

4.2 TURRELLA TO ALEXANDRA CANAL - REVIEW

2002 February - M5 East Cycleways

Description

An update on the progress on the M5 East Cycle way states the following:

- A new shared 3 meter wide pedestrian and cycle path has been constructed along both sides of the M5 East between King Georges Road and Bexley Road.
- The section of path along Alexandra Canal from Coward Street to Giovanni Burnetti Bridge was constructed
- The connection from Turrella Station to Giovanni Burnetti Bridge and Alexandra Canal was not further planned due to the significant development proposed at Wolli Creek Station and Turrella Station. It was considered that the cycleway

would be constructed as part of the future development. This section did not get completed as part of the re-development hence the gap that still remains in the present route.

- A shared path along Tempe Recreational Reserve included a cycle bridge over the canal. This was not constructed.
- The section between Princes Highway bridge and Turrella station was not constructed due to the significant amount of redevelopment occurring. It was understood that the route from Princes Highway bridge and Turrella station would be constructed by future development. This did not occur.

Legend

- Proposed Route (not constructed)
- Completed Cycleway



Figure 4.02 - 2002 M5 East Cycleways
Source: Roads and Traffic Authority NSW

2016 - M5 East Cycleways

Description

At present, Sydney Water is constructing a shared pedestrian and cycle way from Maddox Street to the north end of the Alexandra Canal as part of the ‘Green Square Trunk Stormwater Drain’ project. Recent meetings with stakeholders have also noted that the western and eastern sides of the canal have a proposed cycleway that will be predominantly constructed by 2019.

In 2016 a new pedestrian cycle bridge was constructed over Princes Highway. Bayside Council has also under taken planning for cycleways through Wolli Creek and Cahill Park.



Figure 4.03 - 2016 M5 East Cycleways
Source: Roads and Traffic Authority NSW

4.3 BEXLEY NORTH TO TURRELLA - REVIEW

1994 - M5 East Motorway Bicycle Planning Report (ARUP)

Description

This report addressed the bicycle planning routes which relate to the proposed tunnel section of the M5 East Motorway

A number of alternative schemes were developed for the tunnel section of the M5 East. They break down into four categories:

- 1. Do nothing
- 2. Provide lanes in the M5 Tunnel
- 3. A cycle path in the Wolli Creek Valley
- 4. An on-road cycle route

Category 1 and 2 were not considered feasible. Three options / routes had been identified for each of the last two categories, routes 3, 4 & 5 are shown in fig 4.04 and are as follows:

- Route 3: Dual use cycle / pedestrian path through Wolli Creek Valley
- Route 4: High quality cycle path through Wolli Creek Valley
- Route 5: Cycle path parallel to the East Hills rail reservation

Preferred Route

The preferred alternative bicycle route scheme, based on a variety of weighted criteria ranking costs and benefits was Route 5, a high quality bicycle path along side or within the railway reserve for the tunnel section of the M5.'

Outcomes

- The preferred route was taken forward for further investigation. In Jan 1999 and again in August 2001 in principle agreement was received from the then 'Rail Infrastructure Corporation'
- The cycleway planning was being further developed for the preferred route.

Legend

- Wolli Creek Valley Route - 3 & 4
- East Hill Rail Line Route - 5
- Possible Extension to Connect to Cook's River Cycleway



Figure 4.04 - M5 East Motorway Bicycle Planning Report
Source: ARUP 1994

2001 October - M5 East Cycle Way

Description

Up until mid 2001 the preferred route was consistently identified as the route through Rail Infrastructure Corporation (RIC) Land adjacent to the East Hill rail line. This was consistent with the preferred route identified in the original 1994 planning report. During this period substantial planning and design work was progressed including a Review of Environmental Factors for the project and completion of 90% documentation for the preferred route.

However from mid 2001 concerns began to be raised about the feasibility of this route. While informal and in-principle approval had been provided by RIC on a number of occasions including in mid 2000, there was no formal approval from RIC for the use of the rail corridor.

Hence, as a result, three routes were considered at a schematic level for further discussion internally within RMS. These routes included an on-road route, a Wolli

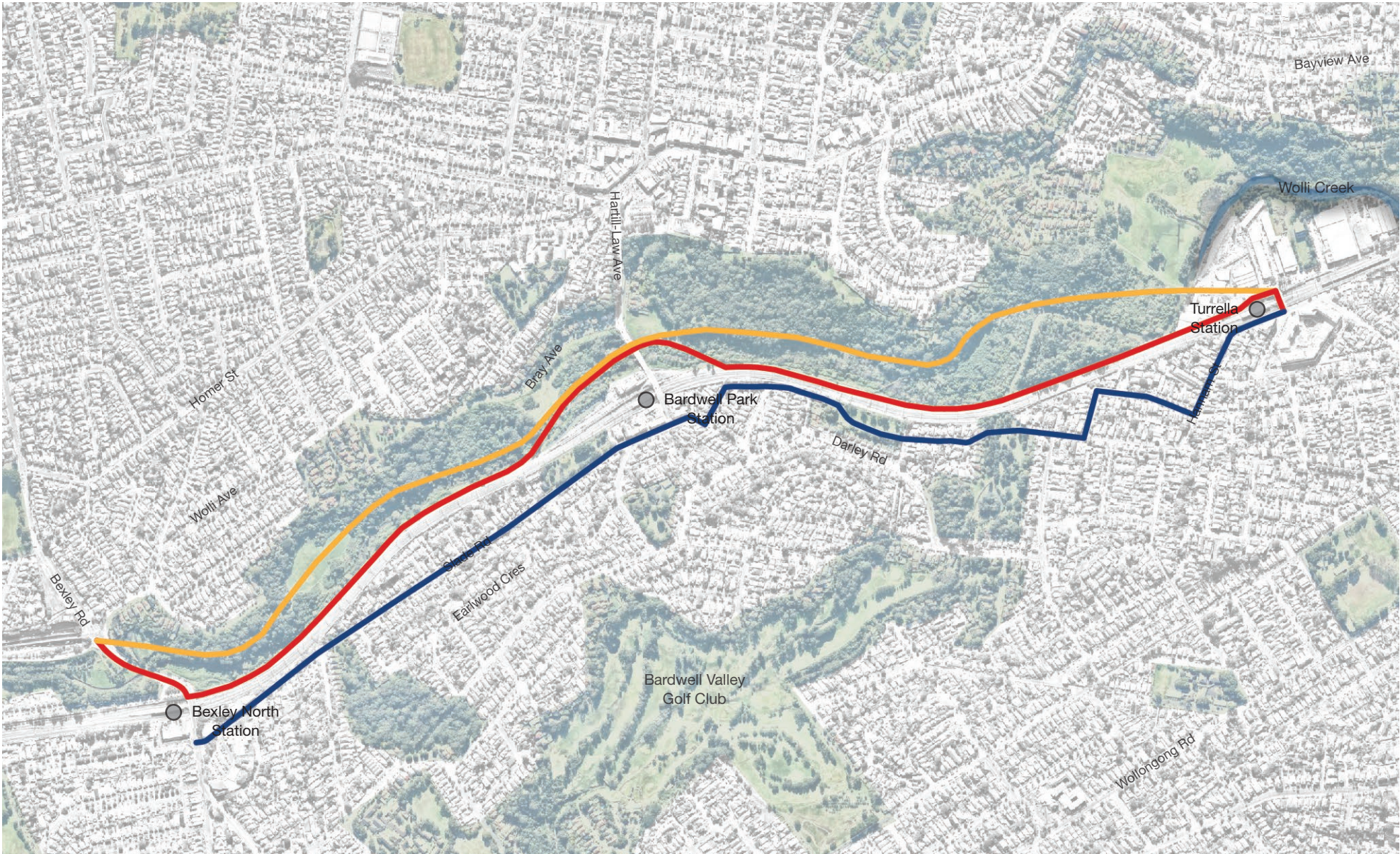
Creek Reserve route and the original rail corridor option. These alternate options were developed because concerns were being raised about the potential for delays to the project.

Preferred Route

The rail corridor route was confirmed as the preferred route and it was resolved to continue progressing this route. The on-road route was not considered a suitable route for a regional level of cycle path and this route was identified as being opposed by Bicycle NSW while Wolli Creek reserve was not considered suitable due to the steep grades that needed to be traversed and potential requirement for steps.

Outcomes

- The rail corridor option was still considered as the preferred route.
- Cycleway planning and design was further developed for the preferred route.



Legend

- On Road
- Wolli Creek Reserve
- Rail Corridor

Figure 4.05 - M5 East Cycle Way
Source: Roads and Traffic Authority NSW 2001

2002 February - M5 East Cycleway

Description

In February 2002 a Ministerial briefing note was issued which confirmed that further support for use of RIC land had been sought and been confirmed in late January 2002. As a result of discussions with RIC, the former Road and Traffic Authority (RTA) were notified that relocation of RIC infrastructure (such as signalling equipment) was required to accommodate the cycle path along the rail embankment.

It was agreed that RIC would investigate what rail infrastructure was required to be relocated and to advise on the costs to relocate this infrastructure to accommodate the cycleway.

Based on the ongoing discussions and progression of the project with RIC, the original preferred route was confirmed and a construction program was developed in consultation with RIC with the expectation that construction work would commence in April 2002.

Progress on routes

The preferred route remained the route along the rail corridor.

Outcomes

Investigations for the relocation and costing of the RIC infrastructure were being undertaken by RIC. Planning and design for the preferred route were further progressed including a proposed program which anticipated that construction would commence in 2012.

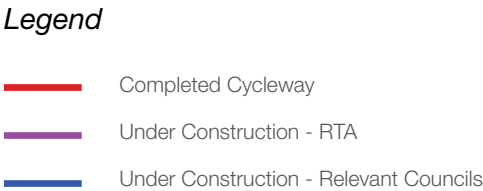


Figure 4.06 - M5 East Cycleway
Source: Roads and Traffic Authority NSW 2002

2002 November - M5 East Cycle Ways Options A-E

Description

Additional route planning was undertaken by RTA resulting in the identification and development of five alternative routes (Options A to E). These routes all considered alternate routes on the southern side of the rail corridor using a combination of on-road routes and open space. A route along the northern side of the rail was not considered feasible due to the steep grades and topography.

