NOTICE OF MEETING

EXTRAORDINARY TRANSPORT AND INFRASTRUCTURE ADVISORY COMMITTEE MEETING

An Extraordinary Transport and Infrastructure Advisory Committee Meeting of Byron Shire Council will be held as follows:

Venue	**Conference Room, Station Street, Mullumbimby**
Date	**Thursday, 2 November 2017**
Time	**11.30am**

Phil Holloway
Director Infrastructure Services

I2017/1572
Distributed 27/10/17

CONFLICT OF INTERESTS

What is a "Conflict of Interests" - A conflict of interests can be of two types:

Pecuniary - an interest that a person has in a matter because of a reasonable likelihood or expectation of appreciable financial gain or loss to the person or another person with whom the person is associated.

Non-pecuniary – a private or personal interest that a Council official has that does not amount to a pecuniary interest as defined in the Local Government Act (eg. A friendship, membership of an association, society or trade union or involvement or interest in an activity and may include an interest of a financial nature).

Remoteness – a person does not have a pecuniary interest in a matter if the interest is so remote or insignificant that it could not reasonably be regarded as likely to influence any decision the person might make in relation to a matter or if the interest is of a kind specified in Section 448 of the Local Government Act.

Who has a Pecuniary Interest? - a person has a pecuniary interest in a matter if the pecuniary interest is the interest of the person, or another person with whom the person is associated (see below).

Relatives, Partners - a person is taken to have a pecuniary interest in a matter if:

- The person's spouse or de facto partner or a relative of the person has a pecuniary interest in the matter, or
- The person, or a nominee, partners or employer of the person, is a member of a company or other body that has a pecuniary interest in the matter.

N.B. "Relative", in relation to a person means any of the following:

(a) the parent, grandparent, brother, sister, uncle, aunt, nephew, niece, lineal descends or adopted child of the person or of the person's spouse;

(b) the spouse or de facto partners of the person or of a person referred to in paragraph (a)

No Interest in the Matter - however, a person is not taken to have a pecuniary interest in a matter:

- If the person is unaware of the relevant pecuniary interest of the spouse, de facto partner, relative or company or other body, or
- Just because the person is a member of, or is employed by, the Council.
- Just because the person is a member of, or a delegate of the Council to, a company or other body that has a pecuniary interest in the matter provided that the person has no beneficial interest in any shares of the company or body.

Disclosure and participation in meetings

- A Councillor or a member of a Council Committee who has a pecuniary interest in any matter with which the Council is concerned and who is present at a meeting of the Council or Committee at which the matter is being considered must disclose the nature of the interest to the meeting as soon as practicable.
- The Councillor or member must not be present at, or in sight of, the meeting of the Council or Committee:
  (a) at any time during which the matter is being considered or discussed by the Council or Committee, or
  (b) at any time during which the Council or Committee is voting on any question in relation to the matter.

No Knowledge - a person does not breach this Clause if the person did not know and could not reasonably be expected to have known that the matter under consideration at the meeting was a matter in which he or she had a pecuniary interest.

Participation in Meetings Despite Pecuniary Interest (S 452 Act)

A Councillor is not prevented from taking part in the consideration or discussion of, or from voting on, any of the matters/questions detailed in Section 452 of the Local Government Act.

Non-pecuniary Interests - Must be disclosed in meetings.

There are a broad range of options available for managing conflicts & the option chosen will depend on an assessment of the circumstances of the matter, the nature of the interest and the significance of the issue being dealt with. Non-pecuniary conflicts of interests must be dealt with in at least one of the following ways:

- It may be appropriate that no action be taken where the potential for conflict is minimal. However, Councillors should consider providing an explanation of why they consider a conflict does not exist.
- Limit involvement if practical (eg. Participate in discussion but not in decision making or vice-versa). Care needs to be taken when exercising this option.
- Remove the source of the conflict (eg. Relinquishing or divesting the personal interest that creates the conflict)
- Have no involvement by absenting yourself from and not taking part in any debate or voting on the issue as if the provisions in S451 of the Local Government Act apply (particularly if you have a significant non-pecuniary interest)

RECORDING OF VOTING ON PLANNING MATTERS

Clause 375A of the Local Government Act 1993 – Recording of voting on planning matters

(1) In this section, **planning decision** means a decision made in the exercise of a function of a council under the Environmental Planning and Assessment Act 1979:
  (a) including a decision relating to a development application, an environmental planning instrument, a development control plan or a development contribution plan under that Act, but
  (b) not including the making of an order under Division 2A of Part 6 of that Act.

(2) The general manager is required to keep a register containing, for each planning decision made at a meeting of the council or a council committee, the names of the councillors who supported the decision and the names of any councillors who opposed (or are taken to have opposed) the decision.

(3) For the purpose of maintaining the register, a division is required to be called whenever a motion for a planning decision is put at a meeting of the council or a council committee.

(4) Each decision recorded in the register is to be described in the register or identified in a manner that enables the description to be obtained from another publicly available document, and is to include the information required by the regulations.

(5) This section extends to a meeting that is closed to the public.

BUSINESS OF MEETING

STAFF REPORTS - INFRASTRUCTURE SERVICES

Report No. 4.1 **Byron Bay (Browning St) to Suffolk Park (Clifford St) Cycleway Investigation**
Directorate: Infrastructure Services
Report Author: Daniel Strzina, Project Engineer
File No: I2017/1562
Theme: Community Infrastructure
Local Roads and Drainage

Summary:

The purpose of this report is to provide to TIAC a draft report and presentation on investigation works currently being undertaken by Council's consultant, PSA Consulting in relation to resolution 17-403 (Broken Head Road Cycleway - Browning Street to Clifford Street) for feedback and finalisation of the report.

RECOMMENDATION:

That the Committee considers the details within the draft Byron Bay (Browning St) to Suffolk Park (Clifford St) Cycleway Investigation report and presentation by PSA Consulting and provides feedback and recommendations to the consultant to assist report finalisation.

Attachments:

1 0734_PSA_BSC_Byron Bay to Suffolk Park Cycleway Investigation_DRAFT FINAL 20171026 V1 - Report, E2017/100865 , page 7
2 0734_PSA_BSC_Byron Bay to Suffolk Park Cycleway Investigation_DRAFT FINAL 20171026 V1 - Appendix 1, E2017/100866 , page 50
3 0734_PSA_BSC_Byron Bay to Suffolk Park Cycleway Investigation_DRAFT FINAL 20171026 V1 - Appendix 2, E2017/100867 , page 51
4 0734_PSA_BSC_Byron Bay to Suffolk Park Cycleway Investigation_DRAFT FINAL 20171026 V1 - Appendix 3, E2017/100868 , page 52
5 0734_PSA_BSC_Byron Bay to Suffolk Park Cycleway Investigation_DRAFT FINAL 20171026 V1 - Appendix 4, E2017/100869 , page 53
6 0734_PSA_BSC_Byron Bay to Suffolk Park Cycleway Investigation_DRAFT FINAL 20171026 V1 - Appendix 5, E2017/100870 , page 54
7 0734_PSA_BSC_Byron Bay to Suffolk Park Cycleway Investigation_DRAFT FINAL 20171026 V1 - Appendix 6s, E2017/100871 , page 57
8 0734_PSA_BSC_Byron Bay to Suffolk Park Cycleway Investigation_DRAFT FINAL 20171026 V1 - Appendix 7, E2017/100872 , page 76

Background:

25 May 2017: In NOM 9.2 - Byron Bay Cycleway Design and Implementation (File No: I2017/552), Council resolved to engage a cycleway expert to review the current state of on and off road cycleways between Browning St, Byron Bay and Clifford St, Suffolk Park, and to provide recommendations on cost effective options, as well as cost estimates and funding sources in a report to be provided to the TIAC. (Action Item: 17-201)

17 August 2017: Staff Report No. 4.3 - Broken Head Road Cycleway - Browning Street to Clifford Street (File No: I2017/1039) was provided to the TIAC who provided recommendations to Council that were resolved in Action Item 17-403 as follows:

17-403 Resolved that Council adopt the following Committee Recommendation(s):

Report No. 4.3 Broken Head Road Cycleway - Browning Street to Clifford Street
File No: I2017/1039

Committee Recommendation 4.3.1

1. That Council:

a) note the report on the Broken Head Road Cycleway – Browning Street to Clifford Street;

b) allocate the carried over 2016/17 budget for Broken Head Road Shared Cycleway to procure a report from a suitably qualified person to:

i) preview existing shared path and cycleways on Broken Head Road and Bangalow Road, between Clifford Street and Browning Street, Byron Bay;

ii) preview existing infrastructure against current standards and advise where upgrades may be required as part of the project;

iii) provide options including indicative costings which meet the Roads and Maritime Services (RMS) warrants and would likely receive RMS approval for filling the missing links along the shared path between Clifford Street and Browning Street, Byron Bay;

iv) identify which sections may be eligible for grant funding under the RMS Active Transport Grants Program; and

v) undertake critical analysis for any proposed works including swept path analysis and considerations for emergency services

2. That the Consultants report be reported to an Extraordinary Meeting of the Transport and Infrastructure Advisory Committee. (Hunter/Coorey)

15 September 2017: PSA Consulting was chosen as the favoured respondent to a Vendorpanel RFQ and engaged to undertake an investigation and report on findings and recommendations in a presentation to an extraordinary meeting of the TIAC (02 NOV 2017).

Report:

PSA Consulting are currently undertaking the Byron Bay (Browning St) to Suffolk Park (Clifford St) Cycleway Investigation and have produced a draft report to supplement their presentation with the intention of incorporating feedback from the TIAC into the final report.

Their report identifies and considers a number of options for increasing the level of service to cyclists along Bangalow Rd and Broken Head Rd, including high order preliminary cost estimates and cost/benefit analyses, as well as making recommendations based on suitability of each option with reference to user profiles and grant eligibility.

The report is draft in nature and for discussion purposes only as the investigation is still underway. Feedback is sought from TIAC in relation to the proposed recommended option and various treatment options available for report finalisation.

Presentation Agenda

1. *Background to the Project*
2. *Existing Corridor*
3. *User Profile, Route Objectives and Grant Funding Applications*
4. *Options Development*
    a. *Option 1 – Continuous bi-directional path*
    b. *Option 2 – Low cost continuous mono-directional path*
    c. *Option 3 – Centre running cycleway*
    d. *Option 4 – Off-road continuous scenic route*
5. *Options Evaluation Criteria*
6. *Options Evaluation Results*
    a. *Cost Comparison*
    b. *Cost / Benefit Analysis*
    c. *Preferred Option*
7. *Items to be refined for Preferred Options*
    a. *Intersection treatments*
    b. *Road crossing treatments*
    c. *Road furniture impacted*
    d. *Implementation and Staging*
8. *Next Steps*

Financial Implications:

Financial implications are dependant on further reporting to Council and adoption of recommendations. There are no financial implications at this stage.

Statutory and Policy Compliance Implications

There are no Statutory and Policy Compliance Implications at this stage.

PSA CONSULTING AUSTRALIA

Byron Bay to Suffolk Park Cycleway Investigation

Draft Final Report – For TIAC Discussion Purposes

26 October 2017

Document Control

Document: Byron Bay to Suffolk Park Cycleway Investigation (Draft Final Report)

This document has been prepared for:

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Revision History

VERSION	DATE	DETAILS	AUTHOR	AUTHORISATION
1	26 October 2017	DRAFT FINAL	Aaron Donges Kirstin Palmer Hannah Richardson	

General Disclaimer

TABLE OF CONTENTS

1 INTRODUCTION

1.1 Background

Byron Shire Council (BSC) has a vision as a part of the *Byron Shire Bike Strategy and Action Plan (2008)* for "more cycleways, more cycling". In response to this document, BSC prepared a concept design for on-road cycle lanes along a 1.5km section of Bangalow Road from Browning Street in the north to Old Bangalow Road in the south. The preferred option included 1.5m wide cycle lanes on both the eastern and western sides of the road. To facilitate the design, the existing pedestrian refuge south of Wollumbin Street was proposed to be removed as was the majority of on-street parking along the corridor, with the exception of three dedicated parallel parking areas. It was acknowledged by BSC that Roads and Maritime Services (RMS) grant funding is typically not available for the construction of on-road cycleways and therefore such a facility would need to be funded by BSC. As a result, this design was not progressed further.

In 2016, BSC applied for grant funding to design and construct a 2.5m wide off-road shared path along Broken Head Road from the The Byron at Byron resort in the north to Clifford Street in the south. The majority of the path was proposed to be constructed on the eastern side of Broken Head Road with a new road crossing and short western section to be constructed to tie into the existing shared path on the western side. The funding application for this path was unsuccessful and existing constraints have been identified through survey undertaken on the eastern side of the corridor. As a result of the unsuccessful grant application and the constraints along the corridor, the design has not been progressed further.

BSC have engaged PSA Consulting (Australia) to review the current shared path and on-road cycleways along Bangalow Road and Broken Head Road, from Browning Street, Byron Bay to Clifford Street, Suffolk Park (the study corridor) (refer to Figure 1) and to provide recommendations on the most effective means of providing a complete link; which are cost effective, innovative, functional and incorporate best practice cycleway design.

This document provides a summary of the works undertaken, which includes:

- A review of existing walk and cycle infrastructure along the study corridor;
- A review of existing land use planning and demographics;
- Identification and description of the key existing and likely future users of the study corridor;
- The establishment of route objectives to guide the development and selection of route and treatment (intersection and road crossing) options;
- The development and evaluation of route and treatment options;
- Description of the preferred option, including drawings, cross-sections, cost estimates, implementation strategies and investigations into potential broader knock-on effects and community impacts; and
- Consideration of the alignment between the preferred option and RMS grant funding.

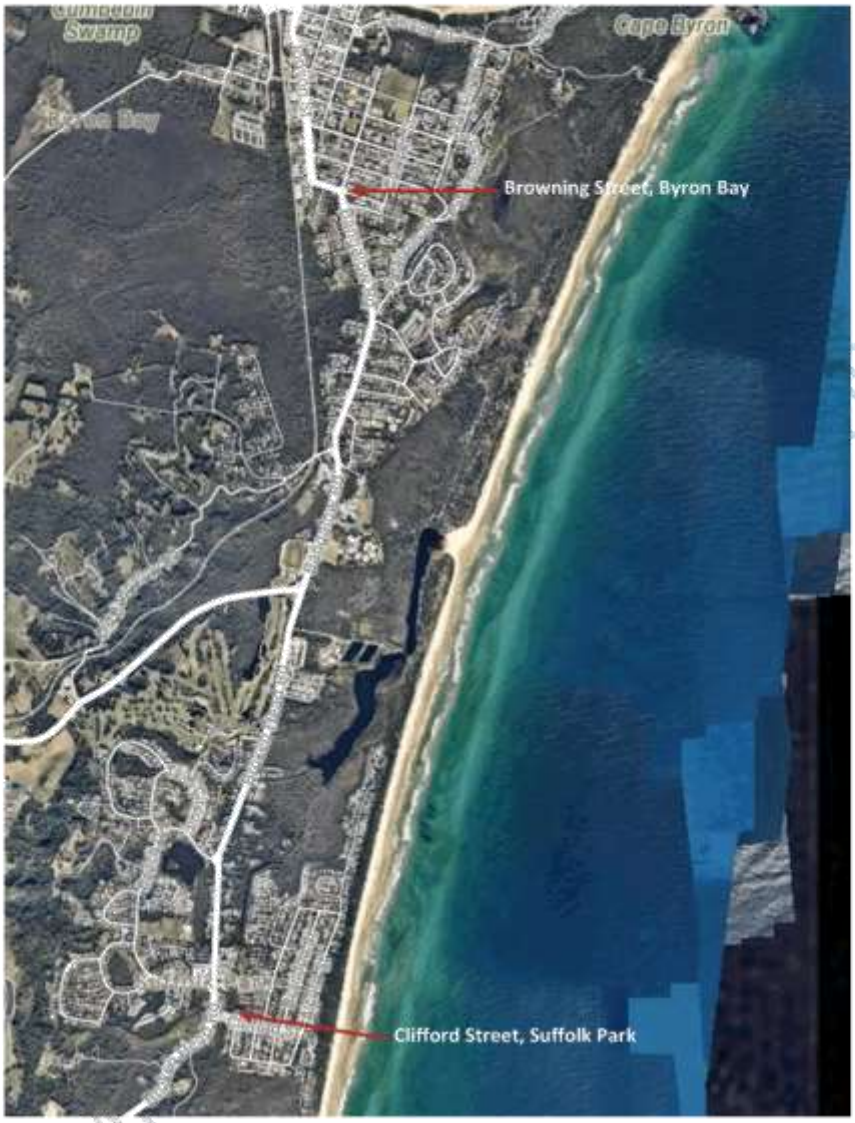


Figure 1: Cycleway extents

1.2 Project scope and objectives

As per the original scope of works and in light of subsequent discussions with BSC, the project scope included:

- Site inspections and investigations of the corridor as discussed in Section 1.1 and illustrated in Figure 1;
- Review of background information;
- Provision of a study report including drawings with typical cross-sections and costings; and
- Presentation of the study and findings to an extraordinary Transport and Infrastructure Advisory Committee (TIAC) meeting.

In particular, the objectives and outcomes of the study were:

- Review existing shared path and on-road cycleways on Broken Head Road and Bangalow Road, between Browning Street, Byron Bay and Clifford Street, Suffolk Park;
- Review existing infrastructure against current standards and advise where upgrades may be required as part of the project;
- Provide options including indicative costings which meet RMS warrants and would likely receive RMS approval for filling the missing links along the shared path and on-road cycleways between Browning Street and Clifford Street;
- Identify sections which may be eligible for grant funding under the RMS Walking and Cycling Grants Program; and
- Undertake critical analysis for any proposed works including swept path analysis and considerations for emergency services.

1.3 Report structure

This report is structured as follows:

Section 2: Data and network review – this section summarises the existing corridor, including opportunities, constraints and challenges, and presents the findings of a land use planning and demographic review. This section also includes a description of the existing and likely future user profile and establishes objectives for the route.

Section 3: Options development – this section presents the high-level route alignment, path type and location options.

Section 4: Options evaluation – this section provides a high-level evaluation of the options and a comparison of respective costs.

Section 5: Preferred option – this section presents and describes the preferred alignment and the different treatment options available. This section also provides an estimate of total cost and a discussion on implementation.

Section 6: Alignment to Walking and Cycling Program funding application – this section outlines how the preferred option and any other recommendations align with RMS grant funding.

Section 7: Conclusions and next steps – this section provides a summary of the project and identifies a way forward for BSC. This section also identifies additional studies or actions, beyond the scope of the current engagement, which could be undertaken by BSC to support the implementation of the recommendations.

2 DATA AND NETWORK REVIEW

2.1 Walking and Cycling Program

The ability to secure funding from the NSW Government is an important element of this project and one which influences the development of alignment options, the selection of a preferred option, and the treatments recommended in the final concept design.

The NSW Government currently provides grant funding through the Walking and Cycling Program for eligible walking and cycling projects that are identified as being of a high priority. In August 2017, the NSW Government released the *Walking and Cycling Program Guidelines 2018-19* which outlines the programs and associated priority weighting systems used to assess funding submissions for walking and cycling proposals. These programs are outlined below and their eligibility and relevance to this project is summarised in Table 1.

