hilly in some areas (footpath not flat due to topography)
	26 Somerville Rd - 3 Somerville Rd (raised crossing)	Collector Road A	Yes	E	1.2	Good				1.6	Raised	3 Somerville Rd	Power poles and signposts in verge.
	3 Somerville Rd (raised crossing) - Pike Rd	Collector Road A	Yes	E	1.2	Good				1.6			Power poles and signposts in verge. Bus shelter north of Pike Rd.
	Pike Rd - Galston Rd	Collector Road A	Yes	Е	1.2	Good				1.7	Signalised	Galston Rd	Power poles and signposts in verge.
Galston Road	Somerville Rd - 134 Galston Rd	State	Yes	E	1.2	ОК	400			1.7			Power poles, trees and signposts in verge. No kerbs in most sections. A few cracked and uneven footpaths. Wide verges at 134 and 146 (2.5 m)
	134 Galston Rd - Evans Rd	State	Yes	E	1.2	ОК				2			Power poles, trees and signposts in verge. No kerbs in most sections. Wide verge at 126 -124 (5 m)
Galston Road	Somerville Rd - Brett Ave	State	Yes	NE	1.2	Good				0.7	Sig	Sydney Rd	
	Somerville Rd - Sydney Rd	State	Yes	SW	1.2	Good							
	Sydney Rd - Brett Ave	State	No	SW	-	-	240						
Brett Avenue	Galston Rd - Margaret Ave	Local	No	SE	-	-	90						
	Galston Rd - Margaret Ave	Local	No	NW	-	-							
Sydney Road	Galston Rd - Raphael Dr	Local	Yes	w	1.3	Good				3.8	Flat	15 Sydney Rd	
	Raphael Dr - 35 Sydney Rd	Local	No	w	-	-							
	Galston Rd - 16 Sydney Rd	Local	Yes	E	1.3	Good							
	16 Sydney Rd - 35 Sydney Rd	Local	No	E	-	-							
Somerville Road	Altona St - Peter Cl	Collector Road A	Yes	E	1.2	Good							

Street name	Section	Road hierarchy		Footpath					Pram ramp widt (m			Comment/Explanation
	Altona St - Peter Cl	Collector Road A	No	v -		-						
Hillview Street	Somerville Rd - Sunset Ave	Local	No	- ۱		-						
	Somerville Rd - Sunset Ave	Local	No	5 -		-	390					

Street name	Section	Road hierarchy	Footpath					(m)					Comment/Explanation
			Y/N	Side	Width (m)	Condition	Footath required (m)	Location missing	Side	Grass	Туре	Location	
	Berowra Public School												
Berowra Waters Road	Crowley Rd - King St	Regional Road	Yes	w	1.2	Good	450			1.9	Refuge	Crowley Rd	0.9 m wide verge at parking bays. Signposts, trees and power poles in verge. 3 m wide verge near Crowley Rd. Property boundary unclear.
	King St - Hillcrest Rd	Regional Road	Yes	W/S	1.2	Good				1.7	Raised	30 Berowra Waters Rd	Signposts and power poles in verge. 3.0 m wide footpath at raised crossing at 59 Berowra Waters Rd
											Raised	59 Berowra Waters Rd	
	Hillcrest Rd - 48 Berowra Waters Rd	Regional Road	Yes	Е	1.2	Good				4.5			Signposts, trees and power poles in verge.
	48 Berowra Waters Rd - 64 Berowra Waters Rd	Regional Road	Yes	E	1.2	Good				2.1			Signposts, trees and power poles in verge.
	64 Berowra Waters Rd - 78 Berowra Waters Rd	Regional Road	Yes	Е	1.3	Good				-			Footpath at kerb. 1.7 m to property boundary.
	78 Berowra Waters Rd - Alan Rd	Regional Road	Yes	Е	1.2	Good				1.7	Refuge	Alan Rd	Signposts, trees and power poles in verge. 7 m to property boundary from 128-136 Berowra Waters Rd
Hillcrest Rd	Berowra Waters Rd - Balaclava Rd	Local Road A	Yes	E	1.2	Good	450			2.6	Raised	1 Hillcrest Rd	Signposts and power poles in verge.
	Balaclava Rd - Rosslyn St	Local Road A	Yes	Е	1.2	Good				0.4			Signposts in verge. 1.8 m to property boundary. Property boundary slopes down towards footpath.
	Rosslyn St - Koorong St	Local Road A	Yes	Е	1.2	Good				2.4			Signposts, trees and power poles in verge.
Yallambee Road	Pacific Hwy - Melville Cl	Collector Road B	Yes	Ν	1.2	Good							
	Pacific Hwy - Bambil Rd	Collector Road B	Yes	s	1.2	Good							
	Bambil Rd- Melville Cl	Collector Road B	No	S	-	-	250						
Anembo Road	Yallambee Rd - Waratah Rd	Collector Road B	Yes	w	1.2	Good							
	Yallambee Rd - Waratah Rd	Collector Road B	No	Е	-	-	150						
Waratah Road	Anembo Rd - 33 Waratah Rd	Collector Road B	Yes	w	1.7	Good							
	33 Waratah Rd - Crowley Rd	Collector Road B	Yes	w	1	Good	220						
	Anembo Rd - Crowley Rd	Collector Road B	No	Е	-	-	280						
Crowley Road	Rawson Rd - Waratah Rd	Local Road A	Yes	S	1.2	Good		Rawson Rd	S				
	Rawson Rd - Waratah Rd	Local Road A	No	Ν	-	-							

-1	-	-
	-	

Street name	Section	Road hierarchy			Foo	otpath		Pram ram	Pram ramp width (m)				Comment/Explanation
	Waratah Rd - Berowra Waters Rd	Collector Road B	Yes	s	1.2	Good					Refuge	Berowra Waters Rd	
	Waratah Rd - Berowra Waters Rd	Collector Road B	No	N	-	-	300						
	Wideview Public School												
Alan Road	Berowra Waters Rd - Woodcourt Rd	Collector Road B	Yes	N	1.2	Good	400			0.3	Refuge	Berowra Waters Rd	4.3 m to property boundary.
	Woodcourt Rd - Wideview Rd	Local Road A	Yes	N	1.2	Good				2	Refuge	37 Alan Rd	Signposts, trees and power poles in verge.
Wideview Road	Alan Rd - Wideview PS driveway	Local Road A	Yes	w	1.2	Good	250			2.7			Signposts, trees and power poles in verge.
Turner Road	Alan Rd - Kita Rd	Collector Road B	Yes	w	1.2	Good					Refuge	8 Turner Rd	
	Kita Rd - 130 Turner Rd	Collector Road B	No	w	-	-	1000				Refuge	28 Turner Rd	
	Alan Rd - Goorway Pl	Collector Road B	Yes	E	1.2	Good					Refuge	Berowra Waters Rd	
	Goorway Pl - 130 Turner Rd	Collector Road B	No	E	-	-	300						
Berowra Waters Road	Alan Rd - Barnetts Rd	Regional Road	Yes N	1W	1.2	Good					Refuge	Alan Rd	
	Alan Rd - Barnetts Rd	Regional Road	Yes	SE	1.2	Good							
Barnetts Road	Berowra Waters Rd - Easton Rd	Local Road A	Yes N	1W	1.2	Good							
	Berowra Waters Rd - Easton Rd	Local Road A	No	SE	-	-							
Woodcourt Rd	Alan Rd - Hillcrest Rd	Local Road A	Yes	s	1.2	Good							
Woodcourt Rd	Alan Rd - Hillcrest Rd	Local Road A	No	N	-	-							

М	=	

Street name	Section	Road hierarchy	Width Epotath Lo				Pram ramp (Comment/Explanation	
			Y/N	Side	Width (m)	Condition	Footath required (m)	Location missing	Side	Grass	Туре	Location	
	Asquith Public School												
Dudley Street	5 Dudley St - Royston Pde	Local	Yes	Ν	1.2	Good	230			2.5	Refuge	6 Dudley St	Power poles, trees and signposts in verge. Obstructions spaced out, lots of free space in verge.
Royston Parade	Dudley St - 8 Royston Pde	Regional Road	Yes	Е	1.2	Good	220			3.2			Footpath at kerb. 3.2 m is footpath to boundary. Signposts and power poles in verge. Trees located in very close proximity to footpath.
	8 Royston Pde - Baldwin Ave	Regional Road	Yes	E	1.2	Good				2.7	Signalised	Baldwin Ave	Power poles, trees and signposts in verge. Bus shelter and bench near Baldwin Ave
Sherbrook Road	Baldwin Ave - 170 Sherbrook Rd	Regional Road	Yes	E	1.2	Good	230			1.8	Signalised	Baldwin Ave	Power poles, trees and signposts in verge.
	170 Sherbrook Rd - Stokes Ave	Regional Road	Yes	E	1.3	Good				3.2	Flat	150a Sherbrook Rd	Footpath at kerb. 3.2 m is footpath to boundary. Signposts and power poles in verge.
Heath Street	Industrial driveway - 26 Heath St	Local	Yes	Е	1.2	Good		26 Heath St	w				
	26 Heath St - Olive St	Local	No	Е	-	Good							
	Industrial driveway - 9-19 Heath St	Local	No	w	-	Good							
	9-19 Heath St - Olive St	Local	Yes	w	1.2	Good							
Olive Street	Heath St - Winston St	Local	Yes	Е	1.2	ОК							
	Heath St - Winston St	Local	Yes	w	1.2	ОК							
Winston Street	Olive St - Sherbrook Rd	Local	Yes	Ν	1.2	Good							
	Olive St - Sherbrook Rd	Local	No	S	-	-							
Dudley Street	Victory St - Chelmsford Rd	Local	Yes	Ν	1.2	Good							
	Victory St - Chelmsford Rd	Local	No	S	-	-							
Hazelmead Road	Dudley St - Royston Pde	Local	Yes	Ν	1.2	Good					Flat	19X Hazelmead Rd	Unmarked school crossing.
	Dudley St - 2 Hazelmead Rd	Local	No	S	-	-							
	2 Hazelmead Rd - Royston Pde	Local	Yes	S	1.2	Good					Flat	9 Hazelmead Rd	Unmarked school crossing.

