COMPLETE

INNER WEST COUNCIL

D3 Iron Cove to Anzac Bridge
Rozelle Regional Cycleway Design

Feasibility Report- Lilyfield Road Cycleway

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Revision Control

Version	Description	Date	Prepared by
1	Feasibility Report	16.07.19	N Parish B Shrestha
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1 INTRODUCTION

COMPLETE Urban Pty. Ltd. (COMPLETE) has been engaged by Inner West Council (IWC) to undertake a detailed route assessment and feasibility report of the proposed Regional Cycleway Route from Iron Cove to Anzac Bridge, Rozelle along Lilyfield Road. The regional cycleway was identified in the Inner Sydney Regional Bike Plan and former Leichhardt Council's 2016 Bike Plan as a route to be upgraded to a separated two-way cycleway. The project is fully funded by the NSW Government and aims to increase safety for bike riders, pedestrians and motorists. The route extends from Canal Road to Victoria and is approximately 2.7km long.

IWC had commenced investigations and concept design for a separated cycleway along Lilyfield Road in late 2015. The route included a bi-directional separated cycleway along Lilyfield Road from the western bank of the pedestrian/ cycle bridge over Hawthorne Canal to the overhead pedestrian/cycle bridge on Victoria Road. In response to the level of resident and bike user groups' concern expressed during the last phase of community and stakeholder engagement undertaken between November 2017 and March 2018, Council resolved to develop a revised plan for the cycleway following investigation of several options.

2 PROJECT OBJECTIVES AND DESIGN PRINCIPLES

2.1 OBJECTIVES

Inner West Council has the following primary objectives for this project:

- respect the communities along the route;
- generally satisfy relevant standards and guidelines for cycleways;
- respond to feedback received from community and stakeholder engagement processes;
- consider heritage issues;
- minimise and, where possible, replace any loss of on-street parking;
- cater for cyclists of all ages and abilities;
- achieve good connectivity to the existing and proposed pedestrian and cyclist facilities linking to the proposed cycleway;
- ensure opportunities for ease of connection to a future cycleway through the Rozelle Railyards are incorporated into the design with minimal future modification of the proposed cycleway;
- integrate with other strategies and proposals affecting or adjacent the route.
- obtain all required approvals from landowners, authorities, utilities and service providers;
- minimise additional traffic travelling time and congestion in the area. Avoid infiltration of any diverted/ re-routed traffic into minor residential streets;
- maintain access to property frontages, property functions, and driveways;
- minimise impacts on the natural ecosystem, heritage features, and existing utilities;
- provide a safe, enjoyable, and interesting cycleway that is responsive and integrated with the streetscape;
- develop a simple and unified range of construction elements and landscape features that are easily maintained;
- respond to the outcomes of previous community and stakeholder engagement and resolutions of the Local Traffic Committee meeting and Council;
- prepare detailed design plans, cost estimates and construction set-out files for the works (Future Stage).

2.2 DESIGN PRINCIPLES

The following design principles are considered as part of the assessment to ensure that the developed options are appealing to existing cyclists and potential users thinking about cycling as an alternative mode of transport:

- **Coherence**
  - The network should link to popular destinations and trip generators and to adjacent cycle routes in the area;
  - The network should be continuous, and it should be clear where the route leads;
  - Intersections should provide a clear path for bicycle riders and other road users, and
  - The quality of the bicycle facilities should be consistent throughout the length of the route regardless of the bicycle facility typology.
- **Directness**
  - The route should be as direct as safely practicable. Long detours and steep gradients should be avoided if possible;
  - The route should take into account the slow speed of bike riders ascending compared to the high speed of bike riders descending; and
  - Delays due to prolonged crossing times at major barriers or due to site constraints should be avoided and the route should allow for a safe comfortable and consistent operating speed throughout the length of the route.
- **Safety**
  - The proposed bicycle route and facilities should be well designed and improve and enhance the road safety of bicycle riders, pedestrians and motorists;
  - Intersections should be designed to explicitly include bicycles as well as other road user types; and
  - Bicycle routes past bus stops should be designed for safe accommodation of riders, bus passengers, other pedestrians and vehicles.
- **Attractiveness**
  - The bicycle route should fit into the surrounding environment so that the enjoyment of all road users is enhanced. Community support for cycling is greater if the activity is enjoyable and an attractive cycle facility aids enjoyment;
  - Clear and well-placed signposting should indicate major destinations; and
  - The route should feel safe and offer good personal security.
- **Comfort**
  - The bicycle route must be easy to use for all types of riders. A smooth and well-maintained riding surface is essential for both comfort and safety;
  - Depending on the speed and volume of other traffic (motor vehicles or pedestrians), some level of separation is often needed;
  - Clearly marked bicycle facilities that allocate operating space to bicycle users are the most appropriate types of facilities on all but low volume and low speed roads; and
  - Effective intersection treatments, providing a safe and direct crossing, is important for overall route comfort.