Walking Programs:

1. Walking Communities Council Partnership Program
2. Walking Communities Capital Program

Cycling Programs:

3. Connecting Centres Council Partnership Program
4. Priority Cycleways Program
5. Cycling Towns Program.

Table 1: Walking and Cycling Program funding eligibility and relevance

Funding program			Eligible projects	Relevance to project
Walking	Walking Communities	Council partnership funding	**Infrastructure projects:** One or more projects that will improve pedestrian amenity. Eligible projects include: scramble crossings, raised crossings, marked zebra crossings, installation/realignment of kerb ramps, kerb blisters. (Footpaths are not eligible under this program). **Non-infrastructure projects:** Campaigns, social media, advertising, community engagement that breaks down barriers to walking.	The proposed project is for a cycleway. However, walking will be impacted if a shared path is proposed. Potential to apply for infrastructure funding to supplement any funding shortfall or address immediate issues and missing links. **This funding source is not recommended for this project.** Non-infrastructure projects not relevant to this project, unless required to support infrastructure funding
		NSW Government priority funding	One or more projects to improve pedestrian amenity on state-owned assets (e.g. state roads). Eligible projects include: scramble crossings, raised crossings, marked zebra crossings, installation/realignment of kerb ramps, kerb blisters, signal timing changes, signalised crossings and removal of slip lanes.	Funding available for State roads only. Key roads in the study corridor (Broken Head Road and Bangalow Road) are Local rather than State-owned. **This funding source does not apply**

Cycling	Connecting Centres	Council partnership funding	**Infrastructure projects:** Local bicycle infrastructure that connects local bicycle networks to key destinations. Projects include on road and off road bicycle infrastructure as defined in the Austroads Guidelines. Projects must be part of an identified transport network. Closed recreational circuits will not be considered. **Non-infrastructure projects:** Eligible projects include: bicycle network maps, campaigns, social media, advertising, community engagement, bicycle rider confidence courses and travel behaviour change programs.	**Potential funding source for the project.** Funding available for Local/Regional roads only. Maximum level of funding from State: 75% (development), 50% (construction), and 75% (evaluation) Non-infrastructure projects not relevant to this project, unless required to support infrastructure funding
	Priority Cycleways	NSW Government priority funding	Projects that are identified in a NSW Government plan as a *Priority Cycleway* or cycleways on state owned assets. These routes connect major generators of bicycle traffic within each region e.g. universities, commercial centres and public transport interchanges. Priority cycleways will generally be under the care and control of councils when completed.	Study corridor is not a state-owned asset. Funding available for Local/Regional and State roads. Maximum level of funding from State: 100% (development, construction and evaluation). **Possible but potentially difficult to acquire funding through this source**.
	Cycling Towns	NSW Government priority funding	Bicycle infrastructure proposals that complete a primary safe network of cycleways to a range of destinations within a 5km catchment of the town centre. Project examples could include: construction to complete a bicycle network; bicycle parking facilities; construction of a bicycle end of trip facility or centre. Councils must demonstrate supporting complementary cycling promotion initiatives to encourage use of the infrastructure.	**Potential funding source for the project.** Funding available for Local/Regional and State roads. Maximum level of funding from State: 100% (development, construction and evaluation)

Source: Based on *Walking and Cycling Program Guidelines (Table 2)* (2017)

In light of the proposed cycleway project and the findings in Table 1, the proposed project could be eligible for funding from the following three programs:

- Connecting Centres;
- Priority Cycleways; and / or
- Cycling Towns.

A high-level summary is provided in Table 2 of the scoring range for each of the programs for which funding may be available. This summary outlines the program which would provide the opportunity for the highest priority weighting.

Table 2: Summary of relevant Walking and Cycling Program criteria and scoring

Criteria	Scoring range (max. to min.)		
	Connecting Centres	Priority Cycleways	Cycling Towns
Located within a 5km catchment of a major centre	8 to 0	8 to 0	8 to 0
Identified in Council plans*	5 to 0	5 to 0	5 to 0
Located on a State road	n/a	5 to 0	n/a
Connects to (or is) a *Priority Cycleway*	5 to 0	8 to 2	n/a
Directly connects to a public transport interchange	6 to 0	6 to 0	6 to 4
Increases accessibility to bicycle facilities*	n/a	n/a	4 to 2
Within 400m of other pedestrian generating land uses (e.g. university, TAFE, school, hospital)*	2 for each	2 for each	2 for each
Addresses major missing links, identified barriers or completes a cycle network*	3 to 2	3 to 1	10 to 2
Provides a direct route	4 to 1	4 to 1	n/a
Relies on a smaller percentage of State funds	5 to 3	n/a	n/a
Feasible with no major obstacles (e.g. no land acquisition) and has strong community support	5 to 1	5 to 1	5 to 1
Provision of an identified complementary non-infrastructure proposal	n/a	n/a	5 to 2

Source: *Walking and Cycling Program Guidelines* (2017)

*Potential for high scores if multiple sub-criteria are satisfied

For a proposal to secure program funding it must score highly against the associated priority weighting system. As can be seen in Table 2, however, these weightings are not equal, with some criteria receiving higher weightings than others. Although all are important, the key criteria in which the most points are potentially available for this project include:

- Whether the proposal is located within a 5km catchment of a major centre;
- Whether the proposal is identified in Council plans;
- Whether the proposal is within 400m of other pedestrian generating land uses; and
- Whether the proposal addresses major missing links, identified barriers or completes a cycle network.

The options developed, the preferred option selected, and the treatments recommended in the final concept design have been undertaken in light of the desire to secure funding from the NSW Government for the design and construction of the proposed cycleway. A discussion on the alignment of the preferred concept design with the Walking and Cycling Program is provided in Section 6.

Despite the significance of securing State funding, it should be acknowledged that this is not the only factor influencing the concept design of the cycleway. As outlined in the remainder of this section, the design is also influenced by the features, opportunities and constraints of the existing corridor; current land use planning and key attractors; demographic data; the identified user profile and travel behaviour; and the route objectives established for the future use of the corridor.

2.2 Existing corridor review

2.2.1 Existing corridor

The 4.5km study corridor along Bangalow Road and Broken Head Road stretches from Browning Street, Byron Bay to Clifford Street, Suffolk Park. The existing corridor provides a beneficial, though currently discontinuous, link for a range of users traveling between the two centres and to/from key attractors along the corridor.

On Wednesday 20 September 2017 PSA undertook a cycling site visit of the entire study corridor. The site visit, in conjunction with a desktop review of available data and previous studies, revealed a number of existing issues, challenges and opportunities for the corridor. The key issues, challenges and opportunities for the existing corridor are summarised in Table 3.

Table 3: Key existing issues, challenges and opportunities

Issues/challenges	Opportunities
• Gaps in the existing footpath network, especially on the western side of the corridor between Cumbebin Park and Old Bangalow Road • Existing infrastructure including power poles, a pump station and a narrow bridge • Multiple intersections and driveway accesses • Property boundaries close to road corridor in select locations • Variable road corridor width • Parking on both sides of road for the majority of the corridor • Unsafe shared path alignment on western side of corridor near Bangalow Road/Old Bangalow Road intersection • Poor access to public transport infrastructure along corridor, which is not compliant with the Disability Discrimination Act (DDA) • Lack of signage/wayfinding, especially at key decision points and at existing path termini • Discontinuous path and limited formal walk/cycle infrastructure between The Byron @ Byron resort and Beach Break @ Byron resort	• Existing low speed (50km/h) environment • Existing separated cycle option from Browning Street to The Byron @ Byron resort • Wide road reserve south of The Byron @ Byron resort • Complete missing links to provide continuous walk/cycle corridor • Improve access to public transport infrastructure • Improve connections to surrounding walk/cycle network • Improve cyclist safety, especially for school students • Improve awareness of, and access to, key attractors • Formalise parking, especially south of The Byron @ Byron resort

2.2.2 Existing and forecast corridor usage

The corridor serves as the main route between Byron Bay and Suffolk Park. As the entire area is a tourist destination, traffic volumes are higher during the holiday seasons, particularly Easter and Christmas. Figure 2 graphically demonstrates the annual historic variation in the average daily traffic (ADT) for the holiday periods, as well as a small sample from standard (i.e. non-holiday) traffic demand conditions.

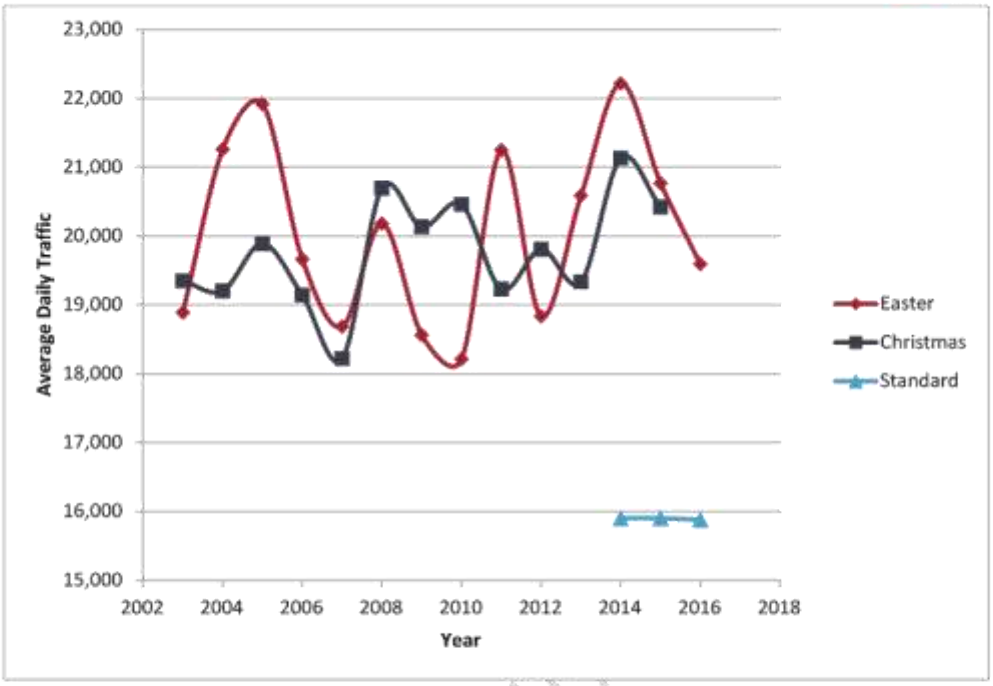


Figure 2: Study corridor traffic counts (Source: BSC. PSA)

As demonstrated in Figure 2, despite variation between years, ADT volumes during Easter and Christmas have generally trended upwards since 2003. Conversely, standard period ADT volumes have remained relatively consistent between 2014 and 2016. It is important that any future cycleway concept adequately considers the impact of the significant additional vehicle demand on the Bangalow Road/Broken Head Road corridor during holiday periods. It should also be acknowledged that this additional demand is also likely to include some motorists unfamiliar with the road corridor. It should be noted that during this increase in traffic demand, holiday periods are also expected to spark an increase in demand for cycling trips by tourists to the area.

The variation in demand between the holiday and standard periods can also be seen throughout the day. Figure 3 shows the average number of vehicles recorded on the corridor for each hour of the day during October 2010. In this standard period, there is a clear spike in the morning (AM) for traffic heading north. The spike is mirrored in the southbound direction during the afternoon (PM). This typically represents commuter and school pick-up/drop-off trips. Conversely, Figure 4 shows the average number of vehicles recorded for each hour of the day during January 2010. In this Christmas holiday period, the AM and PM spikes in demand are less discernible from the inter-peak demand. The AM peak occurs much later in the morning and the PM peak consists of only one spike in demand.

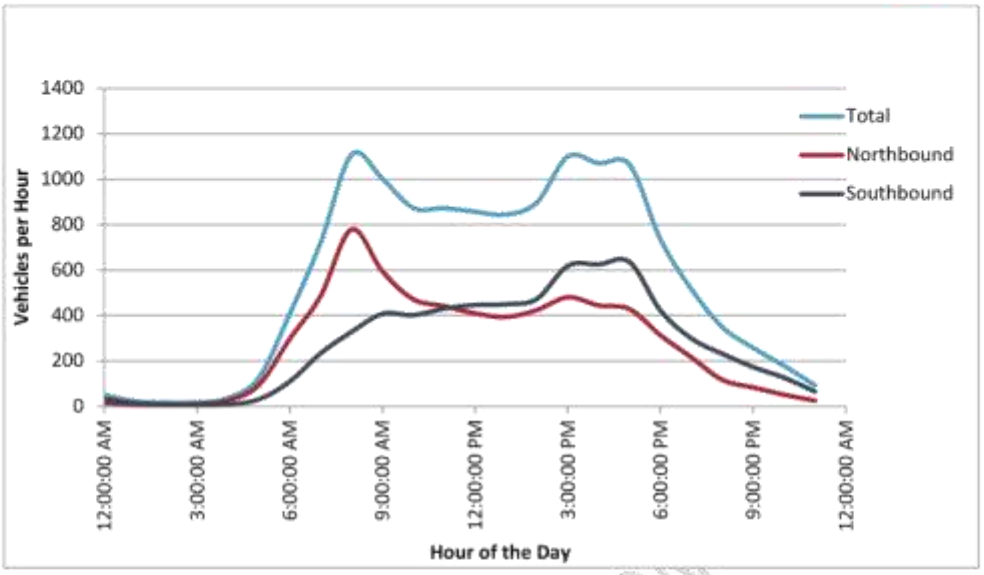


Figure 3: Vehicle flow distribution, October 2016 (Source: BSC, PSA)

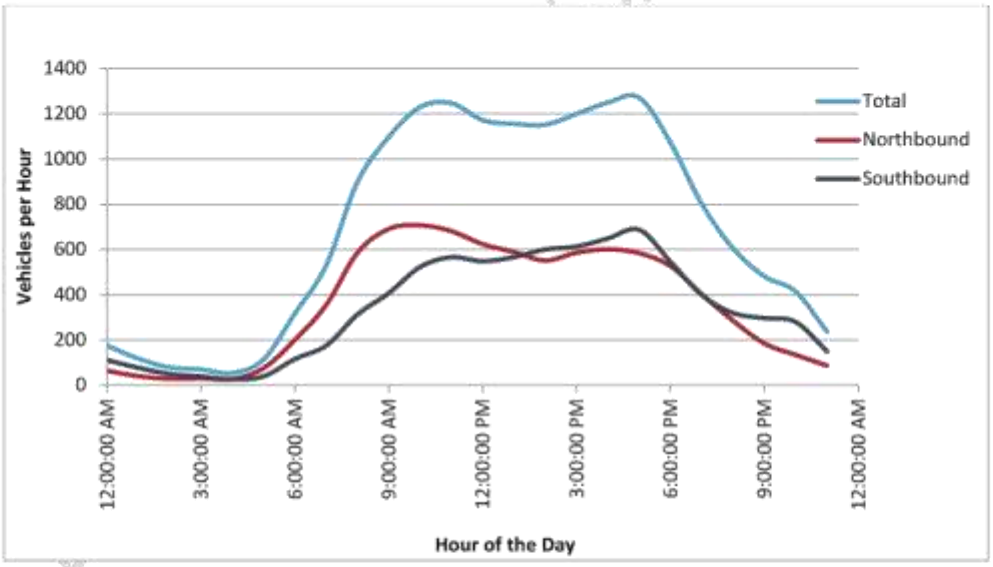


Figure 4: Vehicle flow distribution, January 2010 (Source: BSC, PSA)

Pedestrian and cyclist counts along the corridor are currently unavailable. However, Byron Shire Council have forecast that in alignment with population growth for the region, vehicle, pedestrian and cyclist volumes along the corridor are forecast to grow by 2% per year on average.

The posted speed for the corridor is 50km/h. The average operating speed recorded on the corridor, however, was 60.67km/h during holiday periods and 58.17km/h during standard periods. While this is within the acceptable range for operating speed in terms of road design, this is in excess of the current posted speed limit. On average, a high proportion of vehicles exceeded the posted speed limit (82.4% during holiday periods and 69.5% during standard periods). However, analysis of the 85th percentile speed profiles suggests that the majority of speeding vehicles on the corridor exceed the speed limit by less than 12km/h.

2.2.3 Crash data analysis

A total of 57 crashes were recorded on the corridor between 2011 and 2016. While no fatalities were recorded, 37 crashes resulted in casualties and 20 resulted in the vehicle being towed from the scene with no casualties. The distribution of these crashes can be shown in Figure 5.

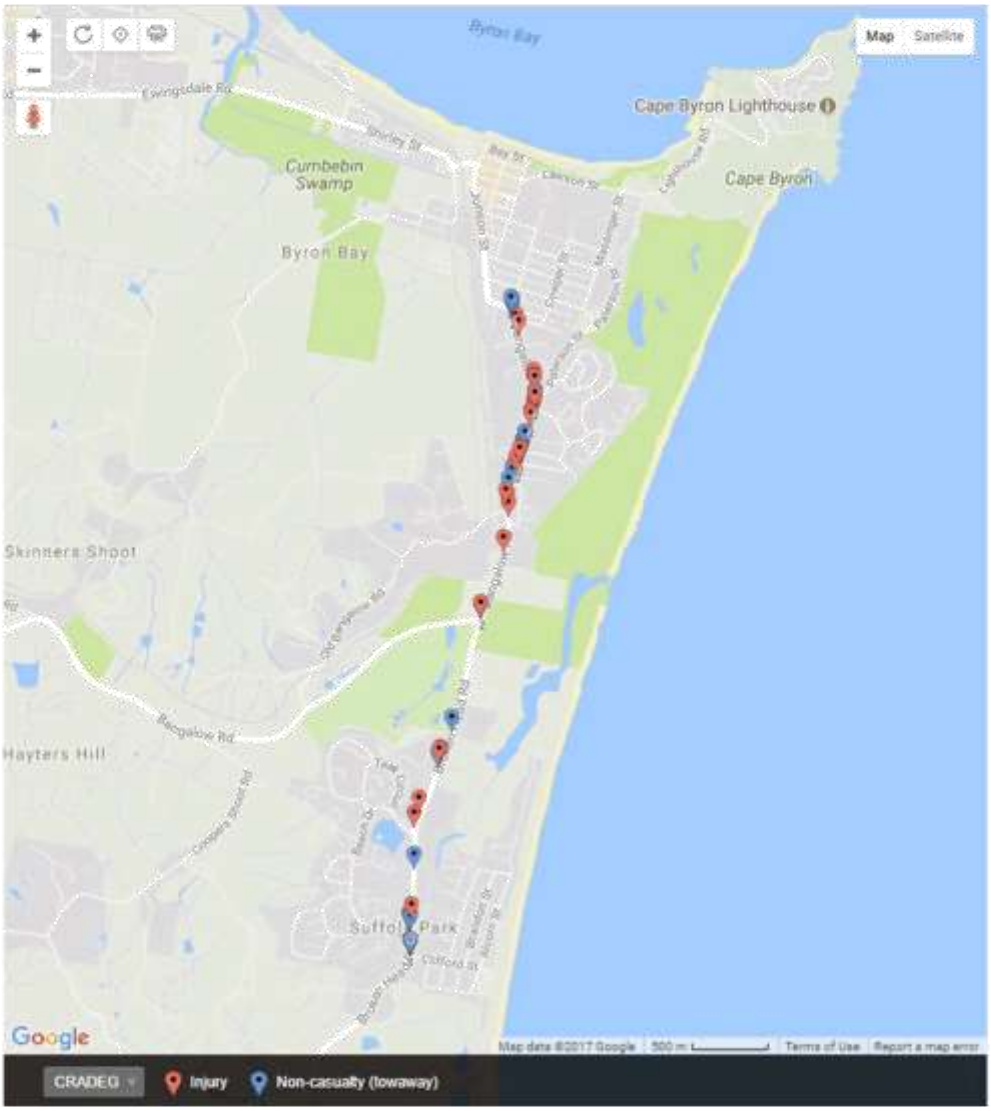


Figure 5: Study corridor crash data, 2011 to 2016 (Source: BSC, PSA, BatchGeo)

As can be seen in Figure 5, the majority of recorded crashes occurred on Bangalow Road between Old Bangalow Road and Mott Street. This is a two-lane, two-way, undivided section of roadway with on-street parking on both sides of the road and a number of intersecting streets along its length. There are no pedestrian or cyclist mid-block crossings in this section. The remaining crashes are distributed along the corridor. There were no crashes recorded in the vicinity of the three mid-block crossings along the corridor.

Between 2011 and 2016 there was one crash involving a pedestrian along the route. This crash occurred in 2015 at the intersection of Cumbebin Park and Bangalow Road to the north of the study corridor. Crash records show that the pedestrian was injured. A green on-road surface treatment has been applied across the Cumbebin Park leg of the intersection to indicate bicycle priority along Bangalow Road (western side). This treatment is not applied elsewhere along the corridor.

There were five crashes that occurred on weekdays between 7:30AM and 8:30AM and between 2:00PM and 4:00PM. These times are of interest to this study as they are the most likely times for school children to be commuting to and from school. Notwithstanding, none of these crashes occurred in the vicinity of the schools in the study area.

While there was evidence of speed non-compliance from the vehicle count data (refer to Section 2.2.2), only three crashes between 2011 and 2016 were recorded to be the result of excessive speed.

2.3 Land use planning

Byron Bay and surrounds are both desirable residential locations along with being regionally, nationally and internationally recognised tourist destinations due to the relaxed lifestyle, unique culture and attractive natural environment.

The northern end of the study corridor is less than 1km from Byron Bay town centre which is the dominant attractor in the area. The town centre includes a number of shops, restaurants, cafes, places of worship, accommodation, public and private recreation areas, schools and residential housing (including retirement villages). Surrounding the town centre are a number of national parks and nature reserves which encompass both parks and beaches. As shown in Figure 6, there are currently three educational facilities (two primary schools and an English learning centre), three churches and a number of sporting areas, parks and community centres located within 400m of the northern section of the corridor.

