



# Local Route 7

## Option Assessment and Concept Design

Office // NSW  
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Issue	Date	Description	Prepared By	Checked By	Approved By	Signed
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# 1. Introduction

## 1.1 Background

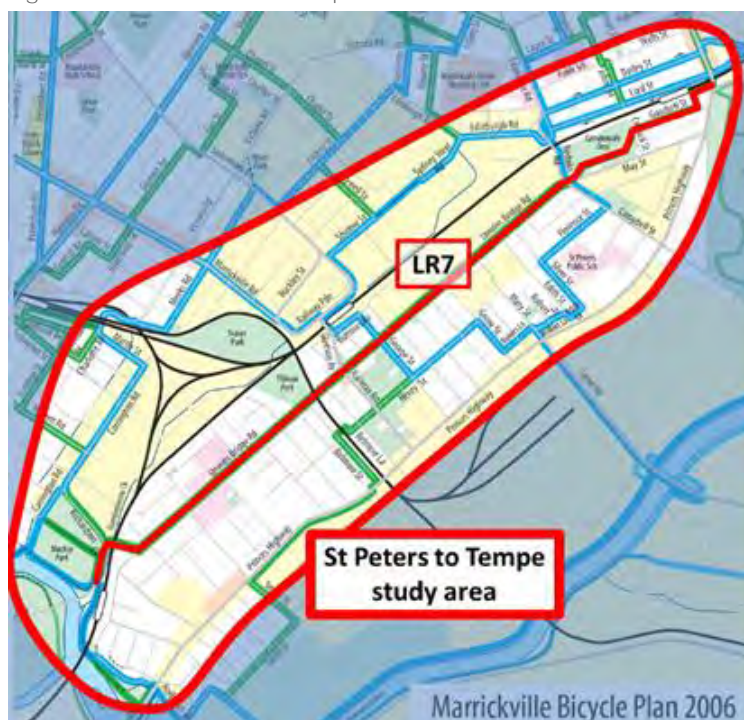
Inner West Council (Council) is seeking to implement a number of bicycle routes as identified as part of the 2007 Marrickville Bicycle Strategy.

GTA Consultants (GTA) has been appointed to undertake a route option assessment for Local Route 7 (LR7). This incorporates identifying and assessing route options and to subsequently develop concept designs for two selected routes.

LR7 is to provide a quality cycling connection between St Peters and Sydenham, and Council has requested an option alignment either side of the rail corridor. The ongoing residential development at Wolli Creek and recent upgrade of cycling infrastructure across the Cooks River may also support strong use of this connection. Once complete, an opportunity will exist to cycle from the Sydney CBD to Wolli Creek on one continuous cycle route.

In addition to providing a regional cycling connection, the focus of LR7 is creating a safe and accessible cycling environment for all age groups (8-80 approach) between Tempe and St Peters. This would provide access to local destinations and encourage cycling as a viable and safe mode choice for local journeys within and across the Council area.

Figure 1.1: LR7 between Tempe and St Peters





## 2. Option Identification

### 2.1 Approach

#### 2.1.1 LR7 – Tempe to St Peters

A total of six route corridor options have been identified and evaluated as part of this study. The options include two options north of the rail corridor and four options south of the rail corridor. The route corridors are indicatively summarised as follows and shown illustratively in Figure 2.1.

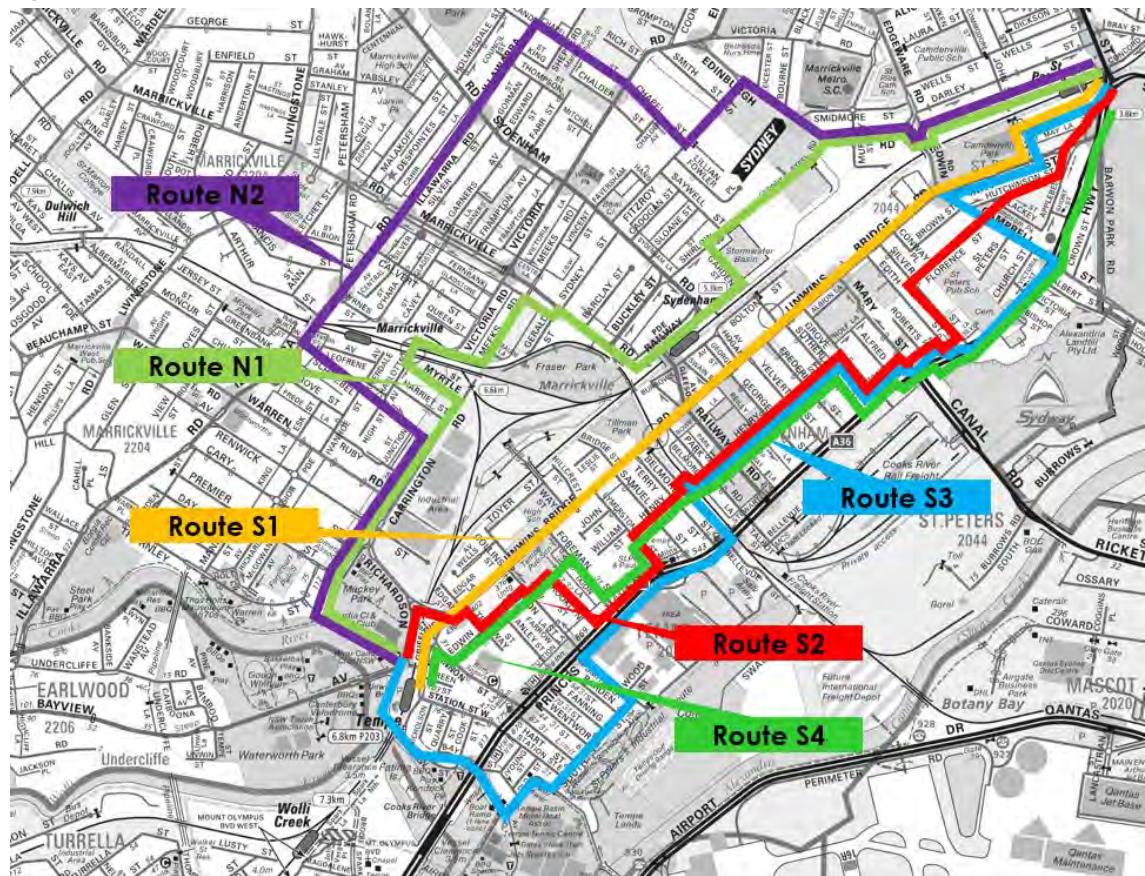
##### Tempe to St Peters – South Corridor

- i Route 1 (S1) – via Griffiths Street, Unwins Bridge Road, May Street, Council Street and Goodsell Street
- ii Route 2 (S2) – via Richardson Crescent, Unwins Bridge Road, Tramway Street, Edwin Street, Union Street, Brooklyn Street, Princes Highway, Lymerton Street, Henry Street, Belmore Street, Belmore Lane, Henry Street, Grove Street, Bakers Lane, Roberts Lane, Edith Lane, Silver Street, Florence Street, Simpson Park, Lackey Street, Applebee Street, May Street, May Lane
- iii Route 3 (S3) – via Griffiths Street, Station Street, Cook Street, Bay Street, Holbeach Avenue, South Street, Smith Street, Princes Highway, Belmore Street, Belmore Lane, Henry Street, Grove Street, Bakers Lane, Roberts Lane, Edith Lane, Silver Street, Princes Highway, Campbell Street, May Street, Council Street, Goodsell Street
- iv Route 4 (S4) – via Griffiths Street, Gannon Street, Edwin Street, Union Street, Foreman Street, Princes Highway, Lymerton Street, Henry Street, Belmore Street, Belmore Lane, Henry Street, Grove Street, Bakers Lane, Roberts Lane, Edith Lane, Silver Street, Princes Highway.

##### Tempe to St Peters – North Corridor

- i Route 5 (N1) – via Griffiths Street, Richardson Crescent, Carrington Road, Myrtle Street, Victoria Road, Meeks Road, Sydenham Road, Fitzroy Street, Saywell Street, Sydney Steel Road, Edinburgh Road, Railway Parade and Lord Street
- ii Route 6 (N2) – via Griffiths Street, Richardson Crescent, Carrington Road, Schwebel Street, Illawarra Road, Chapel Street, Fitzroy Street, Edinburgh Road, Railway Parade and Lord Street.

Figure 2.1: Concept Route Corridor Options



Base: Sydney

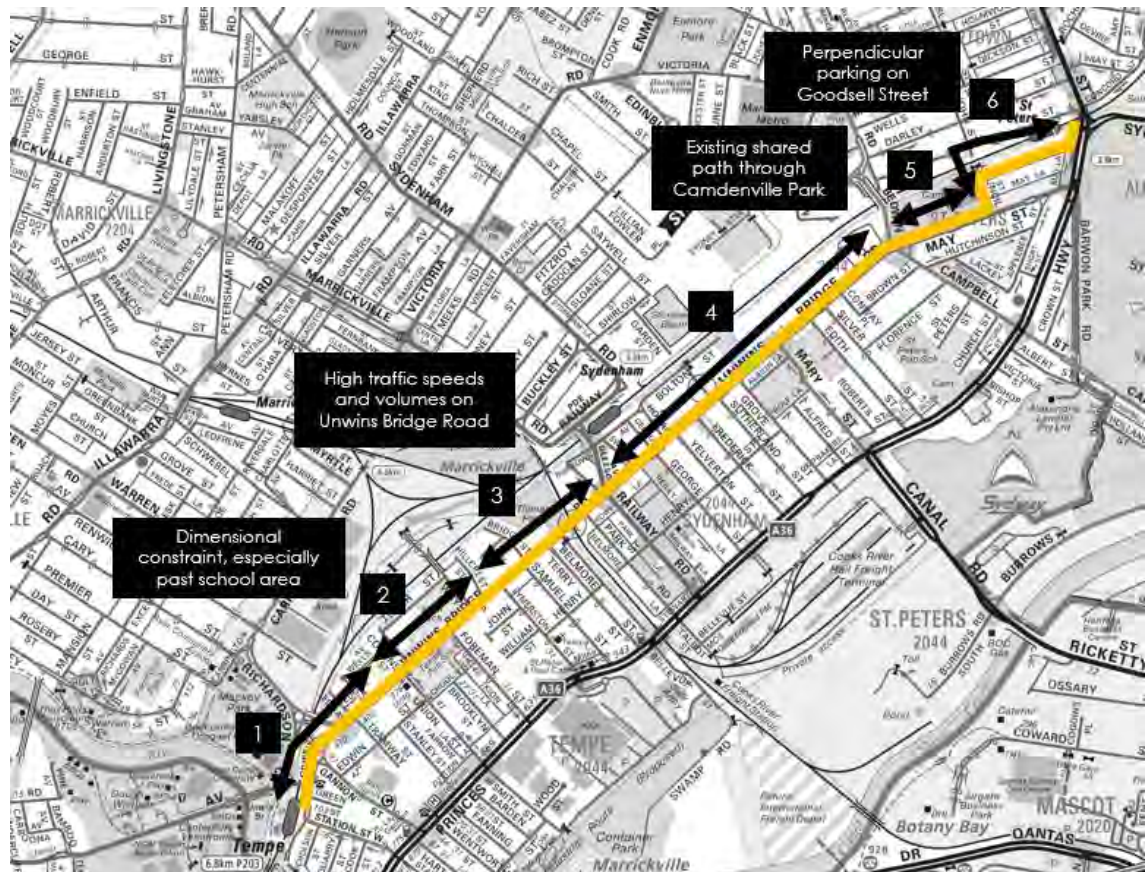


## 2.2 Route investigation

### 2.2.1 Route S1

Route S1 is a direct route primarily along Unwins Bridge Road between Tempe and St Peters. A preliminary option of the route is illustrated in Figure 2.2 and explained in the subsequent text.

Figure 2.2: Route S1 Overview



Base: Sydney

- Section 1: Mixed traffic environment on Griffiths Street and Unwins Bridge Road between Tempe Station and Tempe Public School. A roundabout near the southern extent of this section provides a dimensionally constrained environment. Tidal 'No Parking' restrictions are in place during peak periods. Footpaths are narrow and the presence of electricity poles and road signs further narrows the effective width. On Griffiths Street, there are some existing trees within the existing road corridor.
- Section 2: Existing on-road route on Unwins Bridge Road in proximity of schools. The environment through the school area with a high school on the northern side of the road and a public school on the southern side of the road is a highly-constrained environment. Despite the dimensional constraints of the road, the tidal peak period 'No Parking' restrictions are generally retained. Aerial photo measurements indicate that at the crossing, the road corridor has an approximate width of 6.5 metres kerb-to-kerb. A pedestrian barrier fence exists on the southern side of the road to support pedestrian safety. Footpaths are narrow and the presence of electricity poles and road signs further narrows the effective width (Figure 2.3).
- Section 3: Existing on-road route on Unwins Bridge Road between the schools and Railway Road. This section of the route provides a marginally wider road corridor

relative to section 1 and section 2, with tidal peak period 'No Parking' restrictions. North of the railway overpass, a formal second lane is provided subject to the same parking restrictions. The footpaths are narrow and the presence of other infrastructure further reduces the effective width of the existing pedestrian infrastructure. A high-volume traffic intersection exists at Unwins Bridge Road and Gleeson Avenue/Railway Road (Figure 2.6).

- Section 4: Existing on-road route between Railway Road and Campbell Street. At this point along the route, the corridor passes Sydenham Station. There are industrial/commercial land uses on the northern side of Unwins Bridge Road and residential land uses on the southern side, which also includes a number of cross streets. Tidal peak period 'No Parking' restrictions are generally present along the corridor. High proportions of heavy vehicles were noted on this section of the route, with considerable driveway activity into the industrial/commercial land uses. A shared path along Unwins Bridge Road was considered (say between) George Street and Mary Street. A shared path on the southern side of the road would have to cross multiple streets, and a shared path on the northern side of the street would be expected to have high pedestrian volumes and driveway activity. Due to the activity, and guidance from Transport for NSW about shared paths, such a design option was not considered appropriate. The Unwins Bridge Road/May Street and Bedwin Road/Campbell Street intersection will be a key design consideration (Figure 2.4, Figure 2.5, Figure 2.10).
- Section 5: A low quality shared path was observed on the southern side of May Street, with the on-road cycle route also retained. Parking was generally noted to be unrestricted. With existing roadwork on Campbell Street, this section of road was noted to have high volumes of traffic, and high proportions of heavy vehicles (Figure 2.8, Figure 2.9).
- Section 6: A shared path is present through Camdenville Park to Council Street, with a mixed traffic route on Goodsell Street. Traffic volumes were observed to be low, and Goodsell Street has trees within the road corridor, and generally has a mixture of 2P and untimed parallel and perpendicular parking (Figure 2.7).

Figure 2.3: Dimensional constraints near Tempe schools



Figure 2.4: Heavy vehicle movements near Sydenham station





Figure 2.5: Road corridor near Sydenham station



Figure 2.7: Goodsell Street layout



Figure 2.9: Unwins Bridge Road-May Street/  
Bedwin Road-Campbell Street  
intersection



Figure 2.6: Road corridor south of the freight  
rail line overpass



Figure 2.8: Unwins Bridge Road near Campbell  
Street



Figure 2.10: Unwins Bridge Road at Mary Street



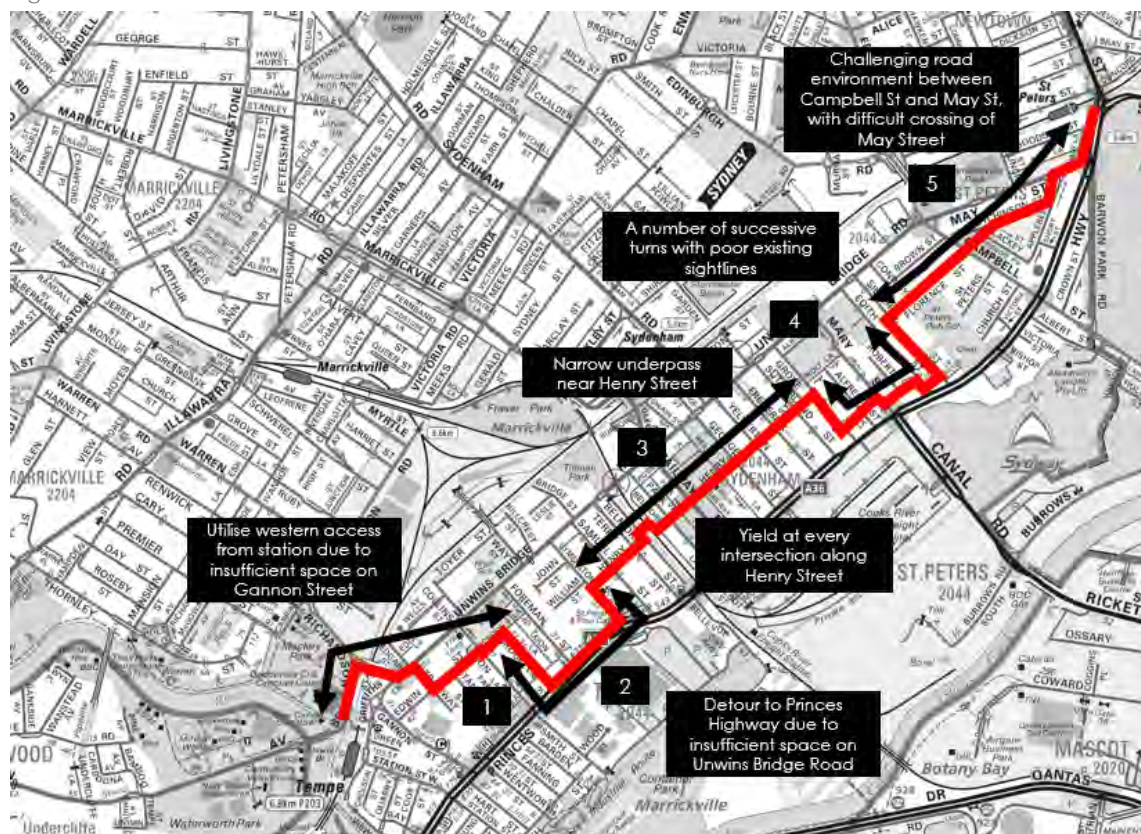


## 2.2.2 Route S2

Route S2 follows a series of local back streets which run parallel to Unwins Bridge Road and the Princes Highway. Although it utilises substantially lower volume local streets, it is less direct and there are a considerable number of side streets to yield to, with a detour to the Princes Highway at the northern end of the route which is not an amenable cycling environment.

An indicative alignment of the route is illustrated in Figure 2.11 and explained in the subsequent text.

Figure 2.11: Route S2 Overview



Base: Sydney

- Section 1: A shared path would likely be appropriate along Richardson Crescent and Unwins Bridge Road with a mixed traffic route on Tramway Street and Edwin Street. Tidal parking restrictions are in place on Unwins Bridge Road, with no parking permitted on Richardson Crescent. On Tramway Street and Edwin Street, traffic volumes are low and parking is unrestricted (Figure 2.12, Figure 2.13, Figure 2.19).
- Section 2: Due to space constraints on Unwins Bridge Road, the route deviates to the Princes Highway where it would be necessary to create a new shared path on the western side. Parking was observed to be unrestricted on Foreman Street and Lymerton Street, and traffic volumes were observed to be low. Foreman Street is noted to be narrow and may not appropriately function as a cycle route, because of this, a route has also been tentatively identified along Brooklyn Street.
- Section 3: An on-road route exists along the length of Henry Street, with a narrow underpass through the freight rail corridor. Footpaths were observed to be narrow and traffic moving along Henry Street must give way to other traffic at all intersections, also noting a set of traffic lights exists at Railway Road. Parking was generally unrestricted, with small areas of 2P parking existing during the day. The constrained nature of Henry

Street means that in effect it is a three-lane road (a parking lane in each direction and a shared traffic lane). In addition to the existing give way signs, this controls traffic speeds on the street (Figure 2.14, Figure 2.15, Figure 2.16, Figure 2.17).

- Section 4: An on-road route exists through several laneways between Grove Street and Silver Street. A significant platooning of traffic movements was observed on Mary Street when traffic on Canal Road got a green signal on the through movement. Sightlines around corners were noted to be poor. The route detours along Silver Street. (Figure 2.18).
- Section 5: The route would be directed along Florence Street which is a local access traffic route. Florence Street was observed to have high parking demand, but given low traffic volumes, a mixed traffic treatment (bike boulevard) might be appropriate. Current road works on Campbell Street have impacted normal traffic operations on this street. Parking was observed to be largely unrestricted. Consideration needs to be given as to how the route would pass across Campbell Street to Lackey Street or Applebee Street, noting that these road corridors are constrained. A major crossing of May Street to the shared zone on May Lane would be required.

Figure 2.12: Dimensional constraint on Edwin Street



Figure 2.13: Green space outside of the road corridor (Edwin Street)



Figure 2.14: Henry Street south of rail corridor



Figure 2.15: Henry Street railway underpass





Figure 2.16: Railway Road-Henry Street intersection



Figure 2.17: Henry Street north of rail corridor



Figure 2.18: Roberts Lane



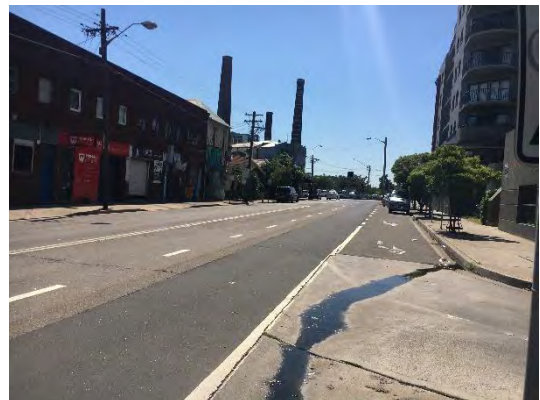
Figure 2.19: Cars straddling footpath on Foreman Street



Figure 2.20: Florence Street corridor



Figure 2.21: Mid-block crossing of May Street

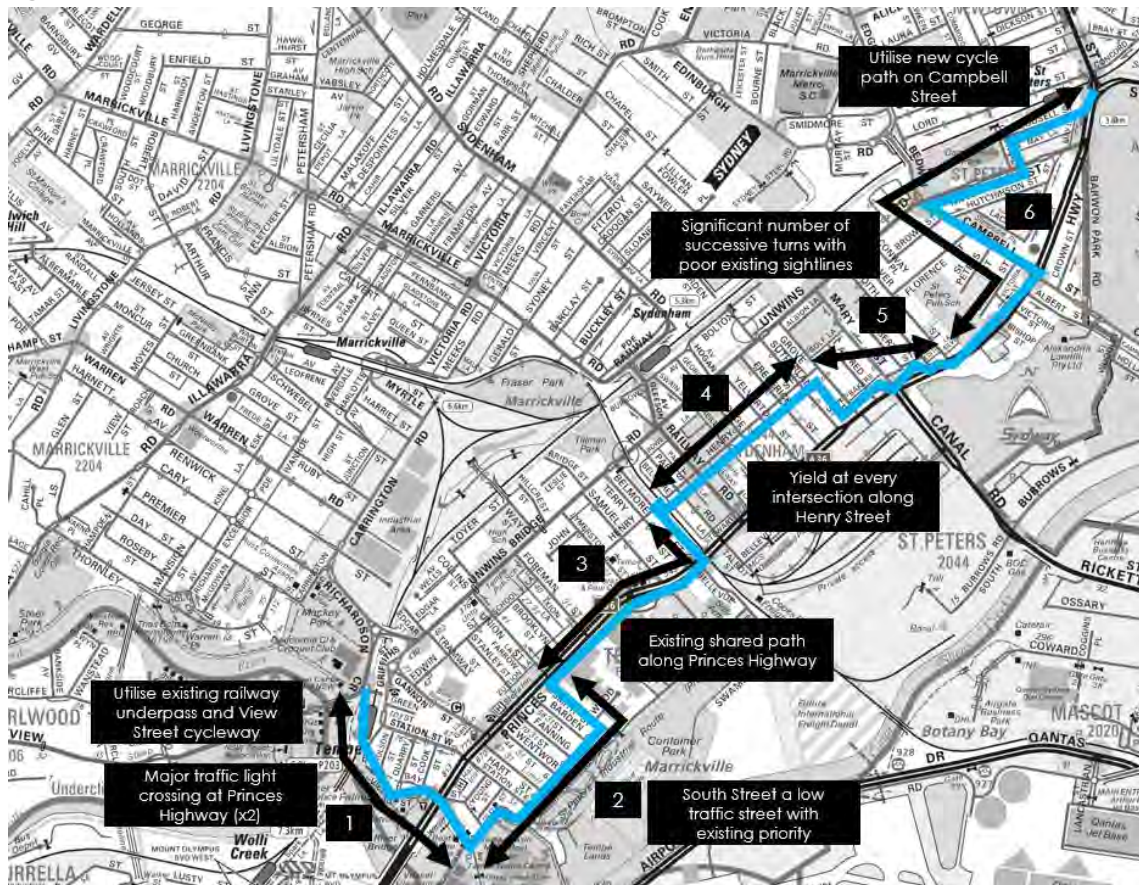




### 2.2.3 Route S3

Route S3 has an alignment that crosses to the south side of the Princes Highway for a section of the route. It is noted that this route is somewhat favourable due to the connectivity it provides to existing cycle route infrastructure in south Tempe. An indicative route option is illustrated in Figure 2.22 and explained in the subsequent text.