3 ROUTE ASSESSMENT METHODOLOGY AND CONSIDERATIONS

3.1 PROCESS

This report has been prepared in response to Council's request to prepare revised concept design to be used for public exhibition. The route assessment has been carried out utilising the following methodology:

- Site inspection of the proposed route and adjacent areas;
- Assessment and utilisation of the detailed survey of Lilyfield Road provided by Council;
- Site assessment and recording of site features, incorporating:
  - Existing road geometry, including measurement of key site features to assist in the evaluation of route options and bicycle facility typologies;
  - Existing traffic conditions, including identification of sections of high traffic/ pedestrian volumes, high traffic speeds, areas of traffic congestion etc.;
  - Existing kerbside parking provisions, including identification of areas of high parking utilisation, high parking turnover, location of existing bus stops/ mail zones etc.;
  - Existing pedestrian provisions, including areas of high pedestrian concentration, location of crossings and type of control, any areas of inadequate pedestrian storage space, locations of substandard kerb ramps potentially impacted by a cycle facility etc.;
  - Location and frequency of driveways and side roads along the proposed routes. In addition, assessment of the turning movements and usage (volume) associated with any side road and high use driveways;
  - Location and condition of any street trees and landscaping potentially impacted by a cycle facility; and
  - Location of any street furniture items potentially impacted by a cycle route.
- Preparation of a concept design feasibility report outlining the findings of the assessment process, including a recommended final concept design; and
- Stakeholder meeting with Council representatives to present and discuss the route assessment findings and preliminary design opportunities.

3.2 ASSUMPTIONS

The following assumptions are relevant to the preparation of this route assessment study:

- It is assumed that the minimum traffic lane width on roads with bus routes is 3.2m. This is the minimum requirement that has been permitted by the RMS and Sydney Buses on other routes COMPLETE has been involved in,
- Dimensions of parking spaces are based on AS2890.5; and
- Design proposals at signalised intersections are subject to approval from the RMS.

3.3 CYCLE FACILITY CONSIDERATIONS

Whilst the overall objective is to provide a safe and well-linked cycle facility that is attractive to new and existing cyclists, the cycle route and facility typology must be balanced against the greater needs of the road network, the general public, and the residents and businesses that are located along the route. In light of this, the developed options consider the potential implications of differing cycle facility typologies against existing traffic and parking provisions, public transport infrastructure, pedestrian facilities and existing landscaping/ street trees.

3.4 PEDESTRIAN CONSIDERATIONS

The assessment considers and identifies the existing pedestrian facilities and how potential cycle facilities would impact on those facilities.

3.5 TRAFFIC OPERATION CONSIDERATIONS

The assessment also considers the potential impacts of cycleway options on the existing traffic operation of the route and intersections along the route. Specific consideration of the number of traffic lanes (including short turning lanes at intersections), lane widths, traffic volumes (assessed as high, medium, low - not measured) and vehicle speeds (assessed – not measured).

Any changes at signalised intersections are likely to require additional assessment to meet the requirements of the RMS.

3.6 PARKING CONSIDERATIONS

The assessment considers the parking implications of the route alignment and the cycle facility typology options. Specific reference is made in relation to potential loss of parking.

3.7 PUBLIC TRANSPORT CONSIDERATIONS

Where public transport provisions are located on possible route alignment options, the assessment considers the effects of implementing a cycleway on the traffic lane widths and bus stop facilities. (It is noted that Sydney Buses Infrastructure Guide suggests minimum desirable lane widths for bus routes of 3.2m).

3.8 STREET TREES, LANDSCAPE AND PUBLIC OPEN SPACE CONSIDERATIONS

The assessment also considers the potential impact on existing landscaping and street tree installations and evaluated the potential landscape and open space losses incurred as a result of providing a cycle facility adjacent.

3.9 FUTURE STAGES

Following completion and endorsement of the concept design stage, and subject to Council's direction, COMPLETE will progress the project to the detailed design and for construction documentation stages.

4 ROUTE OVERVIEW

4.1 STUDY AREA

For the purposes of this report, Lilyfield Road has been divided to the following sections as shown in Figure 1 below:

1. Hawthorne Canal to Norton Street,
2. Norton Street to Balmain Road, and
3. Balmain Road to Victoria Road.

The treatment options considered for each of the sections are:

1. Improvements to existing on-road bicycle facilities, and
2. Provision of separated, bi-directional cycleway with one-way traffic flow.

According to WestConnex, the new **Rozelle Interchange** (located east of Lamb Street up to Victoria Road) will be located almost completely underground and is to include creation of up to 10 hectares of new publicly accessible open space within the Rozelle Rail Yards [1]. Also included in this open space is a pedestrian and cycle path system to link to the proposed Lilyfield Road cycleway.

Therefore, it is worth noting that consultation with WestConnex is needed to define the scope of Lilyfield Road cycleway.