The 400m catchment of the central area of the corridor includes residential housing, sporting complexes, parks, two schools, and accommodation facilities. The major attractors in this section are the Byron Bay Golf Course and the Byron Bay Red Devils Rugby League field on the western side and the adjacent primary and secondary schools on the eastern side. Additional attractors also include beaches, park land and accommodation facilities.

The 400m catchment at the southern area of the corridor includes residential land uses (including retirement villages), sports fields, local shops, a skate park and accommodation facilities. Additional, major accommodation facilities (Suffolk Beachfront Holiday Park), community centres, parks and beaches are provided further east, beyond the 400m catchment.

As shown in Figure 6 and described above, there are a number of key land uses and attractors in the study area which have the potential to generate and attract pedestrian and cyclist traffic along the corridor.

Figure 6: Land use and attractors reference map (Source: PSA)

The Byron Bay Bypass is proposed to be located west of the Byron Bay town centre with the preferred alignment of this bypass connecting the Lawson Street/Butler Street intersection in the north to Browning Street in the south. The bypass is expected to enhance the efficiency on the road network within central Byron Bay and improve road safety by improving pedestrian and cyclist connectivity and reducing conflicts. While this is not expected to directly affect the study corridor, there is the potential for growth in cyclist volumes – especially longer distance cyclists – on the study corridor as it would provide an attractive connection from Byron Central Hospital in the west to Suffolk Park in the south.

The West Byron Urban Release Area is a 108 hectare site located 2.5km west of central Byron Bay. The proposed development, which is currently in the planning stage, includes housing, conservation, light industrial and community uses, and a vibrant connected community with parks, cycle ways, large conservation areas and neighbourhood facilities. A key objective of the proposal is to achieve walking distance to daily essentials in Byron Bay town centre. This further justifies that Byron Bay is, and will continue to be planned, as a major attractor for cycling trips.

2.4 Demographics

At the time of the 2016 Census, 5,524 people lived in Byron Bay and 3,754 people lived in Suffolk Park. The combined population in these two areas represents 30% of the entire Byron Shire Council local government area (LGA) (18% in Byron Bay and 12% in Suffolk Park). The population of the LGA has increased by 2,349 since the 2011 Census.

The LGA is predicted to experience continual population growth at a rate of approximately 2% per year until 2031. This represents an extra 7,348 people by 2031, taking the total future population to 38,865. At this time, Byron Bay and Suffolk Park are expected to comprise approximately 20% and 15% respectively, of the total LGA population. Based on these percentages, the estimated number of people living in Byron Bay and Suffolk Park by 2031 is expected to be 13,323. This represents an increase of 3,143 people.

Figure 7 shows the age of people in Byron Bay and Suffolk Park at the time of the 2016 Census. The graphs indicate that the 20-39 year old age category is the most popular in Byron Bay, closely followed by the 40-59 year old category. In Suffolk Park this is finding reversed with the 40-59 year old category containing the highest number of people, followed closely by the 20-39 year old category. Overall, these two age brackets (i.e. 20-59 years) are the most common ages in the study area.

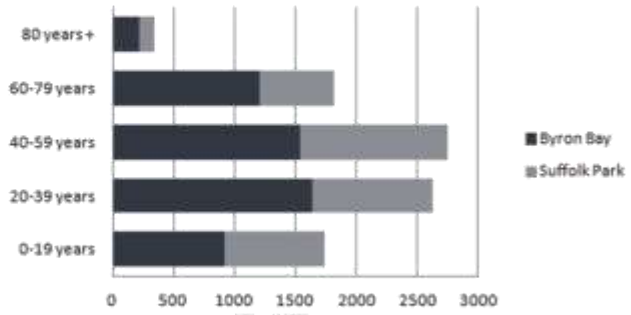


Figure 7: Age breakdown of people in Byron Bay and Suffolk Park (Source: ABS, PSA)

Figure 8 demonstrates the breakdown of the education level of Byron Bay residents. Excluding the large number of respondents that did not state their education in the 2016 Census, primary and secondary school students were the largest education categories in the Byron Bay/Suffolk Park area. This finding, especially the higher number of primary (531) rather than secondary (413) school students, is reasonable due to the greater quantity of primary schools in the area. In light of this and the close proximity of housing and schools in the area, there is a great opportunity to encourage walking and cycling for the journey to and from school.

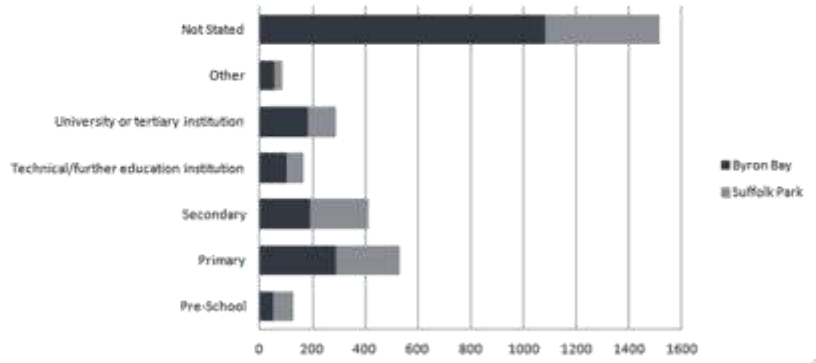


Figure 8: Breakdown of level of education of people in Byron Bay and Suffolk Park (Source: ABS, PSA)

Journey to work data from the 2016 Census was not available at the time of writing. As such, 2011 Census data has been used for the analysis of commuter trips in the study area. According to this data, 12% of people (198 people) in Byron Bay cycled to work while 5% (55 people) cycled to work in Suffolk Park. In comparison to the total responses for the LGA, more than half (54%) cycled to / from work in Byron Bay and 15% were cycling to / from work in Suffolk Park. As Byron Bay is the major attractor in the area, it is assumed that some people from Suffolk Park cycle to Byron Bay for work. A similar amount of people walked to work in Byron Bay (203 people) and Suffolk Park (46 people).

Public transport use is low as only 1% of respondents (20 people) stated that they use public transport to travel to / from work in Byron Bay and 2% (22) in Suffolk Park. The numbers above show a clear interest and usage of active transport in the study area and the broader LGA. This provides the opportunity to support and build on the relatively high rates of existing cycle activity through the implementation of better connected and safer pedestrian and cyclist infrastructure.

In recognition of the impact of tourism on the local economy, tourist data was investigated to understand the type, behaviour and travel patterns of people visiting the area. The following information was provided by Tourism Research Australia as part of the Destination Visitor Survey Program and The Byron Shire Visitor Profile and Satisfaction project. The survey was completed during April, May and June 2011 and applies to the entire LGA. The most outstanding findings were as follows:

- 80% of visits to the region were for holiday/leisure purposes, with 15% visiting friends and/or family;
- 39% of visitors were in the family life stage, 18% in the older working singles/couples life stage, 16% in the young/midlife singles with no children life stage, and 15% in the young/midlife couples with no kids life stage;
- 35% of visitors travelled with their partner, 30% with their friends and/or family, and 26% with their immediate families;
- 76% of visitors were travelling domestically – 44% of domestic visitors were from Queensland, 32% from New South Wales and 17% from Victoria;
- 24% of visitors were travelling internationally – 18% of international visitors were from New Zealand, 16% from North America, 10% from Scandinavia and 9% from Germany;
- 71% of visitors were first time visitors;
- The median number of stops in the region was 2 – 90% of visitors stopped in Byron Bay;
- 23% stayed in a rented house/apartment, 21% in a commercial caravan or camping ground and 18% in backpackers accommodation; and
- The single most important reason people visited the Byron Shire was to visit specific attractions – 79% said their motivation to visit the region was for general sightseeing – i.e. to tour around and explore.

These findings assist in identifying the key groups who are likely to use the corridor and, subsequently, for whom the corridor should be primarily designed.

2.5 User profile

The Byron Bay/Suffolk Park localities are popular tourist destinations within comfortable cycling distance of one another. The terrain is generally flat and the climate is conducive to active transport travel all year round. Similarly, the area surrounding the study corridor includes a number of key attractors (schools, major accommodation, parks, reserves and sporting complexes) and is largely zoned for residential uses. Based on these findings and consideration of the broader context of the study corridor, four key future user groups of the corridor have been identified. These are:

- School students;
- Families;
- Recreational users; and
- Tourists.

A description of each user group, their respective needs and what this may mean for the design of the corridor is provided in Table 4.

Table 4: User profiles, needs and treatments

User group	User profile and needs	Example design factors/treatments
School students	Primary and secondary school students from surrounding suburbs, walking or cycling alone or with others (e.g. with parents or friends). Needs include: • safe and convenient crossing points with good sight lines; • clear understanding of priority; • sufficient path width; • connection to school paths; and • separation from vehicular traffic.	Safe crossing points – 'bent-in', 'bent-out' or 'straight' intersection crossings. 2-3m wide refuge for mid-block ped/cycle crossings Good sight lines – 20m min. for motorists on approach to crossing on 60km/h (85th percentile) road Sufficient width – 2.5-3.5m desirable minimum (shared path) Understanding of priority – raised crossing, signage, surface treatments
Families	Parents with children from surrounding suburbs, particularly within 400m of the corridor. Likely use of shorter sections of the corridor. Needs include: • safe crossing points with good sight lines; • water stations along the corridor; • clear understanding of priority; • sufficient path width; • separation from vehicular traffic; • continuous route; and • high quality surface treatments.	As above High quality surface treatments
Recreational users	Needs include: • attractive and pleasant environment; • water stations along the corridor; • safe crossing points with good sight lines;	As above

User group	User profile and needs	Example design factors/treatments
	• sufficient path width; • connections to key attractors; and • separation from vehicular traffic.	
Tourists	Needs include: • legible path network; • convenient, recognisable and easy to understand wayfinding; • markers indicating proximity, access and distance to key attractors; • attractive and pleasant environment; • water stations along the corridor; • safe and convenient crossing points with good sight lines; • sufficient path width; and • safe clearance from vehicle traffic (ideally separated path)	As above Wayfinding at key decision points (e.g. crossing points, intersecting paths) Painted or sign-posted distance markers

The groups presented in Table 4 represent the primary future users of the corridor. Despite this, commuters and more confident cyclists are expected to continue to use the corridor and should not be excluded or dissuaded from its use due to proposed designs, alignments or treatments. These secondary user groups typically favour paths which prioritise cyclists and focus on speed, efficiency and limiting the need to stop or significantly and rapidly change direction.

2.6 Route objectives

Objectives for the route have been developed based on the findings of the existing data and network review and in light of the route user profiles. These route objectives, as listed below, influence the development of options, the selection of a preferred option, and the treatments recommended in the final concept design:

- To provide a safe, legible and connected walk/cycle corridor between Byron Bay and Suffolk Park;
- To complete missing links and gaps in the existing corridor;
- To connect and facilitate direct access to key attractors and the broader walk and cycle network; and
- To increase the convenience and attractiveness of walking and cycling in and between Byron Bay and Suffolk Park.

3 OPTIONS DEVELOPMENT

Four different route alignment options have been developed in response to the identified issues, challenges and opportunities and in light of the user profiles and route objectives established in Section 2.

The options were developed at a high level with the express purpose of considering a range of different route alignments, path types and locations. Specific treatments (e.g. intersection designs and surfaces) were not explicitly considered in this options development process. It should be noted that while the options have been presented as complete corridor solutions, they have been developed in sections (northern, central and southern) so that specific route alignments and path types can be combined as desired. The boundaries of these sections are presented graphically in Figure 9.

A quantitative evaluation of the relative merits of each option was undertaken and is provided in Section 4. This evaluation forms the basis for the selection of the preferred option for progression to a more detailed concept design (refer to Section 5).

Figure 9: Corridor sections

3.1 Improvements common to all options

Following the site visit and desktop review, a number of improvements are recommended regardless of the option selected in order to improve the safety and operation of the existing corridor. These improvements include:

- Undertake minor safety and surface improvements on existing paths where necessary;
- Improve crossings (intersection and road) where necessary;
- Implement kerb ramps and complete missing gaps in footpath network on western side of corridor, between Cumbebin Park and Old Bangalow Road;
- Improve walk/cycle infrastructure across and surrounding Old Bangalow Road;
- Improve walk/cycle infrastructure across the existing road to/from St Finbarr's Catholic Primary School and Byron Bay High School; and
- Realign and improve the existing pedestrian crossing adjacent Byron Holiday Park.

In addition to these recommendations, two potential opportunities have been identified for further investigation. These are:

- Potential to move the existing crossing between Wollumbin Street and Keats Street to outside 'Macs Milkbar' and include kerb build outs and street scaping to improve amenity and safety;
- Potential to extend the shared path south of Clifford Street on the eastern side of Broken Head Road to service additional dwellings.

3.2 Option 1 – Continuous bi-directional path

Option 1 provides a continuous, off-road shared path along alternating sides of the entire corridor in order to enable a connection, fully separated from vehicles, for pedestrians and cyclists between Browning Street and Clifford Street. Existing road crossings are proposed to be upgraded to improve user safety and to facilitate the use of the shared path. With the addition of on-road cycle lanes, this option facilitates continuous travel along the entire corridor for southbound cyclists on the eastern side and uninterrupted travel between Beech Drive (northern roundabout) and Old Bangalow Road for northbound cyclists on the western side. The number of required crossings of the road have been minimised to provide the least interruption to through travel from south to north and north to south.

Option 1 is presented graphically in Appendix 1. Specific features of this option include:

- 770m (approx.) of new shared path;
- 2,650m (approx.) of widened shared path;
- 1,040m (approx.) of new footpath;
- 1,980m (approx.) of new on-road cycle lanes;
- Connect into surrounding walk/cycle network;
- Widen existing shared paths to 2.5m (desirable minimum);
- On-road cycle lane on western side, opposite to the shared path from the school crossing south of Old Bangalow Road to Beech Road (northern roundabout);
- New crossing south of The Byron @ Byron resort;
- Improve access to existing bus stops;
- New shared path from The Byron @ Byron resort to existing shared path at Beach Break @ Byron resort;
- New footpath on western side between Beech Drive roundabouts; and
- New road crossing across Clifford Street.

3.3 Option 2 – Low-cost continuous mono-directional path

Option 2 utilises existing infrastructure and proposes lower cost and less invasive infrastructure interventions to facilitate continuous cycle travel along the entire corridor. With the addition of on-road cycle lanes, this option facilitates uninterrupted travel for northbound cyclists on the western side along the majority of the corridor (Browning Street to Beech Drive southern roundabout).

Option 2 is presented graphically in Appendix 2. Specific features of this option include:

- 55m (approx.) of new shared path;
- 620m (approx.) of widened shared path;
- 640m (approx.) of new footpath;
- 3,600m (approx.) of new on-road cycle lanes;
- 785m (approx.) of new bicycle awareness markings on local roads;
- Connect into surrounding walk/cycle network;
- Minor safety improvements to existing shared paths but widths to remain unchanged;
- On-road northbound cycle lane on western side to reduce demand on existing eastern shared path;
- No walk or cycle path provision between The Byron @ Byron resort and Beech Road (northern roundabout). Cyclists to re-route on local roads (Redgum Place, Teak Circuit, Beech Drive); and
- On-road cycle lanes on both sides of the road between Beech Drive roundabouts.

3.4 Option 3 – Centre-running cycleway

Option 3 includes the construction of a central median to accommodate two-way separated cycle movements in the centre of the existing roadway. The centre-running cycleway is proposed for the northern section of the corridor only (between Browning Street and just north of Mahogany Drive) at which point it would connect into the existing network. The central and southern sections of this option are identical to Option 1. Option 3 facilitates continuous separated cycle travel along the entire corridor; however, road crossings are required.

Option 3 is presented graphically in Appendix 3. Specific features of this option include:

- 770m (approx.) of new shared path;
- 1,280m (approx.) of widened shared path;
- 1,040m (approx.) of new footpath;
- 3,150m (approx.) of new on-road cycle lanes;
- Connect into surrounding walk/cycle network;
- Opportunity to create tree-lined boulevard for section of central median;
- Minor safety improvements to existing shared path on eastern side but width to remain unchanged; and
- New crossing required at southern end of central median.

3.5 Option 4 – Off-road continuous scenic route

Option 4 looks beyond the Bangalow Road/Broken Head Road corridor to provide continuous cycle travel between Browning Street and Clifford Street. This option proposes to provide new or upgraded off-road shared paths on an alternative alignment to the study corridor, maximising the utilisation of existing path and road infrastructure where possible and appropriate.

Option 4 is presented graphically in Appendix 4. Specific features of this option include:

- 3,880m (approx.) of new shared path
- 250m (approx.) of widened shared path
- 2,185m (approx.) of new bicycle awareness markings on local roads

- Re-vitalisation of currently disused rail corridor, west of Bangalow Road which aligns with BSC plans to repurpose the railyards;
- Connections between rail corridor shared path and Bangalow Road;
- Aside from proposed footpath and road crossing works, limited works to study corridor proposed;
- Improved beach access; and
- Use of low speed, local roads for cycle movements (Bangalow Road/Broken Head Road intersection to Suffolk Park) suitable for user groups specified in Section 2.5.

4 OPTIONS EVALUATION

A three-step evaluation process has been applied to the options in order to assist in the identification of the preferred option. This process is comprised of:

1. Assessment matrix (excluding cost estimates)
2. Cost comparison
3. Cost/benefit assessment.

This three-step options evaluation process was undertaken for each corridor section (northern, central and southern) for each of the four options. This enabled a detailed comparison of each corridor section individually and also provided the opportunity to combine corridor sections from different route options in order to develop a preferred option which best aligns with the identified user profiles and route objectives. For example, this could include combining the northern section of Option 2 with the central section of Option 1 with the southern section of Option 4 to create the overall preferred option.

The options evaluation process is discussed in greater detail below.

4.1 Assessment matrix

4.1.1 Evaluation criteria and scoring

Six evaluation criteria were developed in order to provide a quantitative assessment of the options for each corridor section. High-level order of magnitude cost estimates for each section and option were not included as part of this first evaluation step. These costs represent the second step of the evaluation process and are presented in Section 4.2.

These criteria are:

- **Access & connectivity:** This criterion considers the ease of access to/from the proposed corridor and the level of connectivity to population areas, attractors and the surrounding path network
- **Safety:** This criterion considers user safety in accessing and using the proposed corridor. This could include the number and type of road crossings required, the type of intersection crossings, the quality and type of infrastructure proposed and CPTED concerns (lighting, passive surveillance, etc.)
- **Infrastructure impacts:** This criterion considers the impact on existing and required infrastructure. This could include parking removal, impact on known services (power poles, etc.), road work requirements (alignment, widening, etc.), signs and lines
- **Environmental impacts:** This criterion considers the impact on the existing environment. This could include the need for tree removal, water runoff/drainage, coastal impacts and environmental impacts during construction
- **Alignment with user profiles:** This criterion considers how well the option aligns with the needs of the identified key user groups (i.e. school students, families, recreational users, tourists)
- **Funding application potential:** This criterion considers how well the option aligns with the Walking and Cycling Program and, therefore, how likely the project would be to receive State funding.

Each of option for each corridor section was then assigned a score between one and five to represent their respective level of satisfaction of the six criteria. A score of one is the lowest possible score and it represents very limited levels of access to the corridor and connectivity to the surrounding network; major safety issues; significant infrastructure and environmental impacts; limited alignment with user profiles and limited potential for funding. Conversely, a score of five is the highest possible score and it represents very high levels of access to the corridor and connectivity to the surrounding network; limited safety issues; minimal infrastructure and environmental impacts; a high degree of alignment with user profiles and an option which is well-positioned for potential funding.

4.1.2 Assessment matrix results

The results of the first step of the options evaluation process for the northern, central and southern sections are presented in Table 5, Table 6 and Table 7 respectively.

In support of the below tables, an additional table has been prepared which provides a summary of the advantages and disadvantages of each option within each corridor to justify each of the assigned scores. This justification table is provided in Appendix 5.

