

8.11. Burton Street and Bligh Street Kirribilli - Permanent Closure and Shared Zone Design Concepts and Engagement Strategy

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ATTACHMENTS:

1. Burton St Closure & Bligh St Shared Zone - Concepts Design Sept 2022 [**8.11.1** - 34 pages]
2. Community Engagement Strategy - Permanent Burton Street closure and Bligh Street shared zone Kirrib [**8.11.2** - 6 pages]
3. Burton Street Permanent Closure Transport Impact Assessment - DRAFT [**8.11.3** - 37 pages]
4. Bligh Street Shared Zone Assessment Report [**8.11.4** - 20 pages]

PURPOSE:

This report seeks Council's endorsement for the public exhibition of the Detailed Concept Design Options for the permanent closure of Burton Street and the transformation of Bligh Street shared zone, Kirribilli.

EXECUTIVE SUMMARY:

Council at its meeting on 26 April 2022 endorsed the permanent closure of Burton Street, between Humphrey Place and Broughton Street and the permanent transformation of Bligh Street into a Shared Zone, Kirribilli. It was also resolved that before proceeding with the final design of both the permanent closure of Burton Street and the transformation of Bligh Street, Concept Design Options were brought back to Council for endorsement.

Council engaged the professional consultancy services of Turf Design Studio to prepare two design concepts for the proposed Burton Street pedestrian plaza and Bligh Street shared zone. The Burton Street pedestrian plaza and Bligh Street Shared zone projects are included in the Masterplan for the Public Domain upgrade of Kirribilli Village Centre adopted by Council at its 3741st meeting held on 22 February 2021. The detailed design concepts included in this report are based in the initial concepts that were publicly exhibited and adopted by Council in the Masterplan document.

Council is seeking community feedback to complete the final detailed design for tender and construction of both projects with broader community input (refer to the Community Engagement strategy attached to this report).

The Burton Street pedestrian plaza and Bligh Street Shared zone were also part of a trial in 2021 under the "Streets as Shared Spaces" program whereby Council received funding from the Department of Industry and Environment (DPIE) to trial the closure of Burton Street and

implement a shared zone in Bligh Street. The outcome of the trial was reported to Council on 26 April 2022.

A Councillor Briefing session on these projects was held 20 September 2022.

FINANCIAL IMPLICATIONS:

Funding for this project is included in the Capital Works delivery program in 2022-23. The project is also partially funded through funds carried over from the Special Rate Variation (SRV) 2021/2022 financial year.

RECOMMENDATION:

1. THAT the detailed concept design options for the permanent closure of Burton Street and transformation of Bligh Street into a shared zone be placed on public exhibition for 28 days.

2. THAT A Public Exhibition Period of 28 days is endorsed for these two projects because the proposed sites have been previously publicly exhibited for community consultation for 245 days as follows:

- Kirribilli Masterplan Consultation (60 days) between September and November 2020
- Burton Street Pilot closure and Bligh Street Pilot shared zone (185 days) between September 2021 to 31 March 2022

Both public consultations resulted in majority support for the projects

3. THAT consultation with the Community on the concept design options for the permanent closure of Burton Street and the transformation of Bligh Street shared zone be undertaken in accordance with the attached Community Engagement Strategy.

4. THAT a report on the outcomes of the Community Consultation be prepared and brought back to Council, along with the preferred final concept designs for both projects at the end of the 28-day exhibition and consultation period.

LINK TO COMMUNITY STRATEGIC PLAN

The relationship with the Community Strategic Plan is as follows:

1. Our Living Environment

1.4 Well utilised open space and recreational facilities

2. Our Built Infrastructure

2.1 Infrastructure and assets meet diverse community needs

2.2 Vibrant public domains and villages

3. Our Innovative City

3.1 Our commercial centres are prosperous and vibrant

3.3 Distinctive sense of place and design excellence

BACKGROUND

Kirribilli Village Centres Public Domain Master Plan – adopted by Council February 2021

The public domain of the Kirribilli Village Centre area is in need of upgrading. This area in its current form was designed and built in the mid 1990's and is now looking progressively outdated and tired. In the Kirribilli Village Centre, there are multiple layers of streetscape elements which have been combined together over the decades creating an Ad-hoc streetscape character that is visually inconsistent and difficult for Council to maintain. The colour scheme, paving materials and streetscape furniture do not resonate with current contemporary approaches of Urban Design and "Place Making". In addition, some of the various palettes of materials originally used have performed poorly over those years.

To plan for the upgrade of the Kirribilli Village Centre, Council engaged the professional consultancy services of Turf Design Studio to prepare Masterplan for the proposed (next generation) Public Domain upgrade of this iconic harbourside Village.

Council, at its meeting on 23 July 2020, endorsed the public exhibition of the "Draft" Masterplan for the Public Domain upgrade of Kirribilli Village Centre for 60 days. Community consultation was undertaken between September and November 2020.

As part of the consultation outcomes on the Master Plan, the following six (6) key areas were identified as priority projects to be implemented as part of this Masterplan:

1. Milsons Point Station arrival (Upper and Lower Ennis Road)
2. Burton Street Underpass
3. Burton Street "Green Heart" (Closure of Burton Street between Humphrey Place and Broughton Street)
4. Broughton High Street
5. Bligh Street Community Heart (Shared Zone)
6. Fitzroy Street upgrade

Partial funding for these projects was included in the Special Rate Variation (SRV) and Capital Works for the financial year 2021/2022. The implementation of this Masterplan is a long-term program that will be implemented as funding becomes available.

The Masterplan is being used to inform forward planning for Council's Streetscape Upgrades in the Kirribilli Village Centre and future Capital Works budgets as well as assist Council with applying for grant funding to implement the identified priority projects.

The projects identified in the Kirribilli Village Centre Public Domain Masterplan also complemented the Kirribilli and Milsons Point 40km/h HPAA program which was completed in December 2021.

Consultation on the Master Plan – September to November 2020.

Community Consultation on the Kirribilli Village Centre – Public Domain Master Plan was undertaken between 1 September to 1 November 2020.

Council received a total of 79 submissions, comprising 14 written submissions and 65 online submission forms. The majority of submissions received by Council supported the proposal to upgrade the Kirribilli Village Centre in accordance with the Master Plan. (86.08% overall support for the proposal).

The survey which formed the basis of the Community Consultation asked specific questions about the projects identified in the Master Plan. The relevant questions asked in relation to the projects that are the subject of this report were Qs 1, 3 and 5. The results were as follows:

Question 1 - (MANDATORY) Do you support the objectives of the draft Masterplan?

Respondents were asked to indicate a preference for this question being Support, neither support nor oppose, Oppose, or don't know. A summary of the results to this survey question is below.

1. Support – 87.7%
2. Neither support nor oppose – 3.1%
3. Oppose – 6.1%
4. Don't know – 3.1%

Question 3 - (OPTIONAL) Do you support the temporary pedestrianisation of Burton Street – between Broughton Street and Humphrey Place?

Respondents were asked to indicate a preference for this question being Yes, No, don't know or provide further details. A summary of the results to this survey question is below.

1. Yes – 84.13%
2. No – 7.93%
3. Don't know – 0%
4. Provide detail – 7.93%

Question 5 - (OPTIONAL) Do you support the temporary Shared Zone implementation at Bligh Street

Respondents were asked to indicate a preference for this question being Yes – No or provide further details. A summary of the results to this survey question is below.

1. Yes – 70.6%
2. No – 11.8%
3. Don't know – 4.4%
4. Provide detail – 13.2%

These results were reported to Council at its meeting held 22 February 2021. Based on the outcomes of this consultation specifically around the closure of Burton Street and the transformation of Bligh Street as a Shared Zone Council resolved the following:

- 1.THAT** Council notes the submissions received.
- 2.THAT** the Masterplan for the Public Domain upgrade of Kirribilli Village Centre including the amendments made as a result of the feedback received during the community consultation period be adopted.
- 3.THAT** Council proceeds with detailed design and construction of the Burton Street – green heart project (i.e., the plaza between Burton St and Crescent Lane), to be in place for a period of 6 months, which is funded through the NSW Department of Planning, Industry and Environment “Streets and Shared Spaces Grant”
- 4.THAT** the works planned for the Burton St tunnel underpass be deferred until roadworks and line marking (that will provide offset parking spaces) is completed.
- 5.THAT** Council proceeds with detailed design and construction of Bligh Street- Pilot Shared Zone, to be in place for a period of 6 months, which is funded through the NSW Department of Planning, Industry and Environment “Streets and Shared Spaces Grant”
- 6.THAT** should Council resolve to proceed with the pilot projects, that approval from the North Sydney Traffic Committee be sought under delegation to the Manager Traffic and Transport Operations for the road closures and shared zone implementation, under the TfNSW Special Covid-19 traffic regulation delegation to Councils - Section 115 of the Roads Act 1993 for temporary pedestrian and bicycle works.
- 7.THAT** Council endorses the grant application submitted to NSW Department of Planning, Industry and Environment, on 29 January 2021, for “Your High Street” Grant program, nominating the Broughton Street - "High Street" - Permanent Upgrade Works - Project. Formal Council endorsement is a requirement of the “Your High Street” Grant program guidelines – refer to attachment 4.

“Streets as Shared Spaces” (DPIE) – Grant Funding Deed

Council applied for and received \$1 million in Grant funding through this program in July 2020.

Council’s application under this program identified \$500,000 for the temporary (pilot) closure of Burton Street, and transformation of Bligh Street into a “Shared Zone”. Another \$500,000 was allocated to the pilot pedestrianisation of Miller Street between Pacific Highway and Berry Street. The outcome of the Grant applications and what projects Council had received funding for was reported and endorsed by Council on 24 August 2020.

It was identified in the detail section of the report that went to Council that the “Category 2”: Pilot Projects Medium-term, that Improve or Activate Streets as Shared Public Spaces that Council had received \$1,000,000 for were as follows:

1. Pilot pedestrianisation of Miller Street – between Pacific Highway and Berry Street – North Sydney
2. Pilot pedestrianisation of Burton Street – between Broughton Street and Humphrey Place – Kirribilli
3. Pilot pedestrianisation for Burton Street underpass between Alfred Street South and Broughton – Kirribilli
4. Pilot shared zone implementation at Bligh Street – Kirribilli.

North Sydney Council had 12 months to do these projects and report back to the NSW State Governments “Streets as Shared Spaces Program” which is administered through the NSW Department of Planning, Industry and Environment (DPIE). A Councillor Briefing was held on 15 June 2020 in relation to the Kirribilli Village Centre – Public Domain Master Plan and the key projects that formed part of the Master Plan. Two key projects identified at the briefing included the closure of Burton Street (“Green Heart” project) and also the transformation of Bligh Street into a Shared Zone.

Pilot Projects - Burton Street Plaza and Bligh Street Transformation

The Burton Street trial plaza and road closure commenced on 27 September 2021. Community consultation on the Trial closure was undertaken from 27 September 2021 to 31 March 2022. Feedback was also received during the construction period. The outcomes of the community consultation were reported to Council at its meeting 3758th held on 26 April 2022.

During the consultation for the pilot projects Council received a total of 233 submissions, comprising 220 online submissions, 12 written submissions and from 1 Precinct Committee. The majority (88%) of submissions support the proposal, 6% did not express support/opposition, or were neutral to the proposal, while 6% oppose the permanent plaza and road closure.

Prior to the closure of Burton Street, a Traffic Study was undertaken to model the traffic and parking impacts on the local road network in the Kirribilli Village Centre. In summary this report found that there was very little loss of service levels as a result of the closure, particularly at the intersection of Crescent Place and Broughton Street during the AM and PM peak periods.

During the trial period Council also commissioned a Human Movement Data Study by Urbis Consultants. This study measured and analysed visitation figures for the “Public Plaza”. The study showed visitation increased to Burton Street and Kirribilli, 58% higher than the historical period.

A report with the Consultation outcome was brought to Council at its meeting on 26 April 2022. During this meeting Council resolved:

- 1. THAT** Council notes the community feedback received during the trial pedestrian plaza and road closure in Burton Street, Kirribilli.
- 2. THAT** Council notes the results of the Traffic Study as well as the Human Movement Data Study that was undertaken during the trial pedestrian plaza and road closure in Burton Street Kirribilli.
- 3. THAT** Council proceeds with the permanent closure of Burton Street, between Humphrey Place and Broughton Street and the permanent transformation of Bligh Street into a Shared Zone, Kirribilli.
- 4. THAT** the final designs for both the permanent closure of Burton Street and the transformation of Bligh Street be brought back to Council for endorsement before proceeding to detail design, tender and construction.
- 5. THAT** the current Burton Street Road closure and the Bligh Street Shared Zone remain in place until Council makes a decision to proceed with the permanent closure and shared zone designs.
- 6. THAT** consultation be undertaken with the neighbouring businesses, residents and schools prior to construction.

The community feedback, traffic and human analytics studies were used to inform the development of the Concept Design Options for the permanent closure of Burton Street and the transformation of Bligh Street shared zone.

This report details the Concept Design Options for the permanent closure of Burton Street and the transformation of Bligh Street shared zone.

CONSULTATION REQUIREMENTS

Community engagement will be undertaken in accordance with Council's Community Engagement Protocol and the attached Community Engagement Strategy.

A Councillor Briefing session was held 20 September 2022.

It is proposed that the Concept Design Options for the permanent Burton Street closure and Bligh Street shared zone be put on Public Exhibition for 28 days so that the community and key stakeholders have the opportunity to provide feedback to Council on the selection of a preferred option for each site. During that time Council will also be consulting with the community in accordance with the Community Engagement Strategy attached.

A shortened Public Exhibition Period of 28 days is recommended for this project. These two sites were an integral part of the Kirribilli Masterplan Consultation (60 days) and the additional community consultation completed as part of the trial implementation of Burton Street Pilot closure and Bligh Street Pilot shared zone (185 days). Both consultations resulted in the majority of submissions received supporting the permanent closure Burton Street and transformation of Bligh Street into a Shared Zone.

DETAIL

In response to the Council resolution of 26 April 2022, Council engaged the professional consultancy services of Turf Design Studio to prepare two detailed design concepts for each site - Burton Street permanent closure and transformation into a pedestrian plaza and the conversion of Bligh Street into a permanent Shared Zone. The design concepts are based on the adopted Masterplan for the Kirribilli Village Public Domain improvements and incorporate the feedback received in both previous Community Consultation periods.

1. Detailed Design Concepts - Burton Street Permanent Closure

The consultants developed two Detailed Design concept Options for the permanent closure of Burton Street and the creation of a permanent pedestrian plaza. Finishes to both layouts are similar and in accordance with Council's adopted Public Design Style Manual and Kirribilli Village Centre Public Domain Masterplan.

1.1. Option 1 - Burton Street Permanent Closure

Design features:

- New precast concrete feature seating around existing outdoor dining areas to take up level change and separate dining spaces from the pedestrian space.
- New understorey and tree planting buffer to road edge at both ends, including 2 x new Jacaranda trees at Broughton Street end.
- New streetscape furniture and finishes in accordance with Council's Public Domain Style Manual and Kirribilli Streetscape Upgrade Masterplan.
- Retain existing catenary & fairy lights from the trial period.
- Retain existing bins from the trial period.
- Re-use existing circular concrete seats from the temporary closure with new timber top fitting from the trial period.
- Re-use existing plants and ground covers from the trial plaza

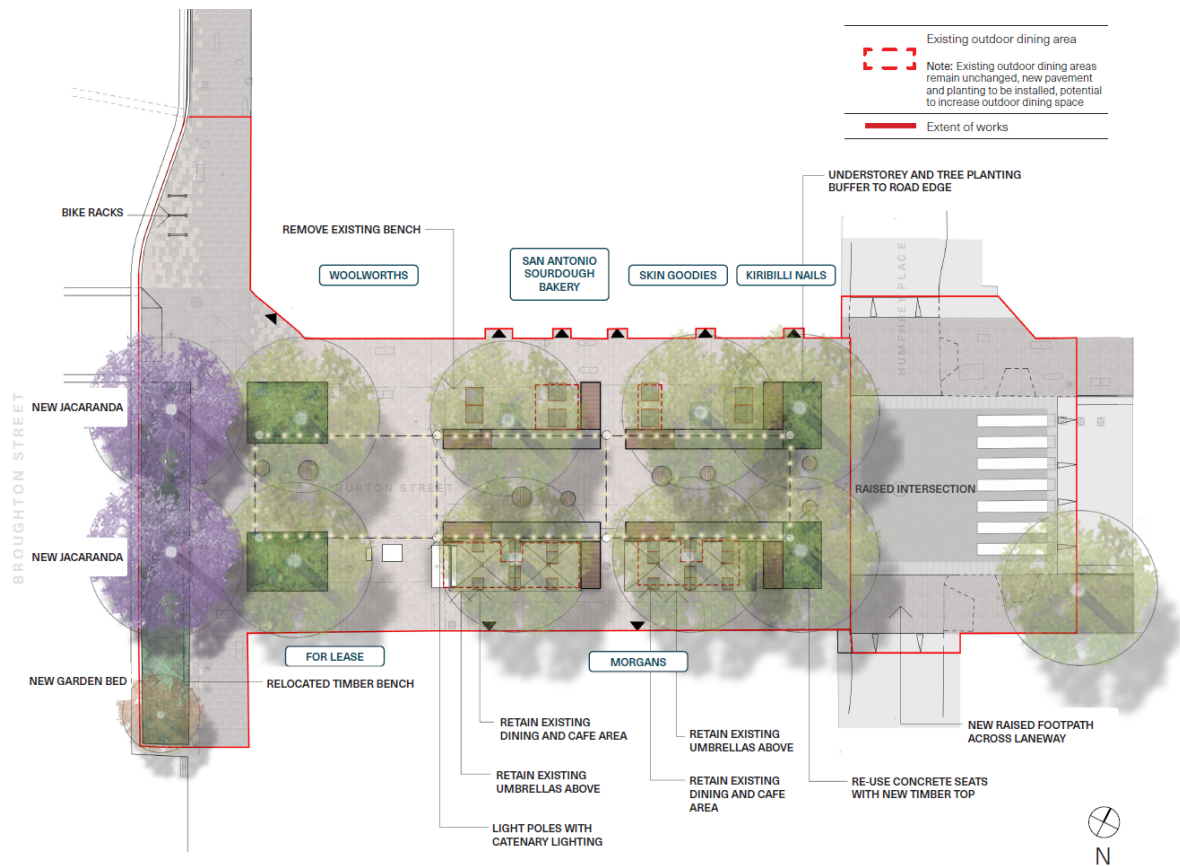


Image 1 - Burton Street Option 1 Layout - Existing levels & no kerbs



Image 2 - Burton Street Option 1 Daytime Photomontage – View from Humphrey Place



Image 3 - Burton Street Option 1 Night time Photomontage – View from Humphrey Place



Image 4 - Burton Street Option 1 Daytime Photomontage – View from Broughton Street



Image 5 - Burton Street Option 1 Night time Photomontage – View from Broughton Street

1.2. Option 2 - Burton Street Permanent Closure

Design features:

- New stepped level platforms in the plaza mid-section to potentially increase opportunities for outdoor dining.
- New understorey and tree planting buffer to road edge at both ends, including 2 x new jacaranda trees at Broughton Street end.
- New walkway on both sides of the plaza to allow access to people with disabilities and families with prams.
- New streetscape furniture and finishes in accordance with Council's Public Domain Style Manual and Kirribilli Streetscape Upgrade Masterplan.
- Retain existing catenary & fairy lights from the trial period.
- Retain existing bins from the trial period.
- Re-use existing circular concrete seats from the temporary closure with new timber top fitting from the trial period.
- Re-use existing plants and ground covers from the trial plaza

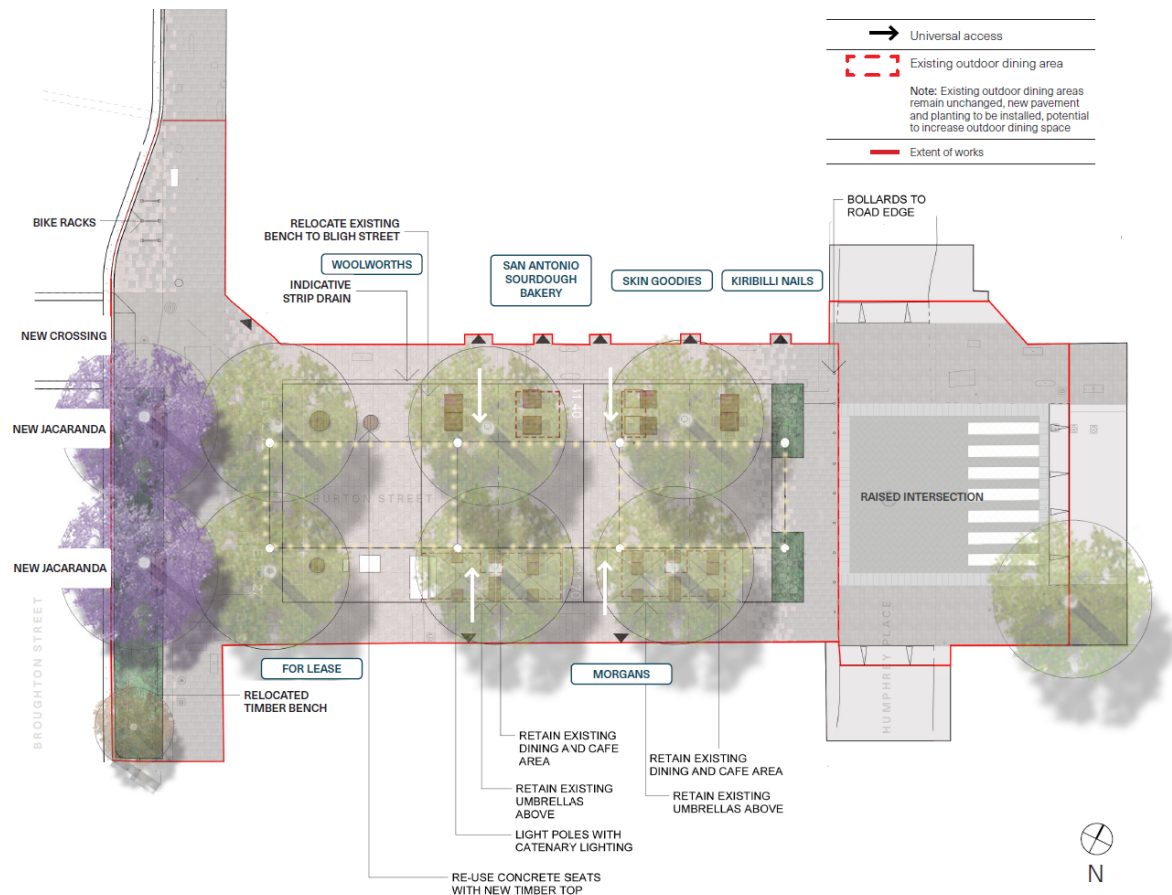


Image 6 - Burton Street Option 2 Layout - Stepped level platforms



Image 7 - Burton Street Option 2 Daytime Photomontage – View from Humphrey Place



Image 8 - Burton Street Option 2 Night time Photomontage – View from Humphrey Place



Image 9 - Burton Street Option 2 Daytime Photomontage – View from Broughton Street



Image 10 - Burton Street Option 1 Night time Photomontage – View from Broughton Street

2. Detailed Design Concept – Bligh Street Shared Zone

The consultants developed two Detailed Design concept Options for the permanent transformation of Bligh Street into a Shared Zone. Finishes to both layouts are in accordance with Council's adopted Public Design Style Manual and the Kirribilli Village Centre Public Domain Masterplan.

2.1 Bligh Street Shared Zone Layout

Proposed concept design Option 1 and Option 2 comprise the same layout. The difference between both options is only the pavement surface finishes giving the opportunity to select between different colour, texture and materials.

Design features:

- Removal of kerb to increase the sense of pedestrian priority.
- Traffic calming treatments on both ends of the shared zone with Proposed speed limit 10 km/h and shared zones regulatory signage.
- LED up lights to planting and trees.
- New pavement surface to highlight the difference in the street environment from the surrounding road network.
- Proposed planting of 2 new trees with fairy lighting
- Existing parking/loading bay to remain
- New streetscape furniture and finishes in accordance with Council's Public Domain Style Manual and Kirribilli Streetscape Upgrade Masterplan.
- Existing planter boxes from the pilot shared zone painted black.

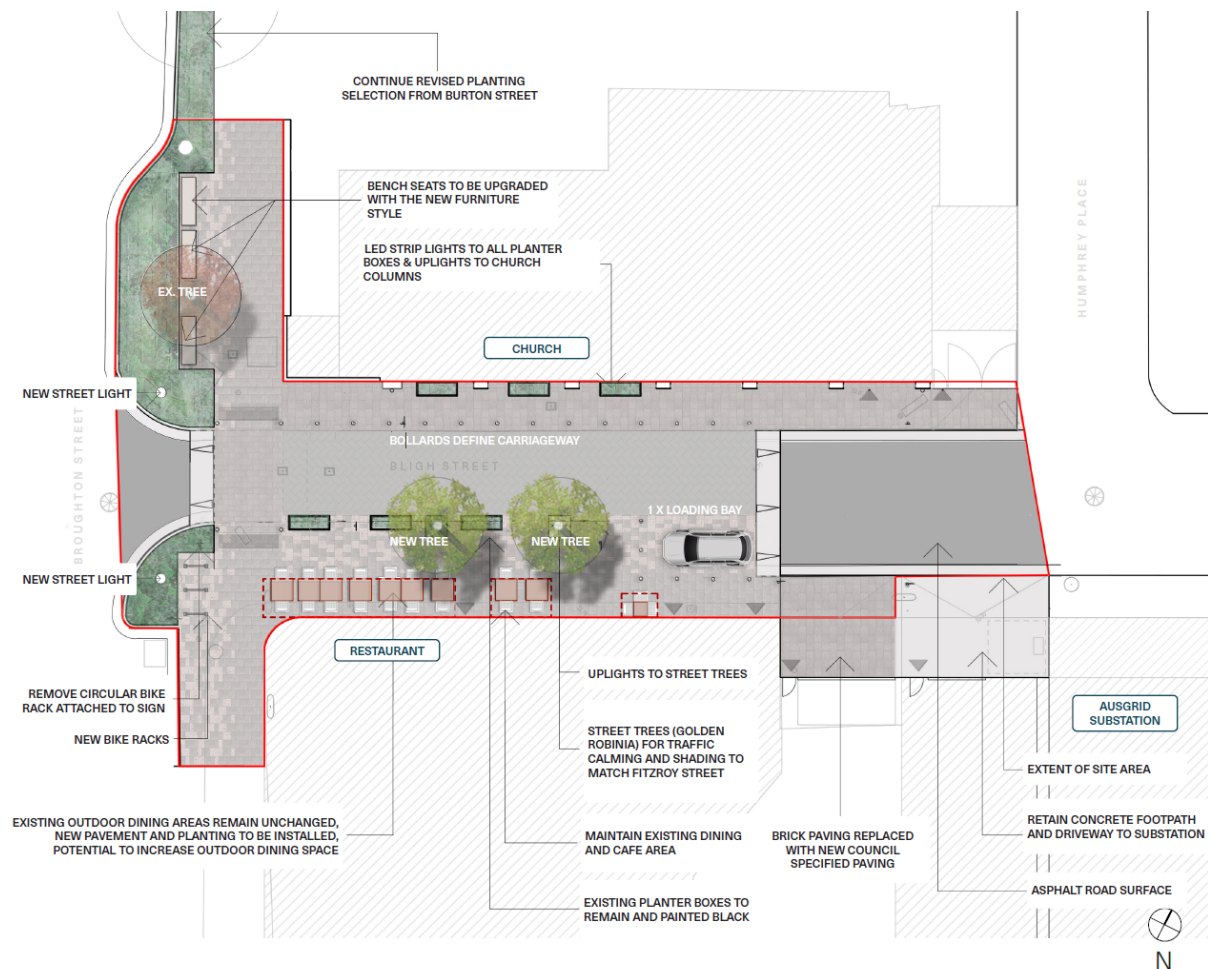


Image 11 – Bligh Street Shared Zone Layout (Same layout for Option 1 and Option 2)

