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AN OVERVIEW OF THE CITY WEST CYCLE-LINK

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An Overview of the City West Cycle-Link

Summary

This document presents a proposal for the *City West Cycle-Link*, a new cycling facility that would:

1. Provide a cycling and walking tunnel running across and under the City West Link Road, from Darley Road in the west to Derbyshire Road in the east;
2. Offer a safe alternative to crossing the slip lane running from the City West Link Road onto Darley Road;
3. Closely integrate with the proposed Norton 2 (James St) light rail stop, increasing the flow of people in the vicinity of the stop, and thereby enhancing the sense of safety of light rail commuters;
4. Allow cyclists to bypass the climb up Lilyfield Road between the Hawthorne Canal and James Street;
5. Connect with and extend the cycling route along Darley Road proposed as part of the GreenWay project;
6. Provide a grade-separated alternative to Lilyfield Road by creating a comparatively flat and direct connection to the Anzac Bridge cycleway at White Bay via the Lilyfield rail cutting and the Rozelle rail lands.

In order to determine its scope and feasibility, EcoTransit Sydney requests that the NSW government via the Department of Transport and Infrastructure (NSWTI) undertake an investigation of the proposal as it has the required technical skills and resources for the task. It is also in a position to obtain the necessary plans and information from the Roads and Traffic Authority, RailCorp and the Sydney Harbour Foreshore Authority for an informed assessment of the proposal's feasibility and scope.

Should the proposal be deemed feasible, EcoTransit Sydney would note that aspects of its implementation relating to the use of Lilyfield rail cutting would require close coordination with the project works associated with the extension of the light rail service to Dulwich Hill.

Introduction

At the present time, cyclists from the Inner West who are riding towards the Anzac Bridge and the City of Sydney typically follow a route through Five Dock and Haberfield that leads them onto Lilyfield Road at the Hawthorne Canal. At this point they are faced with a short, but steep climb up to James Street. This climb is often seen as daunting and unappealing by less experienced cyclists.

For cyclists heading towards the Anzac Bridge, there isn't an alternative route of similar convenience and directness to Lilyfield Road. Immediately to the south is the City West Link Road and the Rozelle Rail Freight Line. It should be noted that the six (plus turning and associated slip lanes) of the City West Link Road present a barrier for cyclists and pedestrians attempting to cross it. Beyond these barriers, the route towards the Anzac Bridge becomes slower, hillier and more circuitous than the alignment along Lilyfield Road, which essentially runs parallel to the City West Link Road.

EcoTransit Sydney proposes that an investigation be undertaken into the feasibility of constructing facilities that would:

1. Provide a walking and cycling tunnel running under the City West Link Road, from Darley Road in the west to Derbyshire Road in the east;
2. Offer a safe alternative to crossing the slip lane running from the City West Link Road onto Darley Road;
3. Closely integrate with the proposed Norton 2 (James St) light rail stop, increasing the flow of people in the vicinity of the stop, and thereby enhancing the sense of safety of light rail commuters;
4. Allow cyclists to bypass the climb up Lilyfield Road between Hawthorne Canal and James Street;
5. Connect with and extend the cycling route along Darley Road proposed as part of the GreenWay;
6. Provide a high quality, grade-separated alternative to Lilyfield Road by creating a comparatively flat and direct connection to the Anzac Bridge cycleway at White Bay via the Lilyfield rail cutting and the Rozelle rail lands. This cycleway would pass under Victoria Road and provide connections to local streets.
7. Reduce travel times for Inner West cyclists commuting to and from the City of Sydney via the Anzac Bridge cycleway.

City West Cycle-Link Cycling and Walking Tunnel

In this section a facility is proposed for investigation that would:

1. Provide a tunnel running under the City West Link Road, from Darley Road in the west to Derbyshire Road in the east;
2. Enable pedestrians to avoid crossing the slip lane running from the City West Link Road onto Darley Road;
3. Closely integrate with the proposed Norton 2 (James St) light rail stop. It would also be quite close to the Norton 3 (Charles St) stop;

4. Allow cyclists to bypass the climb up Lilyfield Road between Hawthorne Canal and James Street;
5. Connect with the cycling route along Darley Road proposed as part of the GreenWay;
6. Directly connect with a proposed grade-separated cycleway through the comparatively flat Rozelle rail lands.