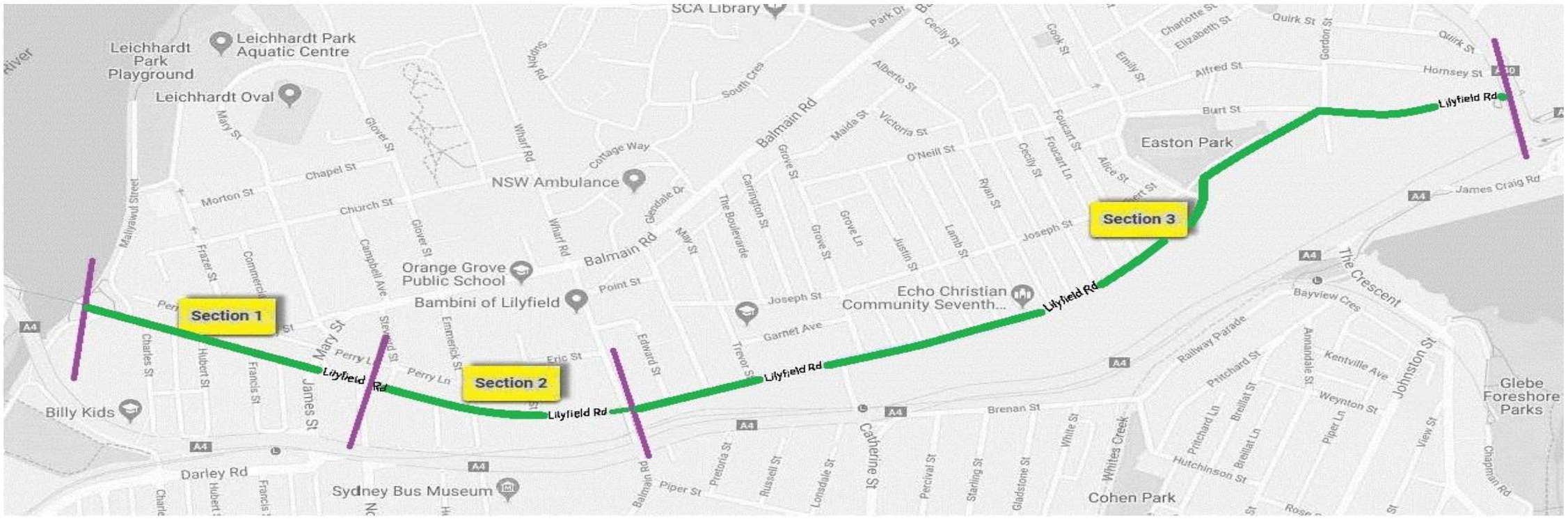


Figure 1 –Lilyfield Road section overview

[1]: WestConnex M4-M5 Link Concept Design, May 2017, p. 38- 44. URL: https://www.westconnex.com.au/sites/default/files/M4-M5%20Link%20Concept%20Design%20-%20WCX%20website.pdf

4.2 *EXISTING CYCLE FACILITIES ON ROUTE*

Section of Road	Existing cycle facilities
Canal Road to Charles Street	On-road cycle symbols (faded)- eastbound separated shoulder lane and westbound mixed traffic North of Canal Road links to existing 2.2m wide concrete bi-directional shared path along Maliyawul Street and into Leichhardt Park.
Charles Street to Hubert Street	On-road cycle symbols (faded)- eastbound shoulder lane (adjacent to parking lane) and westbound mixed traffic
Hubert Street to Francis Street (eastern)	On-road cycle symbols (faded)- eastbound shoulder lane (adjacent to parking lane) and westbound mixed traffic
Francis Street to James Street/ Mary Street	Eastbound shoulder lane changes to mixed traffic at the intersection
James Street/ Mary Street intersection	No linemarking/ priority for cyclists at the intersection
James Street/ Mary Street to Norton Street	No linemarking/ priority for cyclists at this location. Linemarking resumes east of Norton Street
Norton Street at Lilyfield Road	Clearly marked bicycle lanes both directions- westbound lane is crossing Norton Street and thus is marked green. Norton Street is mixed traffic area.
Norton Street to Henry Street	Eastbound cycle lane ends, and route is mixed traffic eastbound after crossing the mid-block raised pedestrian crossing
Henry Street to Balmain Road	Eastbound mixed traffic and westbound shoulder lane
Balmain Road to Denison Street	Eastbound mixed traffic and westbound shoulder lane
Denison Street to Gordon Street/ Burt Street	Eastbound shoulder lane and westbound mixed traffic
Gordon Street to Victoria Road	Eastbound shoulder land and westbound mixed traffic

5 PROPOSED CONCEPT TREATMENT DETAILS

5.1 *TREATMENT COMPONENTS*

The following images demonstrate the different components of treatments proposed in this report.

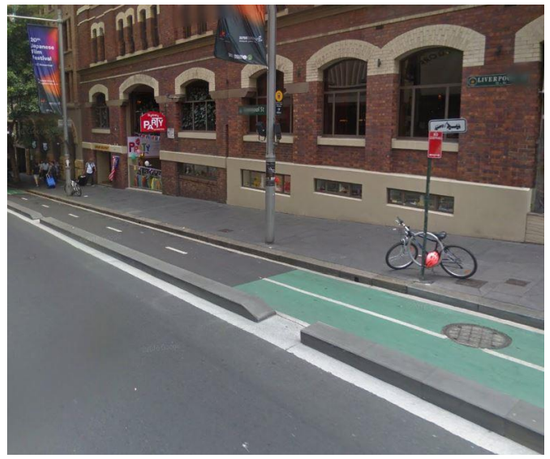
5.1.1 BUFFER-SEPARATED SHOULDER CYCLE LANE

The cycle lane and the parking lane are separated by a gap 400mm – 600mm wide (called “buffer”) to provide a clear space between cyclists and parked cars. This additional clearance is to allow for car door opening. The buffer gap may be painted with chevron (as shown in the image below) or left unpainted.

