Tweed Shire Council

Pedestrian Access and Mobility Plan

May 2014

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1. Introduction

1.1 Background

Walking is a fundamental and direct means of access to most places and to the goods, services and information available at those places. Those creating public and private space or facilities must give priority to 'walk in' access which is attractive, safe, convenient and accessible for everyone. All responsible agencies should respect the pedestrians' inalienable right-of-way on footpaths and recognise the importance of constructing and maintaining them for transport, health, safety, leisure and social purposes.

This Pedestrian Access and Mobility Plan (PAMP) has been prepared for Tweed Shire Council to provide a framework for existing pedestrian needs, future management, use and enhancement for pedestrians of all ages and mobility.

A PAMP is a strategic document that identifies the pedestrian network hierarchy and associated action plan for management. The strategic, high-level goals of a PAMP are based around:

- Integrating consistent and continuous pedestrian networks into the land use and transport system to facilitate and encourage more walking;
- Linking pedestrian concentrations to pedestrian networks to facilitate and encourage safe and convenient accessibility and mobility for pedestrians;
- Identifying clusters and patterns of pedestrian crashes to highlight areas that restrict safe and convenient accessibility and mobility for pedestrians;
- Developing and integrating intra and inter pedestrian routes that form part of a connected pedestrian network; and
- Linking to and between Planning Instruments (e.g. Local Environment Plans [LEPs] and Development Control Plans [DCPs]).

An important function of the PAMP is to identify pedestrian needs and clearly indicate, to both Tweed Shire Council and the community, Council's direction with respect to the management and improvement of pedestrian needs within the Tweed LGA.

Different land uses require pedestrian facilities for a range of users. Pedestrians, including commuters and recreational walkers, need to be catered for as well as the elderly, the mobility and visually impaired, residents, school children and tourists.

The Roads and Maritime Services (RMS) guidance document *"How to Prepare a Pedestrian Access and Mobility Plan"* (March, 2002) states that:

"A PAMP is a comprehensive strategic and action plan to develop pedestrian policies and build pedestrian facilities. PAMP's aim to co-ordinate investment in safe, convenient and connected pedestrian routes. A PAMP provides a framework for developing pedestrian routes or areas identified by the community as important for enhanced, sustainable safety, convenience and mobility."

1.1.1 Definition of Pedestrian

The RMS PAMP Guide states that a pedestrian includes:

- A person driving in a motorised wheelchair that cannot travel over 10 kilometres per hour (on level ground);
- A person in a non-motorised wheelchair;
- A person pushing a motorised or non-motorised wheelchair;
- A person in or on a wheeled recreational device or wheeled toy.

This report also considers persons driving mobility scooters, which have different needs due to their longer wheelbase, and are another significant user group in the Tweed LGA.

1.2 Purpose and Scope

The purpose of this PAMP was to review the current and future pedestrian needs in the Tweed LGA to provide a consistent standard of facilities for pedestrians within the study area. The PAMP provides a list of prioritised pedestrian infrastructure improvements for safer, more attractive transport choices for residents and visitors, to increase pedestrian activity and to improve the amenity for all local residents and visitors to the LGA.

This PAMP has been prepared in accordance with the RMS guidance document *"How to Prepare a Pedestrian Access and Mobility Plan"* (March, 2002).

1.2.1 PAMP Objectives

According to the RMS PAMP Guide, the objectives of a PAMP are:

1. To facilitate improvements in level of pedestrian access and priority, particularly in areas of pedestrian concentration.
2. To reduce pedestrian access severance and enhance safe and convenient crossing opportunities on major roads.
3. To identify and resolve pedestrian crash clusters.
4. To facilitate improvements in the level of personal mobility and safety for pedestrians with disabilities and older persons through the provision of pedestrian infrastructure and facilities which cater to the needs of all pedestrians.

5. To provide links with other transport services to achieve an integrated land use and transport network of facilities that comply with best technical standards.
6. To ensure pedestrian facilities are employed in a consistent and appropriate manner throughout NSW.
7. To link existing vulnerable road users plans in a co-ordinated manner (e.g. Bike plans, maintenance programs, accessible public transport, etc).
8. To ensure that pedestrian facilities remain appropriate and relevant to the surrounding land use and pedestrian user groups.
9. To accommodate special event needs of pedestrians.
10. To meet obligations under the Commonwealth Disability Discrimination Act (1996).

1.2.2 Study Area

The Tweed LGA is located on the far north coast of New South Wales and had an estimated resident population of approximately 85,100 in 2011[1]. Tweed shares the NSW-Queensland state border with Gold Coast at Tweed Heads and Coolangatta.

This PAMP focusses on an area within 1.5 km surrounding each of the town centres of Tweed Heads, Tweed Heads South, Banora Point, Kingscliff and Murwillumbah. The study areas for each of these town centres are presented in Appendix A.

1.3 Consultation

Consultation with key stakeholders and the community has been a crucial part of the development of this PAMP document for Tweed Shire Council to ensure that the plan meets the needs of the community now and into the future.

The consultation process included key stakeholders and local community members, as it is important to include the community in the development of a PAMP that seeks to address local issues. Overall, the aims of the consultation process were to:

- Assist in understanding stakeholder and community needs for each of the town centres;
- Provide information about the project process to stakeholders and the community; and
- Involve the community in the planning process to increase the sense of ownership of the project outcomes.

[1] 2011 Census Data, Australian Bureau of Statistics (ABS), http://www.abs.gov.au/

Further information on the findings and outcomes of the consultation process can be found in Section 3.1 of this document.

1.4 Report Structure

This report comprises the following sections:

- Section 2 – **Planning Context.** A summary of the previous pedestrian planning and related policies from the Council and the various State Government agencies is provided.
- Section 3 – **Existing Pedestrian and Mobility Audit.** A detailed list of the issues, constraints and opportunities for pedestrian access and movement is given for each of the 5 town centres investigated.
- Section 4 – **Planning for Pedestrians.** Provides an overview of best practice standards that apply to the treatment of pedestrian facilities.
- Section 5 – **Proposed Pedestrian Improvements.** For each of the town centres, a list of potential pedestrian improvements is given with the different types of infrastructure to improve the safety, amenity and access for pedestrians.
- Section 6 – **Priorities for Pedestrian Requirements.** An assessment of the pedestrian requirements for each precinct was conducted and a list of short, medium and long-term infrastructure structures is provided, including an indicative cost and the level of difficulty to implement.
- Section 7 – **Conclusions and Recommendations.** The key findings of the PAMP are summarised along with a list of the recommendations and priorities in the PAMP for the pedestrian access and mobility improvements.

2. Background Review

2.1 Overview

This section includes a review of existing relevant State and Federal Government planning documents, Council's planning documents, including local and neighbouring pedestrian and bicycle plans, Development Control Plans (DCPs), Local Environmental Plans (LEPs) and zoning maps, Council's disability and access policies and reports and other relevant Council policies.

A summary of the demographic and transport characteristics, pedestrian crash statistics and existing land use and transport infrastructure for the Tweed Shire Council area are provided to show the strategic context of this PAMP.

2.2 Tweed Shire Context

Tweed Shire is located at the far north coast of New South Wales, adjacent to the Gold Coast in Queensland. The population increased from about 40,000 in 1981 to 56,000 in 1991, and then to about 85,000 in 2011. In the post war period, Tweed Heads has grown from a small holiday resort to a large urban centre. Areas such as Tweed Heads South, Tweed Heads West, Banora Point and Bilambil have experienced significant growth from the 1960s onwards. In more recent years, coastal growth has extended further south with towns such as Kingscliff, Casuarina and Pottsville expanding rapidly.

Development over this period has been driven by migration from other areas of New South Wales and to a lesser extent Queensland. This migration has included large numbers of retirees as well as families with children. It is expected that there will be continued demand for residential development in Tweed Shire as the baby boomer generation reach retirement and as younger families with children in in major population centres across Australia continue to migrate to the area.

The Shire comprises some diversity in terms of residential and economic role and function. Tweed Heads comprises large numbers of medium and high density dwellings that attract retirees. Murwillumbah and the smaller rural towns are more traditional rural service centres with good access to the coast and are expected to slowly increase in population. These areas are likely to lose young adults (18-24 year olds) seeking employment, educational and lifestyle opportunities closer to Brisbane or the Gold Coast. Tweed Heads South and Banora Point have more of a 'suburban' role in attracting families. Towns further south including Kingscliff, Cabarita Beach, Bogangar and Pottsville, as well as new growth areas such as Cobaki Lakes are expected to attract both families with children as well as retirees. This variety of function

and role of the small areas in Tweed Shire means that population outcomes differ significantly across the area.

There are also significant differences in the supply of residential property within the Shire which will also have a major influence in structuring different population and household futures over the next five to twenty years. Large new 'greenfield' opportunities have been identified in Bilambil Heights, Cobaki Lakes, Casuarina, Kingscliff, Murwillumbah and Pottsville and as a result, this area will dominate population growth in the Shire. Tweed Heads is also expected to experience new medium density residential development. All areas within Tweed are expected to increase in population to some extent, driven primarily by residential development.

2.3 Planning Review

A review of previous relevant planning policies was conducted:

- To ensure the Tweed Shire Council PAMP aligns with national, Stage Government and Council policy directions in relation to the development of pedestrian access and mobility plans, and the wider context of transport and urban planning;
- To identify any deficiencies within the current network and strategy that will guide the importance of the proposed measures to improve the access, amenity and safety for pedestrians.

These policies provide a strategic framework to improve the pedestrian network so that it encourages and supports walking within Tweed.

2.3.1 National

At a National level, the Australian Government does not have a specific walking strategy as part of any of the national or regional transport policies. However, Pedestrian Council of Australia promotes pedestrians at a national level through the Australian Pedestrian Charter. This Charter has the following key objectives:

- *Create a physical, social, economic, legal and psychological context in which more Australians will be encouraged to walk more often and to walk further;*
- *Re-assert the rights and freedoms which pedestrians once enjoyed but which are now being usurped and threatened by private motorised traffic and the infrastructure that supports it;*
- *Promote the personal, social and environmental benefits of walking as a safe, healthy, enjoyable and accessible form of transport, exercise and recreation;*

- *Encourage the planning, design and development of neighbourhoods in which safe, attractive and convenient walking conditions are provided as a fundamental right;*
- *Ensure that in the planning of our communities access to basic amenities and services is not dependent on car ownership but is always available to those on foot, bicycle, wheelchair and public transport.*

The Charter principles cover the topic of:

- **Accessibility** that considers the design of facilities for the most vulnerable pedestrians, such as older people, children and those with disabilities;
- **Sustainability and the Environment** with walking as the most environmentally sustainable form of transport to replace short car trips that contribute disproportionately to air pollution;
- **Health and Wellbeing** with walking as a low-impact form of exercise to counter the modern sedentary lifestyle. It is highly accessible, available for all age groups, and is a proven method of promoting better health;
- **Safety and Personal Security** with places for walking designed to maximise personal security with good sightlines and better lighting scaled to pedestrian needs. 'Safety in numbers' will be achieved by encouraging more street activity and the natural surveillance of pedestrian space by other walkers and by neighbours; and
- **Equity** with walking as the only transport mode available to almost everybody at any time and without charge.

2.3.2 State

The State Government has prepared two State-wide strategies for road safety and transport that have implications for pedestrian planning and strategies for Tweed Shire Council.

NSW Road Safety Strategy

Transport for NSW prepared the NSW Road Safety Strategy in 2012. More details are included in the Transport Master Plan relating to the uptake of cycling and development of connected networks and infrastructure for cycling and improved pedestrian access and amenity across the transport network.

The potential to address fatal and serious injury crashes on the road network exists through improved intersection design, eliminating or shielding road users from roadside objects or from opposing vehicles and by considering pedestrians and bicycle riders particularly in urban areas. Following the Safe System approach will bring positive road safety outcomes.

Implement and enhance a NSW Safer Roads program with targeted infrastructure safety works programs including safety barriers, highway route

reviews, local roads, pedestrian safety measures, and motorcycle recreational routes.

Pedestrians are considered at risk road users due to the lack of protection provided by the vehicle in the event of a crash, which results in more severe outcomes.

Pedestrians account for 14 per cent of the NSW road toll. At least 33 per cent of pedestrian fatalities between 2008 and 2010 were alcohol impaired and 40 percent of pedestrian fatalities were aged 60 years or more. A strong desire for pedestrian safety exists across the road network. This includes the provision of 40 km/h High Pedestrian Activity Areas which are being progressively rolled out at identified locations and 10 km/h Shared Zones, pedestrian fencing and other infrastructure treatments, along with safer vehicles which are pedestrian friendly. These will all contribute to the achievement of the targets of this strategy.

The key measures in the NSW Roads Strategy to improve pedestrian safety are:

- Improve pedestrian crossing safety, including reviewing signal phasing for pedestrians;
- Work with local government to undertake road safety audits to address the maintenance and upgrade of pedestrian facilities.
- Support the NSW Long Term Transport Master Plan and the walking investment program to address the infrastructure needs of pedestrians.
- Trial innovative technology solutions to address pedestrian safety, including vehicle to person systems and vehicle based pedestrian detection systems.
- Land use planning guidelines to consider pedestrian requirements, especially at transport hubs, new residential developments.
- Research pedestrian distraction devices and the effects within the road environment.
- Develop communications and awareness campaigns to promote safety with pedestrians and other road users.
- Review the application of shared paths and safer interaction between pedestrians and bicycle riders.

A strong need to maintain mobility and access for older road users is required with a large proportion living in suburban locations. Some of the proposed measures are to:

- Work with road authorities to provide facilities for older road users including improved pedestrian access, longer green light phasing and local education campaigns.
- Deliver communication campaigns to target older pedestrian safety.
- Utilise lower speed limit schemes for high pedestrian activity areas and roads with high volume of on-road cyclists.
- Improve the safety of pedestrians and bicycle riders through the utilisation of lower speed limit schemes, including 40km/h high pedestrian activity areas and shared zones.

NSW Long Term Transport Master Plan, Transport for NSW

The NSW Long Term Transport Master Plan that was released by Transport for NSW in December 2012 has objectives for increased walking particularly for short, local trips to achieve improved environmental outcomes, health benefits and to reduce traffic congestion.

Since many transport journeys start and end with a walk trip, walking helps to reduce traffic congestion. When homes and jobs are within walking distance of each other and within easy walking distance of public transport, accessibility to jobs and services increases and commuting is easier. More people walking to catch the train, bus or ferry also means less pressure on town centre streets, busy bus services and commuter car parking.

When planning new developments, the surrounding transport infrastructure should have a network of pedestrian connections that consider:

- Personal safety and security, including adequate lighting and activated public spaces;
- Adequate footpath widths;
- Safe and convenient pedestrian crossings of roads at intersections and mid-block crossings;
- Convenient and legible access to public transport stations or bus stops; and
- Good signage and wayfinding to support efficient pedestrian movement.

2020 Ageing Strategy

The NSW Ageing Strategy, released in 2012, identifies people aged over 65 as the fastest growing population group in NSW. An estimated 2 million community transport trips are provided each year to help older people access recreation, shopping, medical care, community services and social activities in NSW. This travel demand will continue to growth with this population group forecast to double by 2050.

As a user group, older pedestrians are over represented in fatal crashes. This is most likely due to frailty and a reduced tolerance from the force of a crash, rather than risk taking behaviour. Therefore, it is critically important to promote safe walking routes that are designed with consideration for the older aged groups.

2.3.3 Tweed Shire Council Planning

The following planning documents provide the planning context for the pedestrian access in Tweed and are summarised as follows.

Tweed Local Environmental Plan 2014

The Tweed Local Environmental Plan (LEP) 2014 became effective on 4 April 2014. The LEP is the primary planning tool for the majority of the Tweed Shire and is based on the requirements of the Standard Instrument (Local Environmental Plans) Order 2006.

The Tweed LEP 2014 applies to the majority of the areas of Tweed Heads South, Banora Point, Kingscliff and Murwillumbah. The objective of the LEP is to make local environmental planning provisions for land in Tweed. The LEP states that the particular aims of this Plan are:

a. *to give effect to the desired outcomes, strategic principles, policies and actions contained in the Council's adopted strategic planning documents, including, but not limited to, consistency with local indigenous cultural values, and the national and international significance of the Tweed Caldera,*

b. *to encourage a sustainable local economy and small business, employment, agriculture, affordable housing, recreational, arts, social, cultural, tourism and sustainable industry opportunities appropriate to Tweed,*

c. *to promote the responsible sustainable management and conservation of Tweed's natural and environmentally sensitive areas and waterways, visual amenity and scenic routes, built environment, and cultural heritage,*

d. *to promote development that is consistent with the principles of ecologically sustainable development and to implement appropriate action on climate change,*

e. *to promote building design which considers food security, water conservation, energy efficiency and waste reduction,*

f. *to promote the sustainable use of natural resources and facilitate the transition from fossil fuels to renewable energy,*

g. *to conserve or enhance the biological diversity, scenic quality and geological and ecological integrity of Tweed,*

h. *to promote the management and appropriate use of land that is contiguous to or interdependent on land declared a World Heritage site under the Convention Concerning the Protection of World Cultural and Natural Heritage, and to protect or enhance the environmental significance of that land,*

i. *to conserve or enhance areas of defined high ecological value,*

j. *to provide special protection and suitable habitat for the recovery of the Tweed coastal Koala.*

Plans which show land use zoning within each town centre are included in Appendix B.

Tweed City Centre Local Environmental Plan 2012

Tweed Shire Council, in collaboration with the Department of Planning's City Centre Taskforce, prepared a suite of planning documents for the Tweed City Centre area. The Tweed City Centre Plan was the first step in delivering a positive future for Tweed Heads, the progress of which will be monitored over time. The suite of plans included the following:

- City Centre Vision
- Local Environmental Plan
- Development Control Plan

The Tweed City Centre Plans were adopted at Council's 13 December 2011 meeting. The Tweed City Centre LEP 2012 was ultimately put into effect on 18 January 2013. The objective of the LEP is to make local environmental planning provisions for land in Tweed City Centre. The LEP states that the particular aims of this Plan are:

a. *to give effect to the desired outcomes, strategic principles, policies and actions contained in the Council's adopted strategic planning documents,*

b. *to promote employment, residential, recreational, arts, social, cultural and tourism opportunities in Tweed City Centre,*

c. *to encourage the responsible sustainable management and conservation of Tweed City Centre's natural and environmentally sensitive areas, the built environment and cultural heritage,*

d. *to promote development that is consistent with the principles of ecologically sustainable development,*

e. *to promote the economic revitalisation of Tweed City Centre,*

f. *to strengthen Tweed City Centre as a multi functional and innovative regional centre that encourages employment and economic growth,*

g. to protect and enhance the vitality, identity and diversity of Tweed City Centre,

h. to facilitate building design excellence appropriate to a regional city in Tweed City Centre.

Plans which show land use zoning within the Tweed City Centre are included in Appendix B.

Tweed Development Control Plan 2008

The Tweed Development Control Plan (DCP) contains detailed guidelines that illustrate the controls that apply to a particular type of development or in a particular area. The DCP implements the Far North Coast Regional Strategy and supplements the Local Environmental Plan.

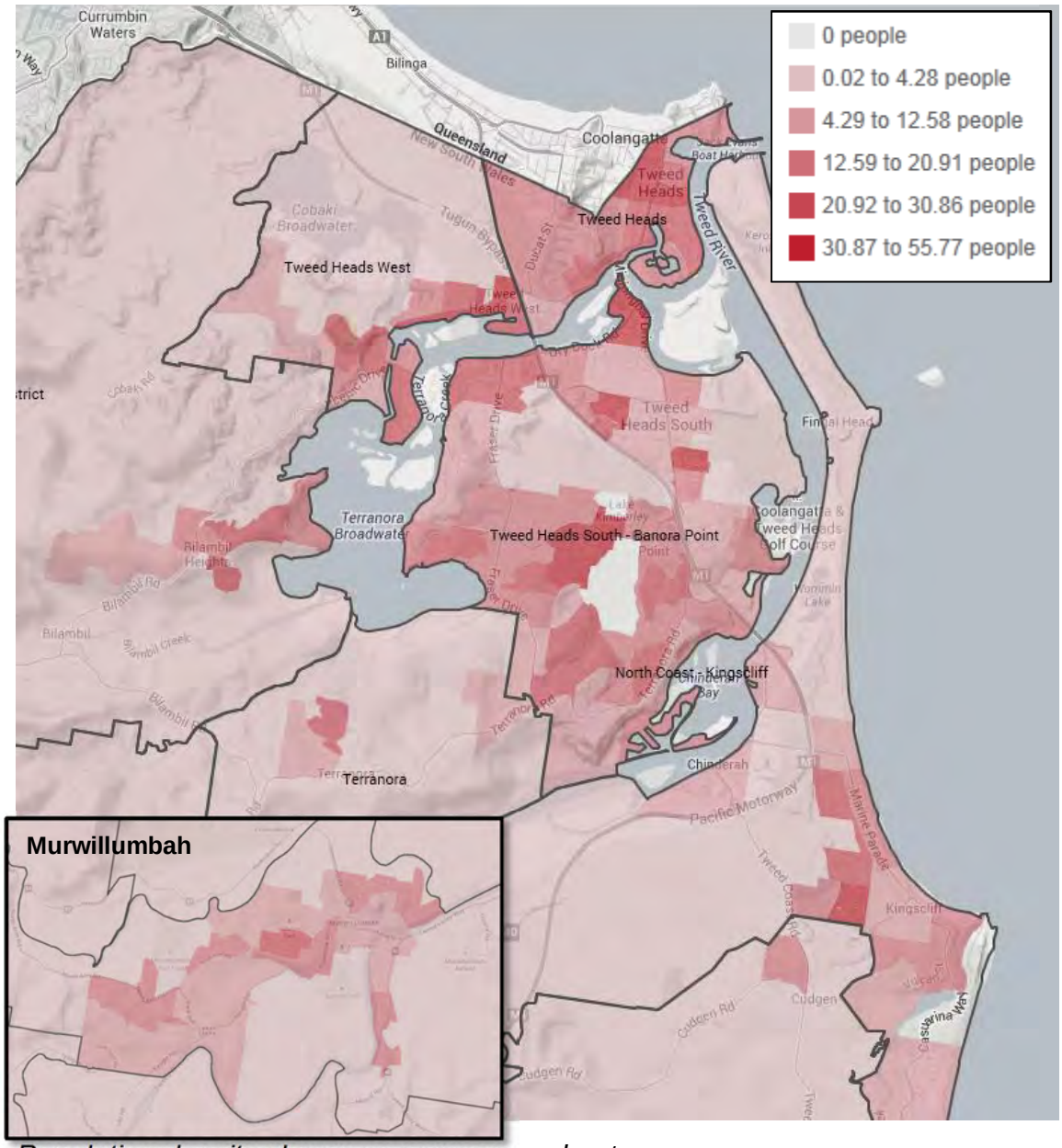
2.4 Existing Travel Characteristics and Demographics

Travel within the Tweed LGA is currently dominated by the use of private cars. This may be as a result of limited public transport coverage, adverse topography and large distances between origins and destinations.

2.4.1 Population Density in Tweed LGA

A map showing the population density within Tweed is provided in Figure 1 (Murwillumbah shown in inset). It is clear that the town centres of Tweed Heads, Tweed Heads South, Banora Point, Kingscliff and Murwillumbah have significantly higher population density than outlying areas.

Figure 1 Tweed LGA Population Density

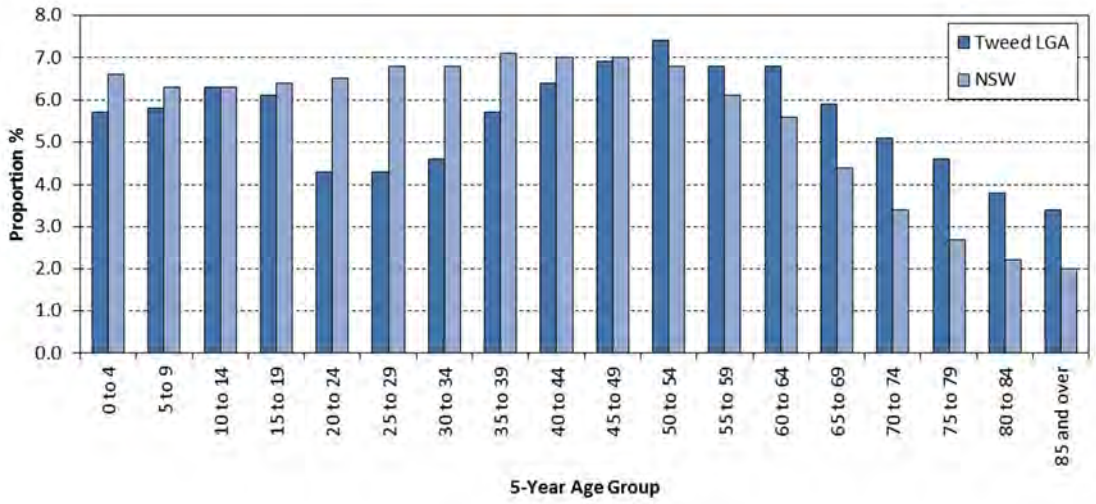


Population density shown as persons per hectare
Image source: http://atlas.id.com.au/tweed/

2.4.2 Demographics for Age Groups in Tweed LGA

The age group profile for the Tweed LGA and the average age profile for NSW, based on data from the 2011 census, are shown in Figure 2.