These routes were being considered due to concerns over cost and delays in approval on the original preferred route along the rail corridor. RIC had completed investigations into relocating rail infrastructure and had advised RTA that the cost to relocate this infrastructure would be approximately \$2.6M. Most of these costs were associated with relocating infrastructure in the proximity of Turella Station.

The following concerns were raised:

- Delays in approval from RIC

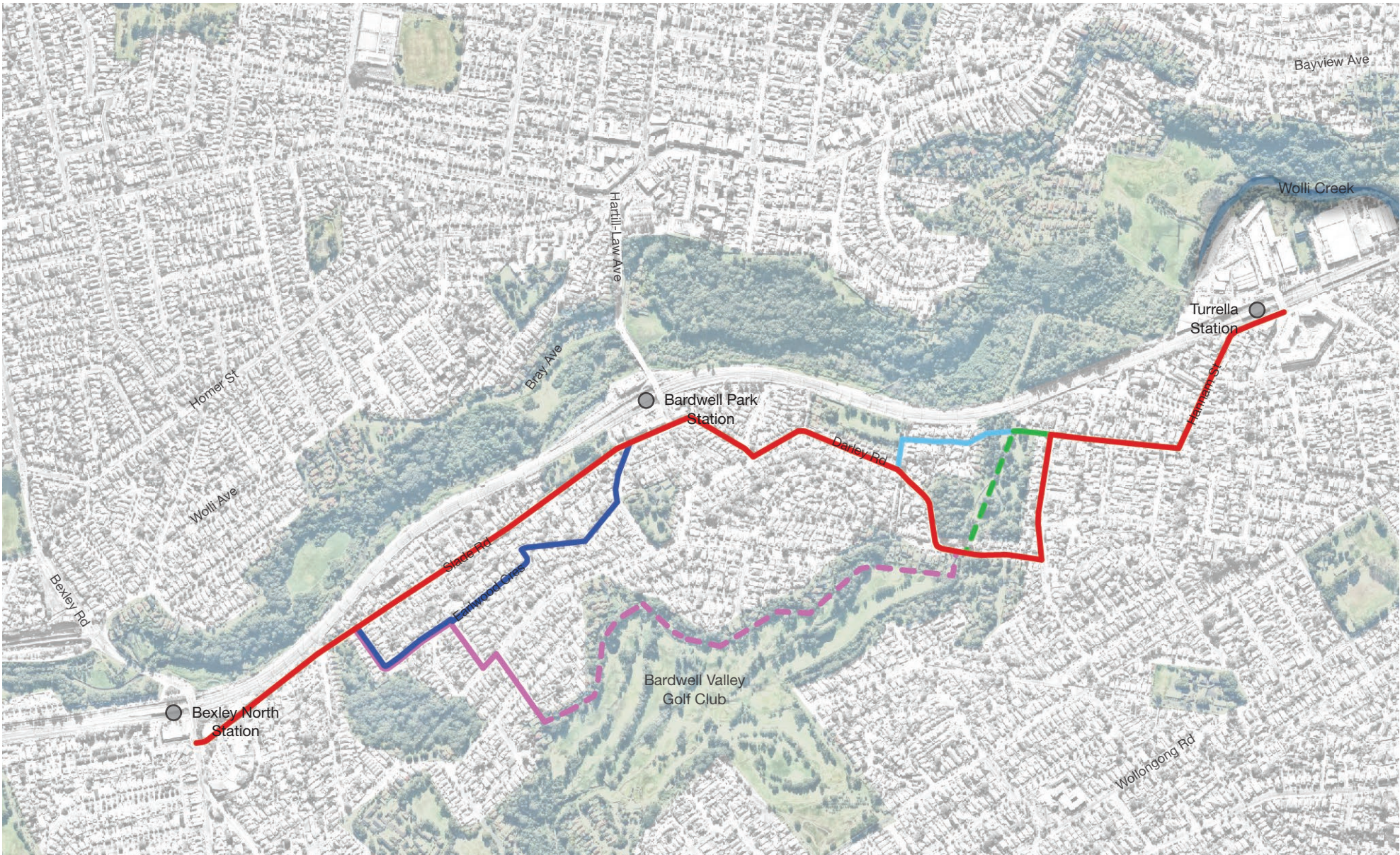
- Lack of support from RIC management for a cycle path in the rail corridor
- Lack of access to and from the route as access was only available at Turella Station, Bardwell Park Station and Kingsgrove Station with no access outside of these locations

Preferred Route

The additional route planning did not state a preference for a preferred route out of the five options that were developed for the southern side of the rail corridor.

Outcomes

It was recommended that the alternate routes be further considered prior to the final decision on the preferred route.



Legend

- Option A - Along Slade Rd
- Option B - Using Bardwell Creek
- Option C - Along Golf Course
- Option D - Avoiding Slade Rd
- Option E - New Bardwell Creek Crossing

Figure 4.07 - M5 East Cycle Ways Options A-E
Source: Roads and Traffic Authority NSW 2002

2003 February - Bush Bikes & Bitumen

Description

A community group, the “Wolli Pathfinders” raised objections to the original preferred route through the bushland of the Wolli Creek Valley. The group prepared a report on the existing route identifying the issues with the existing route and also proposed alternative routes.

The group’s main concern was the potential impacts on the bushland due to the construction of a regional cycle path and the subsequent use of that cycle path. It was considered that this regional cycle path would significantly impact on one of the remaining remnant bushland zones in the region. The report noted that the Wolli Creek Valley was a narrow ecological zone and particularly south east of Bardwell Park station was considered to have high value including providing habitat for water birds which would be disturbed by the cycle path.

The report investigated a number of routes which are discussed further below and recommended an on-road route on the southern side of the rail line. The report noted that while not the groups preferred option, if they had to choose a portion of the Wolli Creek Valley to install a cycleway they would choose the western end of the route and preserve the eastern end.

Preferred route

The proposed route involves a mix of on road routes, traffic calming, and some off road construction in areas much less sensitive than the banks of Wolli Creek including:

- An on road route starting at Slade Road, continuing on through quiet streets towards Rickard Street and onto Turrella Station with a new bridge over Bardwell Creek between Edith Street and Hannam Street
- An option to avoid Slade Road which runs on the south side of the rail corridor through a grassed park.
- A northern option on road along Bray Ave, Forrest Ave and Johnston Street then linking with a cycle bridge across the railway and onto the southern route.

Outcomes

Based on the ongoing uncertainty and increasing cost of the rail corridor route option and the objections raised in the report to the use of the Wolli Creek Valley as a regional cycle route RTA resolved to undertake further route planning analysis including a review of the recommendations in the report.

Legend

- Option A - Creek Side Cycle Plan - RTA
- Option B - Wolli Pathfinders Routes

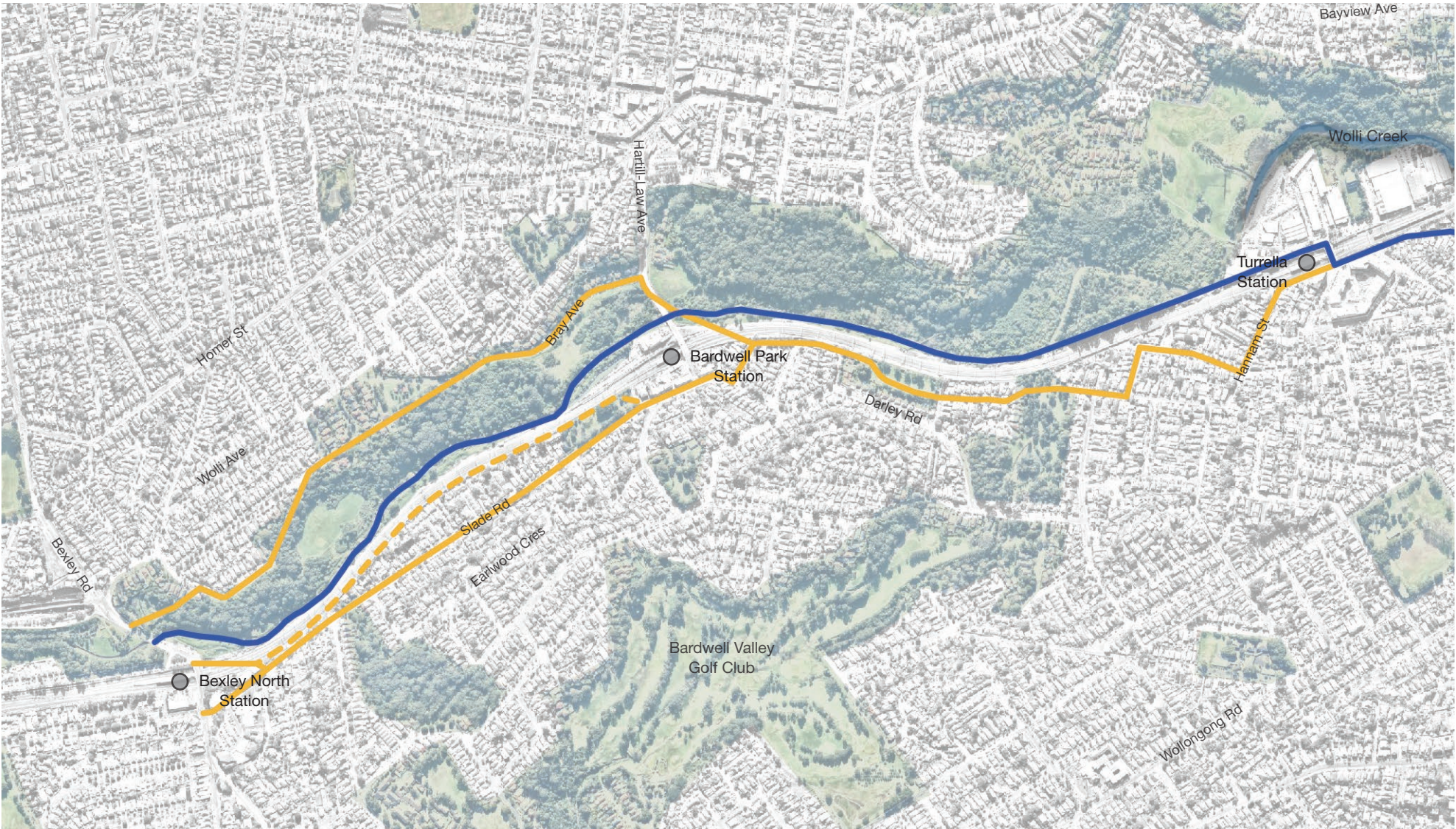


Figure 4.08 - Bush Bikes & Bitumen
Source: The Wolli Pathfinders 2003

2003 March - M5 East Cycleways

Description

This report reviewed alternative options developed in February 2003 as a result of opposition from the community and additional information from RIC relating to costs of relocating infrastructure in the rail corridor.