Location: Spring Street, Melbourne VIC

5.1.2 KERB-SEPARATED CYCLE LANE

A kerb (around 400mm wide and 150mm high) is used to separate cyclists from adjacent vehicular traffic or parked cars. Gaps are provided at intervals to allow for drainage.



Location: Liverpool Street, Town Hall NSW

5.1.3 MIXED TRAFFIC

In areas treated as mixed traffic, bicycle riders share lane space on the road with motor vehicles. The area is denoted by a bicycle symbol painted on the road pavement.

Location: Amherst Street, Cammeray NSW

5.2 *PROPOSED TREATMENTS*

Throughout all sections of the route, one or more of the following treatments are proposed:

Treatment 1: Buffer-separated shoulder cycle lane in one direction with mixed traffic on the other side of the road. The cycle lane is separated from the parking lane by a buffer (around 400mm – 600mm wide gap painted on the road between the parking lane and the cycle lane), while the other side of the road is treated as mixed traffic.

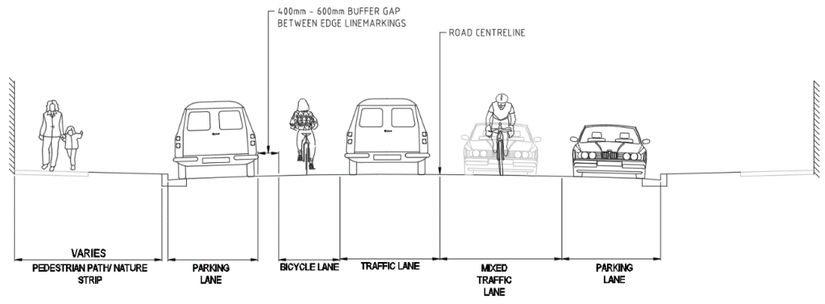


Figure 2.1: Treatment 1

Treatment 2: Kerb-separated cycle lane in one direction with mixed traffic on the other side of the road. The separated cycle lane is positioned between parking lane and kerb and is separated from the parking lane by a kerb around 400mm wide and 150mm high.

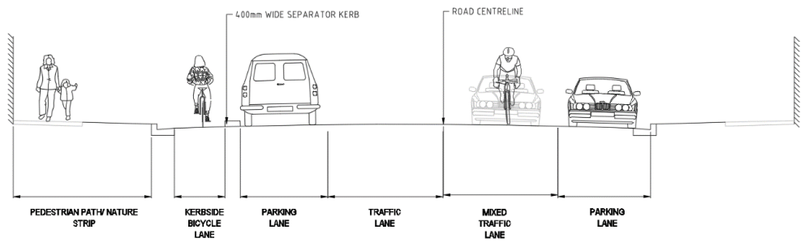


Figure 2.2: Treatment 2

Treatment 3: Kerb-separated cycle lane in one direction with mixed traffic on the other side of the road (with parking lane removed). This treatment method is similar to option 2 with the difference being that the parking lane is removed so the cycle lane is adjacent to traffic lane, separated by kerb, with mixed traffic on the other side of the road

Figure 2.3: Treatment 3

Treatment 4: Bi-directional kerb-separated cycleway- this layout consists of two-way cycleway separated from the adjacent traffic lane or parking lane by a minimum 400mm wide and 150mm high kerb.

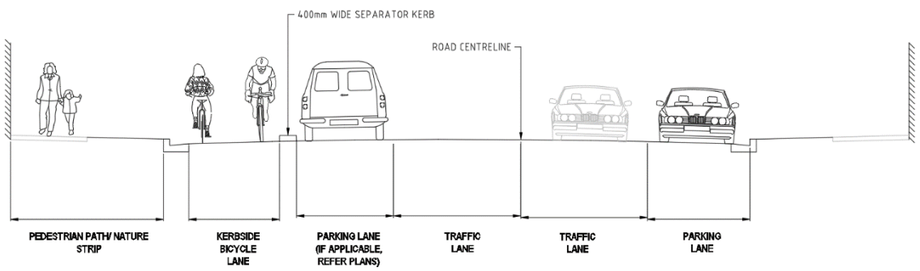


Figure 2.4: Treatment 4

Treatment 5: Bi-directional kerb-separated cycle lane with one-way vehicular traffic

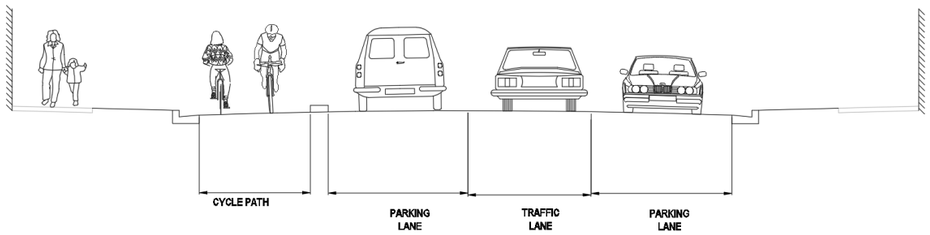


Figure 2.5: Treatment 5

5.3 *TREATMENT DETAILS ALONG LILYFIELD ROAD*

5.3.1 SECTION 1: HAWTHORNE CANAL TO NORTON STREET

5.3.1.1 Improvements to existing on-road bicycle facilities

Proposed treatment: Treatment 1 Eastbound

Noting that it is uphill eastbound, it is recommended that a buffer-separated cycle lane treatment be applied this direction. The westbound cycle route is then treated as mixed traffic.