Figure 2 Age Profile in Tweed and NSW (2011)



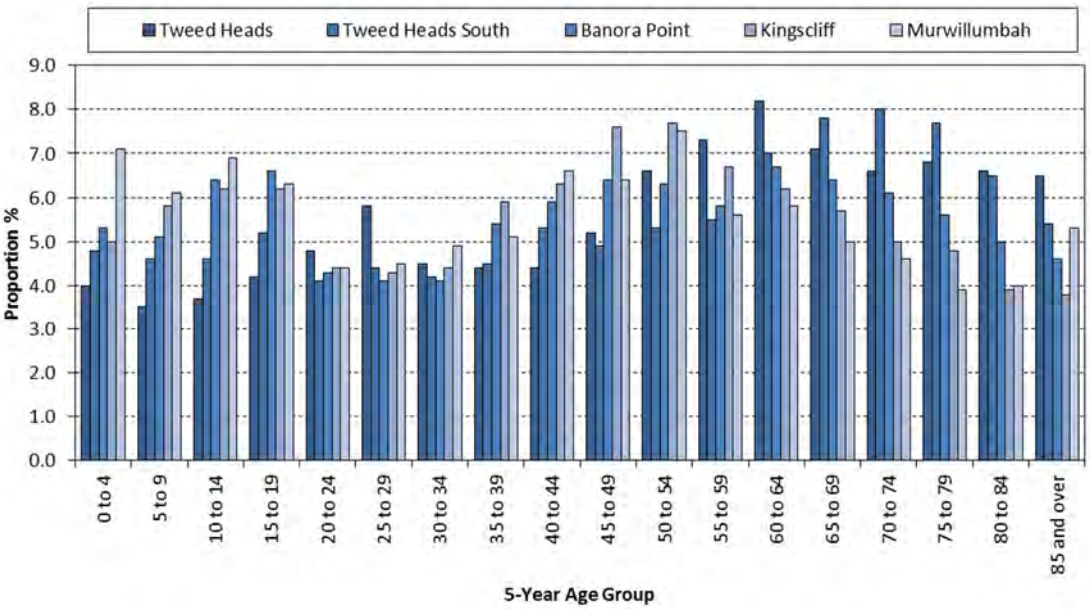
Source: Australian Bureau of Statistics (ABS, 2011)

The statistics show that:

- The proportion of age groups between 5 and 19 years old is similar in the Tweed LGA compared to the NSW average indicating a reasonably high proportion of school children who are potentially walking to and from school during weekday mornings and afternoons;
- There is a significantly lower proportion of people aged between 20 and 39 years old in the Tweed LGA compared to the NSW average; and
- The proportion of people aged 50 and above is higher in the Tweed LGA compared to the NSW average with the difference increasing with increasing age. This indicates a higher proportion of retirees in Tweed who are more likely to make short, non-work based pedestrian trips.

The age profile in each of the study areas identified in the PAMP can also be examined as shown in Figure 3.

Figure 3 Age Profile in Tweed Study Areas (2011)



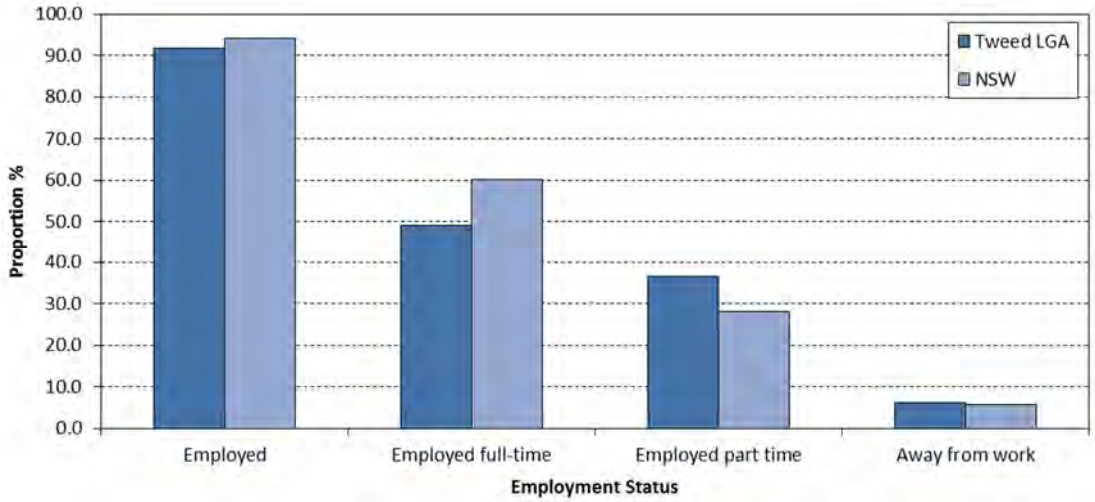
Source: Australian Bureau of Statistics (ABS, 2011)

It can be seen that Murwillumbah, Kingscliff and Banora Point have a significantly higher proportion of young people aged 0 to 19 years than Tweed Heads and Tweed Heads south. In contrast, there are significantly more older people aged 60 and above in Tweed Heads and Tweed Heads South.

2.4.3 Employment in Tweed

A comparison of employment rates for the workers resident in the Tweed LGA and the average for NSW is provided in Figure 4. These statistics show that 32,662 people living in the Tweed LGA are employed, of which 54% are working full time and 40% part time. This results in an employment rate of 91.7% for the LGA, which is lower than the 94.1% employment rate for the whole of NSW. It is noted that the employment rates for part-time work are considerably higher in Tweed compared to the whole of NSW.

Figure 4 Employment Status in Tweed

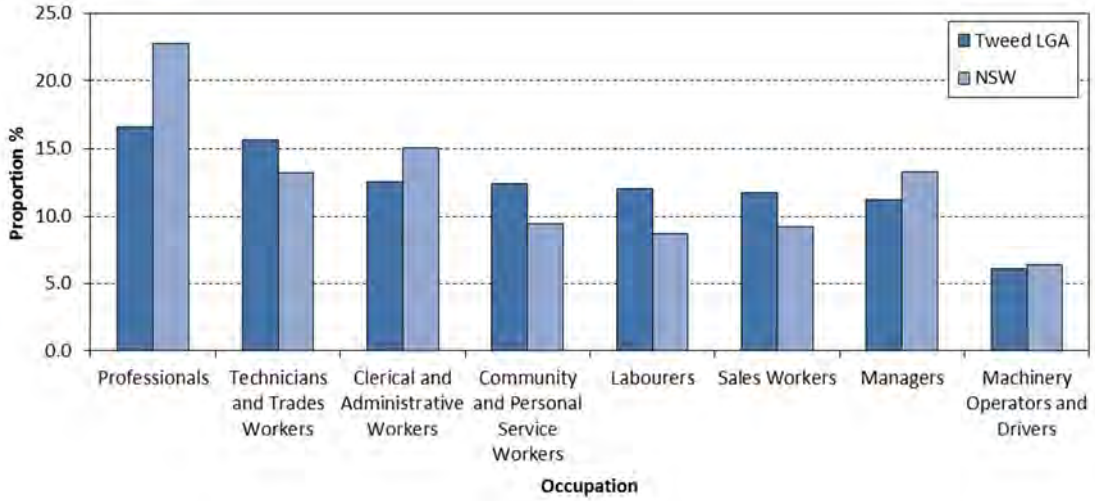


Source: Australian Bureau of Statistics (ABS, 2011)

Occupations in Tweed

A comparison of the proportion of employment occupations between NSW and the Tweed LGA is shown in Figure 5. These statistics show a much higher proportion of technicians and trades workers, community and personal service workers, labourers and sales workers than the whole of NSW.

Figure 5 Occupation Types in Tweed



Source: Australian Bureau of Statistics (ABS, 2011)

Employees who walk to work

A “hot-spot” map showing proportion of trips made to work by walking is provided in Figure 6. The areas with the highest proportion of employees who walk to work are within close proximity to the main town centres including the Tweed Heads City Centre and Murwillumbah. For the outlying areas of Tweed, there are only a very small proportion of people making walk only trips to travel to or from work.

Figure 6 Walk to Work Data in Tweed

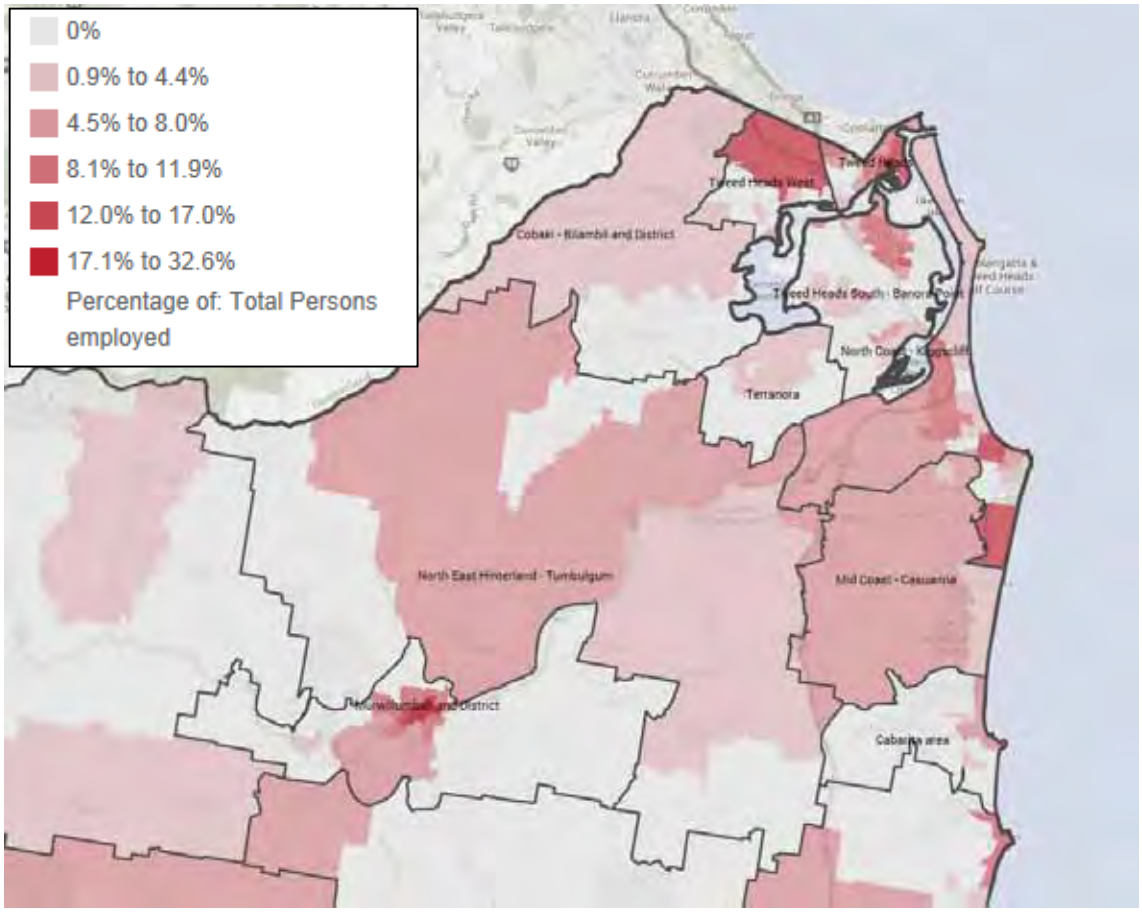
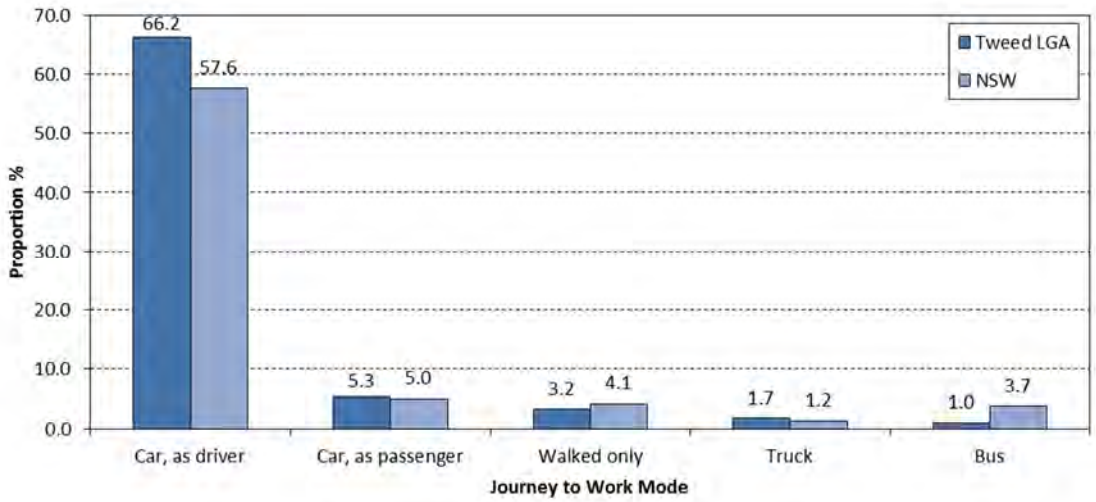


Image source: http://atlas.id.com.au/tweed/

2.4.4 Journey to Work Data

Journey to work data for the Tweed LGA compared to the remainder of NSW is presented in Figure 7. The data indicates a high mode share for private vehicle travel, with 66% of all journeys to work taking place by motor vehicle. Walking and public transport accounted for 3.2% and 1.0% respectively.

Figure 7 Journey to Work Data for Tweed



Source: Australian Bureau of Statistics (ABS, 2011)

2.5 Existing Land Use and Infrastructure

2.5.1 Land Use

Land use plans for each of the five study areas are provided in Appendix B.

2.5.2 Transport Network

Road Hierarchy

State roads perform an important strategic function and are fully funded and managed by RMS. The Pacific Motorway is the only state road within the Tweed LGA. The other important regional road is Tweed Valley Way, formally the Pacific Highway, connecting Murwillumbah to the Pacific Motorway. All other roads in the Tweed LGA function as either collector roads or local roads and are managed by Council.

Pedestrian Infrastructure

Refer to Appendix C for plans showing an inventory of existing pedestrian infrastructure in each of the town centres. This includes pedestrian crossing facilities as well as pedestrian bridges and underpasses.

2.5.3 Key Pedestrian Generators

Refer to Appendix D for an understanding of the key pedestrian generators within each town centre.

2.6 Pedestrian Crash Statistics

Pedestrian crash data was obtained for each of the five study areas for the years 2008 to 2013 inclusive. The data is summarised as follows:

- A total of 39 pedestrian related crashes were recorded during this time. All of these crashes resulted in injury, however there were no fatalities;
- The majority of pedestrian crashes involved pedestrians crossing the road (69%), however there were also a number of driveway and emerging crashes recorded (15%);
- Crashes were relatively spread out throughout the day, with the vast majority of crashes occurring during daylight hours between 8:00 am and 8:00 pm;
- The locations of pedestrian crashes are provided in Appendix D.

It is clear from the maps in Appendix D that there was a cluster of pedestrian crashes on Minjungbal Drive, between Blundell Boulevard and Machinery Drive, directly opposite the Tweed City Shopping Centre. Most of these involved pedestrians crossing the divided section of Minjungbal Road informally.

A crash cluster was also identified on Brisbane Street, between Murwillumbah Street and Wollumbin Street, in Murwillumbah. These crashes were all associated with pedestrian crossing movements.

3. Existing Pedestrian and Mobility Audit

This section builds on the investigations undertaken up to this point in order to define a set of user and function requirements in terms of the issues to be addressed through the improvements to pedestrian infrastructure. The outputs of this section constitute the brief for the development of pedestrian infrastructure improvement options.

An audit of existing conditions was undertaken for each of the five town centres included in the study area. The audits focussed on identifying existing facilities, land uses, any shortcomings in the pedestrian environment and potential safety issues. The audit has been developed through:

- Site inspections, which were conducted from Tuesday 18th February 2014 to Saturday 22nd February 2014;
- Community survey (online and hardcopy) as summarised in Section 3.1; and
- Community workshop as summarised in Section 3.2.

A significant amount of anecdotal or qualitative feedback was received via both the open questions on the survey and the exercises and group discussions undertaken at the community workshop. Valuable quantitative data was also obtained from the survey.

Additionally, GHD conducted a focus group at the Banora Point Community Centre as part of Seniors Week, at which facilitators were on hand to discuss the PAMP with seniors and assist them in filling out community surveys. 17 surveys were completed during the focus group and valuable anecdotal input was received.

3.1 Summary of Findings of the Community Survey

This section relates to the measurable element of the community survey, specifically Questions 1 to 8, 10a and 11. The open ended questions, including Questions 9, 10b and 12, are covered in Section 3.2 as part of the summary of anecdotal or qualitative feedback received.

3.1.1 Surveys completed

A total of 147 surveys were completed by 14 April 2014 – 122 online and 25 hard copy. Table 1 shows a breakdown of the number of surveys completed and the town centre in which respondents indicated that they spend most of their time.

Table 1 Survey Responses

Location	Surveys Completed	Percentage of Total
Tweed Heads	22	15%
Tweed Heads South	39	27%
Kingscliff	29	20%
Banora Point	26	18%
Murwillumbah	30	20%
Unknown	1	<1%

The survey will remain open during the exhibition of this Draft PAMP document to ensure input from the community continues to be included.

3.1.2 Overview of Key Findings from Community Survey

A copy of the survey and detailed results from the survey are available in Appendix E. The key findings from the community survey include:

- A large proportion of respondents were in the 35 to 44 year age group (32%);
- A large proportion of respondents identified Tweed Heads South as the study area in which they spend most of their time (26.5%);
- Around 24% of respondents identified as having a disability or caring for someone with a disability. Of these, two thirds identified this as a physical disability;
- Around 66% of respondents selected 'bicycle' as something they use when accessing local shops and neighbourhoods;
- Tweed City Shopping Centre was most commonly identified as a location regularly visited, followed by Tweed Centro, Kingscliff Shopping Centre and Murwillumbah CBD;
- Around 83% of respondents said they used a private vehicle to access key locations and around 56% said they used pedestrian routes;
- The most commonly identified reason for not using pedestrian routes more frequently to access key locations was that 'the routes don't feel safe' with 38%;
- Only 26% of respondents said it was easy or always easy to move around key locations using pedestrian routes, while 46% said that it was difficult or always difficult;

- ‘Footpath condition and width’ was the most commonly identified priority for improvement to the pedestrian network, followed by ‘pedestrian crossing locations’, ‘access for cyclists’ and ‘access for wheelchairs/mobility scooters’.

3.2 Findings from Anecdotal/Qualitative Comments

3.2.1 Workshop Overview

GHD conducted a workshop with selected representatives of key pedestrian user groups, including the disability sector, the aged community, schools, youth, cyclists and recreational users. The purpose of the workshop was to seek input on key needs, concerns and preferences of these user groups and encourage further distribution of information and survey links within these groups.

The atmosphere was open, informative, engaging and relaxed, and the intimate group size allowed people to access project information and provide feedback through one-on-one discussions as well as group discussions, structured activities and visual materials. 43 representatives of these user groups were invited to attend and a total of five people participated, covering a fairly broad cross-section of user groups.

- Karen Collins – Tweed Shire Council, Aged and Disability Development Officer
- Lee Clark – Spinal Cord Injuries Australia
- Anne-Gabrielle Thompson – Blind Citizens Australia
- Vicki Burr – Murwillumbah Cycle Club
- Leelah Broughton – Principal, Sathya Sai Primary School

3.2.2 Survey and Workshop Comments

Table 2 shows the number of anecdotal or qualitative comments received via the open survey questions and the workshop exercises, broken down by the town centre. The nature of these comments is further examined in Section 3.3.

For reference, the open survey questions were as follows:

> *“Question 9 – Relative to Question 8, what are the reasons you don’t use pedestrian routes more often to access these locations?*
>
> *Question 10b – If you indicated difficulty moving around the pedestrian routes in your most frequented locations, what are the reasons for this?*
>
> *Question 12 – Do you have any further comments regarding pedestrian access and mobility, or specific location in Tweed?”*

A breakdown of these comments by feedback mechanism and location is as follows:

- A total of 183 comments were received via the open survey questions and the workshop exercises, the majority of which were location specific (i.e. related to one of the five town centres);
- A total of 36 people provided a qualitative response to Question 9 of the survey, 59 for Question 10b and 39 for Question 12. While some of the comments were not location specific, most comments specified a location;
- A total of 49 comments were received as part of the workshop exercises (42 concerns and 7 ideas) all of which were location specific; and
- The majority of location specific comments relate to the Kingscliff town centre.

Table 2 Survey and Workshop Comments

Location	Survey open questions	Workshop comments		TOTAL	PERCENTAGE OF TOTAL
		Concerns	Ideas		
Tweed Heads	22	5	2	**29**	**16%**
Tweed Heads South	1	8	0	**9**	**5%**
Murwillumbah	24	8	2	**34**	**19%**
Kingscliff	27	15	1	**43**	**23%**
Banora Point	8	6	2	**16**	**9%**
Non location specific	52	0	0	**52**	**28%**
TOTAL	**134**	**42**	**7**	**183**	**100%**

3.3 Specific Areas of Concern

Analysis of the anecdotal feedback reveals some areas of particular concern, raised separately by more than one respondent, which are summarised in Table 3. A full list of comments, by study area, can be found in Appendix E.

Table 3 Specific Areas of Concern

Location	Comment	Raised by
Tweed Heads	Florence Street and Boyd Street – traffic comes from all directions – need more signage for motorists to give way to pedestrians to allow safer crossing	2
	No path on Dry Dock Road – have to walk across private lawns. Dangerous for pedestrians. Need pedestrian crossings	5
	Poor pedestrian access to shopping centres	5
	Lack of street parking and turnaround areas on Mahers Lane makes it dangerous during school times	5
	Sunshine Avenue – dangerous during school drop off/pick up	4
Tweed Heads South	No footpath in Sullivan Street – many people with disabilities in this street	2
Kingscliff	Cudgen Road – dangerous/lack of crossings	2
	No safe access to Cudgen Creek from Sutherland and Viking Streets	4
	Lack of trees/shade and lighting along Turnock Street	3
	Lack of pedestrian crossings on Turnock Street	2
	Poor pedestrian and cycle movement along Marine Parade (missing links, narrow footpaths, lack of crossings)	6
	Poor footpath lighting	10
Banora Point	Leisure Drive – footpath obstructions, inadequate/dangerous crossings, narrow paths,	6
	Banora Boulevard – no footpaths	3
	Bunnings Crossing very difficult to cross	2
Murwillumbah	No footpath at Showground	2
	Nullum Street – poor/lack of pedestrian crossing at school	11
	Tumbulgum Road – missing links, narrow paths and lack of pedestrian crossings	5

Location	Comment	Raised by
	Poorly lit paths	2
	Byangum Road – lack of crossing, footpath near roundabout is dangerous	4
	Footpaths should have more shade	2

3.4 Existing Issues and Constraints Audit

Issues and constraints for pedestrian access and mobility were determined in a series of field surveys conducted from Tuesday 18th February 2014 to Saturday 22nd February 2014 for each of the town centres.

A full summary for each town centre based on the findings of the site inspections, with photographs, is provided in Appendix F. The following sections provide a summary of the conditions in each area and the various issues and constraints.

3.4.1 General

Several issues were identified that were common to all town centres. These are summarised in Table 4.

Table 4 Common Issues to All Town Centres

ID	Issue	Comment
ML	Missing links	Several locations were identified over the course of the footpath audits where an obvious pedestrian connection or link was missing. These were typically “gaps” in the network or between closely spaced, major pedestrian generators. Larger scale missing links were not recorded as they will be identified during the wider pedestrian network planning process.
E	Footpath ends with no connections	Footpaths often end with no connection to the remainder of the pedestrian network. While able bodied pedestrians would typically continue along the verge or the road shoulder (desire lines often evidenced by the presence of a worn track), ending footpaths have a significant impact on mobility impaired pedestrians.

ID	Issue	Comment
R	Poor or missing kerb ramps	Kerb ramps should be provided where a pedestrian needs to descend to the road level to cross the road (at intersections or mid-block crossings) or when entering a shared area. In many locations missing or non-compliant kerb ramps can cause an access issue for mobility impaired pedestrians, have a poor surface quality (steep incline or decline), or are a tripping hazard.
C	Poor or missing crossing opportunity	Crossings opportunities should be provided where there is a significant demand for pedestrians to cross the road. Depending on the demand, crossings can be in the form of kerb ramps on either side of the road, a median refuge island, pedestrian zebra crossing or a signalised pedestrian crossing. Some locations were identified during the audit where there was demand for a new crossing or where an existing crossing presented access or safety issues.

3.4.2 Tweed Heads

The Tweed Heads area is well serviced by pedestrian infrastructure. Existing pedestrian infrastructure includes wide footpaths along the entire length of Wharf Street on both sides and several pedestrian (zebra) crossings on Wharf Street (between Frances Street and Griffith Street). There are also shared paths along the water's edge connecting from Bay Street, along Coral Street to the beach access, and along Brett Street and Keith Compton Drive.

The availability of ample on-street and off-street parking in the area greatly reduces the frequency and length of pedestrian trips within the town centre. A large amount of pedestrian activity was observed at the northbound and southbound bus stops near Bay Street, at the Centro Tweed Shopping Centre and along both sides of Wharf Street.

Moderate pedestrian activity was observed on Bay Street, Stuart Street and Brett Street. Outside of these areas, pedestrian activity was relatively light.

3.4.3 Tweed Heads South

The vast majority of pedestrian activity in the Tweed Heads South was concentrated around Minjungbal Drive and the Tweed City Shopping Centre. Significant pedestrian movement was observed along both sides of Minjungbal Drive between Kirkwood Road and Machinery Drive.

Heavy traffic volumes on Minjungbal Drive form a barrier to pedestrian movements in this area. Pedestrian crossings are available at signalised

intersections; however these are spaced at intervals of up to 350 metres and have long cycle times which contribute to delays for pedestrians.

Moderate pedestrian activity was observed on Heffron Street and Cunningham Street in the afternoon. A new sporting complex at Arkinstall Park, located between Cunningham Street, Kirkwood Road and Heffron Street, was officially opened on 3 May, 2014. This development would result in significantly increased pedestrian and vehicle activity on these roads and nearby access routes. There was also some movement towards the southern end of Minjungbal Drive.

Outside of these areas, pedestrian activity was relatively light.

Off street shared use paths are available alongside Dry Dock Road and Minjungbal Drive. The only connection between these shared use paths is at the signalised intersection of these roads.