2.2 Bligh Street Shared Zone Option 1 – Fully paved shared zone

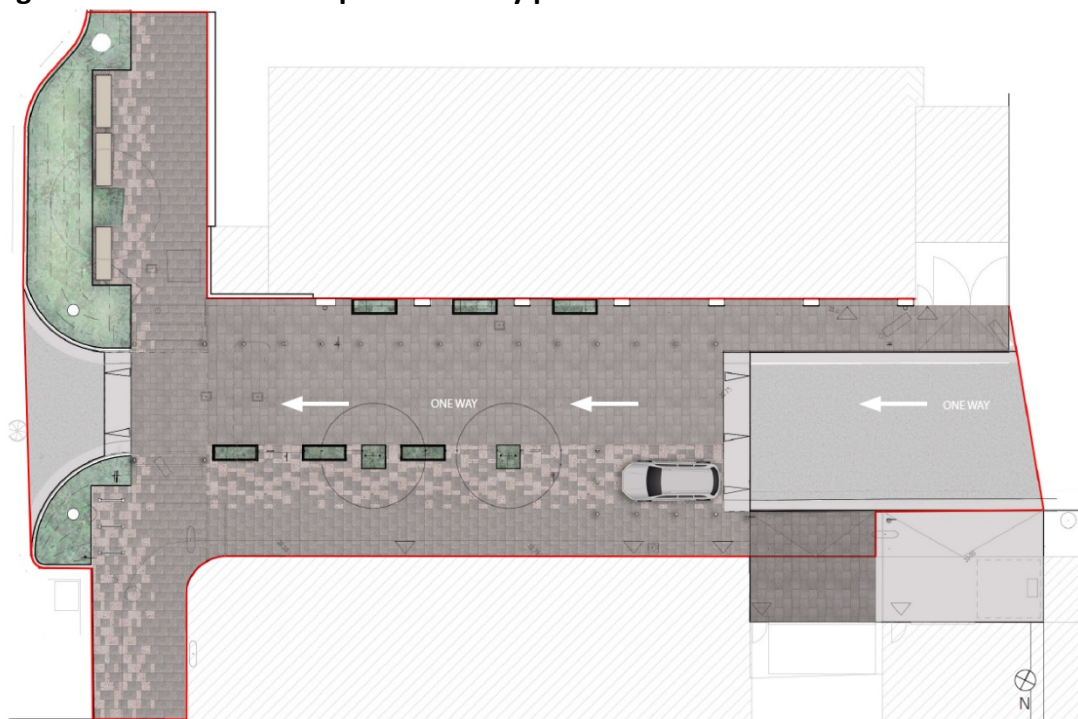


Image 12 - Bligh Street Shared Zone Option 1 – Fully paved shared zone

2.3 Bligh Street Shared Zone Option 2 – Brick travel lane

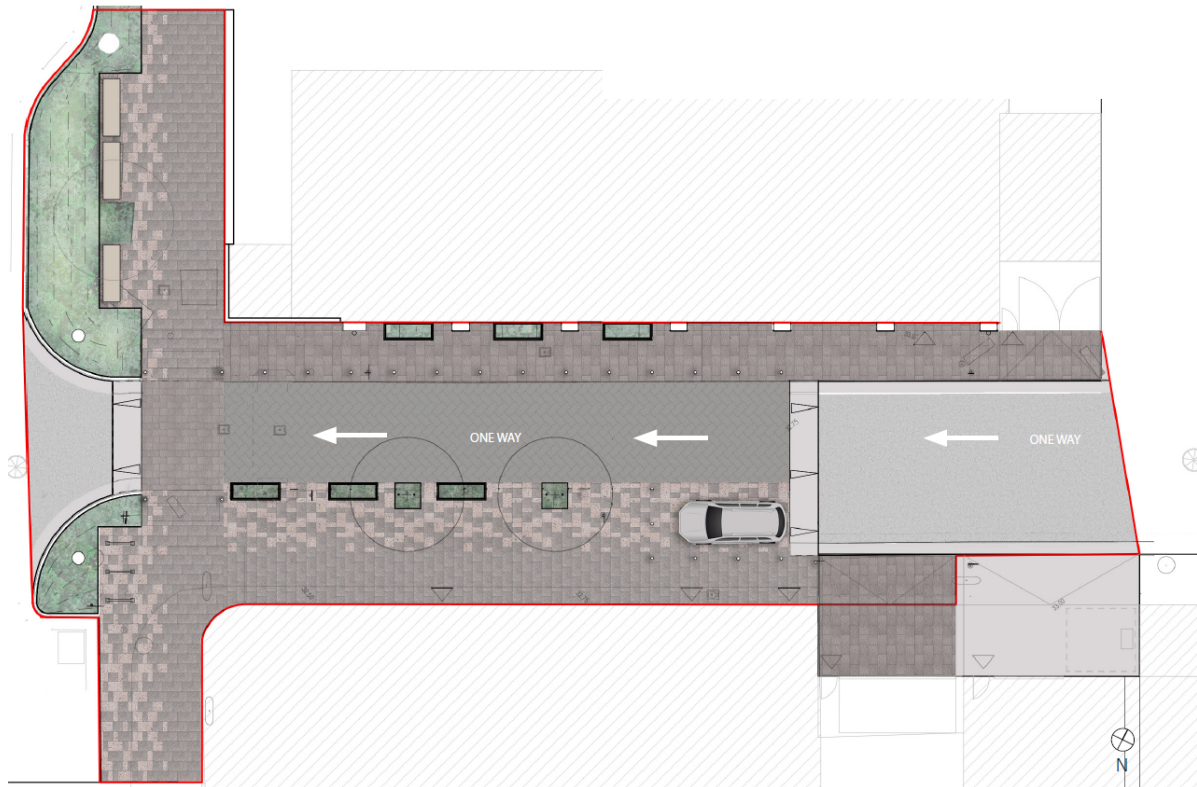


Image 13 - Bligh Street Shared Zone Option 2 – Brick travel lane



Image 14 – Bligh Street Daytime Photomontage – View from Broughton Street



Image 15 – Bligh Street Night time Photomontage – View from Broughton Street

3. Transport Impact Assessment

Council received approval to close Burton Street from the North Sydney Traffic Committee under delegation (TDA 21/93) as well as to implement a “Shared Zone” in Bligh Street on 8 July 2021. The Road closure and shared Zone approval was granted under the TfNSW Special COVID-19 Traffic regulation delegation to Councils – section 115 of the Roads Act 1993 for “Temporary pedestrian and bicycle works”.

Prior to the road closure, Council engaged PeopleTrans, an Independent Traffic Consultant, to undertake traffic studies including modelling the local traffic to assess the impacts of the closure on the local networks.

Additional Transport Impact Assessments were undertaken during the trial period to review the findings from the initial studies. In summary these reports found that the proposed projects will generate negligible loss of service level in the local transport network.

3.1 Conclusions Transport Impact Assessment – Permanent Burton Street Closure

Based on the analysis contained within the Transport Impact Assessment report the following conclusions were made for Burton Street Plaza:

- The additional traffic diverted by the proposed temporary road closure of Burton Street is not compromising the safety or function of the surrounding road network. This would be the same for a permanent closure of Burton Street.

- The current road network traffic volumes and speeds are within the limits of the NSW environmental capacity standards for local roads, with the exception of Broughton Street.
- The current intersections near Burton Street are operating satisfactorily with minimal queues and delays on all approaches.
- Cycle movements on Burton Street itself were negligible with a total of 17 cyclists observed during the surveys undertaken in March 2021 between 7:00 am and 4:00pm. Cycle movements recorded in August 2022 indicated similar volumes.
- No public or school buses travel directly on Burton Street and as such a permanent closure will have no adverse impacts on bus operations.
- Based on the report analysis, the transport impacts of a permanent closure of Burton Street would be negligible but there could still be opportunities to improve pedestrian and cyclist safety and amenity during the final design of the permanent closure. These relate specifically to the interfaces with the trafficable roads at either end of Burton Street.

This report also recommended that:

- It is recommended that the “KEEP CLEAR” markings be maintained at the Broughton Street/Crescent Place intersection to ensure a suitable gap is available for northbound right turning vehicles when southbound queues from the Broughton Street / Ennis Road intersection extend past Crescent Place.
- It is recommended that a traffic guidance scheme be removed in support of a permanent road closure.
- Sufficient time has passed for the Kirribilli community to be familiar with the current road network operation and as such it is recommended that minimal additional traffic signage be provided for the permanent closure.
- It is recommended that cyclists be provided access through Burton Street in one form or another as well as provided with cycle parking and that this be built into the permanent closure design for Burton Street.
- It is recommended that the permanent closure design also consider how to manage the new pedestrian desire lines at the Burton Street/Humphrey Street intersection.
- It is recommended that PeopleTrans review the details of the permanent road closure design prior to it being finalised as the analysis and data collected as part of this study and our knowledge of intersection design can be used to add value and shape the final permanent closure design for Burton Street.

The above recommendations were incorporated in the detailed design options included in this report. The final design that results from the proposed Community Consultation will be referred to the Traffic Consultant for review and endorsement.

3.2 Conclusions Bligh Street Shared Zone Assessment Report

Based on the analysis contained within the Shared Zone Assessment report the following conclusions are made for Bligh Street Shared Zone:

- Based on the assessment undertaken by PeopleTrans within this report it has been determined that Bligh Street between Humphrey Place and Broughton Street is suitable for implementation of a category 1 shared zone subject to approval by TfNSW.

This report also recommended that:

- It is recommended that the signs and pavement/line marking proposed by PeopleTrans in Appendix B of their report, be incorporated into the detailed design package for Bligh Street.
- The bicycle parking design should also be reviewed to ensure that it is compliant with AS2890.3:2015.

Full copies of the DRAFT Traffic Studies prepared by PeopleTrans for each site are attached to this report. These reports will be finalised once the final “preferred” design is completed.

4. Transport for NSW approval process

Concept design options for the permanent Burton Street Closure and Bligh Street Shared Zone, Transport Impact Assessment report for the permanent Burton Street Closure and Bligh Street Shared Zone Assessment report were submitted to TfNSW for their initial review and endorsement. Once Council receives initial endorsement from TfNSW and with finalised concept designs resulting from this Community Consultation, the final approval process will be as follow:

4.1 Burton Street Permanent Closure:

Burton Street Closure will be referred to Traffic Committee under Delegated Authority (TDA) with a 20 business days approval process

4.2 Bligh Street - Shared Zone:

A formal application to change the speed limit of this section of Bligh Street will be submitted to TfNSW for approval, in accordance with “TTD 2016/001 - Design and implementation of shared zones with provisions for parking”. With TfNSW endorsement to reduce the speed limit from 40 km/h to 10 km/h, the final share zone signage and line marking plan will be submitted to Traffic Committee to be endorsed by Council.

Bligh Street is included as proposed shared zone in “40kmh & 10kmh Shared Zone Masterplan and Action Plan” adopted by Council at the 3729th Meeting on Monday, 23 March 2020 (rescheduled to 6 April 2020).

5. Human Movement Data Analysis – Burton Street – Trial Closure

As previously reported to Council in April 2022, as part of the trial closure of Burton Street council engaged the services of Urbis Consultants to undertake a Human Movement Data study so that Council could understand changes in visitation rates, visitor profile, temporal

analysis, dwell time and cross-usage resulting of the implementation of the trial closure of Burton Street (road closure and public plaza).

The purpose of the study was to measure visitation to/from the plaza. Three comparison periods were assessed – a historical period (1 year prior to activation), the six months pre-construction, and the activation period (27 September 2021 to March 2022).

The data sample analysed shows increased visitation to Burton Street and Kirribilli during the activation period. Visitation to Burton Street in the activation period was **58%** higher than the historical period.

In summary, other trends that emerged in the analysis included the following:

- In Burton Street, higher level of visitation from local residents were observed in the afternoon, relative to the historical period. Greater level of visitation was also observed on weekends.
- While the majority of visitation is from broader Sydney residents, the share of visitation from local residents and local workers to Burton Street has increased during the activation period.
- During the activation period, the average dwell time for visitors to Burton Street increased by 41% relative to the historical period.
- The share of other Kirribilli precinct visitors who also visited Burton Street increased from the historical to the activation period.

For more detail on the Human Movement Data study that was undertaken for Burton Street refer to item 8.12 Burton Street Temporary Road Closure and Plaza Community Feedback reported to Council at its 26 April 2022 meeting ([here](#)).

6. Project Program

Activity	Dates
Detailed Design Concepts Consultation 28 days	September – October 2022
Consultation outcomes report and final design	November 2022
Tender and Construction Documentation	November 2022 – January 2023
Tender	February 2023
Tender Report to Council	March 2023
Commencement of Construction*	April 2023
Construction completion	August 2023

*Construction works will be completed during the winter months to allow business stress free trading during the summer peak season.

7. Existing design elements to be retained from the Pilot Projects

It is important to emphasise that some streetscape elements installed as part of the Trial/Pilot project for Burton Street closure and Bligh Street Shared Zone will be retained in the design for the permanent closure to mitigate costs and also reflect the feedback received from the community during the consultation period. These design items include:

- The decorative lighting of a number of street trees in Burton Street Plaza
- The inground landscaping around the eating areas in Burton Street Plaza (Planting relocation may be required subject to final plaza design)
- The bins installed in and around the Burton Street Plaza
- Concrete seating elements
- Bligh Street planter boxes

All of the above streetscape elements received positive feedback during the consultation period.

8. Summary and Recommendations

This project provides a unique opportunity to create new public open space in the middle of one of North Sydney's most densely populated and iconic Village Centres. The consultation that Council has undertaken during the Master planning and the Pilot Projects stages demonstrate that the majority of the community support both projects in principle.

The objective of this next phase of consultation and design development is to seek community feedback on two options for each project with the view to then develop a final preferred option for both the permanent closure of Burton Street and the implementation of a permanent Shared Zone in Bligh Street.

This report includes the Detailed Design Options for each of the proposed sites.

A shortened Public Exhibition Period of 28 days is recommended for this project. These two sites were an integral part of the Kirribilli Masterplan Consultation (60 days) and the additional community consultation completed as part of the trial implementation of Burton Street Pilot closure and Bligh Street Pilot shared zone (185 days). Both consultations resulted in the majority of submissions supporting the permanent closure of Burton Street and transformation of Bligh Street into a Shared Zone.

The shortened public exhibition period will also assist Council in the delivery of detailed design documentation, tender and construction of the projects within the 2022/2023 financial year.

At the end of the exhibition period a report will be brought back to Council on the consultation outcomes along with a preferred final concept design for both projects.

NORTH SYDNEY COUNCIL



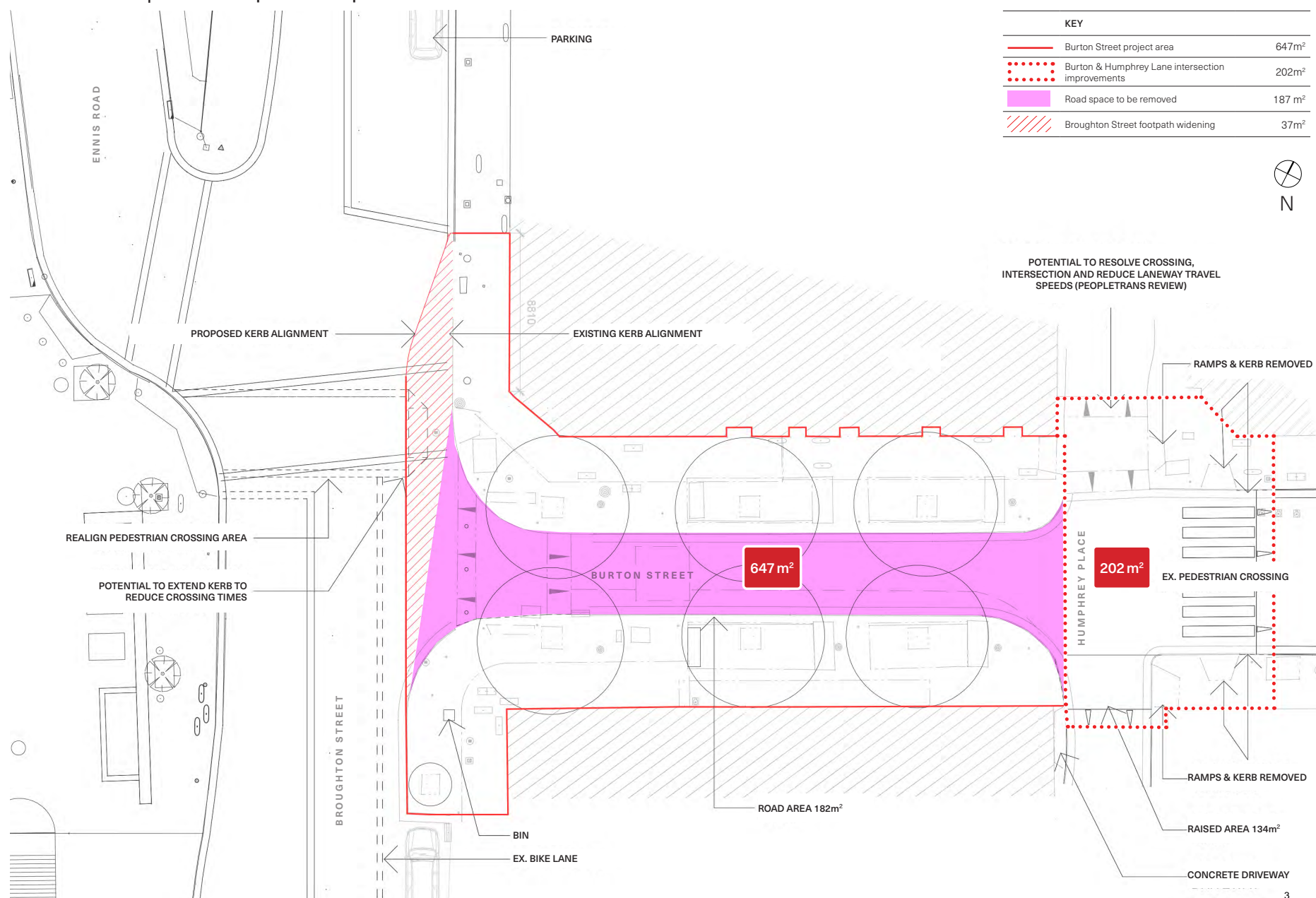
Kirribilli Burton and Bligh Streets

CONCEPT DESIGN

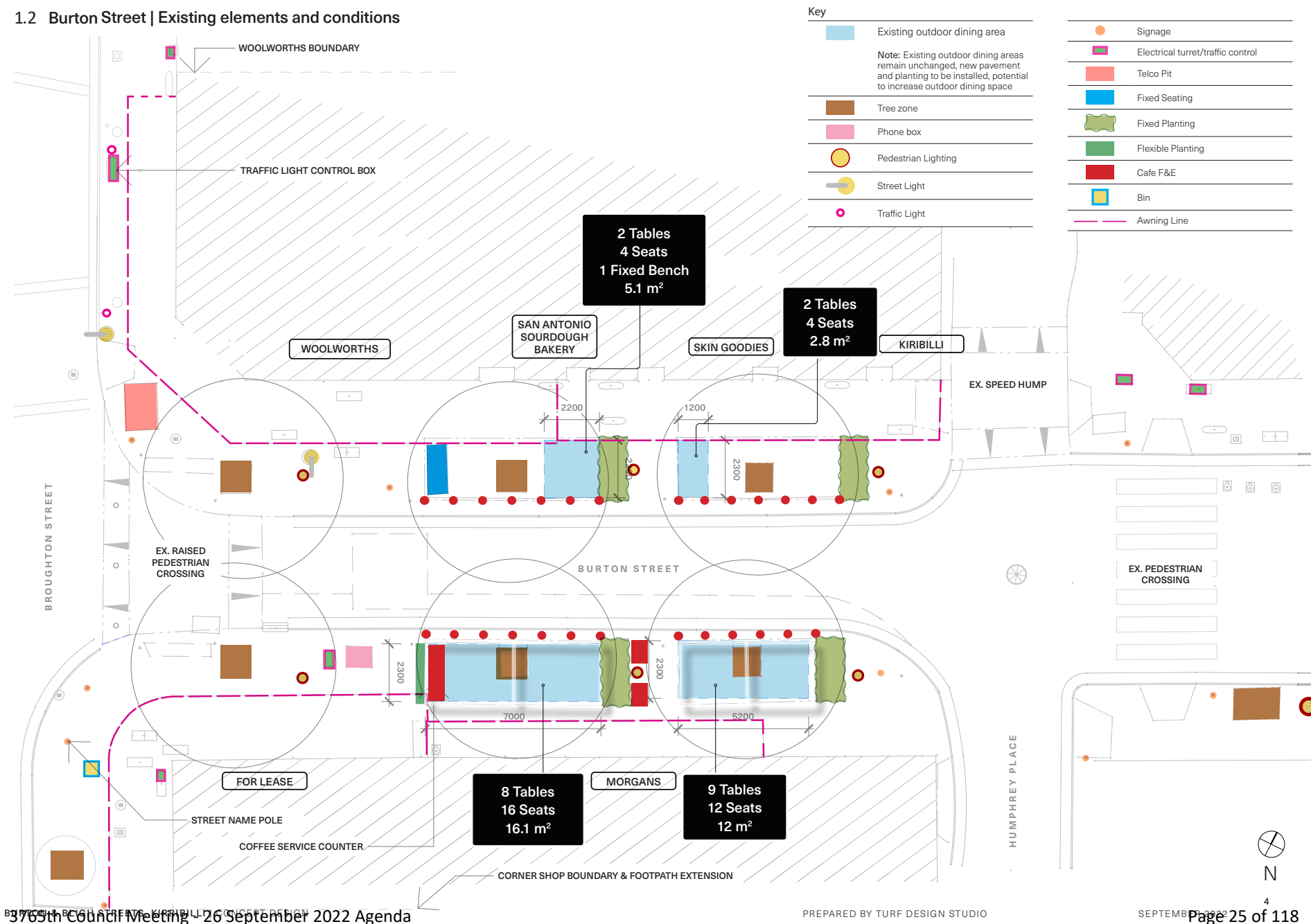
ISSUE E • 13 SEPTEMBER 2022

BURTON STREET PERMANENT CLOSURE AND PEDESTRIAN PLAZA

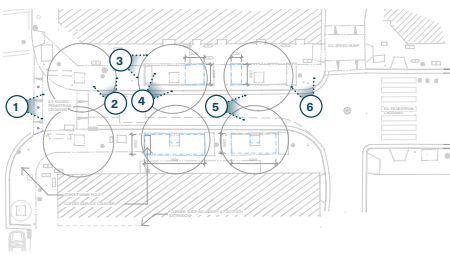
1.1 Burton Street | Site area and potential scope

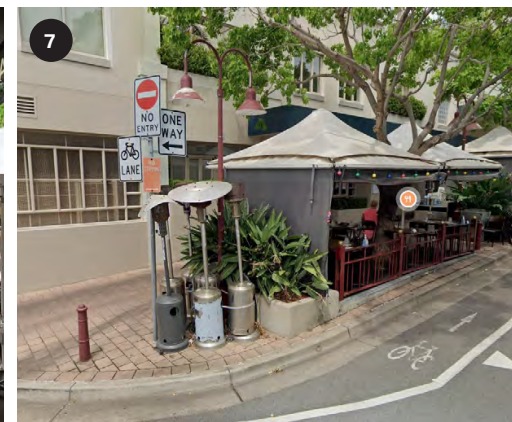
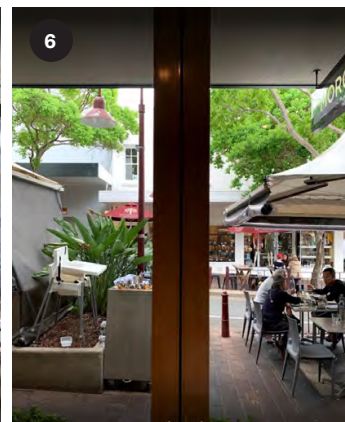
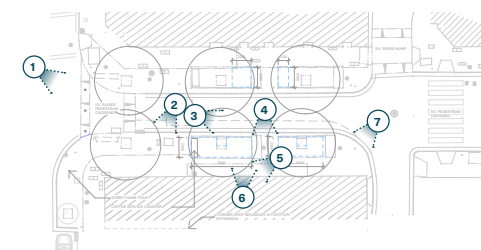


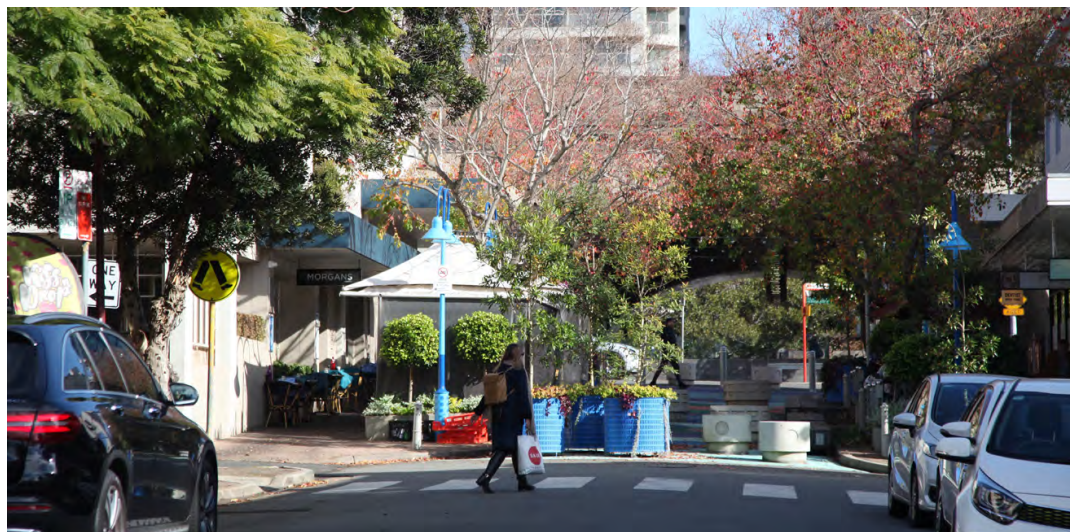
1.2 Burton Street | Existing elements and conditions



San Antonio Sourdough bakery		Total Calculations	
Total Tables	8	Total Site area	1005m²
Total Seats	16	Total Tables	26
Level seating area	30.8 m²	Total Seats	46
Dining Permit area	7.9 m²	Level Seating Area	60m²
Fixed Seat	1		
Morgans			
Total Tables	17		
Total Seats	28		
Level seating area	29.2 m²		
Dining Permit area	28.1 m²		
Fixed Canopy Structure	4		










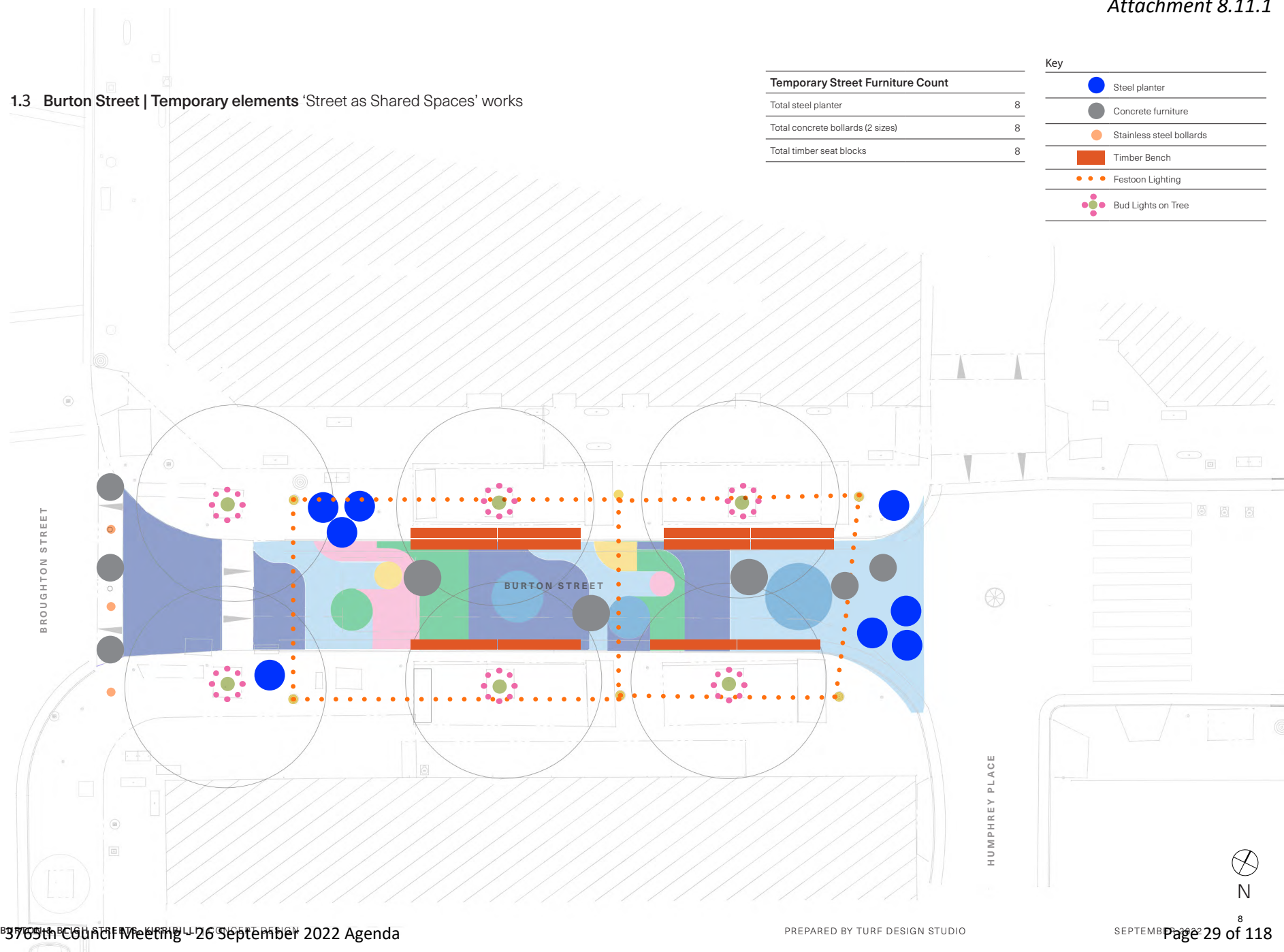
1.3 Burton Street | Temporary elements 'Street as Shared Spaces' works