Figure 2.22: Route S3 Overview



Base: Sydney

- Section 1: Utilise the existing View Street cycleway and railway underpass to gain access to the western side of the station. There is an existing shared path on Holbeach Avenue. The crossing of the Princes Highway is subject to major delays for cyclists due to the long cycle times at the intersection at Holbeach Avenue, and also require the installation of bicycle lanterns. Parking was observed to be unrestricted (Figure 2.23, Figure 2.24, Figure 2.25).
- Section 2: Along South Street and Smith Street, this is almost exclusively local access for the community east of the Highway. Traffic volumes were observed to be low and parking is unrestricted (Figure 2.26, Figure 2.27, Figure 2.28).
- Section 3: This section has an existing shared path on the eastern side of the Princes Highway, with existing bicycle lanterns at the crossing of the Ikea access point. Another Highway crossing would be needed around Terry Street where bicycle lanterns are already present. Vehicular access is not permitted from the Princes Highway into Belmore Street which results in Belmore Street being a low volume local access corridor.
- Section 4: An on-road route exists along the length of Henry Street, with a narrow underpass through the freight rail corridor. Footpaths were observed to be narrow and traffic moving along Henry Street must yield at all intersections, also noting a set of

traffic lights at Railway Road. Parking was noted to be predominantly unrestricted, with small areas of 2P parking during the day. The constrained nature of Henry Street means that in effect it is a three-lane road (a parking lane in each direction and a shared traffic lane) (Figure 2.14, Figure 2.15, Figure 2.16, Figure 2.17).

- Section 5: An on-road route exists through several laneways between Grove Street and Silver Street. A significant platooning of traffic movements was observed on Mary Street when traffic on Canal Road got a green signal on the through movement. Sightlines around corners was noted to be poor (Figure 2.18).
- Section 6: It is proposed that a route deviate out onto the Princes Highway where a shared path is provided. In the road corridor, speeds and volumes of traffic are observed to be high. The route would run along a new cycle path being provided on Campbell Street as part of WestConnex works, before using May Street and Goodsell Street to gain access to St Peters Station as described in section 5 and 6 of Route S1.

Figure 2.23: View Street looking south



Figure 2.24: Station Street looking east



Figure 2.25: Shared path on approach to Princes Highway crossing



Figure 2.26: Station Street east of the Princes Highway





Figure 2.27: Existing shared path on Princes Highway



Figure 2.28: Existing bicycle lanterns at Ikea

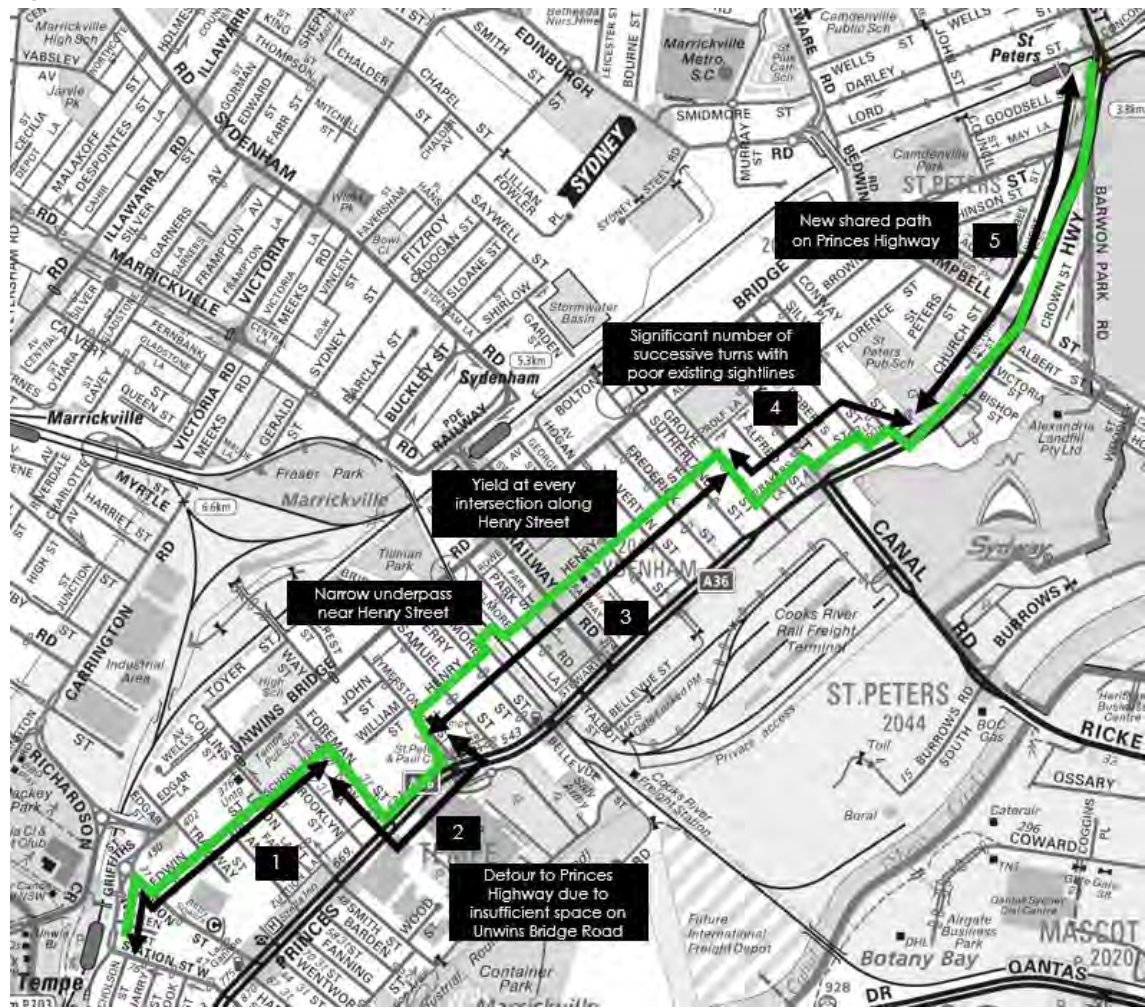


#### 2.2.4 Route S4

Route S4 follows a series of local back streets which run parallel to Unwins Bridge Road and the Princes Highway and overlaps with other routes. Although it utilises substantially lower volume local streets, it is less direct and there are a considerable number of side streets to yield to, with a detour to the Princes Highway at the northern end of the route which is not an amenable cycling environment.

An indicative alignment of the route is illustrated in Figure 2.29 and explained in the subsequent text. A consideration is at the roundabout at the intersection of Gannon Street and Unwins Bridge Road (Figure 2.30), and the southern extent of Edwin Street will need to be modified with a shared path on the eastern aspect of the road (Figure 2.31). Otherwise, refer to Figure 2.12 to Figure 2.21 for alignment images.

Figure 2.29: Route S4 Overview

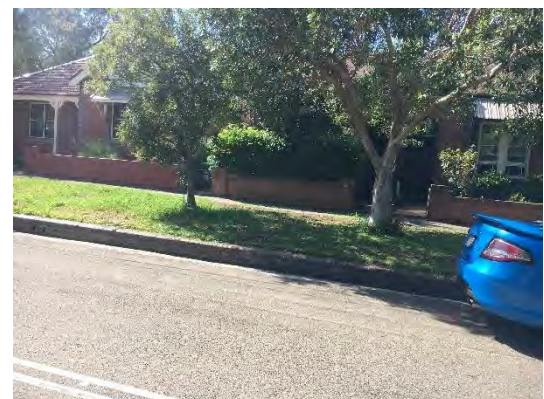


Base: Sydney

Figure 2.30: Shared path constraint at Gannon Street



Figure 2.31: Edwin Street, eastern corridor



- Section 1: Existing mixed traffic route between Tempe Station and Foreman Street. Parking is noted to be generally unrestricted along this section of the route. On Edwin Street, a considerable green reserve exists outside of the road corridor on both sides of the road, under existing conditions, northbound cyclists must briefly ride against one-way traffic on Union Street (Figure 2.12, Figure 2.13, Figure 2.30, Figure 2.31). A key



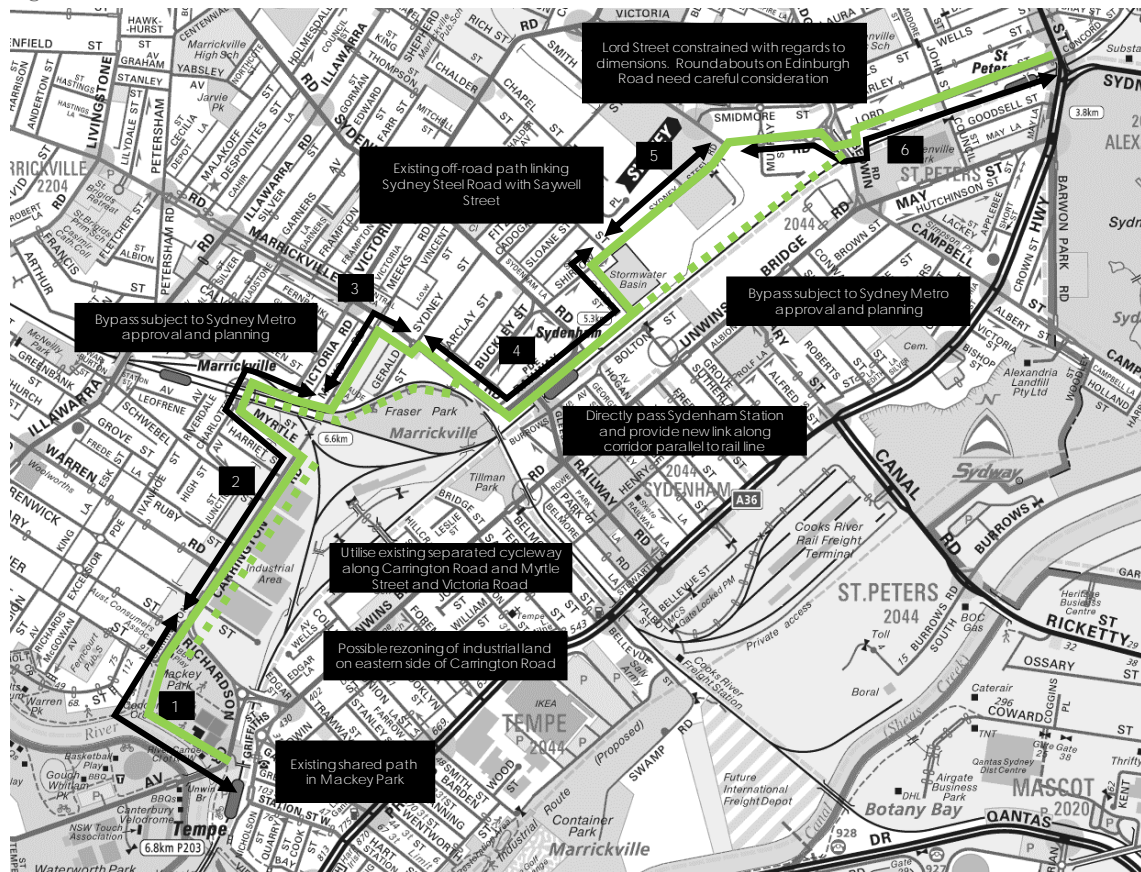
cycling route consideration is the existing pedestrian crossing on Gannon Street near Edwin Street.

- Section 2: Due to space constraints on Unwins Bridge Road, the route deviates to the Princes Highway where it would be necessary to create a new shared path on the western side. Parking was observed to be unrestricted on Foreman Street and Lymerton Street, and traffic volumes were observed to be low. Foreman Street is noted to be narrow and may not appropriately function as a cycle route, because of this, a route has also been tentatively identified along Brooklyn Street.
- Section 3: An on-road route exists along the length of Henry Street, with a narrow underpass through the freight rail corridor. Footpaths were observed to be narrow and traffic moving along Henry Street must give way to other traffic at all intersections, also noting a set of traffic lights exists at Railway Road. Parking was generally unrestricted, with small areas of 2P parking existing during the day. The constrained nature of Henry Street means that in effect it is a three-lane road (a parking lane in each direction and a shared traffic lane). In addition to the existing give way signs, this controls traffic speeds on the street (Figure 2.14, Figure 2.15, Figure 2.16, Figure 2.17).
- Section 4: An on-road route exists through several laneways between Grove Street and Silver Street. A significant platooning of traffic movements was observed on Mary Street when traffic on Canal Road got a green signal on the through movement. Sightlines around corners were noted to be poor (Figure 2.18).
- Section 5: It is proposed that the route would deviate out to the Princes Highway where a new shared path needs to be provided. In the road corridor, high traffic speeds and volumes are observed. There are alternative route options (i.e. through Florence Street and Applebee Street), but the detour is moderate, and the Princes Highway provides a more direct route with no turns.

## 2.2.5 Route N1

Route N1 is a route option which runs to the north of the rail corridor. It utilises existing infrastructure, and is a direct and continuous route. An indicative route alignment is illustrated in Figure 2.32 and explained in the subsequent text.

Figure 2.32: Route N1 Overview



Base: Sydney

- Section 1: A shared path currently exists through Mackey Park to Carrington Road (Figure 2.34, Figure 2.52).
- Section 2: A separated cycleway within the road corridor commences at the southern end of Carrington Road. The cycleway is not continuous which means that cyclists are required to give way at all intersections. There are multiple driveways along the corridor which is reflected by the intrusiveness of the separating barrier. The cycleway continues along Myrtle Street and Victoria Road before ending at Meeks Road. Where the cycleway crosses from the western side of Carrington Road to the northern side of Myrtle Street, cyclists are required to cross Myrtle Street, again yielding to traffic. It is understood that there is a long term view to rezone the existing industrial lands on the eastern side of Carrington Road, and this may present an opportunity to relocate the cycleway to the other side of the road (Figure 2.33, Figure 2.35, Figure 2.36).
- Section 3: Existing on-road mixed traffic route along Meeks Road, Sydney Lane and Gerald Street between Victoria Road and Marrickville Road. Land uses are primarily commercial (except western side of Meeks Road south of Marrickville Road). Parking was observed to be generally unrestricted with some 2P adjacent to the residential area. Sydney Lane is a low traffic local access laneway and allows cyclists to bypass a set of traffic lights located at the intersection of Meeks Road and Marrickville Road, but

this would impact the perceived safety of a cyclist riding northbound as they then must conduct a right turn across an uncontrolled intersection. This section may be able to be bypassed through consultation and agreement with Sydney Metro by utilising the corridor between the passenger and freight lines west of Frazer Park, noting there is likely to be a significant civil works requirement to get from track level to ground level at the Victoria Road underpass (Figure 2.37).

- Section 4: Along Marrickville Road east of Gerald Street, there is no cycle route defined. A shared path treatment or bidirectional cycleway might be feasible due to the road dimensions. The route would pass the station and go along Railway Parade (parallel to the rail corridor) to Garden Street which is understood to be partially maintained by Sydney Water. It is currently an unsealed path and has several small trees along its length. Garden Street was observed to have a high amount of commercial loading and unloading (Figure 2.38, Figure 2.39).
- Section 5: An off-road link between Saywell Street and Sydney Steel Road. The link was observed to be of adequate dimensions to satisfactorily function as a commuter path. The end points were not observed to be designed in accordance with the NSW bicycle guidelines, with an upgrade of existing bollards, and access arrangements. This section may be able to be bypassed with consultation and agreement with Sydney Metro. This area is understood to be a proposed stabling facility area (Figure 2.41, Figure 2.42).
- Section 6: Edinburgh Road currently functions as an on-road cycle route and two successive roundabouts need to be considered. Land uses are heavy commercial/industrial. Beyond the eastern roundabout (onto Railway Parade), traffic volumes substantially decrease and the road changes character to a local access environment. Parking was noted to be unrestricted along Edinburgh Road. Lord Street and Darley Street are one way pairs (Darley Street; eastbound and Lord Street; westbound) with two parking lanes and one traffic lane. There are considerable dimensional constraints on these streets (Figure 2.40).

Figure 2.33: Carrington Road cycleway

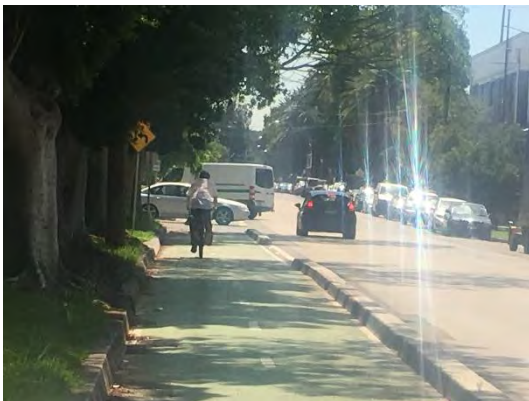


Figure 2.34: Shared path in Mackey Park





Figure 2.35: Vehicle and bin inside cycleway on Carrington Road



Figure 2.36: Victoria Road cycleway



Figure 2.37: Meeks Road south of Marrickville Road



Figure 2.38: Marrickville Road near Sydenham station



Figure 2.39: Current corridor between Railway Parade and Garden Street

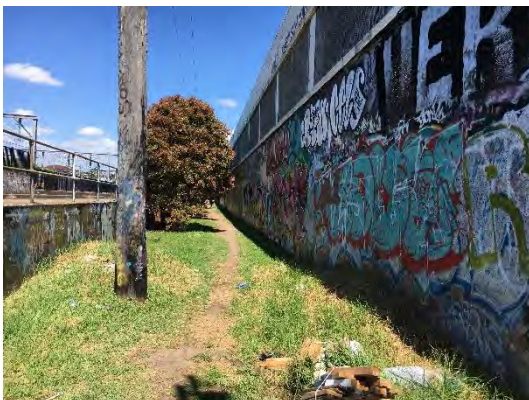


Figure 2.40: Highly constrained Lord Street





Figure 2.41: Off-road path between Sydney Steel Road and Saywell Street



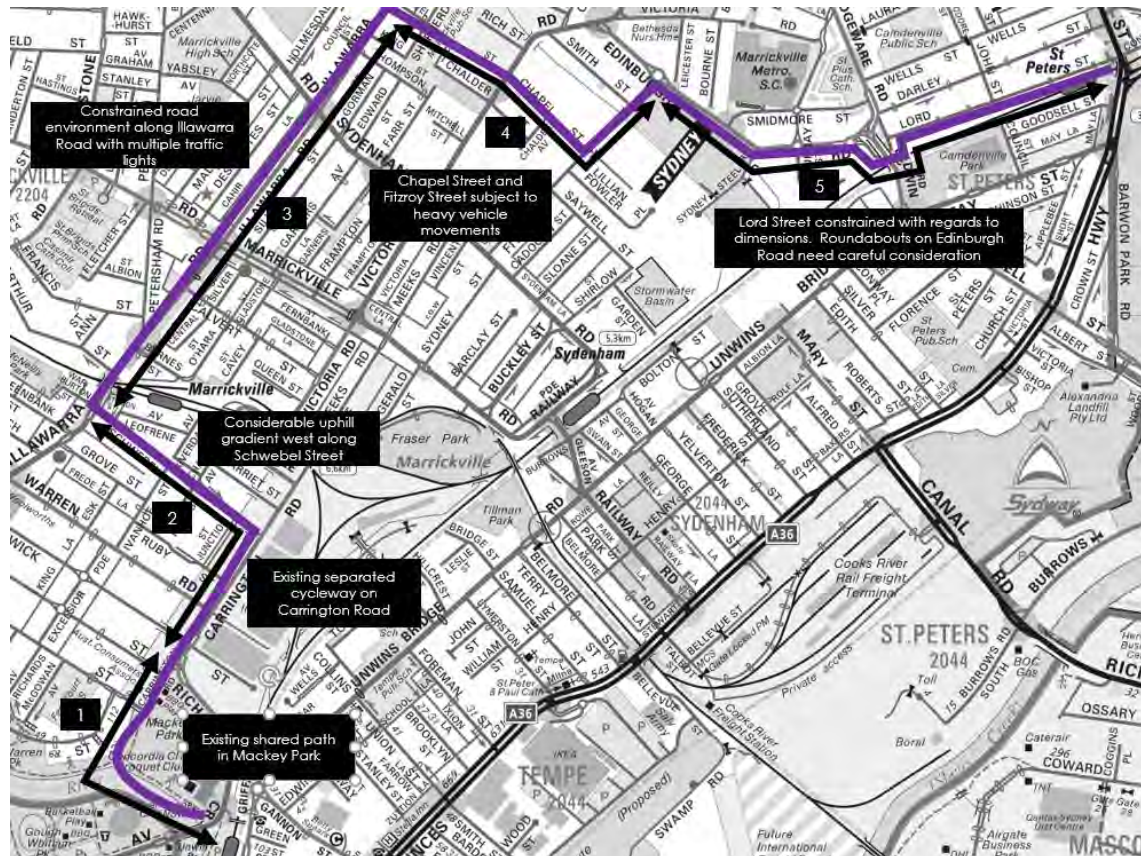
Figure 2.42: Garden Street corridor



## 2.2.6 Route N2

Route N2 has been examined as it provides an opportunity to link the proposed cycle route with connectivity to Marrickville station, although it is noted that this corridor largely falls outside of the study area. It was included as it represents the next closest crossing of the railway corridor beyond Victoria Road/ Carrington Road. An indicative route alignment is illustrated in Figure 2.43 and explained in the subsequent text.

Figure 2.43: Route N2 Overview



Base: Sydway

- Section 1: A shared path currently exists through Mackey Park to Carrington Road (Figure 2.34, Figure 2.52).
- Section 2: A separated cycleway within the road corridor commences at the southern end of Carrington Road. The cycleway is not continuous which means that cyclists are required to give way at all intersections. There are multiple driveways along the corridor which is reflected in the intrusiveness of the separating barrier. The gradient and width of Schwebel Street is unfavourable for cycling. Parking on Schwebel Street is generally 2P during day time periods. Schwebel Street functions as three lanes with two parking lanes and a shared traffic lane (except adjacent to Charlotte Avenue) (Figure 2.33, Figure 2.35, Figure 2.51).
- Section 3: Illawarra Road is width constrained (for example over the railway at Marrickville Station) and has high traffic volumes which is managed by a series of traffic lights along the corridor. Illawarra Road is a bus corridor between Schwebel Street and Marrickville Road (although only one bus stop is located in this section) and there are various parking constraints through the Marrickville town centre (primarily 1/2P and 1P). North of Marrickville Road, there is the increased prevalence of 2P parking. The width



of road corridor forces opposing traffic flows to slow down when passing (Figure 2.47, Figure 2.48, Figure 2.49, Figure 2.50).

- Section 4: The western extent of Chapel Street is the edge of the commercial area. The crossing of Victoria Road is currently challenging for cyclists as no crossing facilities exist and vehicle traffic flows along Victoria Road are high. Overall, footpaths widths are noted to be generous, with some informal vehicle parking on the footpath. In some instances, vehicles were noted to straddle the kerb when parking. Parking is otherwise unrestricted along Chapel Street. In this section, the route passes Marrickville Public School and provides easy access to Henson Park. Fitzroy Street had a high proportion of heavy vehicle movements and informal parking associated with the loading and unloading of these vehicles (Figure 2.44, Figure 2.45, Figure 2.46).
- Section 5: Edinburgh Road currently functions as an on-road cycle route and two successive roundabouts need to be considered. Land uses are heavy commercial/industrial. Beyond the eastern roundabout (onto Railway Parade), traffic volumes substantially decrease and the road changes character to a local access environment. Parking was noted to be unrestricted along Edinburgh Road. Lord Street and Darley Street are one way pairs (Darley Street; eastbound and Lord Street; westbound) with two parking lanes and one traffic lane. There are considerable dimensional constraints on these streets (Figure 2.40).

Figure 2.44: Chapel Street corridor



Figure 2.45: Challenging road crossing on Chapel Street at Victoria Road



Figure 2.46: Chapel Street corridor near Illawarra Road



Figure 2.47: Constrained road environment on Illawarra Road



Figure 2.48: Illawarra Road/Sydenham Road intersection



Figure 2.49: Three lane road configuration on Illawarra Road south of Marrickville Road



Figure 2.50: Constrained road environment at Marrickville station overpass



Figure 2.51: Significant gradient on Schwebel Street



Figure 2.52: Mackey Park shared path





## 3. Route Assessment

### 3.1 Route Analysis Method

To assess the various corridor alignments, each route is subject to three evaluations. Firstly, the route is subject to the RMS Bike Path Assessment, which generally looks at factors including safety and route performance. However, there are a range of important considerations that are overlooked in the assessment (as acknowledged in the guidelines). Subsequently, in consultation with Inner West Council, GTA has developed an assessment framework which looks at more qualitative factors including an impact on parking, corridor space and feasibility. Finally, high quality infrastructure can be provided, but if there is no demand, it will not be used, accordingly, a land use assessment, also consistent with RMS guidance has been completed. The various considerations for the assessments are detailed below in Section 3.2, with the assessment outputs shown in Section 3.3.

### 3.2 Assessment Considerations

#### 3.2.1 Distance, On-Road Distance and Detour Factors (RMS)

Distance is an important consideration when designing for cyclists, cyclists tend to take 'the path of least resistance' between their two points, and have a limited tendency to detour, even if infrastructure is provided elsewhere. Research and international best-practice tends to show that detour factors should be limited to approximately 140% where practicable.