3.4.4 Banora Point

Little pedestrian activity was observed in the Banora Point area. Most activity was around the shopping and recreation precincts at the eastern end of Leisure Drive. There was also some pedestrian activity on Greenway Drive. Outside of these areas, pedestrian activity was very light.

Connectivity between the various residential areas in Banora Point is improved by the presence of several off-street footpaths. These were generally sealed and in good condition. It was noted that many low volume residential streets (mostly cul-de-sacs) did not have pedestrian footpaths provided on either side of the road.

3.4.5 Kingscliff

Many areas of Kingscliff are subject to heavy pedestrian activity. The main commercial strip on Marine Parade between Turnock Street and Seaview Street is reduced to one way traffic, subject to a 40-km/h speed limit and is a highly pedestrianised environment.

Another area of high pedestrian activity was the Pearl Street shopping area. Some light to moderate pedestrian movement was also observed at the Kingscliff High School at Oxford Street (also Cambridge Crescent and Yale Street) and the Tafe Campus on Cudgen Road.

A shared use path travels along the north-eastern side of Marine Parade from north of Kingscliff, through the Kingscliff area to Faulks Path, along Cudgen Creek and crossing at Sutherland Street to continue south alongside Casuarina Way.

It is noted that several sites were under construction at the time of the audits and these typically detracted from the quality of the pedestrian network.

3.4.6 Murwillumbah

The main areas of pedestrian activity within the Murwillumbah area were on Murwillumbah Street and Wollumbin Street between Riverview Street and Commercial Road. This is the main shopping strip through the town and is provided with wide footpaths and several pedestrian (zebra) crossings. Shared zones on Proudfoots Lane and the connecting laneways provide good access through the town centre.

Other areas where pedestrian activity was observed included the Council owned Aquatic Centre on Tumbulgum Road, schools on Queensland Road and Nullum Street and Knox Park. Some activity was also observed on the northern side of Alma Street (on the eastern side of Tweed River).

4. Planning for Pedestrians

4.1 Creating a Safe and Attractive Environment for Walking

Walking is the simplest form of transportation. It is available to most people, including those who use mobility aids, is free and has insignificant environmental cost. Furthermore, all trips involve some walking component, if only from the car park to the end destination. Therefore, planning for safe and convenient pedestrian access is very important in transportation planning.

Pedestrians use every part of the public domain, including roads, footpaths, nature strips, shopping centres and other public spaces. Some planners and engineers incorrectly assume that planning for pedestrians will follow the same logic as traffic planning:

- Car → 'trips' → 'routes' → 'traffic network'

The planning scale for pedestrians is detailed to accommodate the local nature of the trips. Pedestrian movement can be better conceptualised in terms of:

- Pedestrian → 'activity' → 'areas of activity' → 'pedestrian environment'

Rather than conforming to traditional traffic engineering concepts like turning radii and design speeds, pedestrians are far more attuned to the environment in which they are moving. Therefore, planners need to consider the needs of pedestrians with regards to design, amenity and personal security. Pedestrians are particularly vulnerable to cars and other motorised traffic.

4.1.1 Pedestrian Needs

The provision of pedestrian infrastructure should not only aim to fulfil the requirements of existing users or to comply with relevant standards, but should also promote walking for transport, recreation and health and increase the number of trips taken by foot. Such an outcome would result in fewer car trips, healthier residents and a more active (and safe) public domain. A number of elements are required in order to provide a high quality pedestrian environment.

Safety

Perceived and actual safety is very important to pedestrians. Road crossings present the greatest danger to pedestrians. Therefore, safe crossing locations must be provided at regular intervals along major streets or at the location where key desire lines cross major streets. Pedestrians will rarely walk along an indirect route to access safe crossing points, so frequent crossing points must be provided.

Lighting and open space is important for security. Pedestrians of all ages and genders need to feel that it is safe to walk whenever they choose to do so.

Directness

As noted above, pedestrians do not like to walk out of their way to reach a destination. This is a natural response to avoid the extra effort involved in walking extra distance. Pedestrian facilities serving desire lines between major centres of activity need to be direct and legible in order to provide for and encourage walking trips.

Wherever possible, barriers should be overcome with additional crossing points such as grade separated or signalised crossings, although grade separation does not always provide the most direct access.

Engineering solutions to direct pedestrians for safety reasons (such as fencing) should only be used when no other solution is possible.

Amenity

Pedestrians are particularly sensitive of the quality of the urban environment. Areas with high volumes of traffic, excessive noise, and poor pavements will discourage walking. Additionally, urban areas should be maintained at a human scale that provides an attractive walking environment.

While it would be extremely costly to improve the amenity of all pedestrian areas, targeted works can achieve a great improvement in areas of high pedestrian activity (such as shopping streets, areas around commercial, employment and public buildings, and recreation areas). Spot improvement programs can also target localised areas of high need.

Suitable for All Users

Quality pedestrian environments must be available to all who choose to use them. This includes compliance with Austroads Guidelines and Australian Standards where appropriate. Paths must be of a suitable width to accommodate the number of pedestrians (and other users, such as mobility scooters) expected and be of an appropriate gradient, including ramps. The path should be continuous and free of obstructions such as signage and other street furniture. The needs of hearing and vision-impaired users must be considered and provided for, especially where user safety is an issue.

4.1.2 Pedestrian Strategies

Council should support and encourage walking in Tweed through the following actions:

- Provide an environment where the personal, social and environmental benefits of walking are recognised as paramount and that the needs of

pedestrians are considered as a primary element in any projects affecting the urban landscape;

- Ensure that all planning and redevelopment includes walking as a safe, healthy and accessible form of transport; and
- Incorporate the needs of people with a disability into all levels of planning and implementation of the transportation network and public domain improvements.

4.2 Best Practice Standards

This section provides a brief overview of best practice standards that apply to the treatment of pedestrian facilities.

4.2.1 Minimum Footpath Widths

The Austroads publication, *Guide to Road Design – Part 6A: Pedestrian and Cyclist Paths,* 2009, states that:

> *"The width of the footpath is dependent on its location, purpose and the anticipated demand on the facility… As a guide, the desirable minimum width of a footpath that has very low demand is 1.2 m with an absolute minimum of 1.0 m. These widths should be increased at locations where high pedestrian volumes are anticipated, a footpath is adjacent to a traffic or parking lane, a footpath is combined with bicycle facilities, or the footpath is to cater for people with disabilities.*

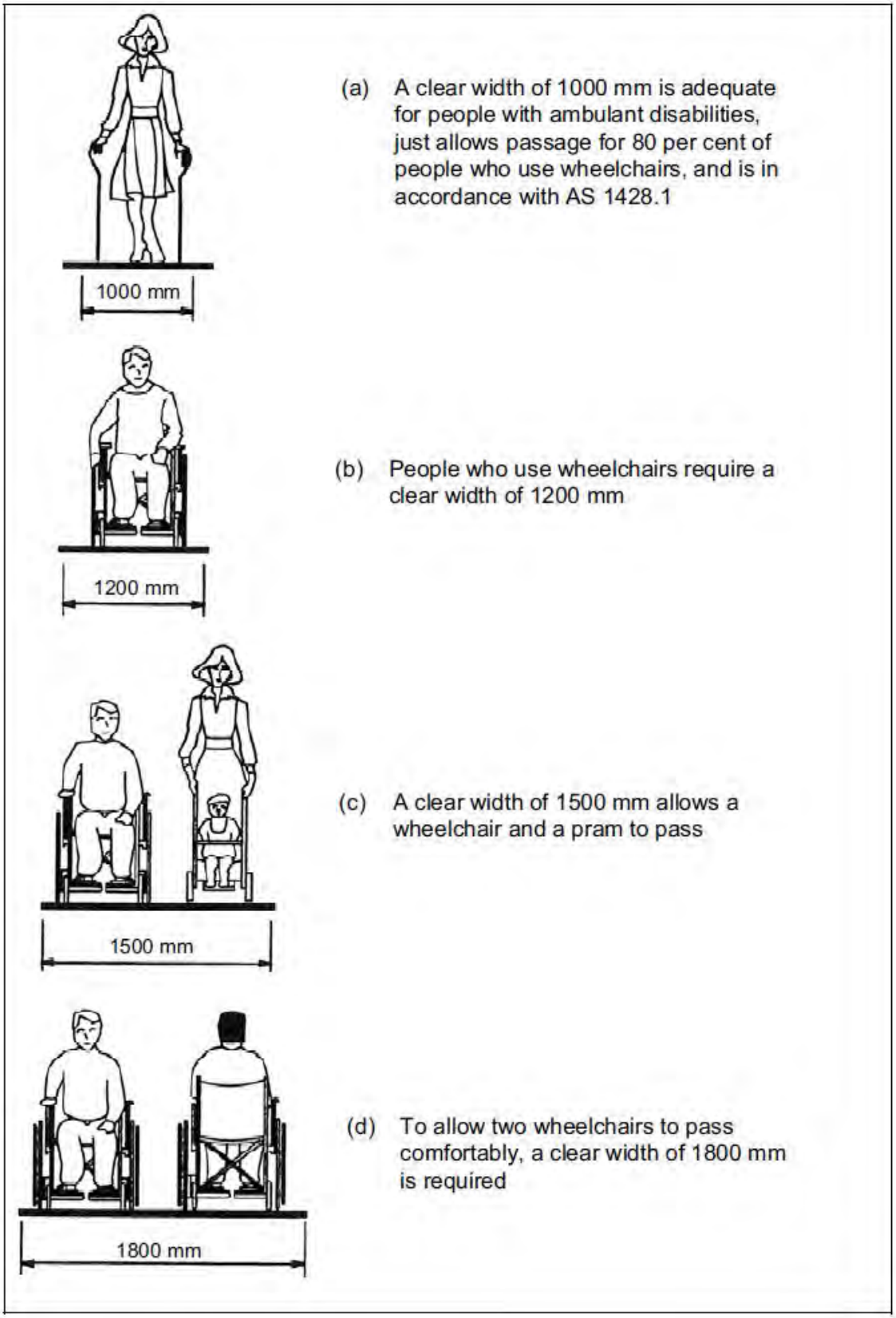
Table 5 and Figure 8 show the minimum widths for various types of footpath users.

Table 5 Width requirements for footpaths

Situation	Desired width (m)	Comments
General low demand	1.2 to 1.0 (absolute minimum)	General minimum is 1.2 m for most roads and streets. Clear width required for one wheelchair. Not adequate for commercial or shopping environments.
High pedestrian volumes	2.4 m (or higher based on demand)	Generally commercial and shopping areas.
For wheelchairs to pass	1.8 to 1.5 (desired minimum)	Allow for two wheelchairs to pass (1.8 m comfortable, 1.5 m minimum). Narrower width (1.2 m) can be tolerated for short distances.
For people with other disabilities	1.8 to 1.0	

Source: Austroads Guide to Road Design – Part 6A: Pedestrian and Cyclist Paths, 2009

Figure 8 Footpath width requirements for various users



Source: Austroads Guide to Road Design – Part 6A: Pedestrian and Cyclist Paths, 2009

4.2.2 Maximum Grades

Grades of footpaths and drop kerbs are important as they affect the usability and safety of pedestrian facilities. Long sections of high grade footpath can be extremely difficult for mobility impaired users to negotiate.

High grade drop kerbs can also cause safety issues for mobility impaired users. Users can become venerable to general traffic as they attempt to leave the carriageway and proceed up steep ramps. Table 6 shows the maximum grades for footpaths and drop kerb treatments.

Table 6 Maximum grades

Footpaths	Grade	Comment
Recommended maximum gradient	1:33	Grades steeper than 1:33 require level rest areas at regular intervals.
Absolute maximum gradient	1:20	Grades steeper than 1:20 should be considered as ramps for design purposes.
Drop kerbs	**Grade**	**Comment**
Recommended maximum gradient	1:10	Grades steeper than 1:10 may cause wheelchairs to tip backwards.
Absolute maximum gradient	1:8	Should only be used in extenuating circumstances.

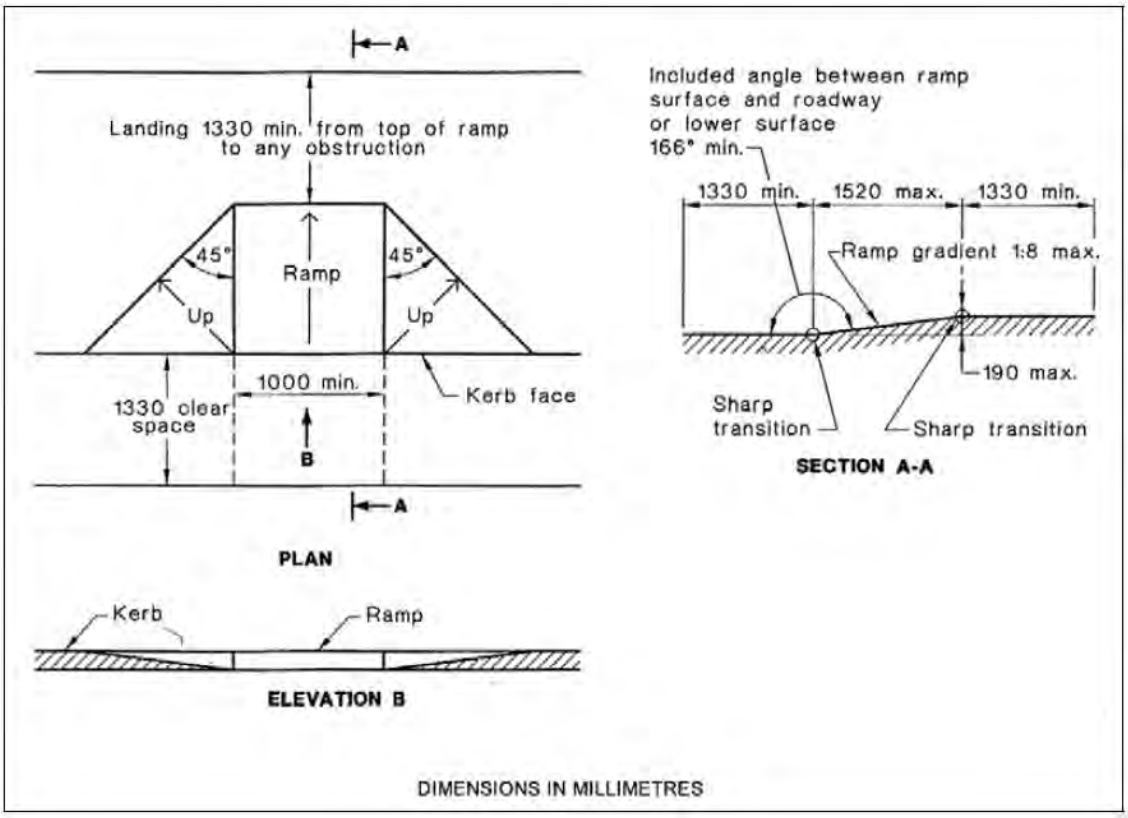
Source: Austroads Guide to Road Design – Part 6A: Pedestrian and Cyclist Paths, 2009

4.2.3 Kerb Ramps

The difference in the level between the footpath and the roadway is a common situation that poses difficulties for pedestrians, particularly with mobility and vision impairments. A kerb ramp provides a smooth change in the level between the footpath and the roadway.

The general dimensions of a kerb ramp are illustrated in Figure 9. The *Austroads Guide to Road Design – Part 6A: Pedestrian and Cyclist Paths,* 2009, states that: *"A minimum footpath width of 1330 mm should be provided beyond the top of the ramp."*

Figure 9 An example of kerb ramp design



Source: Austroads Guide to Road Design – Part 4: Intersections and Crossings – General, 2009

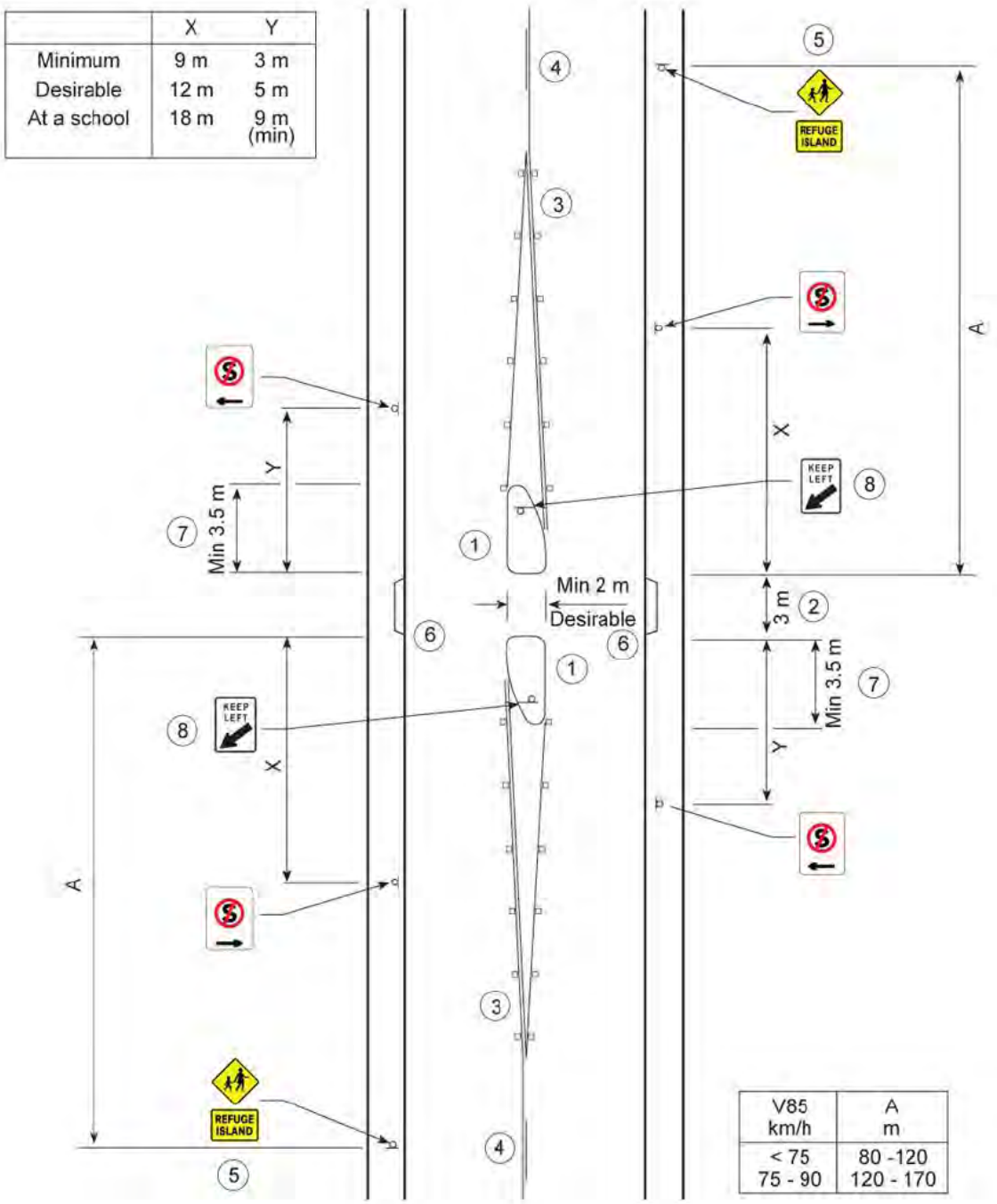
4.2.4 Pedestrian Refuges

Pedestrian refuges allow a safe point for pedestrians undertaking a staged crossing of a wide or busy road. It is noted that many people do not feel safe when using refuges and, should the funds be available, kerb extensions should be considered to reduce the total width of the road at the crossings points rather than using refuges.

The general layout of a pedestrian refuge is provided in Figure 10. The *Austroads Guide to Road Design – Part 4: Intersections and Crossings - General,* 2009, also states that:

- *"Where the refuge connects significant shared use paths the minimum width of refuge of 2.0 m is likely to be inadequate and a greater width should be provided, and warning signs should include a bicycle.*
- *Street lighting should be provided in accordance with AS/NZS 1158.1.*
- *Pedestrian assist handrails may be provided where space is available in the island. If provided, they should be frangible."*

Figure 10 An example of a pedestrian refuge



Source: Austroads Guide to Road Design – Part 4: Intersections and Crossings - General

4.2.5 Tactile Paving

Tactile paving should also be provided to indicate the edge of the roadway to sight impaired pedestrians.

4.3 Methodology for Identifying Pedestrian Needs

4.3.1 Identification of Activity Generators and Primary Routes

The following approach was adopted in developing a hierarchy of pedestrians needs:

Primary Pedestrian Activity Zone

This is typically the main commercial area. Throughout the day, pedestrians are attracted to this zone from surrounding residential areas: therefore it is an important trip attractor. Also, there are high levels of pedestrian activity occurring within this zone, making it an important area for internal pedestrian movements (between shops and to and from car parking).

Secondary Pedestrian Activity Generators

This includes shops, schools, sporting facilities, clubs, hospitals and community facilities such as churches that are not located within the Primary Pedestrian Activity Zone. These land uses will attract activity, but possibly only at certain times of the day or week.

Tertiary Pedestrian Activity Generators

These include the above land uses from the Secondary Activity Generators, but differentiate them based on a lower level of activity. Again, these are not located within the Primary Pedestrian Activity Zone.

Primary Pedestrian Routes

These are routes from residential areas to the Primary, Secondary and Tertiary Activity Zones and Generators. They are trunk or collector level routes, which do not reach every property but instead form a network of routes that are accessible to a significant catchment of population. These routes take account the existing street network and topographical constraints, aiming to provide a direct and convenient route to the major trip generators. The demographic use of connecting generators is considered when defining the routes (i.e. schools and playing fields, aged car facilities and RSL clubs).

4.3.2 Identification of Infrastructure Provision Goals

The hierarchy above provides a basis for applying standard treatments in each township, ensuring the development of a comprehensive and structure pedestrian network. Specific treatments may be required in some of these areas to accommodate the user needs or where other community suggestions are made.

These treatments form the basis of the proposed improvements. While this standard may not be achievable in the short-term due to the capital investment required, it is nevertheless a useful guide to work towards.

Desirable scenarios for potential infrastructure responses are outlined in Table 7.

Table 7 Infrastructure provision goals for urban areas in Tweed

Hierarchy Feature	Desirable Route Infrastructure	Minimum Route Infrastructure
Primary Pedestrian Activity Zone	Footpaths on both sides of road adjacent to the generators within the Primary Pedestrian Activity Zone of full width between the property line and kerb line (typically 3-4 m). Multiple assisted road crossings (traffic signals, zebra crossings or refuges).	Footpaths on both sides of road adjacent to the Primary Pedestrian Activity Zone of 2 m widths. Assisted road crossings where required by high traffic volumes.
Secondary Pedestrian Activity Generators	Footpath on the side of the road adjacent to the Activity Generator of 2 m width. Assisted road crossings at all Activity Generators	Footpath on the side of the road adjacent to the Activity Generator of 1.2 m width. Assisted road crossings where required by high traffic volumes and/or pedestrian types.
Tertiary Pedestrian Activity Generators	Footpath on the side of the road adjacent to the Activity Generator of 1.2 m width. Assisted road crossings where required by high traffic volumes and/or pedestrian types.	Footpath on the side of the road adjacent to the Activity Generator of 1.0 m width. Assisted road crossings where required by high traffic volumes and/or pedestrian types.
Primary Pedestrian Routes	Footpaths on one side of the road of 2 m width, footpath on other side of the road of 1.2 m width. Assisted road crossings at most cross streets. Wayfinding signage to Primary Pedestrian Activity Zones, Secondary and Tertiary Activity Generators for pedestrians.	Footpath on one side of the road of 1.2 m width. Assisted road crossings at major cross streets with high traffic volumes. Wayfinding signage to Primary Pedestrian Activity Zones for pedestrians.

4.3.3 Aims in the Development of Infrastructure Recommendations

Major aims of the proposed improvement works, in decreasing order of priority, are:

- Fill any shortcomings in the Primary Pedestrian Activity Zone areas of each town through new footpaths and crossing points, particularly if safety issues have been raised;
- Establish a network of key pedestrian routes in the town centres and between major trip generators including schools. Prioritised routes are those that serve a wide range of community users and can remove pedestrians from unsafe environments;
- Broaden the extent of the network to areas outside of the Primary Pedestrian Activity Zones; and
- Provide additional pedestrian routes for primarily recreational or tourism purposes.

5. Proposed Pedestrian Improvements

This section identifies the pedestrian improvements proposed as part of this PAMP.

5.1 Types of Pedestrian Improvements

Pedestrian infrastructure initiatives are classified under the following categories:

- **Amenity** which is the attractiveness of an area for pedestrians. Improvements could involve upgrading an existing footpath surface or introducing landscaping or art feature along walkways.
- **Safety** along the route to address safety issues for pedestrians from traffic or other physical hazards including trip hazards. This also includes perceived safety issues for pedestrians such as walking along or crossing busy roads.
- **Information** that includes wayfinding signage, maps, brochures and pamphlets.
- **Accessibility** along the routes that do not comply with the Disability Discrimination Act (DDA) standards and other issues including steep gradients and access via steps.
- **Connectivity** with new links between streets and land uses.
- **Severance** for pedestrians to cross busy roads, railway lines or waterways.
- **Access to adjacent land uses** with new pedestrian access to land uses being blocked by fences or walls.

These pedestrian improvements can include the types of projects shown in Table 8, which also indicates the benefits of each pedestrian improvement.