Rail Infrastructure Corporation provided an estimate for the relocation of rail utilities required to be undertaken as part of the project. The estimated cost of the project (rail corridor option – red colour) increased to \$9.5M, which excluded any track possession costs that may be required during the works. The original strategic cost estimate was \$4.8M.

Given the estimated cost of the current route and resistance from RIC to construct the cycleway in the rail corridor, particularly adjacent to Turrella Station, alternative options developed in February 2003 were assessed.

Preferred Route

Option E: Composite Road / Rail as it avoided the most sensitive bushland areas and also high cost of RIC infrastructure location.

Outcomes

The preferred route was investigated further and additional options were considered

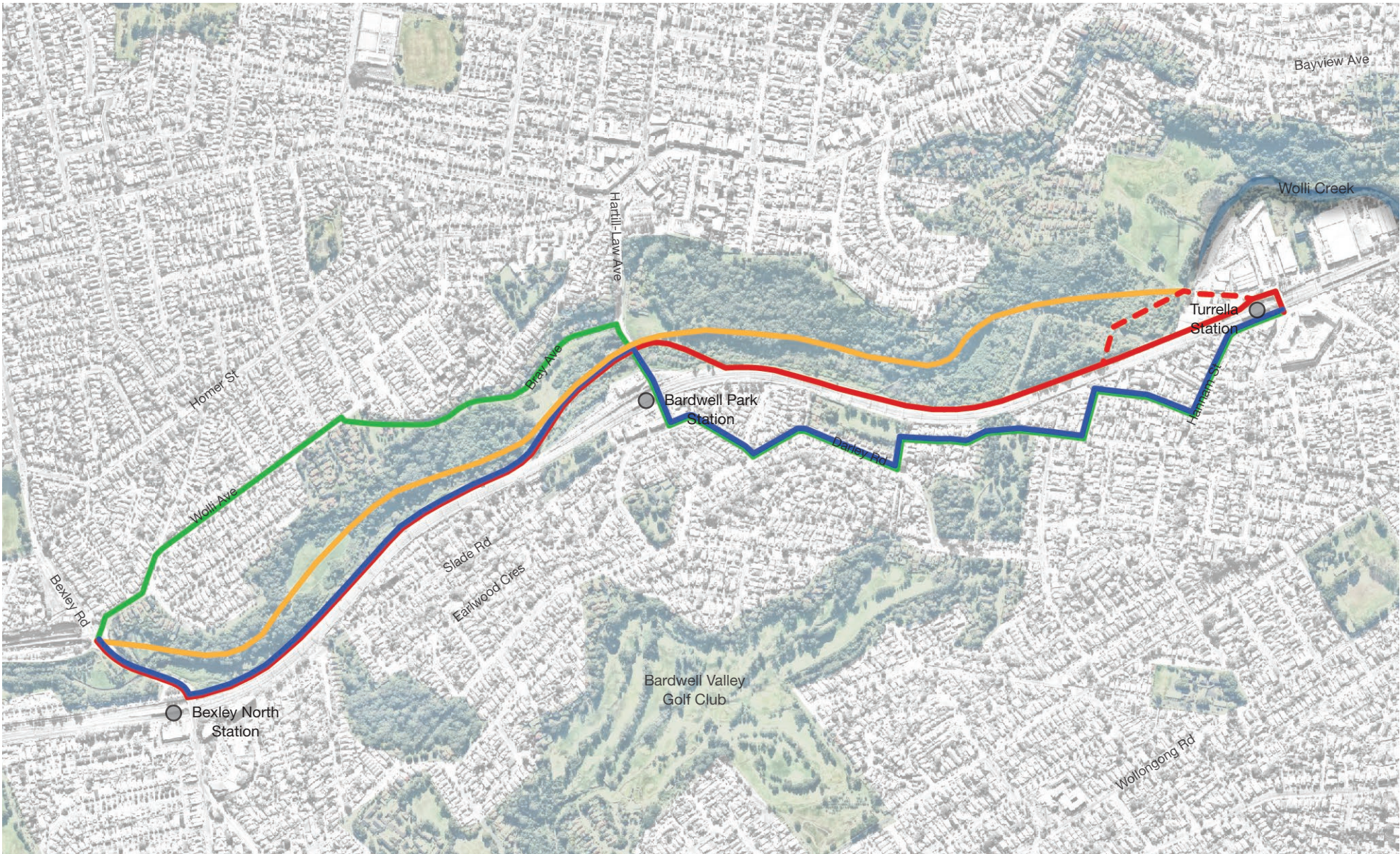


Figure 4.09 - M5 East Cycleways
Source: Roads and Traffic Authority NSW 2003

2003 April - Bexley North to Turrella Cycleway

Description

Further route planning and investigations were undertaken to further develop those routes previously identified in March 2003. An additional route, Route F, was developed in addition to the 5 previous route options. This route was the original rail corridor option from Bexley North Station to Bardwell Park Station and an on-road option between Bardwell Park Station and Turrella Station. The option included use of predominantly local roads and a crossing of Bardwell Valley Creek.

Outcomes

Further investigation of the preferred route was undertaken

Preferred route

Internal discussions within the RTA identified that Option F was the preferred route out of the 6 options that had been developed. The route was chosen as a 'compromise' route which partially met the preferences of Bicycle NSW for a dedicated off-road regional route and partially met the concerns raised by the local community with regards to the potential impacts of a regional cycle path on Wollie Creek Valley.

Legend

- Option A - Rail Corridor
- Option B - Modified Rail Corridor
- Option C - Park Route
- Option D - On Road
- Option E - Composite Road/Park
- Option F - Composite Rail/Road

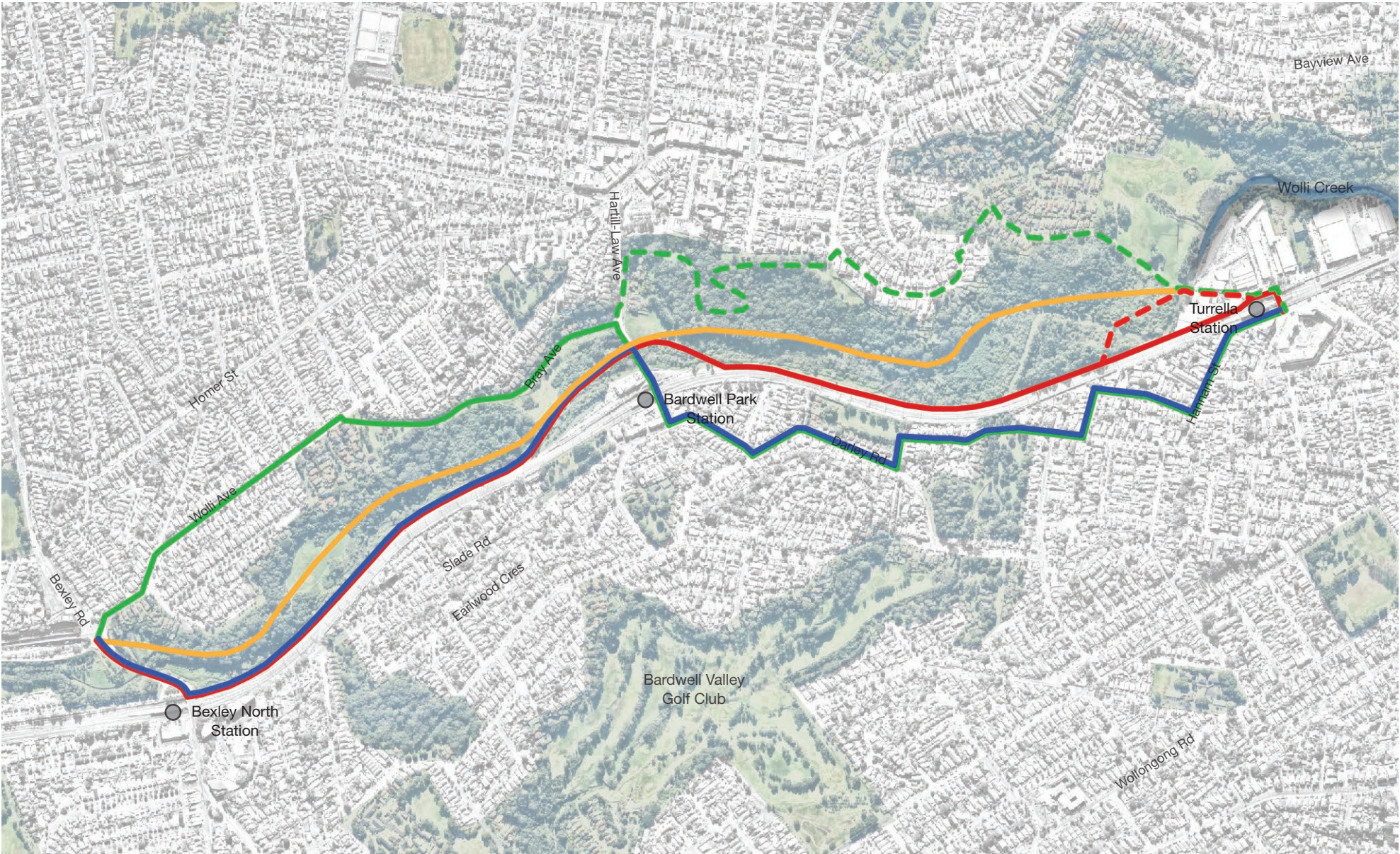


Figure 4.10 - Bexley North to Turrella Cycleway
Source: Roads and Traffic Authority NSW 2003