Table 5: Assessment matrix – northern

Corridor section	Option	Assessment criteria						Corridor section total
		Access & connectivity	Safety	Infrastructure impacts	Environmental impacts	Alignment with user profiles	Funding application potential	
Northern	1	3	4	2	4	5	4	22
	2	5	4	2	4	3	3	21
	3	2	2	1	4	2	2	13
	4	3	4	4	2	5	2	20

Table 6: Assessment matrix – central

Corridor section	Option	Assessment criteria						Corridor section total
		Access & connectivity	Safety	Infrastructure impacts	Environmental impacts	Alignment with user profiles	Funding application potential	
Central	1	5	3	3	3	4	3	21
	2	4	3	4	5	2	2	20
	3	5	3	3	3	4	3	21
	4	4	3	3	4	4	3	21

Table 7: Assessment matrix – southern

Corridor section	Option	Assessment criteria						Corridor section total
		Access & connectivity	Safety	Infrastructure impacts	Environmental impacts	Alignment with user profiles	Funding application potential	
Southern	1	4	4	4	5	5	3	25
	2	4	2	3	5	2	1	17
	3	4	4	4	5	5	3	25
	4	5	3	4	4	4	3	23

As can be seen in the above tables, Option 1 scored the highest by a narrow margin for the northern section, Option 1 (Option 3) and Option 2 scored the highest for the central section while Option 1 (Option 3) scored the highest for the southern section. It should be noted that options 1 and 3 are the same for the central and southern sections.

4.2 Cost comparison

High-level order of magnitude cost estimates have been developed to provide an indication of the relative costs to construct each option for each of the corridor sections. This provides the opportunity to compare and combine each corridor section. It should be noted that these costs are order of magnitude only. It is recommended that a detailed survey, including the location of all underground services, be undertaken in order to provide a better understanding of costs.

These high-level cost estimates are summarised in Table 8.

Table 8: Cost estimates by corridor section and route option

Corridor section	Option	Cost estimate	Cost score for assessment
Northern	1	$1,036,948.87*	4
	2	$778,046.10	4
	3	$1,369,050.20	3
	4	$952,373.50	4
Central	1	$1,342,035.51	3
	2	$428,097.34	5
	3	$1,342,035.51	3
	4	$679,578.90	4
Southern	1	$336,206.00	5
	2	$1,035,235.50	3
	3	$336,206.00	5
	4	$303,007.90	5

Note: Cost estimates include an additional 30% price contingency

*This cost estimate does not include the cost to remove or relocate impacted power poles/street lights on the eastern side of the corridor

4.3 Cost/benefit assessment

A high-level cost/benefit assessment has been undertaken to assist in identifying the preferred option. This assessment is based on the 'non-cost' and 'cost' scores outlined in Section 4.1 and Section 4.2 respectively. The findings of the cost/benefit assessment are presented in Table 9.

The findings presented in Table 9 provide an allowance for a higher or lower weighting of cost (i.e. 30%, 50% and 70%) on the overall project. The remaining non-cost weighting is then distributed evenly across the six criteria presented in Section 4.1. For example, an assessment with a 70% weighting in favour of cost results in 30% for the non-cost component. This is then spread evenly across the six individual non-cost criteria which results in a 5% weighting for each.

Table 9: Cost/benefit assessment

Corridor Section	Option	Cost/Benefit Sensitivity (Non cost-Cost)		
		70-30	50-50	30-70
Northern	1	3.77	4.00	3.90
	2	3.65	3.85	3.85
	3	2.42	2.65	2.75
	4	3.53	3.83	3.80
Central	1	3.35	3.38	3.15
	2	3.83	4.23	4.50
	3	3.35	3.38	3.15
	4	3.65	3.88	3.85
Southern	1	4.42	4.75	4.75
	2	2.88	2.98	2.95
	3	4.42	4.75	4.75
	4	4.18	4.55	4.65

As can be seen in Table 9, Option 1 scored the highest for the northern and southern sections while Option 2 scored the highest for the central section despite different cost weightings.

5 PREFERRED OPTION

5.1 Description of preferred option

As presented in the cost/benefit assessment in Section 4.3, Option 1 scored the highest for the northern and southern sections while Option 2 scored the highest for the central section. When considering the strategic function of the corridor as a whole and its overall attractiveness as a key cycle corridor, however, implementation of Option 2 for the central section is not recommended. This is primarily due to the circuitous and potentially unappealing diversion of this option onto the local road network (Redgum Place, Teak Circuit, Beech Drive) and its inconsistency with the intent of the remainder of the proposed cycleway.

Based on these considerations and the results of the assessment undertaken in Section 4, a preferred option has been identified. The preferred option consists of:

- **Northern section:** Option 1 – Continuous bi-directional path
- **Central section:** Option 1 – Continuous bi-directional path
- **Southern section:** Option 1 – Continuous bi-directional path.

A concept design for the preferred option has been prepared to illustrate the relationship with existing infrastructure along the entire corridor. The preferred option concept design and associated cross-sections are provided in Appendix 6.

For the northern section, Option 1 provides a continuous, off-road shared path between Browning Street and the southern extent of the section at the existing road crossing south of Old Bangalow Road. This option includes the widening of the existing shared path on the eastern side of Bangalow Road from 2.2m (approx.) to the desirable minimum width of 2.5m. Widening of this path may impact on existing power infrastructure on the eastern side of Bangalow Road. This option also includes the construction of new footpaths on the western side of Bangalow Road in order to improve pedestrian safety and connectivity.

For the central section, Option 1 provides two travel options for cyclists along the corridor. The first is a continuous, off-road shared path on alternating sides of the corridor as required in order to utilise existing infrastructure and minimise unnecessary costs. This shared path runs the entire length of the central section, from the existing road crossing south of Old Bangalow Road to the southern extent of the section at Beech Drive (north). This includes widening of the existing shared path from 2.2m (approx.) to the desirable minimum width of 2.5m. On-road cycle lanes are proposed on the sides opposite to the shared path in order to provide secondary cycle travel options and to improve safe cycle continuity for more confident road users.

For the southern section, Option 1 provides a continuous, off-road shared path on the eastern side of the corridor between Beech Drive (north) and the southern extent of the section at Clifford Street. This option includes the widening of the existing shared path from 2.2m (approx.) to the desirable minimum width of 2.5m. This option also includes the construction of new footpaths on the western side of Broken Head Road between the Beech Drive roundabouts in order to improve pedestrian safety and connectivity, especially for senior residents.

It is recommended that BSC consider the development of an active transport wayfinding strategy for the LGA and provide appropriate signage as part of the upgrade of the corridor. This is expected to significantly improve corridor use and legibility for future users, particularly tourists.

In addition to the preferred option, 'Option 4 – Off-road continuous cycle route' has been identified as a potential option for additional future works beyond the upgrade of the study corridor. This option provides continuous cycle travel between Browning Street and Clifford Street but proposes to provide new or upgraded off-road shared paths on an alternative alignment to the study corridor. This option includes the re-utilisation of the disused rail corridor in the northern section, an alignment through existing bushland in the southern section, and use of local roads for cycle travel in the southern section.

5.2 Intersection treatments

Where an off-road bicycle path or shared path is provided, cyclists using the path will often have to cross intersecting minor local roads. According to Austroads' *Guide to Road Design Part 4 – Intersections and Crossings General*, these crossings should be designed to ensure that motorists are aware of the existence of the crossing and the priority that applies; so that the location and design of the crossing, and the priority adopted, does not

put motorists at risk of rear-end incidents when turning from the major road; and to encourage safe and correct use by cyclists and pedestrians.

This Guide also provides three types of treatment options for the design of path crossings of local access roads where the path approach is bent-out (i.e. is deviated away from the major road); the approach is straight; or where a one-way bicycle path is deviated to become an on-road bicycle lane. The preferred option includes, and will therefore need to accommodate, each of these three type crossing types where appropriate.

Examples of each of these crossings are provided in Figure 10. Additional information on these treatment types can be found in Austroads' *Guide to Road Design Part 4 – Intersections and Crossings General*, Austroads' *Guide to Road Design Part 6A – Paths for Walking Cycling*, and the Roads and Traffic Authority's *NSW Bicycle Guidelines*.

Bent-out **Straight** **Bent-in (on-road cycle lane)**

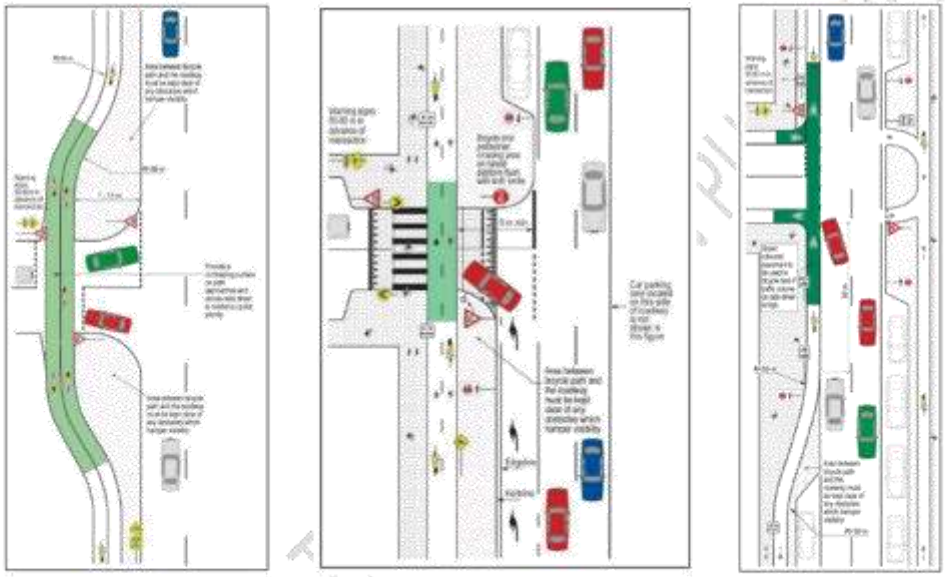


Figure 10: Shared path intersection crossing treatments

The surface treatment, signage and linemarking proposed at each intersection will depend on the intersection type proposed. As per the *NSW Bicycle Guidelines*, green surface colouring has been adopted as the colour for use on bicycle facilities in order to improve the visibility of the bicycle path through complicated road environments and intersections. This treatment colour, however, is predominantly used for on-road paths and should not be used on shared paths as the colour can only be used to indicate exclusive use by cyclists.

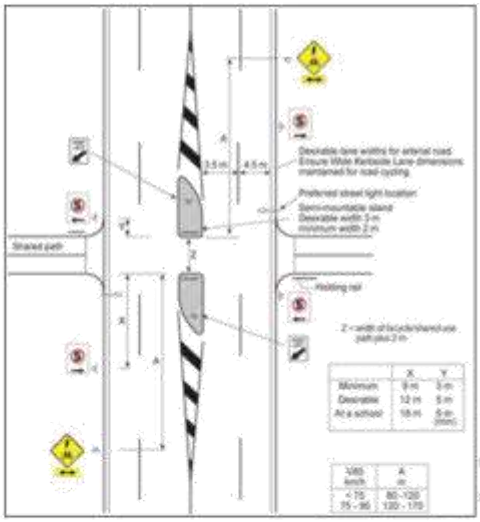
According to Austroads' *Guide to Road Design Part 6A – Paths for Walking Cycling*, cycling at a consistent speed is significantly easier than cycling with frequent changes in speed. Therefore, cyclists prefer to keep moving and maintain their momentum unless there is a good reason for them to stop. Despite this preference, and as stated in the *NSW Bicycle Guidelines*, the provision of a consistent priority, be that to cyclists or to motorists, on any route for its entire length is critical to preserve the coherence of the network. The provision of clear priority along the route and across intersections also reduces the potential for safety conflicts. It is therefore proposed that the current arrangement, which prioritises vehicles over pedestrians and cyclists at existing intersections along the corridor, is maintained. The reason for this is two-fold. Firstly, it is consistent with the established operating characteristics of the corridor, thus reducing the potential for safety issues arising from lack of knowledge or poor legibility. Secondly, it is the safest (overall) and most cost effective option as it means turning vehicles are not required to queue in the existing through lanes and that large scale intersection works are not required to accommodate vehicle storage and the necessary setback of the shared path. Where on-road cycle lanes are proposed on the main road alignment, cyclists will be prioritised over vehicles accessing intersecting side roads and the priority will be reinforced through appropriate surface treatment colouring, linemarking and signage.

5.3 Road crossing treatments

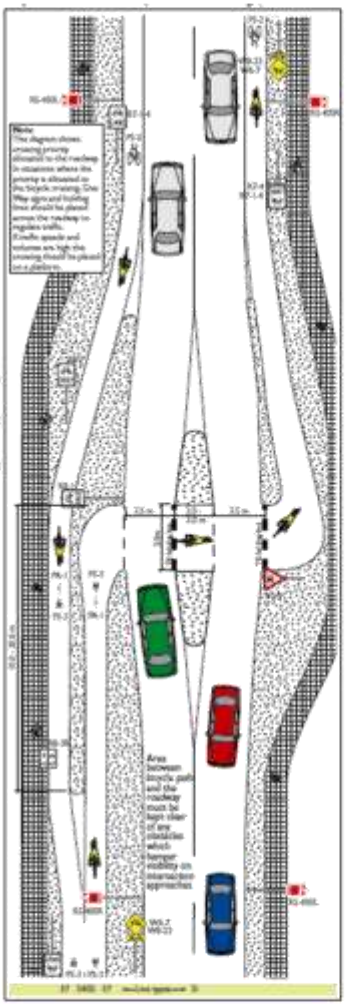
The preferred option includes a combination of new and upgraded road crossings for pedestrians and cyclists in order to improve user safety and cross-corridor accessibility as well as to provide continuity of the path network along the entire corridor.

Examples of three road crossing treatment options are provided in Figure 11. Additional information on these treatment types can be found in Austroads' *Cycling Aspects of Austroads Guides*, Austroads' *Guide to Traffic Management Part 8 – Local Area Traffic Management*, and the *NSW Bicycle Guidelines*.

Pedestrian/cyclist mid-block refuge



Off-road bicycle path to on-road cycle lane transition



Wombat crossing

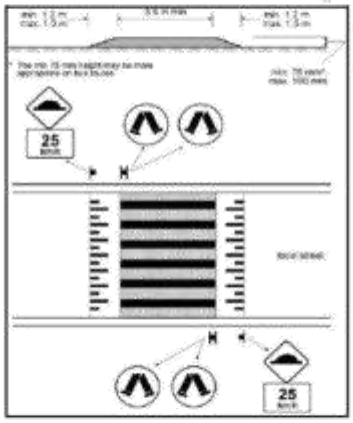


Figure 11: Road crossing treatments

Road crossings for the preferred option have been designed to enable the uncontrolled staged crossing of Bangalow Road and Broken Head Road in a safe manner. In response to the needs of the user profiles, the storage widths of the central refuge islands have been designed in order to accommodate cyclists where shared path continuity and cyclist movements are expected.

5.4 Preferred option cost estimate

The total order of magnitude cost to construct the entire preferred option is estimated at $7,127,340.38. This is comprised of:

- **Northern section:** $1,036,948.87
- **Central section:** $1,342,035.51
- **Southern section:** $336,206.00

The cost provided for the northern section excludes the cost to remove or relocate impacted power poles/street lights on the eastern side of the corridor and to underground power along the affected sections. These works are considered to be worst case as, in some instances, minor works can be undertaken to avoid and/or mitigate the impact of the current location of these poles. However, in the event that all of the impacted power poles are to be removed/relocated, the cost to undertake these works is estimated at approximately $2,120,000.

It should be noted that these costs are order of magnitude only. It is recommended that a detailed survey, including the location of all underground services, be undertaken in order to provide a better understanding of costs.

5.5 Implementation

5.5.1 Staging

An initial strategy has been developed to provide early guidance for the staged upgrading of the study corridor. This strategy has been developed and the stages prioritised primarily based on the requirement to provide a connected and safe cycleway which aligns with the needs of the identified user profiles. It is expected that key safety concerns (e.g. isolated road or intersection crossings) would not be confined to this staging strategy due to their significance and impact on user safety.

This strategy has not been expressly developed to align with BSC's forward Capital Works Budget. Notwithstanding, a discussion on potential integration is provided in Section 5.5.2. It is expected, however, that any future works scheduled in the vicinity of the corridor will be undertaken to integrate with the proposed corridor design.

The proposed staging is summarised below and presented graphically in Figure 12.

Stage 1:

- North of Old Bangalow Road/Bangalow Road intersection to south of the existing road to/from St Finbarr's Catholic Primary School and Byron Bay High School;
- The Byron @ Byron resort to Beech Drive (north).

Stage 2:

- Cumbebin Park/Bangalow Road intersection to North of Old Bangalow Road/Bangalow Road intersection;
- Beech Drive (north) to Beach Break @ Byron resort.

Stage 3:

- Browning Street to Cumbebin Park/Bangalow Road intersection.

Stage 4:

- South of the existing road to/from St Finbarr's Catholic Primary School and Byron Bay High School to The Byron @ Byron resort;
- Beach Break @ Byron resort to Clifford Street.

Figure 12: Proposed corridor staging

5.5.2 Integration with BSC Capital Works Budget

BSC has prepared forward Capital Works Budgets for each financial year between 2017 and 2021. These budgets identify the planned and budgeted works to be completed within the LGA. The key capital works projects of relevance to the upgrading of the study corridor are identified in Table 10. This table also summarises the potential impact to, and opportunities for integration with, the corridor.

Table 10: Key BSC capital works projects (2017-2020)

2017-18 Capital Works Budget		
Works	**Budgeted amount**	**Impact to corridor**
Broken Head Road Off-Road Shared Path, Suffolk Park	$292,600	Directly provides funds to construct part of the study corridor
2019-20 Capital Works Budget		
Works	**Budgeted amount**	**Impact to corridor**
Traffic control upgrade at Clifford Street intersection with Broken Head Road, Suffolk Park (RMS)	$1,200,000	Limited information provided. Potential to incorporate new and upgrade walk/cycle infrastructure as part of the works. In particular, improve road crossing of Clifford Street and cater for cyclists at intersection. Potential also to provide early works for extension of cycleway further south. Dependent on budgeted scope of works

Source: Byron Shire Council

In addition to the key capital works projects identified in Table 10, the budget also includes funds to implement or replace access ramps, footpaths and kerb and guttering within the broader LGA. The combined budgeted amounts for these works increase from a total of $180,900 in 2017-18 to $206,500 in 2020-21.

6 ALIGNMENT WITH WALKING AND CYCLING PROGRAM FUNDING APPLICATION

The preferred option was selected as it best aligns with the identified user profiles and route objectives and as it provides comparatively good alignment with the State Government's Walking and Cycling Program funding selection criteria and scoring system.

As discussed in Section 2.1, the following three cycling programs were identified as being suitable for funding eligibility:

- Connecting Centres;
- Priority Cycleways; and
- Cycling Towns.

An assessment has been undertaken to determine the potential scores that the preferred option could expect to receive based on the program selection criteria and scoring. The purpose of this assessment is to provide an indication as to the most appropriate program for which to apply. The results of the assessment are summarised in Table 11.

Table 11: Estimated funding scores - preferred option

Funding program	Estimated score
Connecting Centres	62.7% (42 out of 67)
Priority Cycleways	50% (37 out of 74)
Cycling Towns	**72.4% (55 out of 76)**

As can be seen in Table 11, the preferred option scored highest for the Cycling Towns program, followed by the Connecting Centres and Priority Cycleways programs respectively. Additional details on this assessment, including the estimated scores for each selection criteria for each of the three programs, are provided in Appendix 7.

7 CONCLUSION AND NEXT STEPS

7.1 Conclusion

BSC engaged PSA Consulting (Australia) to review the current shared path and on-road cycleways along Bangalow Road and Broken Head Road, from Browning Street, Byron Bay to Clifford Street, Suffolk Park and to provide recommendations on the most effective means of providing a complete link; which are cost effective, innovative, functional and incorporate best practice cycleway design.

The existing walk and cycle infrastructure, land use planning and demographics, and traffic situations were reviewed in order to understand the current state of the study corridor and to determine the key groups expected to use the corridor in future. In consultation with BSC, school students, families, recreational users and tourists were identified as the four key user groups of the corridor. This, in conjunction with identified route objectives and the eligibility for State Government funding, guided the development and evaluation of route alignment options.

Following an assessment of the each of the four options developed for each corridor section (i.e. northern, central and southern) and a consideration of relative costs and strategic function, Option 1 was selected as the preferred option for all three route sections. The preferred option provides a continuous, off-road shared path along alternating sides of the entire corridor in order to enable a connection, fully separated from vehicles, for pedestrians and cyclists between Browning Street and Clifford Street.

Based on high-level order of magnitude estimates, the preferred option is expected to cost $1,036,948.87 to construct the northern section, $1,342,035.51 to construct the central section and $336,206.00 to construct the southern section. This brings the total to $2,715,190.38 as an order of magnitude estimate for the entire corridor.

7.2 Next steps

The following key next steps for BSC have been identified as including:

- Council authorisation of the finalised preferred concept design;
- Progress finalised preferred concept to detailed design.