Table 8 Potential pedestrian infrastructure initiatives

Initiative	Amenity	Safety along the Route	Information	Security	Accessibility	Connectivity	Severance	Access to Adjacent Land Use
Footpath Resurfacing	✓	✓			✓			
Footpath Replacement	✓	✓			✓			
New Footpath	✓	✓			✓		✓	✓
Bridge Crossing		✓			✓	✓	✓	✓
Underpass Crossing		✓			✓	✓	✓	✓
Lighting	✓	✓		✓				
Ramps					✓	✓		
Lifts					✓	✓		
Stairs						✓		
Pedestrian Actuated Signal Crossings		✓			✓	✓	✓	
Zebra Crossing		✓			✓			
Wombat Crossing		✓			✓			
Shared Zone	✓	✓			✓			

Initiative	Amenity	Safety along the Route	Information	Security	Accessibility	Connectivity	Severance	Access to Adjacent Land Use
Reduced Traffic Speed Limit		✓						
Traffic Calming	✓	✓						
Wayfinding/ Signage			✓	✓				
Information			✓	✓				
Investigations								

5.1.1 Reference System

The recommendations are intended to guide the development of the improvements for pedestrian infrastructure within the local centres, but they are also intended to fit within the wider context of Council's aims and objectives and planning for anticipated future developments. The recommended infrastructure works use a referencing system as follows:

- Categorisation numbers of infrastructure works or studies within each local centre are preceded with the name of the town centre or local centre; and
- The various routes or other facilities proposed in each precinct or local centre are classified by numbers.

5.1.2 Cost Estimate Assumptions

For the purposes of costing the prioritised pedestrian improvement works, the following classifications were used:

- Low with costs less than $100,000;
- Medium with costs between $100,000 and $1M;
- High with costs greater than $1M.

5.2 Proposed Pedestrian Improvements

A full list of the proposed improvements for each town centre within the Tweed LGA is provided in Table 9. The issues and constraints identification (ID) references relate to those provided in Appendix F.

Table 9 Proposed Pedestrian Infrastructure Improvements

Reference Number	Road	Location	Issue ID	Initiative	Estimated Cost Range
Tweed Heads 1	Coral Street	South side along water edge	T12	Widen shared use path to 3.0 m	Medium
Tweed Heads 2	Wharf Street	West side of Wharf Street (full length)	n/a	Widen footpath to 2.0 m	Medium
Tweed Heads 3	Wharf Street	Between Boundary Street and Frances Street	n/a	Reduce speed limit to 40-km/h	Low
Tweed Heads 4	Stuart Street	West side near Navigation Lane	T8	Regrade footpath to improve crossfall	Low
Tweed Heads 5	Wharf Street	Taxi rank south of Bay Street	T9	Plant vegetation to prevent crossings	Low
Tweed Heads 6	Enid Street	West side of Enid Street between Frances Street and Bay Street	n/a	New footpath 2.0 m wide	Medium
Tweed Heads 7	Enid Street	Intersection with Empire Lane	n/a	New kerb ramps	Low
Tweed Heads 8	Beryl Street	East side of Beryl Street between Frances Street and Florence Street	n/a	Link footpath	Low
Tweed Heads 9	Wharf Street	Frances Street intersection	n/a	Replace roundabout with new traffic signals	High

Reference Number	Road	Location	Issue ID	Initiative	Estimated Cost Range
Tweed Heads 10	Frances Street	South side west of Powell Street	n/a	Link footpath	Low
Tweed Heads 11	Wharf Street	West side between Frances Street and Florence Street	T2	Regrade steep sections of footpath	Low
Tweed Heads 12	Wharf Street	East side between Frances Street and Florence Street	n/a	Provide kerb ramps at regular intervals for access to on-street parking	Low
Tweed Heads 13	Florence Street	South side between Recreation Street and Adelaide Street	n/a	New footpath 1.2 m wide	Medium
Tweed Heads 14	Wharf Street	Florence Street intersection	T3	Include pedestrian signals on northern leg	Low
Tweed Heads 15	Florence Street	Florence Place intersection	T6	Implement parking restrictions	Low
Tweed Heads 16	Florence Street	Powell Street intersection	n/a	New kerb extentions for pedestrian crossings on all legs	Low
Tweed Heads 17	Wharf Street	Brett Street intersection	T5/T10	New pedestrian refuges on side streets	Low
Tweed Heads 18	Wharf Street	East side between Boyd Street and Minjungbal Drive	T1	Remove or relocate obstructions	Low
Tweed Heads 19	Wharf Street	Minjungbal Drive intersection	T7	Remove or relocate advertising signage	Low

Reference Number	Road	Location	Issue ID	Initiative	Estimated Cost Range
Tweed Heads 20	Recreation Street	East side between Steep Street and Wharf Street	n/a	Widen footpath to 2.0 m	Low
Tweed Heads 21	Recreation Street	West side between Steep Street and Florence Street	n/a	New footpath 1.2 m wide	Medium
Tweed Heads 22	Boyd Street	East side between Brett Street and Wharf Street	n/a	Widen footpath to 2.0 m	Low
Tweed Heads 23	Boyd Street	West side between Brett Street and Wharf Street	n/a	New footpath 2.0 m wide	Medium
Tweed Heads 24	Minjungbal Drive	Terranora Creek	n/a	New shared use bridge connecting from Kennedy Drive to Minjungbal Drive shared use path	High
Tweed Heads South 1	Minjungbal Drive	Terranora Creek Bridge east side footpath	S1	Remove or relocate obstructions	High
Tweed Heads South 2	Minjungbal Drive	Southern end of Terranora Creek Bridge	n/a	Connect Minjungbal Drive and Dry Dock Road shared use paths under Terranora Creek Bridge	High
Tweed Heads South 3	Dry Dock Road	South side between Minjungbal Drive and Sunshine Avenue	n/a	New footpath 1.2 m wide with kerb ramps and connection to shared use path on north side at all intersecting roads	Medium
Tweed Heads South 4	Dry Dock Road	Sunshine Avenue intersection	n/a	Upgrade intersection to traffic signals with full pedestrian crossings	Medium

Reference Number	Road	Location	Issue ID	Initiative	Estimated Cost Range
Tweed Heads South 5	Minjungbal Drive	Bus stop north of Agnes Street	n/a	New kerb ramps and pedestrian refuge	Low
Tweed Heads South 6	Minjungbal Drive	South of Lloyd Street intersection	S4	Remove existing kerb ramp and provide new ramps and pedestrian refuge south of Lloyd Street	Low
Tweed Heads South 7	Heffron Street	South side between Oxley Street and Minjungbal Drive	n/a	Widen footpath to 2.0 m	Medium
Tweed Heads South 8	Heffron Street	North side between Seymour Street and Minjungbal Drive	S6	New footpath 1.2 m wide	Medium
Tweed Heads South 9	Oxley Street	Between Kirkwood Road and Cunningham Street	S5	New footpath 2.0 m wide	Medium
Tweed Heads South 10	Minjungbal Drive	South of Heffron Street intersection	S2	Provide additional fencing along eastern side of Minjungbal Drive	Low
Tweed Heads South 11	Minjungbal Drive	Full length	n/a	Reduce speed limit to 60-km/h	Low
Tweed Heads South 12	Minjungbal Drive	West side between William Street and Kirkwood Drive	n/a	Widen footpath to 2.0 m	Medium
Tweed Heads South 13	Kirkwood Road	North side between Minjungbal Drive and Duffy Street	n/a	New footpath 1.2 m wide connecting to traffic signals at Minjungbal Drive	Low

Reference Number	Road	Location	Issue ID	Initiative	Estimated Cost Range
Tweed Heads South 14	Kirkwood Road	South side between Minjungbal Drive and Duffy Street	n/a	Widen footpath to 2.0 m	Low
Tweed Heads South 15	Minjungbal Drive	West side between Kirkwood Road and Shallow Bay Drive	n/a	Widen footpath to 2.0 m	Medium
Tweed Heads South 16	Minjungbal Drive	Blundell Boulevard intersection	n/a	Remove slip lanes at Tweed City access and provide improved pedestrian waiting area	Medium
Tweed Heads South 17	Minjungbal Drive	Between Blundell Boulevard and Machinery Drive	S7	New kerb ramps and pedestrian refuge	Low
Tweed Heads South 18	Minjungbal Drive	Between Blundell Boulevard and Machinery Drive	S7	New grade separated pedestrian crossing	High
Tweed Heads South 19	Machinery Drive	Full length of loop	n/a	New footpath on one side 2.0 m wide	Medium
Tweed Heads South 20	Machinery Drive	South side between Greenway Drive and Minjungbal Drive	n/a	Complete connection to Minjungbal Drive	Low
Tweed Heads South 21	Off-road	Off-road path between Kirkwood Road and Machinery Drive	n/a	New 2.0 m wide footpath seal	Medium

Reference Number	Road	Location	Issue ID	Initiative	Estimated Cost Range
Tweed Heads South 22	Industry Drive	Full length of loop west of Amber Road	n/a	New footpath on one side 2.0 m wide	Medium
Tweed Heads South 23	Amber Road	West side between Machinery Drive and Blundell Boulevard	n/a	New footpath 2.0 m wide	Medium
Tweed Heads South 24	Fraser Drive	Between Stradbroke Drive and Dry Dock Road	n/a	New shared use path connecting along Fraser Drive to Dry Dock Road	High
Tweed Heads South 25	Sullivan Road/ Cunningham Street	Between Dry Dock Road and Oxley Street	n/a	New footpath on one side 1.2 m wide connecting from Dry Dock Road to Oxley Street	Medium
Tweed Heads South 26	Shallow Bay Drive	West of Minjungbal Drive including Rivendell	n/a	New footpath on one side 2.0 m wide	Medium
Banora Point 1	Darlington Drive	Near Minjungbal Road intersection	B1	Provide wayfinding signage	Low
Banora Point 2	Darlington Drive	Bus stop north of Leisure Drive	B2	Provide break in raised median and kerb ramps	Low
Banora Point 3	Darlington Drive	North of Leisure Drive intersection	B3	Connect footpath to shared driveway access and convert shared driveway to shared zone	Low
Banora Point 4	Darlington Drive	Leisure Drive intersection	B3	Convert roundabout to traffic signals	High

Reference Number	Road	Location	Issue ID	Initiative	Estimated Cost Range
Banora Point 5	Darlington Drive	South of Leisure Drive intersection	B3	Provide pedestrian refuge on south leg of roundabout	Low
Banora Point 6	Leisure Drive	Winders Place intersection	n/a	Widen footpath on all corners to accommodate mobility scooter turning	Low
Banora Point 7	Leisure Drive	South side full length of road	n/a	Widen footpath to 2.0 m minimum	Medium
Banora Point 8	Winders Place	East side near Kentia Crescent	n/a	Connect footpaths	Low
Banora Point 9	Leisure Drive	Woodbridge Drive roundabout	B6	Improve pedestrian crossings on all roundabout legs	Low
Banora Point 10	Avondale Drive	Three locations where off-road footpaths interface - North, East and West	B4	Provide clear indication of priority	Low
Banora Point 11	Off-road	Between Avondale Drive and Riversdale Boulevard	n/a	New pedestrian bridge connecting footpaths	High
Banora Point 12	Off-road	Between Firestone Drive and Russel Way	n/a	New pedestrian bridge connecting footpaths	High
Banora Point 13	Covent Gardens Way	South of Alpina Place	B5	Relocate kerb ramps clear of traffic calming treatment	Low

Reference Number	Road	Location	Issue ID	Initiative	Estimated Cost Range
Banora Point 14	Banora Boulevard	West side of Banora Boulevard linking to Sedalia Place and Muirfield Place	n/a	New footpath 1.2 m wide	Medium
Banora Point 15	Greenway Drive	West side south of Enterprise Avenue	n/a	Connect footpath	Low
Banora Point 16	Fraser Drive	West side south of Botanical Circuit	B7	New footpath connecting from Covent Gardens Way to Botanical Circuit with pedestrian refuges on Fraser Drive and Botanical Circuit	Medium
Kingscliff 1	Marine Parade	Off-road shared use path	n/a	Lighting upgrade	High
Kingscliff 2	Marine Parade	West side between Beach Street and Wommin Bay Road	K9	Connect footpaths	Medium
Kingscliff 3	Marine Parade	Off-road shared use path south of Beach Street	K2	Provide formal connection to south end of car park	Low
Kingscliff 4	Marine Parade	North of Pearl Street	K3	New connection from pedestrian crossing to shared use path	Low
Kingscliff 5	Marine Parade	North of Turnock Street	K8	Replace pavement treatment with zebra crossing	Low
Kingscliff 6	Marine Parade	Off-road shared use path near Turnock Street	K4	Repair footpath	Low

Reference Number	Road	Location	Issue ID	Initiative	Estimated Cost Range
Kingscliff 7	Turnock Street	East side between Marine Parade and Supermarket entrance	n/a	Widen footpath to 2.0 m	Low
Kingscliff 8	Turnock Street	North side between Pearl Street and Elrond Drive	n/a	Improve pedestrian environment, upgrade lighting	High
Kingscliff 9	Turnock Street	South of Pearl Street	n/a	Provide shaded seating area	Low
Kingscliff 10	Marine Parade	South side through commercial strip	n/a	Locate seating, signage etc. to ensure clear width minimum 2.0 m	Negligible
Kingscliff 11	Marine Parade	Eastern end near Faulks Park	K5	Remove conflicting pavement markings	Low
Kingscliff 12	Off-road	Footpath connecting between Marine Parade and Pearl Street	K6	Widen footpath to 2.0 m	Low
Kingscliff 13	Pearl Street	Full length between Seaview Street and Turnock Street	K14	Widen footpaths to 2.0 m both sides and resurface some parts	Medium
Kingscliff 14	Pearl Street	Turnock Street roundabout	n/a	Provide refuge islands on all approaches	Low
Kingscliff 15	Hungerford Lane	Full length of section parallel to Marine Parade	n/a	Convert to shared zone 10-km/h speed limit	Low

Reference Number	Road	Location	Issue ID	Initiative	Estimated Cost Range
Kingscliff 16	Kingscliff Street	West side between Beach Street and Zephyr Street	n/a	New footpath 1.2 m wide	Low
Kingscliff 17	Sutherland Street	East side between Moss Street and Seaview Street	K10/K11	New footpath 1.2 m wide	Medium
Kingscliff 18	Orient Street	Pedestrian crossing	K12	Connect footpaths to crossing with kerb ramps and provide footpath connection to Sutherland Street west side	Low
Kingscliff 19	Yale Street	Cambridge Crescent and Yale Street	K15	New footpath 1.2 m wide connecting from off-road path to Oxford Street and McPhail Avenue	Medium
Kingscliff 20	Monarch Drive	South side between Osprey Place and Bellbird Drive	n/a	New footpath 1.2 m wide	Low
Kingscliff 21	McPhail Avenue	South side between Gibson Street and Oxford Street	n/a	New footpath 1.2 m wide	Medium
Kingscliff 22	Cudgen Road	Between Turnock Street and Oxford Street	n/a	Replace painted island with refuge island	Low
Kingscliff 23	Beach Street	South side between Marine Parade and Kingscliff Street	n/a	New footpath 1.2 m wide	Low

Reference Number	Road	Location	Issue ID	Initiative	Estimated Cost Range
Kingscliff 24	Zephyr Street	South side between Marine Parade and Kingscliff Street	n/a	Connect footpath to Marine Parade	Low
Kingscliff 25	Kingscliff Street	Beach Street roundabout	n/a	Provide refuge islands on all approaches	Low
Kingscliff 26	Sutherland Street	East side south of Moss Street	n/a	New footpath 1.2 m wide	Medium
Murwillumbah 1	Brisbane Street	West side between King Street and Condong Street	n/a	New footpath 1.2 m wide	Medium
Murwillumbah 2	Brisbane Street	North of King Street	n/a	Provide pedestrian crossing	Low
Murwillumbah 3	Alma Street	East side of Alma Street Bridge	n/a	Improve connection between River Street and Budd Park shared use path	Low
Murwillumbah 4	Off-road	West side of Alma Street Bridge	M6	Link off-road footpath north and south of Alma Street bridge	Low
Murwillumbah 5	River Street	Full length of River Street	M1	New footpath 1.2 m wide along one side of River Street	Medium
Murwillumbah 6	Alma Street	River Street intersection	M3	Provide pedestrian refuge island	Low
Murwillumbah 7	Wollumbin Street	South side west of Brisbane Street	n/a	Provide shaded seating area	Low

Reference Number	Road	Location	Issue ID	Initiative	Estimated Cost Range
Murwillumbah 8	Wollumbin Street	East of Nullum Street	n/a	New pedestrian crossing	Low
Murwillumbah 9	Tumbulgum Road	Aquatic Centre entrance	M4	Upgrade pavement treatment to raised pedestrian zebra crossing	Low
Murwillumbah 10	Tumbulgum Road	North side east of Sunnyside Lane	M5	Explore opportunities to widen footpath	Medium
Murwillumbah 11	Queensland Road	West side between Murwillumbah Street and Ewing Street	n/a	New footpath 2.0 m wide	Medium
Murwillumbah 12	Queensland Road	Ewing Street intersection	M7	Realign kerb ramps and provide pedestrian refuge island	Low
Murwillumbah 13	Murwillumbah Street	Mooball Street intersection approach	M9	Redesign ramp and fencing to remove obstructions	Medium
Murwillumbah 14	Murwillumbah Street	Mooball Street roundabout	M10	Remove tripping hazard on westbound approach	Low
Murwillumbah 15	Brisbane Street	Between Wollumbin Street and Proudfoots Lane	n/a	Provide new pedestrian crossing	Medium
Murwillumbah 16	Condong Street	West of Brisbane Street	M12	Reduce road width of Condong Avenue and continue shared path at level grade	Medium
Murwillumbah 17	Queensland Road	North of Mooball Street	n/a	Continue footpath along showground frontage	Medium

Reference Number	Road	Location	Issue ID	Initiative	Estimated Cost Range
Murwillumbah 18	Nullum Street	Full length of Nullum Street	n/a	Provide footpath both sides 1.2 m wide	Medium
Murwillumbah 19	Nullum Street	Sathya Sai School	n/a	New pedestrian crossing	Medium
Murwillumbah 20	Tumbulgum Road	Near Aquatic Centre entrance	n/a	New pedestrian crossing from amenities block to Aquatic Centre	Medium
Murwillumbah 21	William Street	North of Byangum Road roundabout	n/a	Move pedestrian crossing further north along William Street to improve sight distance	Low

6. Priorities for Pedestrian Improvements

6.1 Methodology to Prioritise Pedestrian Improvements

The RMS document *"How to Prepare a Pedestrian Access and Mobility Plan"* (March, 2002) provides guidance on which factors are important in providing footpaths. This was used to determine the prioritisation of the proposed pedestrian infrastructure improvements.

Scores were derived for each of the recommended pedestrian improvements for the purpose of prioritising projects. The Weighted Criteria Scoring System from the RMS PAMP Guide was used to prioritise each proposed improvement as shown in Table 10.

Table 10 RMS Weighted Criteria Scoring System

Category	Criteria	Performance Conditions[2]	Score[3]
Land Use	Number of attractors/ generators (locations)	more than 5 locations 3-5 locations 1-2 locations 0 locations	10 8 5 0
	Land use type	schools commercial/retail residential other	10 8 5 0
	Proximity to generators/ attractors	less than 250 metres >250-500 metres >500-1000 metres >1000 metres	10 8 5 0
	Future development with attractors/generators	high medium low	5 3 1
Traffic Impact	Road hierarchy	State road Regional road local road special use other	15 10 8 5 0

[2] Only one performance condition is to be selected for each criteria e.g. Land use type residential = 5.
[3] The overall work prioritisation is then determined by adding up each criteria scores to reflect the environment of the specific area e.g. High (100-70), Medium (<70-40), Low (<40) or Considering (not scored).

Category	Criteria	Performance Conditions[2]	Score[3]
Safety	Identified hazardous area (from audit or consultation)	high medium low none	10 8 5 0
	Identified pedestrian crashes	>3 reported crashes per year 3 reported crashes per year 2 reported crashes per year 1 reported crash per year 0 reported crashes per year	15 10 8 5 0
Facility Benefits	Demonstrated path	high usage medium usage low usage not demonstrated	10 8 5 0
Continuity of routes	Addition to existing facility	link up footpath extension of footpath add to devices other	10 8 5 0
Priority	Pedestrian route hierarchy	high medium low	5 3 1

The overall priority of the works is determined by summing the score of each criterion where:

- High (100 – 70);
- Medium (<70 – 40); and
- Low (<40).

Limitations of RMS Methodology

Note that there are limitations to the RMS based methodology for prioritising each proposed improvement. For example, the Weighted Criteria Scoring System does not include the presence of existing footpaths on the opposite side of the street. This results in the proposed improvement having a higher priority using the RMS method (as it is assumed there is no footpath on the route).

Also, at some key generators, pedestrian facilities may be urgently required (outside an aged car facility for example) however the weighting system may not provide a score that is significantly higher than for the same facility at a less critical location. Therefore, consideration needs to be taken when assessing priorities in conjunction with the RMS methodology.

6.2 Ranking of the Pedestrian Improvements

Results from the RMS weighted prioritisation are provided in Table 11 for the highest 30 ranking. The RMS weighted prioritisations are provided in full at Appendix G.

Table 11 Ranked Pedestrian Improvements

Rank	Reference Number	Location	Treatment
1	Tweed Heads South 17	Minjungbal Drive, Between Blundell Boulevard and Machinery Drive	New kerb ramps and pedestrian refuge
2	Tweed Heads South 9	Oxley Street, Between Kirkwood Road and Cunningham Street	New footpath 2.0 m wide
3	Kingscliff 14	Pearl Street, Turnock Street roundabout	Provide refuge islands on all approaches
4	Murwillumbah 15	Brisbane Street, Between Wollumbin Street and Proudfoots Lane	Provide new pedestrian crossing
5	Tweed Heads South 10	Minjungbal Drive, South of Heffron Street intersection	Provide additional fencing along eastern side of Minjungbal Drive
6	Kingscliff 5	Marine Parade, North of Turnock Street	Replace pavement treatment with zebra crossing
7	Tweed Heads 12	Wharf Street, East side between Frances Street and Florence Street	Provide kerb ramps at regular intervals for access to on-street parking
8	Tweed Heads South 11	Minjungbal Drive, Full length	Reduce speed limit to 60-km/h
9	Kingscliff 17	Sutherland Street, East side between Moss Street and Seaview Street	New footpath 1.2 m wide
10	Kingscliff 18	Orient Street, Pedestrian crossing	Connect footpaths to crossing with kerb ramps and provide footpath connection to Sutherland Street west side

Rank	Reference Number	Location	Treatment
11	Tweed Heads South 4	Dry Dock Road, Sunshine Avenue intersection	Upgrade intersection to traffic signals with full pedestrian crossings
12	Kingscliff 19	Yale Street, Cambridge Crescent and Yale Street	New footpath 1.2 m wide connecting from off-road path to Oxford Street and McPhail Avenue
13	Murwillumbah 8	Wollumbin Street, East of Nullum Street	New pedestrian crossing
14	Murwillumbah 11	Queensland Road, West side between Murwillumbah Street and Ewing Street	New footpath 2.0 m wide
15	Murwillumbah 12	Queensland Road, Ewing Street intersection	Realign kerb ramps and provide pedestrian refuge island
16	Murwillumbah 18	Nullum Street, Full length of Nullum Street	Provide footpath both sides 1.2 m wide
17	Murwillumbah 19	Nullum Street, Sathya Sai School	New pedestrian crossing
18	Tweed Heads South 15	Minjungbal Drive, West side between Kirkwood Road and Shallow Bay Drive	Widen footpath to 2.0 m
19	Tweed Heads 17	Wharf Street, Brett Street intersection	New pedestrian refuges on side streets
20	Tweed Heads South 8	Heffron Street, North side between Seymour Street and Minjungbal Drive	New footpath 1.2 m wide
21	Banora Point 7	Leisure Drive, South side full length of road	Widen footpath to 2.0 m minimum
22	Banora Point 3	Darlington Drive, North of Leisure Drive intersection	Connect footpath to shared driveway access and convert shared driveway to shared zone
23	Banora Point 5	Darlington Drive, South of Leisure Drive intersection	Provide pedestrian refuge on south leg of roundabout

Rank	Reference Number	Location	Treatment
24	Banora Point 2	Darlington Drive, Bus stop north of Leisure Drive	Provide break in raised median and kerb ramps
25	Banora Point 6	Leisure Drive, Winders Place intersection	Widen footpath on all corners to accommodate mobility scooter turning
26	Murwillumbah 6	Alma Street, River Street intersection	Provide pedestrian refuge island
27	Murwillumbah 20	Tumbulgum Road, Near Aquatic Centre entrance	New pedestrian crossing from amenities block to Aquatic Centre
28	Tweed Heads 4	Stuart Street, West side near Navigation Lane	Regrade footpath to improve crossfall
29	Tweed Heads 9	Wharf Street, Frances Street intersection	Replace roundabout with new traffic signals
30	Banora Point 4	Darlington Drive, Leisure Drive intersection	Convert roundabout to traffic signals

7. Conclusions and Recommendations

7.1 Findings of the Investigations

The key issues identified as part of this study include:

- Consultation was undertaken with key stakeholders and the wider community as part of the development of this PAMP for Tweed Shire, to ensure that the plan meets the needs of the community now and into the future. The consultation involved community surveys and a workshop. Specific areas of concern that were raised by multiple people included:
  - Pedestrian crossings at Florence Street and Boyd Street;
  - Lack of footpath on Dry Dock Road;
  - Poor pedestrian access to shopping centres;
  - School traffic at Sunshine Avenue;
  - Lack of footpath on Sullivan Street;
  - Pedestrian crossings at Cudgen Road;
  - Lack of footpath on Sutherland Street;
  - Pedestrian crossings at Turnock Street;
  - Lack of trees, shade and lighting along Turnock Street;
  - Poor pedestrian and cycle linkages along Marine Parade;
  - Poor footpath lighting;
  - Footpath obstructions on Leisure Drive;
  - Lack of footpath on Banora Boulevard;
  - Pedestrian crossings at Greenway Drive;
  - Lack of footpath on Queensland Street;
  - Lack of footpath and pedestrian crossings at Nullum Street; and
  - Poor pedestrian linkages on Tumbulgum Road.
- A review of pedestrian crash data for the Tweed LGA was undertaken and identified the following clusters of pedestrian crashes:
  - Minjungbal Drive, between Blundell Boulevard and Machinery Drive, South Tweed Heads; and
  - Brisbane Street, between Murwillumbah Street and Wollumbin Street, Murwillumbah.
- An audit of existing issues and constraints for pedestrians was undertaken for each of the five town centres in the study area. The audit focussed on identifying the existing facilities, land uses, any shortcomings in the

pedestrian environment and potential safety issues. The key issues and constraints included:

– Poor quality footpath surfaces;
– Informal pedestrian crossing movements on busy roads;
– Missing pedestrian links and crossings;
– Steep gradients;
– Obstructions within the footpath; and
– Lack of disabled or pram access.