Street name	Section	Road hierarchy			Fo	ootpath		Pram ran	an	Verge width			Comment/Explanation
Street name	Jection	Road merarchy				Jotputti		Trainfail	iip	(m)		-	comment/ Explanation
Royston Parade	Queens Rd - Dudley St	Regional Road	Yes	Е	1.2	Good							
	Queens Rd - 29 Royston Pde	Regional Road	No	Е	-	-	180						
	29 Royston Pde - Dudley St	Regional Road	Yes	w	1.2	Good							
Baldwin Avenue	Haldane St - Pacific Hwy	Local	Yes	Ν	1.2	Good							
	Haldane St - Pacific Hwy	Local	Yes	S	1.2	Good							
Pacific Highway	Baldwin St - Amor St	Local	Yes	w	3.5	Good							
	Baldwin St - Amor St	Local	Yes	Е	1.2	Good							
Amor Street	Pacific Hwy - Orana Ave	Collector Road A	Yes	s	1.2	Good							
	Pacific Hwy - Bouvardia St	Collector Road A	Yes	Ν	1.2	Good							
	Bouvardia St - Orana Ave	Collector Road A	No	Ν	-	-	210						
Bouvardia Street	Amor St - Peats Ferry Rd	Local	Yes	Е	1.2	Good							
	Amor St - Peats Ferry Rd	Local	No	w	-	-							

GEG

Street name	Section	Road hierarchy	Footpath Vidth Footath			Pram ramp wi			Verge width (m)		Comment/Explanation		
			Y/N	Side	Width (m)	Condition	Footath required (m)	Location missing	Side	Grass	Туре	Location	
	Hornsby South Public School												
Clarke Road	Malsbury Rd - Neutral Rd	Collector Road B	Yes	S	1.2	ОК	550						Power poles, trees and signposts. Cracked footpath in some sections.
	Neutral Rd - raised crossing (between both schools)	Local	Yes	S	1.2	ОК				1.6	Raised	Between schools	Power poles, trees, signposts and telephone connection tubes in verge. Cracked footpath in some sections.
	Raised crossing (between both schools) - 92 Clarke Rd	Local	Yes	N	1.2	ОК				1.75			Power poles, trees and signposts in verge. Wide verge from 76-84 Clarke Rd (approx 4 m wide)
Neutral Road	Clarke Rd - 15 Neutral Rd	Collector Road B	Yes	w	1.2	ОК	180			2.5	Raised	15 Neutral Rd	Signposts and safety barrier in verge. Bus shelter just north of Clarke Rd
	15 Neutral Rd - Hall Rd	Collector Road B	Yes	w	1.2	ОК				3.4			Power poles, trees and signposts in verge. Cracked footpath in some sections.
Warandoo Street	Clarke Rd - Greenvale Grove	Local Road A	Yes	w	1.2	Good							
	Clarke Rd - Greenvale Grove	Local Road A	No	Е	-	-							
Hall Road	Fuller Ave - 44 Hall Rd	Collector Road B	Yes	N	1.2	Good							
	44 Hall Rd - Noble St	Collector Road B	No	N	-	-	20						
	Fuller Ave - Noble St	Collector Road B	Yes	s	1.2	Good							
Clarke Road	Malsbury Rd - Neutral Rd	Collector Road B	Yes	N	1.2	Good							
	Neutral Rd - raised crossing (between both schools)	Local	Yes	Ν	1.2	Good					Raised	Between schools	
	Raised crossing (between schools - 92 Clarke Rd	Local	Yes	s	1.2	Good							
	Hornsby North Public School												
Ida Street	Sutton St - Hornsby North PS entrance	Collector Road A	Yes	w	1.2	ОК	300			1.9			Power poles, trees, signposts and telephone connection tubes in verge. Cracked footpath in some sections.
Galston Rd	58 Galston Rd (refuge island) - 70 Galston Rd	State Road	Yes	E	1.2	Good	400			1.2	Refuge	58 Galston Rd	Power poles, trees and signposts in verge. Note that there are plants which are potentially privately cultivated outside house number 70.
	70 Galston Rd - Bushlands Ave	State Road	Yes	E	1.2	Good				1.5			Power poles and signposts in verge.
	Bushlands Ave - Cawthorne	State Road	Yes	E	1.2	Good				1.9	Refuge	82 Galston Rd	Power poles and signposts in verge. 0.9 m verge at refuge island. Bus stop bench near Cawthorne. Narrow near Cawthorne. No kerbs.

Street name	Section	Road hierarchy		Footpath				ър	Verge width (m)	Comment/Explanation
Galston Road	Ethel St - Sutton St	State Road	Yes E	1.2	Good					
	Ethel St - Sutton St	State Road	Yes W	1.2	Good					
Cawthorne Street	Galston Rd - Hornsby North PS	Local	Yes N	1.2	Good					
	Galston Rd - Hornsby North PS	Local	Yes S	1.2	Good					
Old Berowra Road	Ethel St - 68 Old Berowra Rd	Local Road A	Yes E	1.2	Good					
	Ethel St - 68 Old Berowra Rd	Local Road A	No W	-	-					
Link Road	Ida St - Old Berowra Rd	Collector Road A	Yes S	1.2	ОК					
	Ida St - Old Berowra Rd	Collector Road A	No N	-	-	120				

Street name	Section	Road hierarchy			Fo	ootpath		Pram rai	mp	Verge width (m)			Comment/Explanation
			Y/N	Side	Width (m)	Condition	Footath required (m)	Location missing	Side	Grass	Туре	Location	
	Waitara Public School												
Myra Street	Oleander Rd - 46 Myra St	Collector Road A	Yes	E	1.2	Good	250			1.7			Power poles, trees and signposts in verge.
	46 Myra St - Edgeworth David Ave	Collector Road A	Yes	Е	1.5	Good				1.4	Signalised	Edgeworth David Ave	Power poles, trees and signposts in verge. Safety fence near Edgeworth David Ave. Footpath slopes slightly towards the road.
Edgeworth David Avenue	Myra St - bus shelter opposite 85 Edgeworth David Ave	Regional Road	Yes	s	1.5	Good	500			0.9			Trees, signposts and safety fence in verge.
	Bus shelter - Churchill Ave	Regional Road	Yes	S	1.2	Good				1.5	Refuge	Churchill Ave	Power poles signposts in verge. Bus stop bench at 2 Ingalara Ave
	Myra St - 60 Edgeworth David Ave	Regional Road	Yes	Е	1.2	Good				1.4	Signalised	Myra St	Signposts and traffic light pole in verge. Verge slopes down slightly from road. 2.0 m wide verge at the widest point on the bend.
	60 Edgeworth David Ave - Balmoral St	Regional Road	Yes	S	1.2	Good				1.8	Signalised	Balmoral St	Power poles, trees and signposts in verge.
Edgeworth David Avenue	Thomas St - Romsey St	Regional Road	Yes	Ν	2	Good							
	Romsey St - Sherbrook Rd	Regional Road	Yes	Ν	1.2	Good					Signalised	Sherbrook Rd	
	Sherbrook Rd - Wentworth Ave	Regional Road	Yes	Ν	1.5	Good							
	Wentworth Ave - 49 Edgeworth David Ave	Regional Road	Yes	Ν	1.2	Good							
	49 Edgeworth David Ave - 55 Edgeworth David Ave	Regional Road	Yes	N	1.8	Good							
	55 Edgeworth David Ave - Balmoral St	Regional Road	Yes	Ν	1.2	Good					Signalised	Balmoral St	
	Balmoral St - Romsey St	Regional Road	Yes	S	1.2	Good					Refuge	Park Ave	
	Romsey St - Thomas St	Regional Road	Yes	S	2	Good					Signalised	Romsey St	
	Woonona Ave - Douglas Ave	Regional Road	Yes	Ν	1.2	Good							
	Woonona Ave - Douglas Ave	Regional Road	Yes	S	1.2	Good							
Balmoral Street	Edgeworth David Ave - Burdett St	Local	Yes	w	1.2	Good							
	Edgeworth David Ave - 58 Balmoral St	Local	Yes	Е	3.3	Good							
	58 Balmoral St - Burdett St	t Local Yes E 1.2 Good											
	Edgeworth David Ave - Alexandria Pde	exandria Pde Local Yes E 1.2 Good											
	Edgeworth David Ave - Alexandria Pde Local Yes W 1.2 Good												

Section

Alexandria Pde - Oleander Rd

Alexandria Pde - Oleander Rd

Balmoral St - Park Ave

Park Ave - Waitara Ave

Balmoral St - Park Ave

Park Ave - Waitara Ave

Woonona Ave - Highlands Ave

Woonona Ave - 12 Fern Ave

12 Fern Ave - Highlands Ave

Waitara PS - Alexandria Pde

Waitara PS - Alexandria Pde

King Rd - Jubilee St

King Rd - Jubilee St

Burdett St - Edgeworth David Ave

Burdett St - Edgeworth David Ave

Road hierarchy

Collector Road A

Collector Road A

Local

Local

Local

Local

Local

Local

Local

Local

Local

Local Road A

Local Road A

Local

Local

Yes

Yes

Yes

Yes

No

No

Yes

Yes

No

Yes

No

Yes

No S -

Yes W 1.2

No

Ν

E -

1.2

Good

Good

-

Street name

Myra Street

Park Lane

Fern Avenue

Highlands Avenue

Burdett Street

Jubilee Street

	Footpath			Pram ran	np	Verge width (m)			Comment/Explanation
Е	1.2	Good					Signalised	Alexandria Pde	
w	1.2	Good							
S	1.1	Good	140						
s	1.4	Good							
Ν	-	-							
Ν	-	-							
Ν	1.2	Good							
S	1	ОК							
S	-	-							
Е	1.2	Good							
w	-	-							

GC-C-

Street name	Section	Road hierarchy	Footpath					Pram ram	Verge width (m)			Comment/Explanation	
			Y/N	Side	Width (m)	Condition	Footath required (m)	Location	Side	(m) Grass	Туре	Location	
	Thornleigh West Public School				(11)		roquirou (iii)						
Quarter Sessions Road	Duffy Ave - 1 Duneba Dr (refuge island)	Collector Road A	Yes	E	1.2	Good	180			1.7	Refuge	1 Duneba Dr	Power poles, signposts and telephone connection tube in verge. Steep from Duffy Ave.
											Refuge	Duffy Ave	
Duffy Avenue	Quarter Sessions Rd - Eucalyptus Dr	Collector Road A	No	s	-	-	300			2.75	Refuge	Quarter Sessions Rd	Power poles, signposts, trees, telephone connection tube and box in verge.
Nicholson Avenue	Quarter Sessions Rd - Goodlands	Local Road A	No	N/E	-	-							
	Quarter Sessions Rd - Giblett Ave	Local Road A	No	S/W	-	-	540						
	Giblett Ave - Goodlands Ave	Local Road A	Yes	w	1.2	Good							
Quarter Sessions Road	45 Quarter Sessions Rd - Duffy Ave	Collector Road A	Yes	w	1.2	Good							
	45 Quarter Sessions Rd - Duffy Ave	Collector Road A	No	Е	-	-	400						
Duffy Avenue	Quarter Sessions Rd - Kentwell Ave	Collector Road A	Yes	N	1.2	Good					Raised	Quarter Sessions Rd	
	Quarter Sessions Rd - Kentwell Ave	Collector Road A	Yes	S	1.2	Good							
	Elouera Rd - Eucalyptus Dr	Collector Road A	Yes	N	1.2	Good							
	Elouera Rd - Eucalyptus Dr	Collector Road A	No	s	-	-	250						
Eucalyptus Drive	Duffy Ave - 10 Eucalyptus Dr	Collector Road B	Yes	Е	1.2	Good							
	10 Eucalyptus Dr - Rocklily Ave	Collector Road B	No	E	-	-	160						
	Duffy Ave - Rocklily Ave	Collector Road B	No	w	-	-	270						
Elouera Road	Duffy Ave - Spotted Gum Rd	Local Road A	No	Е	-	-	220						
	Duffy Ave - Spotted Gum Rd	Local Road A	No	w	-	-							
	Normanhurst West Public School												

Street name	Section	Road hierarchy			Fo	otpath		Pram ramp		Verge width (m)	th		Comment/Explanation
Dartford Road	Sefton Rd / Milson Pde - 20 Dartford Rd	Collector Road B	Yes	Е	1.2	Good	300			4			Power poles, trees and signposts in verge.
	20 Dartford Rd - 30 Dartford Rd	Collector Road B	Yes	Е	1.2	Good				1.7	Raised	15 Dartford Rd	Power poles, trees, signposts and postbox in verge. School frontage.
											Refuge	Sefton Rd / Milson Pde	
Milson Parade	Harris Rd - Dartford Rd	Regional Road	Yes	Ν	1.2	Good	260			1.6	Signalised	Dartford Rd	Power poles, signposts, gas main and Traffic Control box in verge. 1.2 m footpath to road safety barrier.
Sefton Road	Dartford Rd - Lockerbie Rd	Regional Road	Yes	Ν	1.2	Good	550			1.2			Power poles, trees, signposts and telephone connection tube in verge.
	Lockerbie Rd - Larool Cres	Regional Road	Yes	Ν	1.2	Good				1.8	Refuge	2 Sefton Rd	Power poles, trees and signposts in verge. Bus shelter just before Larool Cres.
Milson Parade	Harris Rd - Bryan Ave	Regional Road	Yes	Ν	1.2	Good							
	Harris Rd - Bryan Ave	Regional Road	No	S	-	-							Footpath not costed as there are no links to any other pedestrian facilities.
Harris Road	Milson Parade - Lennox St	Local Road A	Yes	Е	1.2	Good							
	Milson Parade - Lennox St	Local Road A	No	w	-	-							
Lennox Street	Harris Rd - Dartford Rd	Local Road A	Yes	Ν	1.2	Good							
	Harris Rd - Dartford Rd	Local Road A	No	S	-	-							
Dartford Road	30 Dartford Rd - Beresford Rd	Collector Road B	Yes	w	1.2	Good							
	30 Dartford Rd - Judison Rd	Collector Road B	Yes	Е	1.2	Good							
	Judison Rd - Beresford Rd	Collector Road B	No	Е	-	-	130						
	Lennox St - 155 Dartford Rd	Local Road A	No	Е	-	-							
	Lennox St - 155 Dartford Rd	Local Road A	No	w	-	-							
Larool Crescent	Sefton Rd - Wareemba Ave	Collector Road B	Yes	Е	1.2	Good							
	Sefton Rd - Gilgandra Ave	Collector Road B	Yes	w	1.2	Good							
	Gilgandra Ave - Wareemba Ave Collector Road B		No	W	-	-	160						

....