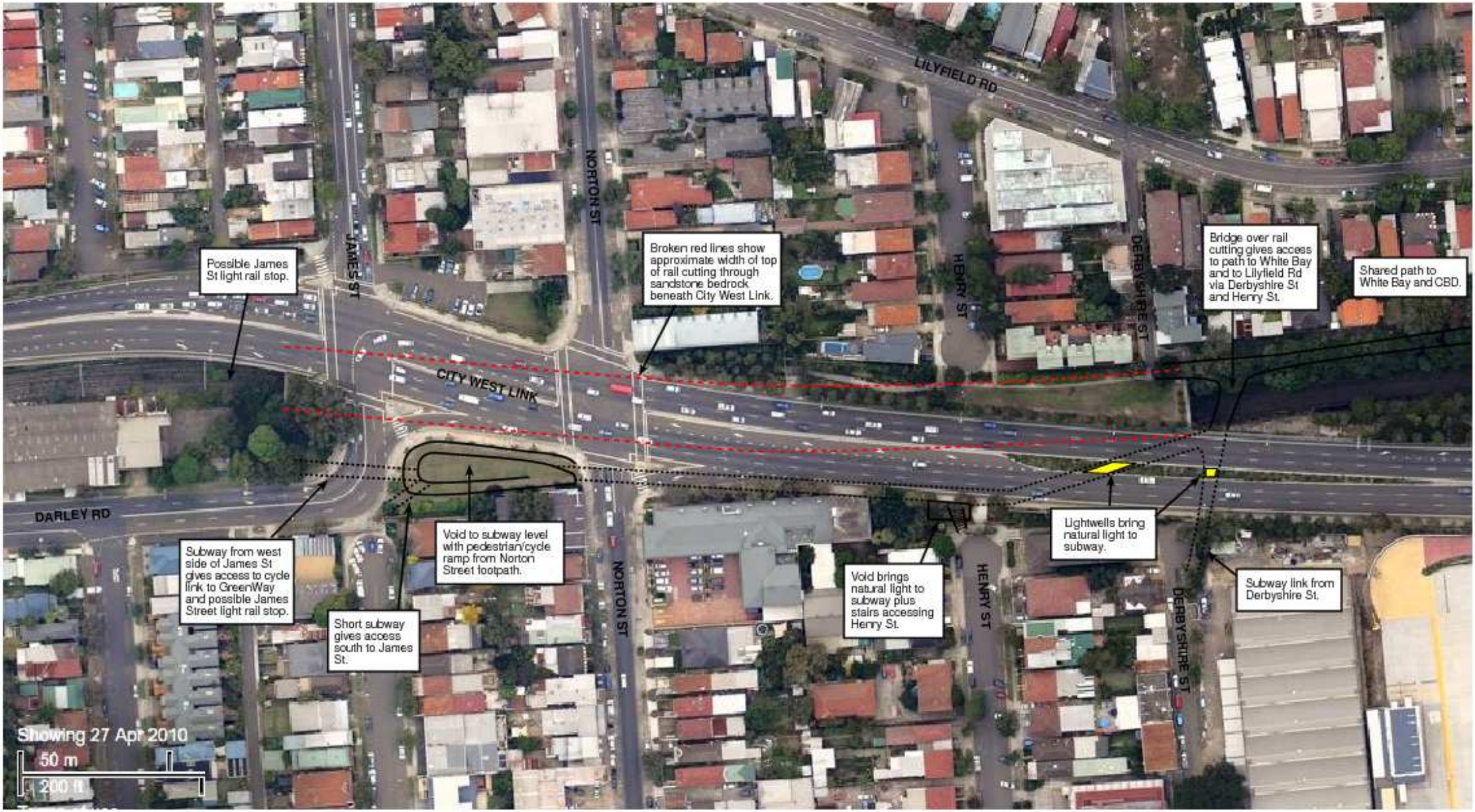
Cyclists from the Inner West who are riding towards the Anzac Bridge and the City of Sydney typically follow a route through Five Dock and Haberfield that leads them onto Lilyfield Road at the Hawthorne Canal. At this point they are faced with a short, but steep climb up to James Street. This climb is often seen as daunting and unappealing by less experienced cyclists.