7.2 Recommendations

A number of pedestrian improvements were recommended as part of this plan. A full list is provided in Table 9 and Appendix G of this report. The plan includes treatments such as:

- Widening of footpaths within the Primary Pedestrian Activity Zones and adjacent to Secondary and Tertiary Pedestrian Activity Generators;
- Construction of new footpaths and connection of existing footpaths to create a complete and coherent pedestrian network;
- Provision of new pedestrian crossings at areas of high pedestrian demand or vehicular traffic volumes;
- Improvement of the pedestrian environment including providing shade, seating areas and lighting upgrades;
- Upgrade of existing intersections to improve pedestrian access particularly for crossing movements at busy streets;
- Removal or relocation of obstructions within the footpath; and
- Improvement of access onto and off the footpath through the provision of adequate kerb ramps.

Appendices

Appendix A – Study Areas

Appendix B – Land Use Plans

Appendix C – Existing Pedestrian Infrastructure

Appendix D – Key Pedestrian Generators and Pedestrian Crash Data

Appendix E – Community Engagement Report

Appendix F – Existing Issues and Constraints Audit

Appendix G – Proposed Improvements Using the RMS Weighted Priorities

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1	M. Petrusma	T. Bickerstaff		S. Lawer		

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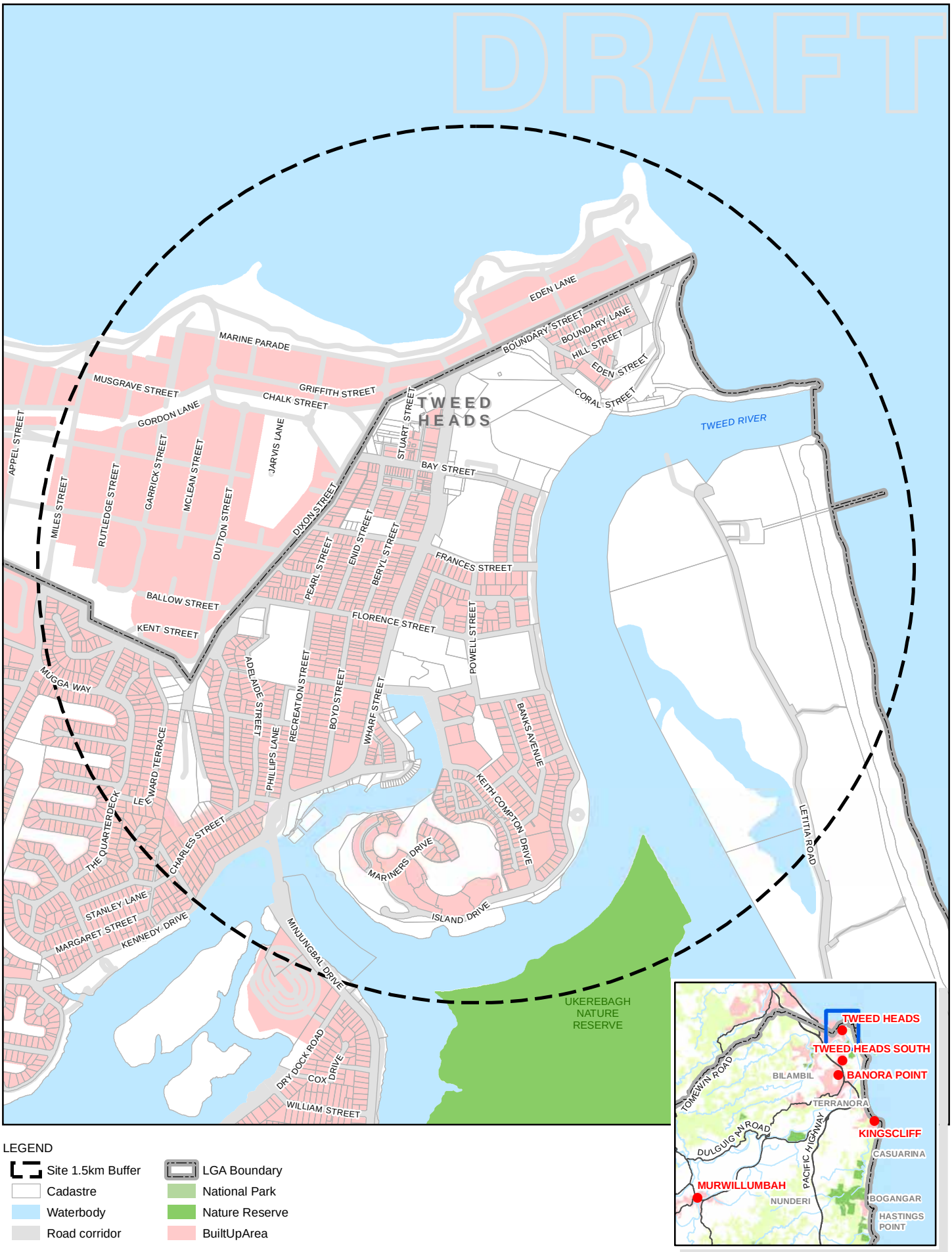

LEGEND

- Site 1.5km Buffer
- Cadastre
- Waterbody
- Road corridor
- LGA Boundary
- National Park
- Nature Reserve
- BuiltUpArea

Paper Size A4

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Kilometers

Map Projection: Transverse Mercator
Horizontal Datum: GDA 1994
Grid: GDA 1994 MGA Zone 56

N

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Tweed Shire Council
Pedestrain Access and Mobility Plan

Tweed Heads
Study Area

Job Number 22-17143
Revision A
Date 05 May 2014

Figure A.1

Level 3, GHD Tower, 24 Honeysuckle Drive, Newcastle NSW 2300 **T** 61 2 4979 9999 **F** 61 2 4979 9988 **E** ntlmail@ghd.com **W** www.ghd.com.au

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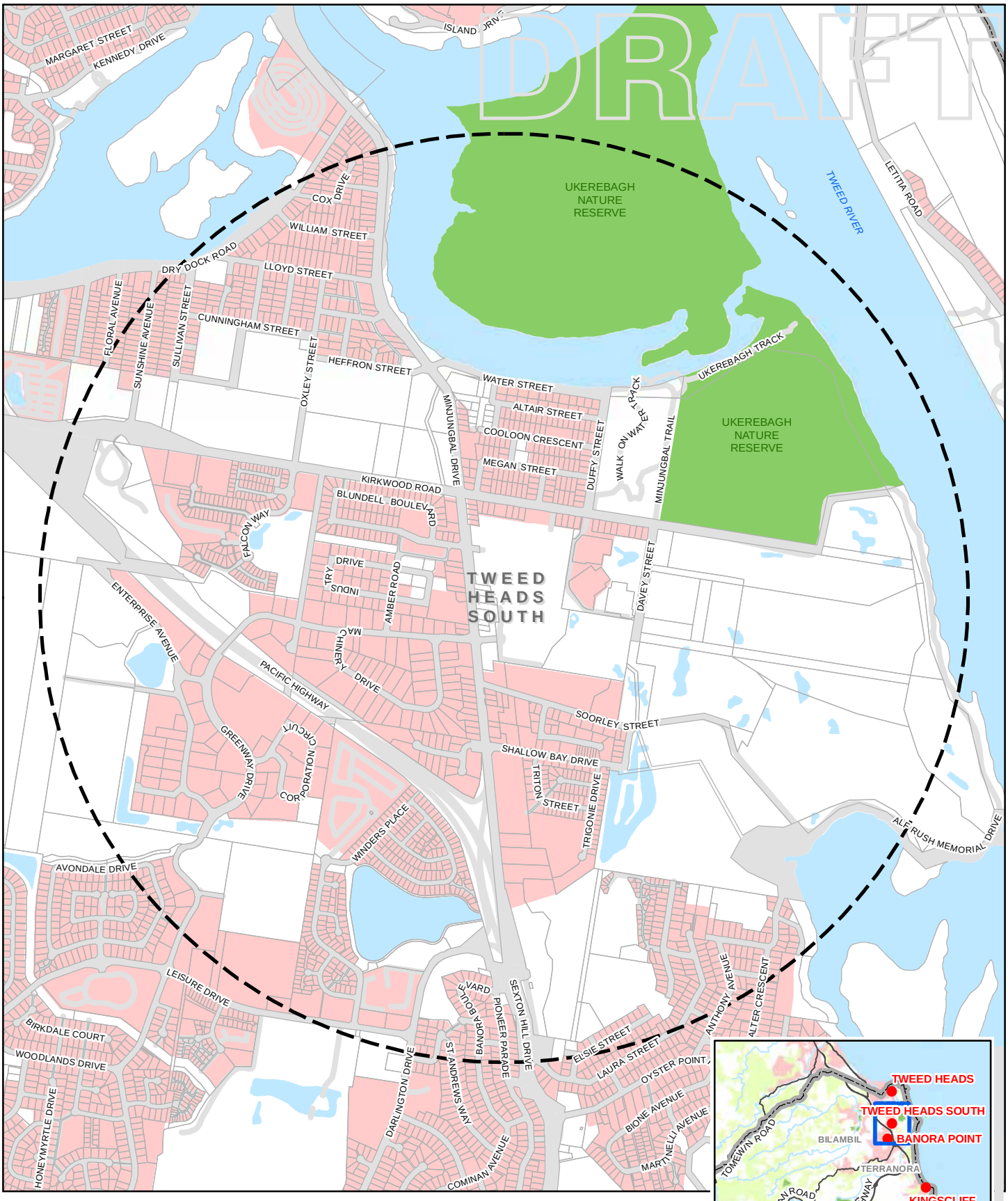
Data source: RMS: Crash Data 2014; LPI: DCDB & DTDB 2012. Created by: fmackay



LEGEND

- Site 1.5km Buffer
- Cadastre
- Waterbody
- Road corridor
- LGA Boundary
- National Park
- Nature Reserve
- BuiltUpArea

Paper Size A4

0 0.15 0.3 0.45 0.6

Kilometers

Map Projection: Transverse Mercator
Horizontal Datum: GDA 1994
Grid: GDA 1994 MGA Zone 56

N

Tweed Shire Council
Pedestrain Access and Mobility Plan

Tweed Heads South
Study Area

Job Number 22-17143
Revision A
Date 05 May 2014

Figure A.2

Level 3, GHD Tower, 24 Honeysuckle Drive, Newcastle NSW 2300 **T** 61 2 4979 9999 **F** 61 2 4979 9988 **E** ntlmail@ghd.com **W** www.ghd.com.au

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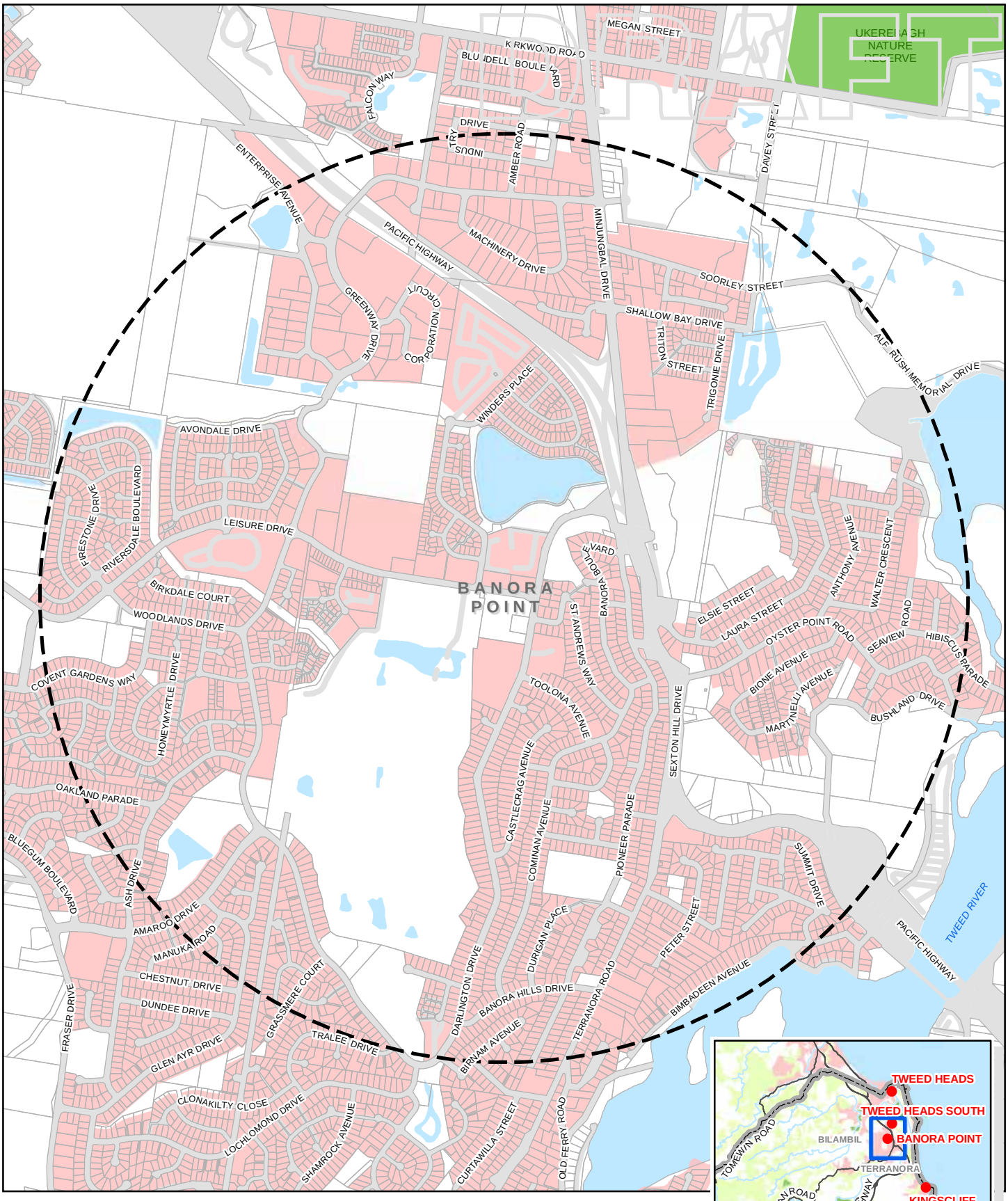

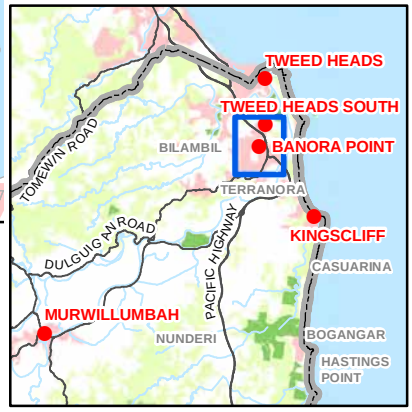

LEGEND

- Site 1.5km Buffer
- Cadastre
- Waterbody
- Road corridor
- LGA Boundary
- National Park
- Nature Reserve
- BuiltUpArea

Paper Size A4

0 0.15 0.3 0.45 0.6

Kilometers

Map Projection: Transverse Mercator
Horizontal Datum: GDA 1994
Grid: GDA 1994 MGA Zone 56

N

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Tweed Shire Council
Pedestrain Access and Mobility Plan

Banora Point
Study Area

Job Number 22-17143
Revision A
Date 05 May 2014

Figure A.3

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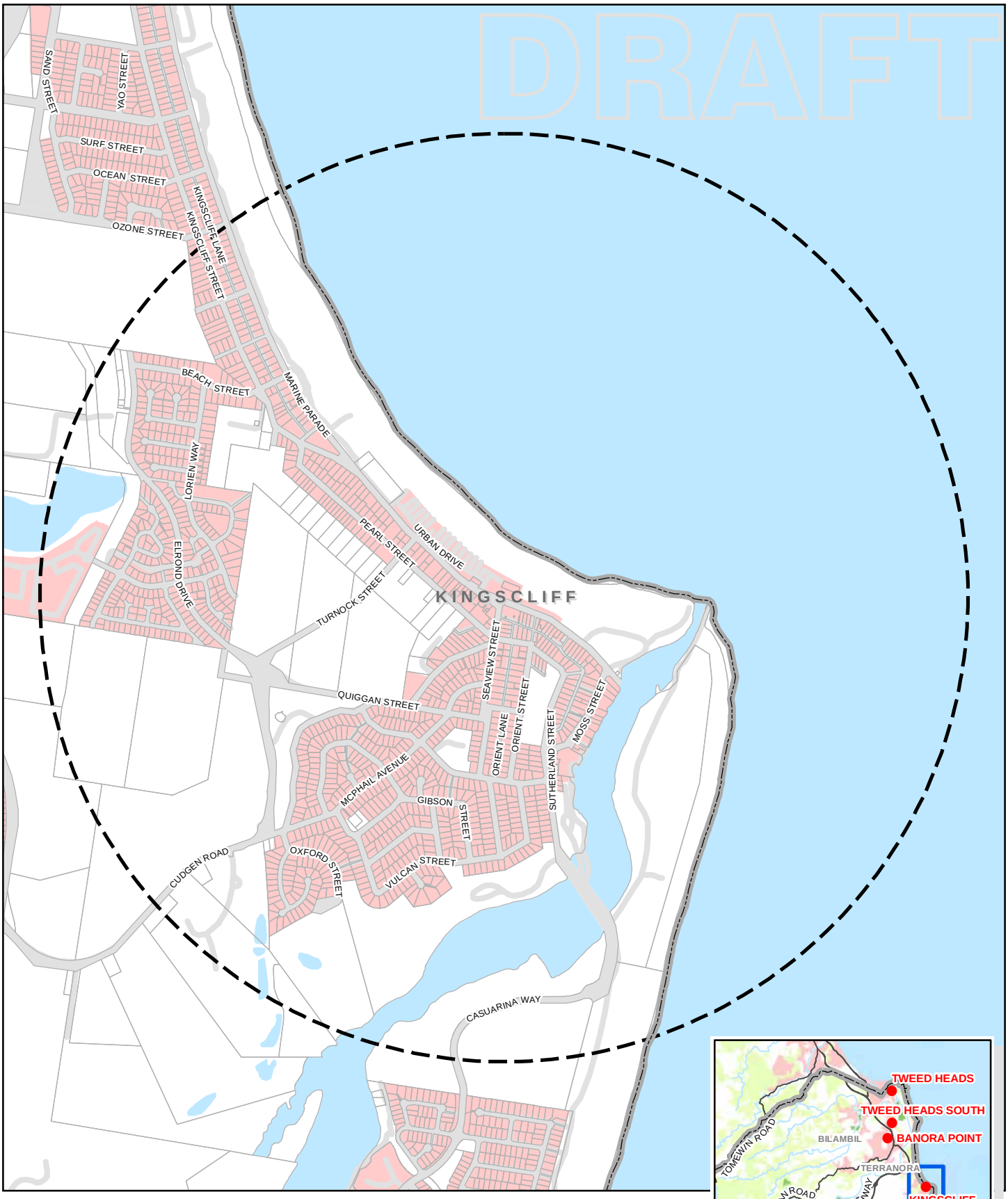


LEGEND

- Site 1.5km Buffer
- Cadastre
- Waterbody
- Road corridor
- LGA Boundary
- National Park
- Nature Reserve
- BuiltUpArea

Paper Size A4

0 0.15 0.3 0.45 0.6

Kilometers

Map Projection: Transverse Mercator
Horizontal Datum: GDA 1994
Grid: GDA 1994 MGA Zone 56

N

Tweed Shire Council
Pedestrain Access and Mobility Plan

Kingscliff
Study Area

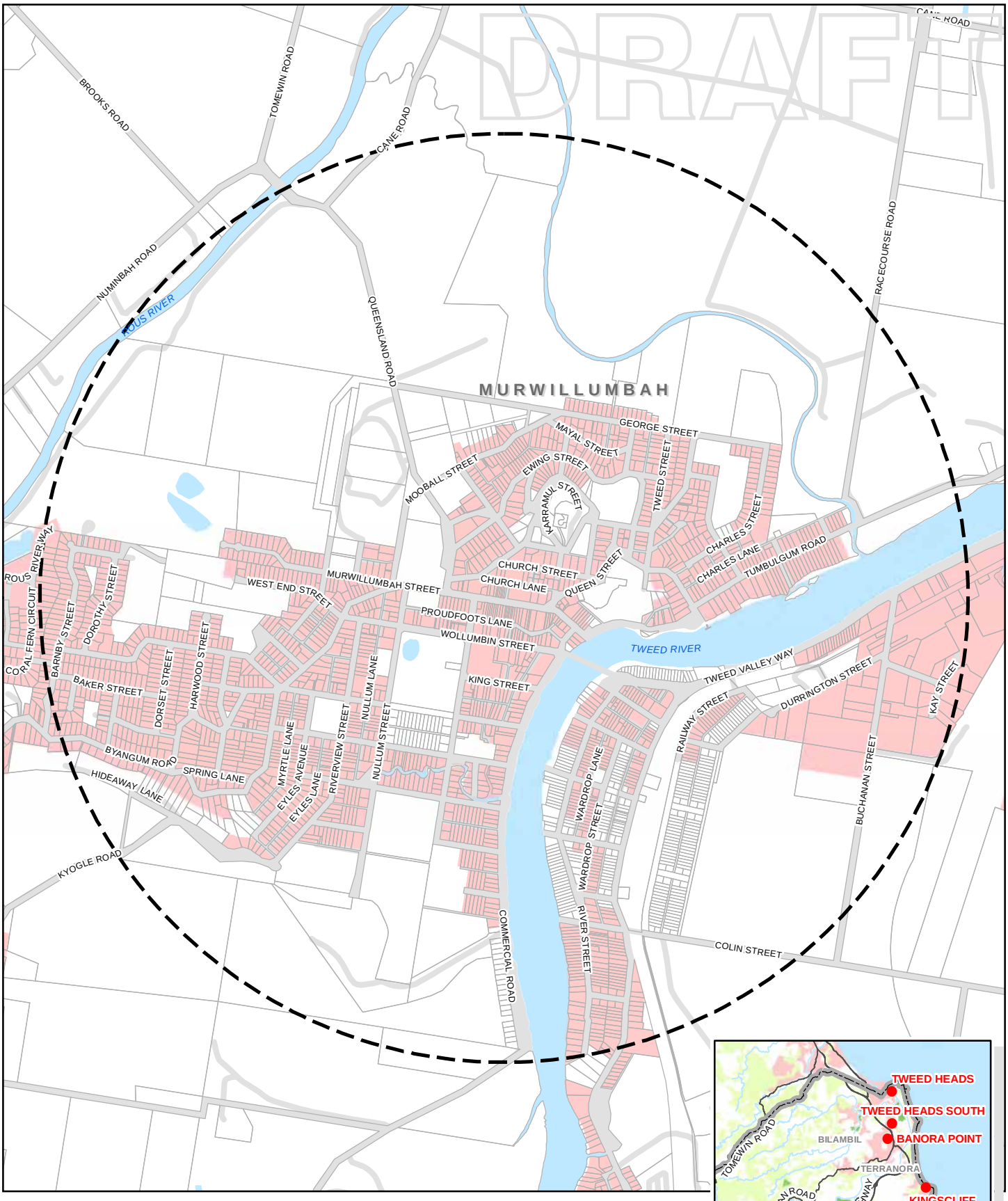
Job Number 22-17143
Revision A
Date 05 May 2014

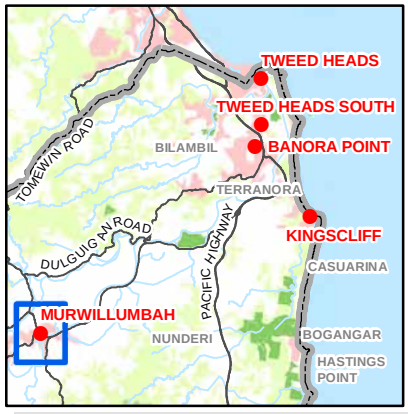
Figure A.4

Level 3, GHD Tower, 24 Honeysuckle Drive, Newcastle NSW 2300 **T** 61 2 4979 9999 **F** 61 2 4979 9988 **E** ntlmail@ghd.com **W** www.ghd.com.au

G:\22\17143\GIS\Maps\Deliverables\PAMP\2217143_PAMP001_StudyAreas_DDP_A.mxd

Data source: RMS: Crash Data 2014; LPI: DCDB & DTDB 2012. Created by: fmackay





LEGEND

- Site 1.5km Buffer
- Cadastre
- Waterbody
- Road corridor
- LGA Boundary
- National Park
- Nature Reserve
- BuiltUpArea

Paper Size A4

0 0.15 0.3 0.45 0.6

Kilometers

Map Projection: Transverse Mercator
Horizontal Datum: GDA 1994
Grid: GDA 1994 MGA Zone 56