GE;

P4	=	=

Street name	Section	Road hierarchy			Fo	otpath		Pram ran	np	Verge width (m)			Comment/Explanation
Wareemba Avenue	Larool Cres - Yarrabung Ave	Collector Road B	No	Е	-	-	100						
	Larool Cres - Yarrabung Ave	Collector Road B	No	w	-	-	100						
	Normanhurst Public School												
Normanhurst Road	Fraser Pde - Pennant Hills Rd	Collector Road A	Yes	E	1.2	Good	230			2.6	Raised	15 Normanhurst Rd	Power poles, trees and signposts in verge. 2.8 m wide footpath from raised crossing to Bus Zone repeater sign.
											Signalised	Pennant Hills Rd	
	Denman Pde - 15 Normanhurst Rd (raised crossing)	Collector Road A	Yes	w	1.2	Good	210			3.1	Flat	Denman Pde	Power poles, trees signposts and drainage facilities in verge. Steep verge coming down from roadway. 2.1 m verge near raised crossing.
Denman Parade	Huddart Ave - Buckingham Ave	Collector Road A	Yes	S	1.2	Good							
	Huddart Ave - Buckingham Ave	Collector Road A	No	N	-	-	120						
	Buckingham Ave - Edwards Rd	Collector Road A	Yes	Ν	1.2	Good					Flat	48 Denman Pde	
	Buckingham Ave - Jasmine Rd	Collector Road A	Yes	S	1.2	Good							
	Jasmine Rd - Edwards Rd	Collector Road A	No	S	-	-	170						
Normanhurst Road	Denman Pde - Fraser Rd	Collector Road A	Yes	Е	1.2	Good					Flat	Denman Pde	
Fraser Road	Normanhurst Rd - 25 Fraser Rd	Local	Yes	N	1.2	Good					Hump	14 Normanhurst Rd	Pram ramps leading onto speed hump. No signage. Not official crossing point.
	25 Fraser Rd - Normanhurst Boys HS driveway	Local	No	w	-	-							
	Normanhurst Boys HS driveway - Pennant Hills Rd	Local	Yes	w	1.2	Good							
	Normanhurst Rd - Normanhurst PS gate	Local	No	s	-	-							
	Normanhurst PS gate - 14 Fraser Rd	Local	Yes	s	1.2	Good							
	14 Fraser Rd - 28 Fraser Rd	Local	No	S/W	-	-	100						
	28 Fraser Rd - Cumberland Hwy	Local	Yes	w	1.2	Good							
Hinemoa Avenue	Pennant Hills Rd - Bristol Ave	Local Road A	Yes	E	1.2	Good					Signalised	Pennant Hills Rd	
	Pennant Hills Rd - Bristol Ave	Local Road A	No	w	-	-							

Street name	Section	Road hierarchy		Footpath			Pram ram	Pram ramp width (m)				Comment/Explanation
Pennant Hills Road	Normanhurst Rd - Hinemoa Ave	State Road	Yes N	1.2	Good					Signalised	Normanhurst Rd	
	Normanhurst Rd - Hinemoa Ave	State Road	Yes S	1.2	Good					Signalised	Jasmine Rd	
										Signalised	Hinemoa Ave	
Redgrave Road	Pennant Hills Rd - Ferndale Rd	Local Road A	Yes E	1.2	Good							
	Pennant Hills Rd - Ferndale Rd	Local Road A	No W	-	-							
Osborn Road	Pennant Hills Rd - Currawong Ave	Local Road A	Yes W	1.2	Good							
	Currawong Ave - end	Local Road A	No W	-	- 90							
	Pennant Hills Rd - 16 Osborn Rd	Local Road A	Yes E	1.2	Good							
	16 Osborn Rd - end	Local Road A	No E	-	-							

Street name	Section	Road hierarchy			Fo	otpath		Pram ran	np	Verge width (m)			Comment/Explanation
			Y/N	Side	Width (m)	Condition	Footath required (m)	Location missing	Side	Grass	Туре	Location	
	West Pennant Hills Public School												
Cardinal Avenue	Pennant Hills Rd - Church St / Boyd Ave	Local Road A	Yes	w	1.2	Good	100			2.4	Flat	66 Cardinal Ave	Power poles, signposts and telephone connection tubes in verge.
Church Street	Cardinal Ave - School driveway (at bend)	Local	Yes	s	1.2	Good	260			1.9	Raised	10 Church St	
	School driveway (at bend) - Castle Hill Rd	Local	Yes	S	1.6	Good				1.7			
Castle Hill Road	Pedestrian bridge - Church St	State Road	Yes	E	1.2	Good	400			1.05			Approximately 1.0 m to boundary
	Church St - New Line Rd	State Road	Yes	E	1.2	Good				2			Approximately 0.8 m to boundary. Speed camera, power pole, and shrubs are obstructions
Boyd Avenue	Cardinal Ave - Dean St	Local	Yes	S	1.2	Good				1.8			
	Cardinal Ave - Dean St	Local	No	Ν	-	-							
Cardinal Avenue	Church St / Boyd Ave - Victoria Rd	Local Road A	Yes	w	1.2	Good				2.8			
	Church St / Boyd Ave - Victoria Rd	Local Road A	No	Е	-	-							
Victoria Road	Castle Hill Rd - Hull Rd	Collector Road A	Yes	Ν	1.2	Good							No footpath between 93 - 129A Victoria Road (not continuous)
	Castle Hill Rd - Hull Rd	Collector Road A	Yes	S	1.2	Good							
	Pennant Hills Public School												
Boundary Road	Nunda Close - Victoria Rd	State	Yes	NW	1.2	Good	700			1.6	Signalised	Bellamy St	0.7 m to property boundary. Power poles close close to kerb, 2.5 m should be achievable. Trees and signposts in verge.
											Signalised	112 Boundary Rd	
Ramsay Road	Bellamy St - Rosemount Ave	Local Road A	Yes	S	1.2	Good	350			3	Refuge	Greycliffe Ave	Footpath 700 mm to boundary. Narrow near Greycliffe, a few trees and signposts in wide verge.
		Local Road A									Raised	34A Ramsay Rd	
Greycliffe Avenue	Ramsay Rd - 3 Greycliffe Ave	Local	Yes	SE	1.2	Good	100			3.7	School	17 Greycliffe Ave	Power poles, trees and signposts in verge. Some overhanginver vegetation. Trees and signposts in verge.

GEG

-	-
-	_

Street name	Section	Road hierarchy			Fo	otpath		Verge Pram ramp width Con (m)					Comment/Explanation
Weemala Road	Trebor Rd - Ramsay Rd	Local	Yes	Ν	1.2	Good	350			4.1	Signalised	Ramsay Rd	Verges slightly sloping.
Rosemount Avenue	Ramsay Rd - 32 Rosemount Ave	Local	Yes	Ν	1.9	Good	350						Trees and signposts in concrete.
	32 Rosemount Ave - Stevens St	Local	Yes	Ν	1.2	ОК							Trees and signposts in verge. Uneven footpath (due to tree roots) in multiple sections.
Ramsay Road	Rosemount Ave - Yarrara Rd	Local Road A	Yes	Ν	1.2	Good					Signalised	Yarrara Rd	
	Rosemount Ave - Yarrara Rd	Local Road A	Yes	s	1.2	Good							
Greycliffe Avenue	3 Greycliffe Ave - Weemala Rd	Local	Yes	SE	1.2	Good				3.7			
	3 Greycliffe Ave - Weemala Rd	Local	No	NW	-	-							
Trebor Road	Pennant Hills PS - Pennant Hills Rd	Local	Yes	Ν	1.2	Good					Raised	10 Trebor Rd	
	Pennant Hills PS - Pennant Hills Rd	Local	Yes	S	1.2	Good					Signalised	Pennant Hills Rd	
Bellamy Street	Boundary Rd - Thorn St	Regional Road	Yes	NW	1.1	Good	740	Stevens St	NW		Raised	39 Bellamy St	
	Thorn St - Stevens St	Regional Road	Yes	NW	2.5	Good							
	Boundary Rd - Stevens St	Regional Road	Yes	SE	1.3	Good							
Malahide Road	Bellamy St - Pennant Hills PS	Local	Yes	Ν	1.2	Good							
	Bellamy St - Pennant Hills PS	Local	No	S	-	-							
Laurence Street	Bellamy St - Wearne Ave	Local Road A	Yes	Ν	1.2	Good							
	Bellamy St - Wearne Ave	Local Road A	Yes	S	1.2	Good							
Stevens Street	Bellamy St - Wearne Ave	Regional Road	Yes	Ν	1.2	Good					Raised	26 Stevens St	
	Bellamy St - Wearne Ave	Regional Road	Yes	S	1.2	Good					Signalised	Yarrara Rd	

Street name	Section	Road hierarchy	Footpath	Pram ramp	Verge width (m)	Comment/Explanation