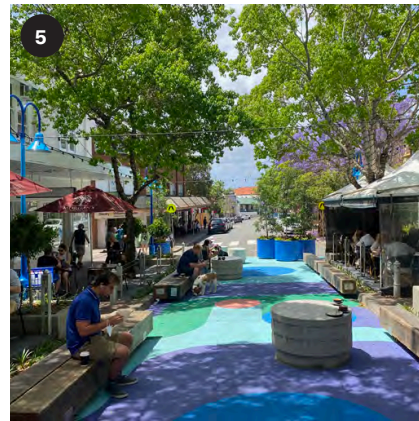
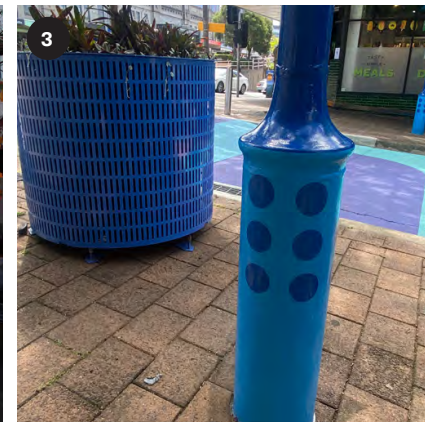
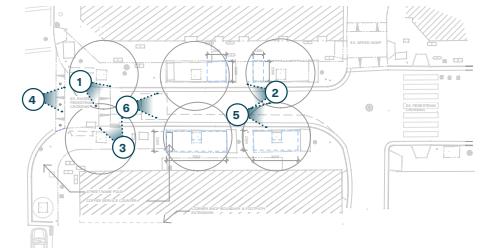
Temporary Street Furniture Count

Total steel planter	8
Total concrete bollards (2 sizes)	8
Total timber seat blocks	8

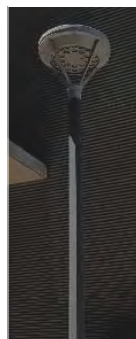
Key

	Steel planter
	Concrete furniture
	Stainless steel bollards
	Timber Bench
	Festoon Lighting
	Bud Lights on Tree





1.4 Burton Street | Option 1 / Existing levels & no kerbs



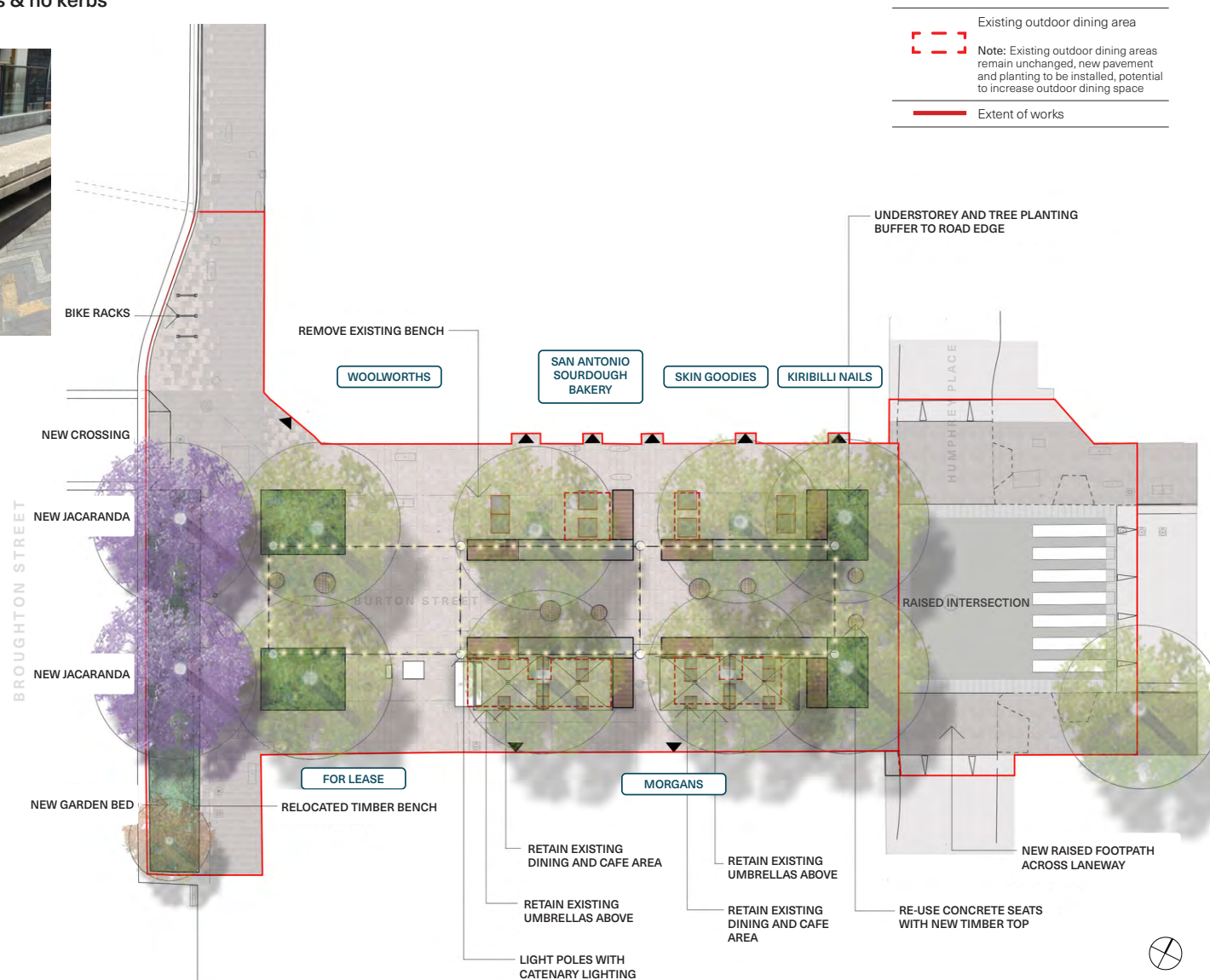
Octagonal light pole



Precast feature seating edge takes up level change



Catenary & fairy lights



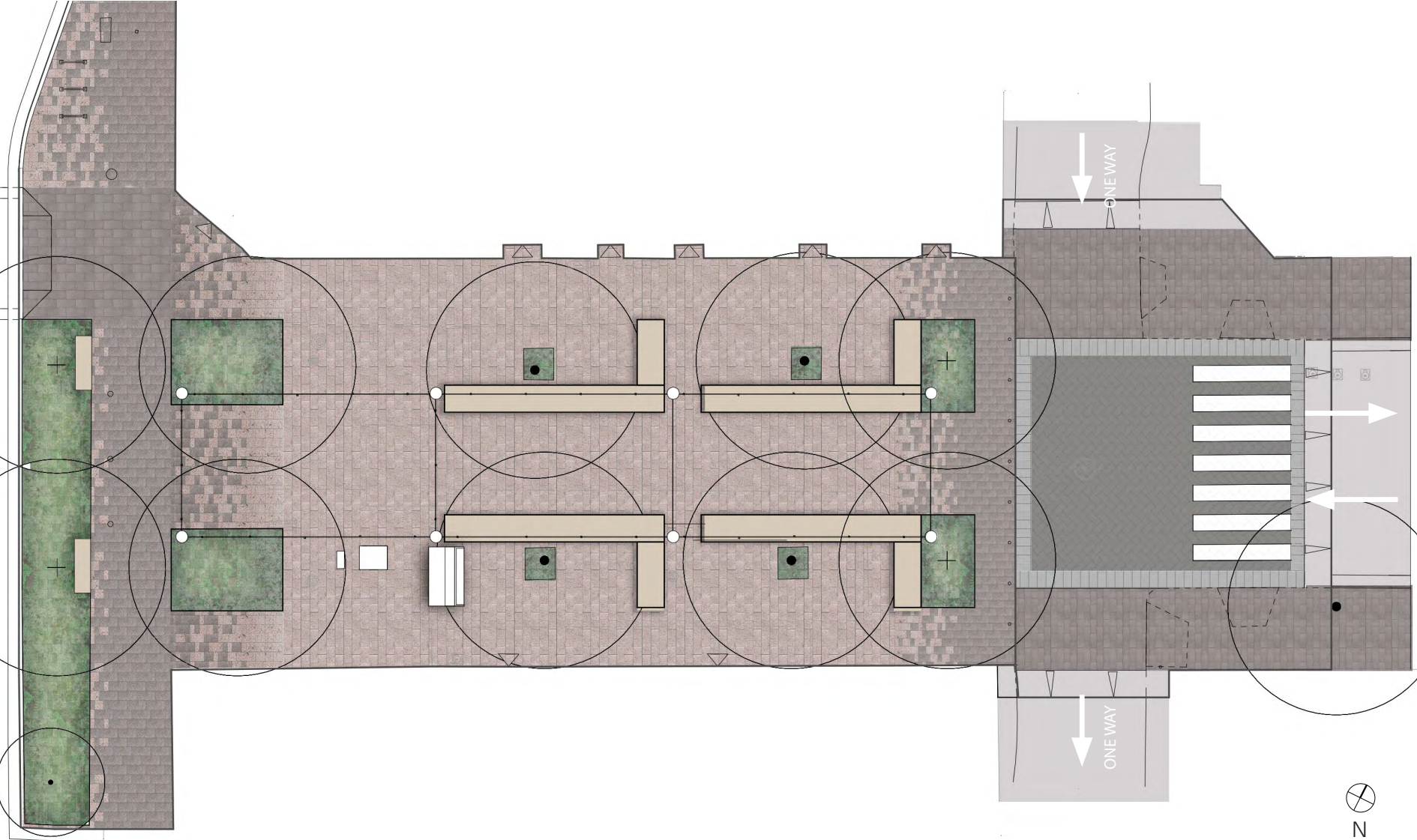
Existing outdoor dining area

Note: Existing outdoor dining areas remain unchanged, new pavement and planting to be installed, potential to increase outdoor dining space

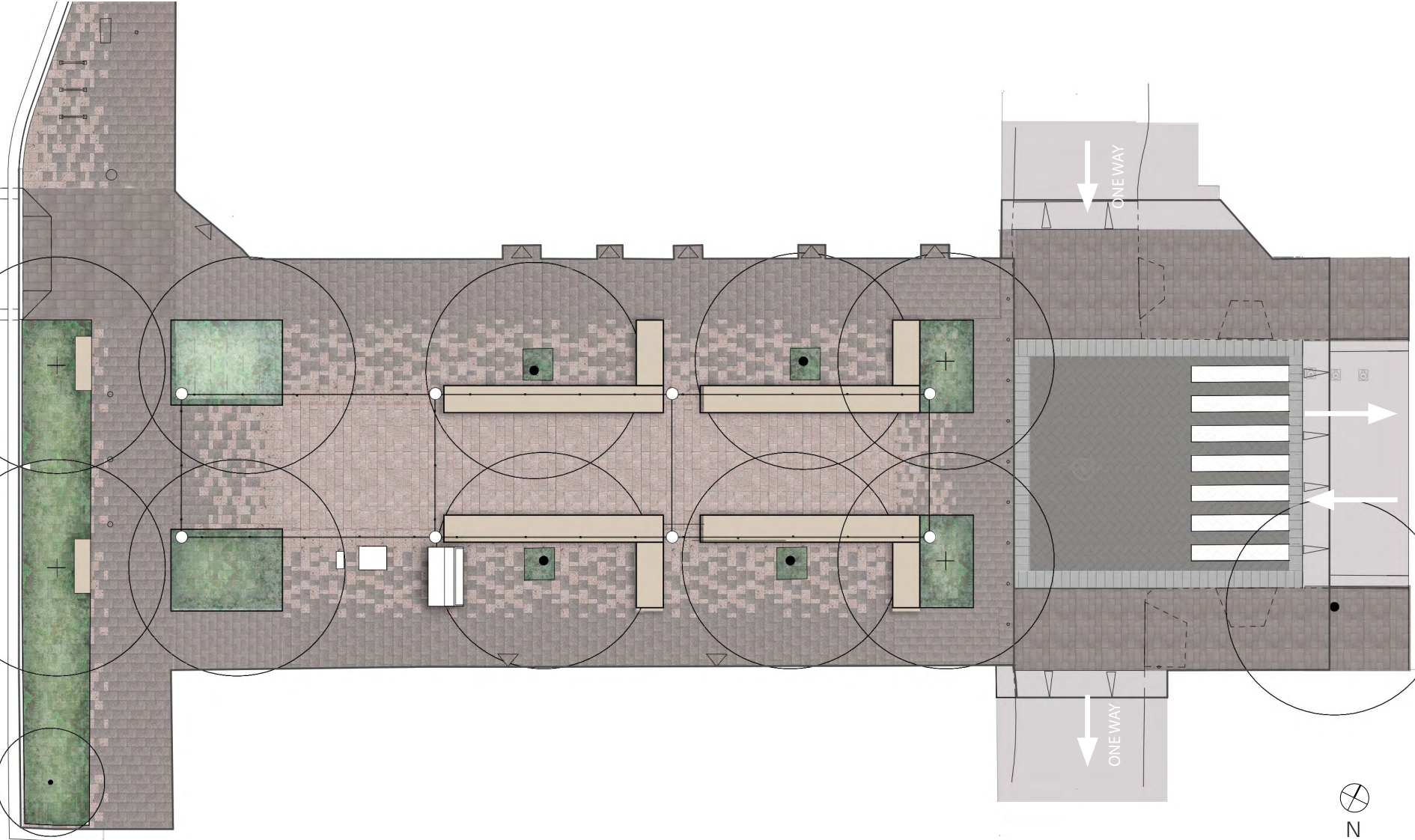
Extent of works



1.5 Burton Street | Option 1 / Dark footpaths high street / Light street closure



1.6 Burton Street | Option 2 / Dark edges / Light centre



BURTON STREET OPTION 1 - DAYTIME VIEW FROM HUMPHREY PLACE

Attachment 8.11.1



BURTON STREET OPTION 1 - NIGHT TIME VIEW FROM HUMPHREY PLACE

Attachment 11.1



BURTON STREET OPTION 1 - DAYTIME VIEW FROM BROUGHTON STREET

Attachment 8.11.1

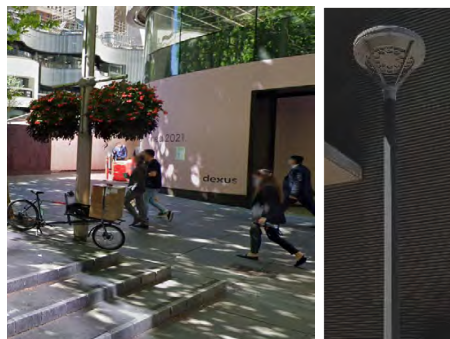


BURTON STREET OPTION 1 - NIGHT TIME VIEW FROM BROUGHTON STREET

Attachment 8.11.1



1.7 Burton Street | Option 2 Stepped level platforms



Feature terraces

Octagonal light pole



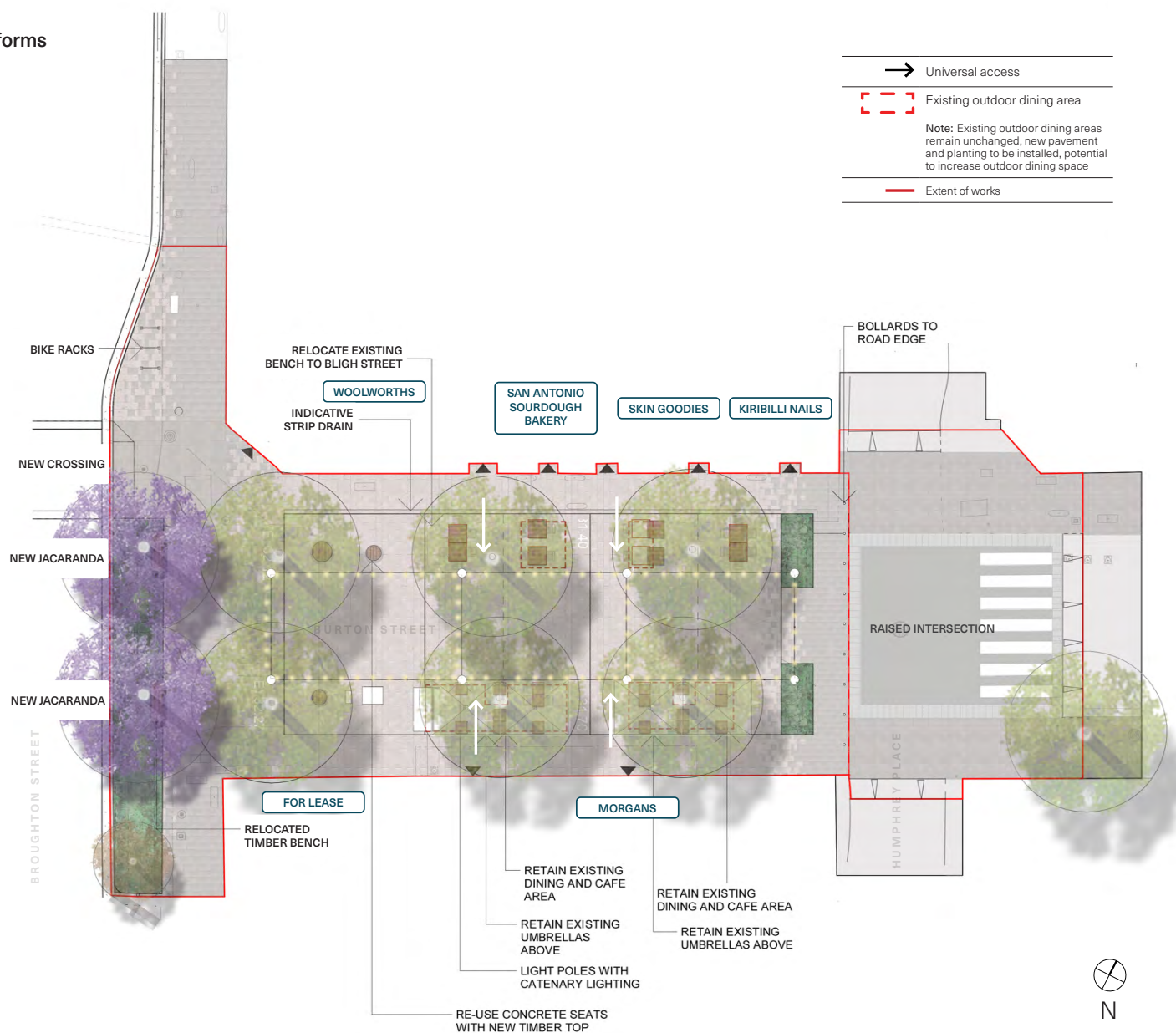
Strip Drain, Pitt Street Mall



Stainless steel bollards to North Sydney Council standards



Catenary & fairy lights



BURTON STREET OPTION 2 - DAYTIME VIEW FROM HUMPHREY PLACE

Attachment 8.11.1



BURTON STREET OPTION 2 - NIGHT TIME VIEW FROM HUMPHREY PLACE



BURTON STREET OPTION 2 - DAYTIME VIEW FROM BROUGHTON STREET

Attachment 8.11.1



BURTON STREET OPTION 2 - NIGHT TIME VIEW FROM BROUGHTON STREET

Attachment 8.11.1







BLIGH STREET SHARED ZONE








2.1 Bligh Street | Permanent Elements

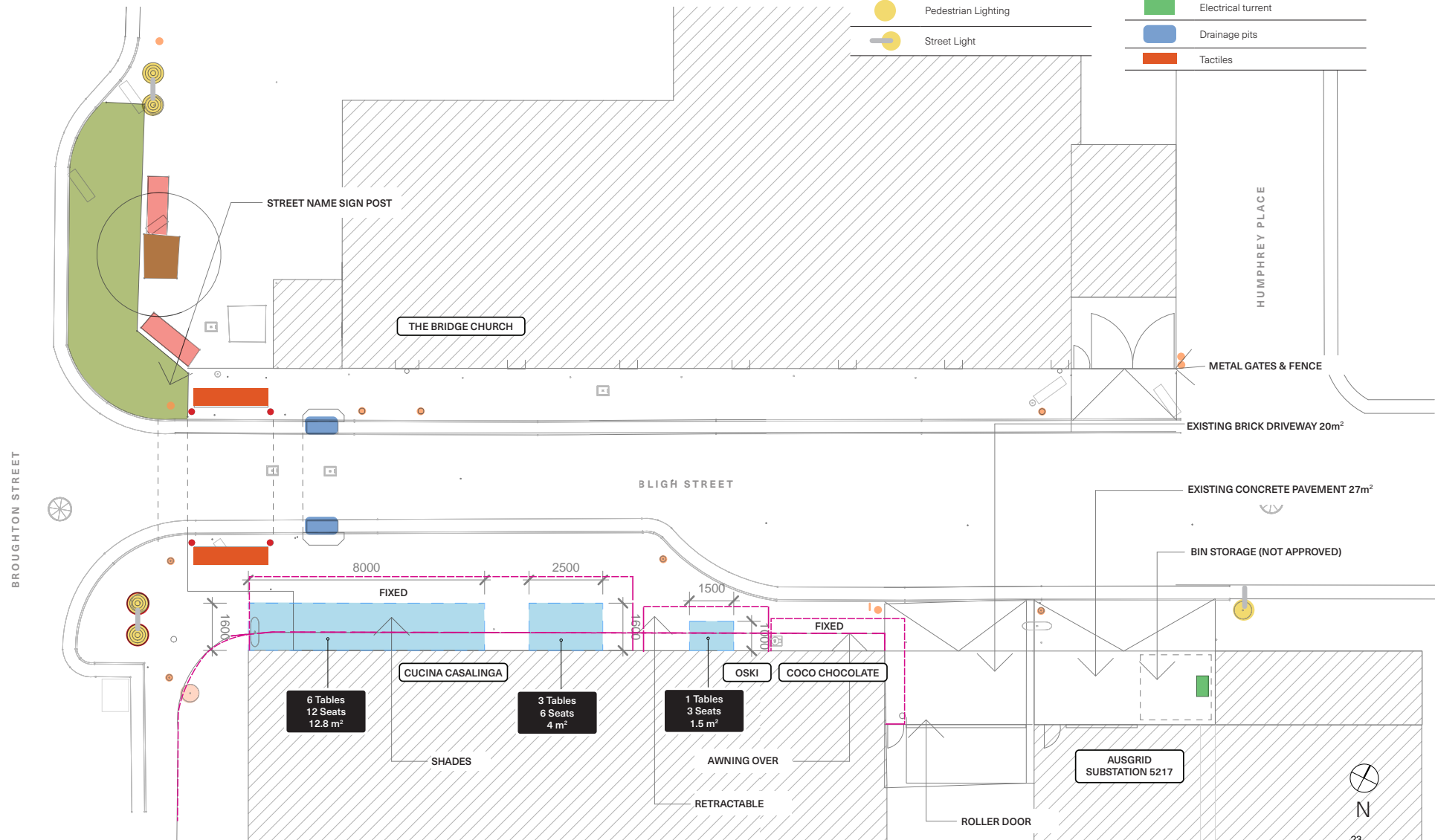
Outdoor Dining

Total Tables	13
Total Seats	27
Total Area	14.7 m ²

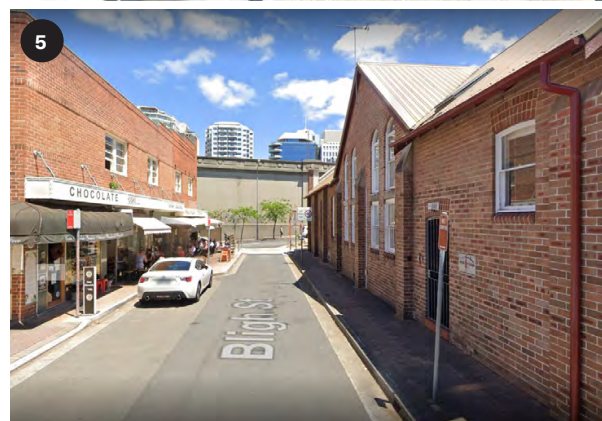
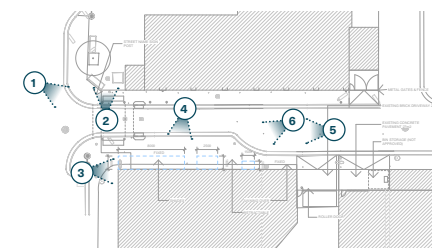
Key

	Existing outdoor dining area
Note: Existing outdoor dining areas remain unchanged, new pavement and planting to be installed, potential to increase outdoor dining space	
	Tree Pits
	Pedestrian Lighting
	Street Light

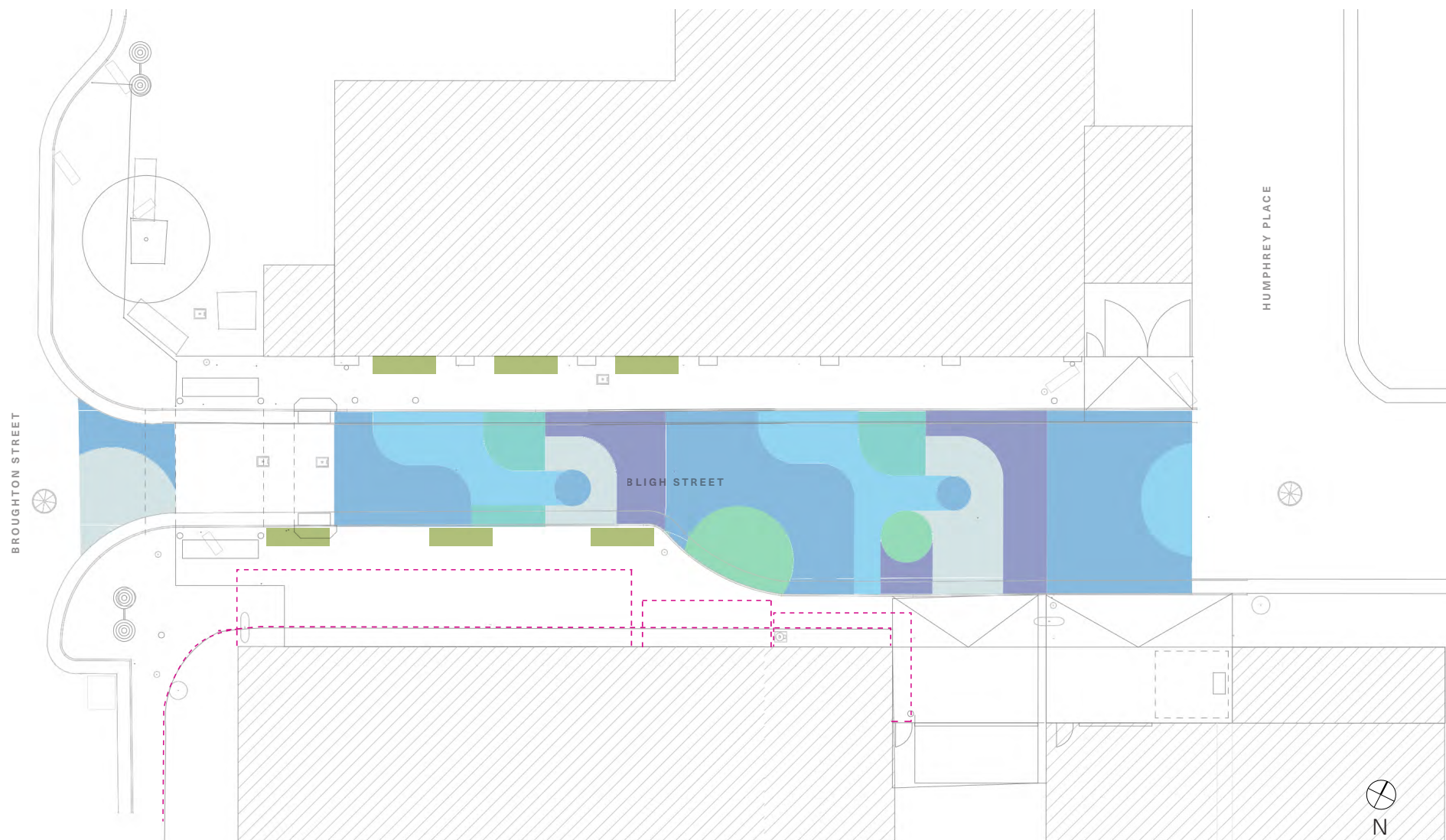
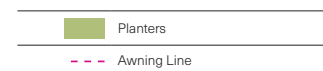
	Bench Seating
	Signage
	Sewer Vent
	Fixed Planting
	Electrical turrent
	Drainage pits
	Tactiles



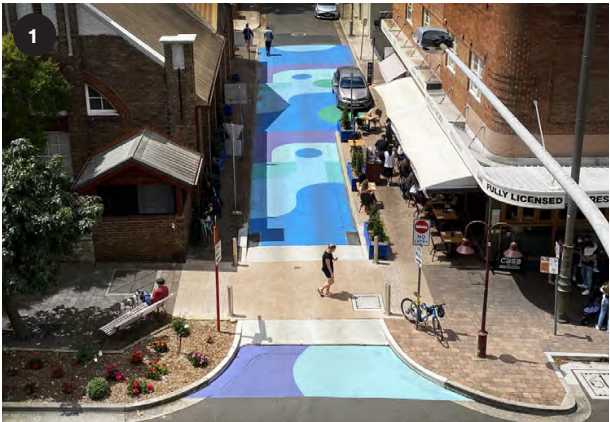
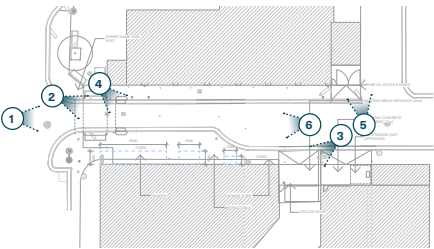
Total Site area	486m²
Fixed Seating	2
Cucina Casalinga	
Total Tables	10
Total Seats	20
Level seating area	11.3 m ²
Oski	
Total Tables	3
Total Seats	7
Seating area	3.4m ²