For cyclists riding east on Darley Road towards James St and intending to cross over to Lilyfield Road, the intersection with the City West Link Road presents several problems:

1. There is insufficient available road space for a separation of cars and bicycles to be maintained.
2. The gradient increases sharply, leading to conflict with motorists as cyclists slow down.
3. There is little time for crossing six lanes of traffic, plus a slip lane, to reach James St.
4. James St itself climbs steeply as it approaches Lilyfield Road.

These problems combine to make the City West Link Road a difficult and inconvenient crossing point for cyclists.

To address these deficiencies EcoTransit Sydney proposes that a short walking and cycling tunnel be built under the City West Link Road. An indicative route for the tunnel is shown in Illustration 1.



City West Cycle Link concept plan
Revised Version

EcoTransit Sydney
30 May 2010

Illustration 1: City West Cycle-Link indicative tunnel alignment

When viewed from the perspective of a cyclist[1] proceeding along Darley Road, the entry point to the tunnel would be via the road batter near the intersection of Darley Road/James St and the City West Link. Darley Road rises steeply as it approaches the City West Link, with the highest point of the batter being adjacent to the entry point to the tunnel over the rail line.

We note that the entrance to the City West Cycle-Link tunnel is located adjacent to the proposed Norton 2 (James St) light rail stop[2] described in the May 17, 2010 *Sydney Light Rail – Inner West Extension Study Draft Report* prepared by GHD for the NSW Department of Transport and Infrastructure. In an ideal world, this would present an opportunity to coordinate construction of the tunnel with the works associated with constructing the Norton 2 (James St) light rail stop.

The location affords an opportunity to create an integrated, well designed and closely coupled interchange providing access to light rail, walking and cycling facilities, and improved connections with local streets. The resulting additional access for pedestrians and cyclists would also increase the flow of people in the vicinity of the stop, enhancing the sense of safety of light rail commuters.

A picture[3] of the western entrance to the Lilyfield rail tunnel is shown in Illustration 2. Darley Road/James St can be seen passing over the tunnel and the City West Link Road is to the immediate left of the noise barriers. The highest point of the batter, over which James St rises, is to the immediate right of the rail line.

Illustration 2: Western entrance of the Lilyfield rail tunnel formed by the City West Link Road

1 We note that the tunnel would be equally useful to cyclists and pedestrians.

2 *Sydney Light Rail – Inner West Extension Study Draft Report*, GHD, May 17, 2010. p. 21. Available at http://www.transport.nsw.gov.au/rail/lightrail-extension.html

3 Photo by Matthew Spong. http://www.panoramio.com/photo/33358153

As shown in Illustration 1, initially, the City West Cycle-Link tunnel would proceed under the southern side of the City West Link Road, with connections to James Street and Henry Street. An additional benefit of the Cycle-Link subway to pedestrians is the provision of a safe alternative to crossing the slip lane running from the City West Link Road onto Darley Road.

At Henry Street, the tunnel would proceed under the City West Link Road to its northern side, exiting adjacent to Derbyshire Road. Another tunnel under the City West Link is also shown, providing a north-south connection to Derbyshire Road.

The exit of the tunnel would be to the east of the entry portal to the Lilyfield rail tunnel, at a similar level to the top of the rail tunnel arch, which is approx. 7m high. A short bridge over the rail cutting at this point would be required to gain access to the northern side of the cutting and Derbyshire Road. The bridge would be well above the level of any wiring used by the light rail service. For safety and security reasons, the bridge would be completely enclosed in a similar manner to cycleway overpasses of major roads.