2004 March - Turrella Cycleway Options Assessment

Description

Geotech investigation on the rail embankment between Bexley North and Bardwell Park Stations was undertaken in October 2003 and found that the embankment was unstable. Due to cost impacts, an on road route was further considered. These included a series of routes for the Bexley to Turrella cycleway through a range of land ownership groups. These routes consisted of sections that were both on road and off road. Each route had identified preliminary design nonconformities such as grades, speed limits, detour factors and stops per average km. Preliminary major risks were identified such as environmental disturbances, flooding, personal safety, railway protection and geotechnical stability. The identified routes are shown in figure 4.11.

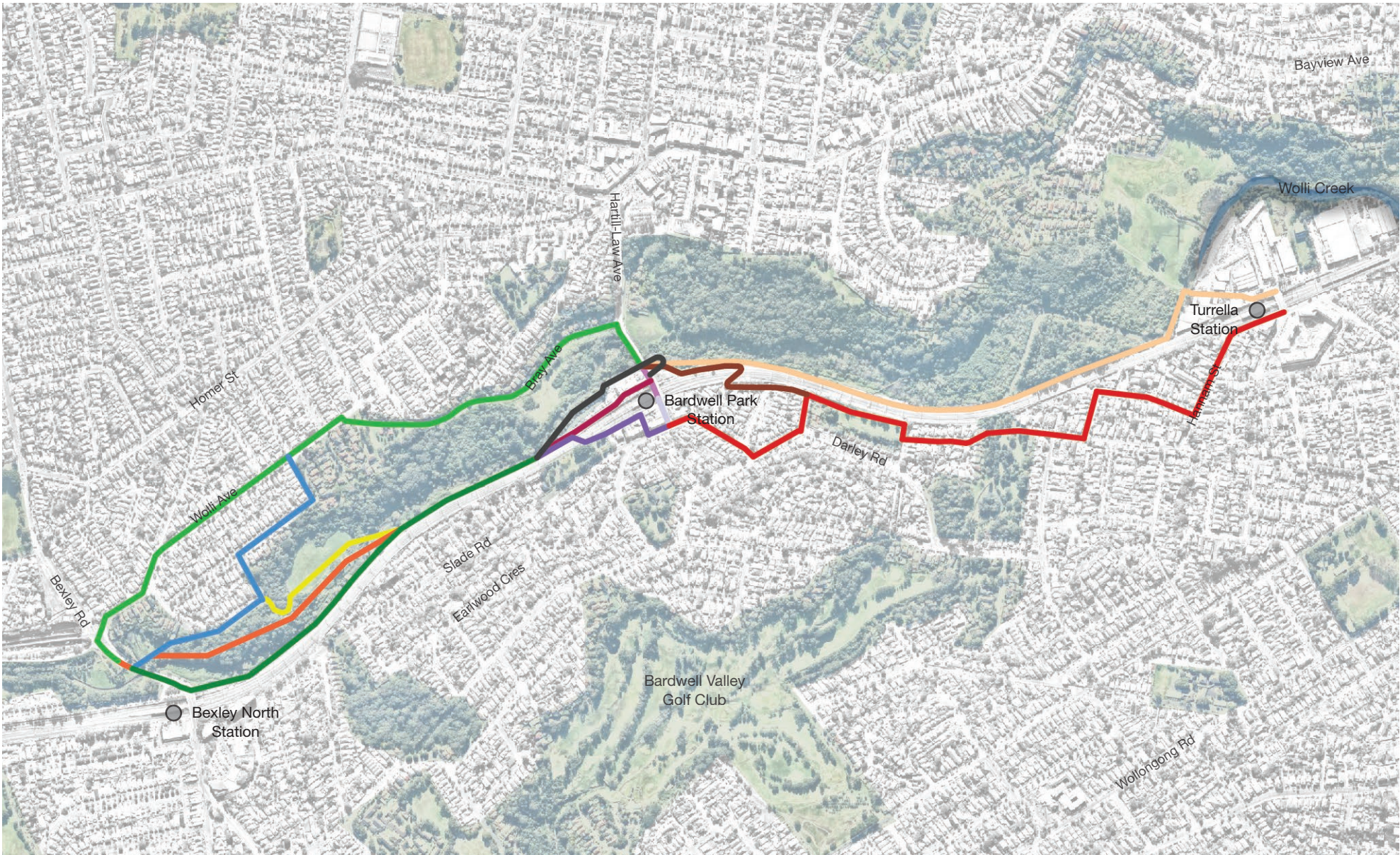
Preferred Route

No preferred route was identified, but routes that have been noted as ‘Feasible Option’ are as follows:

- A5: Rail Corridor BN-BP - off road 3m wide concrete path, bridge
- B5: Bridge over railway west of Bardwell Station - 3m wide concrete path, bridge
- B6: Bridge over railway east of Bardwell Station - 3m wide concrete path, bridge
- B7: Through RSL car park adjacent to railway - on road
- B8: RSL adjacent to Wolli Creek - 3m wide concrete path
- C2: Rail corridor BP-T - on road, some off road sections

Outcomes

- Key stakeholders were identified
- Strategic estimated costs were identified
- No preferred route was identified



Legend

- A1: Wolli Ave - on and off road
- A2: Through Reserve and Laneway - off road 3m wide concrete path
- A3: From Johnston St over Wolli Creek to Railway - off road 3m wide concrete path, bridge
- A4: Through Wolli Creek Regional Park - off road 3m wide concrete path, bridge
- A5: Rail Corridor BN-BP - off road 3m wide concrete path, bridge
- B1: Hartill-Law Ave Lane reconfiguration - on road
- B2: Hartill-Law Ave Bridge Widening - on road
- B3: Through shopping strip, awning adjustment - on road
- B4: Through shopping strip, minimum treatment - on road
- B5: Bridge over railway west of Bardwell Station - 3m wide concrete path, bridge
- B6: Bridge over railway east of Bardwell Station - 3m wide concrete path, bridge
- B7: Through RSL car park adjacent to railway - on road
- B8: RSL adjacent to Wolli Creek - 3m wide concrete path
- C1: On road through mostly local roads - on road, some off road sections
- C2: Rail corridor BP-T - on road, some off road sections

Figure 4.11 - Turrella Cycleway Options Assessment
Source: Roads and Traffic Authority NSW 2004

2004 March - Turrella Cycleway Options Assessment Preferred Routes

Description

As an outcome of the 'Turrella Cycleway Options Assessment', five preferred routes were selected which are shown in figure 4.12.

Preferred route

From these five routes, a favoured route was not documented

Outcomes

There is no further archival records on the planning for the M5 East Green Link

Legend

- Entire Route Option 1:
 - A5: Rail Corridor BN-BP
 - B8: RSL adjacent to Wolli Creek
 - C2: Rail corridor BP-T
- Entire Route Option 2:
 - A5: Rail Corridor BN-BP
 - B8: RSL adjacent to Wolli Creek
 - B6: Bridge over railway east of Bardwell Station
 - C1: On road through mostly local roads
- Entire Route Option 3:
 - A5: Rail Corridor BN-BP
 - B5: Bridge over railway west of Bardwell Station
 - C1: On road through mostly local roads
- Entire Route Option 4:
 - A5: Rail Corridor BN-BP
 - B8: RSL adjacent to Wolli Creek
 - B5: Bridge over railway west of Bardwell Station
 - C1: On road through mostly local roads
- Entire Route Option 5:
 - A1: Wolli Ave - on and off road
 - B6: Bridge over railway east of Bardwell Station
 - C1: On road through mostly local roads



Figure 4.12 - Turrella Cycleway Options Assessment
Source: Roads and Traffic Authority NSW 2004

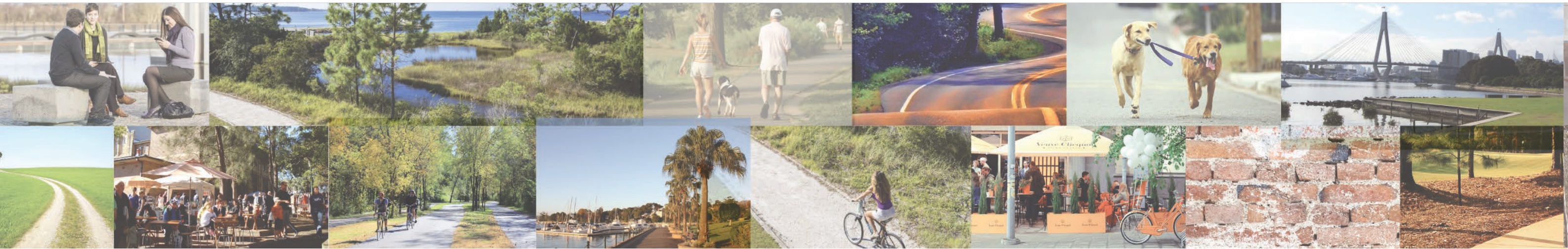
History Review - Summary of Turrella to Bexley North