It is recommended that BSC consider the development of an active transport wayfinding strategy for the LGA and provide appropriate signage as part of the upgrade of the corridor. This is expected to significantly improve corridor use and legibility for future users, particularly new and irregular users such as tourists. It is also recommended that BSC investigate the suitability and feasibility of the proposed 'Option 4 – Off-road continuous cycle route' in greater detail and consider its role in the broader cycle network.

26 October 2017 – V1

Appendix 1
Option 1

A01

26 October 2017 – V1

Appendix 2
Option 2

A02

26 October 2017 – V1

Appendix 3
Option 3

A03

26 October 2017 – V1

Appendix 4
Option 4

A04

26 October 2017 – V1

Appendix 5
Evaluation Justification

A05

26 October 2017 – V1

Appendix 6
Concept Design (Preferred Option)

A06

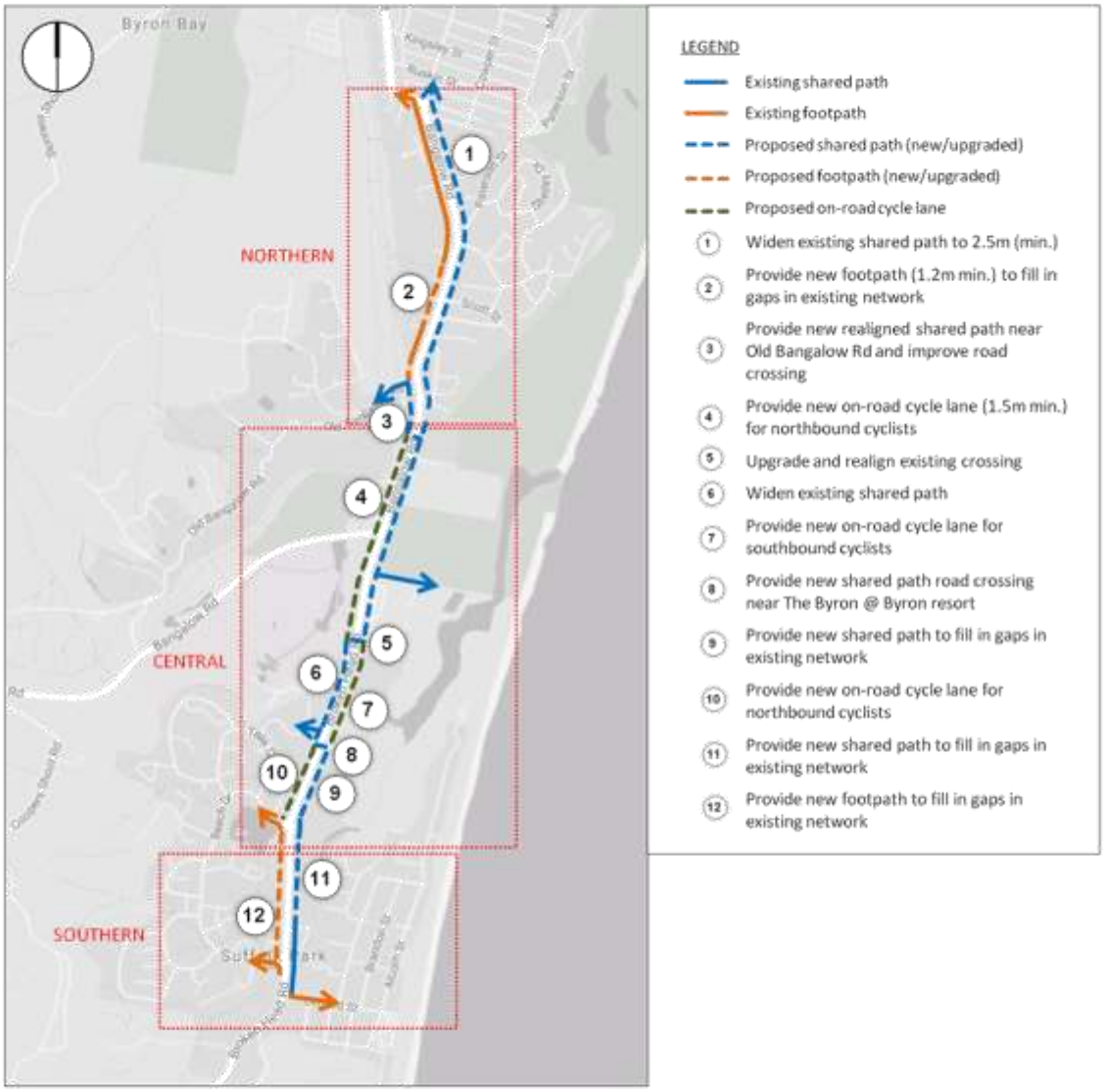
26 October 2017 – V1

Appendix 7
Estimated Funding Scores (Preferred Option)

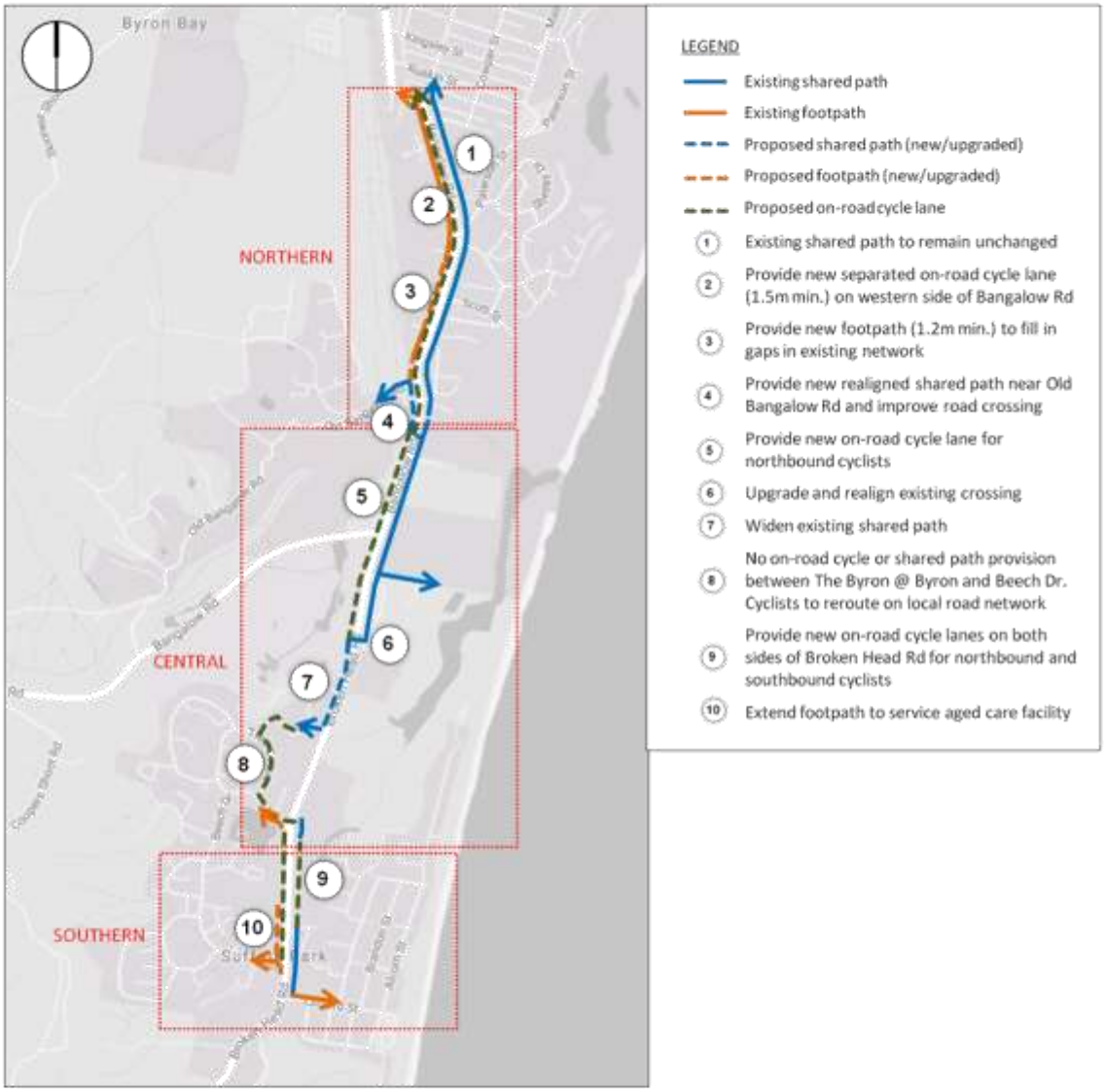
A07

26 October 2017 – V1

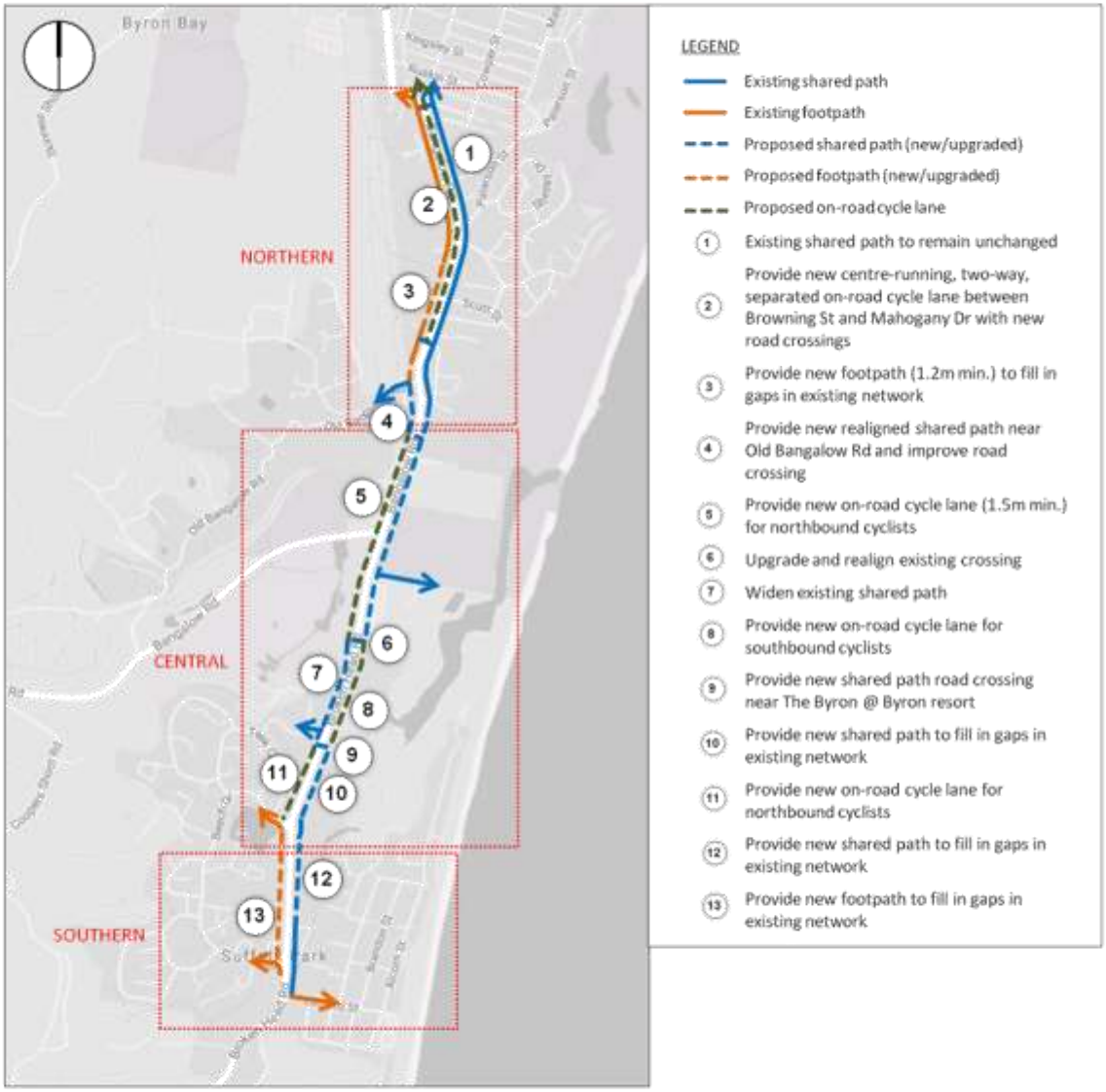
Appendix 1: Option 1 – Continuous bi-directional path



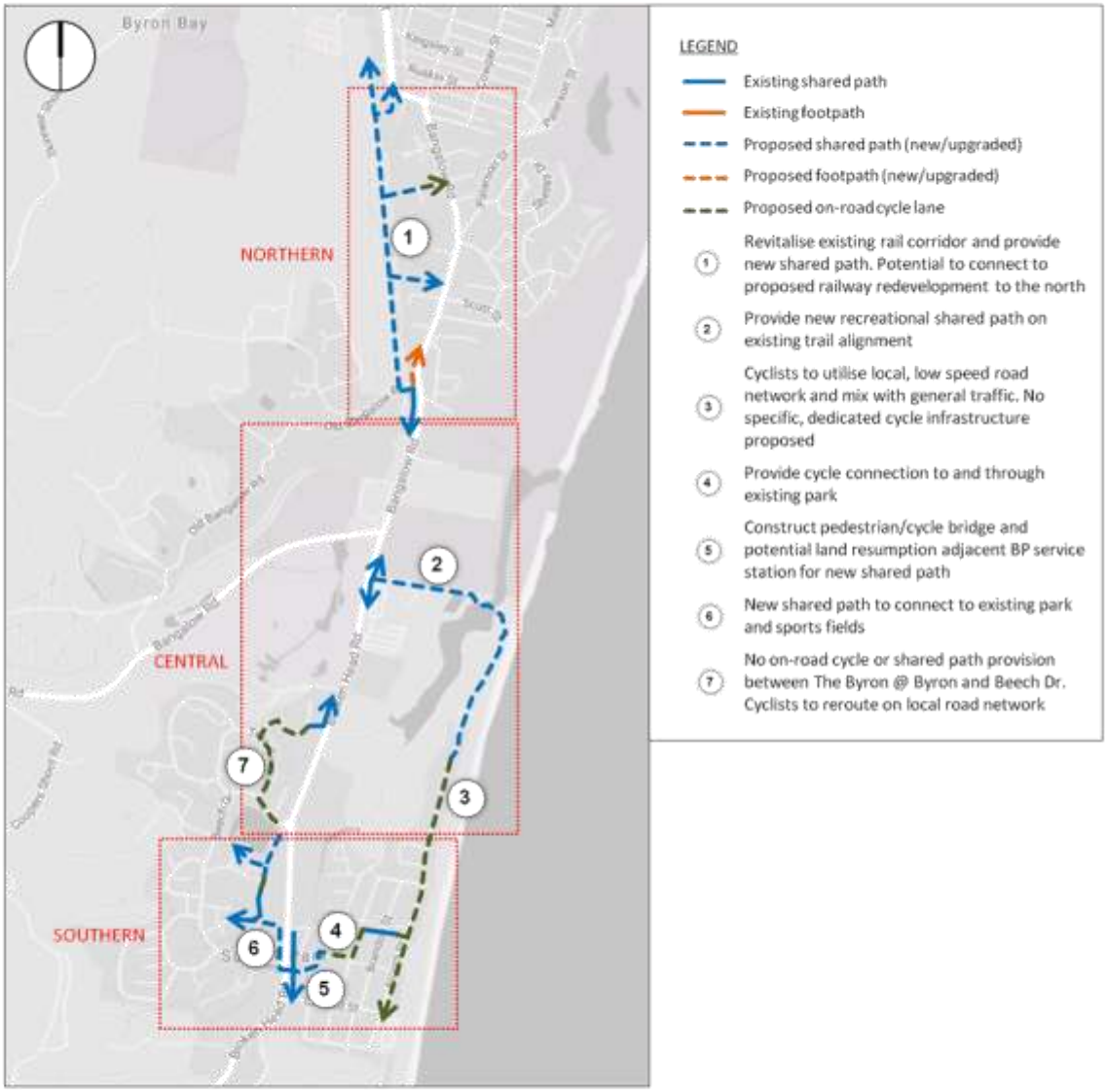
Appendix 2: Option 2 – Low-cost continuous mono-directional path



Appendix 3: Option 3 – Centre-running cycleway



Appendix 4: Option 4 – Off-road continuous scenic route



Appendix 5 - Evaluation Justification (Northern Section)

Option	Corridor section	Assessment criteria					
		Access & connectivity	Safety	Infrastructure impacts	Environmental impacts	Alignment with user profiles	Funding application potential
1	Northern	- Good connectivity to surrounding paths - Poor accessibility to eastern shared path for cyclists on west (road crossing/s required)	- Separation from vehicle traffic - Cyclists on west required to cross road to access shared path	- Minor impact to parking on eastern side only - Impact to services on eastern side, especially power. Undergrounding may be required	- Upgrade of existing path. Limited impact to environment - Drainage upgrade works likely at Bangalow Rd/Old Bangalow Rd	Good alignment with user profiles – separation from vehicle traffic; sufficient path width; legible and continuous path	Moderate-good funding potential – Connects local cycle network; forms a spine for network expansion; located on or adjacent to existing road; improves user safety; provides a direct route
2	Northern	- Good connectivity to surrounding paths - Good accessibility as cycle provision on both sides of road	- Cycle travel aligns with vehicle travel direction. Cyclists only required to cross if wanting to travel in opposite direction - Cycle separation from pedestrian and vehicle traffic - Improved pedestrian safety and reduce potential for conflict - Cyclists cross driveways and intersections but easy to establish cyclist priority - Potential issues with refuse collection if western cycle provision is on-road (as opposed to widening of existing verge)	- Impact to parking on western side only - Existing eastern shared path not to be widened. Little to no impact to services - New western cycle provision east of existing footpaths and power poles to reduce infrastructure impacts	- Drainage upgrade works likely at Bangalow Rd/Old Bangalow Rd - Some tree removal and earthworks required south of Old Bangalow Rd	Moderate alignment with user profiles – On-road cycle lanes cater to more confident cyclists but have potential to reduce demand on shared path Potential for physical separation (e.g. kerb) from vehicles. Legible and continuous path on both sides	Moderate funding potential – Complete gaps in existing network; connects local cycle network; connects residents/ tourists to attractors; forms a spine for network expansion; located on or adjacent to existing road; improves user safety overall but on-road cycle may affect cyclist safety; provides a direct route
3	Northern	- Legible path with connectivity at either end of centre-running cycleway - Potential difficulty in accessing cycleway for cyclists on eastern or western side of road	- Two-way separated cycleway in central median. Cyclists separated from pedestrians and vehicle traffic (generally). Vehicles to cross cycleway at road intersections - Relatively new concept. Potential for misuse. Requires education - Improved pedestrian safety and reduce potential for conflict - Improves pedestrian safety and ability to cross road informally (one lane at a time) - No impact on refuse collection	- Impact to parking on both sides of road - Potential works required to improve road surface closer to kerbs if road re-linemarking/ alignment undertaken - Existing eastern shared path not to be widened. Little to no impact to services	- Potential drainage works required on centre-running cycle lanes and adjacent roadway - Drainage upgrade works likely at Bangalow Rd/Old Bangalow Rd	Moderate-good alignment with user profiles – separation from vehicle traffic but with vehicle crossings as required; potential to reduce demand on shared path; legible path; sufficient path width. Significantly improves pedestrian ability to cross road informally	Poor-moderate funding potential – forms a spine for network but requires cyclists to cross road at each end of centre running section; located on or adjacent to existing road; improvements but offset by vehicle crossings; relatively new concept could be seen as risky
4	Northern	- Path not located immediately adjacent existing dwellings. Limited direct connectivity - Links provided to connect to Bangalow Rd to the east - More convenient, direct and pleasant connection for travel between Byron Bay CBD and south	- Shared path completely separate from vehicle traffic - Relatively isolated location. Potential issues with Crime Prevention Through Environmental Design (CPTED) (e.g. passive surveillance)	- Infrastructure required to build new shared path but generally limited impact to existing infrastructure	- Re-vitalisation of disused rail corridor - Surrounded by existing bushland. Potential for some environmental impacts, especially during construction	Good alignment with user profiles – separation from vehicle traffic; no conflict with driveways; sufficient path width; legible and continuous path; pleasant environment	Moderate funding potential – Strategic link; partially connects local cycle network; connects residents/ tourists to attractors; improves user safety; not located on or along road corridor; provides a direct route for travel between Byron Bay CBD and south; ties into future Byron Bay Bypass and proposed railway re-vitalisation further north. BSC controlled land means reduced funding potential

Appendix 5 - Evaluation Justification (Central Section)