Total cycle lane width: 1.5m (eastbound)

Separation: 0.6m buffer gap between cycle lane and parking lane

Total traffic lane: 6m (two-way)

Parking lane: 2.1m - 2.4m either side, loss of 4 parking spaces west of Mary Street (2 spaces either side of Lilyfield Road)

- Retain the existing uphill bike lane and downhill mixed traffic arrangement with minor deviations to existing linemarking. At the painted roundabout area near Canal Road, push back the stop line for vehicles, in order to continue the cycle lane westbound and to connect it to the existing cyclepath;
- Kerb returns at Charles Street are extended to slow vehicles, along with stop lines for vehicles departing Charles Street;
- Due to the steep longitudinal fall westbound, appropriate signs recommending caution are to be placed (e.g. “Steep Descent”);
- Closer to the intersection at Mary Street, the cycle lanes are separated from traffic by a separator kerb since parking facilities are not required (or are removed) for a short distance (Refer Treatment 3);
- By removing the parking lane near James Street (west side), the westbound route can also be made a cycle lane (either kerb- or buffer-separated), at the loss of two parking spaces. Alternatively, the westbound parking lane can be retained by implementing mixed traffic treatment here considering the topography is downhill in that direction;
- The two northbound lanes at James Street are changed to only one left turn lane into Lilyfield Road since the parking lane is to be removed as mentioned above. Currently there are no pavement arrows on James Street northbound; and
- East of Mary Street: the kerb is indented to shift the parking lane closer to the property boundary, so an on-road cycle lane can be provided for eastbound cyclists. It is to be noted that this would require removal of 2-3 street trees, and relocation of a light/power pole and Sydney Water asset.

Alternatives considered:

- Treatment 2 Eastbound: The benefit of implementing this layout- i.e. cycle lane between kerb and parking lane and separated by kerb, is that the cyclists are not only protected from vehicular traffic, but also from drivers looking to park who may accidentally drive into the cycle lane. The separator kerb acts as a barrier thereby offering cyclists a safe environment;
- A disadvantage, however, is that this layout makes it difficult for passengers, especially those with disabilities, to access their property as they must step across the separator kerb and travel across the cycleway and over the kerb to get to the verge/ footpath; and
- East of Mary Street: cyclists may be diverted off-road via a shared path to bypass the parking spaces on the northern side. However, due to risk of collision with pedestrians, and the possible obstruction caused by the columns of the shop awnings, this option was not considered as effective as indenting the kerb. Additionally, cyclists may find it more convenient to continue travelling on the road rather than up a ramp on to a shared path for a short distance.

5.3.2 SECTION 2: NORTON STREET TO BALMAIN ROAD

5.3.2.1 OPTION A: Improvements to existing on-road bicycle facilities

Proposed treatment: Treatment 1 Eastbound

The layout of buffer-separated cycleway eastbound and mixed traffic westbound in the previous section can be continued in this section.

Total cycle lane width: 1.5m (eastbound)

Separation: 0.4m - 0.6m buffer gap between cycle lane and parking lane

Total traffic lane: 6.4m (two-way)

Parking lane: 2.1m – 2.3m either side, loss of 2 parking spaces near Derbyshire Road

- The existing refuge island at Norton Street is widened to provide more safety to pedestrians crossing the road. This widening also slows down cars turning right into Norton Street. New kerb ramps are constructed to align with the refuge;
- The cycle lane east of Norton Street would be of benefit to morning eastbound commuters and would also reduce conflict with cars cutting the corner of the bend near the crest; and
- Noting that the crest of this section is near the Rayner Street intersection, the cycle lane treatments are switched east of Rayner Street up to Balmain Road to provide a buffer-separated lane for westbound cyclists and a mixed traffic arrangement eastbound (Treatment 1 Westbound).

5.3.2.2 OPTION B: Kerb-separated bi-directional cycleway with one-way traffic flow eastbound

Proposed treatment: Treatment 5 on northern side of road

Total cycle lane width: 2.8m (bi-directional)

Separator kerb: 0.4m

Total traffic lane: approx. 6m from Balmain Road to Gordon Street, 4m (one-way) from Gordon Street to Victoria Road

Parking lane: 2.2m either side of road, no parking on southern side of the road from Justin Street to Gordon Road

In order to accommodate the separated cycleway, Norton Street is made one-way eastbound up to Balmain Road and all side streets to are linemarked to suit. Removing the westbound lane opens up opportunities for planting along the one-way street while still maintaining parking facilities. However, it is recommended that this treatment be reconsidered due to the following reasons:

- The detour route via Perry Street/ Mary Street/ James Street is long and prone to congestion- particularly during peak periods;
- Another point made by local residents was that the layout would cause accessibility issues for residents exiting from their car across the proposed cycle path and the verge and into their homes;
- Due to the shift in the road centreline along Lilyfield Road east of Norton Street, the right-turn angle is much sharper which makes it difficult for buses to turn right from Norton Street to Lilyfield Road and vice-versa; and
- Business owners in this area have objected to the removal of parking spaces near Mary Street, arguing that there already is a lack of parking in the area and removal of the four spaces near Mary Street makes it difficult for loading/unloading of goods

5.3.3 SECTION 3: BALMAIN ROAD TO VICTORIA ROAD

5.3.3.1 OPTION A: Improvements to existing on-road bicycle facilities

Proposed treatment: Treatment 1 Westbound

Upon switching the layout east of the crest at Rayner Street in the previous section, the layout from Balmain Road to Catherine Street consists of buffer-separated cycle lane westbound with mixed traffic eastbound. The layout is again changed near Justin Street to buffer-separated cycle lane eastbound and mixed traffic westbound.

Total cycle lane width: 1.5m (in the uphill direction)

Separation: 0.6m buffer gap between cycle lane and parking lane

Total traffic lane: 6.4m (two-way)

Parking lane: 2.1m - 2.3m either side, loss of 3 parking spaces near Catherine Street

- The few car parking spaces and the garden beds on the eastbound approach to Catherine Street can be replaced with a separated cycle lane;
- New raised crossing with gutter bridge flush with kerb, located east of Catherine Street- widened to accommodate pedestrian crossing and two cycle lanes;
- Kerb extensions at Catherine Street and at the northern kerb return on Lilyfield Road (near Grove Street). Extending the kerb near Grove Street allows minimum 3m wide shared path so cyclists can continue off the crossing;
- Kerb returns at Catherine Street are extended and new kerb ramp installed to allow connection to existing cycle path along Catherine Street;
- The existing eastbound cycle lane and westbound mixed traffic treatments from Denison Street to Victoria Road are retained due to the uphill topography eastbound; and
- As mentioned previously, liaison with WestConnex is required to identify how the proposed cyclepath within Rozelle Interchange is laid out to provide suitable transition from the proposed cycleway at Lamb Street. Continuing the cycle route within the Rozelle Interchange would bypass Lilyfield Road from Lamb Street to Victoria Road, thereby avoiding the need continue the cycleway east of Lamb Street.

Alternatives considered:

- Treatment 2 westbound from Catherine Street to Lamb Street- due to the southern side of Lilyfield Road in this section being mostly non-residential, the cycle lane can be positioned between the parking lane and the kerb to offer a safer cycling environment.

5.3.3.2 OPTION B: Kerb-separated bi-directional cycleway with one-way traffic flow westbound

Proposed treatment: Treatment 4 on southern side, changing to Treatment 5 after Gordon Street (one-way traffic westbound)

The bi-directional cycleway on the northern side of Lilyfield Road crosses the road via a crossing east of Edward Street.

Total cycle lane width: 2.2m – 2.4m (bi-directional)

Separator kerb: 0.4m

Total traffic lane: 6.6m (two-way)

Parking lane: 2 – 2.2m either side of road, loss of 2 parking spaces near Balmain Road, 34 spaces between Catherine Street and Lamb Street, and around 100 spaces from Lamb Street to Victoria Road.

Advantages of implementing treatment 4 for this section is that it provides a safe cycling environment. However, it makes it hard for cyclists to join the cycle lane from one of the side streets due to the obstruction caused by parked vehicles and the separator kerb.

Removal of the parking spaces near Balmain Road (north side) is likely to attract further criticism considering that one of the spaces is marked as a disabled use only and is for the adjacent property. Additionally, due to the bus stop located mid-block, changing the traffic flow to one lane only eastbound is likely to cause queues when buses stop for pick up/ drop off.

By removing the parking lane on southern side of the road from Catherine Street to Lamb Street, it is possible to accommodate a bi-directional cycleway and achieve a significant amount of planting on the southern side (east of Justin Street). However, locating planting areas close to kerb returns at intersections may obstruct driver sight lines.

Also in this proposal is the conversion of the road section between Gordon Street and Victoria Road to one-way traffic (eastbound only). This provides the opportunity to accommodate the bi-directional cycleway and retain parking (Treatment 5). This proposal had attracted much criticism from the stakeholders, and it was recommended that Council not go ahead with this treatment. The potential of "rat-running" in the side streets caused by this one-way restriction was the main concern, with residents stating that traffic calming treatments to reduce rat running in Hornsey Street and Quirk Street is likely to reduce amenity and parking in those streets and increase noise.

6 THE NEXT STEPS

Council has put together a three-phase process to develop the new design and will invite community input at each phase:

1. **Option investigation/development in a Feasibility Study report - Now**
2. Concept development - **Late 2019**
3. Detailed design - **Mid 2020**

It is recommended that the options identified in this report are consulted with the community and taken to Council Traffic Committee meetings and for discussion with the relevant stakeholders, namely the Inner West Bicycle Coalition and relevant Bicycle User Groups.