On-road infrastructure should generally be limited, except where speeds and volumes are low. Where volumes and speeds are not controlled, cyclists will not perceive there to be adequate safety, and the overall objective of achieving an age 8 to 80 route will not be achieved.

Table 3.1: Distance outputs

Route	Distance [Indicative estimate]	On-Road Distance [Estimate]	On-Road Proportion of Route [% estimated]	Indicative Detour Factor [Route Distance/ Straight Line (2.85km)]
Route S1	3.0km	1.0km	35%	105%
Route S2	4.0km	3.2km	80%	140%
Route S3	5.1km	3.0km	60%	180%
Route S4	3.9km	3.5km	80%	135%
Route N1	4.6km	1.5km	30%	160%
Route N2	5.0km	2.0km	40%	175%

### 3.2.2 Climbs (Altimetry) (RMS)

Elevation change is generally a deterrent to riding due to the extra effort required, and where on-road facilities are present, the speed differential between cyclists and vehicles is amplified resulting in perceived safety concerns. Climb data has been sourced from [www.mapmyride.com](http://www.mapmyride.com) as the route would be ridden in a south-to-north direction. The output is divided by 10 for the purposes of the assessment – that is to say that 10 metres of elevation change is equivalent to 1 kilometre of riding.

Table 3.2: Altimetry outputs

Route	Altimetry
Route S1	○ Runs along Unwins Bridge Road which has a lump near Tempe. South-to-north elevation change of 25 metres is estimated.
Route S2	○ South-to-north elevation change of 28 metres is estimated.
Route S3	○ Given there is the detour down to the east side of Tempe which is at canal level, south-to-north elevation change of 45 metres is estimated.
Route S4	○ South-to-north elevation change of 27m is estimated
Route N1	○ South-to-north elevation change of 20 metres is estimated.
Route N2	○ South-to-north elevation change of 40 metres is estimated, this occurs on Schwebel Street, with additional challenging areas on Illawarra Road and Chapel Street.

### 3.2.3 Sharp Turns and Yield (RMS)

Although in the RMS assessment these inputs are combined, in the assessment of Route LR7, they have been separated. They pertain to the continuity and potential safety of a link.

Sharp turns are generally not preferred due to the need to brake and reaccelerate. Further, whilst left turns may be easy to navigate for cyclists, right turns across traffic can cause substantial delays and cause broader safety concerns (and limit the useability for specific demographics).

The yield refers to the crossing of a non-priority intersection along the route, this may include the crossing of a major road, roundabout or set of traffic lights.

The nature of the local road network is generally that the arterial road corridors are the only continuous corridors. This has the benefit of reducing traffic on local access streets, but the disbenefit is that it generally results in more turns along an identified corridor.

Each sharp turn and yield gets assigned a value of 1, indicating that a yield/sharp turn is the equivalent of riding 1 kilometre, which can be considered appropriate when the safety and/or delays of the sharp turn/yield are considered.

Table 3.3: Sharp Turn and Yield Output

Route	Sharp Turn	Yield (Traffic Light, non-priority intersection)
Route S1	○ 2 turns	○ 5 yield points
Route S2	○ 27 turns, broadly on local streets and shared paths	○ 28 yield points (This could be significantly reduced with the reversal of intersection priority along Henry Street)
Route S3	○ 22 turns, broadly on local streets and shared paths	○ 24 yield points (This could be significantly reduced with the reversal of intersection priority along Henry Street)
Route S4	○ 16 turns, broadly on local streets and shared paths	<ul style="list-style-type: none"> <li>○ 24 yield points (This could be significantly reduced with the reversal of intersection priority along Henry Street)</li> <li>○ The current situation of a cyclist needing to dismount to cross the Gannon Street pedestrian crossing is an undesirable design outcome</li> </ul>



Route	Sharp Turn	Yield (Traffic Light, non-priority intersection)
Route N1	<ul style="list-style-type: none"> <li>14 turns with some turns required on collector roads</li> </ul>	<ul style="list-style-type: none"> <li>14 yield points</li> </ul>
Route N2	<ul style="list-style-type: none"> <li>11 turns with some turns required on collector roads</li> </ul>	<ul style="list-style-type: none"> <li>16 yield points</li> </ul>

### 3.2.4 Pedestrian Volume Environment (Qualitative)

Footpath congestion is ultimately affected by the level of pedestrian volumes along a path compared to its available width. The generally low population density and non-intensive land uses along much of the corridors restrict pedestrian volumes. Volumes would be subject to significant temporality during peak times (around train stations) and during school start and finish times (around schools).

Notwithstanding, this assessment is generally only applicable to where shared paths would be envisioned, and shared paths are generally no longer preferred treatment options.

Table 3.4: Pedestrian Volume Environment Output

Route	Pedestrian Volume Commentary
Route S1	<ul style="list-style-type: none"> <li>Existing pedestrian footpaths are narrow, with elevated pedestrian volumes observed during school pick up and drop off periods, as well as associated with use of Tempe and Sydenham railway stations.</li> </ul>
Route S2	<ul style="list-style-type: none"> <li>Low pedestrian volumes expected with minimal impact to existing footpaths, except to Unwins Bridge Road and Richardson Crescent</li> </ul>
Route S3	<ul style="list-style-type: none"> <li>Low pedestrian volumes expected with minimal impact to existing footpaths</li> </ul>
Route S4	<ul style="list-style-type: none"> <li>Low pedestrian volumes expected with minimal impact to existing footpaths</li> </ul>
Route N1	<ul style="list-style-type: none"> <li>Broadly speaking, low pedestrian volumes anticipated through industrial/commercial areas, with some use of existing shared paths</li> <li>Potential conflict point around Sydenham station to be managed.</li> </ul>
Route N2	<ul style="list-style-type: none"> <li>Broadly speaking, low pedestrian volumes anticipated through industrial/commercial areas, with some use of existing shared paths</li> <li>High pedestrian volumes expected through Marrickville Station-Marrickville Road/Illawarra Road intersection</li> </ul>

### 3.2.5 Parking Impact (Qualitative)

Where a separated facility might be considered, this is an assessment to determine if there might be an adverse impact on existing parking facilities. It is noted that just because an off-road facility might be considered, does not necessitate that there will be a loss of parking.

In some instances, a separated facility can be installed and the lane widths reduced to retain the effective existing configuration of the road. An example of this is Bourke Street in Surry Hills. A bi-directional cycleway has been constructed, and there has not been any widespread loss of on-street parking.

This criterion is assessed in a qualitative way as the exact number of lost parking spaces cannot be determined until a concept design has been developed.

Table 3.5: Parking Impact Output

Route	Parking Impact Commentary
Route S1	<ul style="list-style-type: none"> <li>A high level of parking loss would occur along Unwins Bridge Road</li> </ul>
Route S2	<ul style="list-style-type: none"> <li>Minimal parking loss would be required due to mixed traffic treatment and shared path on local streets</li> </ul>
Route S3	<ul style="list-style-type: none"> <li>Minimal parking loss would be required due to mixed traffic treatment on local streets</li> </ul>

Route	Parking Impact Commentary
Route S4	<ul style="list-style-type: none"> <li>Minimal parking loss would be required due to mixed traffic treatment on local streets</li> </ul>
Route N1	<ul style="list-style-type: none"> <li>Some parking loss might occur where traffic volumes are elevated and mixed traffic treatment not be appropriate (for example Edinburgh Road and Marrickville Road)</li> </ul>
Route N2	<ul style="list-style-type: none"> <li>A high loss of parking would occur on Illawarra Road due to the likely appropriateness of a separated cycleway.</li> </ul>

### 3.2.6 Traffic Volumes (Qualitative)

Site observations of roads in the area has provided an understanding of general traffic conditions along each route option, including the relative volume of traffic, heavy vehicles, speeds and driver behaviour along the corridors being evaluated.

Where possible, this assessment has been developed to account that an off-road facility may exist on a high traffic corridor, and accordingly, this would not impact the assessment. As such, broadly speaking, this is an assessment of traffic volumes where an on-road route is proposed.

Table 3.6: Traffic Volume Output

Route	Traffic Volume Commentary
Route S1	<ul style="list-style-type: none"> <li>High volumes of traffic are currently experienced on Unwins Bridge Road, it also functions as a heavy vehicle route</li> </ul>
Route S2	<ul style="list-style-type: none"> <li>Low traffic volumes on local access streets were observed, traffic volumes may skew during school pick up and drop off times</li> </ul>
Route S3	<ul style="list-style-type: none"> <li>Low traffic volumes on local access streets were observed, traffic volumes may skew during school pick up and drop off times</li> </ul>
Route S4	<ul style="list-style-type: none"> <li>Low traffic volumes on local access streets were observed, traffic volumes may skew during school pick up and drop off times</li> </ul>
Route N1	<ul style="list-style-type: none"> <li>Some areas of high traffic volumes around Marrickville Road</li> <li>Localised areas of high traffic volume movements including along Marrickville Road and Railway Parade</li> <li>Some areas of localised heavy vehicle movements through north Sydenham</li> </ul>
Route N2	<ul style="list-style-type: none"> <li>Illawarra Road is observed to be a high traffic route</li> <li>Fitzroy Street is observed with high volume and high proportion of heavy vehicles.</li> </ul>

### 3.2.7 Corridor Space (Qualitative)

This is a broad assessment of the ability to improve the infrastructure provision for cyclists within the existing corridor. For example, bridges and underpasses are generally significant corridor impediments. In other instances, local residential streets may be constrained, but due to low traffic volumes, a mixed traffic treatment might be appropriate.

Table 3.7: Corridor Space Output

Route	Corridor Space Commentary
Route S1	<ul style="list-style-type: none"> <li>Corridor is generally constrained, and installing bicycle infrastructure would likely impact existing road configuration on Unwins Bridge Road, noting that a shared path might be feasible for part of the route north of Sydenham station</li> </ul>
Route S2	<ul style="list-style-type: none"> <li>Generally narrow road corridors on local access streets, but mixed traffic is likely to be appropriate</li> <li>Constrained road environment through Lackey Street/Applebee Street</li> </ul>
Route S3	<ul style="list-style-type: none"> <li>Generally narrow road corridors on local access streets, but mixed traffic is likely to be appropriate</li> <li>Restricted space on Princes Highway for shared path with regards to existing land uses</li> </ul>



Route	Corridor Space Commentary
Route S4	<ul style="list-style-type: none"> <li>Generally narrow road corridors on local access streets, but mixed traffic is likely to be broadly appropriate</li> <li>Restricted space on Princes Highway for shared path with regards to existing land uses</li> </ul>
Route N1	<ul style="list-style-type: none"> <li>Corridors are adequate and can potentially be modified without major alterations to the existing traffic conditions</li> </ul>
Route N2	<ul style="list-style-type: none"> <li>Illawarra Road is highly constrained along its length, particularly near Marrickville Station</li> <li>Schwebel Street is highly constrained in providing safer facilities.</li> </ul>

### 3.2.8 Cost of Infrastructure (Qualitative)

A first principles assessment of the likely infrastructure requirement of the route was considered, with an indicative qualitative cost assessment applied to the route.

Table 3.8: Cost of Infrastructure Output

Route	Cost of Infrastructure Commentary
Route S1	<ul style="list-style-type: none"> <li>High to very high cost separated cycleway along Unwins Bridge Road required</li> </ul>
Route S2	<ul style="list-style-type: none"> <li>Such a route would generally be a combination of mixed traffic treatments on local access roads and a shared path on the Princes Highway resulting in low costs</li> </ul>
Route S3	<ul style="list-style-type: none"> <li>Such a route would generally be a combination of mixed traffic treatments on local access roads and shared paths on the Princes Highway resulting in moderate costs</li> </ul>
Route S4	<ul style="list-style-type: none"> <li>Such a route would generally be a combination of mixed traffic treatments on local access roads and shared paths on the Princes Highway resulting in moderate costs</li> </ul>
Route N1	<ul style="list-style-type: none"> <li>Some areas would be suitable for mixed traffic treatment (local access streets) resulting in moderate costs</li> <li>Some areas will likely require shared paths and/or separated cycleways resulting in high costs</li> </ul>
Route N2	<ul style="list-style-type: none"> <li>Likely high cost separated cycleway along Illawarra Road required.</li> </ul>

### 3.2.9 Feasibility (Qualitative)

This input considers a broad level assessment of the feasibility of the identified route in providing a safe cycling facility between the two nominated end points. This also considers if the route falls on the alignment of any state (classified roads), and the associated risks of constructing infrastructure on these routes. It also considers to a broad extent the risks associated with external consultation.

Table 3.9: Feasibility Output

Route	Feasibility Commentary
Route S1	<ul style="list-style-type: none"> <li>A potential separated cycleway on Unwins Bridge Road is considered a challenging prospect, particularly regarding the loss of parking and corridor constraints</li> <li>RMS has indicated that they would not support a cycleway on Unwins Bridge Road due to road width constraints and traffic impacts at intersections</li> <li>During community consultation, Bike Marrickville stated that they would not support this route</li> </ul>
Route S2	<ul style="list-style-type: none"> <li>An indirect route through local access streets is feasible, but useability may not be high without broader infrastructure upgrades and alterations to traffic control</li> <li>Railway underpass widening is not likely feasible or a cost-effective exercise</li> <li>Unclear how to cross Campbell Street and May Street mid-block, noting May Street is a classified road under the Roads Act</li> </ul>
Route S3	<ul style="list-style-type: none"> <li>An indirect route through local access streets is feasible, but useability may not be high without broader infrastructure upgrades and alterations to traffic control</li> <li>Significant delays crossing the Princes Highway can be expected and altering the signal phasing would not likely be achievable</li> </ul>

Route	Feasibility Commentary
Route S4	<ul style="list-style-type: none"> <li>○ An indirect route through local access streets is feasible, but useability may not be high without broader infrastructure upgrades and alterations to traffic control</li> <li>○ Railway underpass widening is not likely feasible or a cost-effective exercise</li> </ul>
Route N1	<ul style="list-style-type: none"> <li>○ Preliminary discussions with Sydney Water have suggested that they may be open to allowing access to their land near Sydenham station</li> <li>○ Route is somewhat indirect, but links a number of railway stations and links sections of existing infrastructure</li> </ul>
Route N2	<ul style="list-style-type: none"> <li>○ Space constraints and traffic volumes on Schwebel Street, Illawarra Road and Fitzroy Street mean that this is likely to be a high-risk alignment.</li> </ul>

### 3.2.10 Land Use Assessment (RMS)

Finally, high quality infrastructure can be provided, but if there is no demand, it will not be used, accordingly, a land use assessment, also consistent with RMS guidance has been completed. The following points of interest are in close proximity to the identified routes. This includes Universities, TAFEs, schools, parks, shops, transport interchanges, train/light rail stations and employment centres.

Table 3.10: Land Use Output

Route	Land Use Commentary
Route S1	<ul style="list-style-type: none"> <li>○ Tempe Station</li> <li>○ St Peters Station</li> <li>○ Sydenham Station</li> <li>○ Tempe High School</li> <li>○ Tempe Public School</li> <li>○ Tillman Park</li> <li>○ Sydenham shops</li> <li>○ Camdenville Park</li> </ul>
Route S2	<ul style="list-style-type: none"> <li>○ Tempe Station</li> <li>○ St Peters Station</li> <li>○ Tempe Public School</li> <li>○ Sydenham Green</li> <li>○ Simpson Park</li> <li>○ St Peters Public School</li> </ul>
Route S3	<ul style="list-style-type: none"> <li>○ Tempe Station</li> <li>○ St Peters Station</li> <li>○ Tempe Public School</li> <li>○ Sydenham Green</li> <li>○ St Peters Public School</li> <li>○ Camdenville Park</li> </ul>
Route S4	<ul style="list-style-type: none"> <li>○ Tempe Station</li> <li>○ St Peters Station</li> <li>○ Tempe Public School</li> <li>○ Sydenham Green</li> <li>○ St Peters Public School</li> </ul>
Route N1	<ul style="list-style-type: none"> <li>○ Tempe Station</li> <li>○ St Peters Station</li> <li>○ Sydenham Station</li> <li>○ Marrickville Station</li> <li>○ Mackey Park</li> <li>○ Marrickville Metro</li> <li>○ Marrickville town centre</li> <li>○ Marrickville shops</li> </ul>



Route	Land Use Commentary
Route N2	<ul style="list-style-type: none"> <li>○ Tempe Station</li> <li>○ St Peters Station</li> <li>○ Sydenham Station</li> <li>○ Marrickville Station</li> <li>○ Marrickville town centre</li> <li>○ Marrickville Metro</li> <li>○ Henson Park</li> <li>○ Marrickville Public School</li> </ul>

### 3.3 Output of Assessments

#### 3.3.1 RMS Route Assessment

The RMS Route Assessment has been sourced from Section 12 of the NSW Bicycle Guidelines (July, 2005). The inputs considered as part of this framework include:

- Absolute Distance – How far is the route?
- On-Road Distance – Intrinsic safety of the route and suitability for different user groups
- Climbs – Vertical elevation change along route
- Sharp Turns and Stops – Cyclists are adversely impacted by stopping/slowing points.  
These have been separately counted into 'sharp turns' and 'yield'.

The analysis utilises the methodology of a bike path analysis template set out by the RMS to objectively identify the relative strengths and weaknesses of each of the proposed routes. The bike path analysis model takes on a holistic approach to the routes including distance, altimetry, turns, traffic lights and land use.

Table 3.11: RMS Bike Path Assessment (Note a lower score is better)

	Distance	On-Road Distance	On-Road %	Climbs <sup>1</sup>	Sharp Turns	Yield	Score	Detour Factor <sup>2</sup>
Weighting	20%	20%		20%	20%	20%		
Route S1	3.0	1.0	35%	2.5	2	5	13.5	105%
Route S2	4.0	3.2	80%	2.8	27	28	65.0	140%
Route S3	5.1	3.0	60%	4.5	22	24	58.6	160%
Route S4	3.9	3.5	80%	2.7	16	24	50.1	135%
Route N1	4.5	1.5	35%	2.0	14	14	36.0	160%
Route N2	5.0	2.0	40%	4.0	11	16	38.0	175%

#### 3.3.2 RMS Land Use Assessment

Bicycle infrastructure is most effective when it links, or passes by points of interest. Part of the RMS assessment involves investigating the number of significant land uses a route passes to obtain a normalised score. The land uses and the points assigned are shown below in Table 3.12. It shows that although Route R1 has the lowest aggregate score, this is effectively because it is the shortest route. When the scores are normalised to a score per kilometre of infrastructure, Route 1 ends up marginally ahead of R2 and well ahead of R3.

<sup>1</sup> Where the value is divided by 10. For route 1, a score of 1.5 represents a vertical elevation change of 15m as ridden south-to-north

<sup>2</sup> Where the distance is divided by the straight-line distance (2.85km)

Table 3.12: Land Use Assessment (Note a higher score is better)

Land Use	Score per facility	Route S1	Route S2	Route S3	Route S4	Route N1	Route N2
University	5	0	0	0	0	0	0
TAFE	3	0	0	0	0	0	0
School	1	2	2	2	2	2	2
Major Park	3	1	1	2	0	1	2
Local Park	1	1	2	0	1	0	0
Major CBD	5	0	0	0	0	0	0
Regional Shops	3	0	0	0	0	2	2
Local Shops	1	1	1	1	1	1	1
Major Transport Interchange	5	1	0	0	0	1	0
Railway Station	3	3	2	2	2	4	3
Employment Centre	1	1	0	0	0	1	1
Total		22	14	15	10	30	25
Land use score per km		7.46	3.50	2.94	3.05	6.67	5.00

### 3.3.3 Qualitative Assessment

The criteria used in the RMS template do not take into consideration additional specific and relevant issues relevant to bike path design (as acknowledged in the guidelines). To incorporate such issues, GTA has developed an additional framework in conjunction with Inner West Council to provide an additional reference assessment. The inputs are qualitative and based on comments made previously through Section 3.2, and feedback from community and stakeholders as outlined subsequently in Section 3.4.

Each criterion is assessed using high level, qualitative performance indicators as detailed in Table 3.13.

Table 3.13: Route Analysis Assessment Criteria

Assessment Criteria	Performance Indicators		
Pedestrian Volume Environment	Low	Medium	High
Parking Impact	Low	Medium	High
Traffic Volumes	Low	Medium	High
Corridor Space	Unrestricted	Moderate	Constrained
Cost	Low	Medium	High
Feasibility	High	Medium	Low

Table 3.14: Overall Assessment Summary

Route	Pedestrian Volume Environment	Parking Impact	Traffic Volume	Corridor Space	Cost of Infrastructure	Feasibility	RMS Score (From above)	Land Use Assessment (From above)
Route S1	Medium	High	High	Constrained	High	Low	13.5	7.46
Route S2	Medium	Moderate	Low	Moderate	Medium	Medium	65.0	3.50
Route S3	Low	Low	Medium	Moderate	Medium	Medium	58.6	2.94
Route S4	Low	Low	Low	Moderate	Medium	Medium	50.1	3.05
Route N1	Medium	Low	Medium	Moderate	Medium	Medium	36.0	6.67
Route N2	High	High	Medium	Constrained	High	Low	38.0	5.00

### 3.4 Consultation

Inner West Council engaged the community and other external stakeholders for feedback regarding the alignment for the LR7 route. 74 public submissions were received, as well as over 100 comments on Council's engagement map. In addition, comments were received from RMS, Sydney Buses, Bike Murrumbidgee and Sydney Water. Some of the comments frequently raised by the community and stakeholders have been commented on below, with the summary provided by Council included in Appendix A.

Table 3.15: Community Consultation

Category	Comment	GTA Comment
Parking	Parking on Florence St, Darley St and Unwins Bridge Road	In the route that is subject to further concept design, a design will seek to minimise the loss of parking, and offset its loss if possible.
Specific road comment	Lord and Darley Street too narrow for bike path	Bike paths are likely not practicable. Look to alternative traffic calming devices noting that traffic speeds and volumes tend to be low.
	Carrington Road cycleway intersections unsafe	If this route is subject to further design, investigate opportunities to upgrade intersections.
	Unwins Bridge Road cycle path is supported Unwins Bridge Road is too narrow for cycle path	Whilst it is acknowledged that Unwins Bridge Road is a direct and likely favourable route due to narrow road widths and impacts to traffic flows RMS has indicated that they would not support the development of a cycleway along this corridor.
	Streets such as Henry Street (i.e. along the S2/S3 alignment) are too narrow for a bike path	Streets such as Henry Street are too narrow for the development of a separated bike path. Given the low traffic speeds and volumes, it might be appropriate to apply a mixed traffic treatment along this corridor.
	Use Princes Highway shared path	Noted
Treatment	Provide treatment to improve cyclist safety	Cyclist treatments developed will be consistent with the traffic speeds and volumes expected on the specific road.
	Shared paths are dangerous for pedestrians	Transport for NSW has indicated that as a general principle, they no longer support shared path development due to cyclist-pedestrian conflict. If a shared path treatment is proposed, its length will be minimised, and they will be avoided where possible around corridors with elevated pedestrian volumes (i.e. schools, railway stations and shops) except where other options are not suitable.
	Seek to utilise rail corridor	Given uncertainty about rail corridor due to the Sydney Metro project, this option has not been considered further at this stage
Other	Provide access to local destinations	As part of this report, a land use assessment has been completed.
External Stakeholders	RMS Would not support the development of a cycle route on Unwins Bridge Road [due to narrow road width and likely traffic impacts]	Noted. Other route options have been considered as an alternative to Unwins Bridge Road.
	Sydney Buses <ul style="list-style-type: none"> <li>Buses use road underpass of Railway Parade under Bedwin Rd</li> <li>Bus routes along Railway Parade-Murrumbidgee Road</li> <li>New bus interchange at Sydenham Road-Railway Parade</li> <li>Buses use Unwins Bridge Rd</li> </ul>	<ul style="list-style-type: none"> <li>Noted</li> <li>Noted</li> <li>Noted – Further detail if possible</li> <li>Noted</li> </ul>



Category	Comment	GTA Comment
	Bike Marrickville <ul style="list-style-type: none"> <li>○ Supports a western route development</li> <li>○ Unwins Bridge Road not supported</li> <li>○ Route along rail corridor would be ideal</li> <li>○ Connection across Sydenham station</li> <li>○ Connect with LR5</li> </ul>	<ul style="list-style-type: none"> <li>○ Noted</li> <li>○ Noted</li> <li>○ Noted – For discussion but impact of Sydney Metro unclear</li> <li>○ Noted</li> <li>○ Noted</li> </ul>
	Sydney Water <ul style="list-style-type: none"> <li>○ Sydney Metro will impact Sydney Water assets</li> <li>○ Sydney Water may support access between Garden Street and Railway Parade</li> </ul>	<ul style="list-style-type: none"> <li>○ Noted</li> <li>○ Noted</li> </ul>

## 3.5 Summary of Assessment

Based on the output of Table 3.14 and Table 3.15, the following summary comments are made:

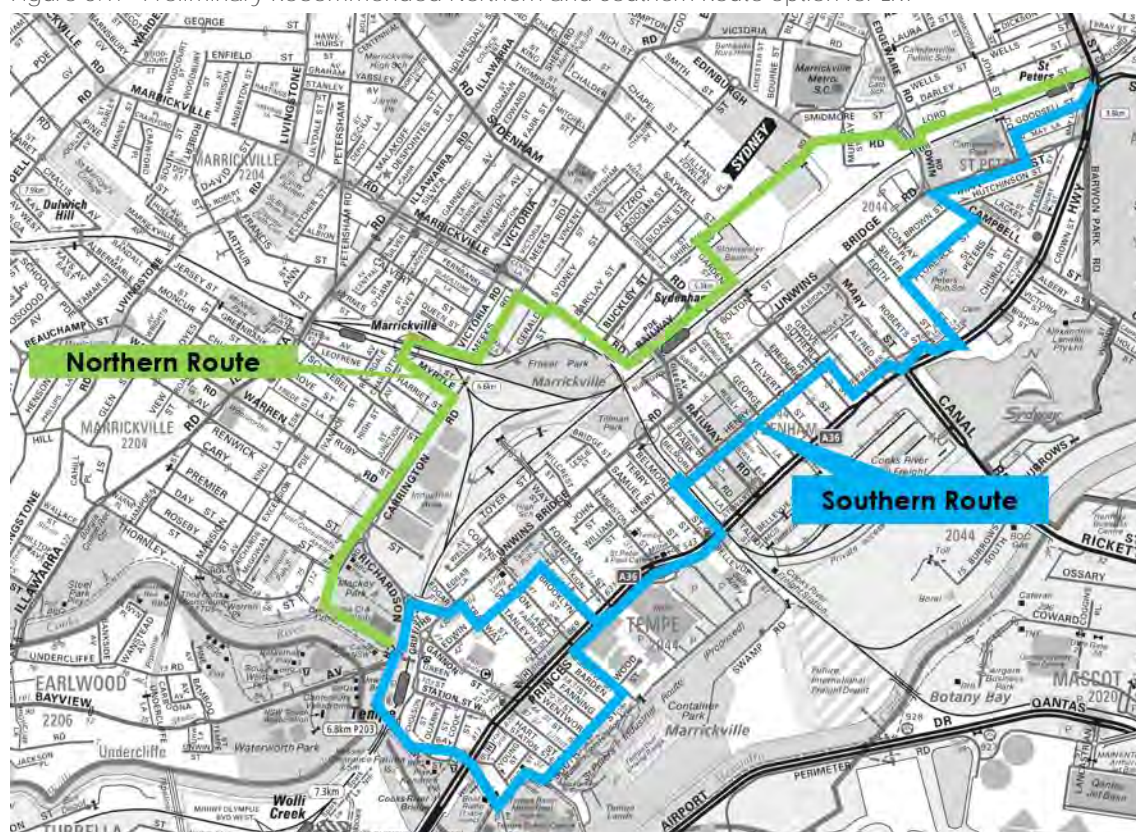
- i Route S1 performs well in terms of a quantitative assessment. It is by far the most direct route with the fewest turns and yields. It was highlighted as a preferred corridor by members of the community. However, from a range of qualitative and constructability factors, it performs poorly. Most notably, Unwins Bridge Road is a classified Road under the Roads Act, and RMS has indicated that they would not support the route. This route is also not supported by the local Bike User Group, Bike Marrickville.
- ii Route S2 performs soundly from a range of qualitative factors. From a quantitative perspective, the route performs poorly, primarily due to the number of yields and turns required on the route. If the prioritisation of cross intersections could be reversed as part of the project, it may go towards improving the overall ride-ability of the route. Key mid-block crossings at Campbell Street and May Street need to be considered.
- iii Route S3 also performs soundly from a range of qualitative factors. From a quantitative perspective, it performs poorly, primarily due to the number of yields and turns required on the route. If the prioritisation of cross intersections could be reversed as part of the project, it may go towards improving the overall ride-ability of the route. This route also provides opportunities to link in with the cycleways around the airport and may go towards enhancing the broader network.
- iv Route S4 performs soundly from a range of qualitative factors. From a quantitative perspective, the route performs poorly, primarily due to the number of yields and turns required on the route. If the prioritisation of cross intersections could be reversed as part of the project, it may go towards improving the overall ride-ability of the route. A drawback of this route is that without a redesign, cyclists would be legally obliged to dismount to cross the Gannon Street pedestrian crossing, this is not consistent with the NSW Bicycle Guidelines in providing a continuous route.
- v Route N1 is a well-rounded corridor which performs soundly across a range of qualitative and quantitative factors. Whilst it does represent a not insignificant detour compared to some other routes, it provides superior gross connectivity as outlined in the land use assessment. Community feedback broadly supported development of this corridor, and is also supported by the local Bike User Group, Bike Marrickville.
- vi Route N2 is a poorly performing corridor and does not provide a good link between the two nominated end points. It is a significant detour and utilises Illawarra Road, which is a classified road under the Roads Act. This route is not considered appropriate or feasible.

The project requires that GTA develop concept designs for a route north and south of the rail corridor. Route N1 shows significantly better planning outcomes and lower risk than Route N2 and is therefore recommended and the Northern Route option.

Route S1 can be disregarded as the Southern Route option as it would not get approval from RMS and is also not supported by Bike Marrickville. Route S2, S3 and S4 all show some strengths and weaknesses. None of the three route options provide significant benefits over the others, however, some individual sections look stronger than others. Therefore, a hybrid of the three route options is recommended as the Southern Route option. This will also ensure that all residential areas south of the railway line, including south Tempe, are well connected.

The two recommended route options for LR7 are shown in Figure 3.1.

Figure 3.1: Preliminary Recommended Northern and Southern Route option for LR7



Source: Sydway

## 3.6 Stakeholder Review

During April 2017, the preliminary design drawings were submitted to Council who subsequently distributed to core stakeholders including RMS, Sydney Metro and (internally within) Council. Of particular planning consideration, we note the following pertinent comments:

### Northern Route

- Modifying intersections on Carrington Road to give cyclists priority may be cost-ineffective, and it may be a better outcome to wait until the potential redevelopment of the eastern side of Carrington Road precinct to consider options to relocate the cycleway.
- Marrickville Road is currently being reviewed as part of a streetscape program, and is in part impacted by uncertainty about changes associated with Sydney Metro at



Sydenham Station. Given uncertainty about potential changes, the concept plan simply establishes to inform the Sydney Metro project and Council's streetscape investigations here. GTA has outlined some preliminary guidance in Appendix B.

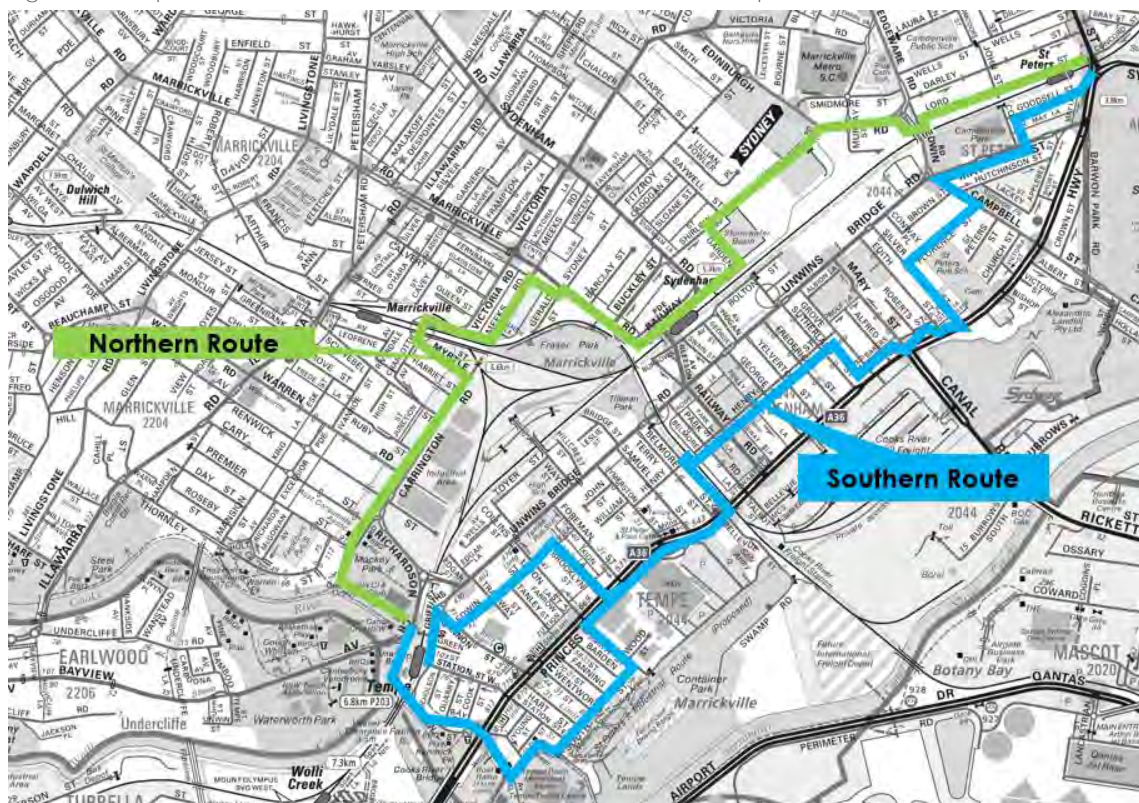
- Largely, the corridor from the southern extent of Railway Parade south of Sydenham station all the way through to the Bedwin Road overpass is subject to planning consideration by Sydney Metro. The concept plan establishes planning principles along this section of the route to inform Sydney Metro planning in this precinct. GTA has outlined some preliminary guidance in Appendix B.

#### Southern Route

- To meet cycling standards, the existing pedestrian island at the corner of Unwins Bridge Road and Richardson Crescent would need to be either expanded in size or removed, and replaced by a single stage crossing. RMS advised that both of these were unsupportable and consequently this was a 'fatal flaw' for the preferred route, and an alternative had to be proposed (using Gannon Street and Griffith Street).
- Council further considered the concept of reversing priority at a limited number of intersections along Henry Street which have been shown in the revised concept plans.

Figure 3.2 shows the final route preference after discussion with Council and consultation with government stakeholders. Section 4 details a route infrastructure description for the final route choice.

Figure 3.2: Updated Recommended Northern and Southern Route option for LR7





## 4. Route Infrastructure Description

Following route option endorsement by Council, GTA subsequently has developed concept designs for the two preferred options. This was a process of identifying what treatment options were possible, and would support the overall intention of the route. In some instances, multiple options were identified before a discussion with Council as to what were their tolerances and preferences to various issues. Such issues included:

- i The desirability of shared paths, noting that Transport for New South Wales has broadly indicated that where possible they are not preferred treatments. Furthermore, discussion was had as to whether a shared path would be a satisfactory outcome.
- ii Tolerances regarding the loss of parking, loss of vegetation and changes to the road network environment. Council has indicated a strong preference of not losing parking and offsetting a loss where possible, minimising the loss of trees (including a 2:1 replacement) and broadly maintaining existing traffic conditions as much as possible to mitigate impacts to existing residents.

Due to the preferences which were identified, in many cases, this left only one or two viable treatment options which were confirmed prior to concept design drawings. The options are discussed below.

### 4.1 North Route

- 1) Mackey Park – No change in infrastructure proposed.
- 2) Carrington Road – A mixed traffic treatment was proposed by Council between Cary Street and Premier Street. Further north, the current configuration is undesirable, and leads cyclists needing to yield at every cross street. GTA had discussions about the potential for shared environment intersections at some crossings (Harriett Street and Ruby Street) to enhance route continuity through intersections, noting RMS warrant thresholds. Following discussion with Council regarding a potential for future redevelopment of the land on the eastern side of Carrington Road, no changes are immediately proposed to the existing infrastructure as they would not be cost-effective if the route is to be relocated in the medium term.
  - a. Adjacent to Mackey Park, a shared path was considered on the eastern side of the road, but mature trees have intrusive root systems which would have been disrupted and this option was subsequently discarded.
  - b. A shared path was also considered on the western side of Carrington Road between Cary Street and Premier Street. To improve route safety, GTA suggested that up to two trees should be relocated, this was not viewed as a suitable outcome by Council.
  - c. It was shown that space on the cross streets to facilitate bend out treatments was not sufficient, this would give cyclists priority (as per Devonshire Street/Bourke Street).
  - d. In the long term, potential redevelopment of the site between Carrington Road and the rail corridor may facilitate an opportunity to relocate the cycleway to the eastern side of the road. This would be a highly desirable outcome for route safety and continuity.
- 3) Myrtle Street and Victoria Road – After discussion with Council, GTA proposes widening the eastern side of the underpass converting an underutilised shoulder lane into a continuation of the cycleway.

- 4) Meeks Road – A mixed traffic treatment is proposed in Meeks Road. Traffic volumes and speeds likely justify this treatment.
  - a. Alternatively, GTA proposed installing a separated bi-directional cycleway along the eastern aspect of Meeks Road (similar to Carrington Road). Due to road dimension constraints, this would have likely resulted in the redesign of the overall street, with angled parking on the western side of the road which would also aid heavy vehicle access to the commercial premises on the eastern side of the road. It is estimated this treatment would have resulted in the net loss of approximately 10 parking spaces, and Council indicated that this was unacceptable, and the option was subsequently discarded.
- 5) Sydney Lane and Gerald Street – A shared zone was initially proposed by GTA. Traffic volumes and speeds as well as the limited vehicular access to Gerald Street likely suit such a treatment. Council indicated that they felt that this would be a costly treatment for a marginal benefit, and subsequently, a mixed traffic treatment has been proposed.
  - a. Initially, at the southern extent of Sydney Lane, a direct crossing to the southern side of Gerald Street with a shared path was considered. However, there is the presence of major electricity and gas infrastructure which would need to be relocated, and subsequently, a mixed traffic treatment has been proposed.
- 6) Marrickville Road and Railway Parade – In the short term, a shared path is proposed on the southern and eastern aspect of the road. Existing pedestrian volumes may support such a treatment. In the longer term, opportunities to provide a separated facility as part of Council's streetscape plan and station masterplan should be explored.
  - a. Sydney Buses and Sydney Metro are also understood to be in the process of undertaking a public transport terminal/interchange redesign, and this area will need to integrate with the plan when it is released.
- 7) Link to Garden Street – GTA proposes sealing an existing desire line adjacent to the Sydney Water access road. Changes to this section are understood to currently being considered as part of the Sydney Metro project. The provision of lighting should also be considered at the detailed design stage.
  - a. Alternatively, the Sydney Water access road was proposed to be used, with the construction of a ramp to join the elevated access road where it meets Garden Street. Sydney Water indicated that they would not support the use of their infrastructure and this option was discarded.
- 8) Garden Street – A mixed traffic environment is proposed on Garden Street as suggested by Council. Traffic volumes and speeds justify such a treatment. It should be noted that this precinct is subject to redevelopment by Sydney Metro and traffic conditions may materially change in the future.
  - a. Alternatively, GTA proposed installing a cycleway along the northern aspect of Garden Street with the space created by shifting the existing perpendicular parking south by a few metres.
- 9) Shirlow Street and access path – A mixed traffic treatment is proposed on Shirlow Street. No changes to the access path between Sydney Steel Road and Shirlow Street are proposed.
  - a. A potential shared zone was also proposed on Shirlow Street. Traffic volumes and speeds likely justify such a treatment. Feedback indicated that such a treatment would not be endorsed.
  - b. Due to dimensional constraints, no other treatment was considered feasible which would retain the existing traffic access. For example, GTA examined widening the eastern aspect of Shirlow Street to a shared path, but this would have likely resulted

in the extension of the one-way zone on Shirlow Street from Garden Street to Saywell Street. This was unacceptable to stakeholders and subsequently discarded.

- 10) Sydney Steel Road – A separated bi-directional cycleway is proposed on the eastern side of Sydney Steel Road. Given the high proportion of heavy vehicles and generous dimensions of the road corridor, a cycleway can be accommodated with minimal impact to the existing traffic conditions. This concept was endorsed by Council. At the northern extent of the road, this treatment is subject to, and reliant on increased setbacks by the Sydney Metro facility.
- 11) Edinburgh Road – A separated bi-directional cycleway would be preferred on the southern side of Edinburgh Road. This treatment is subject to, and reliant on increased setbacks to be by the Sydney Metro facility.
- 12) Railway Parade and Edgeware Road – A shared path is proposed on Railway Parade until the railway property boundary. At the underpass, a shared path is proposed with the conversion of existing perpendicular parking to parallel. This will result in the loss of approximately 10 parking spaces which was agreeable to Council (noting that it may be able to be offset with agreement with Sydney Metro). On Edgeware Road between Lord Street and Darley Street, a one-way cycleway is proposed to give citybound access to Darley Street. This can be achieved with the narrowing of existing traffic lanes, with no further net impact to parking or traffic movements (noting the requirement to facilitate bus movements).
- 13) Lord Street and Darley Street (one way pairs) – A mixed traffic environment is proposed by GTA. Traffic volumes and speeds likely justify such a treatment. No other treatment is possible given the highly-constrained road corridor dimensions without extensive parking loss (>50 spaces) noting that the houses tend not to have off-street parking. This treatment was endorsed by Council.

## 4.2 South Route

- 1) Griffiths Street and Gannon Street – A shared path is proposed on the southern side Gannon Street. Sightlines need to be improved through consultation with a private landholder. GTA proposed a change to the configuration of the crossing which would have resulted in a continuous route with no net impacts to other road users, however, the provided solution is mainly aimed at low volume streets. Gannon Street has moderate to high levels of volume and within Council there is a belief that this option would not be accepted by RMS. Consequently, Council has indicated a preference to retain existing conditions on the Gannon Street pedestrian crossing. This is not a desirable outcome for cycling as cyclists would be legally obliged to dismount and walk across the crossing and the route would not be continuous.
  - a. Initially, an alignment was proposed along Richardson Crescent, Unwins Bridge Road and Tramway Street, however, RMS indicated that they would not support necessary changes at an intersection and this resulted in the route having a fatal flaw. This route was preferred as it provided enhanced connectivity to the Cooks River cycleway.
  - b. A redesign and reconfiguration of the existing pedestrian crossing was proposed by GTA. This would involve removing the existing pedestrian crossing (signage and markings) and replacing them with give way signs and markings. Under Section 71 (2) of the road rules, “[a] driver must give way to any vehicle or pedestrian at or near the give way sign or line<sup>3</sup>”. Under this rule, pedestrians still retain priority at the crossing

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<sup>3</sup> This is further illustrated in the second image on the relevant page. [http://www.austlii.edu.au/au/legis/nsw/consol\\_reg/rr2014104/s71.html](http://www.austlii.edu.au/au/legis/nsw/consol_reg/rr2014104/s71.html), accessed 16 May 2017. An example of this treatment is seen in De Burgh Street, Canberra. [Google Maps](#), accessed 16 May 2017



(albeit under a different regulation), and vehicles on the road also have to give way to cyclists as they are classified a vehicle in the road rules (and hence included in the S71(2) regulation).

- 2) Edwin Street – A shared path is proposed on the eastern side of Edwin Street. This was endorsed by Council. A shared environment intersection treatment is appropriate across Tramway Street and Stanley Street, as determined by traffic count data provided by Council.
- 3) Link to Brooklyn Street – A small section of contraflow bike lane to facilitate northbound cycling is proposed. This contraflow lane is consistent with RMS Technical Direction TDT2014/02.
  - a. Alternatively, a raised platform treatment was proposed by GTA, but was not endorsed by Council.
- 4) Brooklyn Street – A mixed traffic environment is proposed and appropriate given the traffic volumes and speeds observed.
- 5) Princes Highway (west side) – The existing pathway is generally observed to be adequate with no upgrades required. A continuous footpath treatment is proposed across Foreman Street, and improved delineation at major driveways is also proposed.
- 6) Lymerston Street – A mixed traffic treatment is proposed by GTA and considered acceptable with regards to observed traffic speeds and volumes. Given the presence of mature trees in the road corridor, no other treatment was feasible without broader traffic impacts which was considered not endorsed by Council.
- 7) Henry Street – A mixed traffic treatment is proposed on Henry Street given the traffic speeds and volumes observed, and lack of road corridor space. GTA suggested exploring opportunities to reverse priority at some intersections. Council undertook traffic counts and proposed reversing intersection priority at Terry Street, George Street and Yelverton Street. An improvement in lighting is required in the railway underpass to enhance safety and security. The proposed intersection reversal initiative would benefit from other infrastructure upgrades such as speed hump and pavement treatments, with both suggestions not being endorsed by Council. It is noted an intersection reversal without any other treatment changes may lead to poor safety outcomes.
- 8) Grove Street to Silver Street – A mixed traffic treatment through the laneways is considered the only feasible option given space constraints and the numerous turning movements required. A number of traffic calming measures are proposed to slow traffic speeds and provide enhanced safety for cyclists.
  - a. During the site visit, GTA determined that sightlines at some intersections were poor and that it was pertinent to improve the safety at selected intersections through either improving sightlines or decreasing traffic speeds. As improving sightlines would result in the loss of parking, GTA proposed installing speedhumps on the approaches to several intersections to slow traffic speeds. **GTA's suggestion of the installation of speed humps on selected intersections was not endorsed by Council.** It is noted that no treatment may not satisfy Austroads guidance as outlined in the footnote below<sup>4</sup>.
- 9) Crossing of Mary Street – This is an area of particular concern given the phasing of the lights at the Princes Highway/Canal Road/Mary Street intersection. Whilst generally a quiet street, (say) for 20 seconds every 2-3 minutes, there is a substantial through traffic volume. Council has expressed a desire for a short section of contraflow bicycle lane on

<sup>4</sup> Austroads Guide to Road Design 4A Section 3.2.2 refers to Safe Intersection Sight Distances. With a range of inputs (key input being 45km/h), a safe intersection sight distance is approximately 50m. With no change to parking or installation of additional traffic management devices to slow traffic, anecdotally, GTA considers that these sight distances may not be met under existing conditions.

the northern side of the road. Swept paths impede into the bike lane and this impact should be further considered as the design progresses.

- a. A short section of expanded shared path was proposed by GTA on the southern side of Mary Street between Bakers Lane and Roberts Lane to aid the safety of cyclists with the loss of a small number of parking spaces. This option would have allowed the movement of vehicles without interference into the bike route. This option was not endorsed by Council.
- 10) Silver Street and Florence Street – A mixed traffic treatment is proposed with traffic volumes and speeds supportive of such a treatment. Furthermore, multiple community comments were received regarding the retainment of parking.
  - a. During the site visit, GTA determined that sightlines at some intersections were poor and that it was pertinent to improve the safety at selected intersections through either improving sightlines or decreasing traffic speeds. As improving sightlines would result in the loss of parking, GTA proposed installing speedhumps on the approaches to several intersections to slow traffic speeds. GTA's suggestion of the installation of speed humps on selected intersections was not endorsed by Council. It is noted that no treatment may not satisfy Austroads guidance.
- 11) Campbell Street – GTA would be supportive of a shared path or cycleway on the southern side of Campbell Street to aid network connectivity up to May Street. It is understood that WestConnex are upgrading Campbell Street and providing a signalled crossing at St Peters Street. As the route ultimately goes to May Street (in the opposite direction), GTA suggests investigating the potential of a shared path on the southern side of Campbell Street between Florence Street and Unwins Bridge Road.
- 12) May Street, Camdenville Oval and Goodsell Street – A shared path is proposed on the northern side of May Street to the existing shared path to the east of the block of houses on Camdenville Oval with localised constrictions around existing street trees. A mixed traffic treatment is proposed on Goodsell Street with access noted to be heavily restricted resulting in low traffic volumes.
- 13) View Street – No change in infrastructure proposed
- 14) Holbeach Avenue – Existing shared path on the southern side of the road with no change in infrastructure proposed. A median island will have to be upgraded to provide cyclists adequate protection.
- 15) Holbeach Avenue to South Street – Opportunities to utilise both the existing off-road shared path and upgraded mixed traffic on-road route.
- 16) South Street and Smith Street – Proposed on road mixed traffic route. Given traffic volumes, speeds, and the tendency for traffic to be local access, a mixed traffic route is considered appropriate. No other treatment is feasible on South Street without broader traffic impacts.
- 17) Princes Highway (east side) – No change in infrastructure proposed to the existing shared path on the eastern side of the road between Smith Street and Bellevue Street.

## 5. Cross Sections

Cross sections have been developed for select locations for the route, however, these are limited as there are no changes to physical infrastructure anywhere along the route (exception of Edwin Street). The following cross sections are included and shown in Figure 5.1 to Figure 5.4.