2.2 Bligh Street | Temporary Elements 'Street as Shared Spaces' works



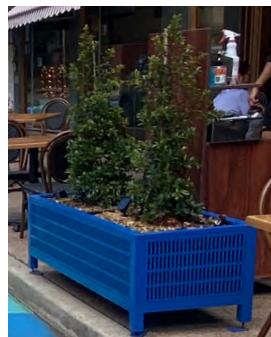
Total Calculations	
Total Planters	6



2.3 Bligh Street | Shared Zone (SHARED ZONE LAYOUT)



Stainless steel bollards to North Sydney Council standards



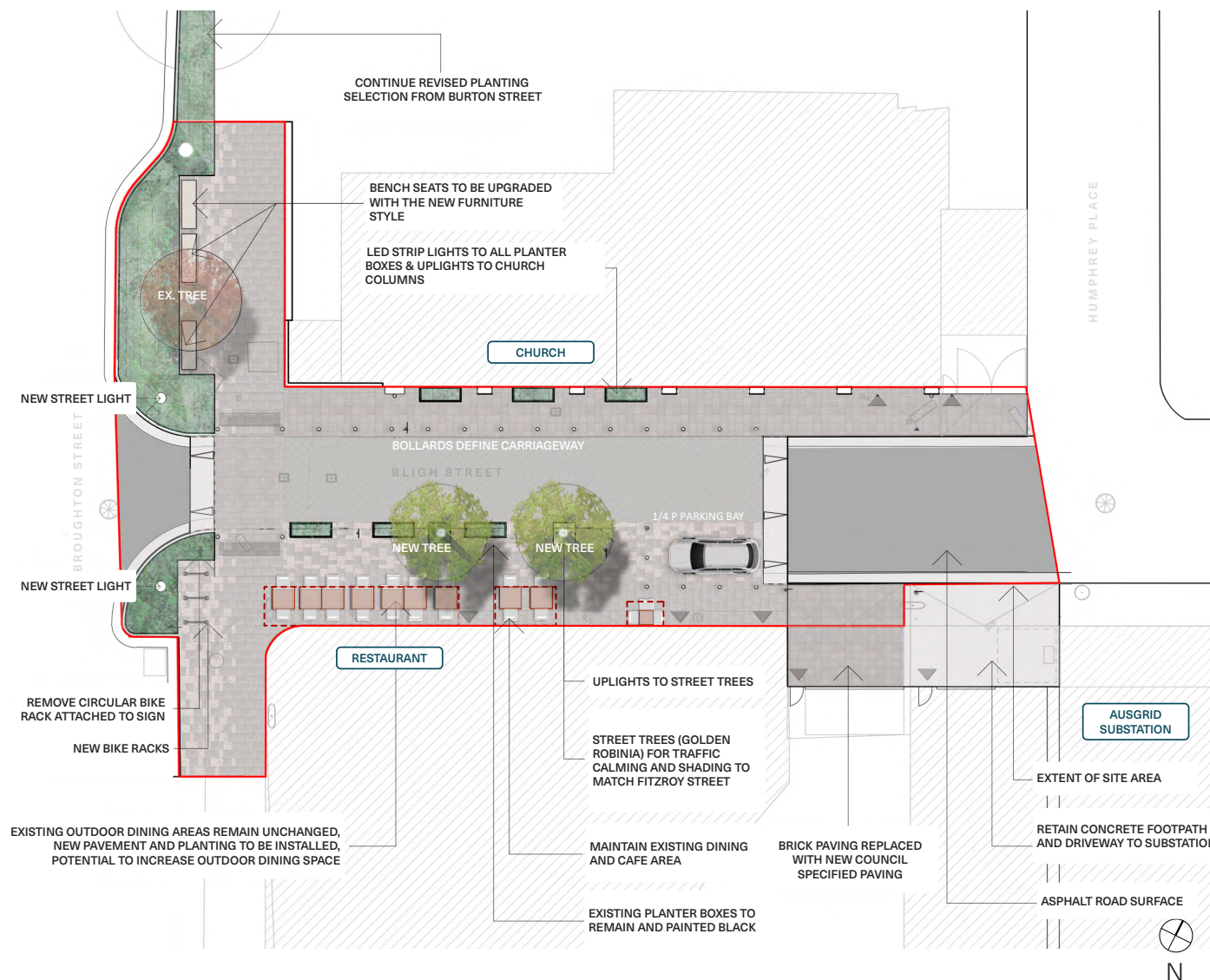
Existing planter boxes (to be painted black)



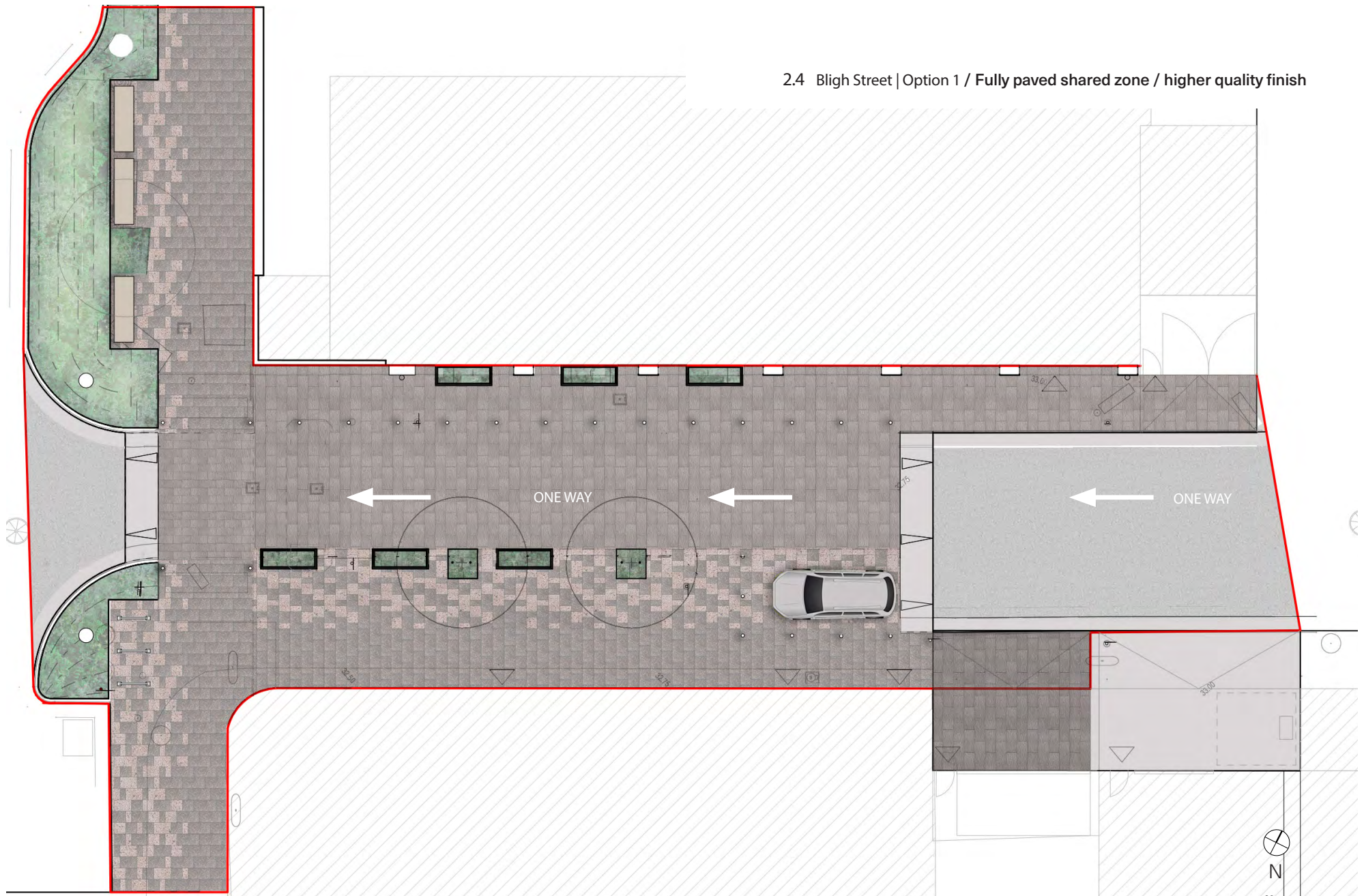
New street tree planting (as used in Fitzroy Street)



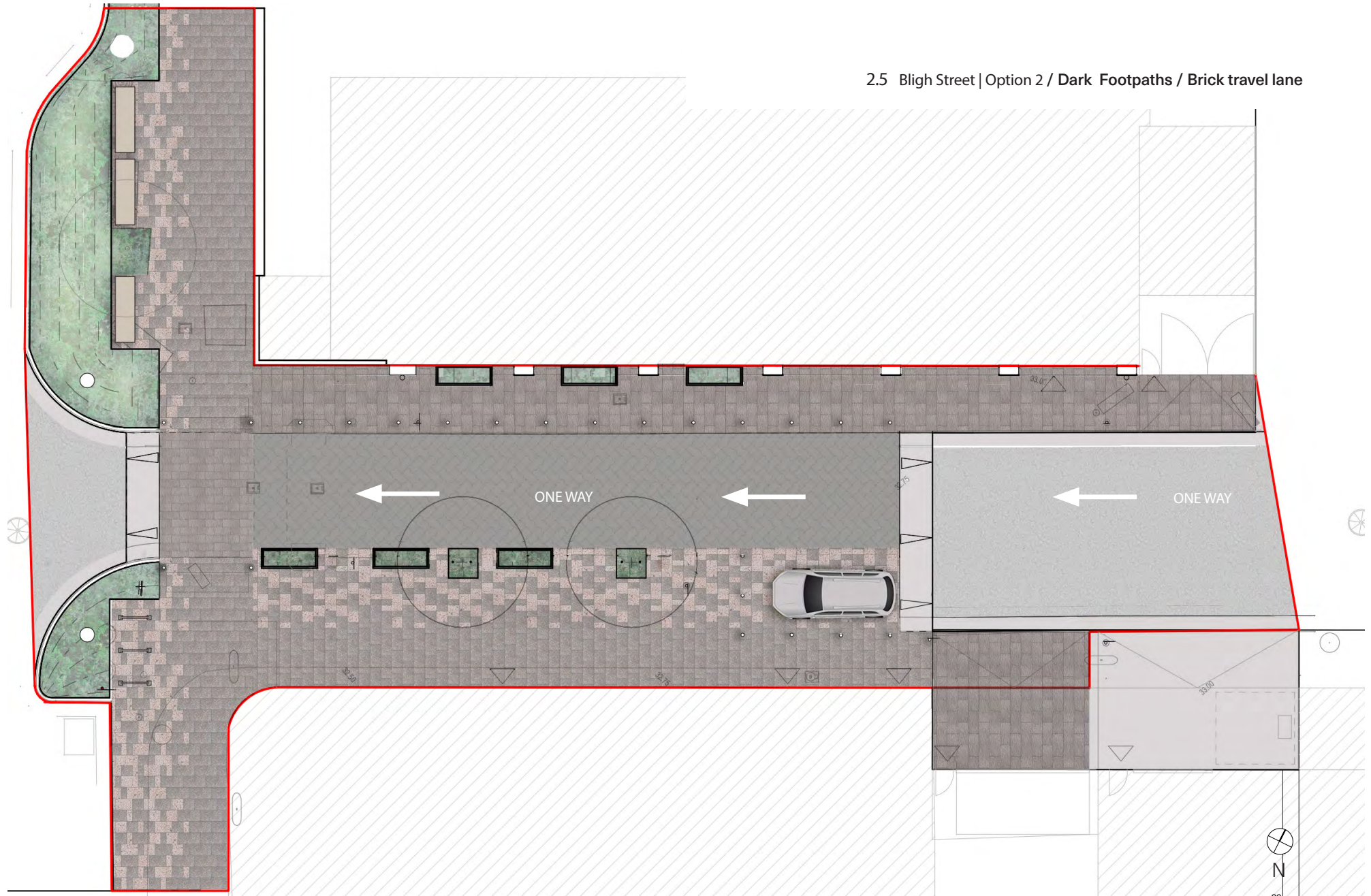
Octagonal light pole



2.4 Bligh Street | Option 1 / Fully paved shared zone / higher quality finish



2.5 Bligh Street | Option 2 / Dark Footpaths / Brick travel lane



BLIGH STREET - DAYTIME VIEW FROM BROUGHTON STREET

Attachment 8.11.1

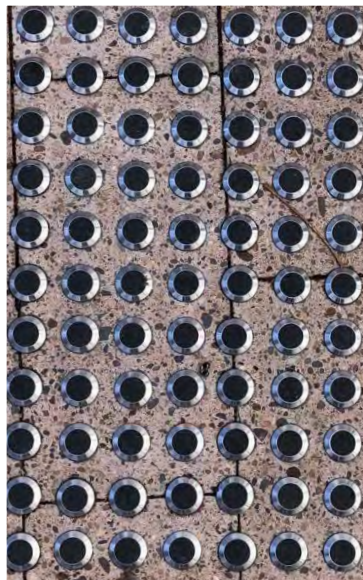




FINISHES MATERIALS PALETTE



Interlocking concrete pavers
with soldier course frame



Tactiles (stainless steel)



Precast concrete unit paver 1



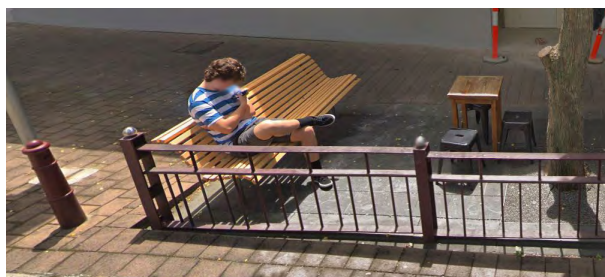
Precast concrete unit paver 2



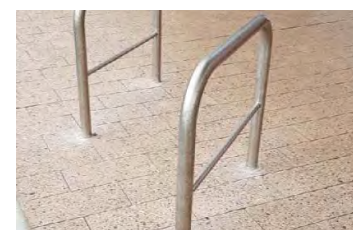
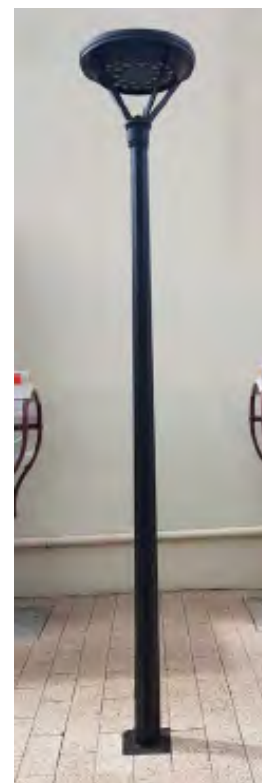
Gradient of unit pavers

MATERIALS PALETTE NORTH SYDNEY STYLE GUIDE

EXISTING



PROPOSED AS PER COUNCIL'S ADOPTED PUBLIC DOMAIN STYLE MANUAL



COMMUNITY ENGAGEMENT STRATEGY



Permanent Burton Street closure and Bligh Street shared zone - Kirribilli

Prepared September 2022

Councils are required under the *Local Government Act 1993* to inform the community of particular issues that potentially affect their way of life. North Sydney Council is committed both in principle and in practice, to engaging on matters affecting the North Sydney community.

1. Introduction

This Community Engagement Strategy outlines the steps Council will take to engage the community in finalising the design and implementation of two projects within Council's *Kirribilli Village Centre Public Domain Upgrade Masterplan* - the permanent closure of Burton Street, Kirribilli and permanent Bligh Street, Kirribilli shared zone. Council is committed to engaging the community to create and implement streetscape upgrades that are innovative and creative.

1.1 Council's Community Engagement Protocol

This strategy has been prepared in accordance with Council's *Community Engagement Protocol*. The Protocol is used to determine the level of 'level(s) of impact' applicable to this project/decision (proposal). This proposal has been determined as:

LEVEL OF IMPACT	LEVEL OF ENGAGEMENT
High/Local	Inform/Consult

Council used the framework shown below in Table 1.1 to select the most appropriate 'level(s) of engagement' for this proposal to ensure an appropriate range of engagement 'levels' and methods were offered:

LEVEL	DESCRIPTION
Inform	Providing balanced and objective information to help the community understand problems, alternatives, opportunities and/or solutions
Consult	Obtain public feedback on alternatives and/or decisions
Involve	Work directly with the community throughout the process to ensure that public concerns and aspirations are consistently understood and considered
Collaborate	Partner with the public in each aspect of the decision including the development of alternatives and identification of the preferred solution

Table 1.1 Derived from the IAP2 Public Participation Spectrum

2. Background

The Kirribilli Village Centre public domain needs upgrading. This area, in its current form, was designed and built in the mid-1990s and is now looking outdated and tired. There are multiple layers of streetscape elements which have been combined over the decades

Permanent Burton Street Closure and Bligh Street Shared Zone - Kirribilli

Page 2

creating an ad-hoc streetscape character that is visually inconsistent and difficult for Council to maintain.

This project was first identified in Council's *Delivery Program 2018/19-2020/21*, adopted by Council on 25 June 2018. Funding for the project was in part via Council's partially approved 3-year Special Rate Variation (SRV). Implementation of the Masterplan is included in Council's *Delivery Program 2022-2026*, adopted by Council on 27 June 2022.

In 2020, Council engaged the consultancy services of Turf Design Studio to prepare a Masterplan for the public domain upgrade of this iconic harbourside Village. On 23 July 2020, Council endorsed the public exhibition of the Draft Masterplan for 60 days. Community consultation was undertaken between 1 September to 1 November 2020.

The outcomes of the consultation outcomes of the Draft Masterplan were reported to Council on 22 February 2021. Based on the outcomes of this consultation Council resolved the adoption of the final Masterplan (including the amendments made as a result of the feedback received during the consultation period) and the construction of the Burton Street closure and Bligh Street Shared Zone pilot projects.

The two pilot projects were funded by grant via the NSW Government's Streets and Shared Spaces program. The Burton Street closure and Bligh Street shared zone trial period commenced on 27 September 2021. Feedback was invited on the pilot projects between the trial commencement date and 31 March 2022. The collated feedback/consultation outcomes were reported to the Council on 26 April 2022, whereby the Council resolved to proceed with the permanent closure of Burton Street (between Humphrey Place and Broughton Street) and the permanent transformation of Bligh Street into a Shared Zone.

The majority of submissions for both consultations supported the construction of the Burton Street Closure and Bligh Street Shared Zone.

3. Community Engagement Strategy

3.1 Who are our community stakeholders?

The Engagement Strategy identifies the following individuals and groups to engage with in the local community:

- Local businesses
- Residents
- Property Owners
- Precinct Committees
- Kirribilli Streetscape Committee
- North Sydney Traffic Committee
- Transport for NSW (TfNSW)
- Local bus operators including Sydney Buses and Hills Buses

Permanent Burton Street Closure and Bligh Street Shared Zone - Kirribilli

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- Road users including residents, workers, commuters, local businesses, couriers and other visitors to the area
- North Sydney Chamber of Commerce
- Milsons Point Residents' Group
- NSW Fire and Ambulance Services
- Visitors
- Councillors and Council staff

3.2 Key Communication Messages

- The Kirribilli Village Centre in its current state was built more than 25 years ago. The *Kirribilli Village Centre Public Domain Upgrade Masterplan*, adopted by Council in 2021, guides how Council will update and improve the streetscape area.
- After successfully trialling the closure of Burton Street (between Humphrey Place and Broughton St) and the Bligh Street Shared Zone pilot projects in 2021/22, Council endorsed making both projects permanent at their meeting in April 2022. Most feedback received supported both projects.
- Council is now seeking feedback on the final design of the Burton Street pedestrian plaza and the Bligh Street Shared zone.
- The concept designs were endorsed for 28 days public exhibition at the Council meeting of 26 September 2022.
- There are two design options for each project:
 - the permanent closure of Burton Street and construction of the permanent pedestrian plaza - referred to in the Masterplan as Burton Street Green Heart; and
 - the transformation of Bligh Street into a shared zone and its construction - referred to in the Masterplan as Bligh Street Community Heart Layout.
- Feedback closes 28 October 2022. To find out more about these projects visit Council's website.
- Existing outdoor dining licensed areas will remain unchanged, and new pavement and planting will be installed to potentially increase the outdoor dining space.
- Construction works notification will be carried out prior to the commencement of works.

3.3 Timetable

The key project development phases are outlined in the following table:

Phase	Timing
1. Detailed Design Option(s) Consultation	September-October 2022
2. Construction	2023-2033

Note: In accordance with Council's Community Engagement Framework described on page 1, the 'level of engagement' per engagement method is indicated.

Note: an "Abbreviated" Public Exhibition Period of 28 days is recommended due to the related prior consultation already undertaken on the then Draft Masterplan (60 days) which included feedback on the concept of these projects; and trial implementation of the two sites (185 days). Both consultations resulted in majority support the permanent construction of the Burton Street Closure

Permanent Burton Street Closure and Bligh Street Shared Zone - Kirribilli

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and Bligh Street Shared Zone. The purpose of the third consultation period is to finalise the concept designs.

Stakeholder engagement will occur in Phase 1 and 2 as outlined in the following tables:

3.3.1 Phase 1 - Detailed Concept Design Consultation

This stage involves seeking stakeholders' feedback through public exhibition of the site-specific detailed design concept which will be undertaken for 28 days between September and October 2022. To do this we will undertake the following activities. Not listed in priority order.

Method	Target Stakeholders	Engagement Level	Purpose
Webpage	All	Inform	Promote the exhibition of the detailed Concept Design options, including details on how to provide feedback
Social Media	All	Inform	
Onsite Signage	All	Inform	
Noticeboards	All	Inform	
Direct Letter/mail	<ul style="list-style-type: none"> - Residents - Businesses - Rate payers - Kirribilli Streetscape Committee - North Sydney Chamber of Commerce - Milsons Point Residents Group - Bus operators - Fire and Ambulance Services NSW - Submitters of previous stages of engagement 	Inform	Inform stakeholders of the Detailed Concept Design Concepts and the opportunity to provide feedback - includes where to access and how to make a submission
Existing eNewsletters	Subscribers of Council's various newsletters including North Sydney eNews, Business eNews and Precincts eNews	Inform	
Precinct System	Active local Precinct Committees, in particular Milson and Lavender Bay	Inform	Encourage Precinct Committees to promote consultation opportunity to their members and/or to provide feedback
Online information session - for nominated stakeholders	Open to Precinct Committees (in particular Milson, Lavender Bay), Kirribilli Streetscape Committee, North Sydney Chamber of Commerce	Inform/Consult	Encourage key stakeholders to share their ideas Raise awareness and understanding of the proposed projects and their benefits to

Permanent Burton Street Closure and Bligh Street Shared Zone - Kirribilli

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Method	Target Stakeholders	Engagement Level	Purpose
	and Milsons Point Residents' Group		the community
Submissions	All	Consult	Free form feedback accepted by email or posted letter as well as via online form.

3.3.2 Phases 2 - Construction

This stage involves informing/notifying the community of the construction works. To do this we will undertake the following activities. Not listed in priority order.

Method	Target Stakeholders	Engagement Level	Purpose
Webpage	All	Inform	Promote final Detailed Design.
Social Media	All	Inform	
Existing E-newsletters	Same as Phase 1	Inform	
Councillor Bulletin	Councillors	Inform	Inform stakeholders of the approval process by relevant authorities.
Direct Letter/email	<ul style="list-style-type: none"> - Business and Residents in close proximity to project site - Local schools - Kirribilli Streetscape Committee - North Sydney Chamber of Commerce - Milsons Point Residents Group - Community groups - Submitters that chose to be kept informed during consultation (Phase 1) 	Inform	
			Notification of construction works.
Precinct Committees	All Active Precinct Committees in particular Milson, Lavender Bay	Inform	
Site meetings	Business owners located in Burton and Bligh Streets	Inform/Consult	Liaise with local business owners about construction staging to reduce impact on trade.

4. Opportunity Cost/Rationale

Engaging the community in this proposal may entail financial costs to Council to achieve a high-quality engagement process. If the process is robust, community ownership of the decisions made will ensure efficient outcomes. Insufficient or poor-quality engagement can result in poor long-term decisions requiring further resources to rectify. The aim of a high-

**Permanent Burton Street Closure and Bligh Street
Shared Zone - Kirribilli**

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quality community engagement process is to make sustainable decisions. The engagement process will help Council staff and/or Councillors to understand the related recommendations rationale.

5. Further Information

For further information contact Diana Mejia - Council's Project Manager, Engineering and Property Services Division:

Phone: 9936 8100
Email: yoursay@northsydney.nsw.gov.au
Website: www.northsydney.nsw.gov.au

people**trans**



Burton Street Permanent
Road Closure
Transport Impact Assessment



Burton Street Permanent Road Closure Transport Impact Assessment

Document Quality Information

Client	North Sydney Council
Job Number	20S0085
Issue	A-Dr
Date	05/09/22
Details	Draft
Prepared By	Barry Li/Alan Stewart
Reviewed By	Alan Stewart
Approved By	Alan Stewart
Signature	Not Signed

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People, Passion, Perseverance

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Burton Street Permanent Road Closure, Transport Impact Assessment,

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People, Passion, Perseverance

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1. Background

1.1 Introduction

In April 2021, as part of the Kirribilli Activation project, North Sydney Council temporarily closed Burton Street to private vehicles between Broughton Street and Humphrey Place whilst still maintaining pedestrian and cyclist access.

At that time, and as part of the temporary closure, PeopleTrans assisted landscape architects Turf Studios with the transport aspects of the temporary closure design and prepared a traffic management plan to safely accommodate the changes to the road network as far as traffic accessibility was concerned.

North Sydney Council are now considering making this temporary closure permanent and have commissioned PeopleTrans to further assess the traffic and transport impacts of a long-term permanent closure of Burton Street, which is the subject of this report.

The key objective of this Traffic and Transport impact assessment (TIA) is to identify any adverse access or safety implications resulting from a permanent closure of Burton Street.

1.2 Scope and Objectives of this Report

This report sets out an assessment of the anticipated transport implications of making Burton Street a permanent closure/pedestrian plaza, including consideration of the following:

- (1) the existing traffic conditions in close proximity to Burton Street.
- (2) the existing pedestrian movements on Burton Street.
- (3) the intersection operation of Broughton Street/Crescent Place, Broughton Street/Ennis Road and Humphrey Place/Burton Street.
- (4) the environmental performance of the local roads in close proximity to Burton Street.

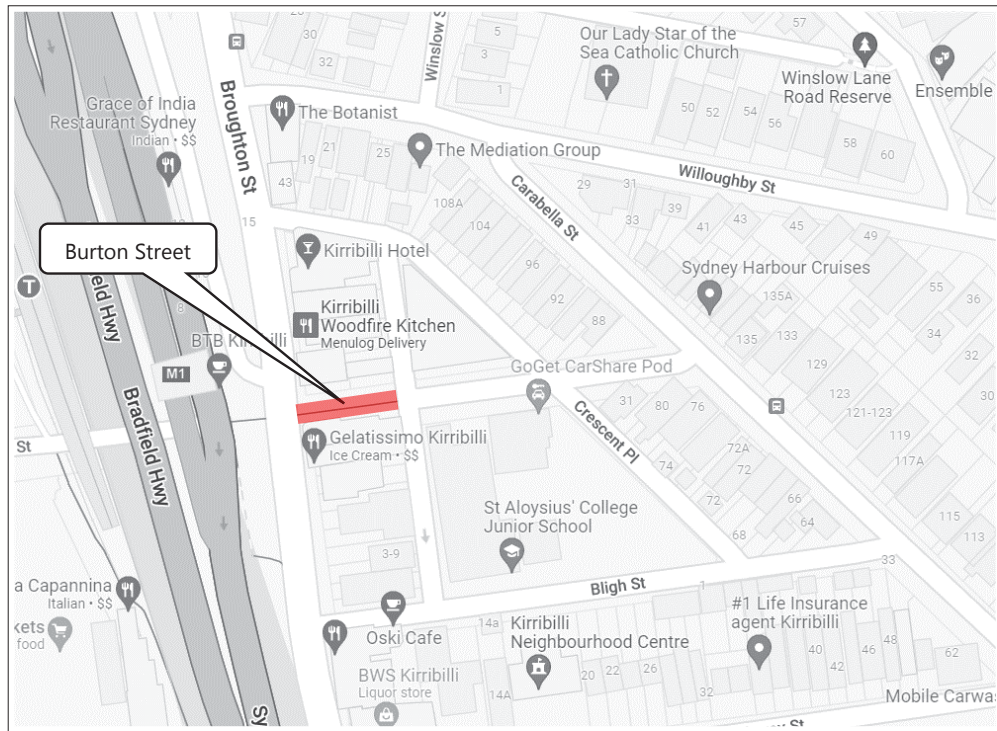
1.3 Study Area

The study area is in the suburb of Kirribilli, in the North Sydney Council Local Government Area.

Key roads assessed as part of this TIA include Broughton Street, Burton Street, Crescent Place and Humphrey Place.

The location of Burton Street and its neighbourhood are shown in Figure 1-1.

Figure 1-1: Study Area



Source: Google Maps

2. Existing Conditions Assessment

2.1 Road Network Context

To understand the traffic & transport impacts of the Burton Street closure it was firstly necessary to understand the existing road network and intersection operation as it related to the surrounding land uses at various times of the day and week.