Street name	Section	Road hierarchy			Fo	otpath		Pram ran	np	Verge width (m)			Comment/Explanation
			Y/N	Side	Width (m)	Condition	Footath required (m)	Location missing	Side	Grass	Туре	Location	
	Cherrybrook Public School												
New Line Road	New Farm Rd -West Pennant Hills Sports Club driveway	Regional Road	Yes	w	1.2	ОК	1300			1.5	Refuge	79 New Line Rd	Power poles and signposts in verge. Uneven footpath and cracked in a few sections. Footpath 2.5 m wide at refuge
	West Pennant Hills Sports Club driveway - 51 Bowerman Pl	Regional Road	Yes	w	1.2	ОК				8+	Refuge	98 New Line Rd	Lots of space in verge. Power poles signposts, post box, bollards and gas main in verge. Signposts also in footpath.
	51 Bowerman Pl - 127 New Line Rd	Regional Road	Yes	w	1.2	ОК				-	Refuge	43A Bowerman Pl	Footpath at kerb. Very steep to proerties, no space. Overhanging vegetation in some sections.
	127 New Line Rd - Cherrybrook PS Kiss & Ride driveway exit	Regional Road	Yes	w	1.8	ОК				-			Footpath at kerb. High voltage green box in footpath.
	Cherrybrook PS Kiss & Ride driveway exit - 135 New Line Rd	Regional Road	Yes	w	1.2	ОК				1.2			Footpath at kerb. Steep from school fence to footpath. Signposts and power poles in verge. Narrow at footpath intersection.
	135 New Line Rd - 35 New Line Rd	Regional Road	Yes	w	1.2	ОК				2			Signposts and power poles in verge.
	35 New Line Rd - Boundary Rd	Regional Road	Yes	w	1.2	ОК				8+			Very wide verge.
New Farm Road	New Line Rd - Attunga Ave	Local Road A	Yes	SE	1.2	Good							Footpath only from 17-31. No footpath elsewhere for entire stretch.
	Attunga Ave - Cherrybrook Rd	Local Road A	No	SE	-	-							
	New Line Rd - 17 New Farm Road	Local Road A	No	NW	-	-	170						
	17 New Farm Road - 31 New Farm Road	Local Road A	Yes	NW	1.2	Good							
	31 New Farm Road - Cherrybrook Rd	Local Road A	No	NW	-	-	650						
Cedarwood Drive	New Line Rd - Casuarina Dr	Collector Road A	Yes	N	1.2	Good							
	Casuarina Dr - Boundary Rd	Collector Road A	No	N	-	-	620						
	New Line Rd - Boundary Rd	Collector Road A	Yes	s	1.2	Good							
Boundary Road	New Line Rd - Francis Greenway Dr	State Road	Yes	N	1.2	Good							
	New Line Rd - Francis Greenway Dr	State Road	Yes	s	1.2	Good							
Francis Greenway Drive	Boundary Rd - Macquarie Dr	Collector Road A	Yes	Ν	1.2	ОК					Signalised	Boundary Rd	Uneven footpath (due to tree roots) in multiple sections.
	Boundary Rd - Macquarie Dr	Collector Road A	Yes	s	1.2	ОК							
Access driveway / playground	Myson Dr - Boundary Rd	-	No	-	-	-							No footpath. 5.5 m wide residential access driveway. No footpath in playground.

Street name	Section	Road hierarchy			Fo	ootpath		Pram ran	пр	Verge width (m)			Comment/Explanation
Myson Drive	Access driveway - Franklin Rd	Local	No	Ν	-	-	250						No footpaths on either side
	Access driveway - Franklin Rd	Local	No	s	-	-							
Franklin Road	Myson Dr - 25 Franklin Rd	Local Road A	No	Е	-	-	80						
	25 Franklin Rd - Neale Ave	Local Road A	Yes	Е	1.2	Good							
	Myson Dr - Neale Ave	Local Road A	No	w	-	-							
Neale Avenue	Franklin Rd - Bowerman Pl	Collector Road A	Yes	Ν	1.2	Good							
	Franklin Rd - Bowerman Pl	Collector Road A	Yes	S	1.2	Good							
Bowerman Place	Neale Ave - New Line Rd	Local	Yes	Ν	1.2	Good							
	Neale Ave - New Line Rd	Local	No	S	-	-							
	Oakhill Drive Public School												
Oakhill Drive	David Rd - Tawmii Pl	Collector Road A	Yes	s	1.2	Good	350			1.6	Refuge	10 Oakhill Dr	Telephone distribution tube, power poles, trees and signposts in verge.
Woodgrove Avenue	David Rd - Janice Pl	Collector Road A	No	S	-	-				3.3			New gap through median required. Power poles and signposts in verge.
	Janice Pl - County Dr	Collector Road A	No	s	-	-	350			4	Refuge	1 Greywood St	Trees and signposts in verge.
											Signalised	County Dr	
David Road	Woodgrove Ave - Oakhill Dr	Collector Road B	Yes	s	1.2	Good	650			2.5			Power poles, trees and signposts in verge. Pram ramps go into Oakhill Dr roundabout. If roundabout is a circular footpath, there are no ramps.
	Treetops Rd - Woodgrove Ave	Collector Road B	Yes	NW	1.2	Good							
	Treetops Rd - 144 David Rd	Collector Road B	Yes	NW	1.2	Good					Refuge	144 David Rd	
	144 David Rd - Woodgrove Ave / Westminster Dr	Collector Road B	Yes	NW	1.2	Good							
	Treetops Rd - Woodgrove Ave / Westminster Dr	Collector Road B	Yes	SE	1.2	Good							

•
-

Street name	Section	Road hierarchy			Fo	otpath		Pram ram	р	Verge width (m)			Comment/Explanation
County Drive	New Line Rd - Treetops Rd	Regional Road	Yes	w	1.2	Good					Signalised	Woodgrove Ave	No footpath Treetops Rd to Castle Hill Rd
	New Line Rd - Castle Hill Rd	Regional Road	Yes	Е	1.2	Good					Signalised	John Rd	No footpath at frontage of 50A County Dr and 92 John Rd
	Castle Hill Rd - Treetops Rd	Regional Road	No	Е	-	-	190				Signalised	Castle Hill Rd	
Treetops Road	New Line Rd - David Rd	Local	Yes	N	1.2	ОК							Uneven footpath (due to tree roots) in multiple sections.
	New Line Rd - David Rd	Local	No	s	-	-							
	John Purchase Public School												
Purchase Road	Eldridge St - John Purchase PS driveway exit	Collector Road A	Yes	E	1.2	Poor	1600	1 Forester Cres	E	1.6	Flat	57 Purchase Rd	Power poles, trees and signposts in verge. Uneven and cracked footpaths in multiple sections.
	John Purchase PS driveway exit - driveway entry	Collector Road A	Yes	Е	1.5	Good				-			
	John Purchase PS entry - New Line Rd	Collector Road A	Yes	E	2.5	Good				-	Refuge	Hancock Dr	Existing Shared Path between bus shelter and New Line Rd
											Signalised	New Line Rd	
Shepherds Drive	Kenburn Ave - 68 Shepherds Dr	Collector Road A	Yes	NW	1.2	Good					Refuge	Callicoma Walk	
	68 Shepherds Dr - Beechwood Pde	Collector Road A	No	NW	-	-	350				Refuge	68 Shepherds Dr	
	Beechwood Pde - Wesley Pl	Collector Road A	Yes	NW	1.2	Good					Refuge	Beechwood Pde	
	Kenburn Ave - Appletree Dr (southern intersection)	Collector Road A	Yes	SE	1.2	Good							
	Appletree Dr (southern intersection) - 130 Shepherds Dr	Collector Road A	No	SE	-	-	300						
	130 Shepherds Dr - Appletree Dr (northern intersection)	Collector Road A	Yes	SE	1.2	Good					Refuge	127 Shepherds Dr	
	Appletree Dr (northern intersection) - Eldridge St	Collector Road A	No	SE	-	-	170				Refuge	Eldridge St	
	Eldridge St - Wesley Pl	Local	No	SE	-	-							
Eldridge Street	Shepherds Dr - Purchase Rd	Collector Road A	Yes	Ν	1.2	Good					Refuge	Shepherds Dr	
	Shepherds Dr - Purchase Rd	Collector Road A	No	s	-	-	200						
Beechwood Parade	Shepherds Dr - Purchase Rd	Collector Road B	Yes	N	1.2	Good					Refuge	Shepherds Dr	
	Shepherds Dr - Mark Pl	Collector Road B	No	S	-	-	540						

Street name	Section	Road hierarchy			Fo	otpath		Pram ran	ıp	Verge width (m)	Comment/Explanation
	Mark PI - Purchase Rd	Collector Road B	Yes	s	1.3	Good					
Appletree Drive	Shepherds Dr - 30 Appletree Dr	Collector Road B	Yes	Inside	1.2	Good		30 Appletree Dr	s		Footpath located on the inner side of the road (road is circular). Missing ramp to cross over to other footpath.
	30 Appletree Dr - 1st Cherrybrook Scout Group driveway	Collector Road B	No	s	-	-	300				
	1st Cherrybrook Scout Group driveway - Shepherds Dr	Collector Road B	Yes	s	1.2	Good					
	Shepherds Dr - 30 Appletree Dr	Collector Road B	No	Outside	-	-	1100				
	30 Appletree Dr - Shepherds Dr	Collector Road B	Yes	Ν	1.2	Good					

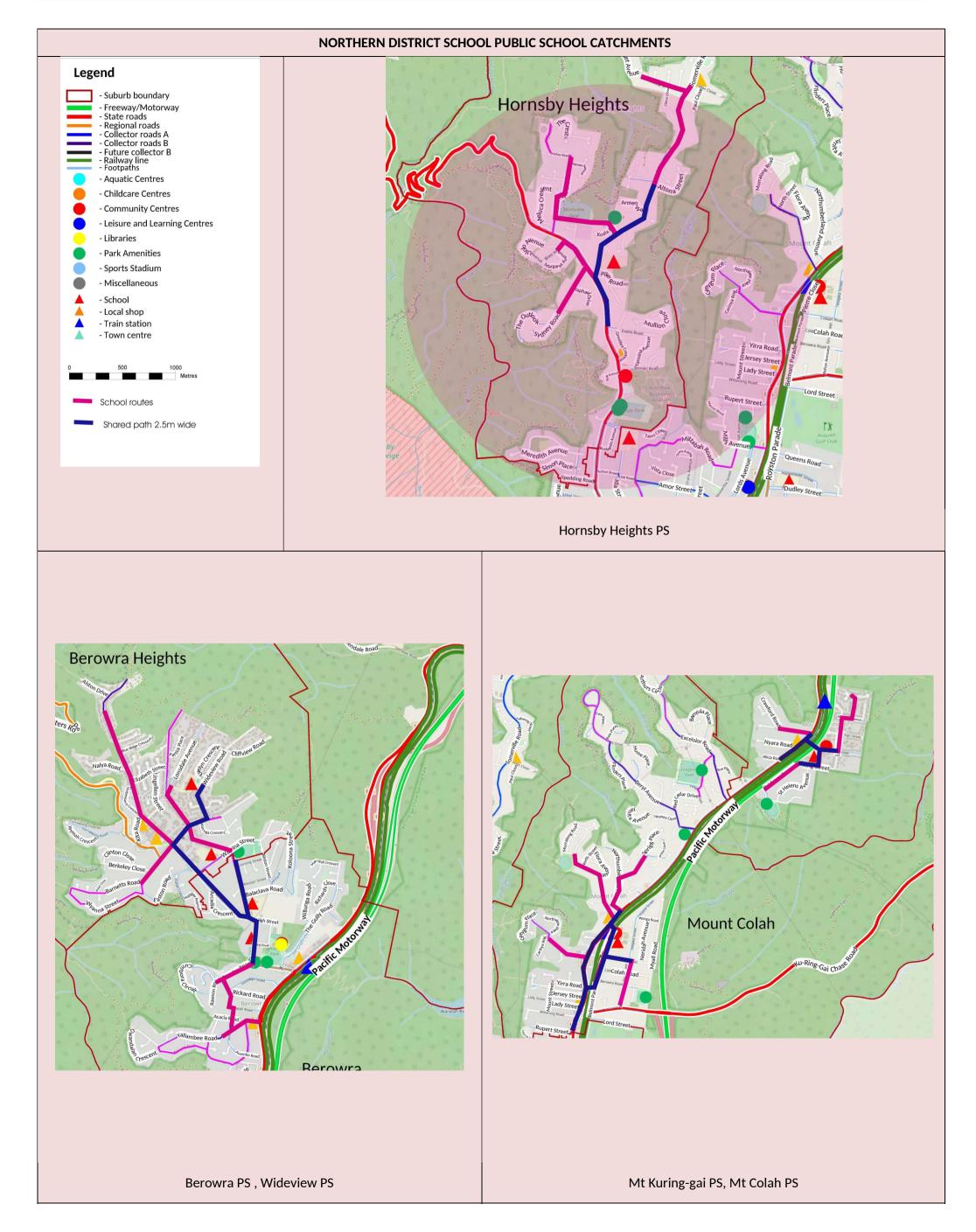
Street name	Section	Road hierarchy	Footpath					Pram ramp Werge (m)					Comment/Explanation
			Y/N	Side	Width (m)	Condition	Footath required (m)	Location missing	Side	Grass	Туре	Location	
	Epping North Public School												
Norfolk Road	Grayson Rd - Boundary Rd	Collector Road A	Yes	Е	1.1	Good	700			1.7	Refuge	136 Norfolk Rd	Steep near Boundary Rd. Power poles, trees, signposts in verge.
Boundary Road	Norfolk Rd - Malton Rd	Collector Road B	Yes	s	1.2	Good	1300			3.4	Flat	76 Boundary Rd	Power poles, trees, signposts, telephone distribution tube, telephone distribution box in verge.
	Malton Rd - Eastcote Rd		No	s	-	-				5			Steep near Eastcote Rd. Power poles and trees in verge.
Grayson Road	Norfolk Rd - Holland St	Local Road A	Yes	s	1.2	Good				1.5			
	Holland St - Devon St	Local Road A	No	s	-	-							
	Norfolk Rd - Holland St	Local Road A	No	Ν	-	-				1.8			
	Holland St - Devon St	Local Road A	Yes	Ν	1.2	Good							
Devon Street	Grayson Rd - Malton Rd	Local Road A / Local	Yes	w	1.2	Good				3.3			Hilly
	Grayson Rd - Malton Rd	Local Road A / Local	No	Е	-	-							
Newton Street	Devon St - Bedford Rd	Local Road A	No	Ν	-	-							
	Devon St - Bedford Rd	Local Road A	No	s	-	-							
Malton Road	Devon St - Walkway	Local	Yes	Ν	1.2	Good	400			2.6	Raised	227 Malton Rd	
	Devon St - Walkway	Local	Yes	S	1.2	Good				2.5			Footpath is 2.8 metres wide at the shops
Walkway	Malton Rd - Boundary Rd	Pedestrian walkway	Yes	-	1.2	ОК							Uneven footpath due to tree roots
	Epping Heights Public School												
Cheltenham Road	Beecroft Rd - Boronia Ave	Local	Yes	w	1.2	Good	750			2.5			Footpath level slopes down towards the roadway. Lots of driveways
	Boronia Ave - Castle Howard Rd	Local	Yes	w	1.2	Good							Pedestrian connection to Castle Howard Rd not suitable for bicycle (steep stairs)
	Beecroft Rd - Boronia Ave	Local	Yes	E	1.2	Good				2.4			Flatter and fewer driveways. More suitable for a shared path