A cyclist could then travel up Derbyshire Road to connect with Lilyfield Road and continue their journey. This location would also provide access to the short path that runs parallel to the City West Link Road between Norton Street and Derbyshire Road.

Tunnel Feasibility – Going under the City West Link Road

One of the critical tasks the government would need to undertake is to determine the feasibility of constructing a tunnel suitable for cyclists and pedestrians passing under the City West Road Link, connecting the southern and northern sides at Darley Road and Derbyshire Road, respectively, as shown in Illustration 1.

Detailed geotechnical studies, design treatments and construction plans would be available from the Roads and Traffic Authority for the project. We would urge that NSWTI engage with the RTA and investigate these details in order to ascertain the precise nature of what is and what isn't feasible. If the tunnel proposal is feasible, the RTA would also be in a position to advise on the scope of works needed.

There is another important factor to take into consideration when assessing the feasibility of the City West Cycle-Link tunnel. As well as being feasible in an engineering sense, its use of the Lilyfield rail cutting and its proximity to the rail line means that it cannot be considered in isolation from the NSW Government's plan[4] for the extension of the light rail service to Dulwich Hill.

Due to the potential for service disruption, it would be impractical to undertake construction of the tunnel portal, or the short bridge connecting to the northern side of the cutting, once light rail services beyond Lilyfield have begun operating. Consequently, the two projects would need to be closely coordinated to ensure that all related construction works were completed by the time light rail services begin operating.

4 As set out in the Metropolitan Transport Plan http://www.nsw.gov.au/metropolitantransportplan

Accessing the City West Cycle-Link Tunnel's Western Portal

The Darley Road entrance to the tunnel would be easily accessible to cyclists whose routes were based on a northern or southern alignment with respect to the City West Link Road and Rozelle Rail Freight Line.

Cyclists coming from Five Dock and Haberfield and using the northern route alignment, ie proceeding up Lilyfield Road from the Hawthorne Canal, would need to first traverse the City West Link Road to detour onto Darley Road. This can done in two ways:

1. Using the underpass adjacent to Hawthorne Canal and following Canal Road to Darley Road;
2. Proceeding a short distance up Lilyfield Road, turning into Charles Street and using the pedestrian/cycling overpass to Canal Road and then Darley Road.

Cyclists using an alignment running parallel to the light rail service to Dulwich Hill would travel along Darley Road. We note that the Cooks River to Iron Cove GreenWay project has proposed a concept plan[5] in which the cycleway north of the Allen Street light rail stop would use a 3m wide bi-directional cycle lane (+barrier) along Darley Road. The options for accessing the Darley Road tunnel entrance from these alignments are shown in Illustration 3.

Illustration 3: Accessing the City West Cycle-Link Tunnel

5 The concept plan is available at http://greenway.org.au/files/Greenway%20Integrated%20Concepts_v30April.pdf

Connecting to the Anzac Bridge

As indicated previously, cyclists heading toward the Anzac Bridge through the Cycle-Link tunnel would be able to use Derbyshire Road to connect with Lilyfield Road and continue their journey. However, there is a potential alternate route that EcoTransit Sydney believes is deserving of serious investigation. This alternate route represents the second part of the City West Cycle-Link.

This portion of the City West Cycle-Link would initially use the top of the northern side of the rail cutting, starting immediately to the east of the Lilyfield rail tunnel portal, and eventually the flat Rozelle rail lands to provide a high quality, grade-separated cycleway, in effect a European-style *veloway*, connecting directly to the Anzac Bridge cycleway. The cycleway would pass under Victoria Road at White Bay.