The key roads surrounding Burton Street include Broughton Street, which is a two-lane two-way road, running north to south, Crescent Place, Humphrey Place and Bligh Street, which are all one way local roads and Burton Street which is a two-way local road as indicated in Figure 2-1.

Figure 2-1: Surrounding Road Network Context/Operation



Source: Google Maps

The key intersections impacted by the closure of Burton Street, where traffic volumes would change as a result of traffic previously using Burton Street are follows:

- ♦ Broughton Street/Crescent Place – Give Way T-Intersection
- ♦ Burton Street/Humphrey Place – Give Way T-Intersection
- ♦ Broughton Street/Ennis Road – Signalised T-Intersection

Key land uses in proximity of Burton Street, which are key trip attractors, include Milsons Point Train Station, Kirribilli Hotel, St Aloysius Junior School, Woolworths Metro and the various cafes and restaurants on Burton Street itself. Of note during the weekday AM and PM school peak periods is the heavy flow of pedestrians along the northern footpath of Burton Street between the Milsons Point train station and St Aloysius school.

Prior to the temporary closure, Burton Street operated as a one-way eastbound road between Broughton Street and Humphrey Place including a westbound contraflow cycle lane.

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Burton Street Permanent Road Closure, Transport Impact Assessment

Issue: A-Dr - 05/09/22

2.2 Walking Network & Facilities

2.2.1 Pedestrian Facilities

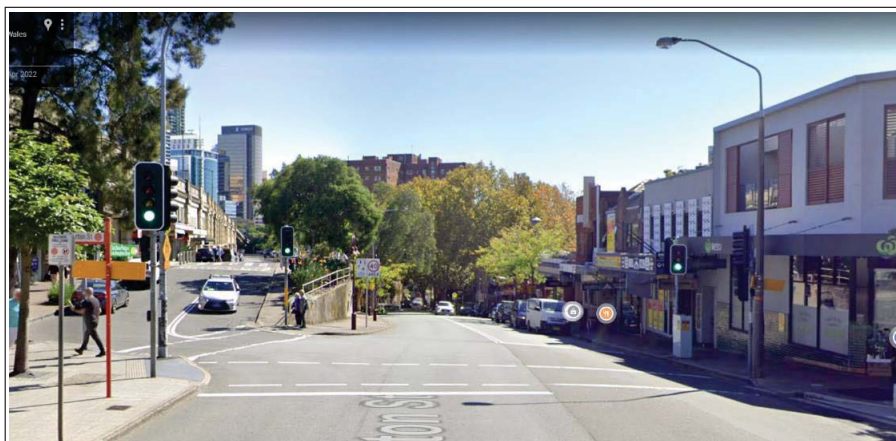
The following pedestrian facilities exist in close proximity to Burton Street providing safe access:

- ♦ Zebra crossing at the intersection of Humphrey Place/Burton Street – Provides safe crossing of Burton Street. (Refer Figure 2-2)
- ♦ Signalised pedestrian crossings at the intersection of Broughton Street/Ennis Road – Provides a safe crossing of Broughton Street/Ennis Road as the main access to and from Milson Point train station. (Refer Figure 2-3)

Figure 2-2: Burton Street Zebra Crossing



Figure 2-3: Broughton Street/Ennis Road Signal Controlled Pedestrian Crossings



2.3 Cycle Network & Facilities

2.3.1 Cycle Network

The cycle network, in close proximity to Burton Street, has been sourced from the North Sydney Integrated Cycling Strategy, June 2014 which references a medium priority cycle route (Route 3) which travels from Sydney Harbour to Neutral Bay via the Burton Street underpass as indicated in Figure 2-4.

Figure 2-4: North Sydney Integrated Cycling Strategy Route 3 – Sydney Harbour to Neutral Bay



Source: North Sydney Integrated Cycling Strategy, June 2014.

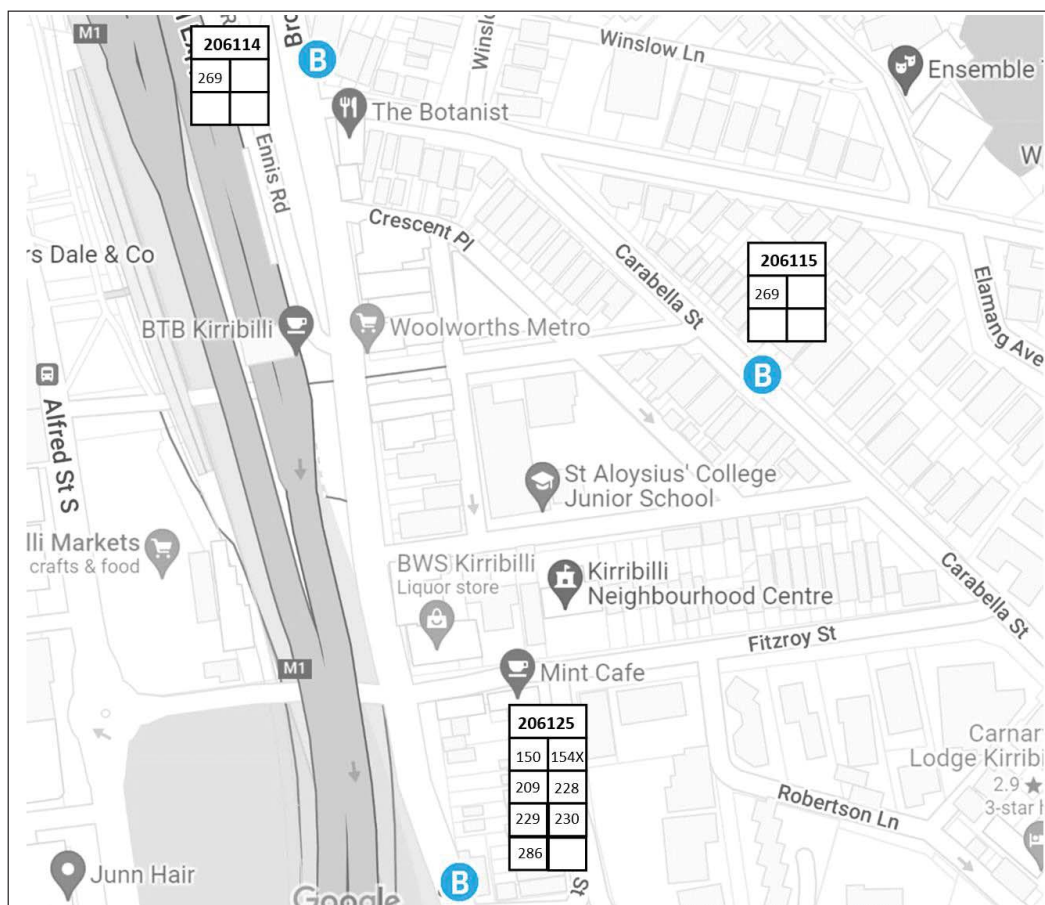
As shown in Figure 2-4, Broughton Street links Kirribilli to Milsons Point via the Burton Street underpass with the Broughton Street/Ennis Road intersection acting as a key crossing point for cyclists turning right from Broughton Street into the Burton Street underpass. The previous Burton Street westbound contra-flow cycle lane, although not on the formal bicycle network and of a much more local nature, provided a link into Route 3.

2.4 Bus Network & Bus Stops

Bus Stops

There are three key bus stops in close proximity of the school as indicated in Figure 2-5.

Figure 2-5: Surrounding Bus Stops



Source: Google Maps

Bus services 150X, 154X, 209, 228, 229, 230, 269, 286 and 287 provide a combination of weekday and weekend services in this area as indicated in Table 2.1.

Table 2.1: Bus Routes

Route No	Route Description
150X	Manly to Milsons Point (Express Service)
154X	Dee Why to Milsons Point (Express Service)
209	East Lindfield to Milsons Point via North Sydney
228	Clifton Gardens to Milsons Point
229	Beauty Point to Milsons Point via Balmoral Heights
230	Mosman Wharf to Milsons Point via North Sydney
269	McMahons Point to Milsons Point via North Sydney & Kirribilli
286	Denistone East to Milsons Point via St Leonards & North Sydney
287	Ryde to Milsons Point via St Leonards & North Sydney

The majority of these bus routes travel to and/or from Milsons Point via the Broughton Street / Fitzroy Street intersection, located to the south of Burton Street with the exception of the 269 service, which travels via Willoughby Street, Carabella Street and Kirribilli Avenue.

Importantly an additional 22 school bus routes operate near the site, with 16 school bus routes that travel to and/or from Milsons Point via the Broughton Street / Fitzroy Street intersection, and 6 school bus routes that travel along Broughton Street passing Burton Street.

2.5 School Drop Off/Pick Up Zone

Currently the St Aloysius junior school students arriving and departing by car utilise the designated 6 drop off/pick up spaces on Burton Street directly adjacent to the school. These spaces operate during school drop off and pick up times and are signed as "No Parking 8:00am-9:00am & 2:30pm-4:00pm School Days".

Based on a 60 second drop off time from the point where the car enters, drops off and departs the space and based on the 6 available spaces this drop off zone has the capacity to cater for up to 360 vehicles per hour.

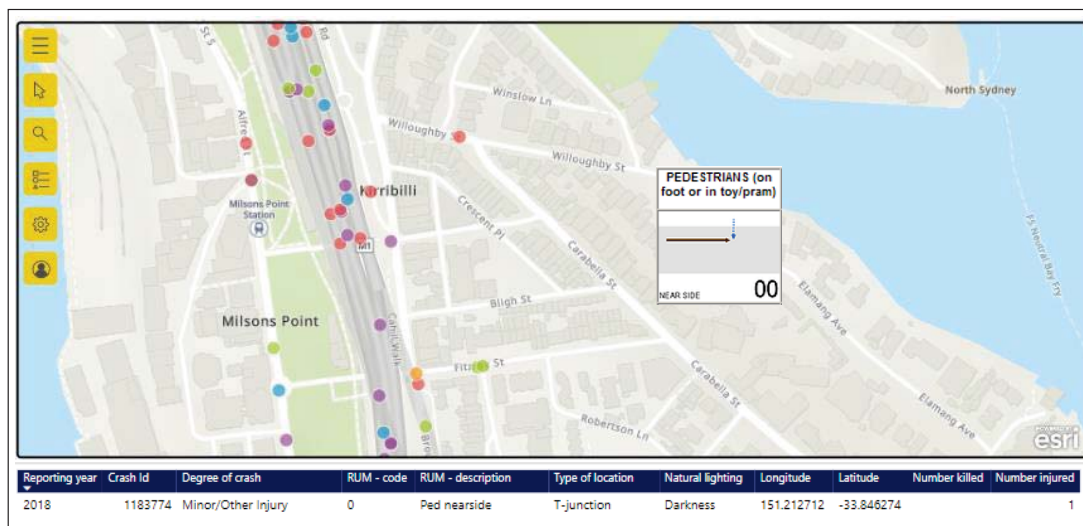
2.6 Crashes

The purpose of analysing crash data as part of the transport impact assessment is to determine if any existing safety issues can be resolved or designed out as part of the permanent closure of Burton Street.

Accident data for the last 5-year period to 2020 for the North Sydney LGA was sourced by PeopleTrans from TfNSW Centre for Road Safety online portal.

There was only one recorded crash within this 5-year period on the local roads within the immediate study area that was of some relevance to this study. This included a minor injury pedestrian accident recorded at the Burton Street/Broughton Road intersection in 2018 where a vehicle collided with a pedestrian crossing Burton Street at night.

Figure 2-6: Crashes (5 years to 2020)



Source: Transport for New South Wales Open Data

2.7 Road Network

2.7.1 Road Hierarchy

The existing road hierarchy for the key roads surrounding Burton Street is provided in Figure 2-7.

Figure 2-7: Existing Road Hierarchy



Source: Google Maps

Figure 2-7 indicates that Broughton Street is a local collector road with all other roads classified as standard local roads.

2.8 Understanding Environmental Performance Standards

It is important to understand that there are environmental performance standards for local roads which are based on TfNSW (Formerly RMS) research relating to safety (cross-ability, visibility, pedestrian delay) and amenity (noise and air quality). These standards were developed to assist practitioners in the design of residential subdivisions to ensure a level of safety and amenity was maintained when designing these types of roads.

In practice if these standards or limits are met then it is reasonable to assume that the street can be crossed safely with minimal delay and that the traffic noise and air quality levels are acceptable.

The further research undertaken by Landcom also indicated that a 300 vehicle/hour limit was required for aged pedestrians to safely cross the average street.

In addition to the above and as a general guide all local roads have a 50km/hr speed limit unless signed otherwise.

2.8.1 RMS Environmental Capacity Performance Standards

Guidance on acceptable traffic volume and speed performance characteristics for residential streets/local roads has been sought from the RTA Guide to Traffic Generating Developments, October 2002 as indicated in Table 2.2.

Table 2.2: Environmental Capacity Performance Standards on Residential Streets

Road Class	Road Type	Maximum Speed (km/hr)	Maximum peak hour volume (veh/hr)
Local	Access way	25	100
	Street	40	200 environmental goal 300 maximum
Collector	Street	50	300 environmental goal
			500 maximum

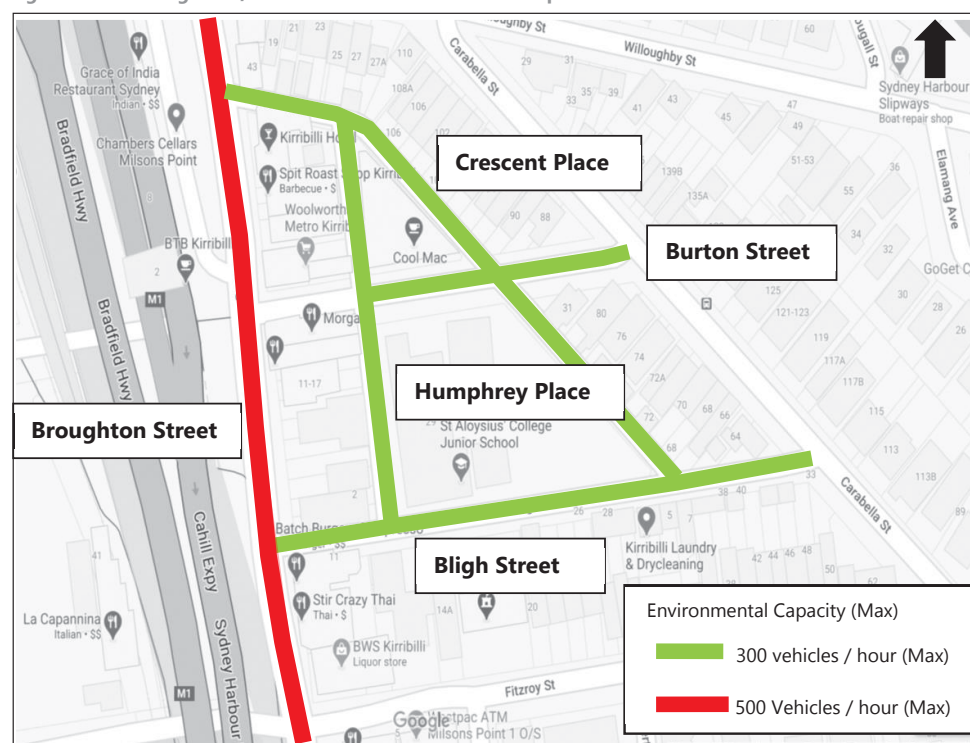
Table 2.2 indicates that for a Local Road the environmental goal for two-way peak hour traffic is 200 vehicles / hour with a maximum limit of 300 vehicles /hour with a target speed of 40 km/hr.

The maximum speed relates to acceptable design speeds in new residential developments. In existing areas, maximum speed relates to the 85th percentile speed.

2.8.2 Assessment of Existing Local Road Network Environmental Capacity (Pre-Closure)

Figure 2-8 provides a graphical representation of the NSW environmental capacity requirements for the road network surrounding Burton Street.

Figure 2-8: Existing Local/Collector Road Environmental Capacities



Source: Six Maps NSW

The information provided in Figure 2-8 is summarised in Table 2.3.

Table 2.3: Summary of Existing Environmental Capacity

Road	Between		Environmental Capacity (Max. vehicles / hour)
Broughton Street	Bligh Street	Crescent Place	500
Humphrey Place	Crescent Place	Bligh Street	300
Crescent Place	Broughton Street	Bligh Street	300
Burton Street	Humphrey Place	Crescent Place	300

It should be noted that exceeding the volumes identified in Table 2.3 does not represent a situation where there is total breakdown of the road network but rather a situation where the amenity of the road, which is a combination, noise, air pollution, pedestrian safety, cyclist safety and visual intrusion has gone beyond a level acceptable for that road classification.

2.9 Traffic Volumes & Intersection Operation (Pre-Closure)

In April 2021 during the planning of the temporary closure of Burton Street PeopleTrans collected weekday peak hour traffic data (7:30am-8:30am & 2:45pm-3:45pm) at the intersections of Broughton Street/Burton Street and Broughton Street/Crescent Place as indicated in Figure 2-9.

Figure 2-9: Weekday AM/PM Peak Hour Traffic Volumes – April 2021

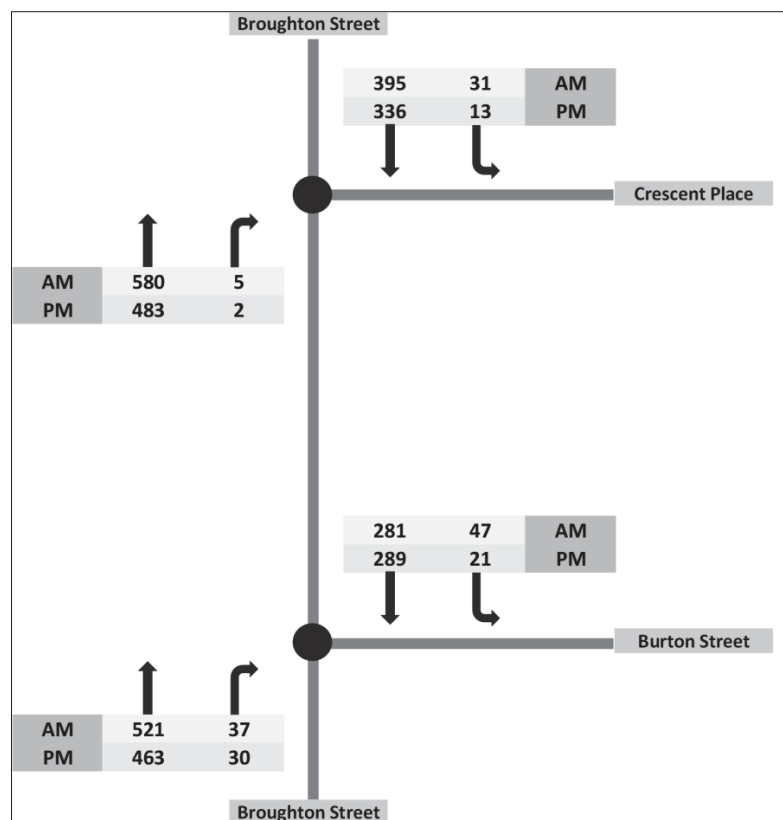


Figure 2-9 indicates mid-block AM and PM peak hour weekday traffic volumes of 35v/hr and 15v/hr respectively on Crescent Place and 84v/hr and 51v/hr on Burton Street noting that prior to the temporary closure of Burton Street 37v/hr and 30v/hr entered Burton Street during the AM and PM peak hours respectively.

It should be noted that the traffic volumes recorded on Crescent Place and Burton Street were well within the NSW environmental capacity standards for local roads.

2.10 Intersection Operation (Pre-Closure)

PeopleTrans also analysed the weekday operation of the Broughton Street/Crescent Place intersection given that it was anticipated that this intersection would have to manage the majority of reddiverted traffic from the Burton Street closure.

The operation of this intersection was assessed using Sidra Intersection, a computer-based modelling package which calculates intersection performance.

The commonly used measure of intersection performance, as defined by RMS, is vehicle delay. Sidra Intersection determines the average delay that vehicles encounter and provides a measure of the level of service.

Table 2.4 shows the criteria that Sidra Intersection adopts in assessing the level of service.

Table 2.4 RMS Sidra Intersection Level of Service Criteria

Level of Service (LOS)	Average Delay per vehicle (secs/veh)	Traffic Signals, Roundabout	Give Way & Stop Sign
A	0 to 14.5	Good operation	Good operation
B	14.5 to 28.5	Good with acceptable delays and spare capacity	Acceptable delays and spare capacity
C	28.5 to 42.5	Satisfactory	Satisfactory, but accident study required
D	42.5 to 56.5	Near capacity	Near capacity, accident study required
E	56.5 to 70.5	At capacity, at signals incidents will cause excessive delays	At capacity, requires other control mode
F	Greater than 70.5	Extra capacity required	Extreme delay, major treatment required

Table 2-5 presents a summary of the existing weekday AM and PM peak hour operation of the Broughton Street / Crescent Place intersection.

Table 2-5: Existing Operating Conditions

Intersection	Peak	Leg	Degree of Saturation (DOS)	Average Delay (sec)	95th Percentile Queue (m)	Level of Service (LOS)
Broughton Street / Crescent Place	AM	South	0.326	7.2	0.2	A
		North	0.381	5.2	0.9	A
		Intersection	0.381	7.2	0.9	A
	PM	South	0.271	6.0	0.1	A
		North	0.205	5.0	7.3	A
		Intersection	0.271	6.0	7.3	A

Table 2-5 indicates that the existing intersection operated well with minimal queues and delays on all approaches with an overall level of service A.

It was also noted through site inspections and a review of the video footage, that there was minor queueing on the north leg of the intersection during both the AM and PM peak periods as a result of queues that extended from the Broughton Street / Ennis Road intersection.

3. Traffic & Transport Impacts

This section of the report provides an assessment of the current operation of the traffic and transport network surrounding Burton Street based on a comprehensive set of traffic and pedestrian surveys undertaken in July and August 2022.

It is assumed that if the current operation of the traffic and transport network operates satisfactorily then the impacts of the Burton Street closure in a permanent form would also be satisfactory.

It should also be noted that pedestrian surveys and analysis undertaken on Burton Street can also be used to better inform the built form design for Burton Street as a permanent closure.

3.1 Traffic Volumes, Speeds & Intersection Operational Assessment (Post Closure)

To determine the most current traffic & transport volumes on the local roads within the study area PeopleTrans undertook a series of traffic surveys as indicated in Table 3.1 and Figure 3-1.

Table 3.1 Traffic Survey Details

Item No	Survey Description	Locations	Dates/Times
1.	Intersection Counts	Broughton Street/Ennis Street Intersection Broughton Street/Crescent Place Intersection Humphrey Place/Burton Street Intersection [1]	Tuesday, 26/07/22, (7am-10am & 4pm-7pm) Saturday 30/07/22 (11am-2pm)
2.	Mid-Block Tube Surveys (24hrs/7days)	Crescent Place (Between Humphrey Place & Burton Street) Crescent Place (Between Burton Street & Bligh Street) Humphrey Place (Between Crescent Place & Burton Street)	Monday 25/07/22 to Sunday 31/07/22
3.	Pedestrian Counts	Burton Street Closure (Bi-Directional Flows)	Wednesday 03/08/22 (7am-7pm) Saturday 13/08/22 (7am-7pm)

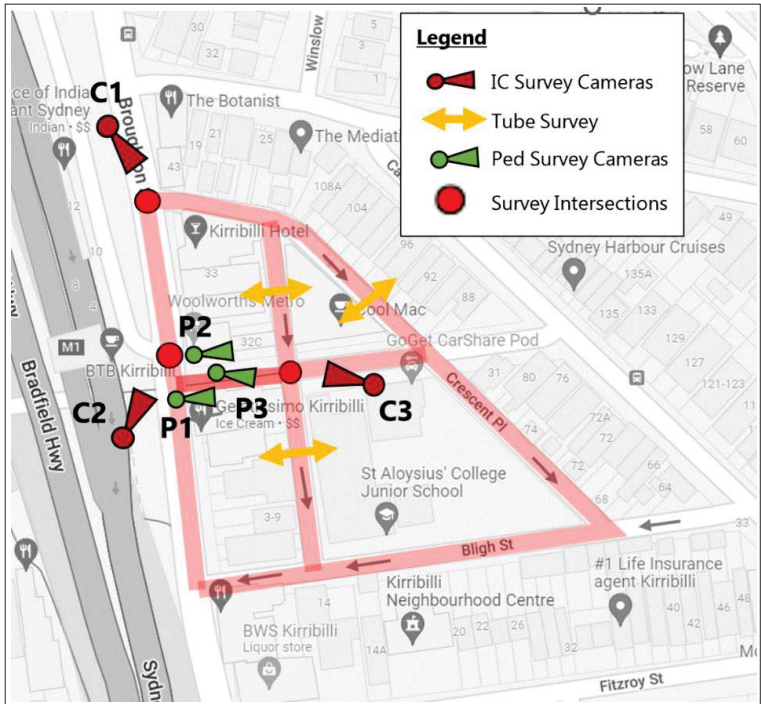
Notes:

[1] – Peak hour intersection surveys were redone on Saturday 13/08/22 at this intersection due to a camera malfunction on Saturday 30/07/22 at this location.



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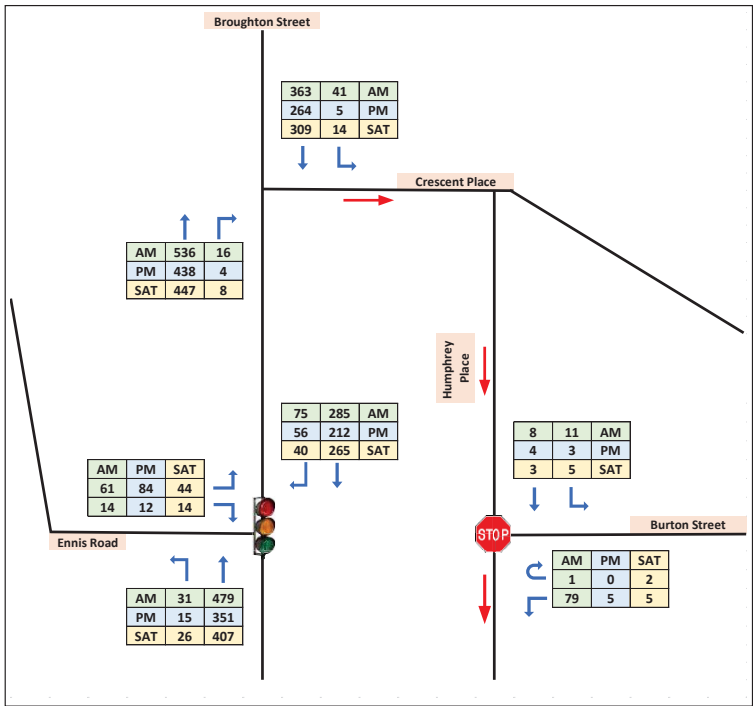
Figure 3-1: Traffic Survey Locations



Source: Google Maps

The weekday AM peak hour (7:45am-8:45am) and PM peak hour (5:00pm-6:00pm) traffic volumes are detailed in Figure 3-2.

Figure 3-2: Weekday AM/PM Peak Hour Traffic Volumes - July 2022



It should be noted that there were increases in traffic volumes at the intersection of Broughton Street/Crescent Place in July 2022 when compared to the traffic volumes recorded in April 2021 as part of the temporary closure of Burton Street. However, these increases were not as high as was anticipated or modelled in 2021.

PeopleTrans utilised the traffic survey data to determine the midblock traffic volumes on key local roads surrounding Burton Street as indicated in Table 3.2 and represented graphically in [1] – Although the environmental performance level of Broughton Street exceeds 500vph this does not constitute a breakdown of the network.

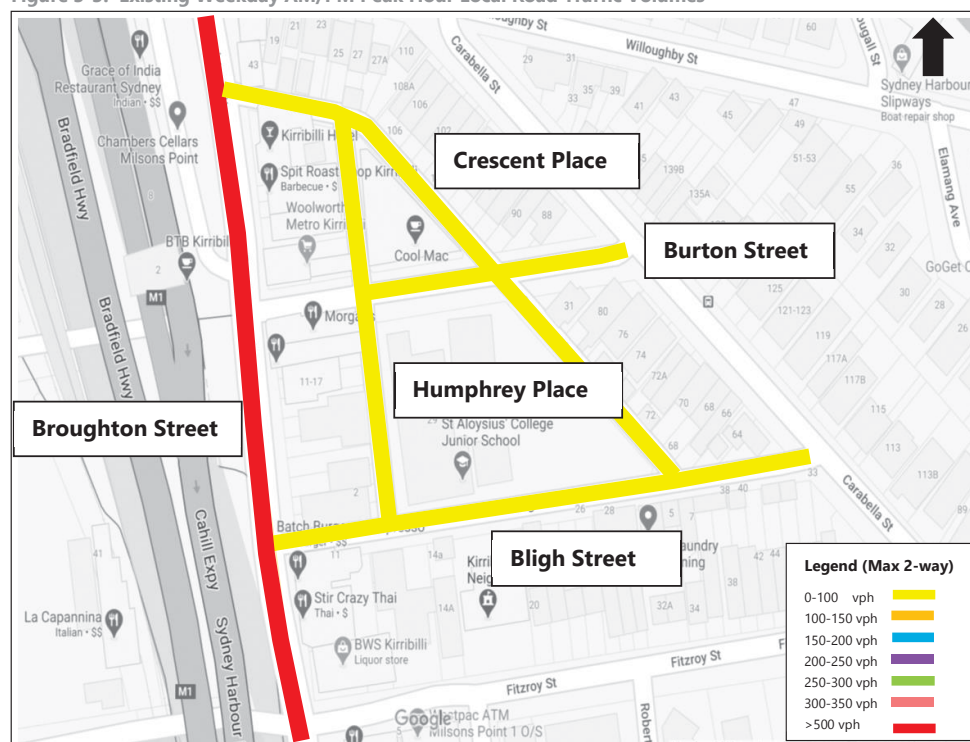
Figure 3-3.