A wide range of routes were investigated for a cycle path between Turella to Bexley North between 1994 to 2004. However despite substantial planning and design development, the original preferred route along the rail corridor was not considered feasible, at the time, due to the delays in obtaining RIC approval for use of the corridor, cost increases associated with the requirement to relocate RIC infrastructure, and community concerns raised over the potential

impact on Wolli Creek Valley. Route planning considered on-road route options, however these were not favoured by Bicycle NSW, had considerable constraints in terms of the steep grades of the local topography and ability to achieve a reliable connected network due to pinch points in a number of locations, particularly along Slade Road. A summary of the route investigation and planning is included in Table 4.01

Year	Route Type	Description	Discussion / Outcome	Constraints Identified	Stakeholder Issues
1994	<ul style="list-style-type: none">Wolli Creek ValleyRail Line	<ul style="list-style-type: none">Wolli Creek Valley: Route through Wolli Creek ValleyRail Line: Route along side of the railway embankment on RIC land	Concepts were produced to identify a preferred cycle route for the tunnel section of the M5 East. Preferred route was the rail line route.	<ul style="list-style-type: none">Wolli Creek Valley: Concept stage onlyRail Line: Concept stage only	<ul style="list-style-type: none">None identified
2001 Oct	<ul style="list-style-type: none">On roadWolli Creek ReserveRail Corridor	<ul style="list-style-type: none">Bicycle route along the south side of Wolli Creeks embankmentRoute through Wolli Creek ValleyOn road route from Bexley North Station to Turrella Station	Due to delayed approvals from RIC, additional routes were considered.	<ul style="list-style-type: none">On road: Steep grade on Slade Road and Darley RoadWolli Creek Reserve: May impact on the health of the landRail Corridor: Relocation of RIC infrastructure	<ul style="list-style-type: none">RIC in-principle support was given
2002 Feb	<ul style="list-style-type: none">Rail line	<ul style="list-style-type: none">Rail Line: Route along the railway embankment on RIC land	Support from RIC was obtained.	<ul style="list-style-type: none">Rail Line: Relocation of RIC infrastructure	<ul style="list-style-type: none">Formal approval had not been achieved for use of RIC land
2002 Nov	<ul style="list-style-type: none">Entirely on roadParklands routeGolf Club routeOn road alternativeOn and off road	<ul style="list-style-type: none">Entirely on road: On road route from Bexley North Station to Turrella StationParklands Route: Diverting through Coolibah Reserve and connecting back on road at Hannam StreetGolf Club route: Route through Bardwell Valley Golf Club and Coolibah ReserveOn road alternative: Using Earlwood Crescent as an alternative to a section of Slade RoadOn and off road: Diverting off of Darley Road to a bridge crossing over Bardwell Creek then connecting back onto Hannam Street	RIC investigated the relocation of infrastructure cost to be \$2.6M, alternative routes were proposed.	<ul style="list-style-type: none">Entirely on road: Steep grade on Slade Road and Darley RoadParklands Route: New infrastructure through parklandsGolf Club route: Bardwell Valley Golf ClubOn road alternative: Steep grade on Earlwood CrescentOn and off road: New Infrastructure through parklands	<ul style="list-style-type: none">RIC approval had not been achieved
2003 Feb	<ul style="list-style-type: none">Wolli Creek sideOn road and off roadEntirely on roadRail line	<ul style="list-style-type: none">Wolli Creek side: Bicycle route along the south side of Wolli Creeks embankmentOn road and off road: Off road through Illoura Reserve, on road to Turrella StationEntirely on road: On road route from Bexley North Station to Turrella StationRail line: Bicycle route along the south side of the rail line	RTA proposed a route along the Wolli Creek embankment, 'Wolli Creek Pathfinders' proposed alternative routes as the RTA proposal impacted the health of the land.	<ul style="list-style-type: none">Wolli Creek side: May impact on the health of the landOn road and off road: Infrastructure requirements through Illoura ReserveEntirely on road: Steep grade on Slade Road and Darley RoadRail line: Disruption of private properties	<ul style="list-style-type: none">Significant community approval concerns were raised over impacts on Wolli creek
2003 Mar	<ul style="list-style-type: none">Rail corridorRail corridor modifiedPark routeOn roadRoad/Rail	<ul style="list-style-type: none">Rail corridor: Bicycle route along the south side of Wolli Creeks embankmentRail corridor modified: Bicycle route along the south side of Wolli Creeks embankmentPark route: Route through Wolli Creek ValleyOn road: On road route north of Wolli Creek, crossing Bardwell Park Station and continuing on road on the south side of Wolli CreekRoad/Rail: Route along the rail line from Bexley North to Bardwell Park Stations then on road towards Turrella Station	Further investigation into alternative routes led to a preferred route that was both on road and in the rail corridor.	<ul style="list-style-type: none">Rail corridor: May impact on the health of the creekRail corridor modified: May impact on the health of the creekPark route: May impact on the health of the creekOn road: Steep grade on Bray AveRoad/Rail: Relocation of RIC infrastructure	<ul style="list-style-type: none">Bicycle NSW opposed on-road option
2003 Apr	<ul style="list-style-type: none">Rail corridorRail corridor modifiedPark routeOn roadRoad/parkRoad/rail	<ul style="list-style-type: none">Rail corridor: Bicycle route along the south side of Wolli Creeks embankmentRail corridor modified: Bicycle route along the south side of Wolli Creeks embankmentPark route: Route through Wolli Creek ValleyOn road: On road route north of Wolli Creek, crossing Bardwell Park Station and continuing on road on the south side of Wolli CreekRoad/Park: On road route north of Wolli Creek then off road through the north side of the Wolli Creek Valley until connecting to Turrella StationRoad/Rail: Route along the rail line from Bexley North to Bardwell Park Stations then on road towards Turrella Station	Further investigations towards a preferred route were undertaken. A hybrid (option F) was selected as the preferred option for further planning.	<ul style="list-style-type: none">Rail corridor: May impact on the health of the landRail corridor modified: May impact on the health of the creekPark route: May impact on the health of the landOn road: Steep grade on Bray AveRoad/Park: New infrastructure through parkRoad/Rail: Relocation of RIC infrastructure	<ul style="list-style-type: none">Concerns of stakeholders including Bicycle NSW, Friends of Wolli Creek and RIC were considered in route investigation
2004 Mar	<ul style="list-style-type: none">Rail CorridorRoad/RailRoad/RailRoad/RailOn road	<ul style="list-style-type: none">Rail corridor: Bicycle route along the south side of Wolli Creeks embankmentRoad/Rail: Route along the rail line from Bexley North to Bardwell Park Stations then on road towards Turrella StationRoad/Rail: Route along the rail line from Bexley North to just before Bardwell Park Station then on road towards Turrella StationRoad/Rail: Route along the rail line from Bexley North to Bardwell Park Stations then on road towards Turrella StationOn road: On road route north of Wolli Creek, crossing Bardwell Park Station and continuing on road on the south side of Wolli Creek	Geotech investigation found that the Wolli Creek embankment was unstable. Further investigations towards alternative routes were undertaken yet no preferred route was agreed.	<ul style="list-style-type: none">Rail corridor: May impact on the health of the creekRoad/Rail: New infrastructure over rail corridorOn road: Steep grade on Bray Ave	<ul style="list-style-type: none">Concerns of stakeholders including Bicycle NSW, Friends of Wolli Creek and RIC were considered in route investigation

Table 4.01 - Summary of route investigation





5.0 M5 East Linear Park

5.1 M5 EAST LINEAR PARK OVERVIEW

The M5 East Linear Park consists of open space adjacent to the north and south of the M5 between Bexley North and Kingsgrove. The open space varies in width along the route and is typically 10 to 30m in width along its route on both sides of the M5. The park consists of a shared path along the length of the park on both sides of the M5. The M5 Linear Park contains of four underpasses which enables pedestrian and cycle connectivity across the M5.

Currently, a regional cycle route runs parallel to the M5 East Motorway on both the north and south providing good quality access for pedestrians and cyclists travelling from King Georges Road in the west to Bexley Road in the east. This route consists of a 3 meter wide shared path with lighting on north and south of the M5 along its extent. The M5 East Linear Park cycle way access to this route from the north is relatively good while access to the south is limited due to the large industrial lots and Wolli Creek channel providing barriers to the shared path. Access from the east

is limited as there is lack of connections beyond Bexley Road towards the east. Connections to the M5 East Linear Park to the west exit via the improved pedestrian crossings at King Georges Road. Paths then continue west on the south side of the M5.

A section of the M5 Linear Park ATN will be temporarily removed as part of the construction of the New M5 western tunnel entry and exit portals. The ATN network will be reinstated after the construction works to its equivalent condition.

A copy of the design drawings for the new sections of 3m shared pathway delivered by the King Georges Road Interchange Upgrade Project and the New M5 Project are included as appendix 05.