While requiring detailed analysis to determine its feasibility and costs, it has numerous benefits from the point of view of commuting cyclists heading to and from the Anzac Bridge and the City of Sydney. These benefits include:

1. Providing a faster, shorter, more direct route to the Anzac Bridge;
2. Avoiding the hilly terrain along Lilyfield Road;
3. Being completely grade separated from traffic;
4. Eliminating the risk of being “doored” along narrower sections of Lilyfield Road where the marked cycle-lane is directly adjacent to parked cars;
5. Bypassing the narrow shared cycling/pedestrian overpass at the intersection of Lilyfield and Victoria roads, passing instead under Victoria Road;
6. Connecting directly to the Anzac Bridge Cycleway at White Bay

All of these benefits are in keeping with the aims of the NSW Bike Plan[6] and would assist in helping to achieve the plan's aims of filling in the gaps in Sydney's cycleway network and of achieving a 5% cycling modal split by 2016. An ideal outcome of building the City West Cycle-Link would be the cycling analogue of *induced traffic*.

The Inner West, in particular, has seen a steady increase in commuting cyclists, and many of them are using the Anzac Bridge cycleway, which has seen a steady growth in numbers since 2003, as outlined on p. 5. of “Better Transport and Liveable Cities[7]” in the NSW State Plan's 2010 performance report[8].

The flat terrain through the Rozelle rail lands would also permit a separation of cyclists from pedestrians, enhancing the facility's safety and the amenity for all concerned. The available space provides an opportunity to follow best practice and provide wide, separate paths for cyclists and pedestrians, in a similar manner to sections of the Bay Run around Iron Cove.

6 NSW Bike Plan http://www.nsw.gov.au/bikeplan

7 “Better transport and liveable cities” available at http://www.nsw.gov.au/sites/default/files/uploads/common/State-Plan-Performance-Report-2010_Better-Transport-%26-Cities.pdf

8 NSW State Plan http://www.nsw.gov.au/stateplan

Section 1 – Derbyshire Road to Catherine Street

The first section of the route begins at the Derbyshire Road path. The cycleway would link directly to the bridge over the cutting connecting to the City West Cycle-Link tunnel, as shown in Illustration 1. The cycleway would extend eastwards along the top of the northern side of the cutting, which is very deep at this point.

The cycleway should follow the contour of the cutting and gradually descend, passing under Balmain Road. From there it would continue down to the Rozelle rail freight lands, at which point cyclists would have an uninterrupted, essentially flat run all the way to the Anzac Bridge.

This latter section, which runs from east of Balmain Road down to Catherine Street, would be adjacent and immediately to the north of the rail tracks used by the light rail service at the Lilyfield stop. A connection from the cycleway to the light rail stop would be provided.

The marked route is shown in Illustration 4.

Illustration 4: Continuing the cycleway along the cutting from Derbyshire Rd to the light rail stop at Catherine St

The Balmain Road overpass requires particular attention and is shown[9] in Illustration 5.

It is envisaged that the cycleway from Derbyshire Road would run along the top portion of the northern side of the cutting, but pass under Balmain Road. The space between the strut and road lintel should be investigated to determine if there is sufficient room for the cycleway. Alternately, the cycleway may need to be affixed to/suspended from the road lintel to manoeuvre around the support strut.

9 Photo by Matthew Spong. http://www.panoramio.com/photo/33358185

As with the bridge over the cutting connecting to the Cycle-Link tunnel, for safety and security reasons, the portion of the cycleway down to the Rozelle rail lands would also be completely enclosed in a similar manner to cycleway overpasses of major roads.

Illustration 5: Balmain Road Overpass - looking south

As noted previously, the feasibility of using the rail cutting for the initial portion of the cycleway from Derbyshire Road to the Rozelle rail lands is closely related to the NSW Government's planned extension of light rail services beyond Lilyfield to Dulwich Hill. Once the light service begins operating, the difficulty of attempting construction works above a working rail line coupled with the risk of service disruption would make it impractical to attempt construction of the cycleway along the top of the cutting as suggested.

Therefore, in order for the cycleway to be built, engineering works associated with the two projects must be coordinated, so that construction of the cycleway and remediation of the rail track, wiring and signalling occur at the same time. As a consequence, while construction of the cycleway east of the cutting towards White Bay would not need to have been completed, or even started by the time light rail services begin operating beyond Lilyfield, all construction works related to the section of the cycleway through the length of the rail cutting will need to have been completed.