Option	Corridor section	Assessment criteria					
		Access & connectivity	Safety	Infrastructure impacts	Environmental impacts	Alignment with user profiles	Funding application potential
1	Central	- Provides (on-road) cycling options on side opposite to shared path - Improved formal connectivity to existing path network - New formal access for tourists and residents between The Byron @ Byron resort and Beech Dr (north) - New crossing provided near The Byron @ Byron resort	- Separation from vehicle traffic - On-road cycle lanes not appropriate for all users - Improved and DDA-compliant access to bus infrastructure - Improved crossing near Byron Holiday Park - New crossing provided near The Byron @ Byron resort - Shared path users required to make additional road crossing to continue on new shared path	- Widening of existing western shared path. Potential impact to a power pole near golf course. Undergrounding may be required - Potential requirement to widen road seal south of The Byron @ Byron resort - Limited impact to parking. Parking formalisation may be required between The Byron @ Byron resort and Beech Dr (north)	- Potential impacts to vegetation due to on-road cycle lane on eastern side between golf club and The Byron @ Byron resort. Existence and extent of impacts subject to available road width	Moderate-good alignment with user profiles – separation from vehicle traffic; continuous path but with additional road crossing. On-road cycle lanes cater to more confident cyclists but have potential to reduce demand on shared path	Moderate funding potential – Complete gaps in existing network; forms a spine for network expansion; located on or adjacent to existing road; limited direct connection to attractors within section
2	Central	- Provides (on-road) cycling option on western side south to Byron Holiday Park - Improved connection for cyclists from Bangalow Road (at Broken Head Rd/Bangalow Rd intersection)	- Cyclists required to cross road from Bangalow Rd leg of Broken Head Rd/Bangalow Rd intersection to access shared path - Cyclists on western shared path redirected to local road network (Redgum Pl, Teak Cct, Beech Dr). Low speed local roads but mixing with vehicles required - No infrastructure provided between The Byron @ Byron resort and Beech Dr (north). Cyclists may decide to continue on-road regardless	- Widening of existing western shared path. Potential impact to a power pole near golf course. Undergrounding may be required - Generally limited impact to infrastructure	- Little to no impact to environment	Poor-moderate alignment with user profiles – On-road cycle lanes cater to more confident cyclists but have potential to reduce demand on shared path. Potential for physical separation (e.g. kerb) from vehicles. Mixing with vehicles could be seen as unfavourable, despite only on low speed local roads	Poor-moderate funding potential – Connects local cycle network; indirect route; limited connections to attractors; only minor improvements to user safety
3	Central	See Option 1	See Option 1	See Option 1	See Option 1	See Option 1	See Option 1
4	Central	- Less direct but more convenient and pleasant path - Provides direct access to beach and bushland - Improves connectivity and access for residents/tourists in Tallow Beach	- Shared path completely separate from vehicle traffic - Relatively isolated location. Potential CPTED issues - Reduces need to travel on or adjacent to Broken Head Rd for residents/tourists in Tallow Beach - Cyclists required to mix with vehicles on low speed local roads – Redgum Pl, Teak Cct, Beech Dr to west and Alcorn St to east - No infrastructure provided between The Byron @ Byron resort and Beech Dr (north). Cyclists may decide to continue on-road regardless	- Infrastructure required to build new eastern shared path but generally limited impact to existing infrastructure	- Formalising existing eastern path. Surrounded by existing bushland. Potential for some environmental impacts, especially during construction	Moderate-good alignment with user profiles – separation from vehicle traffic (generally); shared path reduces conflict with driveways; sufficient path width; legible and continuous path; scenic and pleasant environment; access to key attractor (beach/ bushland). Mixing with vehicles could be seen as unfavourable	Moderate funding potential – Strategic link for access to Tallow Beach; connects local cycle network; connects residents/ tourists to attractors; some improvements to user safety; partially located on or along road corridor but only minor roads

Appendix 5 - Evaluation Justification (Southern Section)

Option	Corridor section	Assessment criteria					
		Access & connectivity	Safety	Infrastructure impacts	Environmental impacts	Alignment with user profiles	Funding application potential
1	Southern	- Complete gaps in existing network - Connects to surrounding paths - Poor accessibility to new eastern shared path for cyclists on west (road crossing/s required) - New formal access for tourists and residents between Beech Drive roundabouts - New/upgraded crossings to improve east-west connectivity - No mid-block crossings provided between Beech Dr intersections	- Separation from vehicle traffic - New/upgraded crossings at intersections to improve east-west connectivity - Shared path users required to make additional road crossing to continue on new shared path	- New shared path to be constructed on east. New footpath on west - Potential need to widen existing foot bridge to avoid impact to power pole near BP - Limited impact to parking. Parking formalisation may be required between Beech Drive roundabouts	- Little to no impact to environment	Good alignment with user profiles – separation from vehicle traffic; sufficient path width; legible and continuous path	Moderate funding potential – Complete gaps in existing network; connects local cycle network; forms a spine for network expansion; located on or adjacent to existing road; improves user safety; provides a direct route
2	Southern	- Good accessibility as cycle provision on both sides of road - Complete gaps in existing network - No mid-block crossings provided between Beech Dr intersections	- New/upgraded crossings at intersections to improve east-west connectivity - Cycle travel aligns with vehicle travel direction. Cyclists only required to cross road if wanting to travel in opposite direction - Potential issues with refuse collection	- Potential requirement to widen road seal to accommodate cycle lanes between Beech Dr intersections	- Little to no impact to environment	Poor-moderate alignment with user profiles – On-road cycle lanes cater to more confident cyclists. Potential for physical separation (e.g. kerb) from vehicles	Poor funding potential – Connects local cycle network; complete gaps in existing network; forms a spine for network expansion; located on or adjacent to existing road; relatively minor improvements to user safety
3	Southern	See Option 1	See Option 1	See Option 1	See Option 1	See Option 1	See Option 1
4	Southern	- Good connectivity to surrounding paths with wider network benefits - Improves access for significant population on both sides of Broken Head Rd - Less direct network	- Substantial sections of shared path completely separate from vehicles - Cyclists required to mix with vehicles on low speed local roads - Road crossing of Broken Head Rd required but at existing intersection (crossing to be upgraded)	- New cycle bridge required to cross Tallow Creek near BP service station - Potential 3-4m land resumption of northern boundary of BP service station to construct shared path	- Potential environmental impact of new shared path through park east of BP service station and over Tallow Creek	Moderate-good alignment with user profiles – some separation from vehicle traffic; sufficient path width; continuous path with multiple route options; access to key attractor (beach/ bushland). Mixing with vehicles could be seen as unfavourable	Moderate funding potential – connects significant population areas; connects local cycle network; connects residents/ tourists to attractors; some improvements to user safety; partially located on or along road corridor but only minor roads

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DISCUSSION PURPOSES ONLY

REV	DESCRIPTION	BY	DATE
1	ORIGINAL ISSUE	K.P. & R.T.	13.10.2017
2	UPDATED ANNOTATIONS	R.T.	26.10.2017

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DRAWING TITLE	WHOLE STUDY CORRIDOR
CLIENT	BYRON SHIRE COUNCIL
PROJECT	CYCLEWAY INVESTIGATION
LOCATION	BYRON BAY TO SUFFOLK PARK

DRAWING DATE	26 OCTOBER 2017
DRAWN BY	K.P. & R.T.
CHECKED BY	A.D.
APPROVED BY	A.D.

PROJECT NO.	DRAWING NO.	REV
0734	SK01	2

START

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LEGEND
- CONSTRAINING POWER POLES
- IMPACTED ON-STREET PARKING
- EXISTING LINE MARKING, CROSSOVERS AND PATHS
- PROPOSED LINE MARKING, CYCLE LANES, CROSSOVERS AND PATHS

REV	DESCRIPTION	BY	DATE
1	ORIGINAL ISSUE	R.T.	13.10.2017
2	UPDATED ANNOTATIONS	R.T.	26.10.2017

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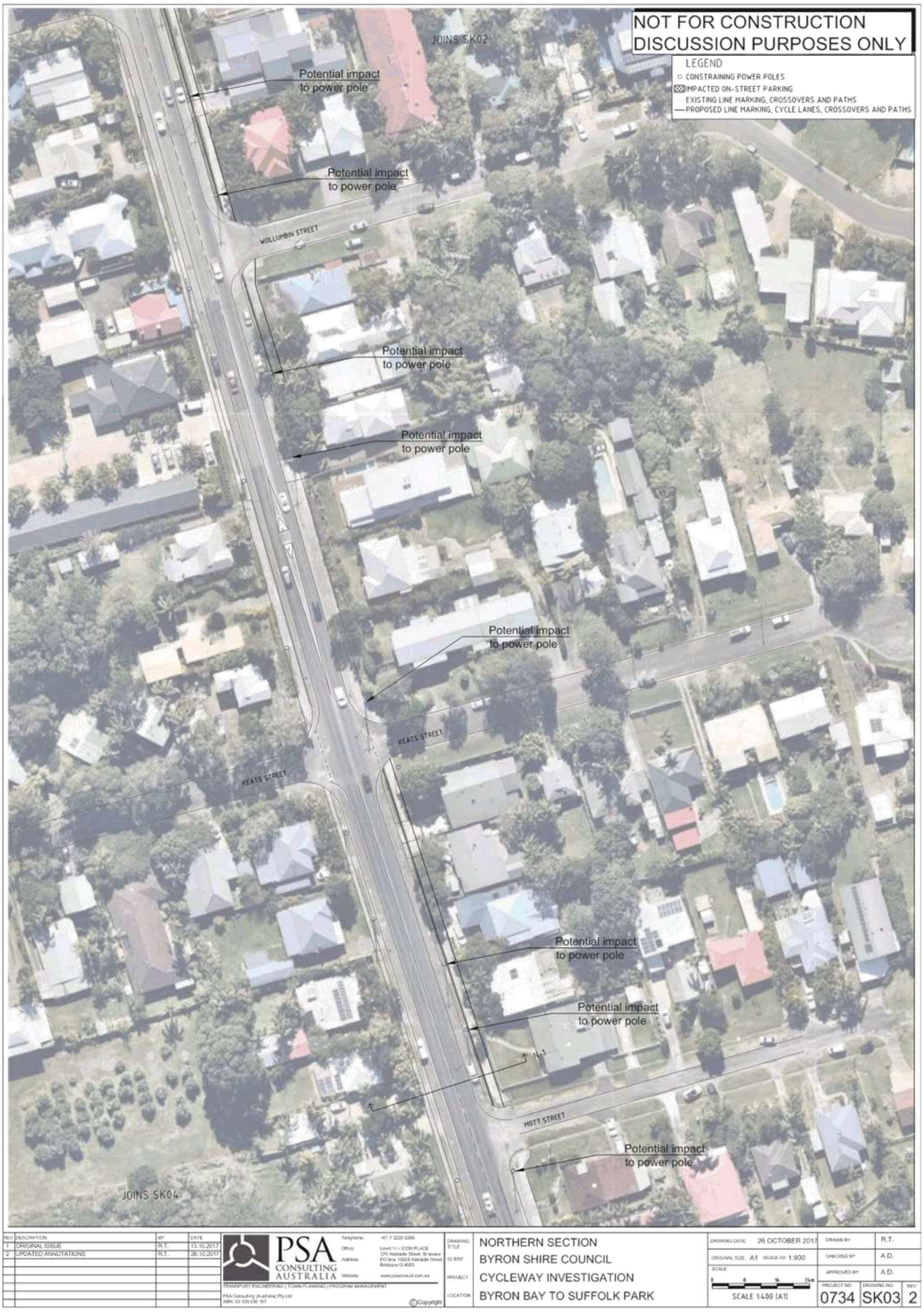
DRAWING TITLE	NORTHERN SECTION
CLIENT	BYRON SHIRE COUNCIL
PROJECT	CYCLEWAY INVESTIGATION
LOCATION	BYRON BAY TO SUFFOLK PARK

DRAWING DATE	26 OCTOBER 2017
ORIGINAL SIZE: A1	SCALE AS: 1:800
SCALE	0 8 16 24m
	SCALE 1:400 (A1)
DRAWN BY	R.T.
CHECKED BY	A.D.
APPROVED BY	A.D.
PROJECT NO.	0734
DRAWING NO.	SK02
REV	1



REV	DESCRIPTION	BY	DATE
1	ORIGINAL ISSUE	R.T.	13.10.2017
2	UPDATED ANNOTATIONS	R.T.	26.10.2017

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DRAWING TITLE: NORTHERN SECTION
CLIENT: BYRON SHIRE COUNCIL
PROJECT: CYCLEWAY INVESTIGATION
LOCATION: BYRON BAY TO SUFFOLK PARK

DRAWING DATE: 26 OCTOBER 2017
ORIGINAL SIZE: A1 SCALE AT: 1:800
SCALE: 0 8 16 24m
SCALE 1:400 (A1)

DRAWN BY: R.T.
CHECKED BY: A.D.
APPROVED BY: A.D.
PROJECT NO.: 0734
DRAWING NO.: SK03
REV: 2

REV	DESCRIPTION	BY	DATE
1	ORIGINAL ISSUE	R.T.	13.10.2017
2	UPDATED ANNOTATIONS	R.T.	26.10.2017

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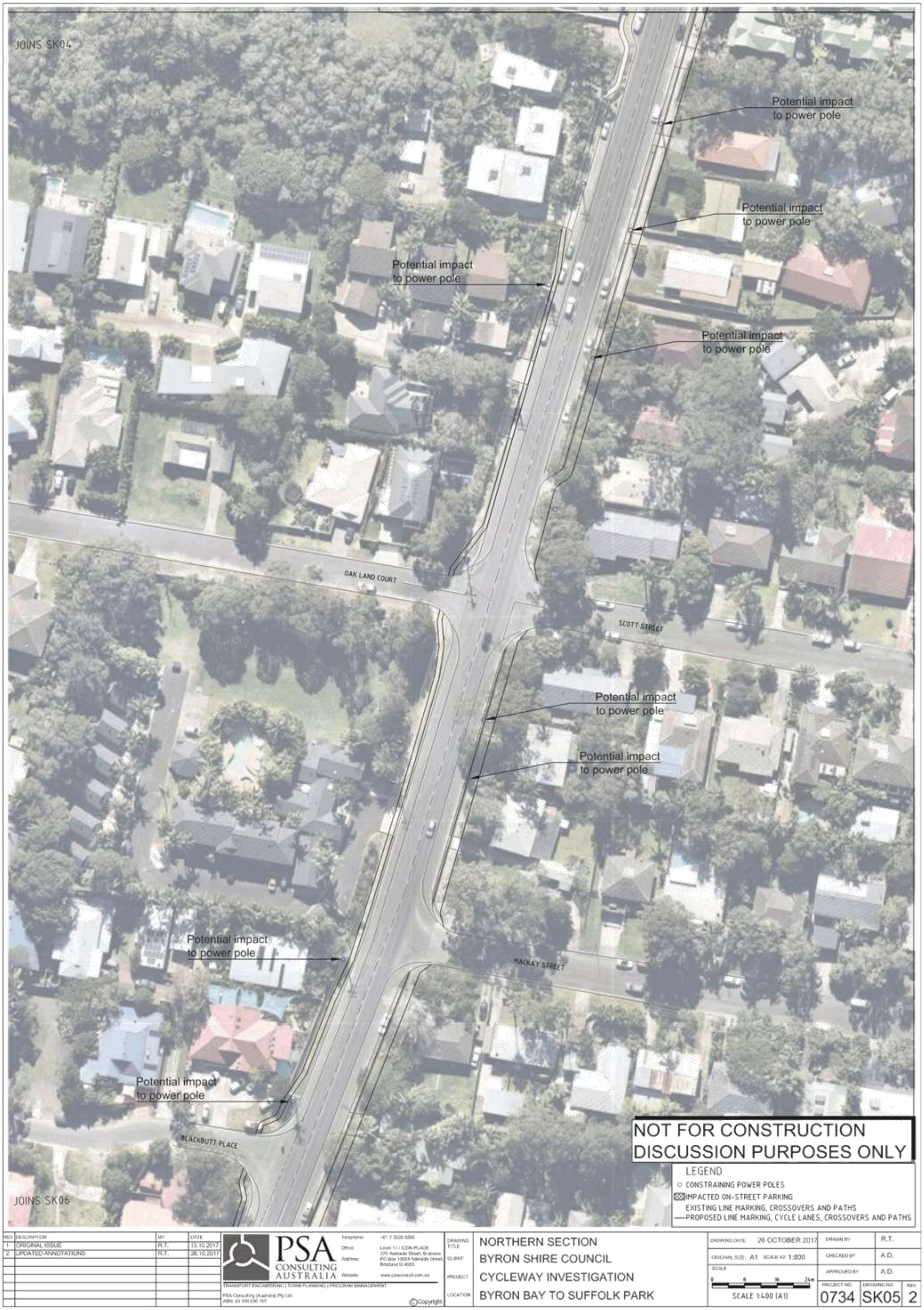
DRAWING TITLE: NORTHERN SECTION
CLIENT: BYRON SHIRE COUNCIL
PROJECT: CYCLEWAY INVESTIGATION
LOCATION: BYRON BAY TO SUFFOLK PARK

DRAWING DATE: 26 OCTOBER 2017
ORIGINAL SIZE: A1 SCALE AT: 1:800
SCALE: 0 8 16 24m
SCALE 1:400 (A1)

DRAWN BY: R.T.
CHECKED BY: A.D.
APPROVED BY: A.D.
PROJECT NO: 0734
DRAWING NO: SK04
REV: 2



REV	DESCRIPTION	BY	DATE
1	ORIGINAL ISSUE	R.T.	13.10.2017
2	UPDATED ANNOTATIONS	R.T.	26.10.2017

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DRAWING TITLE: NORTHERN SECTION
CLIENT: BYRON SHIRE COUNCIL
PROJECT: CYCLEWAY INVESTIGATION
LOCATION: BYRON BAY TO SUFFOLK PARK

DRAWING DATE: 26 OCTOBER 2017
ORIGINAL SIZE: A1 SCALE AS: 1:800
SCALE: 0 8 16 24m
SCALE 1:400 (A1)
DRAWN BY: R.T.
CHECKED BY: A.D.
APPROVED BY: A.D.
PROJECT NO: 0734
DRAWING NO: SK05
REV: 2

REV	DESCRIPTION	BY	DATE
1	ORIGINAL ISSUE	R.T.	13.10.2017
2	UPDATED ANNOTATIONS	R.T.	26.10.2017

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DRAWING TITLE	NORTHERN SECTION
CLIENT	BYRON SHIRE COUNCIL
PROJECT	CYCLEWAY INVESTIGATION
LOCATION	BYRON BAY TO SUFFOLK PARK

DRAWING DATE	26 OCTOBER 2017
ORIGINAL SIZE: A1 SCALE AT: 1:800	
SCALE	0 8 16 24m
SCALE 1:400 (A1)	
DRAWN BY	R.T.
CHECKED BY	A.D.
APPROVED BY	A.D.
PROJECT NO.	0734
DRAWING NO.	SK06
REV	2

REV	DESCRIPTION	BY	DATE
1	ORIGINAL ISSUE	R.T.	13.10.2017

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DRAWING TITLE	NORTHERN SECTION
CLIENT	BYRON SHIRE COUNCIL
PROJECT	CYCLEWAY INVESTIGATION
LOCATION	BYRON BAY TO SUFFOLK PARK

DRAWING DATE	13 OCTOBER 2017
ORIGINAL SIZE	A1 SCALE AS: 1:800
SCALE	SCALE 1:400 (A1)
DRAWN BY	R.T.
CHECKED BY	A.D.
APPROVED BY	A.D.
PROJECT NO.	0734
DRAWING NO.	SK07
REV	1