- Meeks Road (LR7 North)
- Lord Street (LR7 North)
- Edwin Street (LR7 South)
- Henry Street (LR7 South)

Figure 5.1: Typical Meeks Road Cross Section – Existing (Looking North)



Figure 5.2: Typical Lord Street Cross Section – Existing (Looking West)

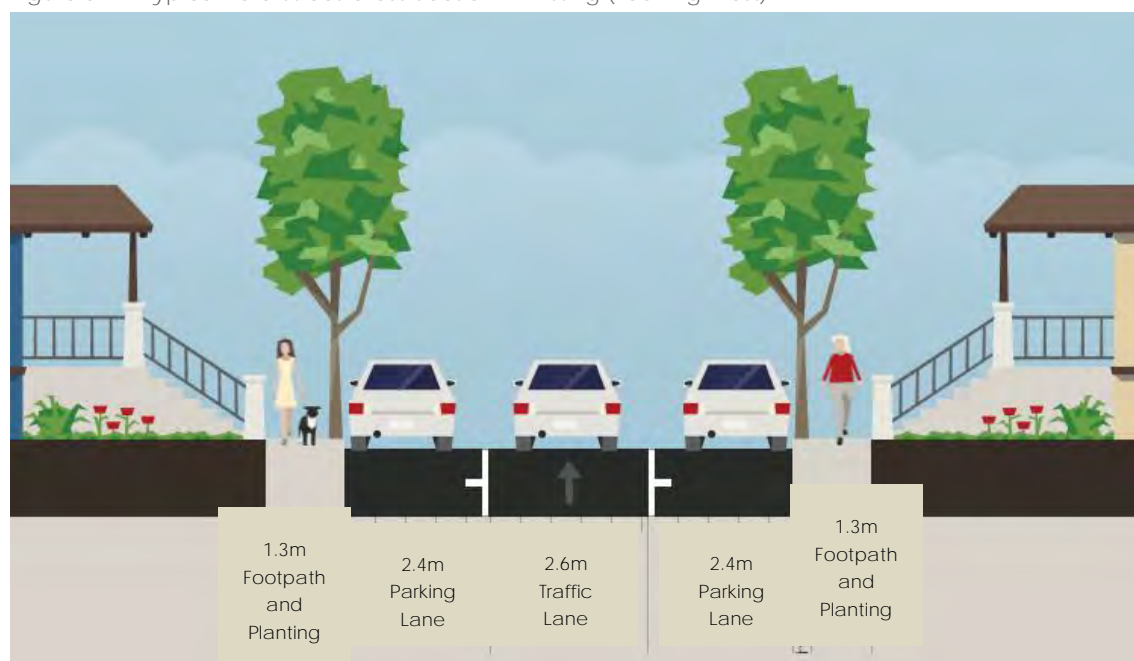


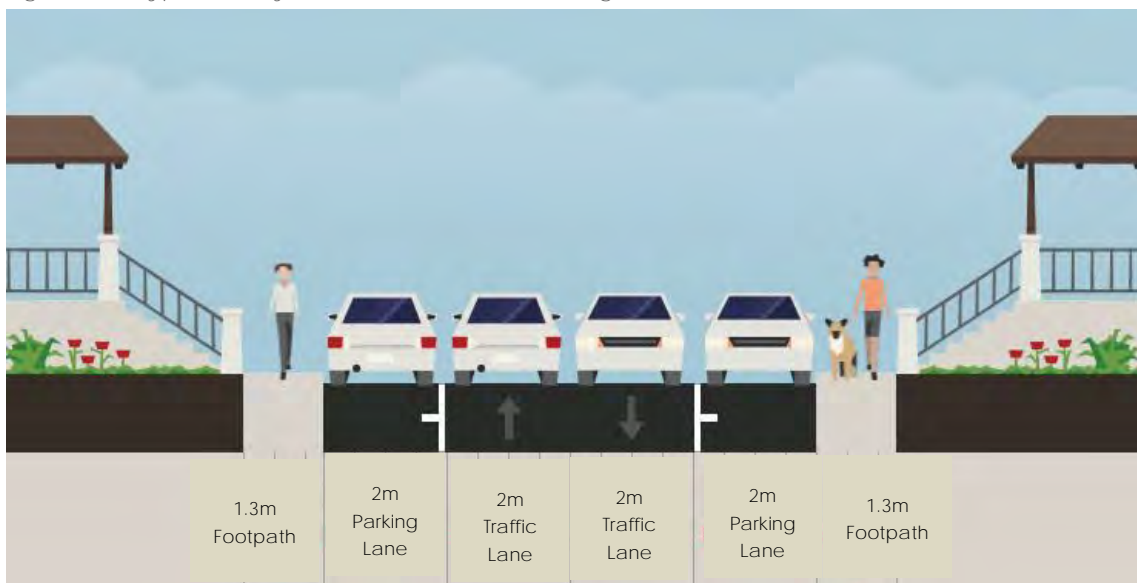


Figure 5.3: Typical Edwin Street Cross Section – Proposed (Looking North)



Note the right side of the image would function as a shared path

Figure 5.4: Typical Henry Street Cross Section – Existing



## 6. Draft Concept Design

### 6.1 Draft Concept Design

Based on the preliminary consultation, GTA developed a concept design for the north and south route options. The options considered and the preferred option are discussed extensively in Section 4. The numbered bullets outline the preferred option and the lettered bullets outline alternative options which were considered.

In brief, the following design was preferred by Council and prepared by GTA:

- South Route
  - Shared path on Gannon Street and Edwin Street
  - Mixed traffic on Brooklyn Street
  - Shared path on Princes Highway
  - Mixed traffic on Lymmerston Street, Henry Street, Grove Street, Bakers Lane, Roberts Lane, Edith Lane, Silver Street and Florence Street
  - Shared path on Campbell Street and May Street
  - Mixed traffic on Goodsell Street
- North Route
  - Shared path through Mackey Park
  - Mixed traffic on Carrington Road (south)
  - Utilise existing cycleway/shared path on Carrington Road, Myrtle Street and Victoria Road
  - Mixed traffic on Meeks Road and Sydney Lane
  - Shared path on Marrickville Road, Railway Parade with new shared path to Garden Street
  - Mixed traffic on Garden Street and Shirlow Street
  - Utilise existing shared path linking Shirlow Street to Sydney Steel Road
  - New separated cycleway on Sydney Steel Road and Edinburgh Road
  - Mixed traffic one-way pairs on Lord Street and Darley Street

The draft concept design was released for a second round of stakeholder comments and public exhibition comments.

### 6.2 Public Exhibition

The draft concept designs for LR7 went on public exhibition for one month between 12 July 2017 and 13 August 2017. A range of comments and suggestions were submitted and addressed as part of the review. Key changes to the concept design following the public exhibition are shown in Table 6.1.

Table 6.1: Key changes to LR7 based on submissions from public exhibition

Location/ Issue	Comment	Changes Made
Henry Street Provide statutory 10m no stopping at intersections along the route	Formalisation of no stopping areas at intersections along the route would improve sightlines and rider safety.	Formalisation of 10m no stopping zones was accepted, exact locations will be determined in detailed design.
Henry Street Changing the priority of intersections will be dangerous	Agreed, as the intersecting streets carry higher traffic volumes than Henry Street.	Proposed changes to priority deleted.

Campbell Street WestConnex now proposes a shared path on the southern side in addition to the cycleway on the northern side	Noted.	Plan updated to note proposed WestConnex bike route connectivity between Florence Street and May Street.
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## 7. Final Concept Design

Due to a range of planning uncertainties associated with the northern route the southern route was selected as the preferred route. In the long term, the northern route provides a more direct and comfortable route, and this route may be further evaluated in the future. Importantly, it is noted that there will need to be coordination with the Sydney Metro project to preserve setbacks if there is a desire to provide this route at some point in the future.

The final draft concept design was endorsed by Council with one modification:

- A physical separation buffer was requested on Mary Street to support the short contraflow section between Bakers Lane and Roberts Lane due to the high traffic volumes experienced. Initially, this was not the preferred option. Following the feedback of a Road Safety Audit, the proposal for the physical separation was adopted.

During the course of this stage of the project, the concept designs also went through a preliminary road safety audit by a third party. There was one substantial item for correction which was identified above.

Another challenge that remains outstanding and should be subject to further investigation and consideration at the detailed design stage the cyclist priority and turn sightlines on Henry Street: Section 4.2 outlined that for route continuity and safety, consideration could be given to reversing priority at some intersections. Further, to support cyclist safety, it was initially proposed to either install traffic calming devices or increase the No Stopping distances to aid sightlines through intersections. This has not been included in the concept design.

The final concept design is attached as Appendix C to this report.

## 8. Preliminary Cost Estimate

Based on the finalised concept designs, GTA has undertaken a preliminary cost estimate of the preferred infrastructure. These are based on unit costs for the various identified items. The estimated cost is \$1,099,200<sup>5</sup> and is broken down into the costs shown in Table 8.1.

The full breakdown of costs according to individual sheets is attached as Appendix D to this report.

Table 8.1: Preliminary Cost Estimate

Item	Cost
Works Around Gannon/Griffiths Street	\$40,000
Kerb Ramp (New/Remodel)	\$68,000
Widen Existing Footpath to Shared Path	\$56,000
Work Around Lymerton Street	\$10,000
Contraflow Bicycle Lane (Mary Street)	\$20,000
Bicycle Lanterns (Pairs)	\$8,000
Bicycle Lantern TCS Review	\$100,000
Head Start Box	\$4,000
Holbeach Avenue Works	\$20,000
Stencils	\$48,800
Green Pavement Treatment	\$33,000
Shared Environment Intersection	\$300,000
Signage Allowance	\$25,000
SUB-TOTAL	\$732,800
Contingency (50%)	\$366,400
TOTAL	\$1,099,200

<sup>5</sup> The above opinion of probable cost has been prepared based on desktop review and is for initial planning only and must not be relied upon for quoting, budgeting or construction purposes. It is recommended that you seek a detailed cost estimate from a suitably qualified quantity surveyor

## 9. Conclusion

- GTA was engaged by Inner West Council to prepare a concept design package for Local Route 7 (LR7) linking Tempe Station and St Peters Station.
- Initially, GTA undertook an options assessment comparing six route options through two different methodologies to identify a preferred route.
- The preferred option was chosen through elimination of other options as these proved to be unfeasible.
- The route is largely comprised of a mixed traffic treatment in local streets in Tempe, Sydenham and St Peters, with a small section of new shared path proposed.
- The route is supplemented by a range of intersection upgrades.
- The functionality and safety of the route should be closely monitored and further evaluated at the detailed design stage to achieve highest standards for cyclists.
- The physical separation proposed on Mary Street may impact the ability for large vehicles to undertake existing turning movements.
- The preferred infrastructure design results in no changes to parking.
- A preliminary cost estimate for the proposed infrastructure has been prepared and it is estimated that the route can be developed as shown in the concept design for approximately \$1,1M.



## Appendix A

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### Preliminary Community and Stakeholder Feedback

## **LOCAL ROUTE 7 (ST PETERS TO TEMPE) – PRELIMINARY CONSULTATION**

<b>Issues most commonly raised in community consultation (February 2017)</b>	<b>% of responses</b>
<b><u>Bicycle route options</u></b>	
A bike path along Unwins Bridge Rd is supported	27
Unwins Bridge Rd is not supported / too narrow for a bike path	16
The streets along the Henry St route option are too narrow for a bike path	15
High volumes of school students use the Unwins Bridge Road footpaths in Tempe	9
Lord St and Darley St are too narrow for a bike path	8
The western route option (via Sydney Steel Rd) is supported/safe	7
Carrington Rd bike path intersections must be improved (priority to bikes)	4
The bicycle route should use the rail corridor	4
<b><u>Bicycle route infrastructure</u></b>	
Provide infrastructure on the bicycle route that improve bike rider safety	14
Shared paths are dangerous for pedestrians	12
<b><u>Destinations that residents would like improved bicycle access to</u></b>	
Local shops (Newtown/Enmore, Marrickville Metro, Marrickville Road)	23
Train stations (St Peters, Sydenham, Tempe)	22
Other bicycle routes (Cooks River shared path)	11
<b><u>Parking</u></b>	
Don't remove parking on Florence St	9
Don't remove parking on Darley St	7
Don't remove parking on Unwins Bridge Road	5

### **Other stakeholder comments**

#### **RMS**

- A cycleway on Unwins Bridge Road is not supported as there is insufficient road width available, particularly at the southern section between Richardsons Crescent and Terry Street

#### **Sydney Buses**

- Railway Pde under Bedwin Rd has tight turns for buses due to the bends in the road and angled car parking. Would like this parking removed to assist bus turning.
- There are three bus routes at Railway Pde/Marrickville Rd near Sydenham station (M30, 418, 425). Includes bendy buses and is a high traffic area. Prefer bikes to be off road here.
- Transport for NSW is considering a new bus interchange at Sydenham station.
- Sydney Buses vehicles travel along Unwins Bridge Rd between Railway St and Gannon St. Private rail replacement buses use the other end from Railway St to the Princes Hwy.

#### **Bike Marrickville**

- Bike Marrickville supports the western route (i.e. via Sydney Steel Rd and Carrington Rd). The route should connect with Regional Route 5 and across Sydenham station.
- The Unwins Bridge Rd route is not supported and a route along the rail corridor would be ideal.

#### **Sydney Water**

- The Sydney Metro dive site will impact on Sydney Water's assets – pits, drains etc.
- Sydney Water may support access from Garden St onto the box culvert to Sydenham Station.

## Appendix B

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### Planning Guidance for Uncertain Areas



## Planning Guidance on LR7

Due to planning uncertainties around several aspects of the LR7 North route, Council has directed GTA to 'cloud out' **may areas of the route and simply establish** principles of what would be installed consistent with best practice. Such uncertainty arises from:

- Carrington Road – The commercial precinct on the eastern side of Carrington Road has been slated for rezoning and it is unlikely to be cost-effective to improve the existing cycleway if any redevelopment occurs in the medium term.
- Marrickville Road – Council is currently in the process of completing a streetscape program and there are uncertainties around what provision of space will be available. This is further accentuated due to uncertainty about roadway changes due to the Sydney Metro project.
- Railway Parade past Marrickville Station – Sydney Metro and Sydney Buses are currently in the process of evaluating transport interchange options in with the onset of the Sydney Metro development and there are uncertainties about what provision of space will be available.
- Garden Street, Sydney Steel Road and Edinburgh Road – Sydney Metro is acquiring several properties and the extent of their operational site remains unclear.

### Carrington Road

GTA and Council had extensive discussions about the current undesirability of cyclists needing to yield at the intersections along Carrington Road. Whilst there are some opportunities to support the installation of shared environment intersections, these are highly costly sections of infrastructure, and it has been communicated to GTA that drainage concerns further exacerbate the cost feasibility of such opportunities.

In the medium term, it is understood the existing commercial precinct on the eastern side of Carrington Road may be rezoned for redevelopment in the future. Should such a situation eventuate, there may be an opportunity to relocate the existing cycleway to the eastern side of the road. This would have the benefit of removing the need to cross side streets, improving outcomes for cyclist safety.

### Marrickville Road

Marrickville Road is currently subject to a streetscape design being undertaken by Council. Currently, the road is configured with a traffic and parking lane in each direction, with generous footpaths on both sides of the road around Sydney Street. It might be anticipated that in the future, a major pedestrian desire line will establish between Sydenham station and the Marrickville town centre further west along Marrickville Road. Further, as part of the Sydney Metro changes at Sydenham station, it has also been communicated that some alterations will occur with regards to traffic flow and direction (although the extent of such works remains unclear).

In light of the streetscape redevelopment, the development of a major transport interchange, and the development of a major pedestrian desire line, it is considered that a shared path may not sufficiently serve the community.

A mixed traffic treatment may not be appropriate in the current environment, and would not support cyclists of all ages and abilities as requested in the project brief. Even if traffic speeds were restricted to 40km/h (or even 30km/h), the traffic volumes and characteristics of vehicles would not be consistent with supporting best practice cycling infrastructure.

In addressing the unsuitability of the above options, GTA would suggest that Council consider the opportunity to develop a bi-directional cycleway along Marrickville Road. This would support cycling along the LR7 route and provide an opportunity for bicycle-train linked train/metro journeys in the future.

### Railway Parade near Sydenham Station

As Railway Parade is expected to function as a major transport interchange, a shared path cannot be supported on the grounds of high levels of potential conflict. Council should investigate opportunities to provide a separated facility in conjunction with Sydney Metro and Sydney Buses. If the elevated section of Railway Parade leading up to the Gleeson Avenue overpass cannot accommodate a separated facility, GTA would suggest exploring opportunities to provide a facility along the lower parallel running section of road. Notwithstanding this, cycle access should be facilitated to the entry of Sydenham station to support bicycle linked journeys (further noting that bicycle parking will need to be considered). Alternatively, depending on the extent of traffic flow reconfiguration resulting from Sydney Metro changes, a cycleway on the western (elevated) aspect of the Railway Parade may also be feasible with the reconfiguration of the existing footpath.

### Garden Street, Sydney Steel Road and Edinburgh Road

Garden Street, Sydney Steel Road and Edinburgh Road are all streets which will be affected to some extent by the stabling facility being constructed as part of the Sydney Metro. As Garden Street is a dead end, traffic volumes and speeds are highly controlled. Sydney Steel Road is a highly industrial road (albeit a dead end), and due to the heavy vehicle movements, it is considered that a cycleway would be appropriate on the eastern side of the road. Midway along Sydney Steel Road, it moderately narrows and under existing conditions, a cycleway is not feasible without the removal of a parking lane. As part of the property acquisition process, the existing building setback should be increased (should existing parking conditions want to be retained). Similarly, Edinburgh Road cannot support a cycleway construction without either the removal of a parking lane or increasing the building setback.

Furthermore, should a cycleway be developed, the intersection of Murray Street and Edinburgh Road would either require the installation of traffic lights or the closure of the southern leg of the roundabout to traffic. As noted in the report, the concept plans outline the reconfiguration of parking at the Bedwin Road overpass resulting in the net loss of approximately 10 parking spaces. Should Council have the desire to explore an opportunity to offset this loss of parking, an opportunity is present to potentially approach Sydney Metro and request that part of 2 Edinburgh Road is designated as an off-street parking area.

Figure 1: Indicative Existing Cross Section Edinburgh Road (Approx. 18m)

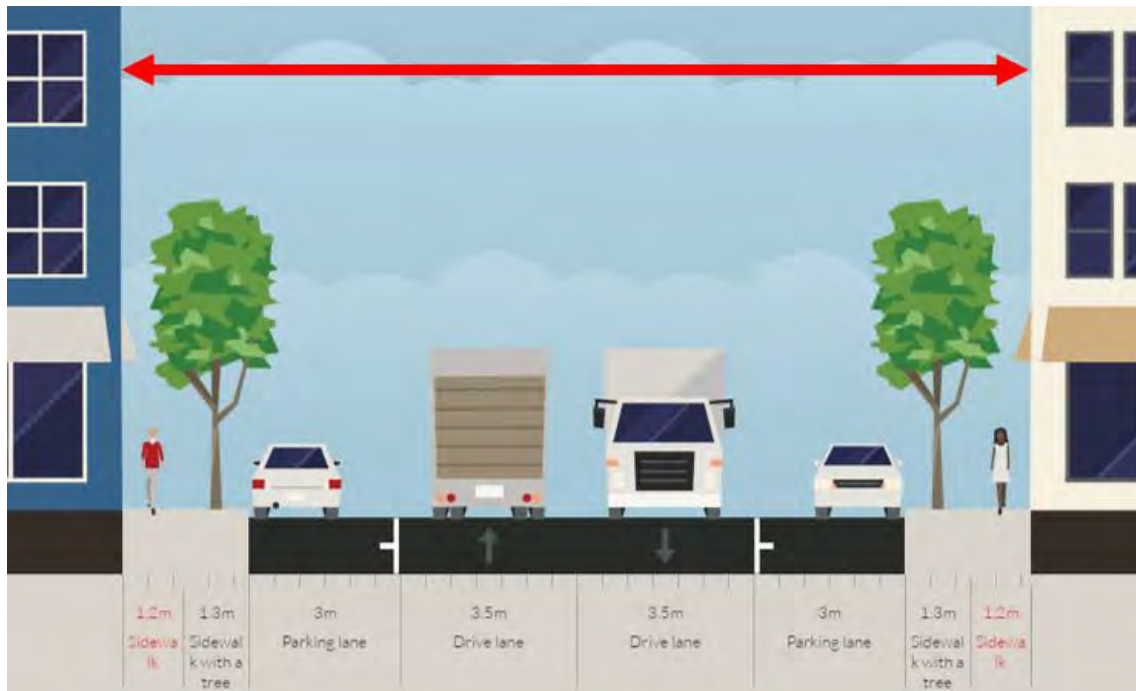
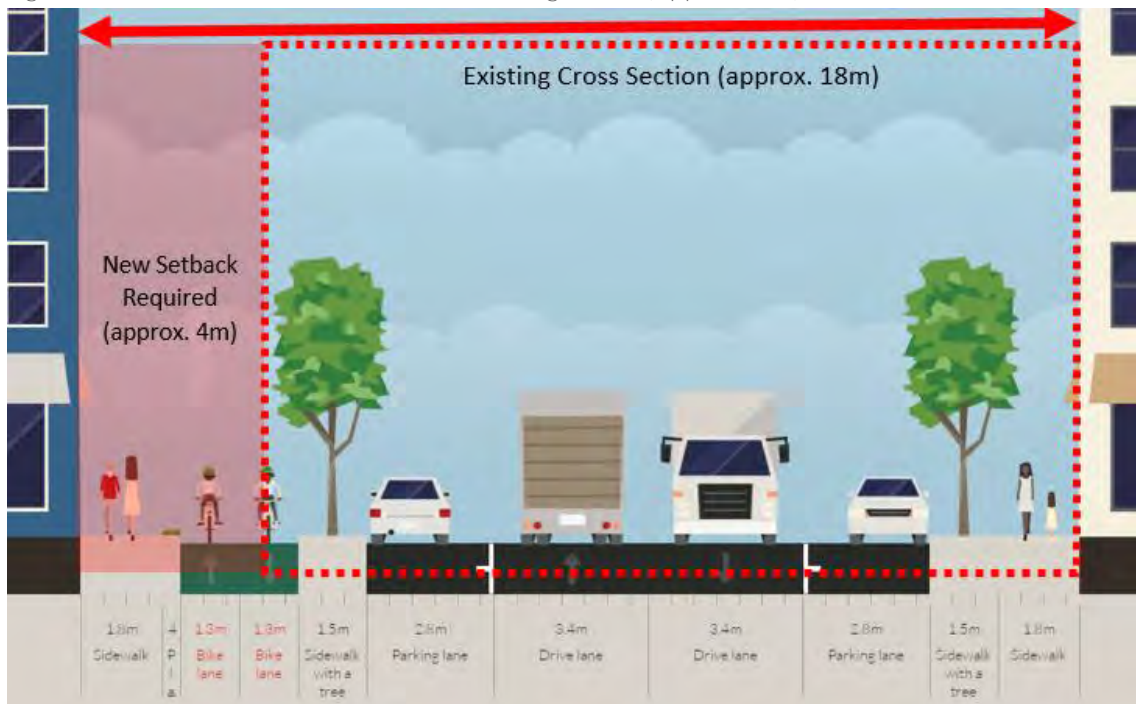


Figure 2: Indicative Future Cross Section Edinburgh Road (Approx. 22m)



## Appendix C

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### Final Concept Designs



# INNER WEST COUNCIL BICYCLE ROUTE LR7



- GENERAL NOTE:
1. ALL DIMENSIONS AND RADII ARE IN METRES AND ARE TO THE FACE OF KERB AND CHANNEL.
  2. BASE INFORMATION OBTAINED FROM AERIAL PHOTOGRAPHY FROM INNER WEST COUNCIL DATED 22 MARCH 2017. GTA CONSULTANTS DOES NOT TAKE ANY RESPONSIBILITY FOR THE ACCURACY OF THE EXISTING CONDITIONS BASE (AERIAL PHOTOGRAPHY) ON WHICH THE SETOUT DETAIL IS BASED. PRIOR TO COMMENCEMENT OF CONSTRUCTION, THE EXISTING CONDITIONS INCLUDING UNDERGROUND SERVICES SHOULD BE VERIFIED ON SITE.
  3. PRIOR TO COMMENCEMENT OF CONSTRUCTION, THE EXISTING CONDITIONS INCLUDING UNDERGROUND SERVICES SHOULD BE VERIFIED ON SITE.
  4. MAINTAIN A MINIMUM WIDTH OF 2.5m FOR ALL PEDESTRIAN AND BICYCLE SHARED PATH UNLESS OTHERWISE SPECIFIED
  5. ALL KERB RAMPS TO BE CONSISTENT WITH RMS DOCUMENT TDT 2002/08 MD.R173.B01.A
  6. SIGNAGE DETAILS NOT PROVIDED ON THESE PLANS. SIGNAGE TO BE PROVIDED IN ACCORDANCE WITH COUNCIL AND RMS REQUIREMENTS.