N	=	-

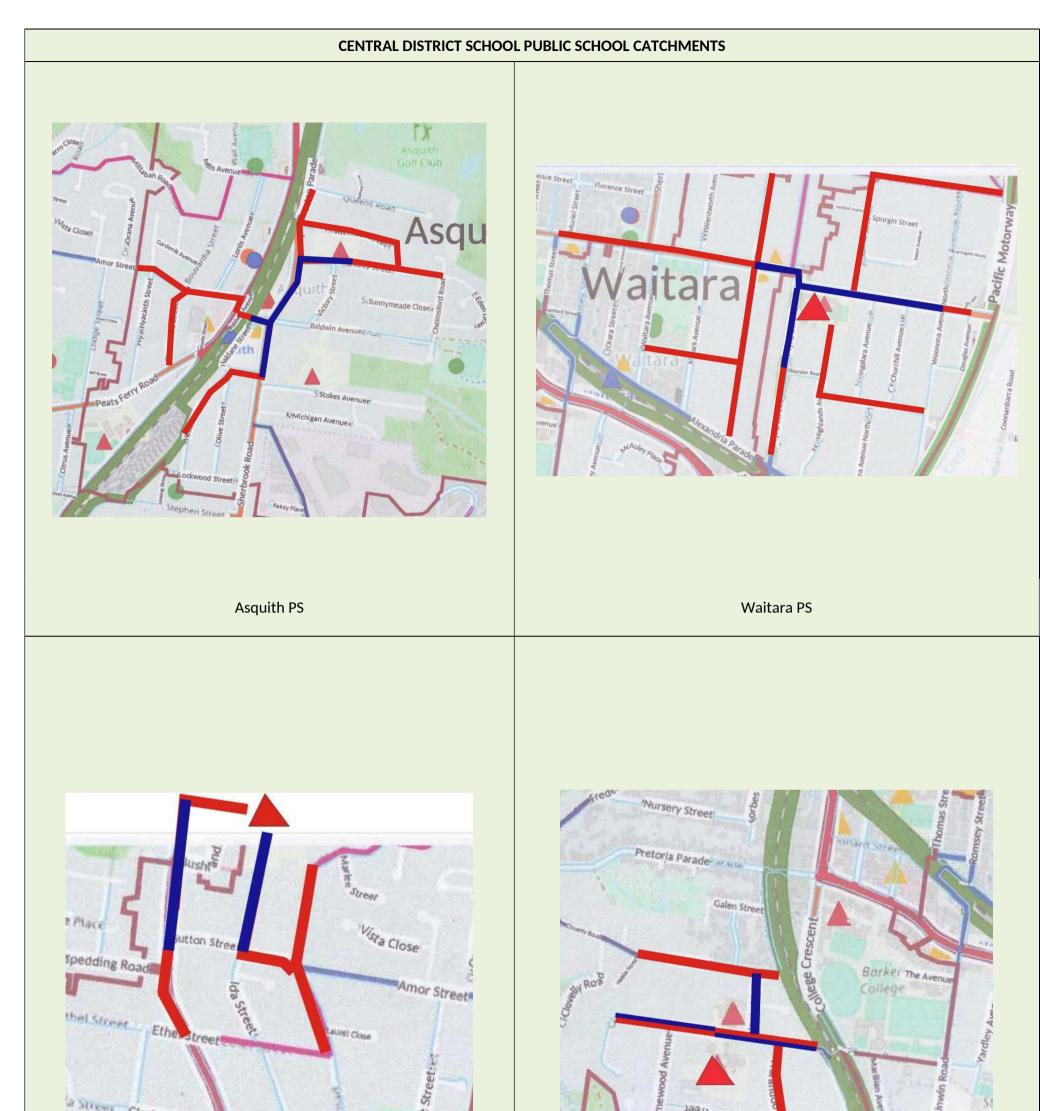
Street name	Section	Road hierarchy	Footpath					Pram ramp width (m)					Comment/Explanation
	Boronia Ave - Castle Howard Rd	Local	No	Е	-	-				5.4			Steep near Castle Horward Rd. Trees and power poles in verge
Beecroft Road	Lyne Rd - Murray Rd	State Road	Yes	Ν	1.1 - 1.2	ОК					Sig	Cheltenham Rd	1.1 m east of Cheltenham Rd (61 & 187). Some uneven footpaths and overhanging vegetation
	Lyne Rd - Murray Rd	State Road	Yes	s	1.2	Good					Sig	Cheltenham Rd	
Boronia Avenue	Cheltenham Rd - Murray Rd	Local Road A	No	Ν	-	-				0			Dirt footpath from Mason Ave to Murray Rd.
	Cheltenham Rd - Murray Rd	Local Road A	Yes	S	1.2 - 1.4	Good				3			Low mountable kerb, parked cars protrude onto the footpath
	Beecroft Public School												
Kirkham Road	Beecroft Rd - Boronia Ave	Collector Road A	Yes	E	1.2	Good	130			2.6			Footpath uneven (bumpy). Slight slope down to road. More verge space and trees, no power poles. Slightly better
	Beecroft Rd - Boronia Ave	Collector Road A	Yes	W	1.2	Good				1.8			Flatter but less verge width. Power poles are an obstruction
													Note: No pedestrians across Beecroft Road onto The Crescent
The Crescent	Cheltenham Rd - The Promenade	Local Road A	Yes	S	1.8	Good	850			1	Flat	Across The Promenade	Note: No pedestrians across Beecroft Road onto Kirkham Road
	The Promenade - Beecroft Rd	Local Road A	Yes	S	1.2	Good				2.3			Trees, vegetation, power poles, signposts, culverts in verge. Somewhat steep.
Beecroft Road	Kirkham St - Mary St	State Road	Yes	SW	1.2	Good	400			1.7			2.3 from bench to wall outside Vintage Cellars
	Mary St - Beecroft PS bus stop	State Road	Yes	SW	1.1	Good				1.8			Narrow space to work with due to safety gate
	Beecroft PS bus stop - Copeland Rd	State Road	Yes	sw	1.4	Good				-			Narrow space to work with due to safety gate
Copeland Road	Beecroft Rd - Club driveway	Regional Road	Yes	s	2.6	Good	1700			-	Raised	125A Copeland Rd	Club refers to The Beecroft Bowling and Recreation Club
	Club driveway - Burns Rd S	Regional Road	Yes	S	1.2	Good				1.6	Refuge	Across Hull Rd roundabou	Power poles, trees and signposts in verge. Sections where footpath is at kerbside (3.8 m to property). Footpath 2 m wide near Burns Rd S
	Burns Rd S - Pennant Hills Rd	Regional Road	Yes	s	2	Good				5+	Refuge	Across Burns Rd S	Footpath elevated near Pennant Hills Rd. Very steep to road, poential safety issue.
Boronia Avenue	Murray Rd - Kirkham St	Local Road A	Yes	Ν	1.2	Good				6			
	Murray Rd - Kirkham St	Local Road A	No	S	-	-				2			

Street name	Section	Road hierarchy	Footpath					Pram ramp widt (m)					Comment/Explanation
Cardinal Avenue	Chapman Ave - Pennant Hills Rd	Local Road A	Yes	w	1.2	ОК							Footpath is extremely uneven, difficult to cycle. Road is steep and also difficult to cycle.
	Chapman Ave - Pennant Hills Rd	Local Road A	No	w	-	-							
Hull Road	Albert Rd - Lyndon Way	Collector Road B	Yes	E	1.2	Good							
	Lyndon Way - Chapman Ave	Collector Road B	No	Е	-	-	300						
	Chapman Ave - Copeland Rd	Collector Road B	Yes	Е	1.2	Good							
	Albert Rd - Lyndon Way	Collector Road B	No	w	-	-	70						
	Lyndon Way - Chapman Ave	Collector Road B	Yes	w	1.2	Good							
	Chapman Ave - Copeland Rd	Collector Road B	No	w	-	-	350						
Copeland Road E	Sutherland Rd - 201B Copeland Rd E	Local	Yes	Ν	1.2	Good		Sutherland Rd	North	2.2			
	201B Copeland Rd E - end	Local	No	Ν	-	-	80						
	Sutherland Rd - 168 Copeland Rd E	Local	Yes	S	1.2	ОК							No footpath between 168 - 192 Copeland Road E (not continuous)
	168 Copeland Rd E - 192 Copeland Rd E	Local	No	s	-	-							
	192 Copeland Rd E - 200 Copeland Rd E	Local	Yes	S	1.2	ОК							
	200 Copeland Rd E - end	Local	No	s	-	-							
Copeland Road bridge	Wongala Cres - Sutherland Rd	Local	Yes	Ν	1.75	Good					Flat	Across Wongala Cres	
	Wongala Cres - Sutherland Rd	Local	No	S	-	-							
Sutherland Road	Booth Park - Malton Rd	Collector Road B	Yes	Е	1.2	Good					Flat	94A Sutherland Rd	
	Booth Park - Wandeen Ave	Collector Road B	No	w	-	-							Footpath not costed as it is not feasible due to location (no pedestrian connections due to remoteness and topograpgy issues)
	Wandeen Ave - Malton Rd	Collector Road B	Yes	w	1.2	Good							
Malton Road	Sutherland Rd - 168 Copeland Rd E	Local	Yes	Ν	1.2	Good				2.1			
	Sutherland Rd - 168 Copeland Rd E	Local	Yes	s	1.2	Good				3.9			