Table 3.2: Weekday AM & PM Peak Hour & Saturday Peak Hour Mid-Block Traffic Volumes

Street Name	Existing 2022 Max. Mid-Block Hourly Traffic Volumes			Environmental Performance Standards	
	Weekday AM	Weekday PM	Saturday	EPS (Max vph)	Meets EPS?
Broughton Street	931	580	768	500	No [1]
Humphrey Place (North)	33	17	17	300	Yes
Humphrey Place (South)	68	23	26	300	Yes
Crescent Place	24	19	20	300	Yes
Burton Street	91	8	12	300	Yes

[1] – Although the environmental performance level of Broughton Street exceeds 500vph this does not constitute a breakdown of the network.

Figure 3-3: Existing Weekday AM/PM Peak Hour Local Road Traffic Volumes



Source: Google Maps

Figure 3-3 indicates that the existing AM and PM hourly volumes on the local roads surrounding Burton Street are still well within the NSW environmental performance standards for local roads.

However, Figure 3-3 also indicates that Broughton Street is operating above its environmental capacity limits for a collector road noting that the traffic volumes on Broughton Street were at these levels prior to the closure of Burton Street.

3.2 Traffic Speeds

The 85th percentile speeds recorded on Crescent Place and Humphrey Place north and south are as follows:

- ♦ Crescent Place North (Between Broughton Street & Burton Street): **28km/hr**
- ♦ Humphrey Place (Between Crescent Place & Burton Street): **23km/hr**
- ♦ Humphrey Place (Between Burton Street & Bligh Street): **25km/hr**

The current 85th percentile traffic speeds are also well within the NSW environmental capacity limits of 40km/hr for local roads. This is in part due to the narrow lane widths and limiting geometry of the streets surrounding Burton Street.

3.3 Intersection Operation (Post Closure)

The operation of the key intersections within the study area were assessed using Sidra Intersection, a computer-based modelling package which calculates intersection performance.

The commonly used measure of intersection performance, as defined by RMS, is vehicle delay. Sidra Intersection determines the average delay that vehicles encounter and provides a measure of the level of service.

Table 3.3 shows the criteria that Sidra Intersection adopts in assessing the level of service.

Table 3.3 RMS Sidra Intersection Level of Service Criteria

Level of Service (LOS)	Average Delay per vehicle (secs/veh)	Traffic Signals, Roundabout	Give Way & Stop Sign
A	0 to 14.5	Good operation	Good operation
B	14.5 to 28.5	Good with acceptable delays and spare capacity	Acceptable delays and spare capacity
C	28.5 to 42.5	Satisfactory	Satisfactory, but accident study required
D	42.5 to 56.5	Near capacity	Near capacity, accident study required
E	56.5 to 70.5	At capacity, at signals incidents will cause excessive delays	At capacity, requires other control mode
F	Greater than 70.5	Extra capacity required	Extreme delay, major treatment required

Table 3-4 presents a summary of the existing operation of the intersections with the levels of service shown graphically in Figure 3-4.

The adopted modelling parameters and processes highlighted in TfNSW (Roads and Maritime) Traffic Modelling Guidelines 2013 are listed in Table 3-4 along with any calibration processes undertaken by matching traffic behaviour and vehicle queuing observations from the survey footage.



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Table 3-4: Adopted Modelling Parameters and Processes in Sidra Models

Reference	Dialogue	Adopted Modelling Parameters and Processes
14.1.1	Getting Started	<ul style="list-style-type: none"> The latest version of SIDRA Intersection 9 (version 9.0.3.9771) was used. Level of Service (LoS) method was set to RTA NSW (Roads and Maritime).
14.2.1	Input	<ul style="list-style-type: none"> Maximum unit time for volumes of 60 minutes and maximum peak flow period of 30 minutes were adopted.
14.2.2	Geometry	<ul style="list-style-type: none"> SIDRA intersection and network models were developed based on the geometry identified in aerial imagery from Nearmap (http://maps.au.nearmap.com) and Google Maps (https://www.google.com/maps) Parking present on site and within the influence zone of the intersections were coded accordingly. The three intersections were modelled as individual sites – "Give Way" control for the Broughton Street / Crescent Place intersection, 3-leg traffic signals for the Broughton Street / Ennis Road intersection, and "Stop" control for the Burton Street and Humphrey Place intersection.
14.2.2	Saturation Flow	<ul style="list-style-type: none"> Saturation flow measurements were not undertaken for this project. Default SIDRA values were used.
14.2.3	Volumes	<ul style="list-style-type: none"> Intersection volumes of light vehicles (LV) and heavy vehicles (HV) were entered separately. SIDRA default peak flow factor of 95 per cent was applied.
14.2.4	Movement Data	<ul style="list-style-type: none"> Approach and exit speed were updated as per the posted speed limit signs observed in Google Maps (https://www.google.com/maps) SIDRA default arrival types were applied to all movements.
14.2.5	Priorities	<ul style="list-style-type: none"> Priority was given to the full staged pedestrian crossings in both intersections.
14.2.6	Gap Acceptance	<ul style="list-style-type: none"> SIDRA default gap acceptance parameters for signalised and non-signalised intersections were applied.
14.2.7	Pedestrian	<ul style="list-style-type: none"> Pedestrian crossing speed of 1.2 m/sec was adopted for all sites.
14.2.8	Phasing and Timing	<ul style="list-style-type: none"> As SCATS (Sydney Coordinated Adaptive Traffic System) is an adaptive system, the phase times and cycle times vary over each peak hour in response to traffic conditions. For SIDRA modelling, average cycle times and phase times were taken from survey footage observations for each peak hour.
14.2.9	Roads and Maritime Standard Traffic Signal Phasing Diagrams	<ul style="list-style-type: none"> Signal phasing sequences were confirmed by reviewing survey footage.
14.2.10	Model Setting	<ul style="list-style-type: none"> No adjustments to the model settings were made.

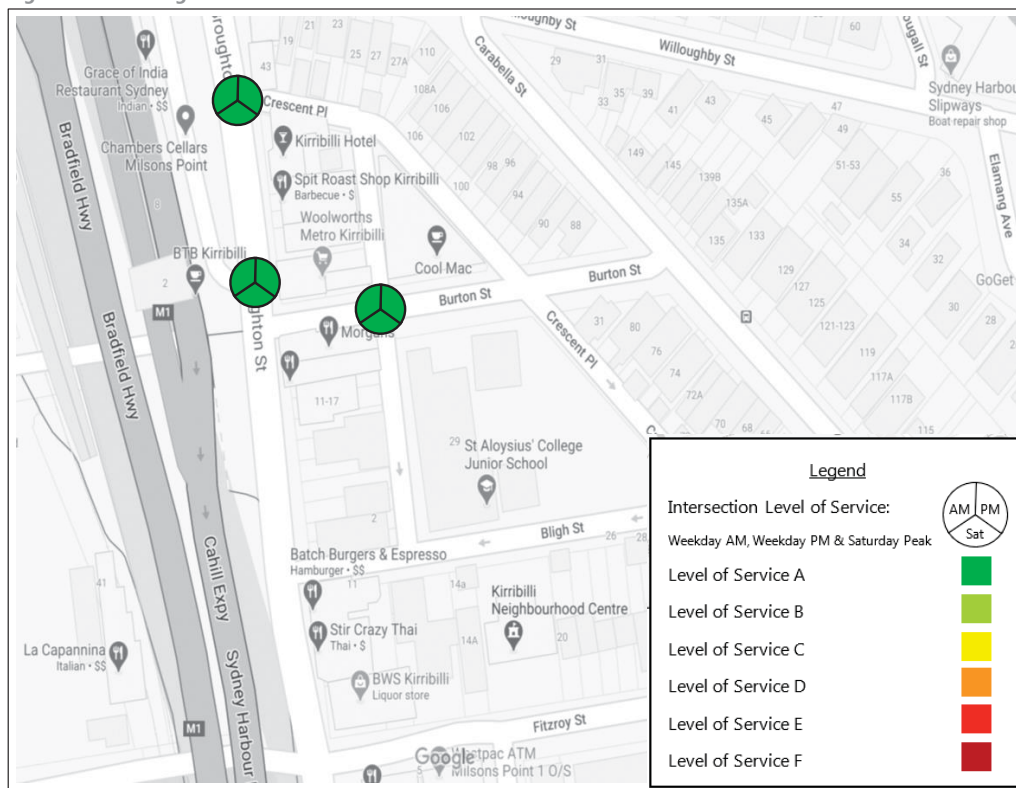
Table 3.5 Existing Weekday & Saturday Operating Conditions

Intersection	Peak	Leg	Average Delay (sec)	Degree of Saturation (DOS)	Level of Service (LoS)	95th Percentile Queue (m)
Broughton Street/Ennis Road (Signalised T-Intersection)	AM	South	11.3	0.548	A	76.5
		North	14.2	0.490	A	45.7
		West	21.7	0.171	B	12.7
		Intersection	13.2	0.548	A	76.5
	PM	South	7.6	0.348	A	41.7
		North	8.8	0.286	A	27.3
		West	25.1	0.282	B	17.9
		Intersection	10.4	0.348	A	41.7
	SAT	South	8.7	0.431	A	54.1
		North	9.1	0.337	A	29.9
		West	24.2	0.164	B	10.3
		Intersection	10.0	0.431	A	54.1
Broughton Street/Crescent Place (Give Way T-Intersection)	AM	South	6.4	0.318	A	1.8
		North	5.0	0.232	A	2.7
		Intersection	6.4	0.318	A	2.7
	PM	South	5.6	0.244	A	0.4
		North	5.2	0.153	A	0.3
		Intersection	5.6	0.244	A	0.4
	SAT	South	6.6	0.258	A	0.9
		North	5.3	0.179	A	0.9
		Intersection	6.6	0.258	A	0.9
Burton Street/Humphrey Place	AM	East	4.7	0.043	A	0
		North	7.2	0.016	A	0.4
		Intersection	7.2	0.016	A	0.4
	PM	East	3.4	0.003	A	0
		North	6.7	0.005	A	0.1
		Intersection	6.7	0.005	A	0.1
	SAT	East	5.2	0.004	A	0
		North	6.7	0.006	A	0.2
		Intersection	6.7	0.006	A	0.2

Table 3.5 indicates that all the intersections within the study area currently operate well during the weekday AM, PM and Saturday peak hours with minimal queues and delays on all approaches.

It should be noted that the queue on Broughton Street on the north approach to the Ennis Road intersection extends approximately 46m during the AM peak hour which encroaches within the Broughton Street/Crescent Place intersection.

Figure 3-4: Existing Intersection Levels of Service



3.4 Assessment of Impacts to Pedestrians

The closure of Burton Street to private vehicles has provided additional walking space for pedestrians resulting in a generally safer walking environment.

PeopleTrans collected pedestrian flow information for Burton Street on a Wednesday and Saturday in early August 2022 between 7am to 7pm to determine the level of pedestrian activity on Burton Street over a typical day.

The analysis of this data was categorised as follows and is indicated in Figure 3.5 to Figure 3.10.

- ♦ Burton Street – Northern Footpath Bi-Directional Flows
- ♦ Burton Street – Southern Footpath Bi-Directional Flows
- ♦ Burton Street – Central Plaza/Walkway

Figure 3-5: Burton Street Northern Footpath Pedestrian Flow Profile – Wed 03/08/22 (7am-7pm)

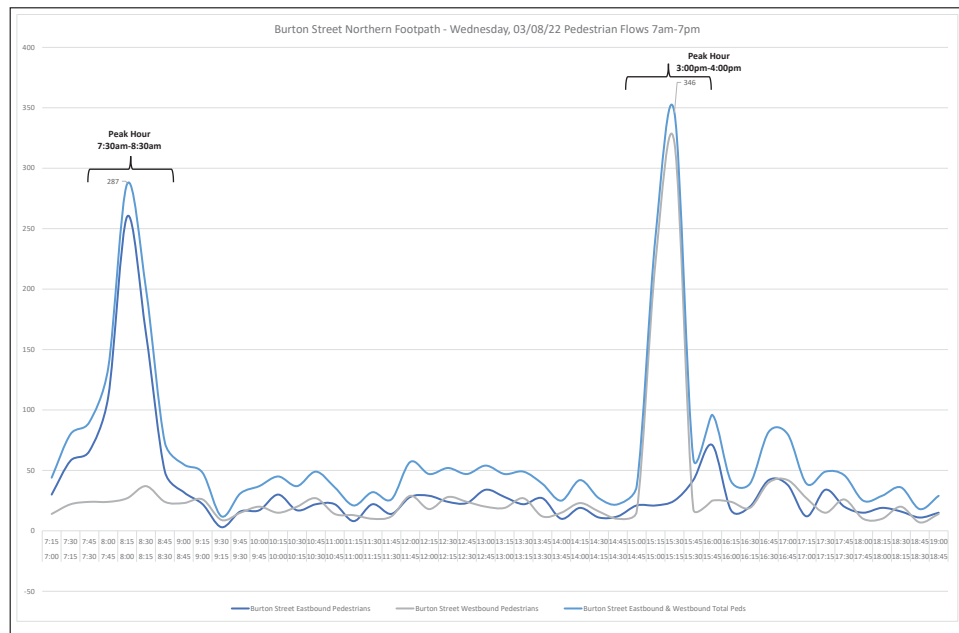


Figure 3-5 indicates that the peak pedestrian flow on the northern footpath of Burton Street on a Wednesday occurs between 07:30am-08:30am in the eastbound direction with a maximum two-way pedestrian volume of over 700 pedestrians/hour and between 3:00pm-4:00pm in the westbound direction with a maximum two-way pedestrian volume of approximately 750 pedestrians/hour. This is primarily associated with St Aloysius school students arriving in the morning and departing mid-afternoon from Milsons Point train station.

Figure 3-6: Burton Street Southern Footpath Pedestrian Flow Profile – Wed 03/08/22 (7am-7pm)

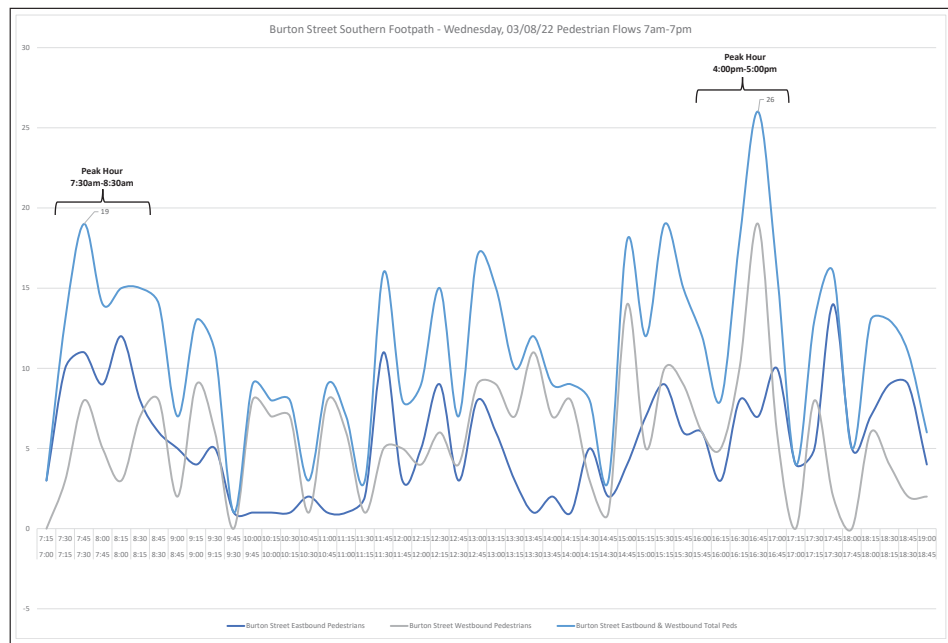


Figure 3-6 indicates that the peak pedestrian flow on the southern footpath of Burton Street on a Wednesday also occurs between 07:30am-08:30am with a maximum two-way pedestrian volume of approximately 65 pedestrians/hour and between 4:00pm-5:00pm with a maximum two-way pedestrian volume of approximately 70 pedestrians/hour.

It should be noted that the southern footpath of Burton Street is approximately ten times less busy than the northern footpath.

Figure 3-7: Burton Street Central Plaza Pedestrian Flow Profile – Wed 03/08/22 (7am-7pm)

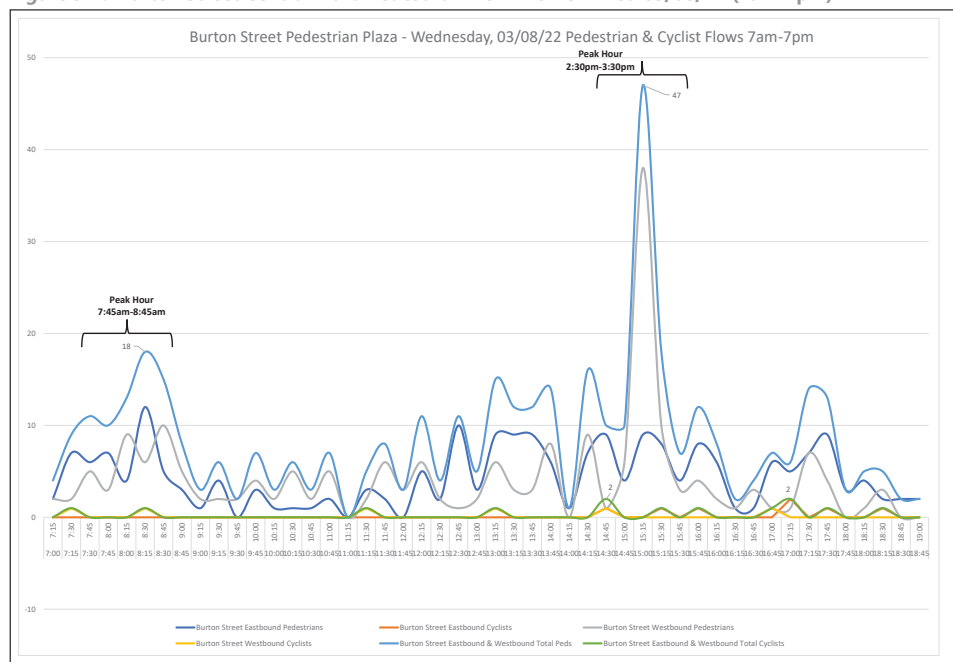


Figure 3-7 indicates that the peak pedestrian flow on the central plaza of Burton Street on a Wednesday occurs between 07:45am-08:45am with a maximum two-way pedestrian volume of approximately 55 pedestrians/hour and between 2:30pm-3:30pm with a maximum two-way pedestrian volume of 85 pedestrians/hour.

It should be noted that there was a distinct spike in pedestrians which occurred between 3:00pm and 3:15pm which could be associated with St Aloysius school finishing times.

Figure 3-7 also indicates a small period of cyclist activity which occurs between 2:30pm and 6:30pm although the volumes are very low.

Figure 3-8: Burton Street Northern Footpath Pedestrian Flow Profile – Sat 13/08/22 (7am-7pm)

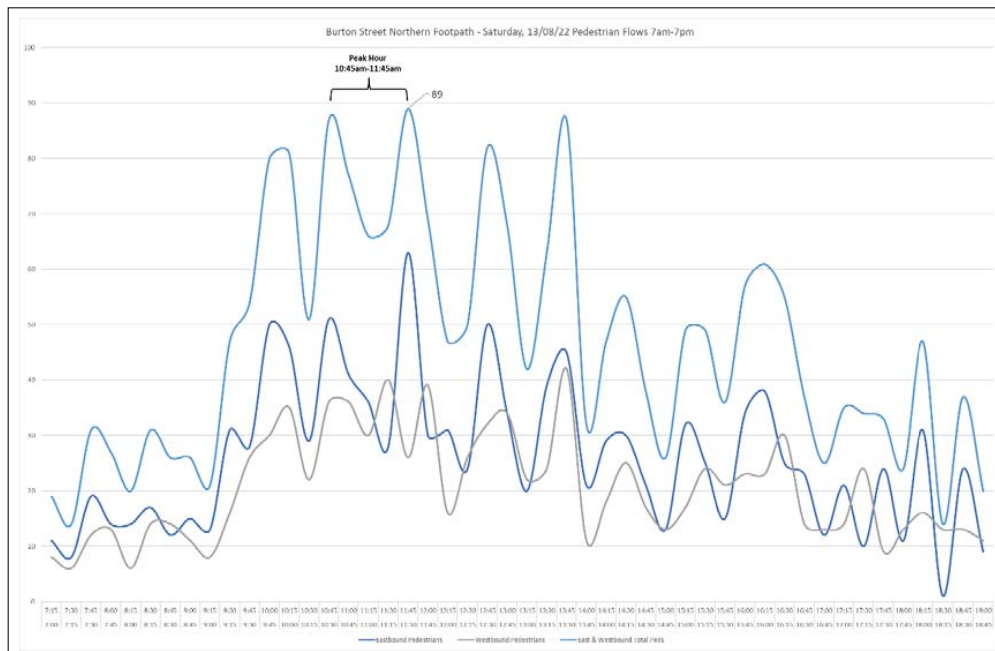


Figure 3-8 indicates that the peak pedestrian flow on the northern footpath of Burton Street on a Saturday occurs between 10:45am-11:45am with a maximum two-way pedestrian volume of 300 pedestrians/hour.

Figure 3-9: Burton Street Southern Footpath Pedestrian Flow Profile – Sat 13/08/22 (7am-7pm)

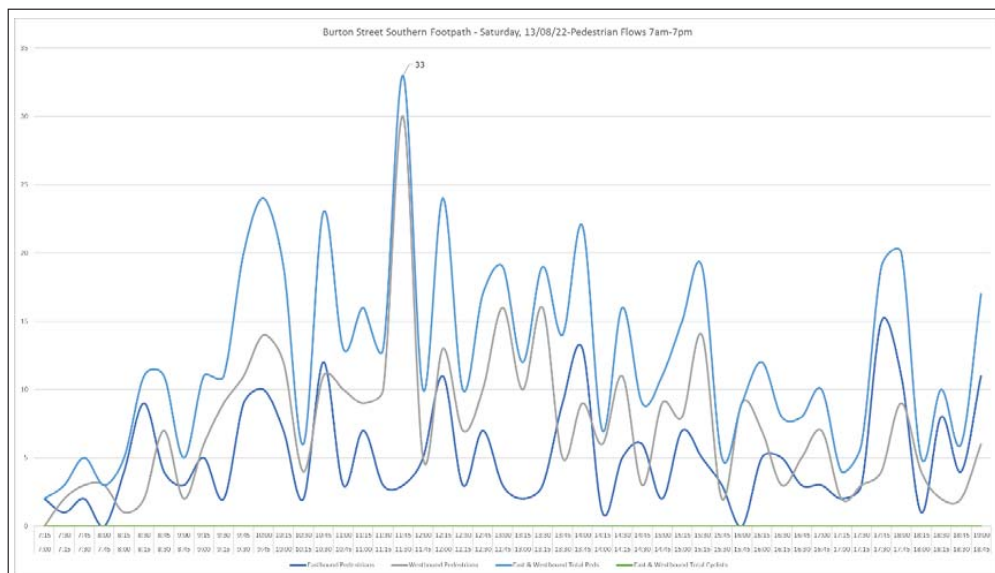


Figure 3-9 indicates that the peak pedestrian flow on the southern footpath of Burton Street on a Saturday occurs between 11:15am-12:15pm with a maximum two-way pedestrian volume of 80 pedestrians/hour. The use of the southern footpath is significantly lower than the northern footpath on a Saturday.

Figure 3-10: Burton Street Central Plaza Pedestrian Flow Profile – Sat 13/08/22 (7am-7pm)

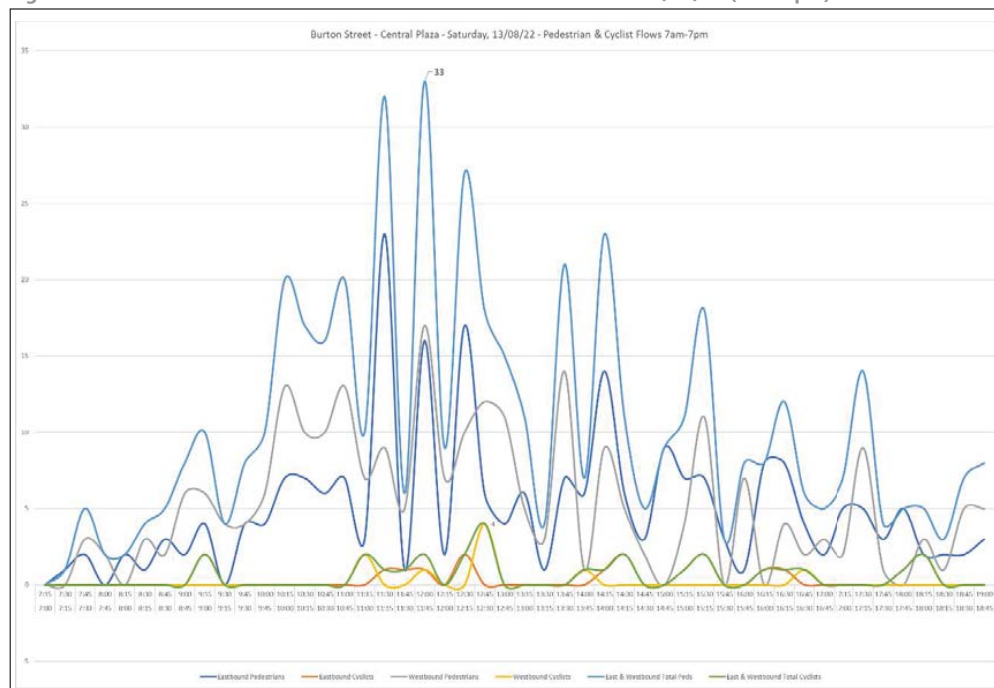
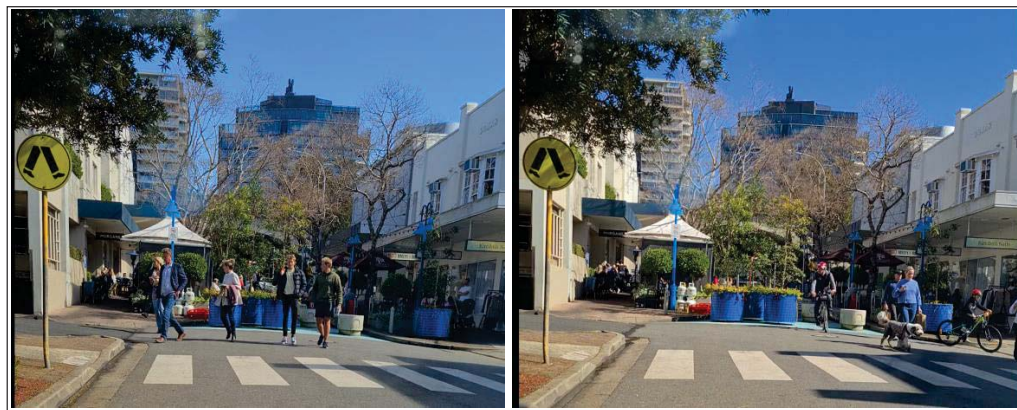


Figure 3-10 indicates that the peak pedestrian flow on the central plaza of Burton Street on a Saturday occurs between 12:00pm-13:00pm with a maximum two-way pedestrian volume of 87 pedestrians/hour. This was also the peak time for cyclists with 8 cyclists recorded.

3.5 Burton Street/Humphrey Place Intersection

The closure of Burton Street at this intersection has resulted in a cross intersection becoming a T-Intersection. However, this has also created new diagonal pedestrian desire lines from the southern and northern footpaths of Burton Street south to the opening in the Burton Street closure as indicated in Figure 3-11.

Figure 3-11: Burton Street/Humphrey Place Intersection New Pedestrian Desire Lines



This is not considered an issue as traffic volumes in this location are very low, particularly during the weekends and this type of pedestrian movement is not as prominent during the early weekday mornings when traffic volumes are higher associated with St Aloysius school pick up and drop off.

It should also be noted that the existing zebra crossing on Burton Street is important as it is very heavily used by St Aloysius school students and staff providing safe access across Burton Street to and from Milsons Point Station as indicated in Figure 3-12.

Figure 3-12: Burton Street Zebra Crossing – AM Peak Period



This zebra crossing is also controlled by a school crossing supervisor during school start and end times. It would be advisable to consider these factors during the design of the permanent closure of Burton Street as there may be options available to improve the overall operation at this intersection.

3.6 Assessment of Impacts to Cyclists

In March 2021, during the planning of the temporary closure of Burton Street, PeopleTrans collected intersection count data for the Broughton Street/Burton Street intersection which identified a total of 17 cyclists using Burton Street between 7:00am and 4:00pm on a weekday with a total of 9 cyclists entering Burton Street and 8 cyclists exiting Burton Street.

These cycle numbers are very low and as indicated in section 2.3 of this report Burton Street is not identified as a formal cycle route within North Sydney Councils Bicycle Strategy.