King Georges Road Overpass



M5 East Cycleway



Wolli Creek Channel alongside the M5 East Motorway



Kingsgrove Avenue Reserve



Legend

- Regional Route - Council
- 1 King Georges Road Overpass
- 2 M5 East Cycleway
- 3 Wolli Creek Channel
- 4 Kingsgrove Avenue Reserve

NOTE: 'Regional Route - Council' include both existing and planned routes

Figure 5.01 - M5 East Linear Park Overview
Source: Roads and Traffic Authority NSW 2004

5.2 KING GEORGES ROAD INTERSECTION

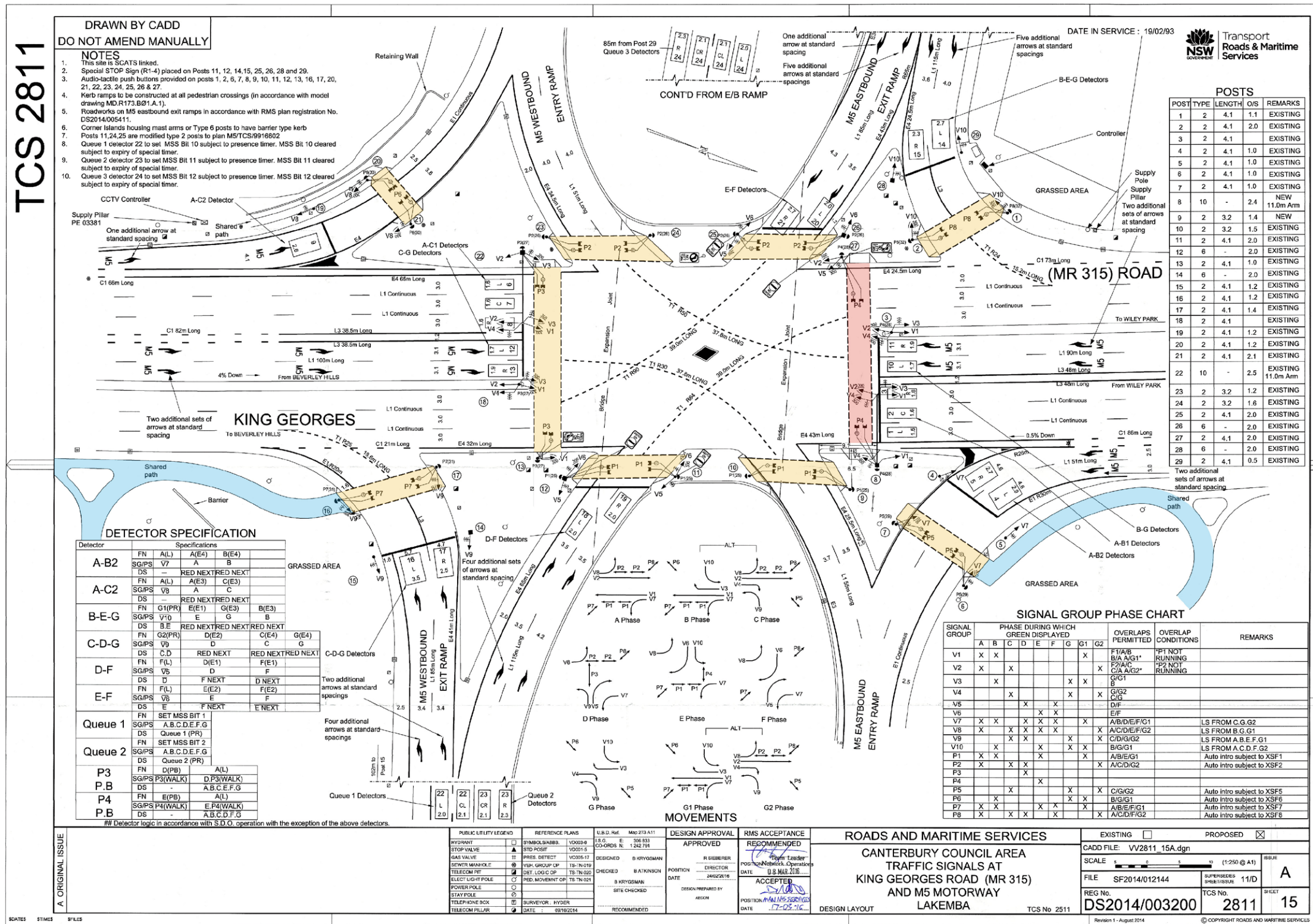
The Westconnex Stage 2 M5 King Georges Road Interchange Upgrade investigated options to improve the King Georges Road intersection for pedestrians and cyclists. This was addressed as part of the “Cyclist and Pedestrian Access Strategy: Part 2 Implementation”.

Westconnex completed a design review and feasibility assessment of the options presented in the EIS. An option to modify the signals at the intersection was also considered which included introducing a signal to the northern side of the intersection.

This option was accepted and the design for a modified signal intersection was further progressed. The approved design is shown in the following Figure 5.02.

It will enable a pedestrian or cyclist to cross from the north western corner to the north eastern corner of King Georges Road during peak periods within 1 minute of activating the crossing request. The study notes that the validity of this option is predicated on low pedestrian and cyclist use in peak periods in order not to compromise the vehicle traffic efficiency at the intersection.

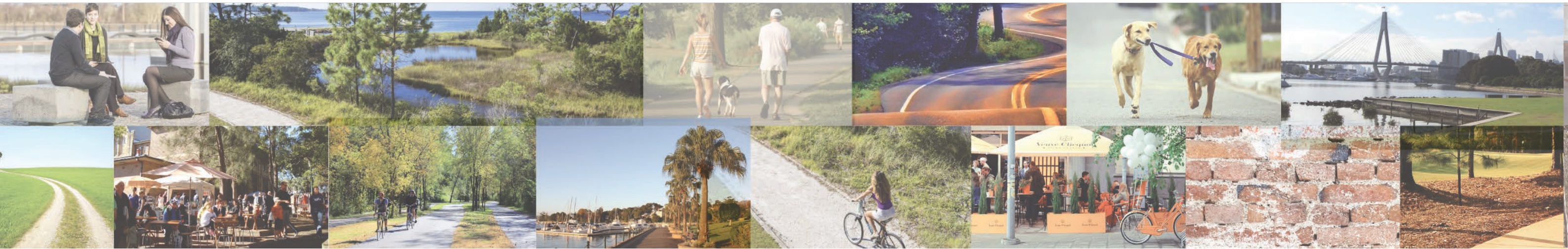
The TCS 2811 option is a better solution than the proposals put forward in the EIS which will result in an improved outcome for pedestrians and cyclists. This scope of work has been included in the King Georges Road Interchange Upgrade Project, with the work currently in progress. The revised traffic intersection will be completed and operational by the end of February 2017.



Legend

- Proposed Pedestrian / Cycle Crossing
- Existing Pedestrian / Cycle Crossing
- Existing Pedestrian / Cycle Shared Path

Figure 5.02 - King Georges Road Upgrade_TCS 2811
Source: KGRIU Cyclist & Pedestrian Strategy Part 2: Implementation V02 may 2016





6.0 Conclusion

6.1 CONCLUSION

This report has reviewed the existing ATN network route plans, existing ATN routes and the proposed routes as part of WestConnex New M5. A condition of this review is that there is not a reduced level of cycle and pedestrian infrastructure. With regards to the condition this review has found that there is not a reduced level of cycle and pedestrian infrastructure and specifically:

- There is an improved level of pedestrian and cycling infrastructure at St Peters Interchange including construction of a number of shared and separated paths
- There is a similar level of pedestrian and cycling structure in Kingsgrove/Bexley North after the reinstatement of the M5 East Linear Path northern shared path
- There is no substantive change to the pedestrian and cycling infrastructure along the “M5 East Green Link”

The following sections summarises the outcomes of this review on the impacts on pedestrian and cycling infrastructure as well as identification of proposed changes to improve the connectivity of the proposed New M5 pedestrian and cycling network

Element	Description	Length
Campbell Road cycle path	Separated cycleway along Campbell Road between Bourke Street and Unwins Bridge Road	1300 m
Alexandra Canal Bridge	New bridge providing connectivity between Mascot and St Peters and Sydney Park	100 m
Bourke Road separated cycle path	Shared cycleway along Bourke Road between Campbell Road and Church Ave	650 m
Campbell Road Landbridge	Improved connectivity into Sydney Park over Campbell Road	20-50 m
SPI Shared path	Behind properties 178-310 to Princes Highway	750 m
SPI Shared path	Along Canal Road linking to future Sydney Gateway ATN	500 m
Euston Road shared path (subject to further discussion with CoS)	Shared path along Euston Road between Campbell Road and Sydney Park Road	700 m
Sydney Park Road shared path	Shared path along Sydney Park Road between Mitchell Road and Euston Road	250m
New signalised intersection	Providing improved connectivity at Euston Road and Campbell Street	N/A
New signalised intersection replacing 2 lane round-about	Providing improved connectivity at Euston Road and Sydney Park Road	N/A
New signalised intersection replacing zebra crossing	Providing improved connectivity at Campbell St and St Peters St	N/A

to existing and planned local and regaional networks.

St Peters Interchange

The current ATN network is limited in the vicinity of the SPI. The SPI will add connectivity to the former landfill, a site that currently has no connectivity and will provide further connectivity, to the south through the future Sydney Gateway proposal. After completion of these two projects there will be a link from the airport and Alexandra Canal ATN in the south to Sydney Park and Bourke St Cycleway in the north.

As well as key regional level connectivity, there is enhanced local ATN connectivity to be provided as part of the SPI. This is outlined in the table below.

A number of connection links for further investigation were identified for the ATN at

Option	Description	Next Steps
A Airport Connection	Connectivity to future Sydney Gateway	Develop concept as part of Sydney Gateway & Canal Road investigated as part of B51 planning condition
B Sydenham Connection	Connecting St Peters Interchange to the residents of Sydenham and Sydenham Station across Princes Highway	Develop concept as part of B51 planning condition
C Enmore & Marrickville connection	Connecting end of Campbell Street, across railway and south west towards Cooks River	Develop concept as part of B51 planning condition
D Newtown Connection	King Street Gateway & Newtown link	Develop concept as part of King Street Gateway
E A2MP Connection	Connecting Sydney Park Road to the beginning of the Alexandria to Moore Park Upgrade	Develop concept as part of B51 planning condition

The following figure shows the connectivity gaps which are to be addressed in planning condition B51 and as part of the King Street Gateway.