17115 WP 2 Appendix B school routes.docx

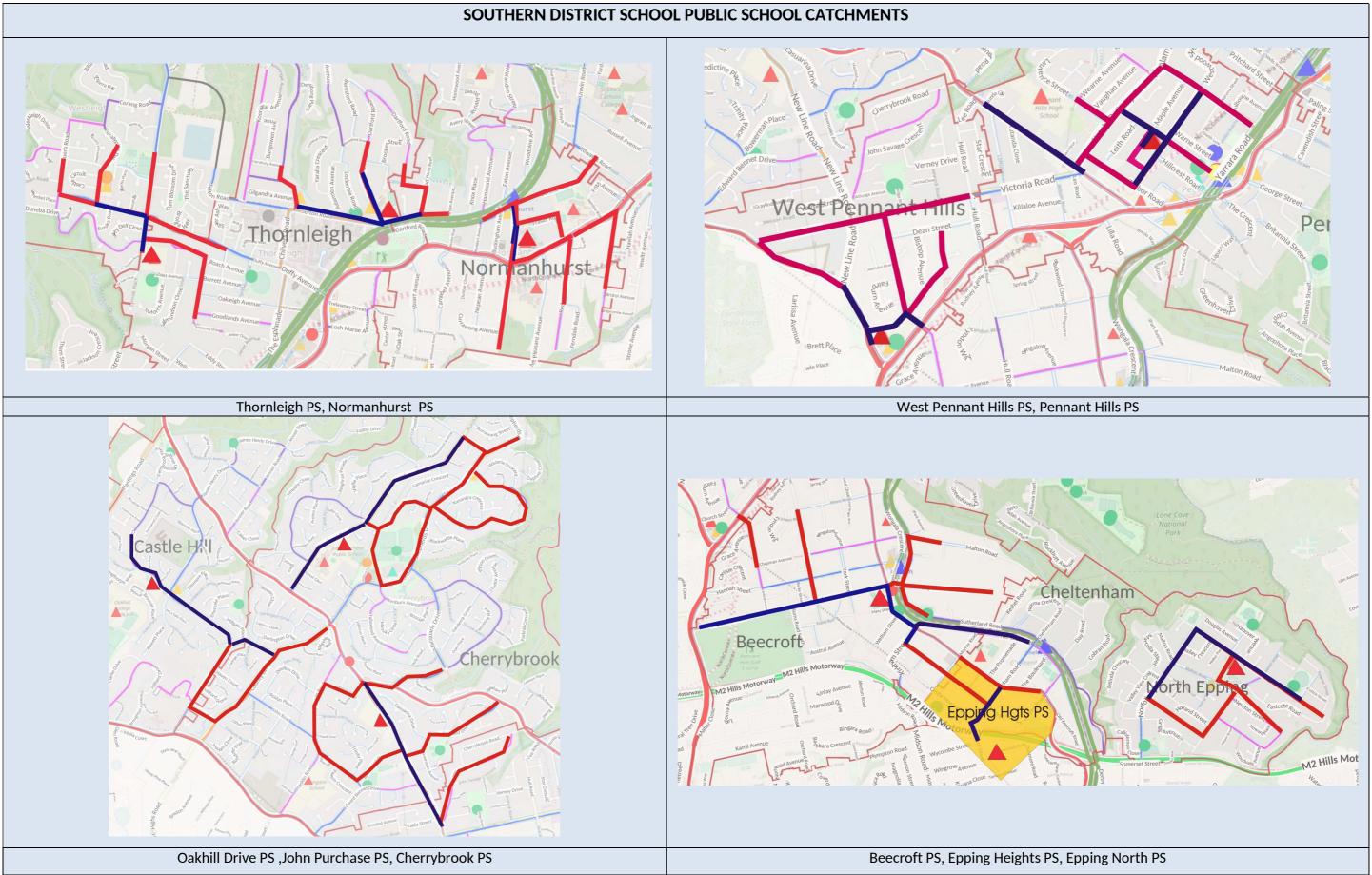


GE;



17115 WP 2 Appendix B school routes.docx



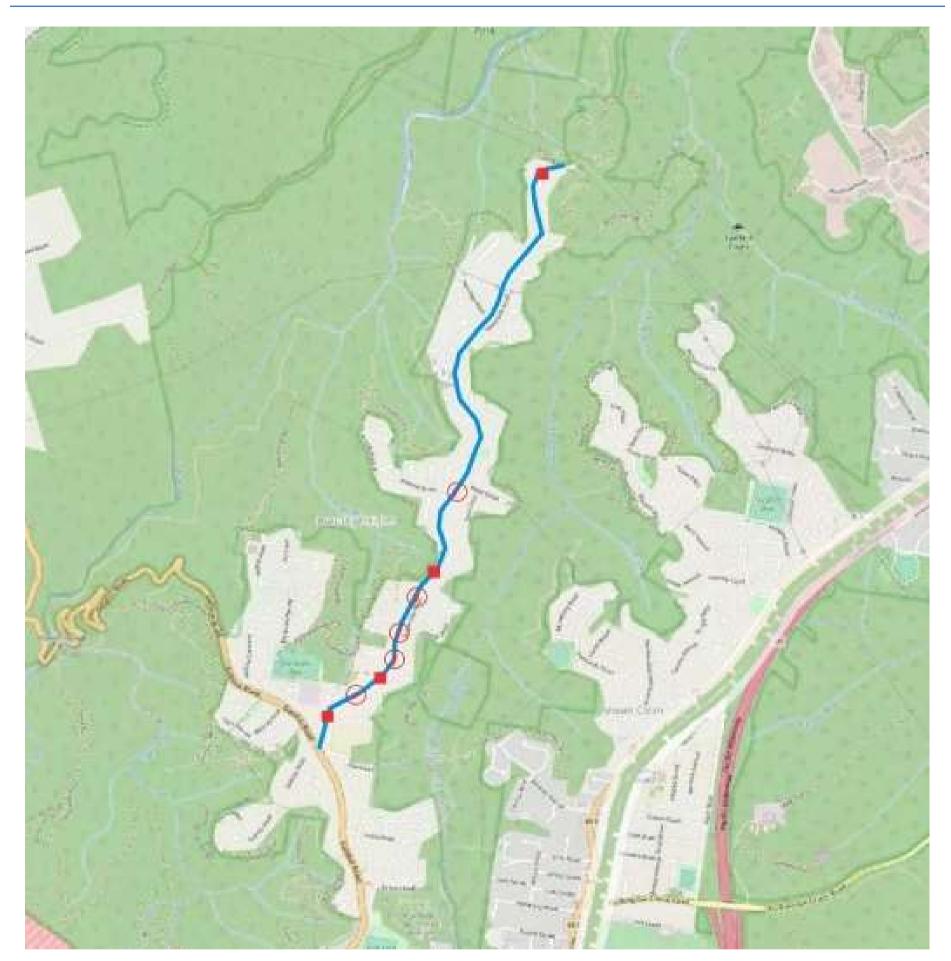




APPENDIX C

MODEL ROUTES MAPS, CONCEPTS AND SCHEDULE OF WORKS





HORNSBY BIKE PLAN 2018 - NORTHERN DISTRICT MODEL ROUTE

Proposed Traffic Management

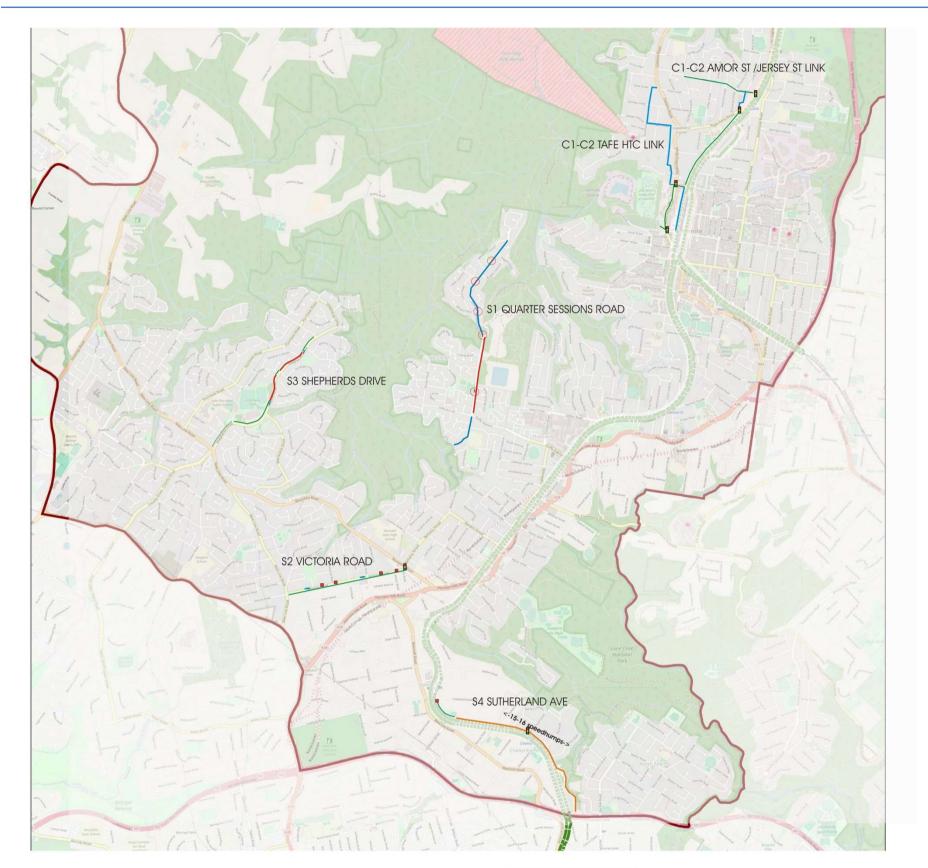
Pedestrian Refuge

Proposed Bicycle Facilities On Road Cycling Facility - Separated Two Way Bike Lane



17115 Hornsby Bike Plan Review WP2 - N Model Route.docx





HORNSBY BIKE PLAN 2018 - SOUTHERN AND CENTRAL DISTRICT MODEL ROUTES

Proposed Traffic Management

- Pedestrian Refuge
 - Intersection Median
- Traffic Speed Device
- 40km/h zone 40
 - Traffic Sianals

Proposed Bicycle Facilities

- On Road Cycling Facility - - Separated Two Way Bike Lanes
- Separated One Way Bike Lanes
- Bike / Parking Lanes with Logos
- Mixed Traffic Lanes with Logos