That said it is still important to ensure that the permanent closure of Burton Street continues to provide permeability for all cyclists in one form or another even if that means cyclists need to dismount and walk their bikes through this section of Burton Street. There should also be consideration given to providing bicycle parking as the section of Burton Street will become more of a destination than just a through route.



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3.7 Assessment of Impacts to Buses.

The closure of Burton Street would not have any adverse impacts to bus services.

Given that no bus routes go through Burton Street, the impacts on these routes due to the closure of Burton Street would be limited to any potential queues at the Broughton Street / Crescent Place intersection.

As shown in Table 3.5 queues at Broughton Street / Crescent Place would extend 3 metres north and 2 metres south of the intersection. These queues do not extend past Willoughby Street or Fitzroy Street and as such there would be no adverse impact to the bus routes that operate within close proximity to Burton Street.

4. Conclusions & Recommendations

Based on the analysis contained within this report the following conclusions & recommendations are made:

Conclusions

- ◆ The additional traffic diverted by the proposed temporary road closure of Burton Street is not compromising the safety or function of the surrounding road network. This would be the same for a permanent closure of Burton Street.
- ◆ The current road network traffic volumes and speeds are within the limits of the NSW environmental capacity standards for local roads, with the exception of Broughton Street.
- ◆ The current intersections near Burton Street are operating satisfactorily with minimal queues and delays on all approaches.
- ◆ Cycle movements on Burton Street itself were negligible with a total of 17 cyclists observed during the surveys undertaken in March 2021 between 7:00 am and 4:00pm. Cycle movements recorded in August 2022 indicated similar volumes.
- ◆ No public or school buses travel directly on Burton Street and as such a permanent closure will have no adverse impacts on bus operations.

Based on the analysis above, the transport impacts of a permanent closure of Burton Street would be negligible but there could still be opportunities to improve pedestrian and cyclist safety and amenity during the design of the permanent closure. These relate specifically to the interfaces with the trafficable roads at either end of Burton Street.

Recommendations

- ◆ It is recommended that THE "KEEP CLEAR" markings be maintained at the Broughton Street / Crescent Place intersection to ensure a suitable gap is available for northbound right turning vehicles when southbound queues from the Broughton Street / Ennis Road intersection extend past Crescent Place.
- ◆ It is recommended that a traffic guidance scheme be removed in support of a permanent road closure.
- ◆ Sufficient time has passed for the Kirribilli community to be familiar with the current road network operation and as such it is recommended that minimal additional traffic signage be provided for the permanent closure.
- ◆ It is recommended that cyclists be provided access through Burton Street in one form or another as well as provided with cycle parking and that this be built into the permanent closure design for Burton Street.
- ◆ It is recommended that the permanent closure design also consider how to manage the new pedestrian desire lines at the Burton Street/Humphrey Street intersection.
- ◆ It is recommended that PeopleTrans review the details of the permanent road closure design prior to it being finalised as the analysis and data collected as part of this study and our knowledge of intersection design can be used to add value and shape the final permanent closure design for Burton Street.



People, Passion, Perseverance

Appendix A

Tube Count Traffic & Speed Summary Sheets

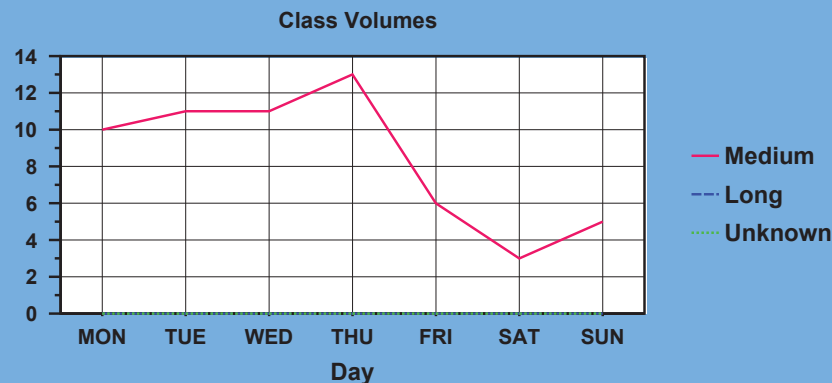
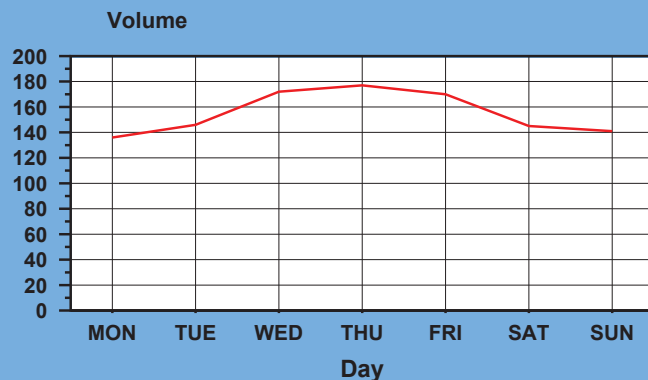
Count Number 1181 Ref : PPL UBD B L-10
 Street HUMPHREY PLACE, KIRRIBILLI : Between CRESCENT PLACE & BURTON STREET (bidirectional) :
 Location Midblock, in Section, rear of Kirribilli Hotel, No Stopping sign. at House No. 40 Carriageway

Start Date 25-JUL-22
 Start Time 100
 Duration 7 DAYS
 Interval 1 HOUR

	ADT	Short cls 1-2	Med cls 3-5	Long cls 6+
Five Day	164	93.8	6.2	.0
Seven Day	159	94.7	5.3	.0 %
Weekend	148	97.3	2.7	.0

THE BODY OF THIS REPORT
 SHOWS : SEVENDAY
 TRAFFIC

Dav	00	01	02	03	04	05	06	07	08	09	10	11	12	13	Total
MONDAY	5	126	0	5	5	0	0	0	0	0	0	0	0	0	141
TUESDAY	1	135	0	9	2	0	0	0	0	0	0	0	0	0	147
WEDNESDAY	4	161	0	7	4	0	0	0	0	0	0	0	0	0	176
THURSDAY	4	164	0	12	1	0	0	0	0	0	0	0	0	0	181
FRIDAY	4	163	1	5	1	0	0	0	0	0	0	0	0	0	174
SATURDAY	4	142	0	2	1	0	0	0	0	0	0	0	0	0	149
SUNDAY	5	136	0	5	0	0	0	0	0	0	0	0	0	0	146
5 Day Total	18	749	1	38	13	0	0	0	0	0	0	0	0	0	819
5 Day Pct	2	91		5	2										
7 Day Total	27	1027	1	45	14	0	0	0	0	0	0	0	0	0	1114
7 Day Pct	2	92		4	1										



Count Number 1182

Ref : PPL

UBD B L-10

Street HUMPHREY PLACE, KIRRIBILLI : Between BURTON STREET & BLIGH STREET (bidirectional) :

Location Midblock, in Section, ELP MO12127

Carriageway

Start Date 25-JUL-22

Start Time 100

Duration 7 DAYS

Interval 1 HOUR

	ADT	Short cls 1-2	Med cls 3-5	Long cls 6+
Five Day	249	95.3	4.7	.0
Seven Day	221	95.8	4.2	.0 %
Weekend	152	97.7	2.3	.0

THE BODY OF THIS REPORT

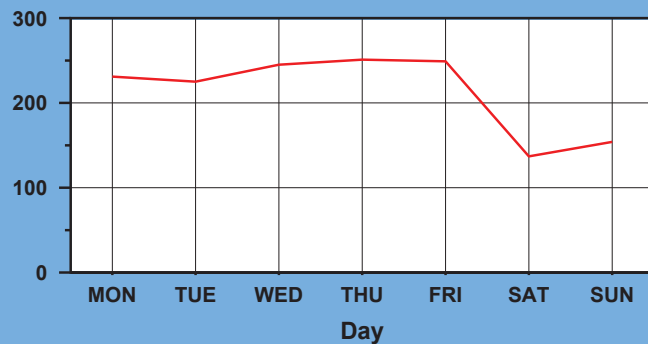
SHOWS :

SEVENDAY

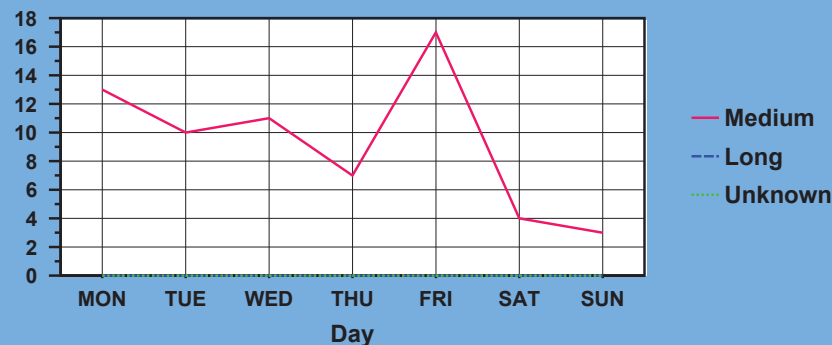
TRAFFIC

Dav	00	01	02	03	04	05	06	07	08	09	10	11	12	13	Total
MONDAY	7	218	0	9	4	0	0	0	0	0	0	0	0	0	238
TUESDAY	8	215	0	8	0	2	0	0	0	0	0	0	0	0	233
WEDNESDAY	11	234	0	9	2	0	0	0	0	0	0	0	0	0	256
THURSDAY	10	243	1	7	0	0	0	0	0	0	0	0	0	0	261
FRIDAY	7	232	0	14	3	0	0	0	0	0	0	0	0	0	256
SATURDAY	0	133	0	3	0	1	0	0	0	0	0	0	0	0	137
SUNDAY	12	151	0	3	0	0	0	0	0	0	0	0	0	0	166
5 Day Total	43	1142	1	47	9	2	0	0	0	0	0	0	0	0	1244
5 Day Pct	3	92		4	1										
7 Day Total	55	1426	1	53	9	3	0	0	0	0	0	0	0	0	1547
7 Day Pct	4	92		3	1										

Volume



Class Volumes



Count Number 1183 Ref : PPL UBD 7 L-4
 Street CRESCENT PLACE, KIRIRIBILLI : Between BROUGHTON STREET & BURTON STREET (bidirectional) :
 Location Midblock, in Section, opposite House No.100, on tree. Carriageway

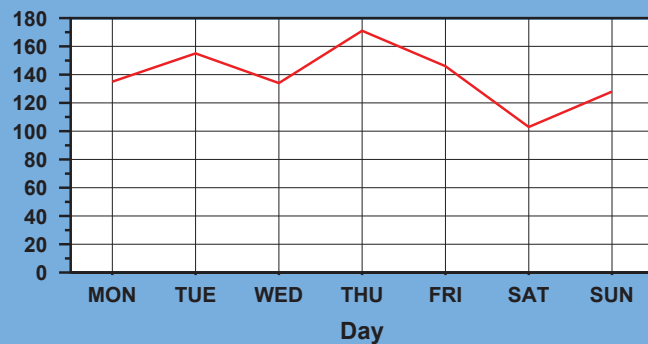
Start Date 25-JUL-22
 Start Time 100
 Duration 7 DAYS
 Interval 1 HOUR

	ADT	Short cls 1-2	Med cls 3-5	Long cls 6+
Five Day	150	98.7	1.3	.0
Seven Day	141	99.0	1.0	.0 %
Weekend	117	*****	.0	.0

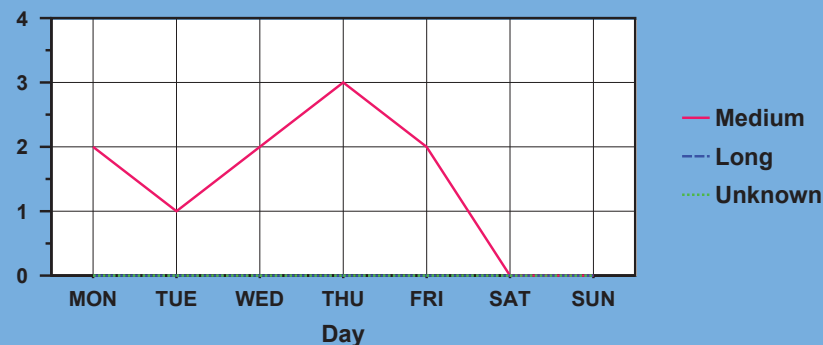
THE BODY OF THIS REPORT
 SHOWS : SEVENDAY
 TRAFFIC

Dav	00	01	02	03	04	05	06	07	08	09	10	11	12	13	Total
MONDAY	3	133	0	2	0	0	0	0	0	0	0	0	0	0	138
TUESDAY	3	154	0	1	0	0	0	0	0	0	0	0	0	0	158
WEDNESDAY	1	132	0	2	0	0	0	0	0	0	0	0	0	0	135
THURSDAY	1	168	0	3	0	0	0	0	0	0	0	0	0	0	172
FRIDAY	1	144	0	2	0	0	0	0	0	0	0	0	0	0	147
SATURDAY	2	103	0	0	0	0	0	0	0	0	0	0	0	0	105
SUNDAY	2	128	0	0	0	0	0	0	0	0	0	0	0	0	130
5 Day Total	9	731	0	10	0	0	0	0	0	0	0	0	0	0	750
5 Day Pct	1	97		1											
7 Day Total	13	962	0	10	0	0	0	0	0	0	0	0	0	0	985
7 Day Pct	1	98		1											

Volume



Class Volumes



Count Number **1181** Ref : **PPL** UBD B L-10
 Street **HUMPHREY PLACE, KIRRIBILLI : Between CRESCENT PLACE & BURTON STREET (bidirectional) :**
 Location **Midblock, in Section, rear of Kirribilli Hotel, No Stopping sign. at House No. 40** Carriageway

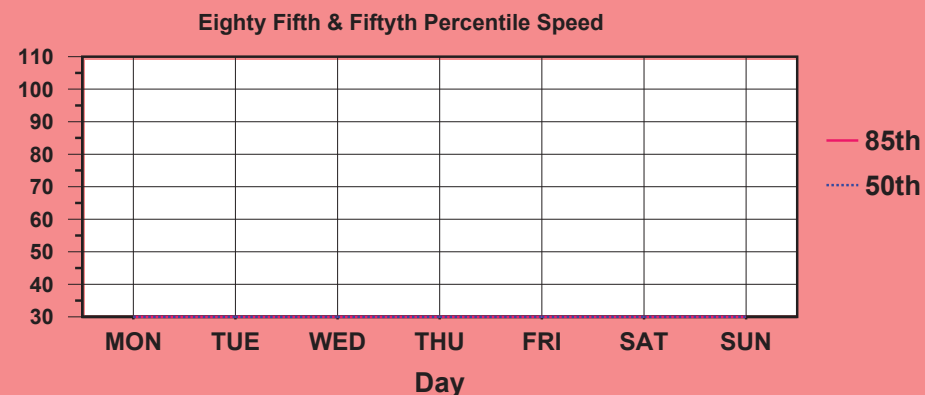
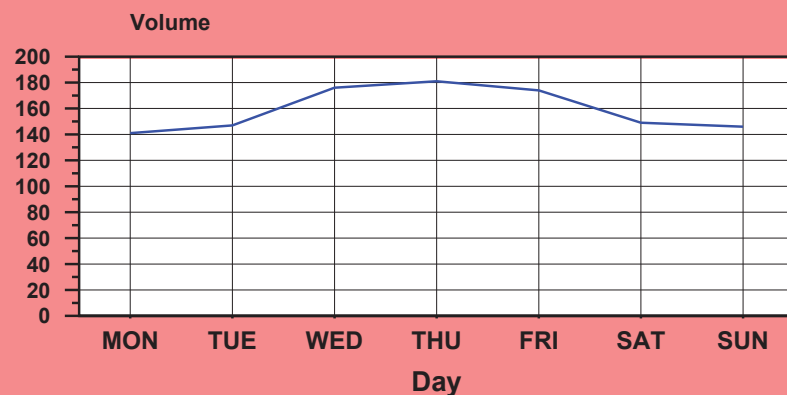
Start Date **25-JUL-22**
 Start Time **100**
 Duration **7 DAYS**
 Interval **1 HOUR**

Weekly Mean Speed **17**
 Weekly 85th Percentile Speed **23**
 Five Day AADT **164**
 Seven Day AADT **159**

Day	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100	100-110	110-120	Total	Mean	85pct
MONDAY	0	115	26	0	0	0	0	0	0	0	0	0	141	16.8	21.9
TUESDAY	0	118	29	0	0	0	0	0	0	0	0	0	147	17.0	22.4
WEDNESDAY	0	136	40	0	0	0	0	0	0	0	0	0	176	17.3	23.4
THURSDAY	1	133	47	0	0	0	0	0	0	0	0	0	181	17.5	24.2
FRIDAY	0	138	36	0	0	0	0	0	0	0	0	0	174	17.1	22.8
SATURDAY	0	109	40	0	0	0	0	0	0	0	0	0	149	17.7	24.4
SUNDAY	0	110	36	0	0	0	0	0	0	0	0	0	146	17.5	23.9

5 Day Total	1	640	178	0	0	0	0	0	0	0	0	0	819
5 Day Percentage		78	22										

7 Day Total	1	859	254	0	0	0	0	0	0	0	0	0	1114
7 Day Percentage		77	23										



Count Number **1182** Ref : **PPL** UBD B L-10
 Street **HUMPHREY PLACE, KIRRIBILLI : Between BURTON STREET & BLIGH STREET (bidirectional) :**
 Location **Midblock, in Section, ELP MO12127** Carriageway

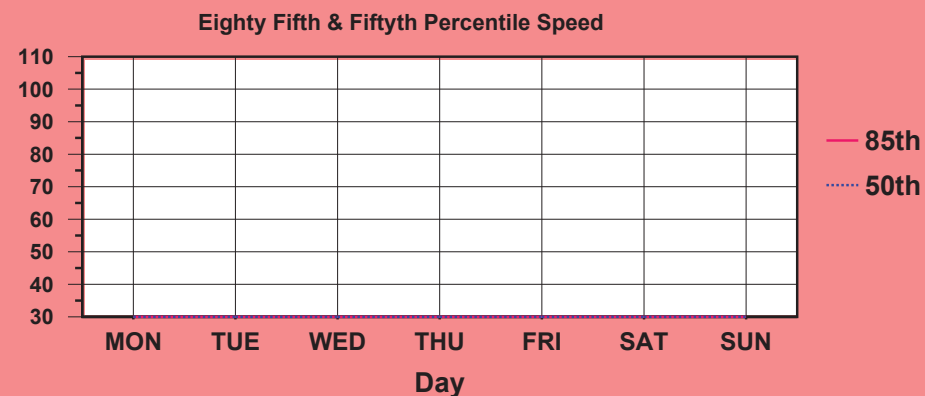
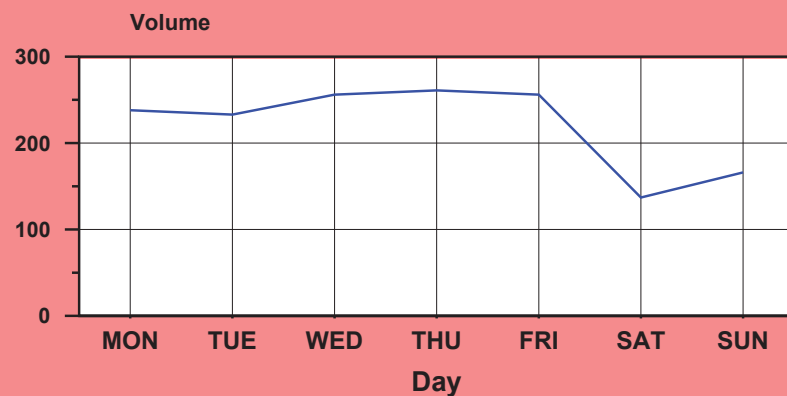
Start Date **25-JUL-22**
 Start Time **100**
 Duration **7 DAYS**
 Interval **1 HOUR**

Weekly Mean Speed **18**
 Weekly 85th Percentile Speed **25**
 Five Day AADT **249**
 Seven Day AADT **221**

Day	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100	100-110	110-120	Total	Mean	85pct
MONDAY	0	175	62	1	0	0	0	0	0	0	0	0	238	17.7	24.4
TUESDAY	0	172	59	2	0	0	0	0	0	0	0	0	233	17.7	24.4
WEDNESDAY	0	173	81	2	0	0	0	0	0	0	0	0	256	18.3	25.5
THURSDAY	0	180	78	3	0	0	0	0	0	0	0	0	261	18.2	25.4
FRIDAY	1	198	57	0	0	0	0	0	0	0	0	0	256	17.2	23.3
SATURDAY	0	96	39	2	0	0	0	0	0	0	0	0	137	18.1	25.2
SUNDAY	0	121	44	1	0	0	0	0	0	0	0	0	166	17.8	24.6

5 Day Total	1	898	337	8	0	0	0	0	0	0	0	0	1244
5 Day Percentage		72	27	1									

7 Day Total	1	1115	420	11	0	0	0	0	0	0	0	0	1547
7 Day Percentage		72	27	1									



Count Number 1183

Ref : PPL

UBD 7 L-4

Street CRESCENT PLACE, KIRRIBILLI : Between BROUGHTON STREET & BURTON STREET (bidirectional) :

Location Midblock, in Section, opposite House No.100, on tree.

Carriageway

Start Date 25-JUL-22

Start Time 100

Duration 7 DAYS

Interval 1 HOUR

Weekly Mean Speed

22

Weekly 85th Percentile Speed

28

Five Day AADT

150

Seven Day AADT

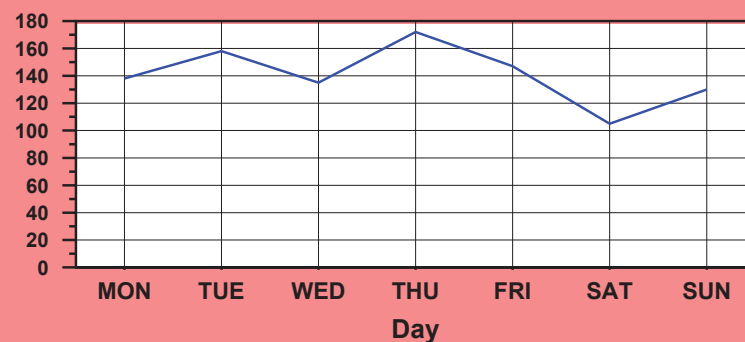
141

Day	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100	100-110	110-120	Total	Mean	85pct
MONDAY	0	50	78	10	0	0	0	0	0	0	0	0	138	22.1	28.6
TUESDAY	0	70	84	4	0	0	0	0	0	0	0	0	158	20.8	27.7
WEDNESDAY	0	62	63	10	0	0	0	0	0	0	0	0	135	21.1	28.4
THURSDAY	0	77	83	12	0	0	0	0	0	0	0	0	172	21.2	28.3
FRIDAY	0	62	75	10	0	0	0	0	0	0	0	0	147	21.5	28.4
SATURDAY	0	32	63	10	0	0	0	0	0	0	0	0	105	22.9	29.1
SUNDAY	0	51	69	10	0	0	0	0	0	0	0	0	130	21.8	28.6

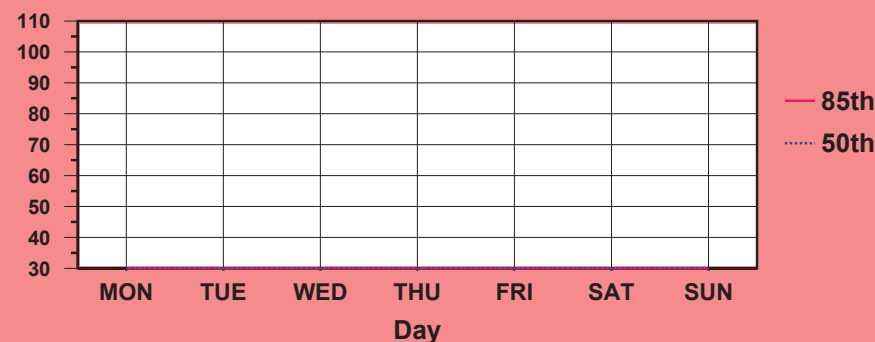
5 Day Total	0	321	383	46	0	0	0	0	0	0	0	0	750
5 Day Percentage		43	51	6									

7 Day Total	0	404	515	66	0	0	0	0	0	0	0	0	985
7 Day Percentage		41	52	7									

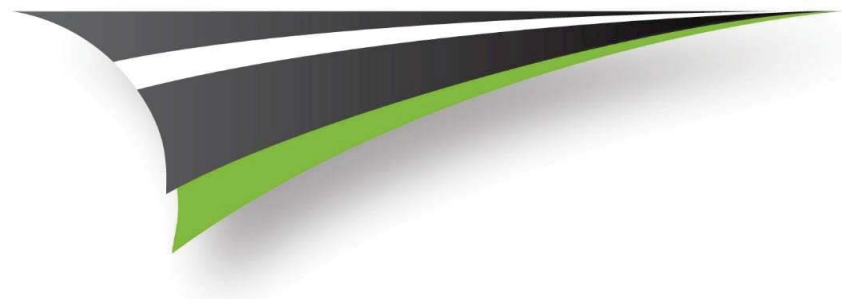
Volume



Eighty Fifth & Fiftyth Percentile Speed



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Kirribilli Pilot Projects - Bligh Street Proposed Shared Zone Assessment Report
September 2022

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Kirribilli Pilot Projects - Bligh Street Proposed Shared Zone Assessment Report September 2022

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Reviewed By	Sherlock You
Approved By	Alan Stewart
Signature	

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1. Background

As part of the Kirribilli Activation project, Bligh Street between Broughton Street and Humphrey Place in Kirribilli is proposed to become a 10km/hr shared zone with priority provided for pedestrians.

The proposed shared zone requires an assessment against TfNSW's *Technical Direction TTD 2016/001 Design and implementation of shared zones including provision for parking (February 2016)* and *TfNSW's Safer Speeds, Policy & Guidelines V1, Shared Zones (July 2012)* and is to be submitted to North Sydney Council for approval under TfNSW's special Covid 19 Traffic Regulation to Councils – Section 115 of the Roads Act 1993 for temporary pedestrian and bicycle works.

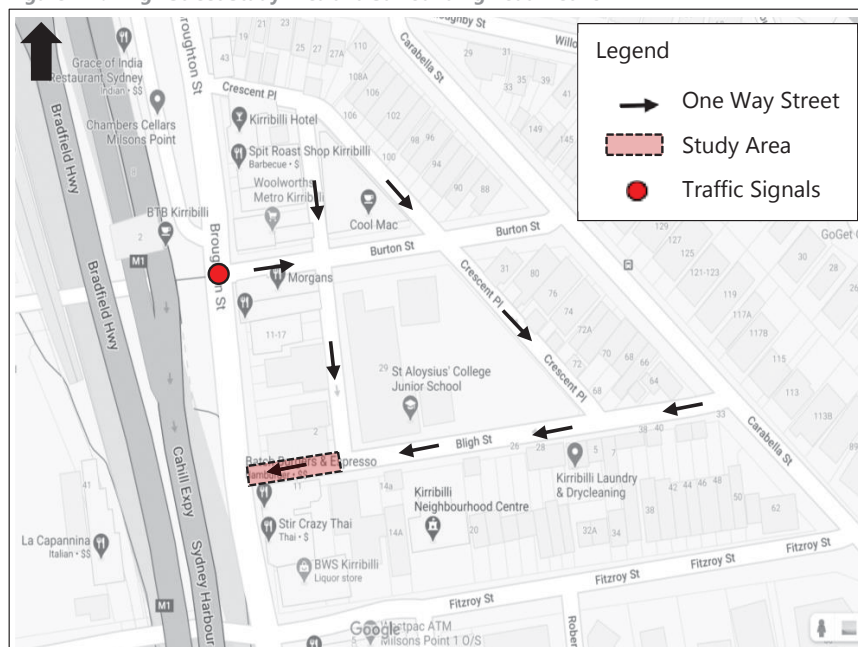
PeopleTrans was commissioned by Turf Design Studio Pty Ltd to undertake a shared zone assessment for Bligh Street, the objectives of which are to:

- ◆ Determine the current traffic operating conditions of Bligh Street in the context of the TfNSW's shared zone assessment criteria.
- ◆ Determine the feasibility/suitability of implementing a shared zone in Bligh Street.
- ◆ Make recommendations regarding appropriate treatment types for the Bligh Street shared zone.

Bligh Street is located within the suburb of Kirribilli, in the North Sydney Council Local Government Area and is a one-way street operating in the westbound direction between Carabella Street and Broughton Street as indicated in Figure 1-1.

Importantly Bligh Street is within a school zone related to St Aloysius College Junior School which is in the block between Humphrey Place and Crescent Place. The existing school zone extends from Crescent Place to just east of Broughton Street on Bligh Street.

Figure 1-1: Bligh Street Study Area and Surrounding Road Network



2. Shared Zone Definition & Approvals

2.1 Shared Zone Definition (What is a Shared Zone?)

Shared zones, under Rule 24 in the NSW Road Rules (2008) are defined as a road or network of roads or a road related area where space is shared safely by vehicles and pedestrians and where pedestrian priority and quality of life take precedence over ease of vehicle movement.

Shared zones employ a range of regulatory and non-regulatory treatments to indicate a change in environment and priority. Where parking is provided in a shared zone, it is only allowed in marked bays and must have the relevant signage provided.

Although the TfNSW's *Technical Direction TTD 2016/001 Design and implementation of shared zones including provision for parking (February 2016)* and *TfNSW's Safer Speeds, Policy & Guidelines V1, Shared Zones (July 2012)* are intended to assist in identifying the road and traffic issues that need to be considered in designing and implementing shared zones one of the other "key requirements of shared zones is that they are attractive and interesting places that reflect local needs and activities.