REV	DESCRIPTION	BY	DATE
1	ORIGINAL ISSUE	K.P.	13.10.2017

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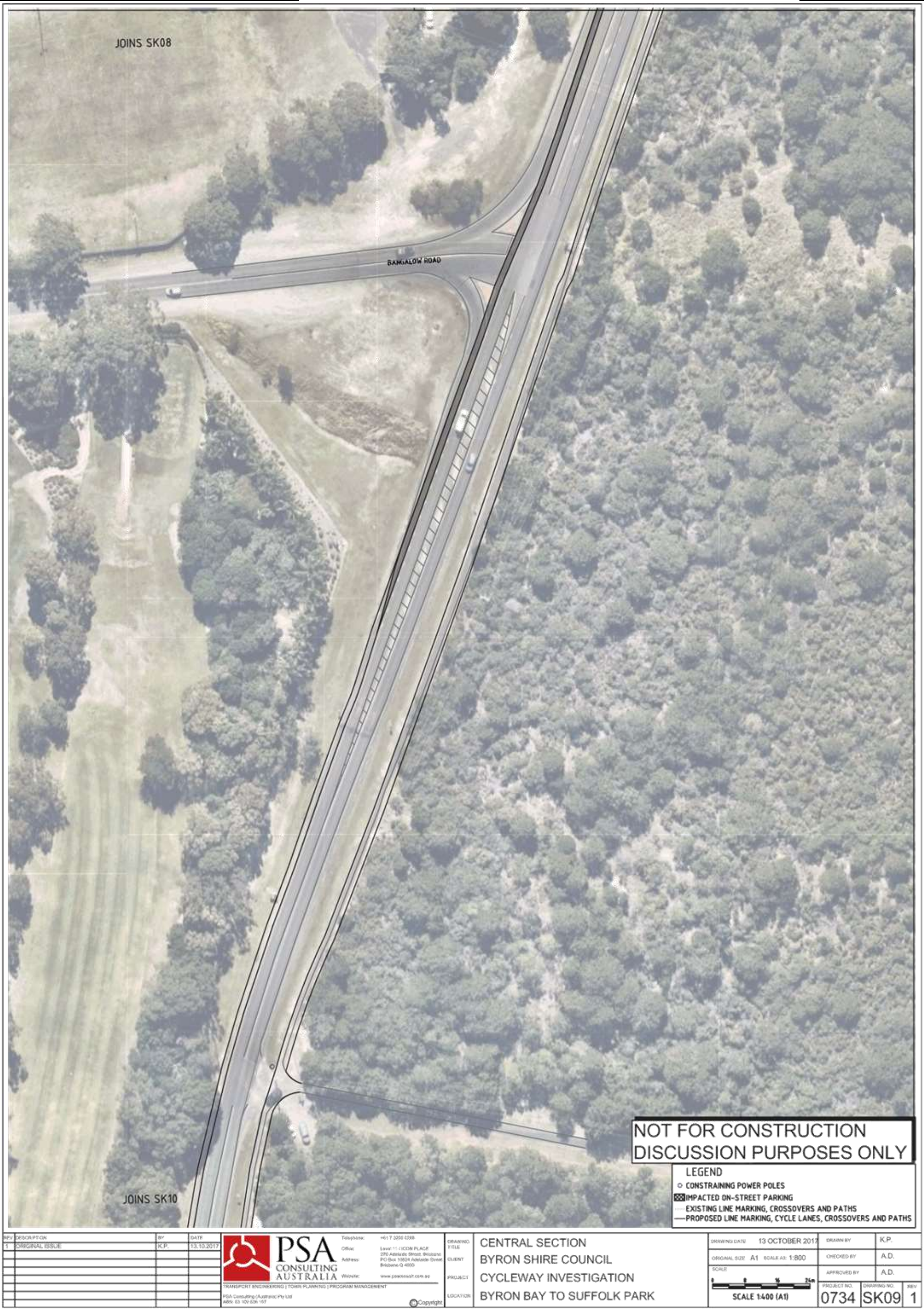
DRAWING TITLE: CENTRAL SECTION
CLIENT: BYRON SHIRE COUNCIL
PROJECT: CYCLEWAY INVESTIGATION
LOCATION: BYRON BAY TO SUFFOLK PARK

DRAWING DATE: 13 OCTOBER 2017
ORIGINAL SIZE: A1 SCALE A3: 1:800
SCALE: 0 8 16 24m
SCALE 1:400 (A1)

DRAWN BY: K.P.
CHECKED BY: A.D.
APPROVED BY: A.D.
PROJECT NO.: 0734
DRAWING NO.: SK08
REV: 1



REV	DESCRIPTION	BY	DATE
1	ORRGINAL ISSUE	K.P.	13.10.2017

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DRAWING TITLE	CENTRAL SECTION
CLIENT	BYRON SHIRE COUNCIL
PROJECT	CYCLEWAY INVESTIGATION
LOCATION	BYRON BAY TO SUFFOLK PARK

DRAWING DATE	13 OCTOBER 2017
ORIGINAL SIZE	A1 SCALE A3: 1:800
SCALE	SCALE 1:400 (A1)
DRAWN BY	K.P.
CHECKED BY	A.D.
APPROVED BY	A.D.
PROJECT NO.	0734
DRAWING NO.	SK09
REV	1


JOINS SK09
JOINS SK11
BYRON HOLIDAY PARK
NOT FOR CONSTRUCTION
DISCUSSION PURPOSES ONLY
LEGEND
CONSTRAINING POWER POLES
OPP ACTED ON-STREET PARKING
EXISTING LINE MARKING, CROSSOVERS AND PATHS
PROPOSED LINE MARKING, CYCLE LANES, CROSSOVERS AND PATHS
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CENTRAL SECTION
BYRON SHIRE COUNCIL
CYCLEWAY INVESTIGATION
BYRON BAY TO SUFFOLK PARK
SCALE 1:400 @ A1
0734 SK10 1

REV	DESCRIPTION	BY	DATE
1	ORIGINAL ISSUE	K.P.	13.10.2017
2	UPDATED ANNOTATIONS	R.T.	26.10.2017

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DRAWING TITLE	CENTRAL SECTION
CLIENT	BYRON SHIRE COUNCIL
PROJECT	CYCLEWAY INVESTIGATION
LOCATION	BYRON BAY TO SUFFOLK PARK

DRAWING DATE	26 OCTOBER 2017	DRAWN BY	K.P.
ORIGINAL SIZE: A1	SCALE AT: 1:800	CHECKED BY	A.D.
SCALE		APPROVED BY	A.D.
0 8 16 24m		PROJECT NO.	DRAWING NO. / REV
SCALE 1:400 (A1)		0734	SK11 / 2

REV	DESCRIPTION	BY	DATE
1	ORIGINAL ISSUE	K.P.	13.10.2017

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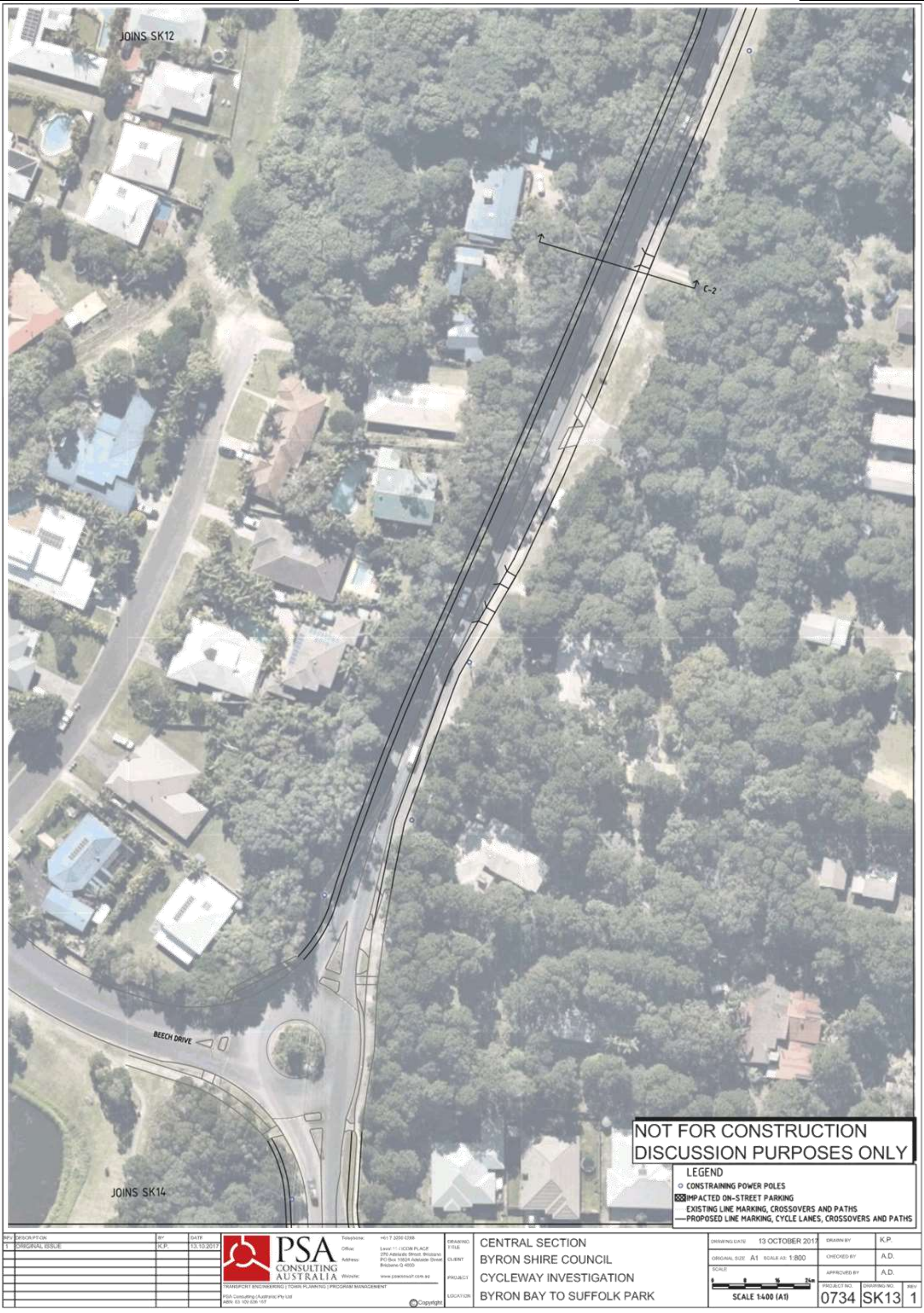
DRAWING TITLE: CENTRAL SECTION
CLIENT: BYRON SHIRE COUNCIL
PROJECT: CYCLEWAY INVESTIGATION
LOCATION: BYRON BAY TO SUFFOLK PARK

DRAWING DATE: 13 OCTOBER 2017
ORIGINAL SIZE: A1 SCALE A3: 1:800
SCALE: 0 8 16 24m
SCALE 1:400 (A1)

DRAWN BY: K.P.
CHECKED BY: A.D.
APPROVED BY: A.D.
PROJECT NO.: 0734
DRAWING NO.: SK12
REV: 1



REV	DESCRIPTION	BY	DATE
1	ORIGINAL ISSUE	K.P.	13.10.2017

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DRAWING TITLE: CENTRAL SECTION
CLIENT: BYRON SHIRE COUNCIL
PROJECT: CYCLEWAY INVESTIGATION
LOCATION: BYRON BAY TO SUFFOLK PARK

DRAWING DATE: 13 OCTOBER 2017
ORIGINAL SIZE: A1 SCALE AS: 1:800
SCALE: SCALE 1:400 (A1)

DRAWN BY: K.P.
CHECKED BY: A.D.
APPROVED BY: A.D.
PROJECT NO.: 0734
DRAWING NO.: SK13
REV: 1

REV	DESCRIPTION	BY	DATE
1	ORIGINAL ISSUE	K.P.	13.10.2017
2	UPDATED ANNOTATIONS	K.T.	26.10.2017

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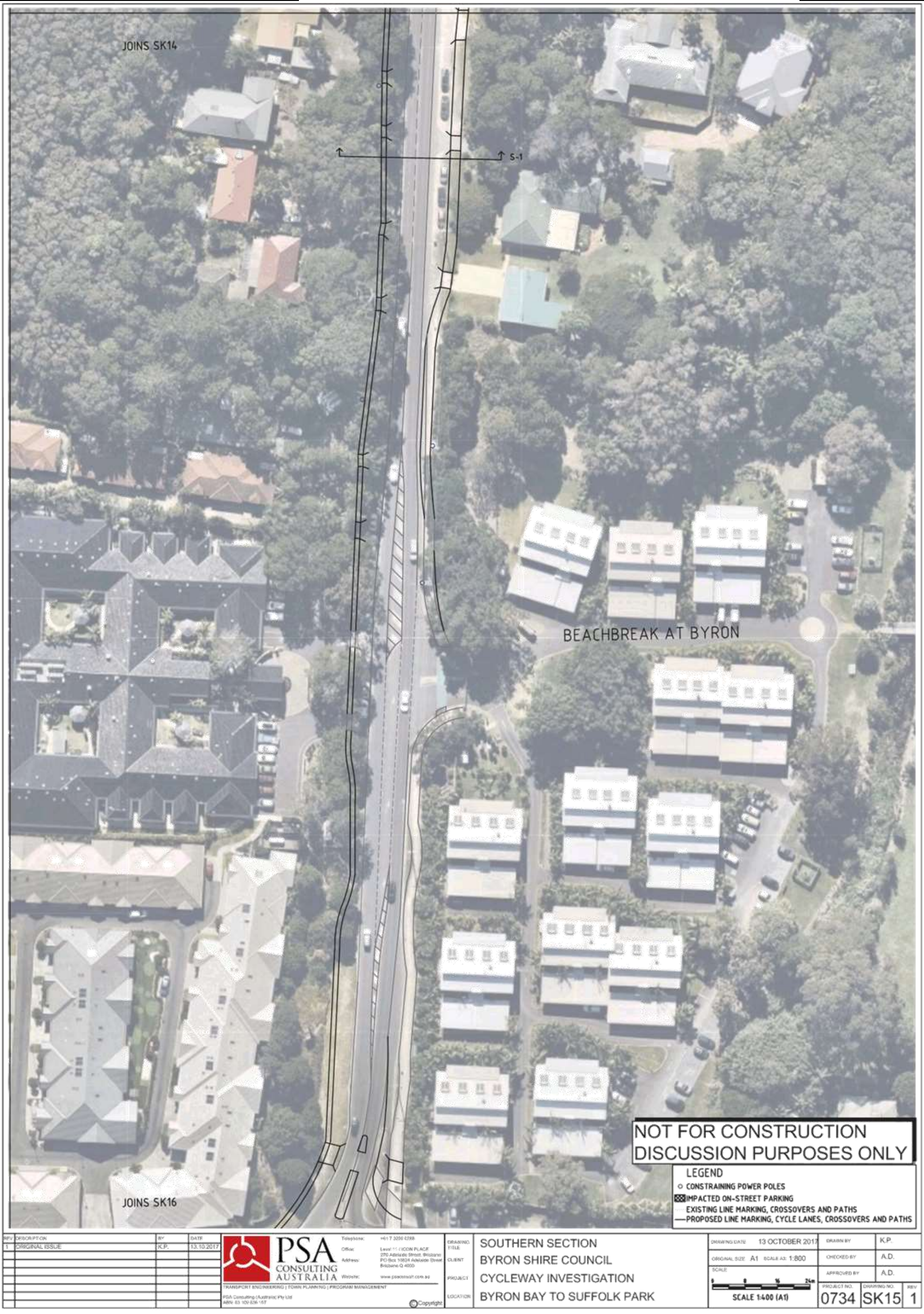
DRAWING TITLE: SOUTHERN SECTION
CLIENT: BYRON SHIRE COUNCIL
PROJECT: CYCLEWAY INVESTIGATION
LOCATION: BYRON BAY TO SUFFOLK PARK

DRAWING DATE: 26 OCTOBER 2017
ORIGINAL SIZE: A1 SCALE AT: 1:800
SCALE: 0 8 16 24m
SCALE 1:400 (A1)

DRAWN BY: K.P.
CHECKED BY: A.D.
APPROVED BY: A.D.
PROJECT NO: 0734
DRAWING NO: SK14
REV: 2



REV	DESCRIPTION	BY	DATE
1	ORIGINAL ISSUE	K.P.	13.10.2017

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DRAWING TITLE	SOUTHERN SECTION
CLIENT	BYRON SHIRE COUNCIL
PROJECT	CYCLEWAY INVESTIGATION
LOCATION	BYRON BAY TO SUFFOLK PARK

DRAWING DATE	13 OCTOBER 2017	DRAWN BY	K.P.
ORIGINAL SIZE	A1 SCALE AS: 1:800	CHECKED BY	A.D.
SCALE	0 8 16 24m	APPROVED BY	A.D.
SCALE 1:400 (A1)		PROJECT NO. 0734	DRAWING NO. SK15 REV 1

REV	DESCRIPTION	BY	DATE
1	ORIGINAL ISSUE	K.P.	13.10.2017

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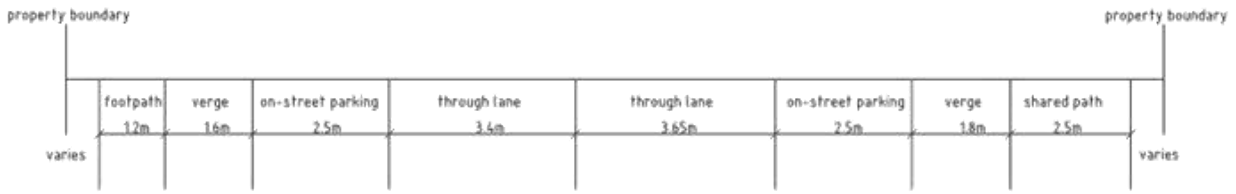
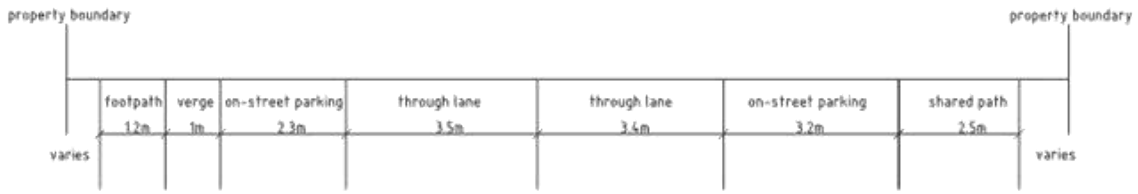
DRAWING TITLE: SOUTHERN SECTION
CLIENT: BYRON SHIRE COUNCIL
PROJECT: CYCLEWAY INVESTIGATION
LOCATION: BYRON BAY TO SUFFOLK PARK

DRAWING DATE: 13 OCTOBER 2017
ORIGINAL SIZE: A1 SCALE A3: 1:800
SCALE: 0 8 16 24m
SCALE 1:400 (A1)

DRAWN BY: K.P.
CHECKED BY: A.D.
APPROVED BY: A.D.
PROJECT NO.: 0734
DRAWING NO.: SK16
REV: 1



N-1



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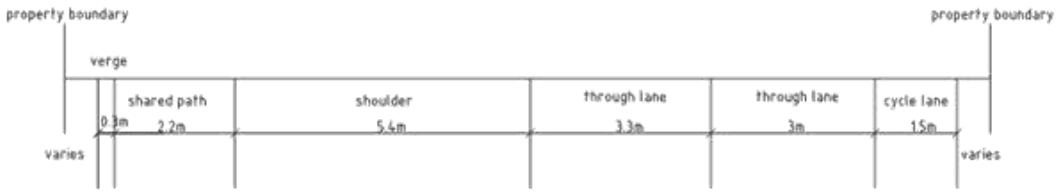
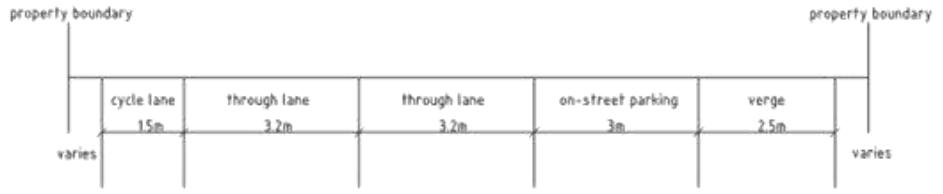
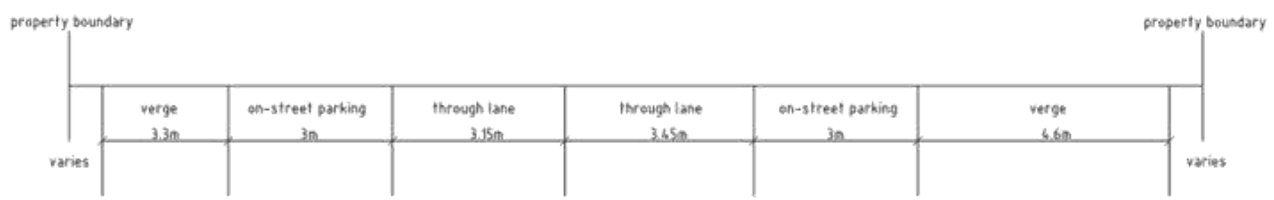