17115 Hornsby Bike Plan Review WP2 - S & C Model Routes.docx

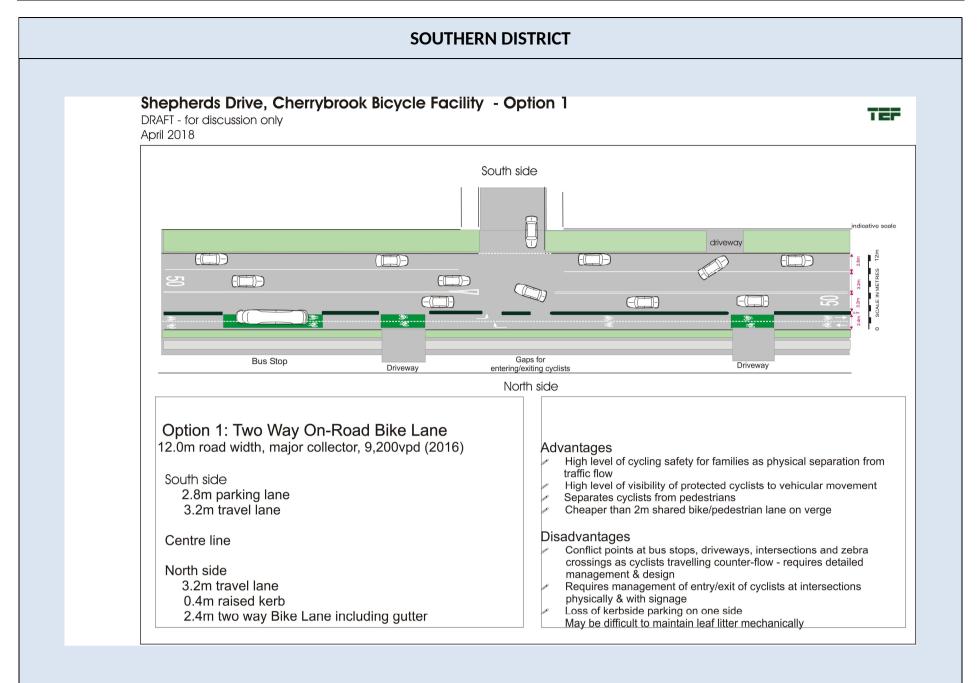


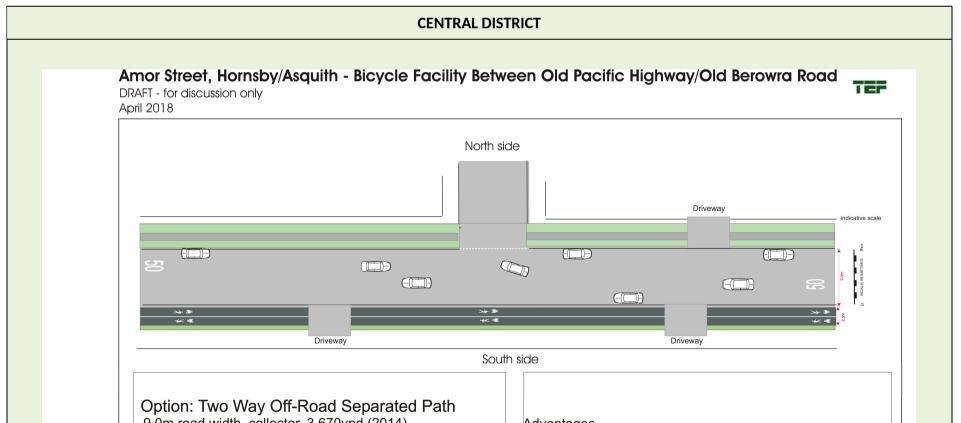
SOUTHERN DISTRICT Quarter Sessions Road, Westleigh Bicycle Facility - Option 1 TEF DRAFT - for discussion only April 2018 West side Ruddock Park Driveway EDD ED) (-) \prod Adjacent Water Reservoir - new bike lar Gaps for entering/exiting cyclist Bus Stop Driveway East side Option 1: Two Way On-Road Bike Lane 12.0m road width, collector, 3,300vpd (2017) Advantages Bus route north of Corang Road High level of cycling safety for families as physical separation from traffic flow High level of visibility of protected cyclists to vehicular movement West side Separates cyclists from pedestrians 2.8m parking lane Cheaper than bike facility on verge 3.2m travel lane Disadvantages Conflict points at bus stops, driveways, and intersections as cyclists travelling counter-flow - requires detailed management & design Requires management of entry/exit of cyclists at intersections physically 8 with sizeses Centre line East side physically & with signage 3.2m travel lane Loss of kerbside parking on east side to water reservoir Requires new constrction along water reservoir frontage May be difficult to maintain leaf litter mechanically 0.4m raised kerb 2.4m two way Bike Lane Victoria Road, Pennant Hills - Bicycle Facility Between New Line Road/Boundary Road TEF DRAFT - for discussion only April 2018 Driveway EDP Driveway Driveway South side Option 1: Two Way Off-Road Separated Path

9.0m road width, major collector, 9,200vpd (2016) South side verge 2.5m two way shared bike/pedestrian path	 Advantages High level of cycling safety for children as complete physical off-road separation from traffic flow Suitable facility for school route Parents more likely to permit children to cycle unsupervised No on-road parking or vehicular travel lane changes
Existing road pavement markings remain	Disadvantages Potential conflict with pedestrians Intersection interface must be managed physically & with signage Not suitable for commuter use

17115 WP 2 Appendix C Model Routes Concepts.docx







South side verge 2.5m two way shared bike/pedestrian path	 off-road separation from traffic flow Suitable facility for school and shopping route Parents more likely to permit children to cycle unsupervised No on-road changes
No existing road pavement markings	 Disadvantages Potential conflict with pedestrians Intersection interface must be managed physically & with signage Not suitable for commuter use

17115 WP 2 Appendix C Model Routes Concepts.docx

Street name	Section	Section length	Proposed facility	Item	Quantity	Unit Rate	Cost
	N2 So	merville Ro	ad, Hornsby Heights bicycle facility				
Somerville Road		4400 m	Mixed Traffic	Install W6-214 'Share the road' sign	60	\$143.27	\$8,596.2
				Install W6-7 & W8-23 bicycle warning signs	23	\$82.68	\$1,901.
				Install PS-2 bike logo	48	\$190.00	\$9,120.
				Install G2-203 intersection fingerboard signage	23	\$148.06	\$3,405.
				Install G2-204-1 intersection fingerboard signage	2	\$148.06	\$296.1
						Subtotal	\$23,319
	C1 - C2 Amor St		y Street link, Hornsby/Asquith bicycle	facility			
Amor Street	Pacific Hwy - Old Berowra Rd	900 m	Two way off-road shared path	Install S5 Off-road path broken separation line	870 m	\$0.70	\$612.4
Anorstreet		700 111	Two way on Toau shareu path	Upgrade to 2.5 m wide shared footpath	800 m	\$120.00	\$96,000
				Install R8-2 'Shared path'sign	4	\$120.00	\$70,000
				Install PS-3 bike logo	8	\$51.58	\$412.6
				Install PS-4 pedestrian symbol	8	\$97.60	\$412.0
				Install G2-203 intersection fingerboard signage	4	\$148.06	\$592.2
				Install G2-200 Intersection Ingerboard signage	2	\$148.06	\$296.1
				Install 2.5 m wide pram ramp	8	\$1,000.00	\$8,000
Wattle Street	Amor St - Pacific Hwy / Peats Ferry Rd	250 m	Mixed Traffic	Install W6-214 'Share the road' sign	4	\$143.27	\$573.0
Wallie Street	AITOT St - Pacific Hwy / Pears Perty Ru	250 111		Install W6-7 & W8-23 bicycle warning signs	4	\$143.27	\$373.0
				Install PS-2 bike logo	2	\$02.00	\$330.7
				Install G2-203 intersection fingerboard signage	0	\$170.00	\$300.0
				Install G2-204-1 intersection fingerboard signage	1	\$148.06	\$0.00
					1	\$140.00	\$140.0
Jersey Street North	Pacific Hwy / Peats Ferry Rd - Bridge Rd	1100 m	Two way off-road shared path	Install S5 Off-road path broken separation line	1090 m	\$0.70	\$767.3
				Upgrade to 2.5 m wide shared footpath	1090 m	\$120.00	\$130,800
				Install R8-2 'Shared path'sign	4	\$134.45	\$537.8
				Install PS-3 bike logo	10	\$51.58	\$515.8
				Install PS-4 pedestrian symbol	10	\$97.60	\$976.0
				Install G2-203 intersection fingerboard signage	2	\$148.06	\$296.1
				Install G2-204-1 intersection fingerboard signage	2	\$148.06	\$296.1
				Install 2.5 m wide pram ramp	2	\$1,000.00	\$2,000.
Jersey Street	Bridge Rd - Coronation St	550 m	Mixed Traffic	Install W6-214 'Share the road' sign	10	\$143.27	\$1,432
·				Install W6-7 & W8-23 bicycle warning signs	5	\$82.68	\$413.4
				Install PS-2 bike logo	4	\$190.00	\$760.0
				Install G2-203 intersection fingerboard signage	1	\$148.06	\$148.0
				Install G2-204-1 intersection fingerboard signage	1	\$148.06	\$148.0
						Subtotal	\$247,75
			ITC link. Hamalas kineda farilitar				
Peats Ferry Rd	C: Hornsby Aquatic and Leisure Centre - Bridge Rd	1 - C2 Tafe H 600 m	ITC link, Hornsby bicycle facility Two way off-road shared path	Install S5 Off-road path broken separation line			\$422.4



		_
N	_	

Street name	Section	Section length	Proposed facility	Item	Quantity	Unit Rate	Cost
				Upgrade to 2.5 m wide shared footpath	230 m	\$120.00	\$27,600.00
				Install R8-2 'Shared path'sign	2	\$134.45	\$268.90
				Install PS-3 bike logo	6	\$51.58	\$309.48
				Install PS-4 pedestrian symbol	6	\$97.60	\$585.60
				Install G2-203 intersection fingerboard signage	2	\$148.06	\$296.12
				Install G2-204-1 intersection fingerboard signage	2	\$148.06	\$296.12
				Install 2.5 m wide pram ramp	0	\$1,000.00	\$0.00
Bridge Road	Jersey St N - Roper Ln	200 m	Two way off-road shared path	Install S5 Off-road path broken separation line	180 m	\$0.70	\$126.72
511480 11044		200		Upgrade to 2.5 m wide shared footpath	180 m	\$120.00	\$21.600.00
				Install R8-2 'Shared path'sign	2	\$134.45	\$268.90
				Install PS-3 bike logo	2	\$51.58	\$103.16
				Install PS-4 pedestrian symbol	2	\$97.60	\$195.20
				Install G2-203 intersection fingerboard signage	1	\$148.06	\$148.06
				Install G2-204-1 intersection fingerboard signage	3	\$148.06	\$444.18
				Install 2.5 m wide pram ramp	6	\$1,000.00	\$6,000.00
Roper Lane	Dridgo Dd. Silva St	250 m	Mixed Traffic	Install W6-214 'Share the road' sign	4	\$143.27	\$573.08
Roper Lane	Bridge Rd - Silva St	250 111		Install W6-7 & W8-23 bicycle warning signs	5	\$143.27	\$373.08
				Install PS-2 bike logo	5	\$02.00	\$950.00
				Install G2-203 intersection fingerboard signage	2	\$190.00	\$296.12
				Install G2-204-1 intersection fingerboard signage	1	\$148.06	\$148.06
							-
Silva Street	Roper Ln - Carrington Rd	450 m	Mixed Traffic	Install W6-214 'Share the road' sign	6	\$143.27	\$859.62
				Install W6-7 & W8-23 bicycle warning signs	5	\$82.68	\$413.40
				Install PS-2 bike logo	8	\$190.00	\$1,520.00
				Install G2-203 intersection fingerboard signage	1	\$148.06	\$148.06
				Install G2-204-1 intersection fingerboard signage	2	\$148.06	\$296.12
Carrington Road	Carrington Rd - Rosamond St	300 m	Mixed Traffic	Install W6-214 'Share the road' sign	4	\$143.27	\$573.08
				Install W6-7 & W8-23 bicycle warning signs	5	\$82.68	\$413.40
				Install PS-2 bike logo	7	\$190.00	\$1,330.00
				Install G2-203 intersection fingerboard signage	1	\$148.06	\$148.06
				Install G2-204-1 intersection fingerboard signage	4	\$148.06	\$592.24
Rosamond Street	Carrington Rd - Ethel St	400 m	Mixed Traffic	Install W6-214 'Share the road' sign	4	\$143.27	\$573.08
				Install W6-7 & W8-23 bicycle warning signs	6	\$82.68	\$496.08
				Install PS-2 bike logo	8	\$190.00	\$1,520.00
				Install G2-203 intersection fingerboard signage	1	\$148.06	\$148.06
				Install G2-204-1 intersection fingerboard signage	2	\$148.06	\$296.12
Ethel Street	Rosamond St - Galston Rd	90 m	Mixed Traffic	Install W6-214 'Share the road' sign	2	\$143.27	\$286.54
Luidi Street	Resultione of Guiston Au	70 111		Install W6-7 & W8-23 bicycle warning signs	2	\$82.68	\$165.36
		++		Install PS-2 bike logo	2	\$190.00	\$380.00