## LEGEND

- EXISTING FEATURE  
— PROPOSED DESIGN

## SYMBOLS

- TRAFFIC SIGNAL LANTERN  
PS-2 PAVEMENT MARKING (ON ROAD)  
PS-3 PAVEMENT MARKING (SHARED PATH)  
PS-4 PAVEMENT MARKING  
BOLLARD  
KERB RAMP  
REMOVE PARKING SPACE

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P2	03.04.17	DESIGN UPDATES	C.Y.	S.B.	V.B.
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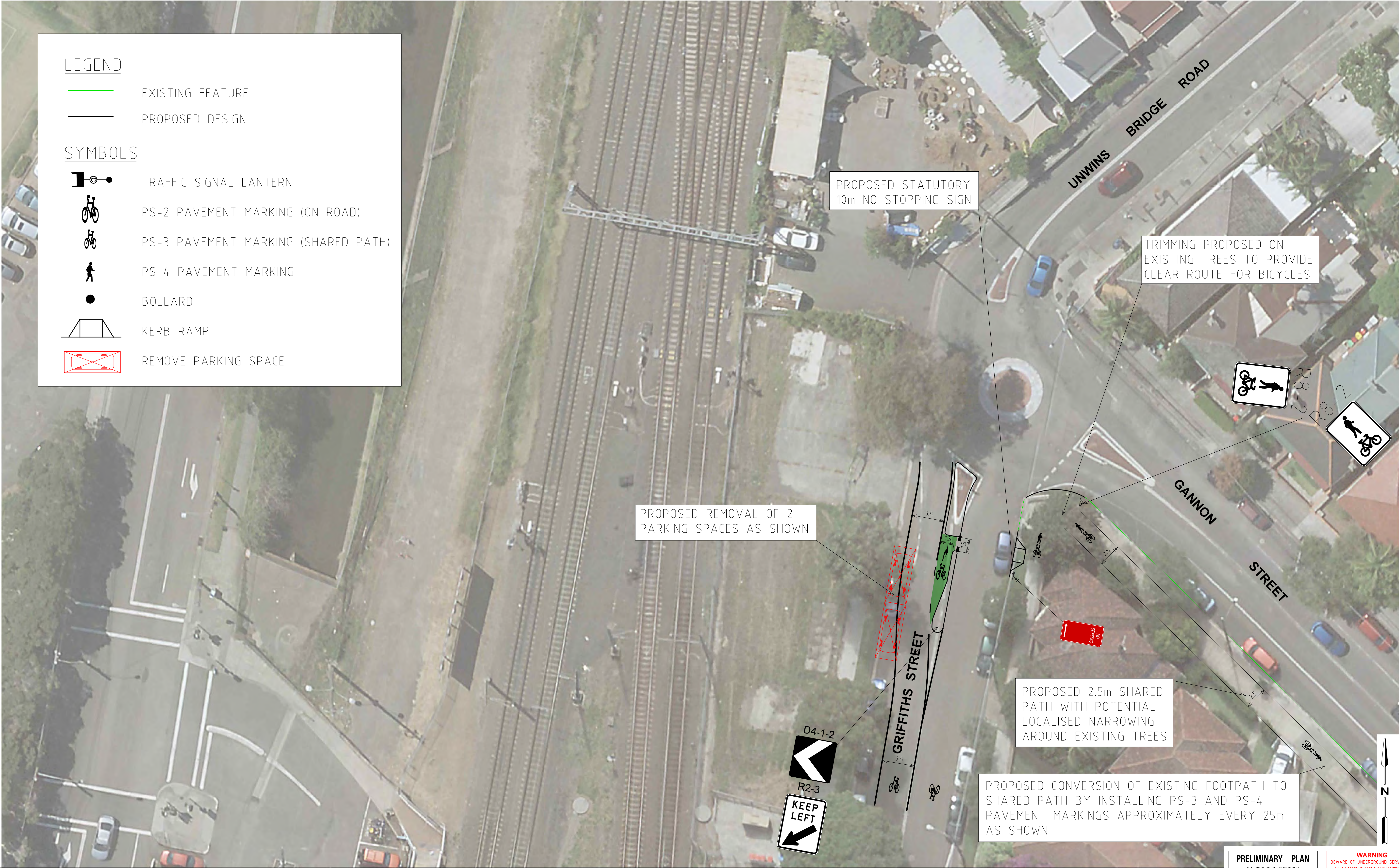
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LEGEND

- EXISTING FEATURE
- PROPOSED DESIGN

SYMBOLS

- TRAFFIC SIGNAL LANTERN
- PS-2 PAVEMENT MARKING (ON ROAD)
- PS-3 PAVEMENT MARKING (SHARED PATH)
- PS-4 PAVEMENT MARKING
- BOLLARD
- KERB RAMP
- REMOVE PARKING SPACE

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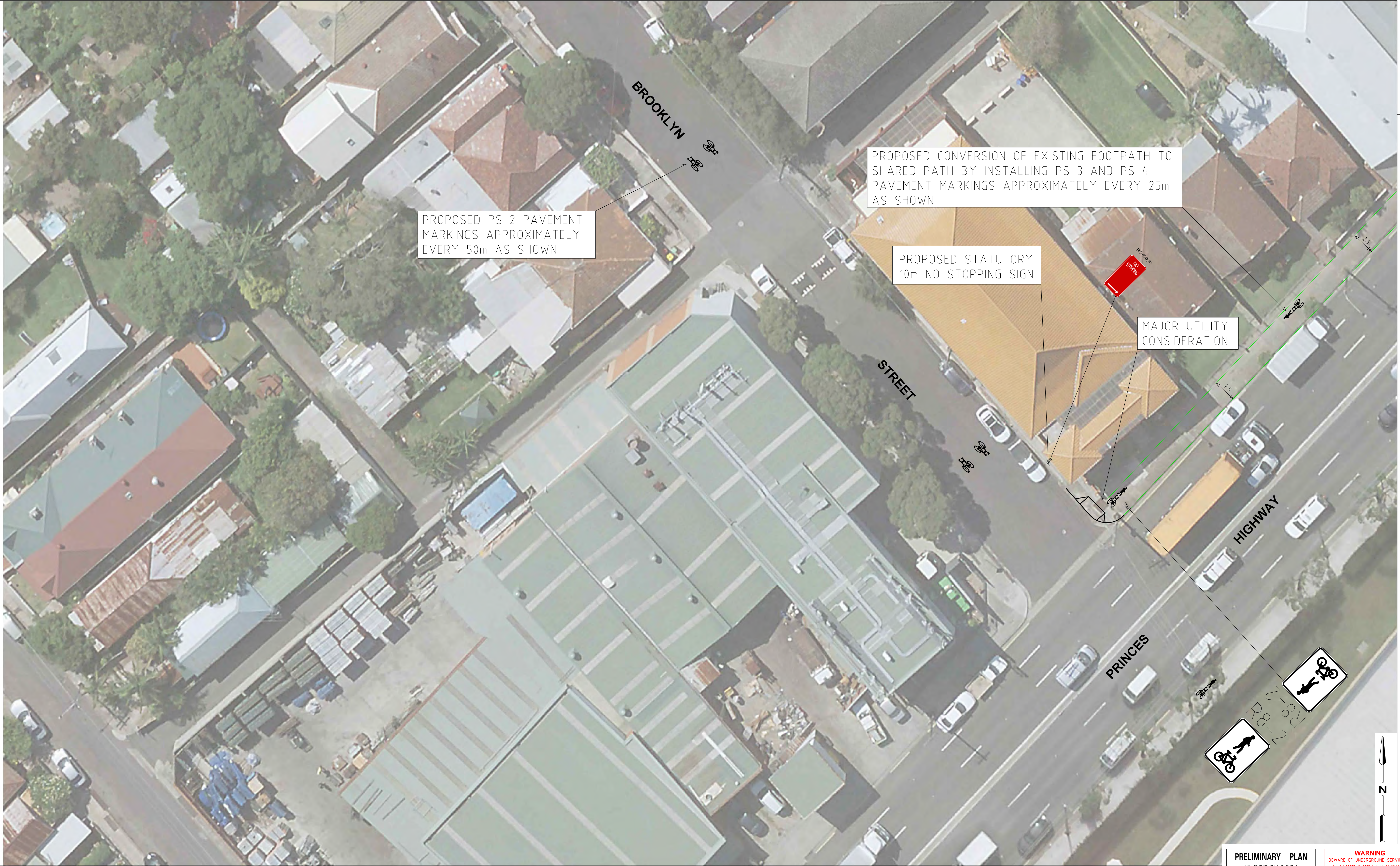
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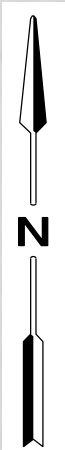


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P4	18.05.17	DESIGN UPDATES	A.W.	K.W.	V.B.
P3	26.04.17	DESIGN UPDATES	C.Y.	K.W.	V.B.
P2	03.04.17	DESIGN UPDATES	C.Y.	S.B.	V.B.
P1	29.03.17	INITIAL ISSUE	C.Y.	S.B.	V.B.

GENERAL NOTES		

DESIGNED C.YOU	DESIGN CHECK -
DRAWN C.YOU	DRAFTING CHECK -
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08 6169 1000

CLIENT	INNER WEST COUNCIL		
	BICYCLE ROUTE LR7		
	CONCEPT DESIGN		
DRAWING NO. N116730-02-09	SHEET 10 OF 42	ISSUE P7	





ON 17/03/2017 AT 4:45:59 PM  
PLOT BY : Chenling Yu

AMENDMENTS						
ISSUE	DATE	DESCRIPTION	BY	CHK	APP.	
P8	09.10.17	SHEET 20 CONTRA-FLOW BIKE LANE AND SHEET 38 BICYCLE LANTERN UPDATES	C.Y	D.R	V.B	
P7	30.08.17	DESIGN UPDATES	C.Y	V.B	V.B	
P6	20.06.17	DESIGN UPDATES	C.Y	V.B	V.B	
P5	18.05.17	DESIGN UPDATES	C.Y	K.W	V.B	
P4	18.05.17	DESIGN UPDATES	A.W.	K.W	V.B	
P3	26.04.17	DESIGN UPDATES	C.Y	K.W	V.B	
P2	03.04.17	DESIGN UPDATES	C.Y	S.B	V.B	
P1	29.03.17	INITIAL ISSUE	C.Y	S.B	V.B	

GENERAL NOTES	

DESIGNED C.YOU	DESIGN CHECK -
DRAWN C.YOU	DRAFTING CHECK -
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07 5510 4814  
07 4722 2765  
08 6169 1000

CLIENT	INNER WEST COUNCIL		
	BICYCLE ROUTE LR7		
	CONCEPT DESIGN		
DRAWING NO. N116730-02-10	SHEET 11 OF 42	ISSUE P7	

**PRELIMINARY PLAN**  
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**WARNING**  
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ON 17/03/2017 AT 4:50:33 PM  
PLOT BY : Chenling Yu

AMENDMENTS						
ISSUE	DATE	DESCRIPTION	BY	CHK.	APP.	
P8	09.10.17	SHEET 20 CONTRA-FLOW BIKE LANE AND SHEET 38 BICYCLE LANTERN UPDATES	C.Y.	D.R.	V.B.	
P7	30.08.17	DESIGN UPDATES	C.Y.	V.B.	V.B.	
P6	20.06.17	DESIGN UPDATES	C.Y.	V.B.	V.B.	
P5	18.05.17	DESIGN UPDATES	C.Y.	K.W.	V.B.	
P4	18.05.17	DESIGN UPDATES	A.W.	K.W.	V.B.	
P3	26.04.17	DESIGN UPDATES	C.Y.	K.W.	V.B.	
P2	03.04.17	DESIGN UPDATES	C.Y.	S.B.	V.B.	
P1	29.03.17	INITIAL ISSUE	C.Y.	S.B.	V.B.	

GENERAL NOTES	

DESIGNED C.YOU	DESIGN CHECK -
DRAWN C.YOU	DRAFTING CHECK -
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07 4722 2765  
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CLIENT INNER WEST COUNCIL		
BICYCLE ROUTE LR7		
CONCEPT DESIGN		
DRAWING NO. N116730-02-11	SHEET 12 OF 42	ISSUE P7

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PROPOSED  
WIDENING OF  
EXISTING  
CONCRETE PATH  
TO BE MINIMUM  
OF 2.5m WITH  
IMPROVED  
LIGHTING ALONG  
THE SHARED  
PATH

PROPOSED PS-2  
PAVEMENT  
MARKINGS  
APPROXIMATELY  
EVERY 50m AS  
SHOWN

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FOR CONTINUATION REFER TO GTA DRAWING NO. N116730-02-41

ON 17/03/2017 AT 4:50:07 PM  
PLOT BY: Chenling You

AMENDMENTS						
ISSUE	DATE	DESCRIPTION	BY	CHK.	APP.	
P8	09.10.17	SHEET 20 CONTRA-FLOW BIKE LANE AND SHEET 38 BICYCLE LANTERN UPDATES	C.Y.	D.R.	V.B.	
P7	30.08.17	DESIGN UPDATES	C.Y.	V.B.	V.B.	
P6	20.06.17	DESIGN UPDATES	C.Y.	V.B.	V.B.	
P5	18.05.17	DESIGN UPDATES	C.Y.	K.W.	V.B.	
P4	18.05.17	DESIGN UPDATES	A.W.	K.W.	V.B.	
P3	26.04.17	DESIGN UPDATES	C.Y.	K.W.	V.B.	
P2	03.04.17	DESIGN UPDATES	C.Y.	S.B.	V.B.	
P1	29.03.17	INITIAL ISSUE	C.Y.	S.B.	V.B.	

GENERAL NOTES

DESIGNED C.YOU	DESIGN CHECK -
DRAWN C.YOU	DRAFTING CHECK -
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07 4722 2765

08 6169 1000

CLIENT INNER WEST COUNCIL

BICYCLE ROUTE LR7

CONCEPT DESIGN

**PRELIMINARY PLAN**  
FOR DISCUSSION PURPOSES  
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DRAWING NO.  
N116730-02-12

SHEET  
13 OF 42

ISSUE  
P7





**PRELIMINARY PLAN**  
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ON 17/03/2017 AT 4:15:19 PM  
PLOTTED BY: Chenling You

AMENDMENTS					
ISSUE	DATE	DESCRIPTION	BY	CHK.	APP.
P8	09.10.17	SHEET 20 CONTRA-FLOW BIKE LANE AND SHEET 38 BICYCLE LANTERN UPDATES	C.Y.	D.R.	V.B.
P7	30.08.17	DESIGN UPDATES	C.Y.	V.B.	V.B.
P6	20.06.17	DESIGN UPDATES	C.Y.	V.B.	V.B.
P5	18.05.17	DESIGN UPDATES	C.Y.	K.W.	V.B.
P4	18.05.17	DESIGN UPDATES	A.W.	K.W.	V.B.
P3	26.04.17	DESIGN UPDATES	C.Y.	K.W.	V.B.
P2	03.04.17	DESIGN UPDATES	C.Y.	S.B.	V.B.
P1	29.03.17	INITIAL ISSUE	C.Y.	S.B.	V.B.

GENERAL NOTES					

DESIGNED C.YOU	DESIGN CHECK -
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CLIENT	INNER WEST COUNCIL
BICYCLE ROUTE LR7	
CONCEPT DESIGN	
DRAWING NO. N116730-02-13	SHEET 14 OF 42
ISSUE P7	





ON 9/10/2017 AT 4:52:23 PM  
PLOTTED BY: Chenling You

AMENDMENTS						
ISSUE	DATE	DESCRIPTION	BY	CHK	APP	
P8	09.10.17	SHEET 20 CONTRA-FLOW BIKE LANE AND SHEET 38 BICYCLE LANTERN UPDATES	C.Y	D.R	V.B	
P7	30.08.17	DESIGN UPDATES	C.Y	V.B	V.B	
P6	20.06.17	DESIGN UPDATES	C.Y	V.B	V.B	
P5	18.05.17	DESIGN UPDATES	C.Y	K.W	V.B	
P4	18.05.17	DESIGN UPDATES	A.W	K.W	V.B	
P3	26.04.17	DESIGN UPDATES	C.Y	K.W	V.B	
P2	03.04.17	DESIGN UPDATES	C.Y	S.B	V.B	
P1	29.03.17	INITIAL ISSUE	C.Y	S.B	V.B	

GENERAL NOTES	

DESIGNED C.YOU	DESIGN CHECK -
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APPROVED BY -	DATE APPROVED FOR INITIAL ISSUE 29 MARCH 2017
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CLIENT	INNER WEST COUNCIL		
	BICYCLE ROUTE LR7		
	CONCEPT DESIGN		
DRAWING NO. N116730-02-14	SHEET 15 OF 42	ISSUE P7	

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ON 9/10/2017 AT 4:52:26 PM  
PLOTED BY: Chenling You



FOR CONTINUATION REFER TO GTA DRAWING NO. N116730-02-14

AMENDMENTS					
ISSUE	DATE	DESCRIPTION	BY	CHK.	APP.
P8	09.10.17	SHEET 20 CONTRA-FLOW BIKE LANE AND SHEET 38 BICYCLE LANTERN UPDATES	C.Y.	D.R.	V.B.
P7	30.08.17	DESIGN UPDATES	C.Y.	V.B.	V.B.
P6	20.06.17	DESIGN UPDATES	C.Y.	V.B.	V.B.
P5	18.05.17	DESIGN UPDATES	C.Y.	K.W.	V.B.
P4	18.05.17	DESIGN UPDATES	A.W.	K.W.	V.B.
P3	26.04.17	DESIGN UPDATES	C.Y.	K.W.	V.B.
P2	03.04.17	DESIGN UPDATES	C.Y.	S.B.	V.B.
P1	29.03.17	INITIAL ISSUE	C.Y.	S.B.	V.B.

GENERAL NOTES		

DESIGNED C.YOU	DESIGN CHECK -
DRAWN C.YOU	DRAFTING CHECK -
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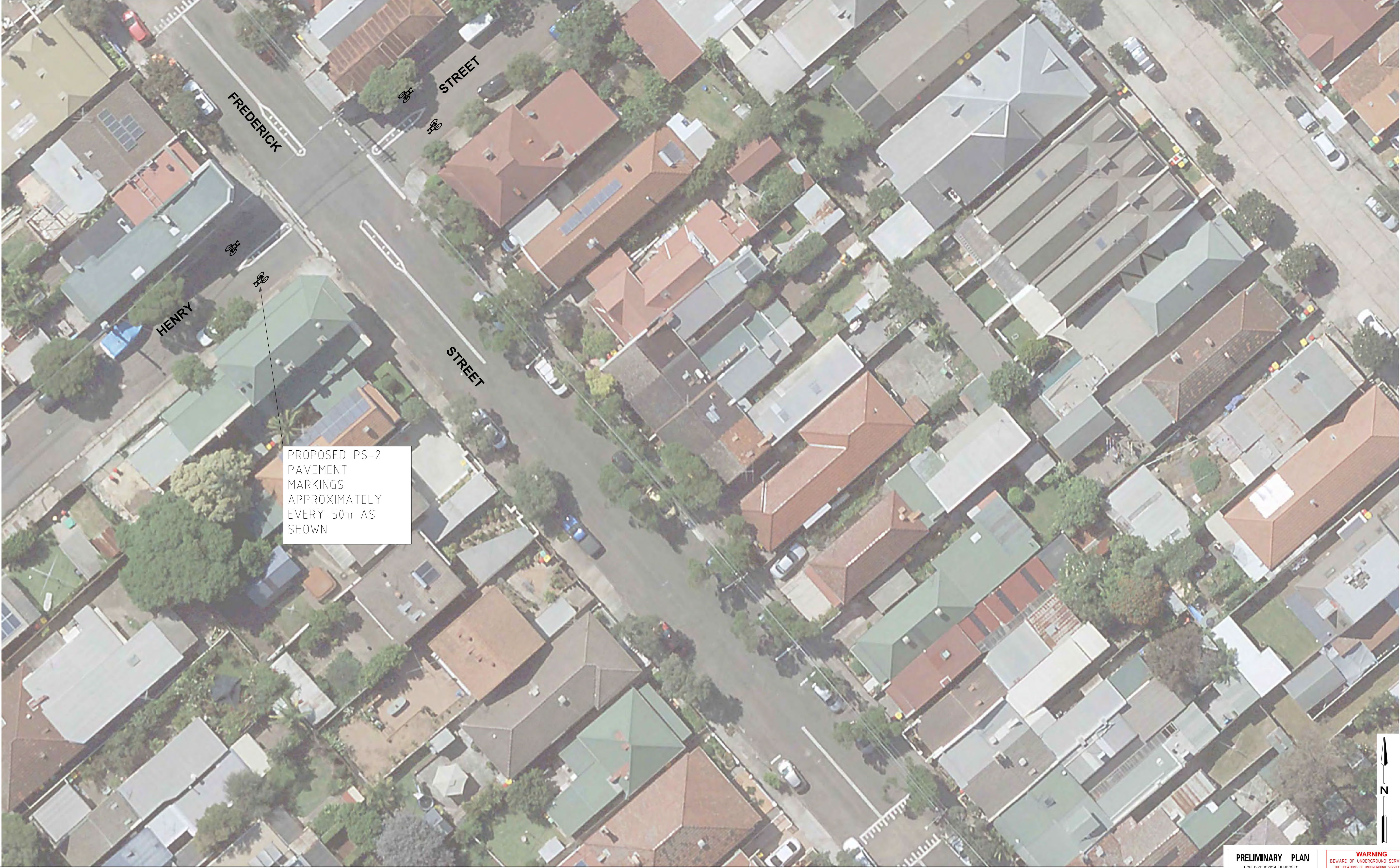
CLIENT	INNER WEST COUNCIL		
	BICYCLE ROUTE LR7		
	CONCEPT DESIGN		
DRAWING NO. N116730-02-15	SHEET 16 OF 42	ISSUE P7	

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FOR CONTINUATION REFER TO GTA DRAWING NO. N116730-02-15

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ON 17/03/2017 AT 4:53:38 PM  
PLOTTER BY : Chenling You

AMENDMENTS					
ISSUE	DATE	DESCRIPTION	BY	CHK.	APP.
P8	09.10.17	SHEET 20 CONTRA-FLOW BIKE LANE AND SHEET 38 BICYCLE LANTERN UPDATES	C.Y	D.R	V.B
P7	30.08.17	DESIGN UPDATES	C.Y	V.B	V.B
P6	20.06.17	DESIGN UPDATES	C.Y	V.B	V.B
P5	18.05.17	DESIGN UPDATES	C.Y	K.W	V.B
P4	18.05.17	DESIGN UPDATES	A.W.	K.W	V.B
P3	26.04.17	DESIGN UPDATES	C.Y	K.W	V.B
P2	03.04.17	DESIGN UPDATES	C.Y	S.B	V.B
P1	29.03.17	INITIAL ISSUE	C.Y	S.B	V.B

GENERAL NOTES

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CLIENT INNER WEST COUNCIL

BICYCLE ROUTE LR7

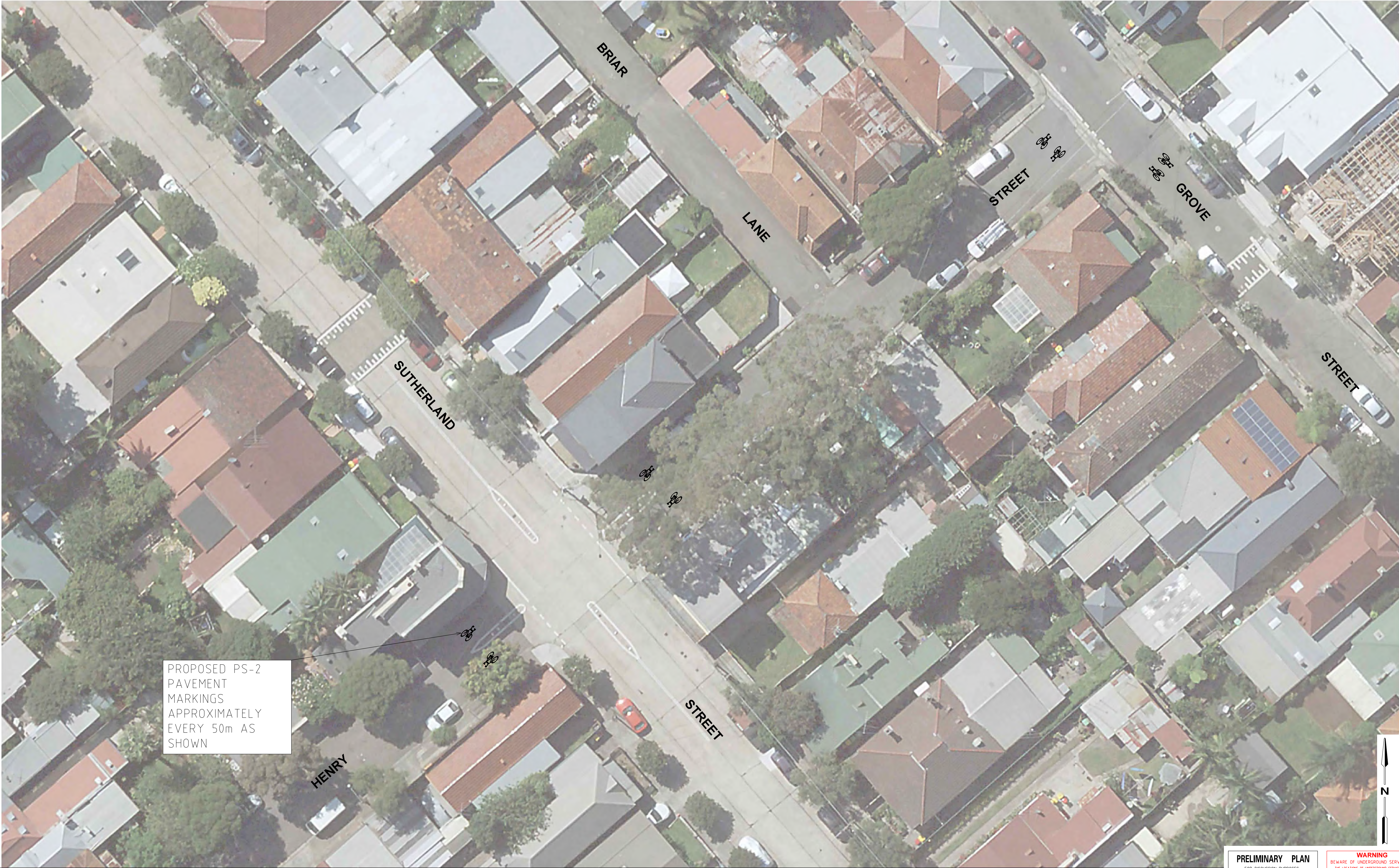
CONCEPT DESIGN

DRAWING NO.  
N116730-02-16

SHEET  
17 OF 42

ISSUE  
P7





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ON 17/10/2017 AT 4:03:33 PM  
PLOTTER BY : Chenling You

AMENDMENTS					
ISSUE	DATE	DESCRIPTION	BY	CHK.	APP.
P8	09.10.17	SHEET 20 CONTRA-FLOW BIKE LANE AND SHEET 38 BICYCLE LANTERN UPDATES	C.Y	D.R	V.B
P7	30.08.17	DESIGN UPDATES	C.Y	V.B	V.B
P6	20.06.17	DESIGN UPDATES	C.Y	V.B	V.B
P5	18.05.17	DESIGN UPDATES	C.Y	K.W	V.B
P4	18.05.17	DESIGN UPDATES	A.W.	K.W	V.B
P3	26.04.17	DESIGN UPDATES	C.Y	K.W	V.B
P2	03.04.17	DESIGN UPDATES	C.Y	S.B	V.B
P1	29.03.17	INITIAL ISSUE	C.Y	S.B	V.B

GENERAL NOTES

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CLIENT INNER WEST COUNCIL

BICYCLE ROUTE LR7

CONCEPT DESIGN

DRAWING NO.  
N116730-02-17

SHEET  
18 OF 42

ISSUE  
P7





PRELIMINARY PLAN

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ON 17/03/2017 AT 4:53:37 PM  
PLOTTED BY: Chenling You

AMENDMENTS					
ISSUE	DATE	DESCRIPTION	BY	CHK.	APP.
P8	09.10.17	SHEET 20 CONTRA-FLOW BIKE LANE AND SHEET 38 BICYCLE LANTERN UPDATES	C.Y.	D.R.	V.B.
P7	30.08.17	DESIGN UPDATES	C.Y.	V.B.	V.B.
P6	20.06.17	DESIGN UPDATES	C.Y.	V.B.	V.B.
P5	18.05.17	DESIGN UPDATES	C.Y.	K.W.	V.B.
P4	18.05.17	DESIGN UPDATES	A.W.	K.W.	V.B.
P3	26.04.17	DESIGN UPDATES	C.Y.	K.W.	V.B.
P2	03.04.17	DESIGN UPDATES	C.Y.	S.B.	V.B.
P1	29.03.17	INITIAL ISSUE	C.Y.	S.B.	V.B.