The feedback provided will be considered when providing a recommendation of the preferred option which will then be presented at Council's Local Traffic Committee (LTC). The recommendation of the LTC will then be considered by Council and, following Council's decision, phase two will commence with further community engagement.

7 APPENDIX

Please see the Lilyfield Road section summaries in the Appendix below.

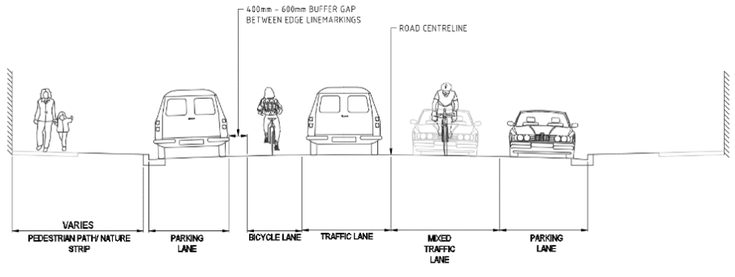
LILYFIELD ROAD SECTION 1

FROM CANAL ROAD TO NORTON STREET

Source: SIX Maps

Section features:

- The crest for this section is located at Norton Street- the grade is quite steep uphill from start of the section at Canal Road up to the end at Norton Street. This uphill topography continues eastward on to the next section;
- The cycleway connects to the Bay Run which is a major attraction in the area for tourists, cyclists, and fitness enthusiasts alike;
- Intersection with Dobroyd Parade, Canal Road and Maliyawul Street links quality open space and provides good visual amenity; and
- The side streets do not have any facilities for cyclists.



OPTION: IMPROVEMENTS TO EXISTING ON-ROAD BICYCLE FACILITIES

TREATMENT: BUFFER-SEPARATED CYCLE LANE EASTBOUND, MIXED TRAFFIC WESTBOUND

Advantages:

- Mixed traffic downhill to provide enough road width on the other direction to accommodate a separated bicycle lane;
- Kerb extensions at Charles Street to slow turning vehicles at that intersection; and
- Immediately east of Mary Street, the nature strip is narrowed to indent the kerb and parking lane. This allows cyclists to continue on-road without any loss to the existing parking availability.

Disadvantages:

- Cyclists face a steep climb from Hawthorne Canal up to James Street, which may deter inexperienced cyclists from using the route;
- The route is almost entirely on-road which is not encouraging to less experienced cyclists;
- Loss of 2 parking spaces at the James Street intersection (either side of Lilyfield Road); and
- Some trees need to be removed and assets relocated in order to indent the kerb east of Mary Street.

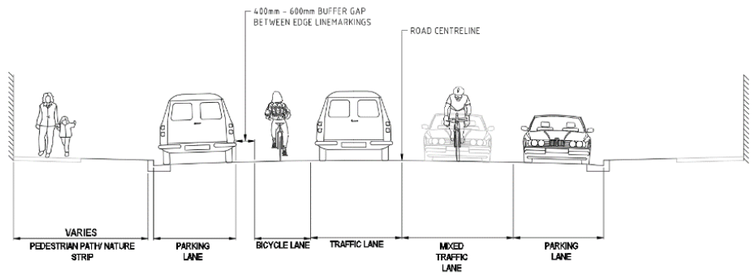
LILYFIELD ROAD SECTION 2

FROM NORTON STREET TO BALMAIN ROAD

Source: SIX Maps

Section features:

- The uphill topography continues from the previous section. The crest is at Rayner Street after which the grade is downhill eastbound;
- Existing trees within the road corridor along Lilyfield Road provide excellent shade and visual amenity; and
- The bicycle shop at James Street/ Mary Street intersection has potential to be used as a cycle hub, allowing for journey facilities such as information, bottle refill, rest stop, etc.



OPTION A: IMPROVEMENTS TO EXISTING ON-ROAD BICYCLE FACILITIES

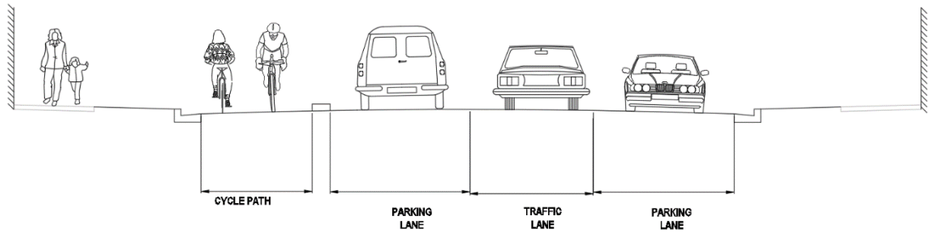
TREATMENT: BUFFER-SEPARATED CYCLE LANE EASTBOUND, MIXED TRAFFIC WESTBOUND (TREATMENTS SWITCH SIDES AFTER CREST AT RAYNER STREET)

Advantages:

- Wider refuge at Norton Street provides more safety to cyclists and pedestrians crossing Norton Street; and
- By implementing mixed traffic downhill (westbound direction), a cycle lane can be assigned uphill (eastbound) with minimal loss of parking.