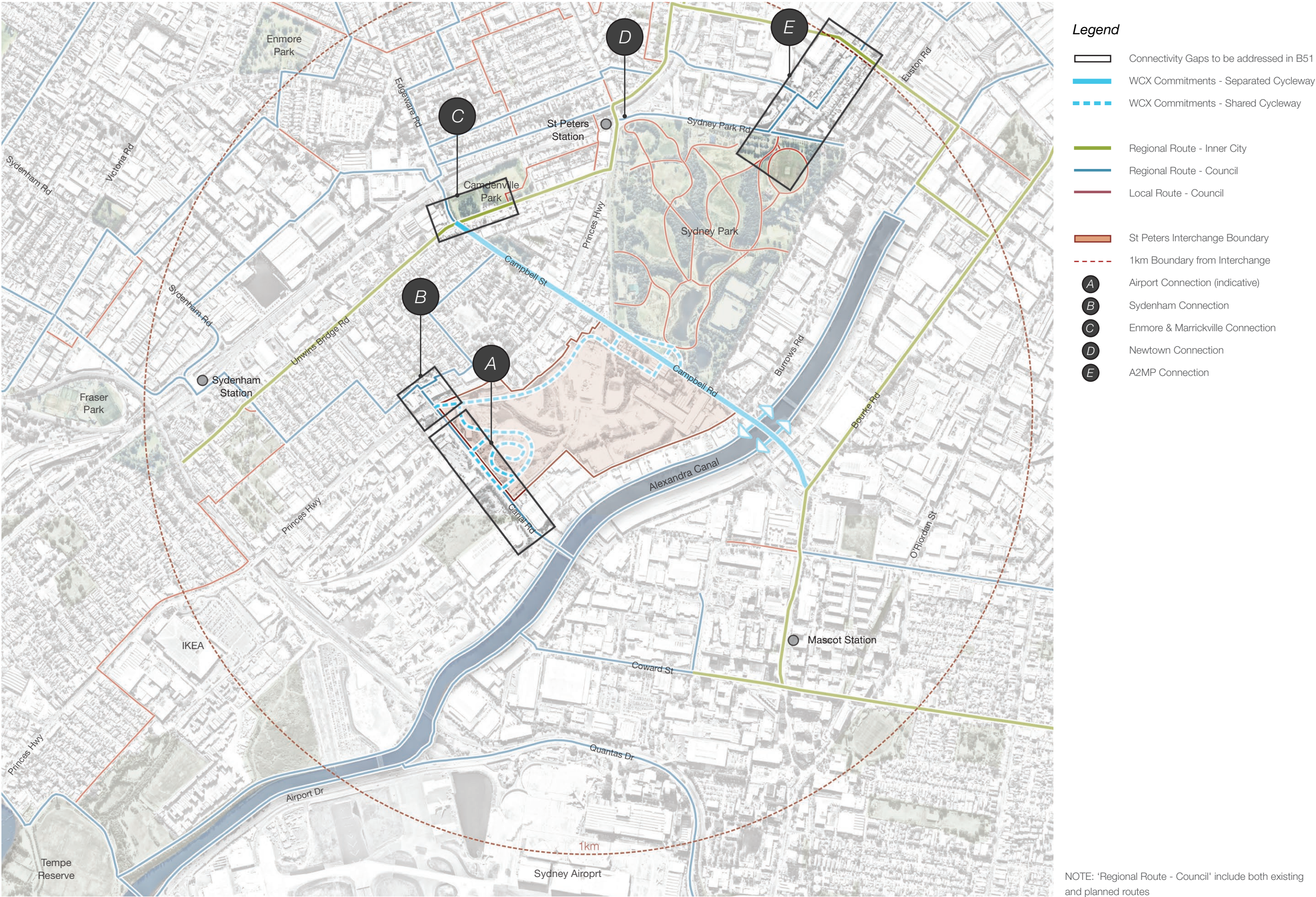


Figure 6.01 - Connectivity gaps to be addressed in B51

The ATN at SPI plays an important component in linking concurrent and future ATN projects which are planned including:

- City of Sydney Alexandra Canal path
- King St Gateway ATN network
- Sydney Gateway path network
- Alexandria to Moore Park path network

M5 Green Link (Mascot to Bexley North)

A review of the M5 Green Link has been undertaken. This review found that:

- The eastern section along Alexandra Canal from Coward Street to Marsh Street was constructed including a link to Tempe Recreational Reserve in the south
- The central eastern section was not constructed between Princes Highway and Turella as considerable re-development was under construction (e.g. Discovery Point at Wolli Creek) and this infrastructure was expected to be completed as part of the re-development. However this infrastructure was not constructed as part of the re-development.
- The central western section between Turella and Bexley North was not constructed. The original preferred route along the rail line was not achievable due to a combination of technical cost and timing constraints. Alternate routes were considered including a route along Wolli Creek which was not considered acceptable by sections of the local community due to its potential impacts on the health of the Wolli Creek bushland reserve. A large number of on-road routes were considered but each of these routes included constraints which limited suitability including steep terrain and/or narrow road carriageways
- The western section along the M5 Linear Park between Bexley North and Kingsgrove was constructed as a shared path on both sides of the existing M5.

The key existing impediment to the M5 Green Link is the section between Turella and Bexley North. A number of recent strategies, including by Council and RMS, have considered sections of this route but are not considered to have fully resolved the constraints or provided a regional ‘Green Link’ connection.

This review found that the M5 Green Link between Turella and Princes Highway is an important link in a regional ATN, as it links key destinations and existing ATN routes. This review has identified a number of issues in the historical implementation of the M5 East Green Link. All of these historical issues remain to date as do the various preferences and requirements of landowners and stakeholders regarding the preferred route.

Resolution of these issues and determination of the preferred route would require more time and resources due to the complexity of the route planning, the land ownership, the local site factors and the preferences of the various landowners and stakeholders.

As the M5 East Green Link is an important regional link it is recommended that further options be developed and a preferred route is identified. The key step for this to occur is discussions with landowners and stakeholders. It is noted that while there may be differences in the preferred route alignment between stakeholders, there is general agreement on the requirement for the M5 East Green Link as an important component of regional ATN infrastructure.

A process to identify and further develop the preferred option for the M5 East Green Link is outlined below

- Meet with key landowners, particularly Railcorp, NPWS, local Councils and Discovery Point development as well as local Councils to obtain their current position on co-location of regional ATN infrastructure within their land
- Identify and meet with relevant stakeholders and their key contacts (including Bicycle NSW, community groups such as the Wolli Creek Preservation Society, local residents) and obtain their current position on the development of the regional ATN infrastructure
- Document key issues and outcomes of stakeholder and landowners
- Develop route options based on stakeholder and landowner consultation
- Undertake consultation with landowners on the route options focussing on the proposed routes on their land
- Shortlist route options based on discussions with landowners and present shortlisted route options to all relevant stakeholders to determine preferred routes
- Refine shortlisted route options based on discussion with stakeholders and undertake further focussed consultation with relevant landowners as required
- Document and report on outcomes of route planning options and preferred route option

M5 East Linear Park (Kingsgrove to Bexley North)

There are temporary impacts associated with construction due to the impacts on sections of the shared path along the M5 Linear Path. However these impacts are minor due to the alternatives available including use of alternate shared paths. Post construction, the existing level of cyclist and pedestrian will be maintained after the re-construction of the existing shared paths to the same standards as existing shared paths.

This page is intentionally left blank

APPENDIX

- 1. Stakeholder Workshop Meeting Minutes - WestConnex Stage 2: Planning Conditions B50 Pedestrian and Cycle Implementation Strategy.
- 2. Stakeholder Workshop Meeting Presentation
- 3. Sample notifications of road and pathway modifications around SPI
- 4. Safety Audit
- 5. M5 Linear Park - Shared Path Upgrade

This page is intentionally left blank



APPENDIX 01

WCX Stage 2 – Planning Condition B50 – Pedestrian and Cycle Implementation Strategy



Name of meeting:	WestConnex Stage 2 - Planning Conditions B50 Pedestrian and Cycle Implementation Strategy
Location of meeting:	City of Sydney Council, Town Hall House
Meeting facilitator:	Grant Sutton, Project Manager, RMS
Date:	18 November 2016
Attendees:	Bryony Cooper (BC), CoS Elise Webster (EW), CoS Rene Chau (RC), Canterbury Bankstown Council Simon Lowe (SL), Inner West Council Michael Lee (ML), Bayside Council Ray Rice (RR), Bicycle NSW Leon Paap (LP),RMS Wayde Hazelton (WH), RMS Grant Sutton (GS), RMS David Knights (DK), McGregor Coxall Logan Pennington (LoP), McGregor Coxall
Subject:	Review of Pedestrian and Cycling Network and M5 East Green Link

	Meeting Minutes	ACTION
1	<p>The Review of the WestConnex and Council existing and / or proposed cycleways and routes were presented and the previous state of planning for the M5 East Green Link (refer attached presentation)</p> <p>Comments:</p> <ul style="list-style-type: none"> A comment was received on inclusion of Alexandra Canal and it was an agreed that this was an error that this was not included 	<p>DK to amend plans</p> <p>DK to include in next revision</p>
2	<p>St Peters Interchange</p> <p>Refer attached presentation for information presented on overall area and existing, planned and proposed New M5 Routes. It was noted that there was substantial redevelopment occurring and connectivity to key areas was discussed.</p> <ul style="list-style-type: none"> Discussion was held on the provision of facilities along the Sydney 	Noted