GENERAL NOTES

DESIGNED C.YOU	DESIGN CHECK -
DRAWN C.YOU	DRAFTING CHECK -
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CONCEPT DESIGN

DRAWING NO.  
N116730-02-18

SHEET  
19 OF 42

ISSUE  
P7



ON 17/03/2017 AT 4:54:11 PM  
PLOT BY: Chenling Yu

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FOR CONTINUATION REFER TO GTA DRAWING NO. N116730-02-20



AMENDMENTS					
ISSUE	DATE	DESCRIPTION	BY	CHK.	APP.
P8	09.10.17	SHEET 20 CONTRA-FLOW BIKE LANE AND SHEET 38 BICYCLE LANTERN UPDATES	C.Y.	D.R.	V.B.
P7	30.08.17	DESIGN UPDATES	C.Y.	V.B.	V.B.
P6	20.06.17	DESIGN UPDATES	C.Y.	V.B.	V.B.
P5	23.05.17	DESIGN UPDATES	C.Y.	K.W.	V.B.
P4	18.05.17	DESIGN UPDATES	A.W.	K.W.	V.B.
P3	26.04.17	DESIGN UPDATES	C.Y.	K.W.	V.B.
P2	03.04.17	DESIGN UPDATES	C.Y.	S.B.	V.B.
P1	29.03.17	INITIAL ISSUE	C.Y.	S.B.	V.B.

#### GENERAL NOTES

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BICYCLE ROUTE LR7

CONCEPT DESIGN

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N116730-02-19

SHEET  
20 OF 42

ISSUE  
P7

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ON 17/03/2017 AT 4:54:44 PM  
PLOTTED BY: Chenling You

AMENDMENTS						
ISSUE	DATE	DESCRIPTION	BY	CHK.	APP.	
P8	09.10.17	SHEET 20 CONTRA-FLOW BIKE LANE AND SHEET 38 BICYCLE LANTERN UPDATES	C.Y.	D.R.	V.B.	
P7	30.08.17	DESIGN UPDATES	C.Y.	V.B.	V.B.	
P6	20.06.17	DESIGN UPDATES	C.Y.	V.B.	V.B.	
P5	18.05.17	DESIGN UPDATES	C.Y.	K.W.	V.B.	
P4	18.05.17	DESIGN UPDATES	A.W.	K.W.	V.B.	
P3	26.04.17	DESIGN UPDATES	C.Y.	K.W.	V.B.	
P2	03.04.17	DESIGN UPDATES	C.Y.	S.B.	V.B.	
P1	29.03.17	INITIAL ISSUE	C.Y.	S.B.	V.B.	

GENERAL NOTES

DESIGNED C.YOU	DESIGN CHECK -
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CLIENT INNER WEST COUNCIL

BICYCLE ROUTE LR7

CONCEPT DESIGN

DRAWING NO.  
N116730-02-20

SHEET  
21 OF 42

ISSUE  
P7





ON 9/10/2017 AT 4:54:48 PM  
PLOT BY : Chenling Yu

AMENDMENTS					
ISSUE	DATE	DESCRIPTION	BY	CHK	APP.
P8	09.10.17	SHEET 20 CONTRA-FLOW BIKE LANE AND SHEET 38 BICYCLE LANTERN UPDATES	C.Y	D.R	V.B
P7	30.08.17	DESIGN UPDATES	C.Y	V.B	V.B
P6	20.06.17	DESIGN UPDATES	C.Y	V.B	V.B
P5	18.05.17	DESIGN UPDATES	C.Y	K.W	V.B
P4	18.05.17	DESIGN UPDATES	A.W	K.W	V.B
P3	26.04.17	DESIGN UPDATES	C.Y	K.W	V.B
P2	03.04.17	DESIGN UPDATES	C.Y	S.B	V.B
P1	29.03.17	INITIAL ISSUE	C.Y	S.B	V.B

GENERAL NOTES					

DESIGNED C.YOU	DESIGN CHECK -
DRAWN C.YOU	DRAFTING CHECK -
APPROVED BY -	DATE APPROVED FOR INITIAL ISSUE 29 MARCH 2017
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CLIENT INNER WEST COUNCIL

BICYCLE ROUTE LR7

CONCEPT DESIGN

DRAWING NO.  
N116730-02-21

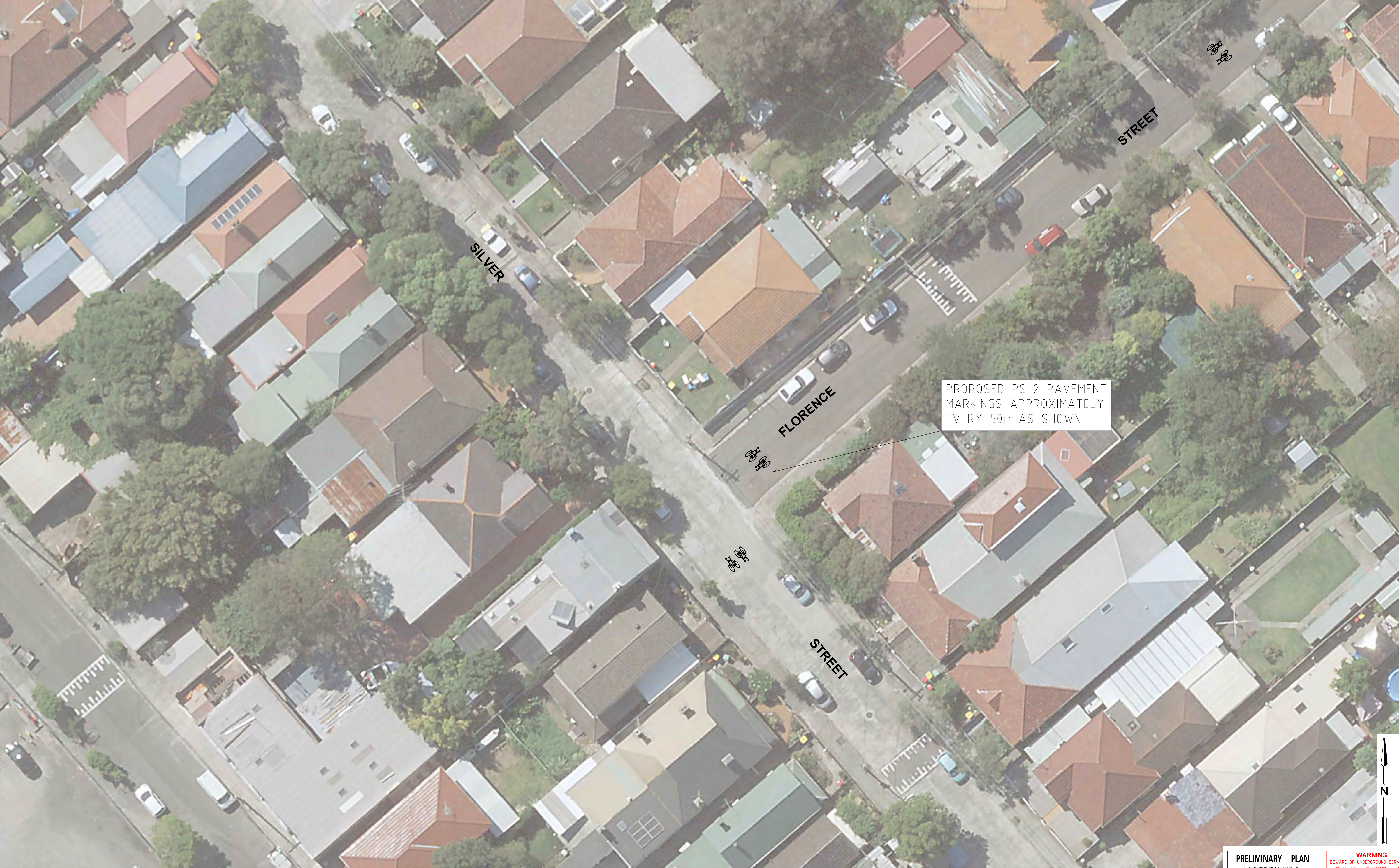
SHEET  
22 OF 42

ISSUE  
P7

**PRELIMINARY PLAN**  
FOR DISCUSSION PURPOSES  
ONLY. SUBJECT TO CHANGE  
WITHOUT NOTIFICATION

**WARNING**  
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ON 17/03/2017 AT 4:55:51 PM  
PLOTTED BY: Chenling Yu

AMENDMENTS						
ISSUE	DATE	DESCRIPTION	BY	CHK	APP.	
P8	09.10.17	SHEET 20 CONTRA-FLOW BIKE LANE AND SHEET 38 BICYCLE LANTERN UPDATES	C.Y	D.R	V.B	
P7	30.08.17	DESIGN UPDATES	C.Y	V.B	V.B	
P6	20.06.17	DESIGN UPDATES	C.Y	V.B	V.B	
P5	18.05.17	DESIGN UPDATES	C.Y	K.W	V.B	
P4	18.05.17	DESIGN UPDATES	A.W.	K.W	V.B	
P3	26.04.17	DESIGN UPDATES	C.Y	K.W	V.B	
P2	03.04.17	DESIGN UPDATES	C.Y	S.B	V.B	
P1	29.03.17	INITIAL ISSUE	C.Y	S.B	V.B	

GENERAL NOTES	

DESIGNED C.YOU	DESIGN CHECK -
DRAWN C.YOU	DRAFTING CHECK -
APPROVED BY -	DATE APPROVED FOR INITIAL ISSUE 29 MARCH 2017
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CLIENT	INNER WEST COUNCIL
BICYCLE ROUTE LR7	
CONCEPT DESIGN	
DRAWING NO. N116730-02-22	SHEET 23 OF 42
ISSUE P7	





ON 9/10/2017 AT 4:55:44 PM  
PLOT BY : Chenling You

AMENDMENTS						
P8	09.10.17	SHEET 20 CONTRA-FLOW BIKE LANE AND SHEET 38 BICYCLE LANTERN UPDATES	C.Y	D.R	V.B	
P7	30.08.17	DESIGN UPDATES	C.Y	V.B	V.B	
P6	20.06.17	DESIGN UPDATES	C.Y	V.B	V.B	
P5	18.05.17	DESIGN UPDATES	C.Y	K.W	V.B	
P4	18.05.17	DESIGN UPDATES	A.W	K.W	V.B	
P3	26.04.17	DESIGN UPDATES	C.Y	K.W	V.B	
P2	03.04.17	DESIGN UPDATES	C.Y	S.B	V.B	
P1	29.03.17	INITIAL ISSUE	C.Y	S.B	V.B	
ISSUE	DATE	DESCRIPTION	BY	CHK	APP	

GENERAL NOTES	

DESIGNED C.YOU	DESIGN CHECK -
DRAWN C.YOU	DRAFTING CHECK -
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CLIENT	INNER WEST COUNCIL		
	BICYCLE ROUTE LR7		
	CONCEPT DESIGN		
DRAWING NO. N116730-02-23	SHEET 24 OF 42	ISSUE P7	

**PRELIMINARY PLAN**  
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ON 9/10/2017 AT 4:55:58 PM  
PLOTED BY: Channing You

AMENDMENTS						
ISSUE	DATE	DESCRIPTION	BY	CHK	APP	
P8	09.10.17	SHEET 20 CONTRA-FLOW BIKE LANE AND SHEET 38 BICYCLE LANTERN UPDATES	C.Y	D.R	V.B	
P7	30.08.17	DESIGN UPDATES	C.Y	V.B	V.B	
P6	20.06.17	DESIGN UPDATES	C.Y	V.B	V.B	
P5	18.05.17	DESIGN UPDATES	C.Y	K.W	V.B	
P4	18.05.17	DESIGN UPDATES	A.W	K.W	V.B	
P3	26.04.17	DESIGN UPDATES	C.Y	K.W	V.B	
P2	03.04.17	DESIGN UPDATES	C.Y	S.B	V.B	
P1	29.03.17	INITIAL ISSUE	C.Y	S.B	V.B	

GENERAL NOTES	

DESIGNED C.YOU	DESIGN CHECK -
DRAWN C.YOU	DRAFTING CHECK -
APPROVED BY -	DATE APPROVED FOR INITIAL ISSUE 29 MARCH 2017
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CLIENT	INNER WEST COUNCIL		
	BICYCLE ROUTE LR7		
	CONCEPT DESIGN		
DRAWING NO. N116730-02-24	SHEET 25 OF 42	ISSUE P7	

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DESIGN INCLUDES INTERSECTION UPGRADES FOR CYCLISTS.

DETAILED DESIGN TO BE CONFIRMED WITH WESTCONNEX

PROPOSED CONVERSION OF EXISTING FOOTPATH TO SHARED PATH BY INSTALLING PS-3 AND PS-4 PAVEMENT MARKINGS APPROXIMATELY EVERY 25m AS SHOWN

PROPOSED 2.5m SHARED PATH WITH POTENTIAL LOCALISED NARROWING AROUND EXISTING TREES

**PRELIMINARY PLAN**  
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ON 17/03/2017 AT 4:40:02 PM  
PLOT BY: Chenling Yu

AMENDMENTS					
ISSUE	DATE	DESCRIPTION	BY	CHK.	APP.
P8	09.10.17	SHEET 20 CONTRA-FLOW BIKE LANE AND SHEET 38 BICYCLE LANTERN UPDATES	C.Y.	D.R.	V.B.
P7	30.08.17	DESIGN UPDATES	C.Y.	V.B.	V.B.
P6	20.06.17	DESIGN UPDATES	C.Y.	V.B.	V.B.
P5	18.05.17	DESIGN UPDATES	C.Y.	K.W.	V.B.
P4	18.05.17	DESIGN UPDATES	A.W.	K.W.	V.B.
P3	26.04.17	DESIGN UPDATES	C.Y.	K.W.	V.B.
P2	03.04.17	DESIGN UPDATES	C.Y.	S.B.	V.B.
P1	29.03.17	INITIAL ISSUE	C.Y.	S.B.	V.B.

GENERAL NOTES					

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CLIENT	INNER WEST COUNCIL
BICYCLE ROUTE LR7	
CONCEPT DESIGN	
DRAWING NO. N116730-02-25	SHEET 26 OF 42
ISSUE P7	





PROPOSED CONVERSION OF EXISTING FOOTPATH TO SHARED PATH BY INSTALLING PS-3 AND PS-4 PAVEMENT MARKINGS APPROXIMATELY EVERY 25m AS SHOWN

CONTINUE TO EXISTING SHARED PATH

**PRELIMINARY PLAN**  
FOR DISCUSSION PURPOSES  
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ON 9/10/2017 AT 4:10:04 PM  
PLOTTED BY: Chenling You

AMENDMENTS						
ISSUE	DATE	DESCRIPTION	BY	CHK.	APP.	
P8	09.10.17	SHEET 20 CONTRA-FLOW BIKE LANE AND SHEET 38 BICYCLE LANTERN UPDATES	C.Y.	D.R.	V.B.	
P7	30.08.17	DESIGN UPDATES	C.Y.	V.B.	V.B.	
P6	20.06.17	DESIGN UPDATES	C.Y.	V.B.	V.B.	
P5	18.05.17	DESIGN UPDATES	C.Y.	K.W.	V.B.	
P4	18.05.17	DESIGN UPDATES	A.W.	K.W.	V.B.	
P3	26.04.17	DESIGN UPDATES	C.Y.	K.W.	V.B.	
P2	03.04.17	DESIGN UPDATES	C.Y.	S.B.	V.B.	
P1	29.03.17	INITIAL ISSUE	C.Y.	S.B.	V.B.	

GENERAL NOTES

DESIGNED	C.YOU	DESIGN CHECK	-
DRAWN	C.YOU	DRAFTING CHECK	-
APPROVED BY	-	DATE APPROVED FOR INITIAL ISSUE	29 MARCH 2017
SCALE	A1 Hor. 0 4 8 Ver. 0	CAD FILE NO.	N116730-02-P8.dgn



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CLIENT INNER WEST COUNCIL

BICYCLE ROUTE LR7

CONCEPT DESIGN

DRAWING NO.  
N116730-02-26

SHEET  
27 OF 42

ISSUE  
P7





ON 17/03/2017 AT 4:09 PM  
PLOT BY: Chenling Yu

AMENDMENTS					
ISSUE	DATE	DESCRIPTION	BY	CHK	APP.
P8	09.10.17	SHEET 20 CONTRA-FLOW BIKE LANE AND SHEET 38 BICYCLE LANTERN UPDATES	C.Y	D.R	V.B
P7	30.08.17	DESIGN UPDATES	C.Y	V.B	V.B
P6	20.06.17	DESIGN UPDATES	C.Y	V.B	V.B
P5	18.05.17	DESIGN UPDATES	C.Y	K.W	V.B
P4	18.05.17	DESIGN UPDATES	A.W.	K.W	V.B
P3	26.04.17	DESIGN UPDATES	C.Y	K.W	V.B
P2	03.04.17	DESIGN UPDATES	C.Y	S.B	V.B
P1	29.03.17	INITIAL ISSUE	C.Y	S.B	V.B

GENERAL NOTES	

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DRAWN C.YOU	DRAFTING CHECK -
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CONCEPT DESIGN

DRAWING NO.  
N116730-02-27

SHEET  
28 OF 42

ISSUE  
P7

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ON 9/10/2017 AT 4:40:33 PM  
PLOTED BY: Chenling You



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AMENDMENTS						
ISSUE	DATE	DESCRIPTION	BY	CHK.	APP.	
P8	09.10.17	SHEET 20 CONTRA-FLOW BIKE LANE AND SHEET 38 BICYCLE LANTERN UPDATES	C.Y.	D.R.	V.B.	
P7	30.08.17	DESIGN UPDATES	C.Y.	V.B.	V.B.	
P6	20.06.17	DESIGN UPDATES	C.Y.	V.B.	V.B.	
P5	18.05.17	DESIGN UPDATES	C.Y.	K.W.	V.B.	
P4	18.05.17	DESIGN UPDATES	A.W.	K.W.	V.B.	
P3	26.04.17	DESIGN UPDATES	C.Y.	K.W.	V.B.	
P2	03.04.17	DESIGN UPDATES	C.Y.	S.B.	V.B.	
P1	29.03.17	INITIAL ISSUE	C.Y.	S.B.	V.B.	

GENERAL NOTES	

DESIGNED C.YOU	DESIGN CHECK -
DRAWN C.YOU	DRAFTING CHECK -
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CLIENT	INNER WEST COUNCIL		
	BICYCLE ROUTE LR7		
	CONCEPT DESIGN		
DRAWING NO. N116730-02-28	SHEET 29 OF 42	ISSUE P7	

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ON 9/10/2017 AT 4:16:17 PM  
PLOTTED BY: Chenling You

FOR CONTINUATION REFER TO GTA DRAWING NO. N116730-02-28



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AMENDMENTS					
ISSUE	DATE	DESCRIPTION	BY	CHK.	APP.
P1	29.03.17	INITIAL ISSUE	C.Y.	S.B.	V.B.
P2	03.04.17	DESIGN UPDATES	C.Y.	S.B.	V.B.
P3	26.04.17	DESIGN UPDATES	C.Y.	K.W.	V.B.
P4	18.05.17	DESIGN UPDATES	A.W.	K.W.	V.B.
P5	18.05.17	DESIGN UPDATES	C.Y.	K.W.	V.B.
P6	20.06.17	DESIGN UPDATES	C.Y.	V.B.	V.B.
P7	30.08.17	DESIGN UPDATES	C.Y.	V.B.	V.B.
P8	09.10.17	SHEET 20 CONTRA-FLOW BIKE LANE AND SHEET 38 BICYCLE LANTERN UPDATES	C.Y.	D.R.	V.B.

GENERAL NOTES

DESIGNED C.YOU	DESIGN CHECK -
DRAWN C.YOU	DRAFTING CHECK -
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CLIENT INNER WEST COUNCIL

BICYCLE ROUTE LR7

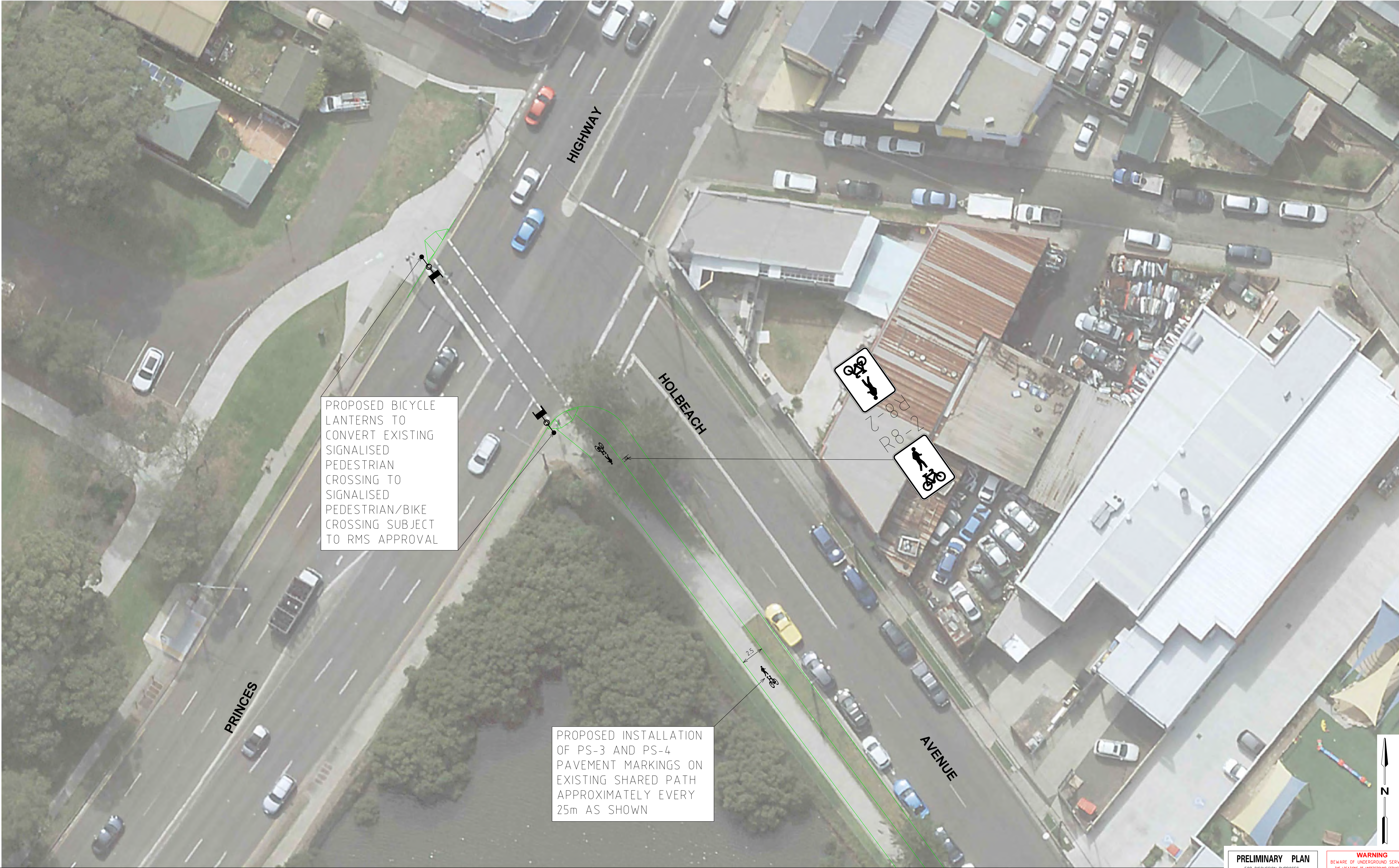
CONCEPT DESIGN

DRAWING NO.  
N116730-02-29

SHEET  
30 OF 42

ISSUE  
P7





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**PRELIMINARY PLAN**  
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ON 17/03/2017 AT 4:02:28 PM  
PLOTTED BY: Chenling You