N

GHD

Tweed Shire Council
Pedestrain Access and Mobility Plan

Murwillumbah
Study Area

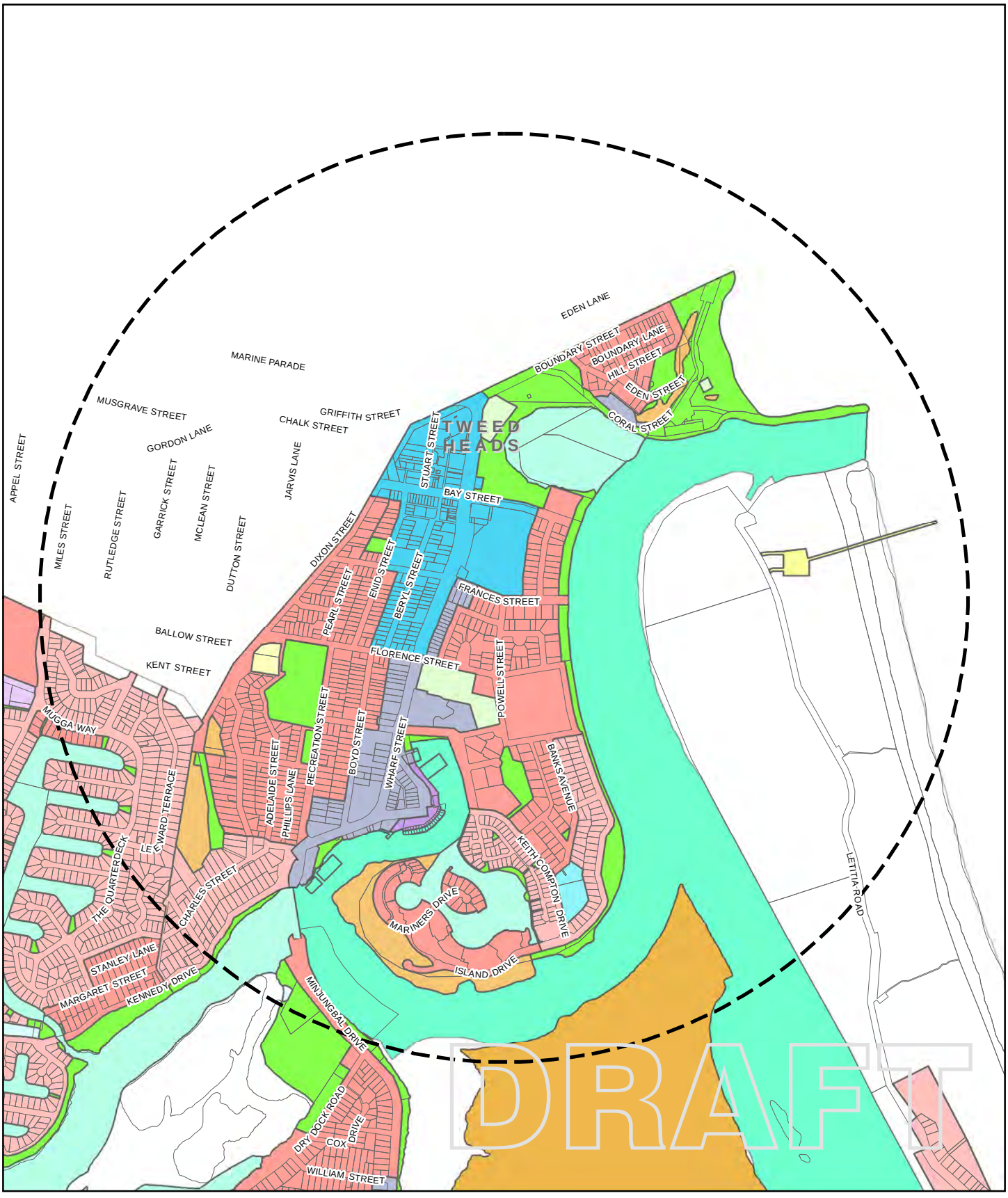
Job Number 22-17143
Revision A
Date 05 May 2014

Figure A.5

Level 3, GHD Tower, 24 Honeysuckle Drive, Newcastle NSW 2300 **T** 61 2 4979 9999 **F** 61 2 4979 9988 **E** ntlmail@ghd.com **W** www.ghd.com.au

G:\22\17143\GIS\Maps\Deliverables\PAMP\2217143_PAMP001_StudyAreas_DDP_A.mxd

Data source: RMS: Crash Data 2014; LPI: DCDB & DTDB 2012. Created by: fmackay



LEGEND

- Site 1.5km Buffer
- B1, Neighbourhood Centre
- B2, Local Centre
- B3, Commercial Core
- B4, Mixed Use
- E1, National Parks & Nature Reserves
- E2, Environmental Conservation
- IN1, General Industrial
- IN4, Working Waterfront
- R2, Low Density Residential
- R3, Medium Density Residential
- RE1, Public Recreation
- RE2, Private Recreation
- SP1, Special Activities
- SP2, Infrastructure
- W1, Natural Waterways
- W2, Recreational Waterways
- W3, Working Waterways
- DM, Deferred Matter

Paper Size A4

0 0.15 0.3 0.45 0.6

Kilometers

Map Projection: Transverse Mercator
Horizontal Datum: GDA 1994
Grid: GDA 1994 MGA Zone 56

N

Tweed Shire Council
Pedestrain Access and Mobility Plan

Tweed Heads
Land Use / Zoning

Job Number 22-17143
Revision A
Date 06 May 2014

Figure B.1

Level 3, GHD Tower, 24 Honeysuckle Drive, Newcastle NSW 2300 **T** 61 2 4979 9999 **F** 61 2 4979 9988 **E** ntlmail@ghd.com **W** www.ghd.com.au

G:\22\17143\GIS\Maps\Deliverables\PAMP\2217143_PAMP002_LEP_DDP_A.mxd

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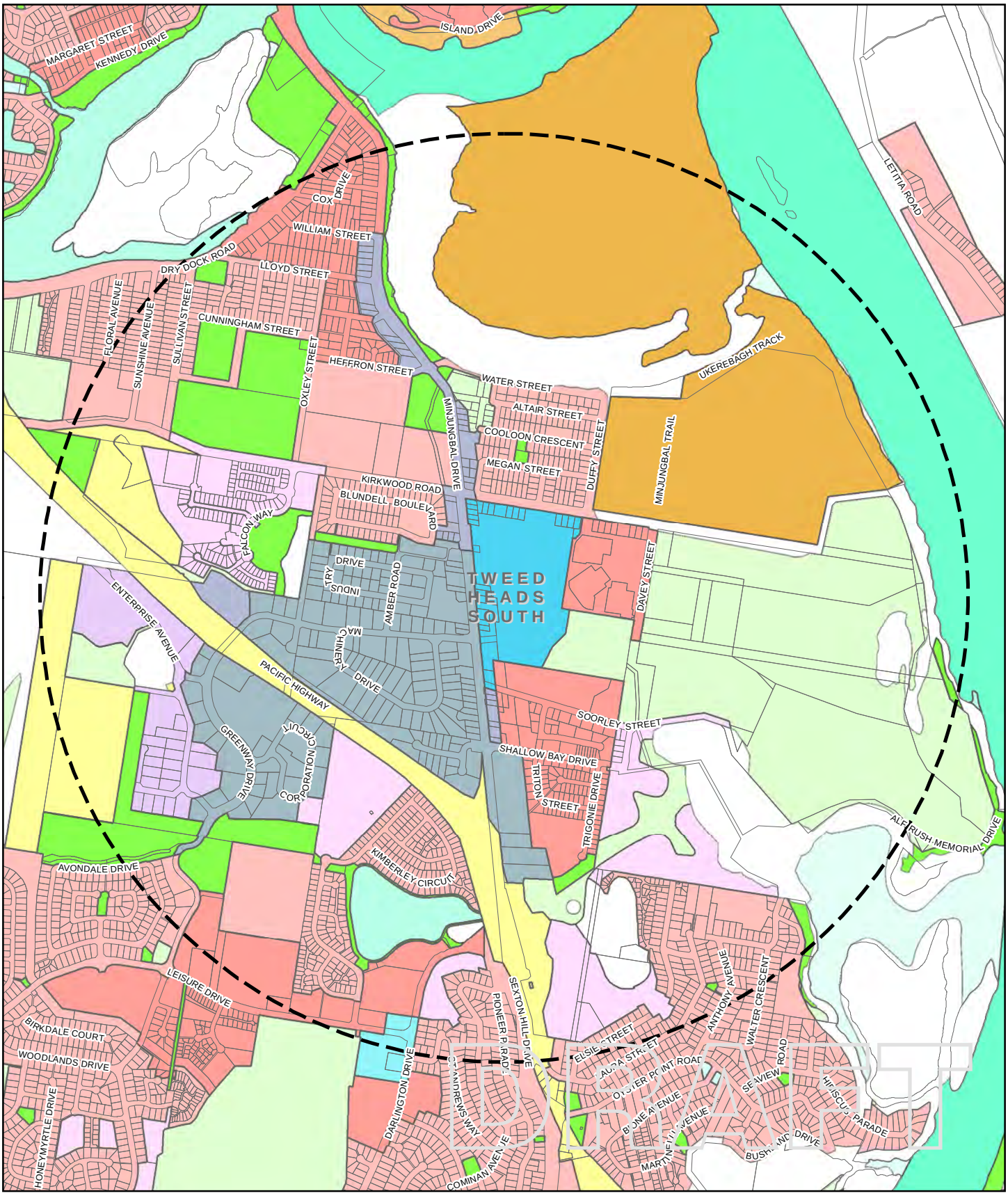

LEGEND

- Site 1.5km Buffer
- B1, Neighbourhood Centre
- B2, Local Centre
- B3, Commercial Core
- B4, Mixed Use
- B5, Business Development
- E1, National Parks & Nature Reserves
- E2, Environmental Conservation
- IN1, General Industrial
- R1, General Residential
- R2, Low Density Residential
- R3, Medium Density Residential
- RE1, Public Recreation
- RE2, Private Recreation
- SP2, Infrastructure
- W1, Natural Waterways
- W2, Recreational Waterways
- W3, Working Waterways
- DM, Deferred Matter

Paper Size A4

0 0.15 0.3 0.45 0.6

Kilometers

Map Projection: Transverse Mercator
Horizontal Datum: GDA 1994
Grid: GDA 1994 MGA Zone 56

N

GHD

Tweed Shire Council
Pedestrain Access and Mobility Plan

Tweed Heads South
Land Use / Zoning

Job Number 22-17143
Revision A
Date 06 May 2014

Figure B.2

Level 3, GHD Tower, 24 Honeysuckle Drive, Newcastle NSW 2300 **T** 61 2 4979 9999 **F** 61 2 4979 9988 **E** ntlmail@ghd.com **W** www.ghd.com.au

G:\22\17143\GIS\Maps\Deliverables\PAMP\2217143_PAMP002_LEP_DDP_A.mxd

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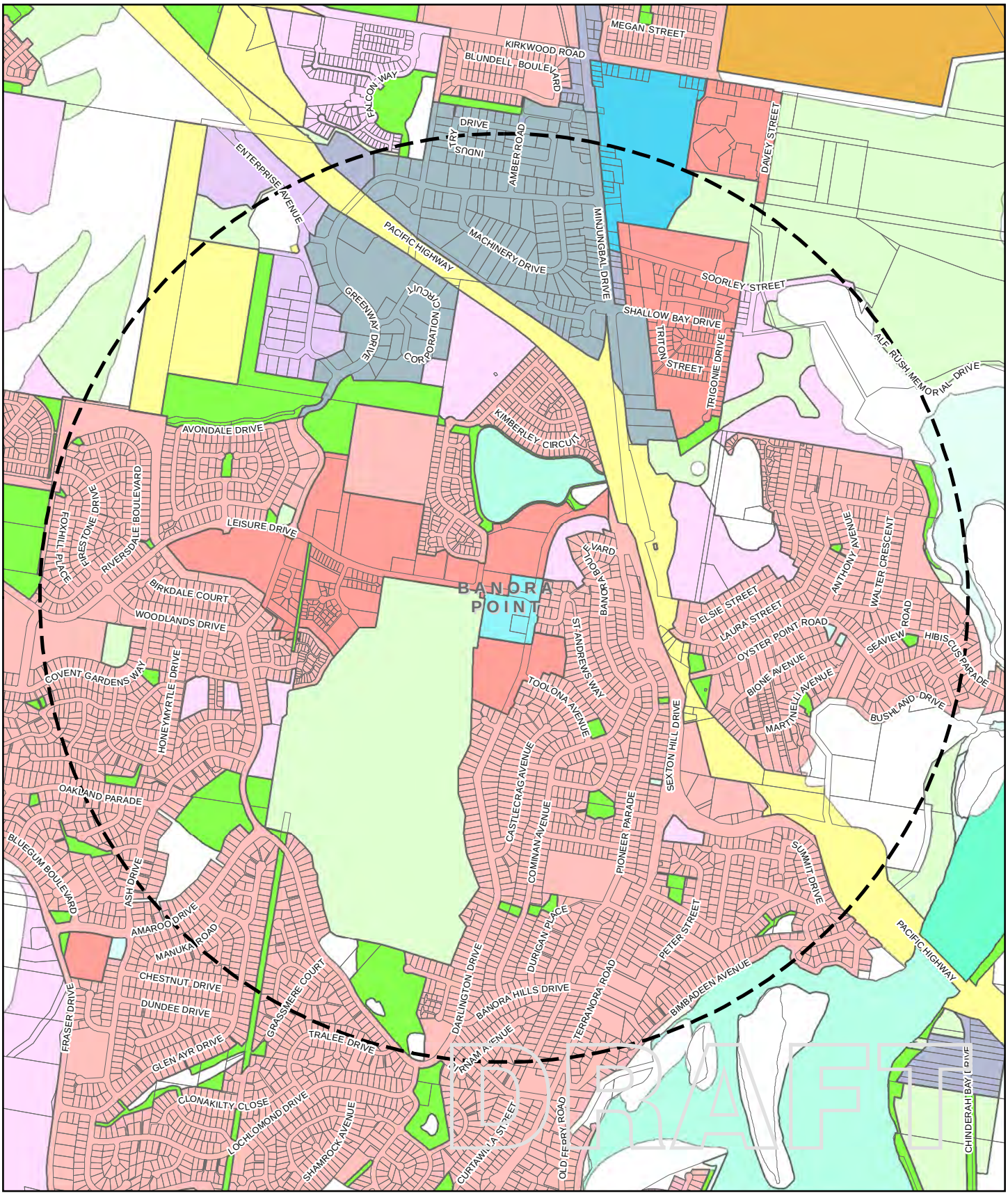

LEGEND

- Site 1.5km Buffer
- B1, Neighbourhood Centre
- B2, Local Centre
- B3, Commercial Core
- B4, Mixed Use
- B5, Business Development
- E1, National Parks & Nature Reserves
- IN1, General Industrial
- R1, General Residential
- R2, Low Density Residential
- R3, Medium Density Residential
- R5, Large Lot Residential
- RE1, Public Recreation
- RE2, Private Recreation
- SP2, Infrastructure
- W1, Natural Waterways
- W2, Recreational Waterways
- W3, Working Waterways
- DM, Deferred Matter

Paper Size A4

0 0.15 0.3 0.45 0.6

Kilometers

Map Projection: Transverse Mercator
Horizontal Datum: GDA 1994
Grid: GDA 1994 MGA Zone 56

N

GHD

Tweed Shire Council
Pedestrain Access and Mobility Plan

Banora Point
Land Use / Zoning

Job Number	22-17143
Revision	A
Date	06 May 2014

Figure B.3

Level 3, GHD Tower, 24 Honeysuckle Drive, Newcastle NSW 2300 **T** 61 2 4979 9999 **F** 61 2 4979 9988 **E** ntlmail@ghd.com **W** www.ghd.com.au

G:\22\17143\GIS\Maps\Deliverables\PAMP\2217143_PAMP002_LEP_DDP_A.mxd

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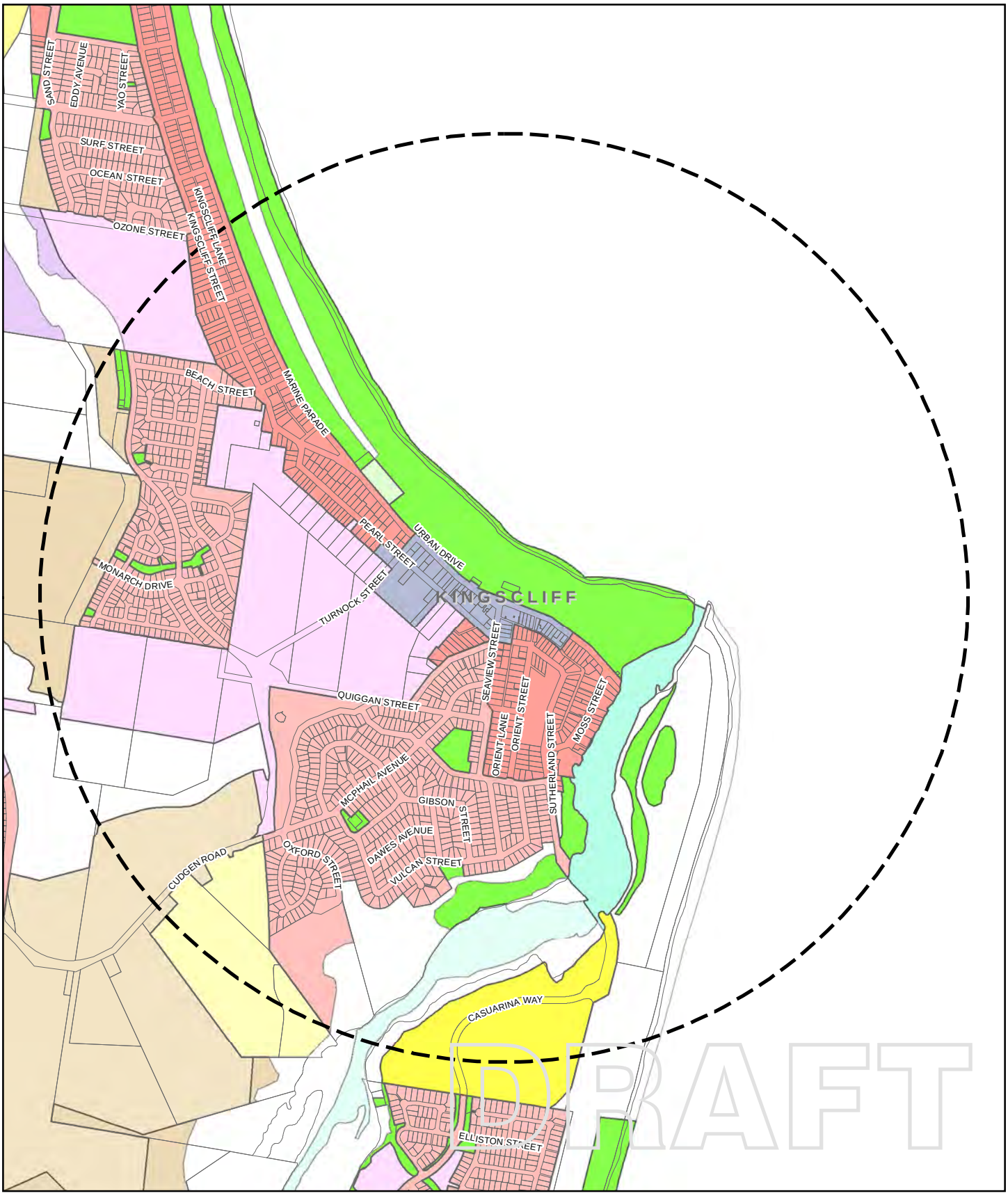

LEGEND

- Site 1.5km Buffer
- B4, Mixed Use
- IN1, General Industrial
- R1, General Residential
- R2, Low Density Residential
- R3, Medium Density Residential
- RE1, Public Recreation
- RE2, Private Recreation
- RU1, Primary Production
- RU2, Rural Landscape
- SP1, Special Activities
- SP2, Infrastructure
- SP3, Tourist
- W1, Natural Waterways
- W2, Recreational Waterways
- DM, Deferred Matter

Paper Size A4

0 0.15 0.3 0.45 0.6

Kilometers

Map Projection: Transverse Mercator
Horizontal Datum: GDA 1994
Grid: GDA 1994 MGA Zone 56

N

Tweed Shire Council
Pedestrain Access and Mobility Plan

Kingscliff
Land Use / Zoning

Job Number	22-17143
Revision	A
Date	06 May 2014

Figure B.4

Level 3, GHD Tower, 24 Honeysuckle Drive, Newcastle NSW 2300 **T** 61 2 4979 9999 **F** 61 2 4979 9988 **E** ntlmail@ghd.com **W** www.ghd.com.au

G:\22\17143\GIS\Maps\Deliverables\PAMP\2217143_PAMP002_LEP_DDP_A.mxd

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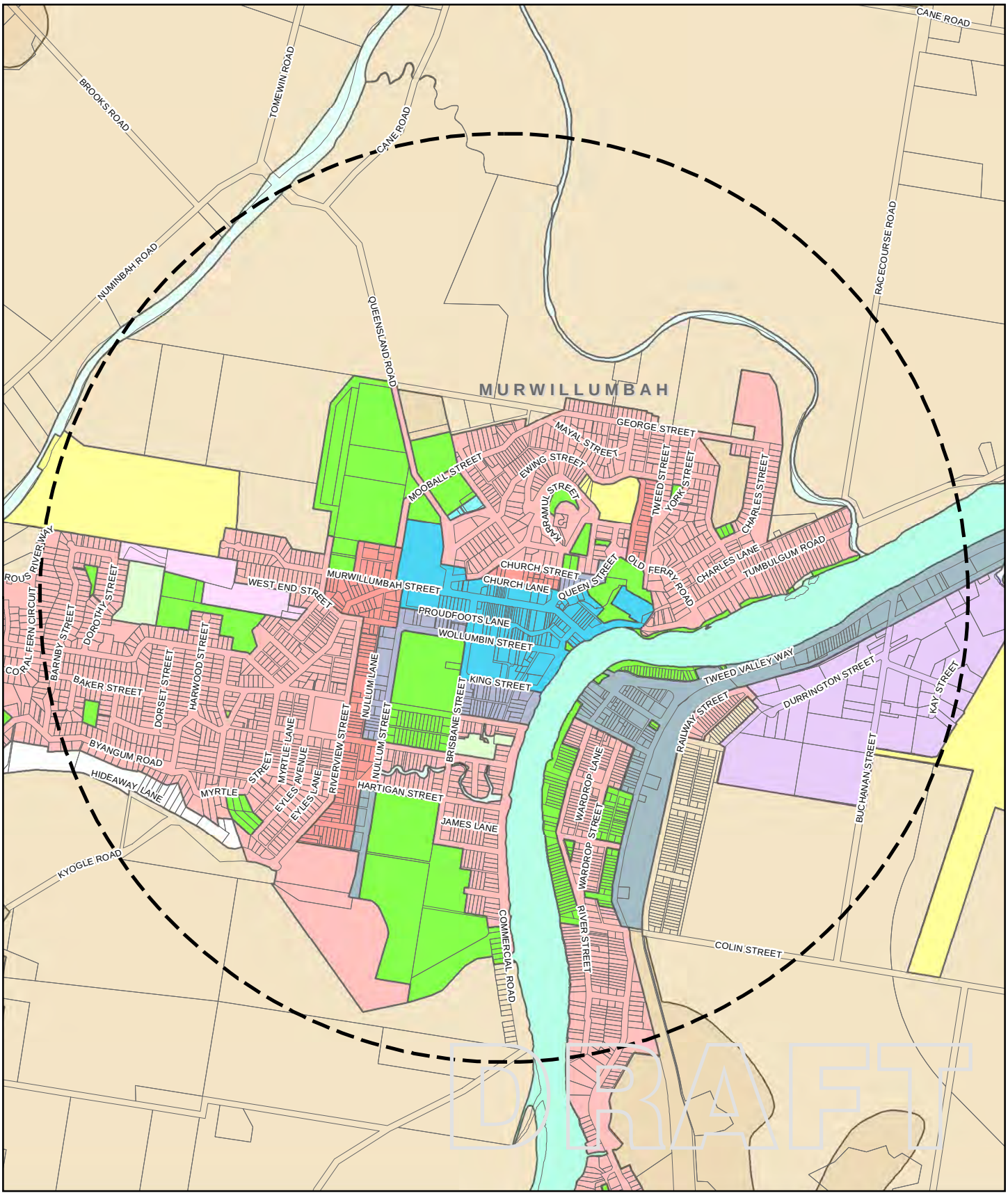

LEGEND

- Site 1.5km Buffer
- B2, Local Centre
- B3, Commercial Core
- B4, Mixed Use
- B5, Business Development
- IN1, General Industrial
- R1, General Residential
- R2, Low Density Residential
- R3, Medium Density Residential
- RE1, Public Recreation
- RE2, Private Recreation
- RU1, Primary Production
- RU2, Rural Landscape
- SP2, Infrastructure
- W1, Natural Waterways
- W2, Recreational Waterways
- DM, Deferred Matter

Paper Size A4

0 0.15 0.3 0.45 0.6

Kilometers

Map Projection: Transverse Mercator
Horizontal Datum: GDA 1994
Grid: GDA 1994 MGA Zone 56

N

GHD

Tweed Shire Council
Pedestrain Access and Mobility Plan

Murwillumbah
Land Use / Zoning

Job Number 22-17143
Revision A
Date 06 May 2014

Figure B.5

Level 3, GHD Tower, 24 Honeysuckle Drive, Newcastle NSW 2300 **T** 61 2 4979 9999 **F** 61 2 4979 9988 **E** ntlmail@ghd.com **W** www.ghd.com.au