	Meeting Minutes	ACTION
	<p>Gateway project</p> <ul style="list-style-type: none"> The loss of connection along Qantas Drive was discussed and raised as a major issue. Councils and RMS support keeping the ATN link on Qantas Drive (BC/SL/RR/ML) Discussion was held on Euston Rd and the provision of ATN infrastructure along Euston Rd and street tree planting. It was noted that there were ongoing discussions about Euston Rd with City of Sydney which impacted on the proposed ATN along Euston Rd (BC) Alexandra Canal Bike Paths: Intended for eastern side to be completed by 2019 and western side was to be implemented by ongoing projects as they occurred (BC) The shared path along the northern boundary of the St Peters Interchange was supported, and it was noted that the safety (CPTED) for users of the shared path, width of the path and links at the south western end were the main outstanding concerns that needed to be addressed (SL/BC) 	<p>DK, GS to confirm</p> <p>Noted.</p> <p>Noted, DK to ensure consistency.</p> <p>Noted, allowance for connectivity to be provided.</p> <p>Noted. DK/GS to investigate</p>
3	<p>M5 Linear Park</p> <ul style="list-style-type: none"> Connectivity across King Georges Rd was raised as an issue and the requirement to minimise waiting times for cyclists and pedestrians to cross the interchange (RR) Bridge across King Georges Rd was discussed (RR). It was noted that a bridge was not currently proposed as part of the KGRI upgrade works (DK/GS) A query was raised about the existing widths and lighting of the shared paths in the linear park and whether they met current standards (RR) A query was raised about the proposed widths and lighting of the shared paths to be replaced in the linear park and what standards were to be provided (RR) 	<p>DK to further investigate</p> <p>DK to investigate</p> <p>DK to investigate</p>
4	<p>M5 East Green Link</p> <p>WH discussed his latest strategy as part of the principle bicycle network planning.</p> <p>Noted:</p> <ul style="list-style-type: none"> The M5 Green Link was noted as an important link between south-western Sydney and the airport (RR, WH) Canterbury Council has proposed an on-road route along the north side, but that this was only considered as a local route/connection (RC) There was discussion about the route and the preferred route and potential options (All) Bicycle NSW indicated that there was a preference for an important regional route such as this to be an off road route, as direct as possible (RR) It was noted that previous historical concerns about impacts on Wolli Creek may have changed with time due to improvements in 	<p>DK to include comments in report.</p>

	Meeting Minutes	ACTION
	<p>construction approaches</p> <ul style="list-style-type: none"> It was noted that alternate designs to allow simpler construction along the rail corridor could make the rail option simpler and more feasible It was noted that at the western end of the route the rail corridor was generally preferred 	
5	<p>Further Actions:</p> <ul style="list-style-type: none"> RMS to finalise and issue B50 report RMS to incorporate comments and to further develop concepts as part of B51 report 	<p>DK/GS</p> <p>GS</p>

APPENDIX 02

M5 East Green Link Presentation

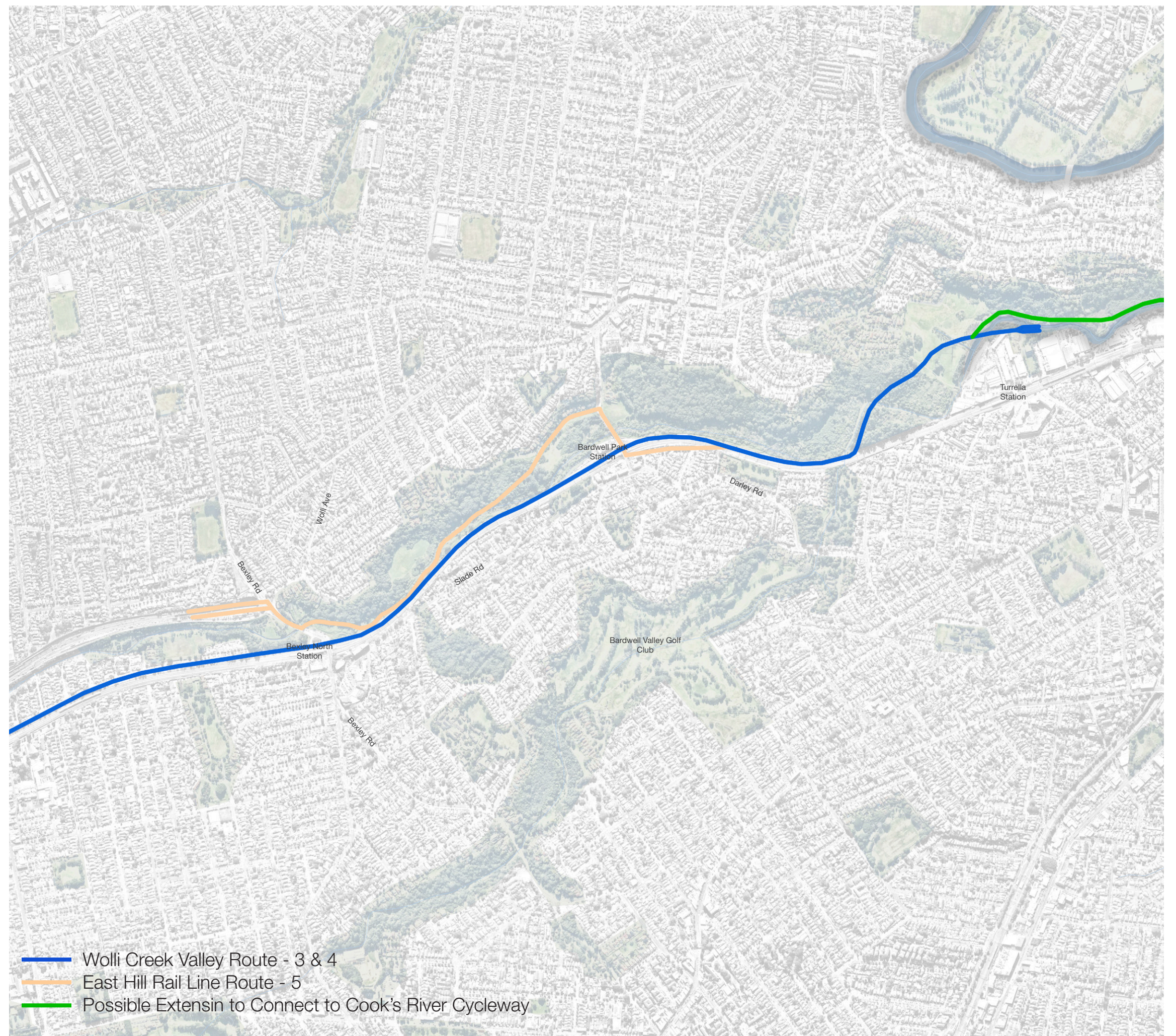


M5 EAST GREEN LINK ACTIVE TRANSPORT NETWORK

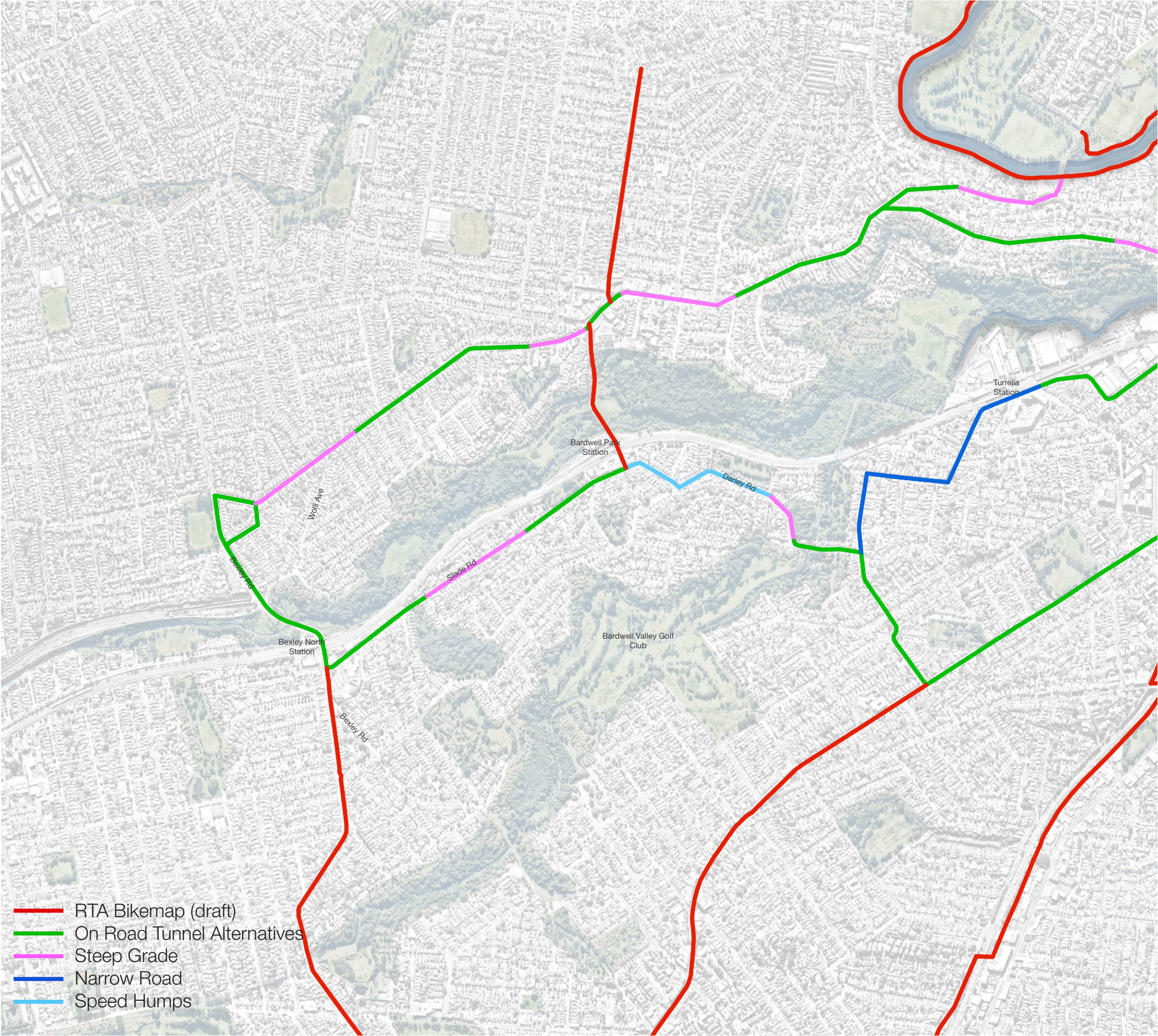
Workshop

18.11.2016

M5 East Motorway Bicycle Planning Report 1994



M5 East Motorway
Bicycle Planning
Report
1994



M5 East Cycleways

August 2001