AMENDMENTS					
ISSUE	DATE	DESCRIPTION	BY	CHK	APP.
P8	09.10.17	SHEET 20 CONTRA-FLOW BIKE LANE AND SHEET 38 BICYCLE LANTERN UPDATES	C.Y	D.R	V.B
P7	30.08.17	DESIGN UPDATES	C.Y	V.B	V.B
P6	20.06.17	DESIGN UPDATES	C.Y	V.B	V.B
P5	18.05.17	DESIGN UPDATES	C.Y	K.W	V.B
P4	18.05.17	DESIGN UPDATES	A.W.	K.W	V.B
P3	26.04.17	DESIGN UPDATES	C.Y	K.W	V.B
P2	03.04.17	DESIGN UPDATES	C.Y	S.B	V.B
P1	29.03.17	INITIAL ISSUE	C.Y	S.B	V.B

GENERAL NOTES

DESIGNED C.YOU	DESIGN CHECK -
DRAWN C.YOU	DRAFTING CHECK -
APPROVED BY -	DATE APPROVED FOR INITIAL ISSUE 29 MARCH 2017
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08 8334 3600  
07 5510 4814  
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CLIENT INNER WEST COUNCIL

BICYCLE ROUTE LR7

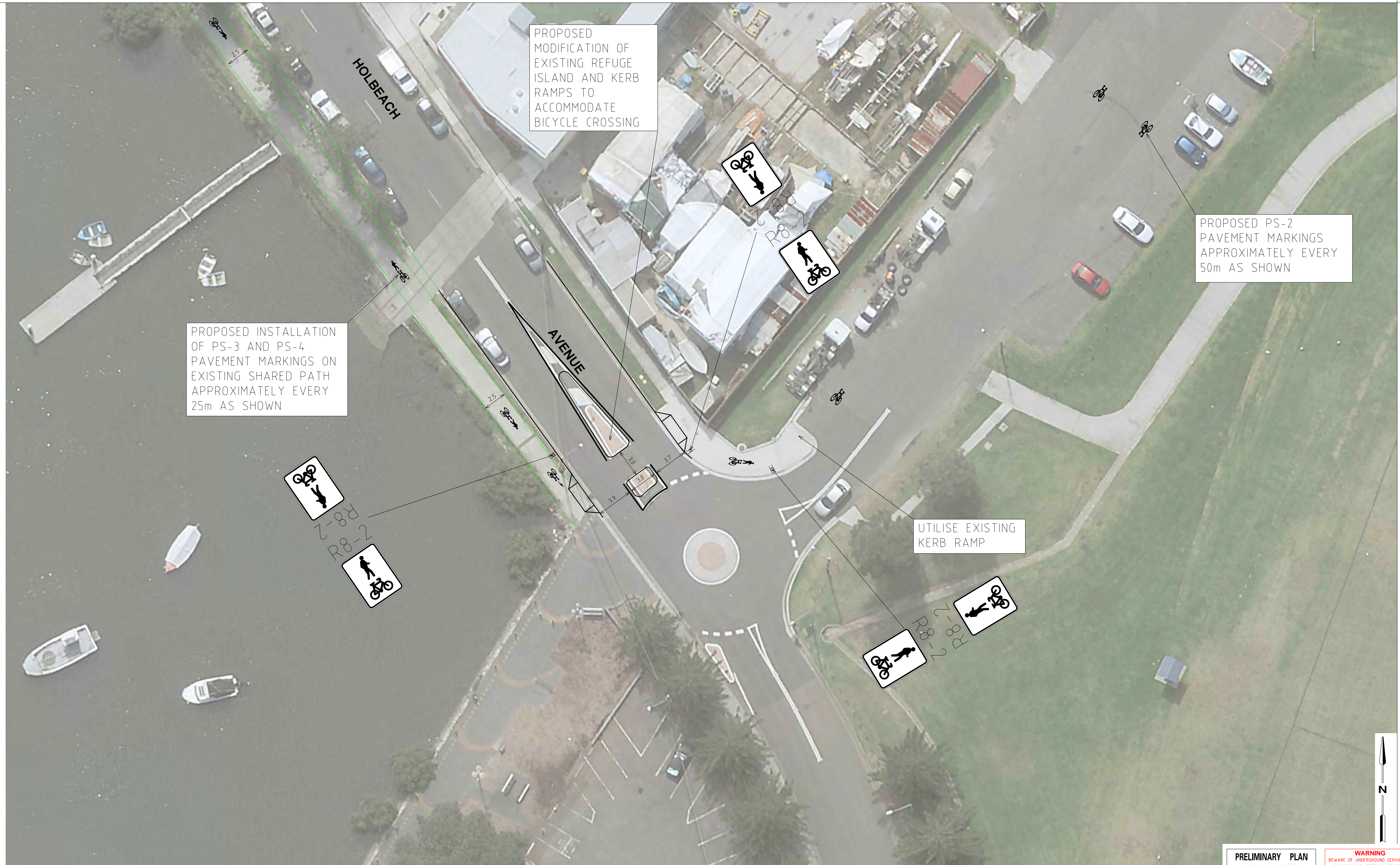
CONCEPT DESIGN

DRAWING NO.  
N116730-02-30

SHEET  
31 OF 42

ISSUE  
P7





ON 9/10/2017 AT 4:16:24 PM  
PLOT BY: Chenling You

AMENDMENTS						
ISSUE	DATE	DESCRIPTION	BY	CHK	APP	
P8	09.10.17	SHEET 20 CONTRA-FLOW BIKE LANE AND SHEET 38 BICYCLE LANTERN UPDATES	C.Y	D.R	V.B	
P7	30.08.17	DESIGN UPDATES	C.Y	V.B	V.B	
P6	20.06.17	DESIGN UPDATES	C.Y	V.B	V.B	
P5	18.05.17	DESIGN UPDATES	C.Y	K.W	V.B	
P4	18.05.17	DESIGN UPDATES	A.W.	K.W	V.B	
P3	26.04.17	DESIGN UPDATES	C.Y	K.W	V.B	
P2	03.04.17	DESIGN UPDATES	C.Y	S.B	V.B	
P1	29.03.17	INITIAL ISSUE	C.Y	S.B	V.B	

GENERAL NOTES

DESIGNED C.YOU	DESIGN CHECK -
DRAWN C.YOU	DRAFTING CHECK -
APPROVED BY -	DATE APPROVED FOR INITIAL ISSUE 29 MARCH 2017
SCALE A1 Hor. 0 4 8 Ver. 0	CAD FILE NO. N116730-02-P8.dgn



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CLIENT	INNER WEST COUNCIL
BICYCLE ROUTE LR7	
CONCEPT DESIGN	
DRAWING NO. N116730-02-31	SHEET 32 OF 42
	ISSUE P7

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AMENDMENTS						
ISSUE	DATE	DESCRIPTION	BY	CHK.	APP.	
P8	09.10.17	SHEET 20 CONTRA-FLOW BIKE LANE AND SHEET 38 BICYCLE LANTERN UPDATES	C.Y.	D.R.	V.B.	
P7	30.08.17	DESIGN UPDATES	C.Y.	V.B.	V.B.	
P6	20.06.17	DESIGN UPDATES	C.Y.	V.B.	V.B.	
P5	18.05.17	DESIGN UPDATES	C.Y.	K.W.	V.B.	
P4	18.05.17	DESIGN UPDATES	A.W.	K.W.	V.B.	
P3	26.04.17	DESIGN UPDATES	C.Y.	K.W.	V.B.	
P2	03.04.17	DESIGN UPDATES	C.Y.	S.B.	V.B.	
P1	29.03.17	INITIAL ISSUE	C.Y.	S.B.	V.B.	

GENERAL NOTES	

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	CONCEPT DESIGN		
DRAWING NO. N116730-02-32	SHEET 33 OF 42	ISSUE P7	

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AMENDMENTS						
ISSUE	DATE	DESCRIPTION	BY	CHK.	APP.	
P8	09.10.17	SHEET 20 CONTRA-FLOW BIKE LANE AND SHEET 38 BICYCLE LANTERN UPDATES	C.Y	D.R	V.B	
P7	30.08.17	DESIGN UPDATES	C.Y	V.B	V.B	
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P2	03.04.17	DESIGN UPDATES	C.Y	S.B	V.B	
P1	29.03.17	INITIAL ISSUE	C.Y	S.B	V.B	

GENERAL NOTES

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CLIENT INNER WEST COUNCIL

BICYCLE ROUTE LR7

CONCEPT DESIGN

DRAWING NO.  
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SHEET  
34 OF 42

ISSUE  
P7



NOTE:  
-MAINTAIN A MINIMUM WIDTH OF 2.5m FOR PEDESTRIAN AND BICYCLE SHARED PATH  
-ALL KERB RAMPS TO BE CONSISTENT WITH RMS DOCUMENT TDT 2002/08 MD.R173.B01.A



ON 17/10/2017 AT 4:16:34 PM  
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AMENDMENTS					
ISSUE	DATE	DESCRIPTION	BY	CHK	APP.
P8	09.10.17	SHEET 20 CONTRA-FLOW BIKE LANE AND SHEET 38 BICYCLE LANTERN UPDATES	C.Y	D.R	V.B
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P2	03.04.17	DESIGN UPDATES	C.Y	S.B	V.B
P1	29.03.17	INITIAL ISSUE	C.Y	S.B	V.B

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DRAWING NO. N116730-02-34	SHEET 35 OF 42	ISSUE P7	

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AMENDMENTS						
ISSUE	DATE	DESCRIPTION	BY	CHK.	APP.	
P8	09.10.17	SHEET 20 CONTRA-FLOW BIKE LANE AND SHEET 38 BICYCLE LANTERN UPDATES	C.Y	D.R	V.B	
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CLIENT INNER WEST COUNCIL

BICYCLE ROUTE LR7

CONCEPT DESIGN

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N116730-02-35

SHEET  
36 OF 42

ISSUE  
P7

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ISSUE	DATE	DESCRIPTION	BY	CHK	APP	
P8	09.10.17	SHEET 20 CONTRA-FLOW BIKE LANE AND SHEET 38 BICYCLE LANTERN UPDATES	C.Y	D.R	V.B	
P7	30.08.17	DESIGN UPDATES	C.Y	V.B	V.B	
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P4	18.05.17	DESIGN UPDATES	A.W.	K.W	V.B	
P3	26.04.17	DESIGN UPDATES	C.Y	K.W	V.B	
P2	03.04.17	DESIGN UPDATES	C.Y	S.B	V.B	
P1	29.03.17	INITIAL ISSUE	C.Y	S.B	V.B	

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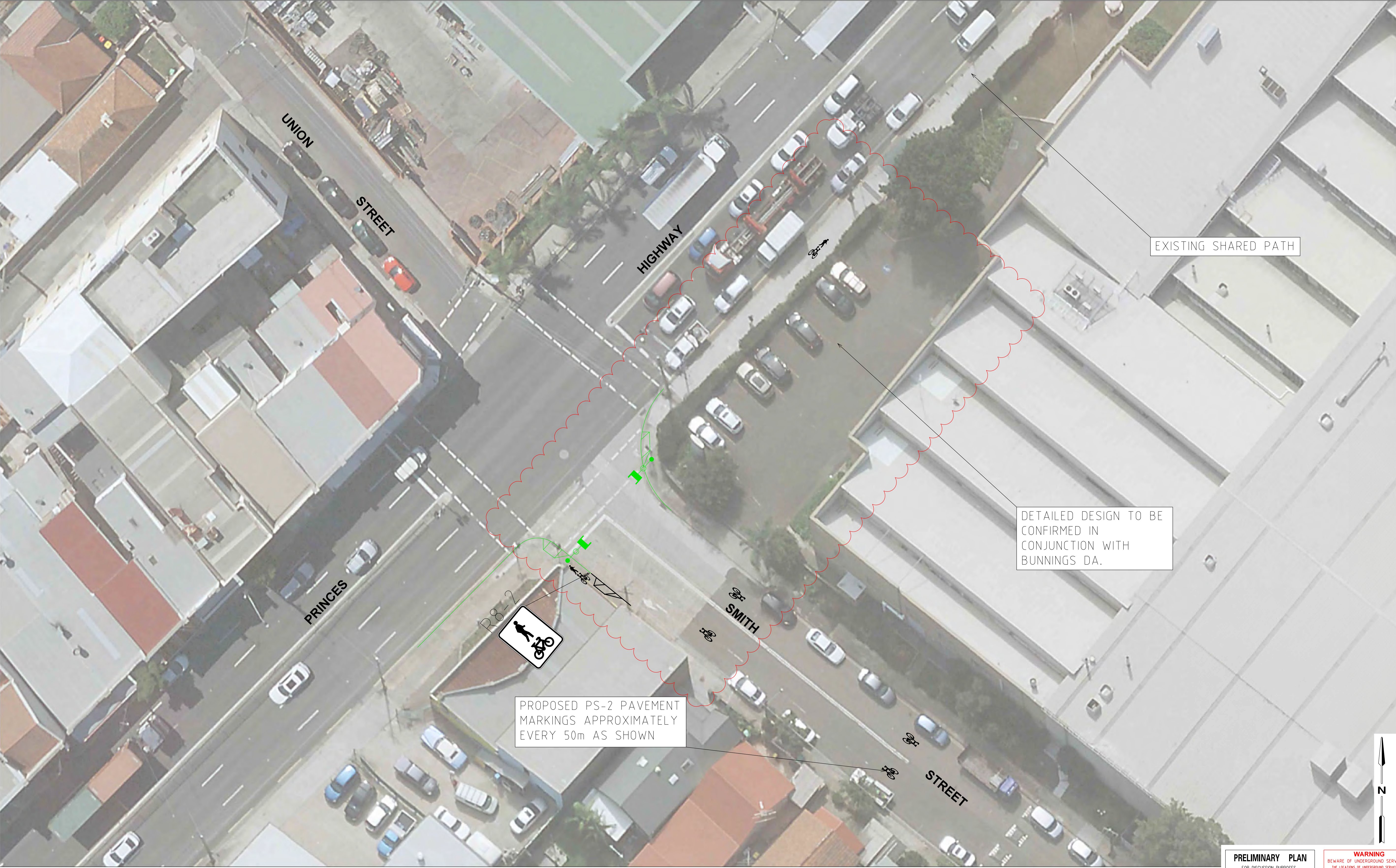
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DRAWING NO. N116730-02-36	SHEET 37 OF 42	ISSUE P7	

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ISSUE	DATE	DESCRIPTION	BY	CHK	APP	
P8	09.10.17	SHEET 20 CONTRA-FLOW BIKE LANE AND SHEET 38 BICYCLE LANTERN UPDATES	C.Y	D.R	V.B	
P7	30.08.17	DESIGN UPDATES	C.Y	V.B	V.B	
P6	20.06.17	DESIGN UPDATES	C.Y	V.B	V.B	
P5	18.05.17	DESIGN UPDATES	C.Y	K.W	V.B	
P4	18.05.17	DESIGN UPDATES	A.W	K.W	V.B	
P3	26.04.17	DESIGN UPDATES	C.Y	K.W	V.B	
P2	03.04.17	DESIGN UPDATES	C.Y	S.B	V.B	
P1	29.03.17	INITIAL ISSUE	C.Y	S.B	V.B	

GENERAL NOTES						

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ISSUE	P7		

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ISSUE	DATE	DESCRIPTION	BY	CHK.	APP.	
P8	09.10.17	SHEET 20 CONTRA-FLOW BIKE LANE AND SHEET 38 BICYCLE LANTERN UPDATES	C.Y.	D.R.	V.B.	
P7	30.08.17	DESIGN UPDATES	C.Y.	V.B.	V.B.	
P6	20.06.17	DESIGN UPDATES	C.Y.	V.B.	V.B.	
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P2	03.04.17	DESIGN UPDATES	C.Y.	S.B.	V.B.	
P1	29.03.17	INITIAL ISSUE	C.Y.	S.B.	V.B.	

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N116730-02-38

SHEET  
39 OF 42  
ISSUE  
P7



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AMENDMENTS						
ISSUE	DATE	DESCRIPTION	BY	CHK.	APP.	
P8	09.10.17	SHEET 20 CONTRA-FLOW BIKE LANE AND SHEET 38 BICYCLE LANTERN UPDATES	C.Y.	D.R.	V.B.	
P7	30.08.17	DESIGN UPDATES	C.Y.	V.B.	V.B.	
P6	20.06.17	DESIGN UPDATES	C.Y.	V.B.	V.B.	
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P2	03.04.17	DESIGN UPDATES	C.Y.	S.B.	V.B.	
P1	29.03.17	INITIAL ISSUE	C.Y.	S.B.	V.B.	

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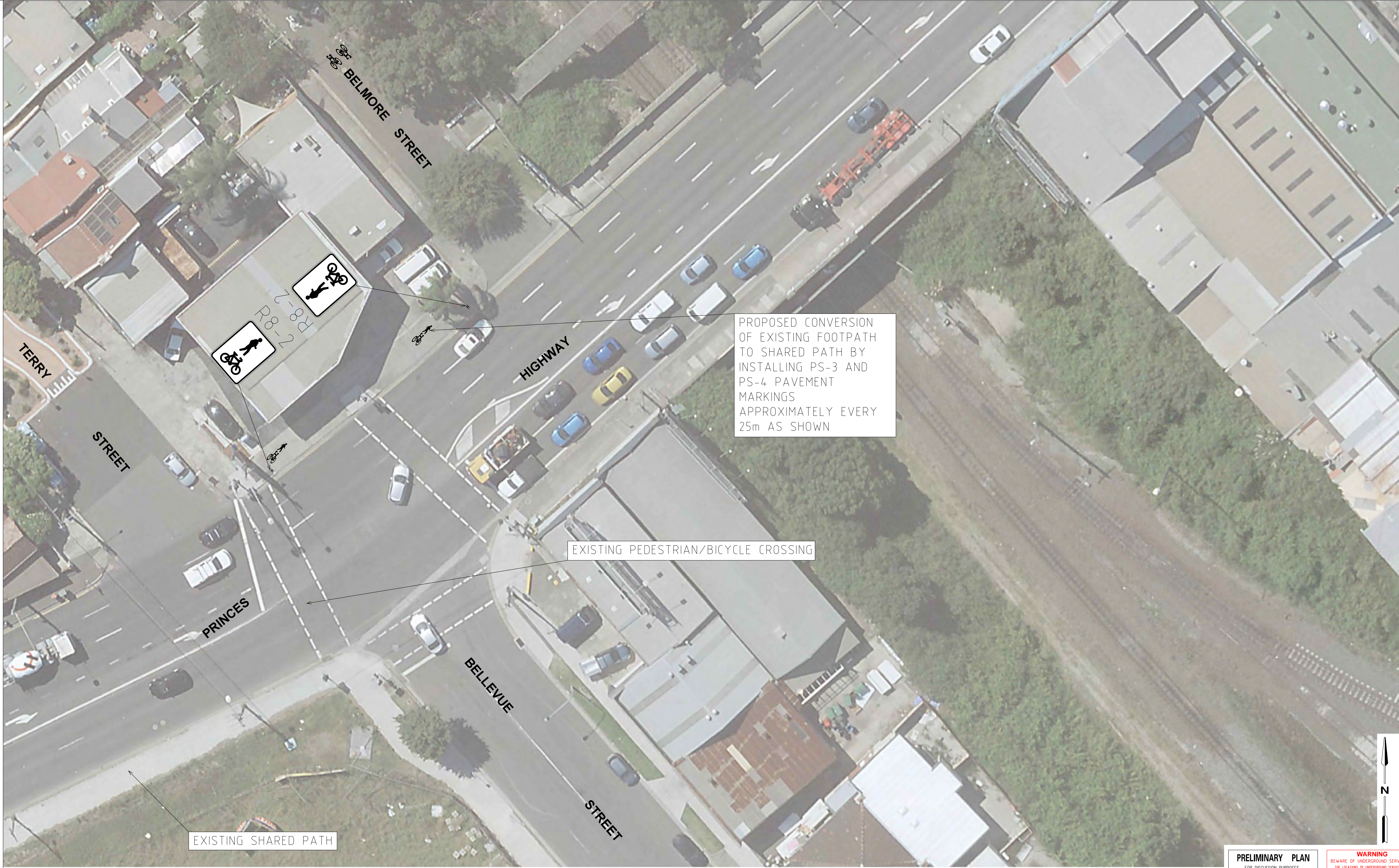
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AMENDMENTS						
ISSUE	DATE	DESCRIPTION	BY	CHK.	APP.	
P8	09.10.17	SHEET 20 CONTRA-FLOW BIKE LANE AND SHEET 38 BICYCLE LANTERN UPDATES	C.Y.	D.R.	V.B.	
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P8	09.10.17	SHEET 20 CONTRA-FLOW BIKE LANE AND SHEET 38 BICYCLE LANTERN UPDATES	C.Y.	D.R.	V.B.	
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BICYCLE ROUTE LR7

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N116730-02-41

SHEET  
42 OF 42

ISSUE  
P7



## Appendix D

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### Strategic Cost Estimate



# LR7 South

Work Item	Units	Unit Cost	Sub-Total	Sheet 1	Sheet 2	Sheet 3	Sheet 4	Sheet 5	Sheet 6	Sheet 7	Sheet 8	Sheet 9	Sheet 10	Sheet 11
Works Around Gannon/Griffiths Street	1	\$ 40,000	\$ 40,000	0	1	0	0	0	0	0	0	0	0	0
Kerb Ramp (New/Remodel)	34	\$ 2,000	\$ 68,000	0	1	2	1	1	0	1	0	1	0	0
Widen Existing Footpath to Shared Path	280	\$ 200	\$ 56,000	0	0	50	180	50	0	0	0	0	0	0
Work Around Lymerston Street	1	\$ 10,000	\$ 10,000	0	0	0	0	0	0	0	0	1	0	0
Contraflow Bicycle Lane	40	\$ 500	\$ 20,000	0	0	0	0	20	0	0	0	0	0	0
Bicycle Lanterns (Pairs)	2	\$ 4,000	\$ 8,000	0	0	0	0	0	0	0	0	0	0	0
Bicycle Lantern TCS Review	2	\$ 50,000	\$ 100,000	0	0	0	0	0	0	0	0	0	0	0
Head Start Box	2	\$ 2,000	\$ 4,000	0	0	0	0	0	0	0	0	0	0	0
Holbeach Avenue Works	1	\$ 20,000	\$ 20,000	0	0	0	0	0	0	0	0	0	0	0
Stencils	244	\$ 200	\$ 48,800	0	6	5	5	5	6	6	5	9	6	8
Green Pavement Treatment	165	\$ 200	\$ 33,000	0	15	0	0	40	0	0	0	20	0	0
Shared Environment Intersection	3	\$ 100,000	\$ 300,000	0	0	0	2	0	0	0	1	0	0	0
Signage Allowance		\$ 25,000	\$ 25,000	0	0	0	0	0	0	0	0	0	0	0
SUB-TOTAL			\$ 732,800											
Contingency (50%)			\$ 366,400											
TOTAL			\$ 1,099,200											

Preliminaries and General (i.e. site establishment, survey, service proving, traffic management, etc.)

15% of subtotal

Design and documentation

10% of subtotal

Project management

5% of subtotal

Services relocation (provisional cost subject to detailed design and service provider advice)

15% of subtotal

The above opinion of probable cost is for initial planning only and must not be relied upon for quoting, budgeting or construction purposes.

It is recommended that you seek a detailed cost estimate from a suitably qualified quantity surveyor.

Excludes:

- Price escalation
- GST
- The above opinion of probable cost has been prepared based on desktop review and is for initial planning only and must not be relied upon for quoting, budgeting or construction purposes. It is recommended you seek a detailed cost estimate from a suitably qualified quantity surveyor.
- Authority fees and charges have been excluded.
- Site rehabilitation of contaminated materials due to historical land use.
- Protection of environmentally significant areas.
- Contraflow bicycle lane and shared zone treatment assumes existing kerb and road geometry is retained and no pavement rehabilitation works.
- No upgrade works is required on existing stormwater drainage and street lighting.
- The above rates excludes demolition works as extent is not known at this stage.
- The rates provided above are generally inclusive of supply and install.
- Major earthworks.
- Retaining structures.
- Landscape works.
- Works associated with 'clouded out' areas



Sheet 12	Sheet 13	Sheet 14	Sheet 15	Sheet 16	Sheet 17	Sheet 18	Sheet 19	Sheet 20	Sheet 21	Sheet 22	Sheet 23	Sheet 24	Sheet 25	Sheet 26	Sheet 27	Sheet 28	Sheet 29
0	0	0	0	0	0	0	0	0	0	0	0	Infrastructure TBC		0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0			0	1	0	1
0	0	0	0	0	0	0	0	0	0	0	0			0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0			0	0	0	0
0	0	0	0	0	0	0	20	0	0	0	0			0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0			0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0			0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0			0	0	0	0
0	2	0	0	0	0	0	0	0	0	0	0			0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0			0	0	0	0
18	11	10	4	4	8	10	13	9	4	6	4			7	7	6	2
0	50	0	0	0	0	0	40	0	0	0	0			0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0			0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0			0	0	0	0

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