G:\22\17143\GIS\Maps\Deliverables\PAMP\2217143_PAMP002_LEP_DDP_A.mxd

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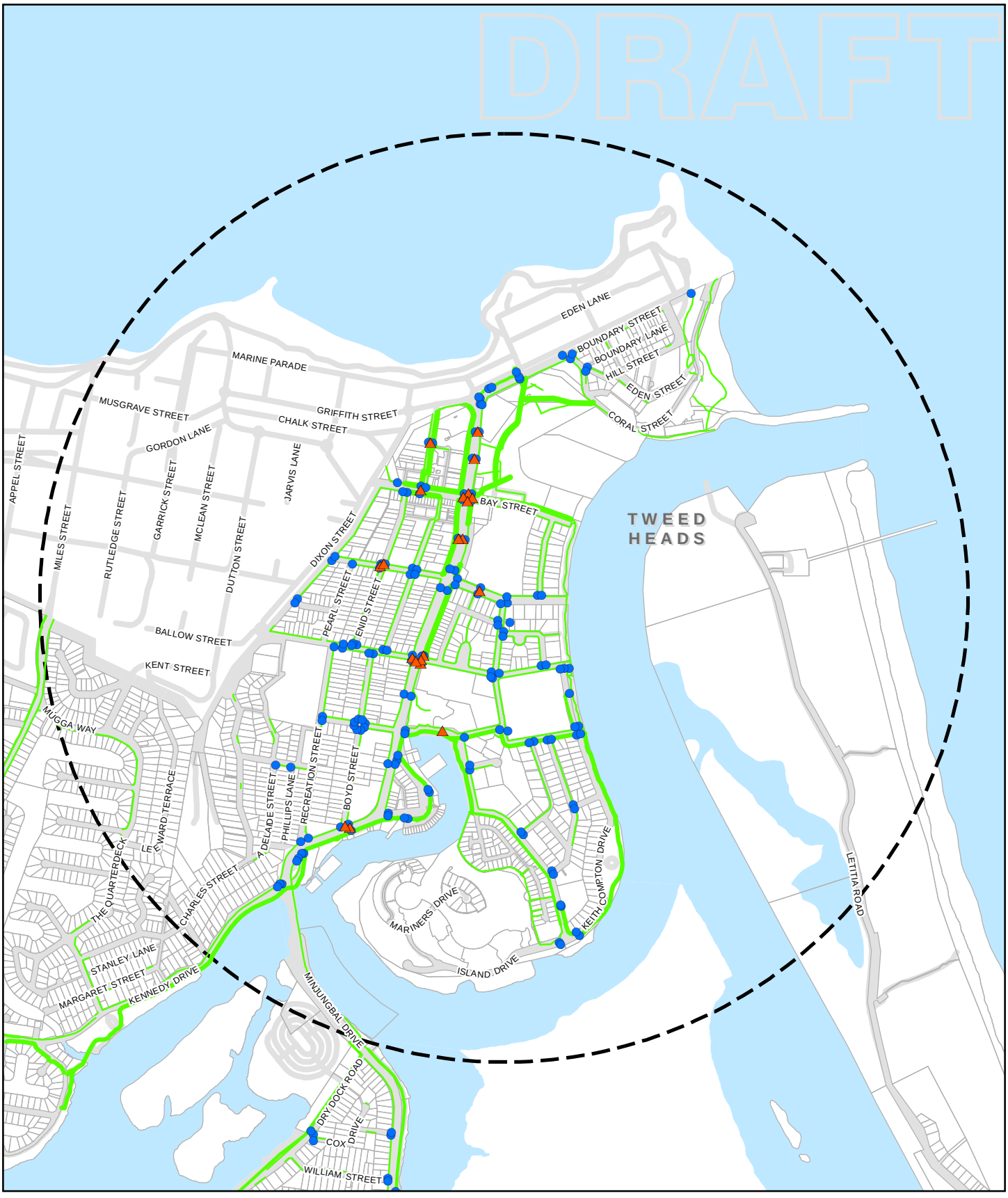

LEGEND

- Site 1.5km Buffer
- Cadastre
- Waterbody
- Road corridor

Pathway / Cycleway Width

- 0.6 - 1.5
- 1.5 - 2.2
- 2.2 - 2.5
- 2.5 - 4.0

- Pedestrian Crossing
- Pram Ramp

Paper Size A4

0 0.15 0.3 0.45 0.6

Kilometers

Map Projection: Transverse Mercator
Horizontal Datum: GDA 1994
Grid: GDA 1994 MGA Zone 56

N

GHD

Tweed Shire Council
Pedestrain Access and Mobility Plan

Tweed Heads
Existing Pedestrian Infrastructure

Job Number 22-17143
Revision A
Date 05 May 2014

Figure C.1

Level 3, GHD Tower, 24 Honeysuckle Drive, Newcastle NSW 2300 **T** 61 2 4979 9999 **F** 61 2 4979 9988 **E** ntlmail@ghd.com **W** www.ghd.com.au

G:\22\17143\GIS\Maps\Deliverables\PAMP\2217143_PAMP003_ExistingInfrastructure_DDP_A.mxd

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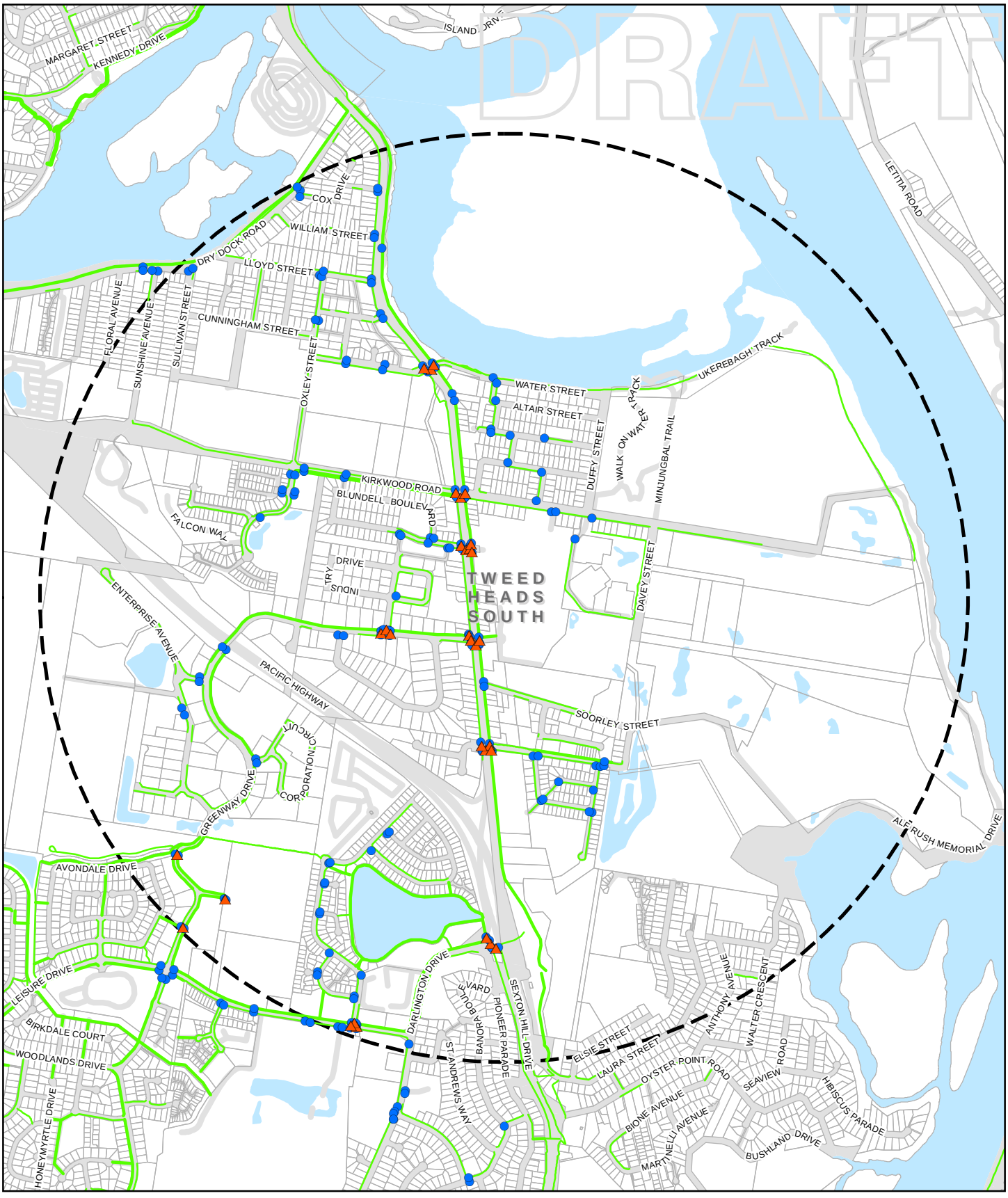


LEGEND

- Site 1.5km Buffer
- Cadastre
- Waterbody
- Road corridor
- Pathway / Cycleway Width
  - 0.6 - 1.5
  - 1.5 - 2.2
  - 2.2 - 2.5
  - 2.5 - 4.0
- Pedestrian Crossing
- Pram Ramp

Paper Size A4

0 0.15 0.3 0.45 0.6

Kilometers

Map Projection: Transverse Mercator
Horizontal Datum: GDA 1994
Grid: GDA 1994 MGA Zone 56

N

GHD

Tweed Shire Council
Pedestrain Access and Mobility Plan

Tweed Heads South
Existing Pedestrian Infrastructure

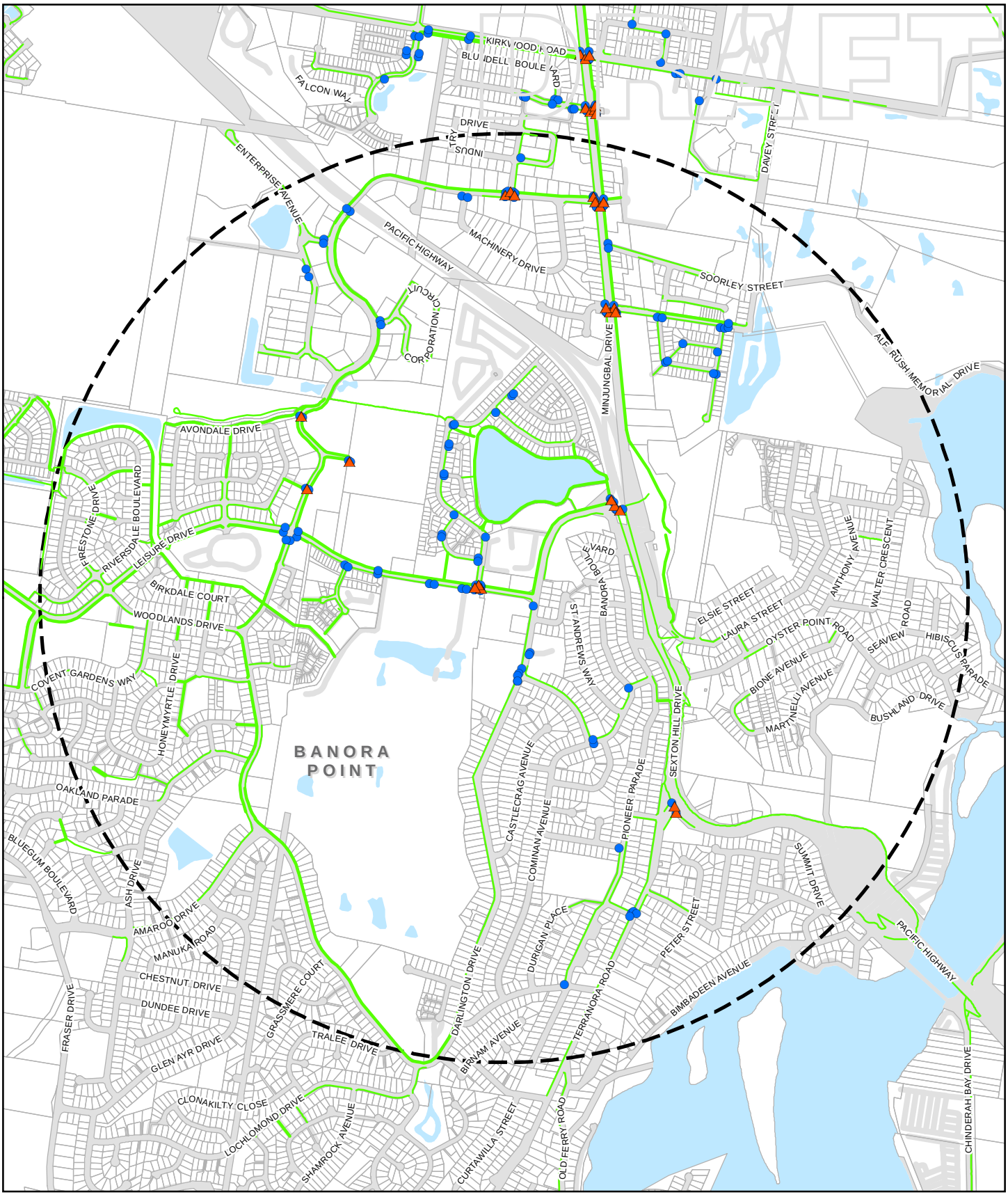
Job Number 22-17143
Revision A
Date 05 May 2014

Figure C.2

Level 3, GHD Tower, 24 Honeysuckle Drive, Newcastle NSW 2300 **T** 61 2 4979 9999 **F** 61 2 4979 9988 **E** ntlmail@ghd.com **W** www.ghd.com.au

G:\22\17143\GIS\Maps\Deliverables\PAMP\2217143_PAMP003_ExistingInfrastructure_DDP_A.mxd

Data source: RMS: Crash Data 2014; LPI: DCDB & DTDB 2012. Created by: fmackay



LEGEND

- Site 1.5km Buffer
- Cadastre
- Waterbody
- Road corridor

Pathway / Cycleway Width

- 0.6 - 1.5
- 1.5 - 2.2
- 2.2 - 2.5
- 2.5 - 4.0

- Pedestrian Crossing
- Pram Ramp

Paper Size A4

0 0.15 0.3 0.45 0.6

Kilometers

Map Projection: Transverse Mercator
Horizontal Datum: GDA 1994
Grid: GDA 1994 MGA Zone 56

N

GHD

Tweed Shire Council
Pedestrain Access and Mobility Plan

Banora Point
Existing Pedestrian Infrastructure

Job Number	22-17143
Revision	A
Date	05 May 2014

Figure C.3

Level 3, GHD Tower, 24 Honeysuckle Drive, Newcastle NSW 2300 **T** 61 2 4979 9999 **F** 61 2 4979 9988 **E** ntlmail@ghd.com **W** www.ghd.com.au

G:\22\17143\GIS\Maps\Deliverables\PAMP\2217143_PAMP003_ExistingInfrastructure_DDP_A.mxd

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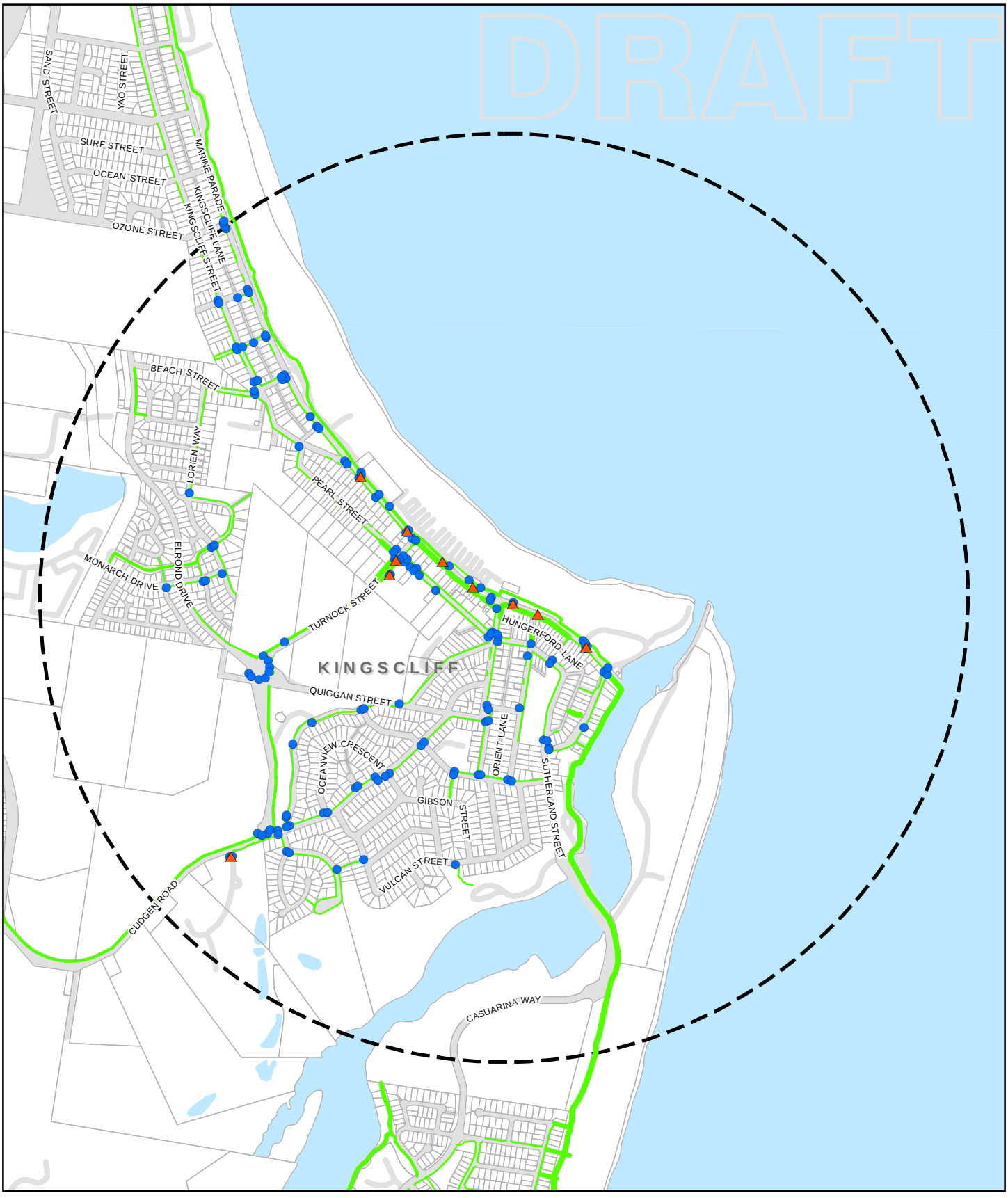

LEGEND

- Site 1.5km Buffer
- Cadastre
- Waterbody
- Road corridor

Pathway / Cycleway Width

- 0.6 - 1.5
- 1.5 - 2.2
- 2.2 - 2.5
- 2.5 - 4.0

- Pedestrian Crossing
- Pram Ramp

Paper Size A4

0 0.15 0.3 0.45 0.6

Kilometers

Map Projection: Transverse Mercator
Horizontal Datum: GDA 1994
Grid: GDA 1994 MGA Zone 56

N

Tweed Shire Council
Pedestrain Access and Mobility Plan

Kingscliff
Existing Pedestrian Infrastructure

Job Number 22-17143
Revision A
Date 05 May 2014

Figure C.4

Level 3, GHD Tower, 24 Honeysuckle Drive, Newcastle NSW 2300 **T** 61 2 4979 9999 **F** 61 2 4979 9988 **E** ntlmail@ghd.com **W** www.ghd.com.au

G:\22\17143\GIS\Maps\Deliverables\PAMP\2217143_PAMP003_ExistingInfrastructure_DDP_A.mxd

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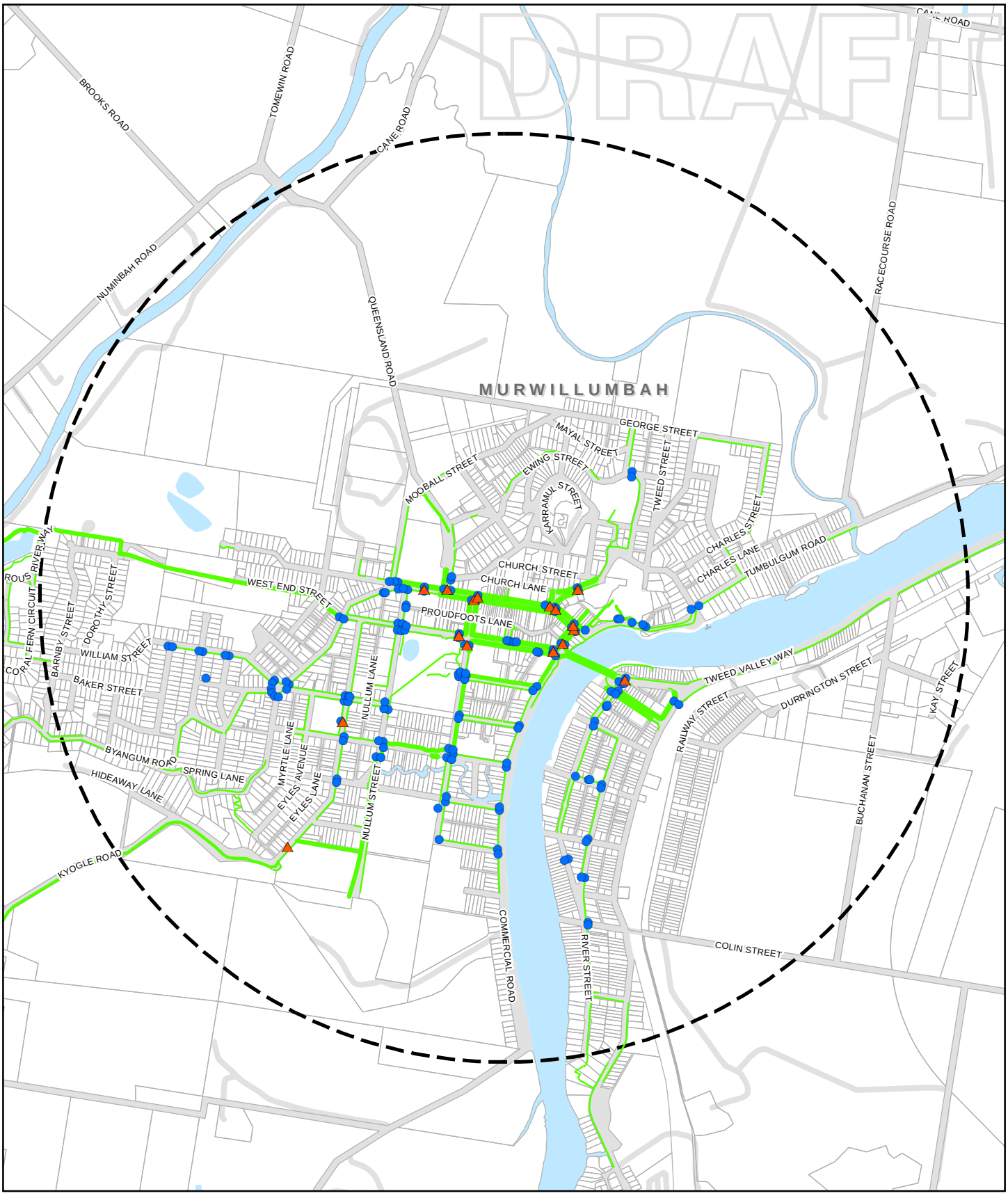

LEGEND

- Site 1.5km Buffer
- Cadastre
- Waterbody
- Road corridor

Pathway / Cycleway Width

- 0.6 - 1.5
- 1.5 - 2.2
- 2.2 - 2.5
- 2.5 - 4.0

- Pedestrian Crossing
- Pram Ramp

Paper Size A4

0 0.15 0.3 0.45 0.6

Kilometers

Map Projection: Transverse Mercator
Horizontal Datum: GDA 1994
Grid: GDA 1994 MGA Zone 56

N

Tweed Shire Council
Pedestrain Access and Mobility Plan

Murwillumbah
Existing Pedestrian Infrastructure

Job Number 22-17143
Revision A
Date 05 May 2014

Figure C.5

Level 3, GHD Tower, 24 Honeysuckle Drive, Newcastle NSW 2300 **T** 61 2 4979 9999 **F** 61 2 4979 9988 **E** ntlmail@ghd.com **W** www.ghd.com.au

G:\22\17143\GIS\Maps\Deliverables\PAMP\2217143_PAMP003_ExistingInfrastructure_DDP_A.mxd

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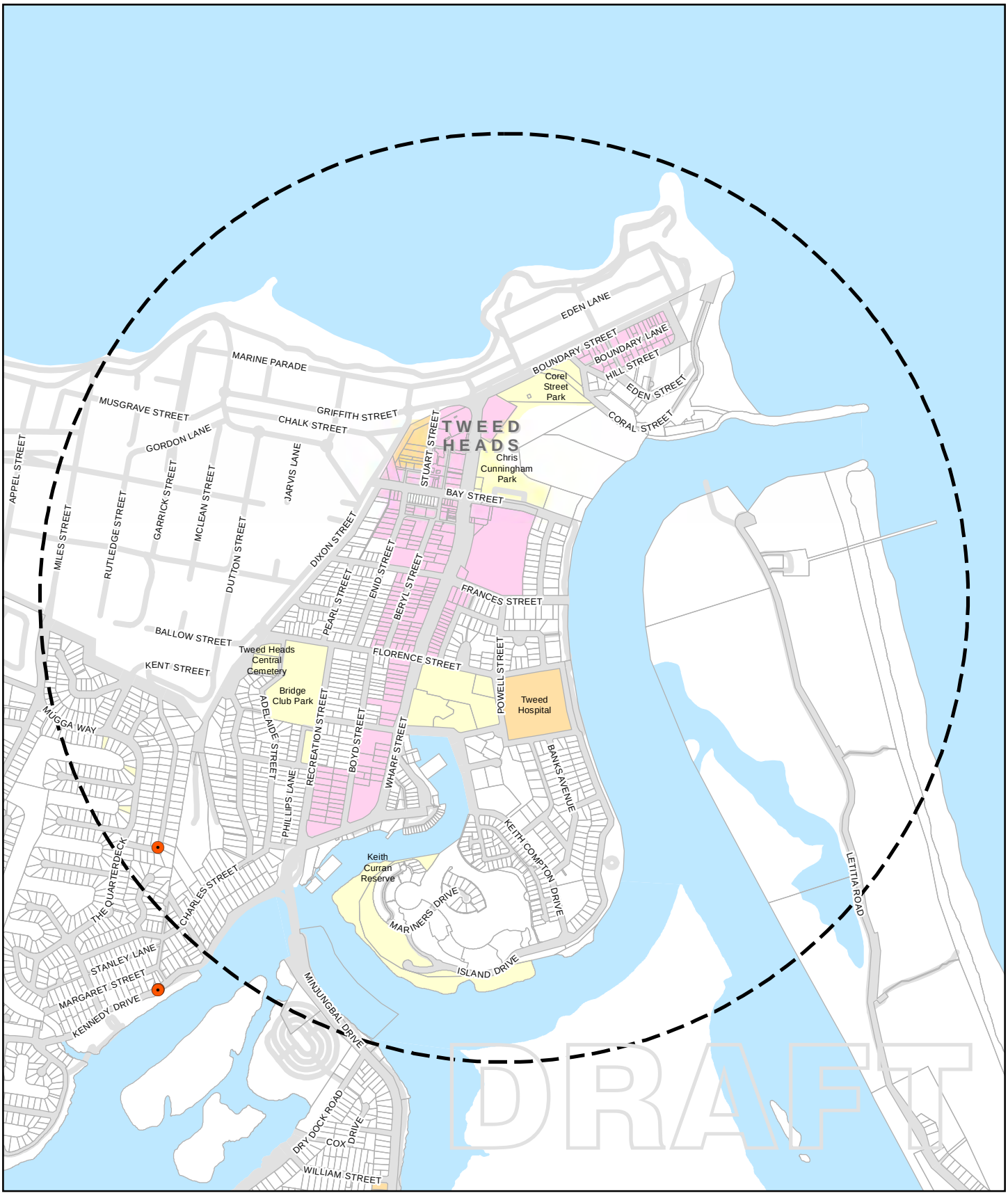