Section 2 – Catherine Street to Gordon Street

The section of the City West Cycle-Link from Catherine Street, adjacent to the light rail stop, to the vicinity of Gordon St is shown in Illustration 6. An at-grade link from the cycleway to Gordon St is shown, allowing access to Lilyfield Road. Other connections to Lilyfield Road and local streets to the north of the cycleway would also be beneficial.

Also shown is a second at-grade link from the Anzac cycleway, passing under Victoria Road and connecting directly to Gordon St. This would enable cyclists heading towards Lilyfield and Rozelle to bypass the pedestrian overpass at the corner of Lilyfield and Victoria Roads.

Illustration 6: Cycleway from Catherine St to Gordon St and Victoria Rd

Providing connections to the south is more problematic due to the difficult requirement of traversing the City West Link Road. One option would be to combine the cycleway with the proposal[10] for an extension of the light rail service to East Balmain, from − in all likelihood the current Rozelle Bay stop − to Cameron Cove, with stops at the White Bay Power station, White Bay, Birrung and Cameron Cove[11]. This extension would use the decommissioned, but still extant, rail lines through the area.

The extension would require an over-bridge to take the light rail line over the City West Link Road and connect to the Rozelle rail line(s). The over-bridge could be built with a shared cycling and walking path, in a similar manner to the cycleway bridge over James Ruse Drive, adjacent to the M4

10 As outlined in http://ecotransit.org.au/ets/files/ETNews_0509_web.pdf

11 The list of stops is merely indicative. The precise location and number of stops would depend on the particulars of the development(s) undertaken in the precinct.

Viaduct, that was built as part of the Duck River Cycleway.

The alignment of the cycleway shown within the Rozelle rail lands is merely indicative and its final alignment would depend on associated land use planning decisions. These include the Bays Precinct planning process being under taken by local councils and the Sydney Harbour Foreshore Authority.

In addition, the *Sydney Light Rail – Inner West Extension Study Draft Report*[12] notes in §6 "Maintenance and Stabling" of Appendix C "Technical Assessment Report," that should either of the Sussex Street or George Street CBD extensions also proceed, then the western end of the Rozelle Goods Yards should be considered as one of the options for the location of stabling and maintenance facilities. This would directly affect the alignment chosen for the cycleway.

It should also be noted that there is sufficient space in the corridor to accommodate cyclists and pedestrians by providing separated paths, in a similar manner to the Bay Run. The flat terrain and higher cycling speeds this implies, militates toward the provision, at a minimum, of a 4m wide cycleway.

12 *Sydney Light Rail – Inner West Extension Study Draft Appendices*, GHD, May 17, 2010. Available at http://www.transport.nsw.gov.au/rail/lightrail-extension.html

Section 3 – Gordon Street to the Anzac Bridge Cycleway

The final section of the City West Cycle-Link would pass under Victoria Road and connect to the Anzac Bridge Cycleway, and is shown in Illustration 7. From there, cyclists could continue their journey over the Anzac Bridge to Pyrmont. Alternately, they could use the adjacent Victoria Road overpass to head towards Glebe via the Crescent or Bicentennial Park.

Illustration 7: Cycleway passing under Victoria Road and connecting to the Anzac Bridge cycleway

It should be noted that the marked path in Illustration 7 is purely indicative and not a suggested engineering treatment[13]. The actual location and design of the junction would seek to ensure that:

1. The safety of cyclists and pedestrians was not compromised by merging traffic.
2. Cyclists were able maintain their speed when going uphill in both directions along the cycleway.
3. Delays for cyclists seeking to enter or exit the City West Cycle-Link would be minimised.

With these points in mind, the treatment may require a large triangular junction, small roundabout or very wide "slip" paths to give adequate sight lines, allow pedestrians to feel safe, and not considerably inconvenience cyclists who are still going to and from Victoria Rd and the Anzac Bridge at high speed.

13 As depicted it shows an impractical and unsafe obtuse connection to the Anzac Bridge path at a point at which cyclists are travelling at high speed.