Disadvantages:

- Loss of 1 parking space at the Balmain Road intersection (westbound); and
- The route is almost entirely on-road which is not encouraging to less experienced cyclists.



OPTION B: KERB-SEPARATED BI-DIRECTIONAL CYCLEWAY NORTHERN SIDE OF LILYFIELD ROAD WITH ONE WAY TRAFFIC FLOW EASTBOUND

Advantages:

- As mentioned in the previous section, the separated cycleway provides cyclists with a safe cycling area away from vehicular traffic; and
- Plenty of planting opportunities upon removal of the westbound traffic lane.

Disadvantages:

- Implementing one-way traffic in the eastbound direction causes inconvenience to residents. Additionally, the detour route via Perry Street/ Mary Street/ James Street is long and prone to congestion- particularly during peak periods;
- Due to the shift in the road centreline along Lilyfield Road east of Norton Street, the right-turn angle is much sharper which makes it difficult for buses to turn right from Norton Street to Lilyfield Road and vice-versa; and
- The cycleway located between the kerb and the parking lane will create a barrier to businesses from stopping to load/unload.

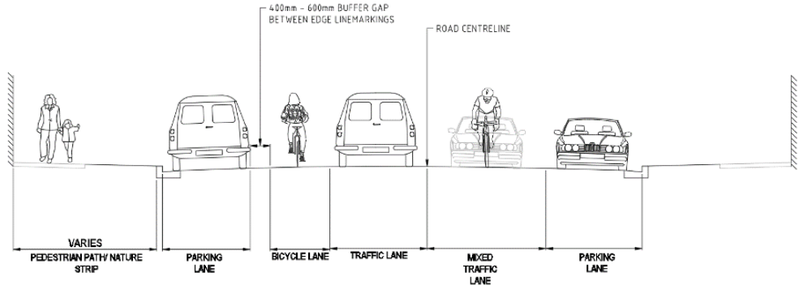
LILYFIELD ROAD SECTION 3

FROM BALMAIN ROAD TO VICTORIA ROAD

Source: SIX Maps

Section features:

- With the crest located at Balmain Road, this section of Lilyfield Road is downhill eastbound with the low point at Justin Street;
- Intersection at Catherine Street provides easy access to the Light rail;
- With WestConnex's proposed Rozelle Interchange, the area around Easton Park and Rozelle Rail Yards has the opportunity to provide vast open green space and excellent amenities such as a watercourse, community gardens, waterside walks, cycle bridge, sports fields and synthetic play fields, etc;
- Existing trees within the road corridor along Lilyfield Road provide excellent shade and visual amenity; and
- The footbridge over Victoria Road, which is outside the current project scope, is a critical link to the city. This bridge is currently under proposal to be modified to better facilitate pedestrian and cyclist crossing.



OPTION A: IMPROVEMENTS TO EXISTING ON-ROAD BICYCLE FACILITIES

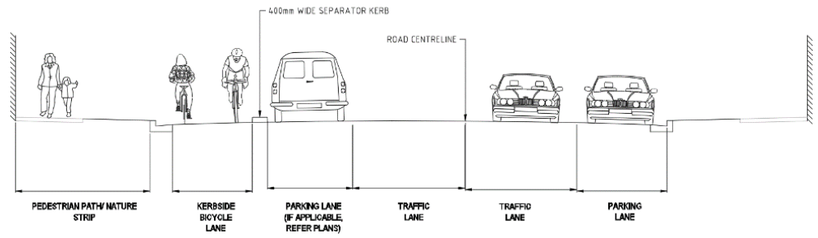
TREATMENT: BUFFER-SEPARATED CYCLE LANE WESTBOUND, MIXED TRAFFIC EASTBOUND (TREATMENTS SWITCH SIDES AFTER CREST AT JUSTIN STREET)

Advantages:

- Removal of the garden bed at the Catherine Street intersection allows placement of a cycle lane eastbound;
- Raised crossing is modified to allow cyclists to cross Lilyfield Road; and
- Minimal loss of parking due to most of the treatments being retained. However, parking at the non-residential side of Lilyfield Road (near Denison Street) may be removed to accommodate separated cycle lane.

Disadvantages:

- This section of the road, like the other sections, is on-road and may not attract less experienced cyclists.



OPTION B: KERB-SEPARATED CYCLEWAY NORTHERN SIDE OF LILYFIELD ROAD (CYCLEWAY CROSSES TO SOUTHERN SIDE VIA CROSSING NEAR EDWARD STREET) WITH ONE WAY TRAFFIC FLOW WESTBOUND BETWEEN GORDON STREET AND VICTORIA ROAD

Advantages:

- The provision of a physically separated cycleway between the parking lane and the kerb places cyclists away from the risk of colliding with vehicular traffic; and
- There is potential for lots of planting, following removal of parking spaces from Justin Street to Gordon Street, and implementation of one-way from Gordon Street to Victoria Road

Disadvantages:

- As mentioned above, this option requires removal of several parking spaces; and
- Implementation of the one-way eastbound treatment from Gordon Street to Victoria Road will have impacts on Hornsey Street and Quirk Street due to rat running in those streets. Changing the direction to westbound is still likely to impact side streets, in addition to general inconvenience caused to local residents.