The policy is therefore to be interpreted with some flexibility and is not intended to limit the creativity of designers."

Implementation of this policy must also go hand in hand with community involvement and participation.

2.2 Shared Zone Categories

TfNSW's "TTD 2016/001 Design and implementation of shared zones including provision for parking" provides requirements and guidelines for implementing a shared zone and classifies shared zones into two categories as follows:

- ♦ A **Category 1** shared zone is provided on a road related area, has clearly different coloured and textured surface treatments from the surrounding roads, and typically does not have kerbs.
- ♦ A **Category 2** shared zone is provided on a road which includes footpath parking and has substandard footpath widths, retains kerbs and has traffic calming devices and treatments to regulate traffic speeds to 10km/hr.

Bligh Street currently operates in the westbound direction as a one-way street with footpaths on both sides and back-to-back kerbs.

The northern side of Bligh Street has no stopping restrictions between Broughton Street and Humphrey Place with the southern side having a combination of no stopping, no parking and one 1/4P parking space.

In accordance with TTD 2016/001 Bligh Street, left in its current state, could be classified as a Category 1 shared zone but if raised to footpath level could be classified as a Category 2 shared zone.

2.3 Shared Zone Approvals

The authorisation of a Shared Zone is not delegated to Councils. Shared Zones are speed limits and approval to install them must be obtained from TfNSW as per the delegations under the Roads Act.

3. Bligh Street Shared Zone Assessment

3.1 Assessment Criteria

Shared zones must only be installed at locations that meet specific site conditions.

Each proposed site is to be evaluated against specific criteria to determine if they are suitable to become shared zones as indicated in Table 3.1.

Table 3.1: Shared Zone Site Criteria Assessment Table

Item No	Features	Shared Zone
1.	Current Traffic Flows	≤ 100 vph and ≤ 1000 vpd
2.	Current Speed Limit	≤ 50 km/hr
3.	Length of Proposed Shared Zone	≤ 400 m
4.	Current Speed Limit of Adjoining Roads	≤ 50 km/hr
5.	Current Carriageway Width	Minimum trafficable width of 2.8m
6.	Route Access	Must not be located along bus routes of heavy vehicle routes except delivery or garbage trucks
7.	Streets with Narrow or No Footpaths	Where pedestrians are forced to use the road
8.	Kerbs	Kerbs must be removed unless excepted by TfNSW [1]

Notes:

[1] In special circumstances existing roads can be converted to shared zones, without the removal of the existing kerbs. Potential reasons for not removing kerbs may include heritage, drainage or cost-prohibitive constraints. The retention of kerbs requires TfNSW approval.

3.2 Traffic Volumes

Traffic volumes on Bligh Street were recorded in February 2020 as part of the overall Kirribilli Village masterplan and are still relevant in 2022 given that there have not been any significant developments or changes in the existing road network since this time.

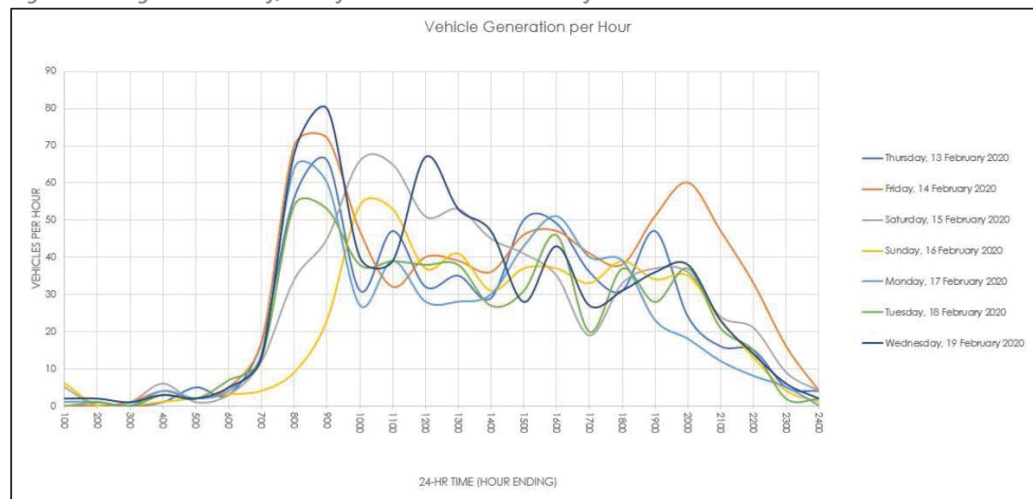
Traffic/Tube surveys were undertaken in Bligh Street over a 7day/24hr period between 13 February and 19 February 2020 recording vehicle traffic volumes and speeds. The tubes were located at 2 Bligh Street as indicated in Figure 3-1.

Figure 3-1: Bligh Street Tube Survey Location



The results of the traffic volumes surveys are indicated in Figure 3-2.

Figure 3-2: Bligh Street 7 Day/Hourly Traffic Volumes – February 2020



The results of the traffic volumes surveys are indicated in Figure 3-2.

Figure 3-2 indicates that current westbound traffic volumes do not exceed 100 vehicles per hour during both weekday and weekends with a maximum of 80vph recorded on a weekday between 8am-9am and a maximum of 66vph recorded on a weekend day between 10am-11am.

In accordance with TTD 2016/001 Bligh Street meets the traffic volume requirements for a shared zone.

3.3 Current Speed Limit

Bligh Street is currently within a school zone related to St Aloysius College Junior School which is in the block between Humphrey Place and Crescent Place. The existing school zone extends from Crescent Place to just east of Broughton Street on Bligh Street operating between the hours of 8:00am-9:30am and 2:30pm-4pm Monday to Friday where the speed limit is 40km/hr. Outside of these times and on weekends Bligh Street has a speed limit of 50km/hr.

Existing speeds recorded on Bligh Street from the tube surveys indicated an average speed of 15km/hr and an 85th percentile speed of 20km/hr although it should be noted that the location of the tube surveys so close to the Broughton Street intersection does not provide a true reflection of the existing speeds in Bligh Street.

In accordance with TTD 2016/001 Bligh Street meets the current speed limit requirements for a shared zone.

3.4 Shared Zone Length

The shared zone is proposed on Bligh Street between Broughton Street and Humphrey Place which is over a length of some 35m.

In accordance with TTD 2016/001 Bligh Street meets the current road length requirement for a shared zone.

3.5 Current Speed Limit of Adjoining Roads

All adjoining roads to Bligh Street have a posted speed limit of either 40km/hr or 50 km/hr.

In accordance with TTD 2016/001 Bligh Street meets the current adjoining roads speed limit requirements for a shared zone.

3.6 Route Access

Bligh Street is not a designated bus or heavy vehicle route although could be serviced by garbage or delivery vehicles. It should also be noted that this would be limited to exiting vehicles only given that Bligh Street is one-way westbound.

In accordance with TTD 2016/001 Bligh Street meets the current road access requirements for a shared zone.

3.7 Streets with Narrow or No Footpaths

The footpaths on Bligh Street are restricted primarily due to their narrow widths combined with the café frontages and associated outdoor dining which occurs on the southern side of Bligh Street.

The footpath width (from edge of kerb to the back of the property line) on the northern side measures some 1.75 meters and on the southern side, at its narrowest point, measures 1.675 meters.

However, with seating and tables in place this width reduces to as little as 0.80 meters (Refer Figure 3-3) on the southern side making it difficult for pedestrians to pass side by side.

In this instance it would be necessary for pedestrians to use the road when needing to pass side by side on Bligh Street.

In accordance with TTD 2016/001 Bligh Street meets the current footpath width requirements for a shared zone.

Figure 3-3 – Bligh Street Southern Footpath Width



3.8 Kerbs

Typically, shared zones should remove existing kerbs to provide a flush surface treatment.

On this basis it was determined that a **Category 1** shared zone design be implemented at this location as indicated in **Appendix A**.

4. Proposed Bligh Street Shared Zone Design

4.1 Shared Zone Design Features

Table 4.1 describes options for the features to be used to define the entry and exit points of shared zones to ensure pedestrian safety.

Table 4.1: Typical Shared Zone Design Features

Item No	Feature	Description
1.	Road narrowing / kerb extension	<ul style="list-style-type: none"> Encourages drivers to reduce their speeds when entering the shared zone. Highlights to motorists that they are entering an area with changed traffic conditions such as lower speeds.
2.	Raised threshold	<ul style="list-style-type: none"> Encourages lower speeds when entering the street. Clearly indicates the entry to the zone.
3.	Traffic signs	<ul style="list-style-type: none"> Regulatory traffic signs as per requirements of the NSW Road Rules
4.	Change in carriageway surface and texture	<ul style="list-style-type: none"> Shared zones shall have a different surface colour and texture to emphasise the change in street environment. Provides a characteristic that distinguishes the start and end of the shared zone.
5.	Architectural and landscaping	<ul style="list-style-type: none"> Assists in creating a visible change in the street environment. Helps to enhance the quality of the shared zone. Creates a prominent feature that clearly highlights the start and end of the shared zone.

4.1.1 Proposed Shared Zone Design

PeopleTrans has considered the above design features and superimposed the signs and pavement/linemarking requirements for a category 2 shared zone onto the Turf Studio landscape architect concept plan as indicated in **Figure 4.1** in **Appendix B**.

It should be noted importantly that the bicycle parking layout proposed should allow space either side of the inverted u-rail (1.80m total) to allow the front and back wheels to be secured in accordance with AS2890.3:2015. If this is not achievable it may be necessary to re-orient the bicycle rails to be parallel to Broughton Street.

4.2 Public Consultation

Public consultation with affected residents, business owners and educational establishments has been undertaken by North Sydney Council through its community engagement strategy including advertising of the project on their "Have Your Say" website allowing feedback from various stakeholders. <https://yoursay.northsydney.nsw.gov.au/kirribilli-public-domain>

Further notifications will be distributed to the immediate community prior to implementation of the shared zone.



5. Conclusions & Recommendations

5.1 Conclusions

- ◆ Based on the assessment undertaken by PeopleTrans within this report it has been determined that Bligh Street between Humphrey Place and Broughton Street is suitable for implementation of a **Category 1** shared zone subject to approval by TfNSW.

5.2 Recommendations

- ◆ It is recommended that the signs and pavement/line marking proposed by PeopleTrans in **Appendix B** be incorporated into the detailed design package for Bligh Street.
- ◆ The bicycle parking design should also be reviewed to ensure that it is compliant with AS2890.3:2015.

5.3 Referenced Documents

In preparing this report the following documents were referenced:

- Kirribilli Village Centre Masterplan, Phase 1 Masterplan Development – Transport Review, April 2020.
- Bligh Street Concept Design, DWG No. LDA-22 dated September 22 prepared by Turf Studios.
- TfNSW's Technical Direction TTD 2016/001 Design and implementation of shared zones including provision for parking, February 2016.
- TfNSW's Safer Speeds, Policy & Guidelines V1 - Shared Zones, July 2012.
- AS2890.3:2015-Bicycle Parking Facilities



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Appendix A

Bligh Street - Category 1 Shared Zone Concept Plan

21S0058

Kirribilli Pilot Projects - Bligh Street Proposed Shared Zone Assessment Report September 2022.

Issue: A - 15/09/2022

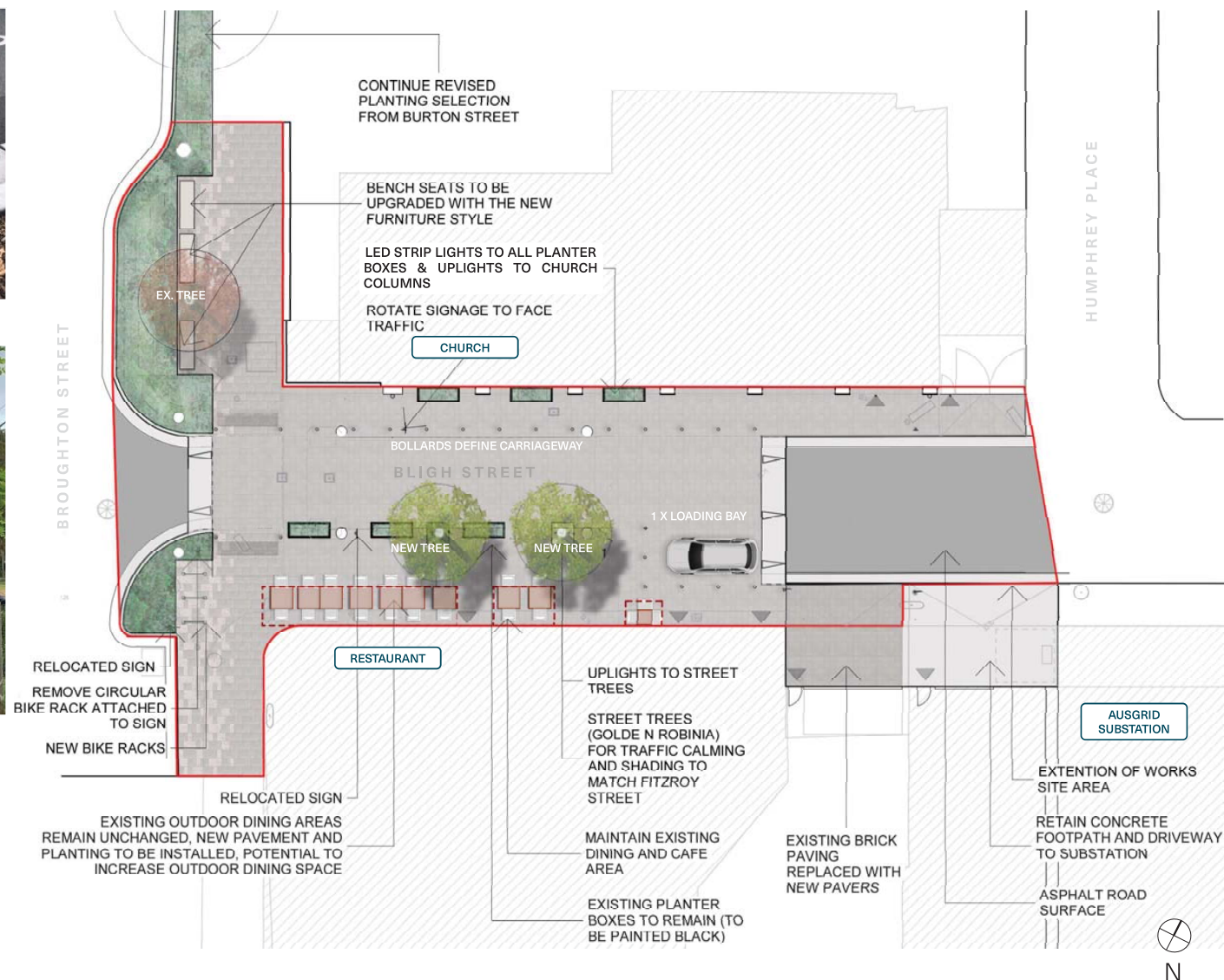
2.5 Bligh Street | Shared Zone



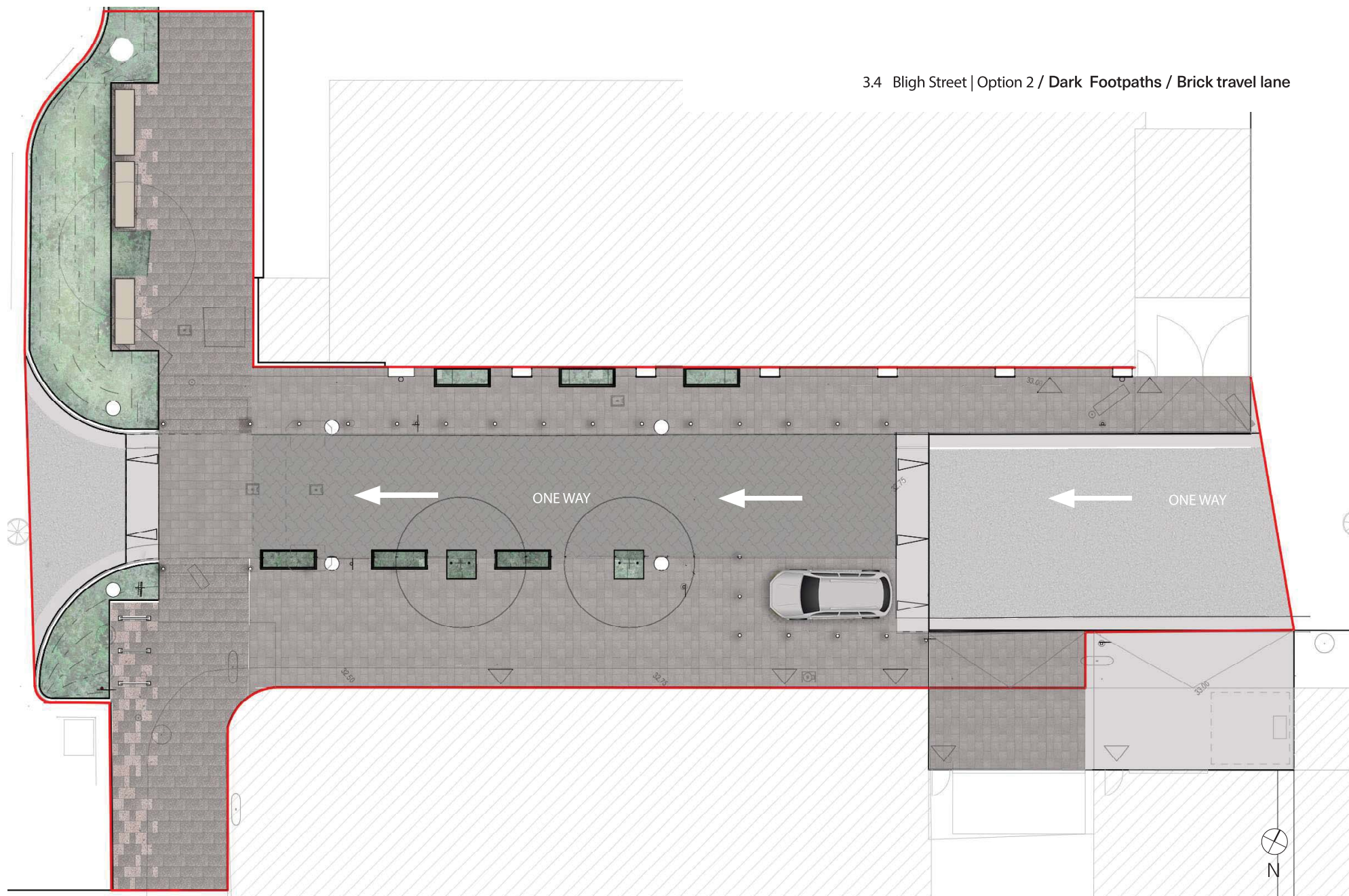
Stainless steel bollards at crossing on Broughton Street



New street tree planting (as used in Fitzroy Street)



3.4 Bligh Street | Option 2 / Dark Footpaths / Brick travel lane





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Appendix B

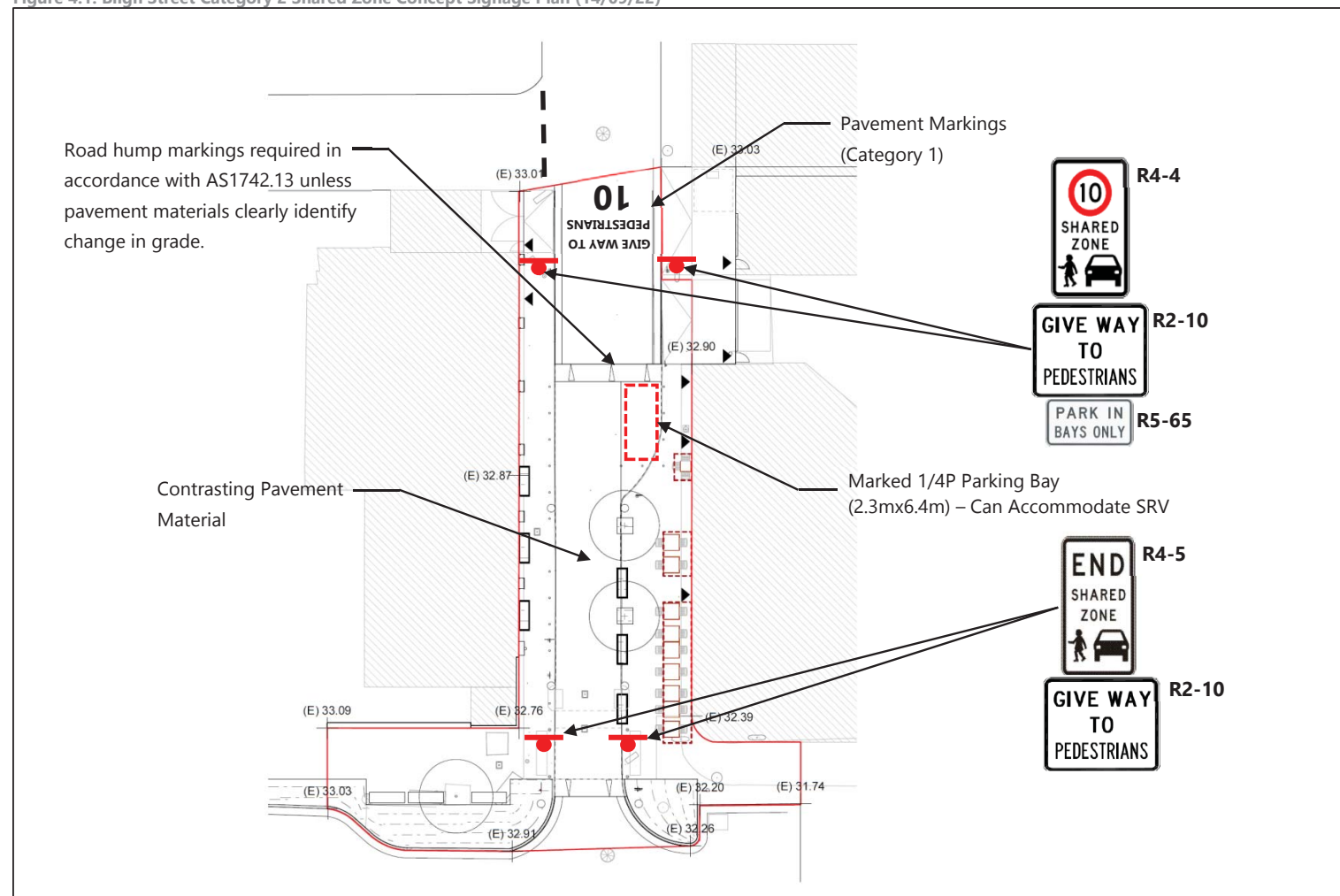
Bligh Street – Category 1 Shared Zone Signs & Line Marking Concept Plan

21S0058

Kirribilli Pilot Projects - Bligh Street Proposed Shared Zone Assessment Report September 2022.

Issue: A - 15/09/2022

Figure 4.1: Bligh Street Category 2 Shared Zone Concept Signage Plan (14/09/22)





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Appendix C

North Sydney Council Shared Zone Checklist

21S0058

Kirribilli Pilot Projects - Bligh Street Proposed Shared Zone Assessment Report September 2022.

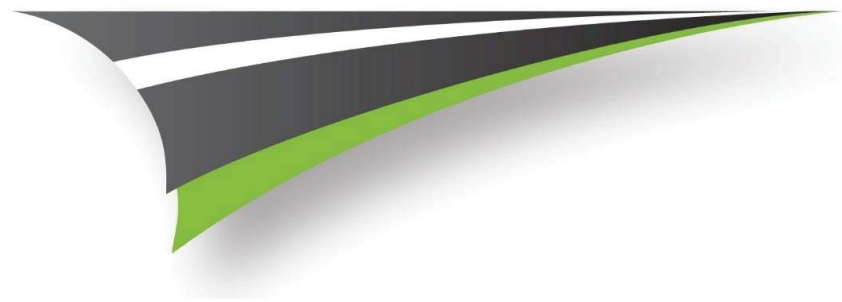
Issue: A - 15/09/2022

TTD 2016/001 - Design and implementation of shared zones with provisions for parking - 10 km/h shared zone Checklist	
Road name/s: BLIGH STREET _____ Council: NORTH SYDNEY _____	
Category 1/2: 2 _____ Contact Details : _____	
<i>Only mark the boxes on the right hand side to answer Y/N to a criteria (if justification is needed write in the boxes below the question)</i>	
Site Information (Please provide justification to your answers)	Y/N
Mid block 7 day traffic volume and traffic speed data analysis for brownfield sites. - please ensure a photo is provided of the actual location	
Pedestrian Safety - Justify why a shared zone is required (has a pedestrian study been completed?)	
Pedestrian priority - Pedestrian Priority must be clearly highlighted to drivers	
Pedestrian facilities - Demonstrate that there are no pedestrian facilities (including pedestrian crossings and fencing etc.) within the proposed shared zone	
Desirable Design Principles (must meet the design principles?)	Y/N
Footpaths - No footpath exists or a narrow footpath exists (a narrow footpath is where pedestrians are forced to use the road)	
Kerbs & Gutters (K&G) - All new ('Greenfield') road/s have no K&G existing (Cat 1) Or existing ('Brownfield') road/s may allow K&G for drainage purposes, heritage listing or cost-prohibitive etc, this must be justified	
Entrance/Exit points - The design clearly highlights to drivers that there is a change in the street environment and traffic conditions at the start and end of the shared zone	
What entrance/exit points have been considered in the design:	
Carriageway raised along entire length of the proposed shared zone (removal of K&G)	
Change in carriageway surface and texture - <i>this provides a characteristic that distinguishes the start/end of shared zone</i> - Must be installed	
Raised treatment	
A Give Way to Pedestrians pavement marking	
Continuous footpath treatments - <i>to assist traffic calming</i> - MUST MEET WARRANTS - refer to TDT2013/05.	
Kerb extension or road narrowing entry/exit treatments - <i>to assist traffic calming</i>	
Architectural Landscaping - <i>to enhance the change in road environment (can be repeated through the shared zone)</i>	
Signage - Speed zone & regulatory signage are to be installed by RMS in accordance with the <i>NSW Road Rules 2008</i> - All entry signs must be provided on both sides of the road.	
Pavement Surface - The pavement surface is changed to highlight the difference in street environment from the surrounding road network. It is clearly distinguishable by colour, texture and materials. <i>Changes to pavement surface may also be considered Category 2</i>	
Forward Visibility - The design has limited forward visibility. It is not desirable to have unlimited forward visibility in a shared zone. If it is considered necessary to maintain visibility - A minimum stopping sight distance of 12 metres is to be applied (to encourage drivers to drive with care and comply with the 10km/h speed limit).	

Suitable Road treatments - The design creates a self enforcing road environment? <i>(treatments must be provided for Category 2 to encourage consistently slow driving)</i>	
What design elements have been considered in the design? Please refer to Austroads Guide to Traffic Management Part 8: Local Area Traffic Management for correct use of traffic calming features/treatments	
Vertical Deflections: Road Humps or cushions (cushions less desirable for cyclists)	
Vertical Deflections: Raised pavements	
Horizontal Deflections: lane Narrowing/ curb extension	
Horizontal Deflections: slow points	
Horizontal Deflections: bollards	
Horizontal Deflections: street furniture (i.e. planters, trees et)	
Horizontal Deflections: alternating parking on either side of the road	
Surface treatments: tactile surface treatment	
Other (please specify):	
Vehicle Mix requirements - A shared zone must not be located along a bus route or heavy vehicle routes, except delivery or garbage trucks. <i>Emergency Services and Police must be consulted in the design.</i>	
Parking - Parking within the shared zone is in accordance with Australian Road Rules. The width and length of parking space must comply with AS2890.5 <i>Parking Facilities</i> . The minimum width must be 2.3m (2.1m if restricted roadway, unlikely wide vehicle parking use, and where parking bays are marked with continuous line) and the minimum length must be 6.0m for parallel parking spaces. Park In Bays Only (R5-65) signs must be provided under the shared zone (R4-4) signs at each entry into the shared zone. Car parking spaces that straddle existing kerb and gutter may be provided in (Cat 2)	
Bicycles - Are cyclists able to safely traverse the features provided?	
In one way shared zones, must consider contra-flow bicycle movements. <i>Must include Bicycles Excepted (R9-3) signs.</i>	
Mobility and Vision impaired - Design should include provisions to safely accommodate the needs of the mobility and vision impaired. Mobility and vision impaired access to the existing road should be provided and must accommodate the ability to negotiate traffic calming.	
Design elements have been considered in the design? Please specify (features may include tactile paving, hand rails and street furniture) refer to AS 1428.4.1 <i>Design for Access and Mobility for detailed design requirements</i>	
Lighting - Appropriate lighting are to be installed. <i>This is for safety and security purposes</i>	
Drainage grates - Appropriate drainage grates are to be installed. <i>The design should cater for pedestrian and cyclist use.</i>	

Previous General Criteria <i>(criteria for consideration)</i>		Justified
Traffic Volume - Does it meet the desirable traffic volume of 100 vehicles per hour and equal to or less than 1000 vehicles per day? (if higher council must justify why the shared zone is still appropriate)		
Vehicle volumes =		
Shared Zone Length - Is the shared zone less than 400 metres in length? (if higher council must justify why the shared zone is still appropriate)		
Carriageway width - Is the current carriageway width is to have a minimum trafficable width of 2.8 metres (wide carriageways will also affect if the road is self enforcing)		
Comments		

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