C-1



C-2



S-1

NOTE:
PRELIMINARY DESIGN DRAWINGS ARE FOR DISCUSSION PURPOSES ONLY

NOT FOR CONSTRUCTION

NOTES:
1. DIMENSION FROM PROPERTY BOUNDARY TO FOOTPATHS AND SHARED PATHS TO BE CONFIRMED BY DETAILED SURVEY

REVISION	DESCRIPTION	BY	DATE
1	ORIGINAL ISSUE	R.T.	13.10.2017

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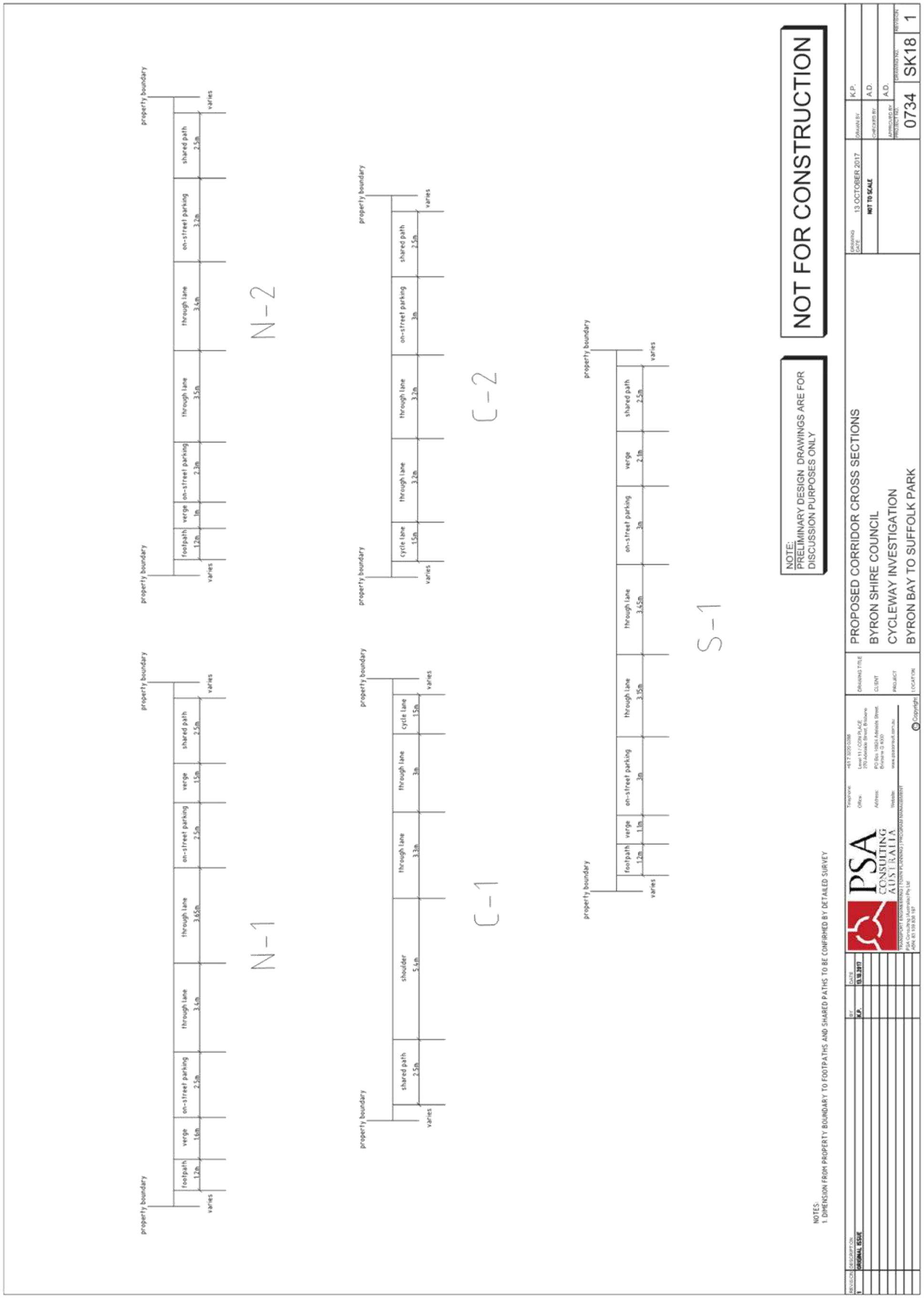
DRAWING TITLE	EXISTING CORRIDOR CROSS SECTIONS
CLIENT	BYRON SHIRE COUNCIL
PROJECT	CYCLEWAY INVESTIGATION
LOCATION	BYRON BAY TO SUFFOLK PARK

DRAWING DATE	13 OCTOBER 2017	DRAWN BY	R.T.
NOT TO SCALE		CHECKED BY	A.D.
		APPROVED BY	A.D.

PROJECT NO.	DRAWING NO.	REVISION
0734	SK17	1


N-2
property boundary
footpath 1.2m
verge 1.6m
on-street parking 2.5m
through lane 3.4m
shared path 2.5m
varies
N-1
property boundary
footpath 1.2m
verge 1m
on-street parking 2.3m
through lane 3.5m
varies
C-1
property boundary
through lane 3.3m
on-street parking 3m
through lane 3m
cycle lane 1.5m
varies
C-2
property boundary
cycle lane 1.5m
through lane 3.2m
on-street parking 3m
through lane 3.2m
shared path 2.5m
varies
S-1
property boundary
footpath 1.2m
verge 1.1m
on-street parking 3m
through lane 3.15m
through lane 3.45m
on-street parking 3m
verge 2.1m
shared path 2.5m
varies
NOT FOR CONSTRUCTION
NOTE:
PRELIMINARY DESIGN DRAWINGS ARE FOR DISCUSSION PURPOSES ONLY
NOTES:
1. DIMENSION FROM PROPERTY BOUNDARY TO FOOTPATHS AND SHARED PATHS TO BE CONFIRMED BY DETAILED SURVEY
DRAWING DATE: 13 OCTOBER 2017
NOT TO SCALE
DRAWN BY: K.P.
CHECKED BY: A.D.
APPROVED BY: A.D.
PROJECT NO: 0734
DRAWING NO: SK18
REVISION: 1
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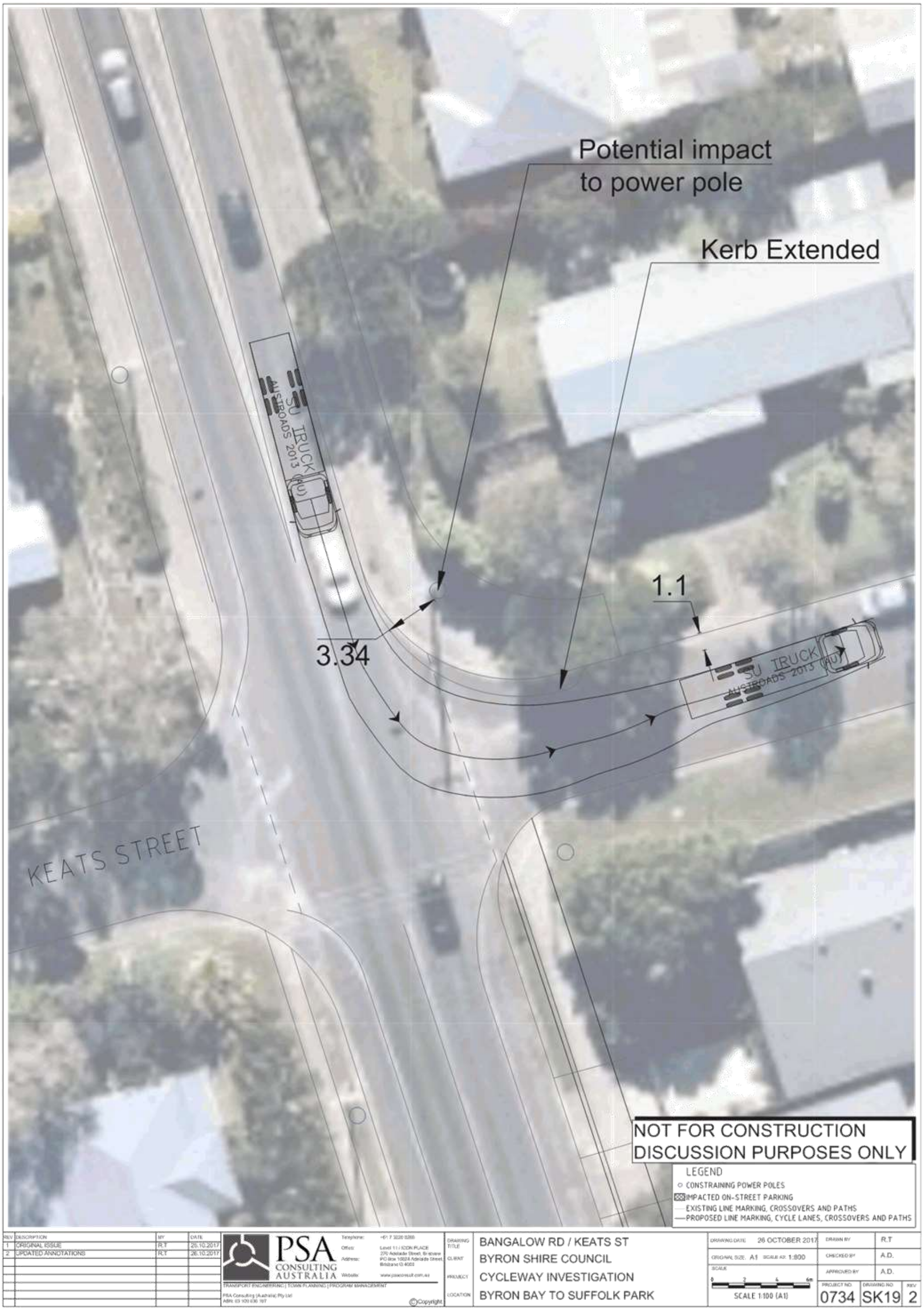
DRAWING TITLE
PROPOSED CORRIDOR CROSS SECTIONS
CLIENT
BYRON SHIRE COUNCIL
PROJECT
CYCLEWAY INVESTIGATION
LOCATION
BYRON BAY TO SUFFOLK PARK
REVISION 1 DESCRIPTION ORIGINAL ISSUE BY K.P. DATE 13.10.2017


Potential impact
to power pole
Kerb Extended
SU TRUCK (AU)
AUSTROADS 2013
1.1
3.34
SU TRUCK (AU)
AUSTROADS 2013
KEATS STREET
NOT FOR CONSTRUCTION
DISCUSSION PURPOSES ONLY
LEGEND
CONSTRAINING POWER POLES
IMPACTED ON-STREET PARKING
EXISTING LINE MARKING, CROSSOVERS AND PATHS
PROPOSED LINE MARKING, CYCLE LANES, CROSSOVERS AND PATHS
REV DESCRIPTION BY DATE
1 ORIGINAL ISSUE R.T 26.10.2017
2 UPDATED ANNOTATIONS R.T 26.10.2017
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DRAWING TITLE BANGALOW RD / KEATS ST
CLIENT BYRON SHIRE COUNCIL
PROJECT CYCLEWAY INVESTIGATION
LOCATION BYRON BAY TO SUFFOLK PARK
DRAWING DATE 26 OCTOBER 2017
ORIGINAL SIZE A1 SCALE AT 1:800
SCALE
SCALE 1:100 (A1)
DRAWN BY R.T
CHECKED BY A.D.
APPROVED BY A.D.
PROJECT NO. 0734
DRAWING NO. SK19
REV 2

Estimated Funding Score - Connecting Centres Program

Criteria	Possible score	Estimated score	Comments
Is the proposal located within a 5km cycling catchment of a major centre?			
Yes, the proposal is located within a 5km catchment	8	8	Entire corridor located within 5km of Byron Bay CBD
No, the proposal is located outside a 5km catchment	0		
Is the proposal identified in Council Plans? (can select multiple plans)			
Identified in a Council Community Strategic Plan	5		
Identified in a Council Delivery Program	3	3	Identified in 2017-18 Capital Works Budget
Identified in a Council Operational Plan	3		
Identified in a Council bike plan	1		
Not identified in a Council Plan	0		
Does the proposal connect to a *Priority Cycleway* ?			
Connects to a *Priority Cycleway*	5		
No connection to a *Priority Cycleway*	0	0	
Does the proposal link to a public transport interchange?			
Directly connects to a public transport interchange	6		
Within 400m of a public transport interchange	4		
Within 800m of a public transport interchange	2		
Within 400m of a local public transport stop	1	1	Improves access to four bus stops
Does not connect to a public transport interchange or local public transport stop	0		
Does the proposal link to major trip attractors? (can receive multiple scores – maximum of 14 points)			
Within 400m of other pedestrian generating land uses, e.g. university, TAFE, school, hospital, commercial/retail area, aged care facility, park, stadium, community centre, pool. 2 Points for each, e.g. 2 schools + 1 hospital = 6 points	2 for each	14	3 x schools; 1 x English language school; 1 x child care centre; 3 x major sports complexes; 1 x community centre; 2 x commercial/retail areas; 2 x aged care facilities; 1 x major caravan park
Proposal addresses major missing links or identified barriers (can receive multiple scores)			
Connects multiple routes in bicycle network or completes a major missing link in network	3	3	Completes major missing links south of The Byron @ Byron resort
Provides new access beyond an existing major barrier	3		
Upgrades/widens an existing section of the bicycle network	2	2	Upgrades and widens existing shared path and upgrades on-road cycle lan
Does the proposal provide a direct route?			
Most direct route	4	4	Follows existing road alignment
Slight detour compared to the road network (<500m)	3		
Moderate detour compared to the road network (500m to 1km)	2		
Large detour compared to the road network (>1km)	1		
What percentage of State Government Funding is required for your proposal?			
Development stage - State funding required < 50%	5		
Development stage - State funding required 50% - 75%	3		
Construction stage - State funding required < 25%	5		
Construction stage - State funding required 25% - 50%	3	3	
How feasible is the proposal?			
Very straightforward, feasible proposal with no major obstacles, e.g. no land acquisition, no heritage issues and strong community support	5		
Moderately straightforward and feasible proposal with minor obstacles, e.g. no land acquisition, few or no heritage issues or good community support	4	4	Requires relocation of power poles and undergrounding of power. No land acquisition or heritage issues. Good community support
Complex proposal with some difficult obstacles, e.g. requires some land acquisition, some heritage issues or has little community support	2		
Very complex proposal with significant obstacles, e.g. requires significant land acquisition, heritage issues and has little community support	1		
TOTAL SCORE	**67**	**42**	

Estimated Funding Score - Priority Cycleways Program

Criteria	Possible score	Estimated score	Comments
Is the proposal located within a 5km cycling catchment of a major centre?			
Yes, the proposal is located within a 5km catchment	8	8	Entire corridor located within 5km of Byron Bay CBD
No, the proposal is located outside a 5km catchment	0		
Is the proposal identified in Council Plans? (can select multiple plans)			
Identified in a Council Community Strategic Plan	5		
Identified in a Council Delivery Program	3	3	Identified in 2017-18 Capital Works Budget
Identified in a Council Operational Plan	3		
Identified in a Council bike plan	1		
Not identified in a Council Plan	0		
Is the proposal located on a State Road?			
Proposal is completely (100%) on a State Road	5		
Proposal is predominantly on a State Road	4		
Proposal is predominantly on local roads	0		
Proposal is not on a State Road	0	0	
State Priority Cycleway proposals			
Proposal is one of the *Priority Cycleway* identified in a NSW Government Plan	8		n/a
Proposal is a *Priority Cycleway* (other than above)	4		n/a
Proposal is part of a Local Bicycle Route that connects a *Priority Cycleway*	2		n/a
Does the proposal link to a public transport interchange?			
Directly connects to a public transport interchange	6		
Within 400m of a public transport interchange	4		
Within 800m of a public transport interchange	2		
Within 400m of a local public transport stop	1	1	Improves access to four bus stops
Does not connect to a public transport interchange or local public transport stop	0		
Does the proposal link to major trip attractors? (can receive multiple scores – maximum of 14 points)			
Within 400m of other pedestrian generating land uses, e.g. university, TAFE, school, hospital, commercial/retail area, aged care facility, park, stadium, community centre, pool. 2 Points for each, e.g. 2 schools + 1 hospital = 6 points	2 for each	14	3 x schools; 1 x English language school; 1 x child care centre; 3 x major sports complexes; 1 x community centre; 2 x commercial/retail areas; 2 x aged care facilities; 1 x major caravan park
Proposal addresses major missing links or identified barriers (can receive multiple scores)			
Connects multiple routes or completes a missing link in a *Priority Cycleway*	3		
Upgrades/widens an existing section of *Priority Cycleway*	3		
Provides new access beyond an existing major barrier	3		
Connects two existing local routes in the cycle network	2	2	Completes major missing links between The Byron @ Byron resort and Beech Dr (sou
Upgrades/widens an existing section of the local bicycle network	1	1	Upgrades and widens existing shared path and upgrades on-road cycle lanes
Does the proposal provide a direct route?			
Most direct route	4	4	Follows existing road alignment
Slight detour compared to the road network (<500m)	3		
Moderate detour compared to the road network (500m to 1km)	2		
Large detour compared to the road network (>1km)	1		
How feasible is the proposal?			
Very straightforward, feasible proposal with no major obstacles, e.g. no land acquisition, no heritage issues and strong community support	5		
Moderately straightforward and feasible proposal with minor obstacles, e.g. no land acquisition, few or no heritage issues or good community support	4	4	Requires relocation of power poles and undergrounding of power. No land acquisition or heritage issues. Good community support
Complex proposal with some difficult obstacles, e.g. requires some land acquisition, some heritage issues or has little community support	2		
Very complex proposal with significant obstacles, e.g. requires significant land acquisition, heritage issues and has little community support	1		
TOTAL SCORE	**74**		

Estimated Funding Score - Cycling Towns Program

Criteria	Possible score	Estimated score	Comments
Is the proposal located within a 5km cycling catchment of a major centre?			
Yes, the proposal is located within a 5km catchment	8	8	Entire corridor located within 5km of Byron Bay CBD
No, the proposal is located outside a 5km catchment	0		
Is the proposal identified in Council Plans? (can select multiple plans)			
Identified in a Council Community Strategic Plan	5		
Identified in a Council Delivery Program	3	3	Identified in 2017-18 Capital Works Budget
Identified in a Council Operational Plan	3		
Identified in a Council bike plan	1		
Not identified in a Council Plan	0		
Does the proposal complete a cycle network and address major missing links? (can receive multiple scores)			
Connects multiple routes along strategic network links	10	10	Forms a continuous spine for the cycle network between Byron Bay and Suffolk Park. Improves connectivity with surrounding network
Completes major cycle link connecting to a town centre	8	8	Provides a continuous cycle link between Byron Bay and Suffolk Park
Provides new access beyond an existing major barrier or completes a missing link	6	6	Completes a number of missing links between Byron Bay and Suffolk Park
Upgrades/widens an existing section of the network	2	2	Upgrades and widens existing shared path and upgrades on-road cycle lanes
Does the proposal link to a public transport interchange?			
Directly connects to a public transport interchange	6		
Complete a missing link along the route that connects to a public transport interchange (within 400m)	4		
Does the proposal link to major trip attractors? (can receive multiple scores – maximum of 14 points)			
Cycleway connects to (within 400m radius of) trip attractors, e.g. a school, university, TAFE, hospital, commercial/retail area, aged care facility, park, stadium, community centre, pool (2 points for each). For example 2 schools + 1 hospital = 6 poin	2 for each	14	3 x schools; 1 x English language school; 1 x child care centre; 3 x major sports complexes; 1 x community centre; 2 x commercial/retail areas; 2 x aged care facilities; 1 x major caravan park
Does Council have an identified complementary non-infrastructure proposal(s)?			
Yes, the proposal(s) have been demonstrated to increase bicycle mode share	5		n/a
Yes, however there is no evidence that the proposal(s) increased bicycle mode share	2		n/a
No, Council has identified and confirmed funding for other proposal(s) with demonstrated links to this proposal	4		n/a
No, Council has identified other proposal(s) with demonstrated links to this proposal (although funding is not yet confirmed	2		n/a
How feasible is the proposal?			
Very straightforward, feasible proposal with no major obstacles, e.g. no land acquisition, no heritage issues and strong community support	5		
Moderately straightforward and feasible proposal with minor obstacles, e.g. no land acquisition, few or no heritage issues or good community support	4	4	Requires relocation of power poles and undergrounding of power. No land acquisition or heritage issues. Good community support
Complex proposal with some difficult obstacles, e.g. requires some land acquisition, some heritage issues or has little community support	2		
Very complex proposal with significant obstacles, e.g. requires significant land acquisition, heritage issues and has little community support	1		
TOTAL SCORE	**76**		