	=	
	_	

Street name	Section	Section length	Proposed facility	Item	Quantity	Unit Rate	Cost
				Install G2-203 intersection fingerboard signage	1	\$148.06	\$148.06
				Install G2-204-1 intersection fingerboard signage	1	\$148.06	\$148.06
						Subtotal	\$71,500.84
		Oursetter Coor	ions Road, Westleigh bicycle facility				
Quarter Sessions Road		1300 m	Mixed Traffic	Install W6-214 'Share the road' sign	18	\$143.27	\$2,578.86
Quarter Sessions Road	Western Cres (N) - Warrigal Dr (S)	1300 m		Install W6-7 & W8-23 bicycle warning signs	18	\$143.27	\$2,578.80
				Install PS-2 bike logo	18	\$82.08	\$744.12
				Install G2-203 intersection fingerboard signage	18		
					-	\$148.06	\$1,332.54
				Install G2-204-1 intersection fingerboard signage	1	\$148.06	\$148.06
Quarter Sessions Road	Warrigal Dr (S) - Duffy Ave	950 m	Separated two way on-road bike lane	Install R7-1-4 'Bike Lane' sign	5	\$143.27	\$716.35
Quarter Sessions Road	Warrigal Dr (5) - Dully Ave	950 m	Separated two way on-road bike lane				
				Install W6-7 & W8-23 bicycle warning signs	4	\$82.68	\$330.72
				Install PS-2 bike logo	22	\$190.00	\$4,180.00
				Install L5 bicycle lane separator line	900 m	\$1.33	\$1,197.00
				Install raised kerb separator	900 m	\$1,500.00	\$1,350,000.
				Install C4 bicycle lane continuity line	60 m	\$0.88	\$52.80
				Install green bike lane	50 m	\$240.00	\$12,000.0
				Install G2-203 intersection fingerboard signage	3	\$148.06	\$444.18
				Install G2-204-1 intersection fingerboard signage	0	\$1,000.00	\$0.00
Quarter Sessions Road	Duffy Ave - Timbara Rd	250 m	Mixed Traffic	Install W6-214 'Share the road' sign	4	\$143.27	\$573.08
`	,			Install W6-7 & W8-23 bicycle warning signs	5	\$82.68	\$413.40
				Install PS-2 bike logo	9	\$190.00	\$1,710.00
				Install G2-203 intersection fingerboard signage	5	\$148.06	\$740.30
				Install G2-204-1 intersection fingerboard signage	0	\$148.06	\$0.00
Timbara Road	Bellamy Trail - Quarter Sessions Rd	130 m	Mixed Traffic	Install W6-214 'Share the road' sign	2	\$143.27	\$286.54
				Install W6-7 & W8-23 bicycle warning signs	2	\$82.68	\$165.36
				Install PS-2 bike logo	6	\$190.00	\$1,140.00
				Install G2-203 intersection fingerboard signage	1	\$148.06	\$148.06
				Install G2-204-1 intersection fingerboard signage	1	\$148.06	\$148.06
					+	Subtotal	\$1,382,469
					1	Subtotal	Ψ1,002, 1 07
			oad, Pennant Hills bicycle facility		· ·	I	
Victoria Road	New Line Rd - Boundary Rd	1400 m	Two way off-road shared path	Install S5 Off-road path broken separation line	1350 m	\$0.70	\$950.40
				Upgrade to 2.5 m wide shared footpath	1350 m	\$120.00	\$162,000.0
				Install R8-2 'Shared path'sign	6	\$134.45	\$806.70
				Install PS-3 bike logo	16	\$51.58	\$825.28
				Install PS-4 pedestrian symbol	16	\$97.60	\$1,561.60
				Install G2-203 intersection fingerboard signage	5	\$148.06	\$740.30
				Install G2-204-1 intersection fingerboard signage	2	\$148.06	\$296.12



Street name	Section	Section length	Proposed facility	Item	Quantity	Unit Rate	Cost
				Install 2.5 m wide pram ramp	10	\$1,000.00	\$10,000.00
Victoria Road	Castle Hill Rd - New Line Rd	550 m	Mixed Traffic	Install W6-214 'Share the road' sign	10	\$143.27	\$1,432.70
				Install W6-7 & W8-23 bicycle warning signs	5	\$82.68	\$413.40
				Install PS-2 bike logo	6	\$190.00	\$1,140.00
				Install G2-203 intersection fingerboard signage	1	\$148.06	\$148.06
				Install G2-204-1 intersection fingerboard signage	2	\$148.06	\$296.12
						L	
						Subtotal	\$180,610.68
			Drive, Cherrybrook bicycle facility			r	
Shepherds Drive	Greenway Park driveway - 68 Shepherds Dr (refuge)	550 m	Two way off-road shared path	Install S5 Off-road path broken separation line	550 m	\$0.70	\$387.20
				Upgrade to 2.5 m wide shared footpath	550 m	\$120.00	\$66,000.00
				Install R8-2 'Shared path'sign	2	\$134.45	\$268.90
				Install PS-3 bike logo	6	\$51.58	\$309.48
				Install PS-4 pedestrian symbol	6	\$97.60	\$585.60
				Install G2-203 intersection fingerboard signage	1	\$148.06	\$148.06
				Install G2-204-1 intersection fingerboard signage	1	\$148.06	\$148.06
				Install 2.5 m wide pram ramp	2	\$1,000.00	\$2,000.00
Shepherds Drive	68 Shepherds Dr (refuge) - Beechwood Pde	350 m	Separated two way on-road bike lane	Install R7-1-4 'Bike Lane' sign	2	\$143.27	\$286.54
				Install W6-7 & W8-23 bicycle warning signs	0	\$82.68	\$0.00
				Install PS-2 bike logo	16	\$190.00	\$3,040.00
				Install L5 bicycle lane separator line	350 m	\$1.33	\$465.50
				Install raised kerb separator	350 m	\$1,500.00	\$525,000.00
				Install C4 bicycle lane continuity line	0	\$0.88	\$0.00
				Install green bike lane	0	\$240.00	\$0.00
				Install G2-203 intersection fingerboard signage	2	\$148.06	\$296.12
				Install G2-204-1 intersection fingerboard signage	0	\$1,000.00	\$0.00
Shepherds Drive	Beechwood Pde roundabout	20 m	Two way off-road shared path	Install S5 Off-road path broken separation line	10 m	\$0.70	\$7.04
				Upgrade to 2.5 m wide shared footpath	10 m	\$120.00	\$1,200.00
				Install R8-2 'Shared path'sign	2	\$134.45	\$268.90
				Install PS-3 bike logo	2	\$51.58	\$103.16
				Install PS-4 pedestrian symbol	2	\$97.60	\$195.20
				Install G2-203 intersection fingerboard signage	1	\$148.06	\$148.06
				Install G2-204-1 intersection fingerboard signage	0	\$148.06	\$0.00
				Install 2.5 m wide pram ramp	2	\$1,000.00	\$2,000.00
Shepherds Drive	Beechwood Pde - 127 Shepherds Dr (refuge)	400 m	Separated two way on-road bike lane	Install R7-1-4 'Bike Lane' sign	2	\$143.27	\$286.54
chepherus brive		100 111	separated two way on roud blice land	Install W6-7 & W8-23 bicycle warning signs	2	\$82.68	\$165.36
				Install PS-2 bike logo	16	\$190.00	\$3.040.00
				Install L5 bicycle lane separator line	380 m	\$1,33	\$505.40
				Install raised kerb separator	380 m	\$1,500.00	\$570,000.00

		=
1.0	_	

Street name	Section	Section length	Proposed facility	Item	Quantity	Unit Rate	Cost
				Install C4 bicycle lane continuity line	40 m	\$0.88	\$35.20
				Install green bike lane	20 m	\$240.00	\$4,800.00
				Install G2-203 intersection fingerboard signage	2	\$148.06	\$296.12
				Install G2-204-1 intersection fingerboard signage	0	\$1,000.00	\$0.00
Character During	407 Charles and Dr. (acford) Eldelar Ch	000	The second state of the se	Install S5 Off-road path broken separation line	220 m	\$0.70	\$154.88
Shepherds Drive	127 Shepherds Dr (refuge) - Eldridge St	220 m	Two way off-road shared path	Upgrade to 2.5 m wide shared footpath			
					220 m	\$120.00	\$26,400.00
				Install R8-2 'Shared path'sign	2	\$134.45	\$268.90
				Install PS-3 bike logo	2	\$51.58	\$103.16
				Install PS-4 pedestrian symbol	2	\$97.60	\$195.20
				Install G2-203 intersection fingerboard signage	0	\$148.06	\$0.00
				Install G2-204-1 intersection fingerboard signage	1	\$148.06	\$148.06
				Install 2.5 m wide pram ramp	1	\$1,000.00	\$1,000.00
						Subtotal	\$1,210,256.64
			, Beecroft / Cheltenham bicycle facility	·		-	
Sutherland Road - Wongala Crescent	Copeland Rd - 86A Sutherland Rd	400 m	Two way off-road shared path	Install S5 Off-road path broken separation line	110 m	\$0.70	\$77.44
				Upgrade to 2.5 m wide shared footpath	110 m	\$120.00	\$13,200.00
				Install R8-2 'Shared path'sign	2	\$134.45	\$268.90
				Install PS-3 bike logo	4	\$51.58	\$206.32
				Install PS-4 pedestrian symbol	4	\$97.60	\$390.40
				Install G2-203 intersection fingerboard signage	1	\$148.06	\$148.06
				Install G2-204-1 intersection fingerboard signage	5	\$148.06	\$740.30
				Install 2.5 m wide pram ramp	2	\$1,000.00	\$2,000.00
Sutherland Road	86A Sutherland Rd - Lane Cove Valley Walk	2200 m	Separated one way on-road bike lane	Install R7-1-4 'Bike Lane' sign	13	\$143.27	\$1,862.51
		2200		Install W6-7 & W8-23 bicycle warning signs	8	\$82.68	\$661.44
				Install PS-2 bike logo	98	\$190.00	\$18.620.00
				Install L5 bicycle lane separator line	2120 m	\$1.33	\$2,819.60
				Install raised kerb separator	0 m	\$1,500.00	\$0.00
				Install C4 bicycle lane continuity line	160 m	\$0.88	\$140.80
				Install green bike lane	80 m	\$240.00	\$19,200.00
				Install G2-203 intersection fingerboard signage	8	\$148.06	\$1,184.48
				Install G2-200 Intersection Imgerboard signage	2	\$1,000.00	\$2,000.00
						Subtotal	\$63,520.25
					-		
		1		Total	-		\$3,179,432.54