LEGEND

- Site 1.5km Buffer
- Cadastre
- Road corridor
- Pedestrian Generator
  - Primary
  - Secondary
  - Tertiary
- Crash involving Pedestrian / Cyclist / Mobility Scooter

Paper Size A4

0 0.15 0.3 0.45 0.6

Kilometers

Map Projection: Transverse Mercator
Horizontal Datum: GDA 1994
Grid: GDA 1994 MGA Zone 56

N

Tweed Shire Council
Pedestrain Access and Mobility Plan

Tweed Heads - Primary, Secondary and Tertiary Pedstrian Generators and Crash Locations

Job Number 22-17143
Revision A
Date 05 May 2014

Figure D.1

Level 3, GHD Tower, 24 Honeysuckle Drive, Newcastle NSW 2300 **T** 61 2 4979 9999 **F** 61 2 4979 9988 **E** ntlmail@ghd.com **W** www.ghd.com.au

G:\22\17143\GIS\Maps\Deliverables\PAMP\2217143_PAMP004_PedestrianGenerators_CrashData_A_DDP.mxd

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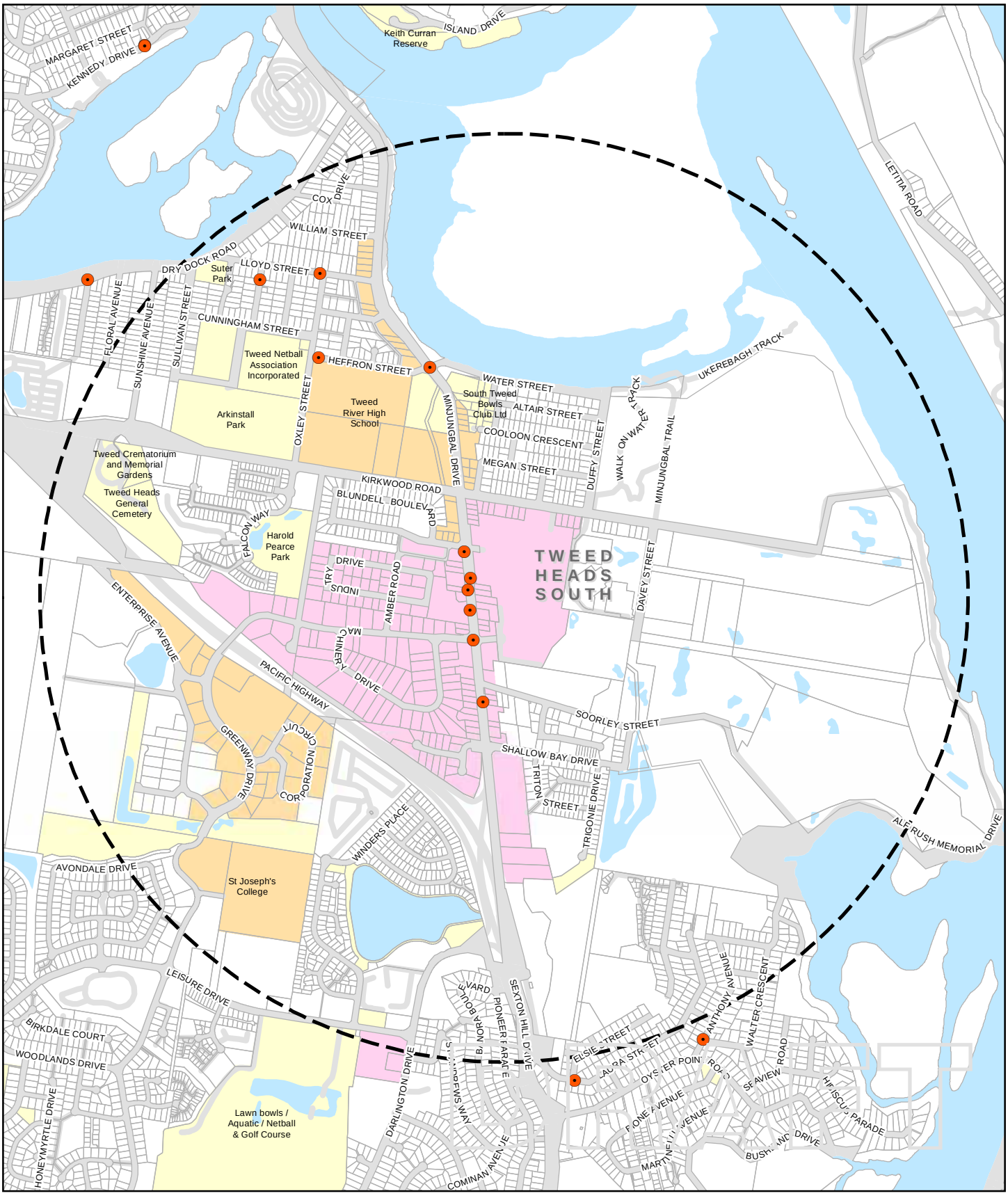

LEGEND

- Site 1.5km Buffer
- Cadastre
- Road corridor

Pedestrian Generator

- Primary
- Secondary
- Tertiary

- Crash involving Pedestrian / Cyclist / Mobility Scooter

Paper Size A4

0 0.15 0.3 0.45 0.6

Kilometers

Map Projection: Transverse Mercator
Horizontal Datum: GDA 1994
Grid: GDA 1994 MGA Zone 56

N

GHD

Tweed Shire Council
Pedestrain Access and Mobility Plan

Tweed Heads South Primary, Secondary and Tertiary Pedstrian Generators and Crash Locations

Job Number 22-17143
Revision A
Date 05 May 2014

Figure D.2

Level 3, GHD Tower, 24 Honeysuckle Drive, Newcastle NSW 2300 **T** 61 2 4979 9999 **F** 61 2 4979 9988 **E** ntlmail@ghd.com **W** www.ghd.com.au

G:\22\17143\GIS\Maps\Deliverables\PAMP\2217143_PAMP004_PedestrianGenerators_CrashData_A_DDP.mxd

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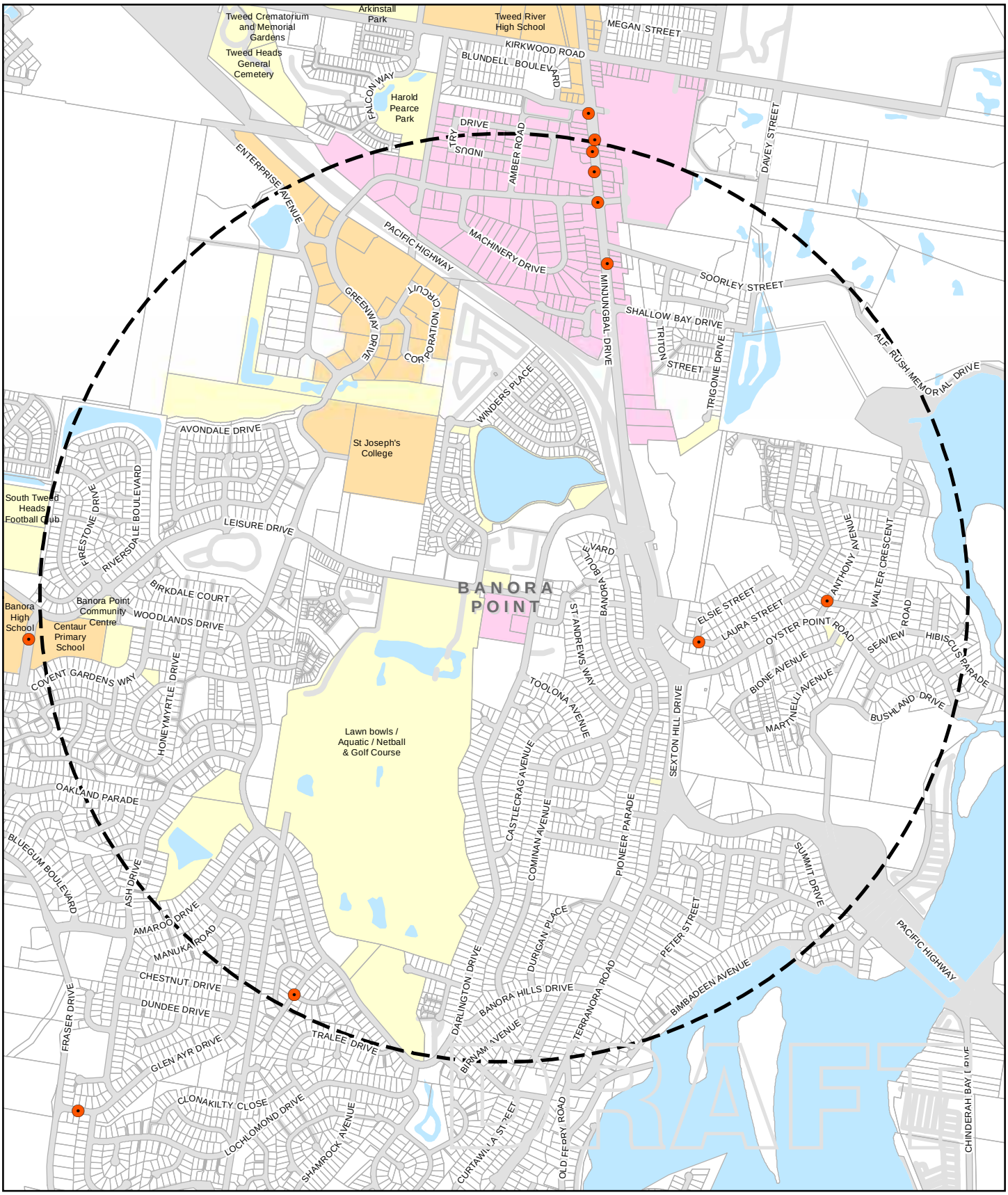

LEGEND

- Site 1.5km Buffer
- Cadastre
- Road corridor

Pedestrian Generator
- Primary
- Secondary
- Tertiary

- Crash involving Pedestrian / Cyclist / Mobility Scooter

Paper Size A4

0 0.15 0.3 0.45 0.6

Kilometers

Map Projection: Transverse Mercator
Horizontal Datum: GDA 1994
Grid: GDA 1994 MGA Zone 56

N

Tweed Shire Council
Pedestrain Access and Mobility Plan

Job Number 22-17143
Revision A
Date 05 May 2014

Banora Point - Primary, Secondary and Tertiary Pedstrian Generators and Crash Locations

Figure D.3

Level 3, GHD Tower, 24 Honeysuckle Drive, Newcastle NSW 2300 **T** 61 2 4979 9999 **F** 61 2 4979 9988 **E** ntlmail@ghd.com **W** www.ghd.com.au

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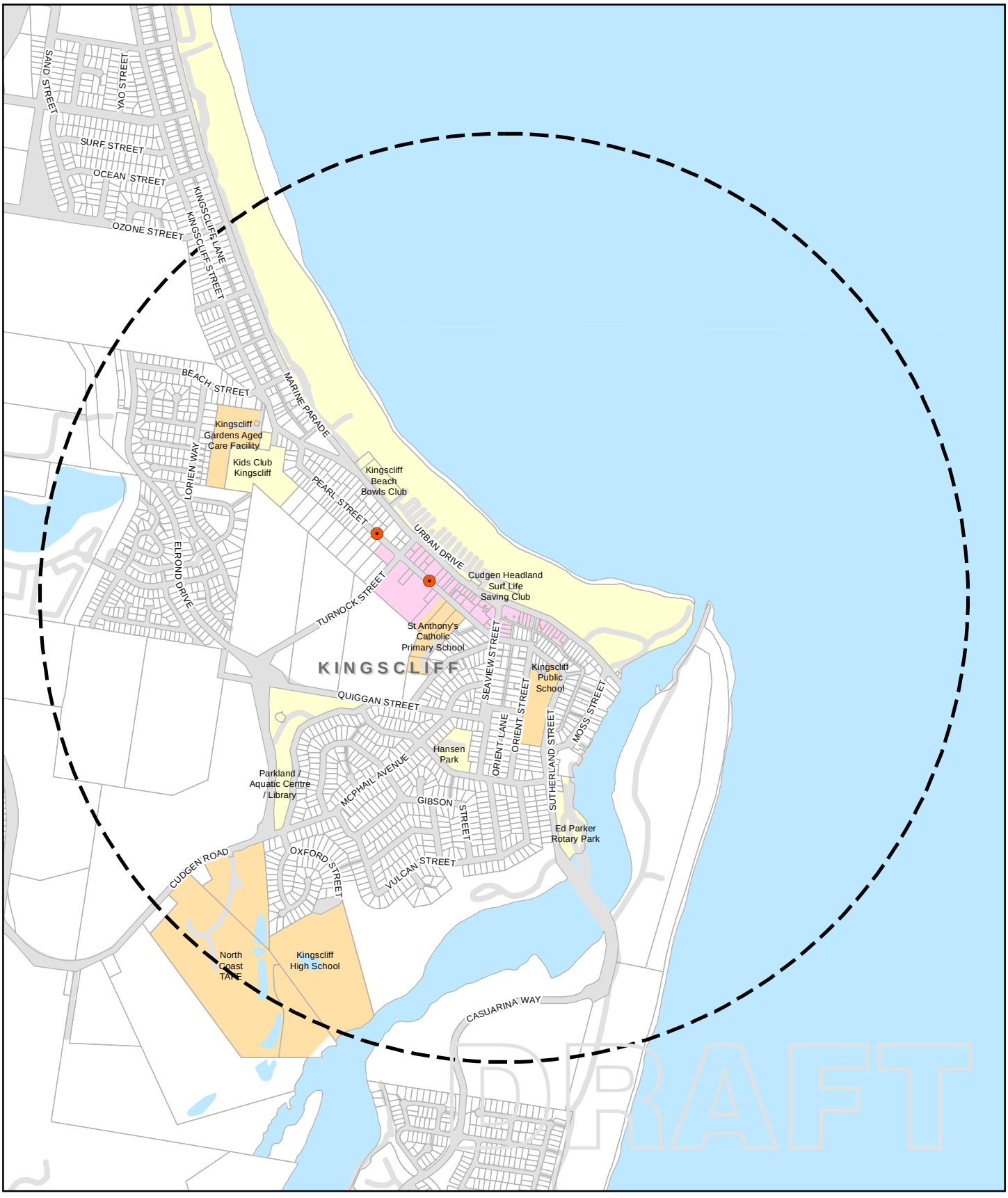


LEGEND

- Site 1.5km Buffer
- Cadastre
- Road corridor

Pedestrian Generator

- Primary
- Secondary
- Tertiary

- Crash involving Pedestrian / Cyclist / Mobility Scooter

Paper Size A4

0 0.15 0.3 0.45 0.6

Kilometers

Map Projection: Transverse Mercator
Horizontal Datum: GDA 1994
Grid: GDA 1994 MGA Zone 56

N

Tweed Shire Council
Pedestrain Access and Mobility Plan

Kingscliff - Primary, Secondary and Tertiary Pedstrian Generators and Crash Locations

Figure D.4

Job Number	22-17143
Revision	A
Date	05 May 2014

Level 3, GHD Tower, 24 Honeysuckle Drive, Newcastle NSW 2300 **T** 61 2 4979 9999 **F** 61 2 4979 9988 **E** ntlmail@ghd.com **W** www.ghd.com.au

G:\22\17143\GIS\Maps\Deliverables\PAMP\2217143_PAMP004_PedestrianGenerators_CrashData_A_DDP.mxd

Data source: RMS: Crash Data 2014; LPI: DCDB & DTDB 2012. Created by: fmackay

LEGEND

- Site 1.5km Buffer
- Cadastre
- Road corridor

Pedestrian Generator

- Primary
- Secondary
- Tertiary

- Crash involving Pedestrian / Cyclist / Mobility Scooter

Paper Size A4

0 0.15 0.3 0.45 0.6

Kilometers

Map Projection: Transverse Mercator
Horizontal Datum: GDA 1994
Grid: GDA 1994 MGA Zone 56

N

Tweed Shire Council
Pedestrain Access and Mobility Plan

Murwillumbah - Primary, Secondary and Tertiary Pedstrian Generators and Crash Locations

Job Number 22-17143
Revision A
Date 05 May 2014

Figure D.5

Level 3, GHD Tower, 24 Honeysuckle Drive, Newcastle NSW 2300 **T** 61 2 4979 9999 **F** 61 2 4979 9988 **E** ntlmail@ghd.com **W** www.ghd.com.au

G:\22\17143\GIS\Maps\Deliverables\PAMP\2217143_PAMP004_PedestrianGenerators_CrashData_A_DDP.mxd

Data source: RMS: Crash Data 2014; LPI: DCDB & DTDB 2012. Created by: fmackay

Tweed Shire Council

Pedestrian Access and Mobility Plan (PAMP)

Community Engagement Report

May 2014

Table of contents

Appendices

1. Introduction

1.1 Purpose of this report

This Community Engagement Report relates to Stage 1 of the Community Engagement Plan for Tweed Shire Council's Pedestrian Access and Mobility Plan (PAMP). The report outlines the community engagement activity undertaken during this stage and summarises community feedback for the purpose of informing the Draft PAMP.

1.2 Background

Tweed Shire Council is developing a PAMP to meet the present and future needs of its residents by enhancing pedestrian safety, mobility and access with infrastructure catering to the needs of older persons, people who have mobility or vision impairment, school children, tourists, cyclists and recreational pedestrians.

The PAMP study area comprises five Tweed Shire town centres identified as high priority and high pedestrian activity areas. These are:

- Tweed Heads
- Tweed Heads South
- Kingscliff
- Banora Point
- Murwillumbah

The PAMP will identify pedestrian networks within each of these areas as well as linkages between town centres. It will detail pedestrian concentration, centres of activity, identifiable accident clusters, walking patterns and links between land use, pedestrian facilities (existing and proposed), pedestrian accessibility and mobility issues within a radius of 1.5 km to 2 km from the above key areas.

The study will also consider areas where future development is planned. This will ensure inclusion of the PAMP process in planning instruments covering developing areas.

The concerns, ideas and feedback from the community and key stakeholders (provided in this report) will be fed into the Draft PAMP, expected to be completed in May 2014. The Draft PAMP will be made available to the public for feedback at a series of information sessions (Stage 2 consultation). Community feedback received during this stage will be fed into the Final PAMP, expected to be completed in July 2014.

2. Consultation approach

2.1 Goals and objectives

To ensure a meaningful and successful consultation program, all of our activities were designed to achieve the overarching project goal, which was to:

Deliver safe, convenient and connected pedestrian infrastructure catering to the needs of all pedestrians including older persons, pedestrians with mobility and vision impairments, residents, youth, school children, tourists and recreational pedestrians.

To drive this goal, the team set out to achieve the following communication goals and objectives:

Communication goals

1. Leverage this project to continue to enhance positive stakeholder relationships and build corporate reputation capital
2. Mitigate the possibility of stakeholder related impacts throughout the duration of the project, and minimise reputational risks caused by project activity.

Communication objectives

3. Engage with targeted stakeholders to ascertain needs, concerns and preferences to inform the PAMP
4. Provide clear, coordinated, consistent and transparent information throughout the entire project
5. Motivate stakeholders to actively seek information and participate in providing ideas through the established feedback mechanisms
6. Ensure views expressed throughout the engagement process are recorded and reported accurately.

2.2 Key messages

Key messages were developed and pre-approved to provide a clear, consistent approach to communication throughout the project. These messages were used in all written and verbal communication produced for the project.

Project Specific

- The Tweed Shire PAMP is being developed as part of Council's investment in safe, convenient and connected pedestrian infrastructure that will encourage people to walk rather than use their cars.
- The PAMP is a comprehensive strategic action plan to develop pedestrian policies and build pedestrian facilities.
- The PAMP study area focuses on five Tweed Shire town centres identified as high priority and high pedestrian activity areas. These are Tweed Heads, Tweed Heads South, Kingscliff, Banora Point and Murwillumbah.

- The PAMP will provide a framework for developing pedestrian routes and infrastructure identified by the community as important for enhanced safety, convenience and mobility.
- The PAMP aims to provide wide transportation, environmental and social benefits to the community, including improved access for people with mobility impairment, safe crossing opportunities on major roads, reduced injuries to pedestrians and improved links with other transport services.
- The Draft PAMP will be completed in April 2014 and exhibited to the public, before the Final PAMP is delivered in July 2014.

Community Engagement

- Tweed Shire Council is consulting with representatives of key pedestrian user groups to ascertain needs, concerns and preferences, which will inform the Draft PAMP.
- The Draft PAMP will be made available to the public for feedback, which will inform the Final PAMP.
- An online survey is available on Council's website www.yoursaytweed.com.au/PAMP and Council encourages all members of the public to provide their input to the PAMP via this channel.

2.3 Stakeholders

While this is not an exhaustive list, the following stakeholder groups and organisations were considered to be either interested in the consultation or would have a role to play in the dissemination of the community survey.

Residents

- Residents within key study areas: Kingscliff, Tweed Heads, Tweed Heads South, Murwillumbah and Banora Point.
- Community, resident and rate payer associations

Pedestrian groups

- Equal Access Committee
- Disability sector
  - Spinal Cord Injuries Australia
  - Blind Citizens Australia
  - MS Society
  - Guide Dogs Australia
  - Lifebridge East
- Aged community
  - RSLs
  - Community Centres
  - Senior Citizens Clubs
- Schools
  - Primary
  - Secondary

  - Tertiary
- Youth
  - PCYC
- Recreational users
  - Murwillumbah Pathfinder Club
  - WollumbinBUG Bicycle Users Group
  - Murwillumbah Cycle Club

Government, business and industry

- Destination Tweed
- NSW Department of Trade and Investment
- Kingscliff and District Chamber of Commerce
- Murwillumbah District Business Chamber
- NSW Business Chamber - Northern Rivers
- Tweed Chamber of Commerce and Industry Inc.
- Department of Community Services
- NSW Department of Trade and Investment
- Roads and Maritime Services

2.4 Consultation phases

Council has indicated that the success of the PAMP relies on community and key stakeholder input to the planning process. As part of its methodology in developing the PAMP, GHD and Council is undertaking community engagement in two stages:

Stage 1: Seek targeted stakeholder input to the PAMP planning process

- Seek input from key stakeholders and user groups (i.e. Equal Access Advisory, seniors, people with disabilities, school communities, young people and recreational user groups) to inform the Draft PAMP
- Interviews, workshop, focus group and surveys to ascertain needs, concerns and preferences in relation to pedestrian infrastructure

Stage 2: Engage with the wider community through exhibition of the Draft PAMP

- Present the Draft PAMP to the wider community
- Seek feedback on the Draft PAMP

Stage 1 is now complete and involved a range of activities aimed at obtaining valuable input from pedestrian users around their concerns with current infrastructure and routes as well ideas for future improvements. These activities are discussed further in Section 3.

The rationale behind this approach is to ensure that targeted, informed stakeholder input contributes to the Draft PAMP. It aims to incorporate the specific needs of each key group, without overwhelming the masses with a completely blank canvas. The information collected in Stage 1 will pave the way

for a considered Draft PAMP, which will be presented to the wider community for feedback in Stage 2.

Activities included:

- A focus group with senior citizens
- A workshop with key pedestrian group representatives including disability sector, school community, cyclists, and seniors.
- A community survey available online and in hard copy from Council offices
- A media release announcing PAMP consultation and providing link to survey
- Website copy (for Council website)
- An advertisement (placed in Tweed Link)
- A fact sheet
- An email to stakeholders with information and survey link

3. Consultation methodology

3.1 Lead-up awareness raising activities

To encourage community-wide interest and participation, the team undertook a range of activities in the lead-up to Stage 1 of community engagement, specifically to provide details of the focus group, workshop and community survey. Activities included:

- Media relations announcing the PAMP project and encouraging people to complete the community survey
- Website copy for the Council website
- Advertisements with links to community survey
- Poster advertising the Seniors Focus Group at Banora Point Community Centre
- Phone calls and emails to key stakeholder groups to encourage further spread of information and survey links

3.2 Communication materials and channels

A range of project communication materials were developed for community engagement, including:

Item	Distribution channel
Fact sheet	Hard copies: • Seniors Focus Group • Pedestrian Group Workshop • Council offices Electronic: • Council website • yoursaytweed.com.au/PAMP • Stakeholder emails
Community survey	As above
Advertisement	Tweed Link
Media release	Local radio, TV, print and online media outlets. (Coverage received in Daily News on 27th and 29th March)
Seniors Focus Group promotional poster	Banora Point Community Centre
A0 maps	• Seniors Focus Group • Community Workshop

Item	Distribution channel
Stakeholder emails	Full stakeholder list (152 contacts)
Website copy	Council website

3.3 Community survey

3.3.1 Survey design

The questionnaire concept was adopted to help the community quickly and easily provide their ideas without the need for a formal written submission. The questionnaire was designed to enable the GHD team to analyse data that was both quantitative and qualitative in nature.

We also wished to capture which of the five key study areas respondents spent most of their time and whether they had any special needs as a pedestrian. The last question encouraged people to note any other comments, concerns, ideas and feedback they wanted to share.

3.3.2 Survey questions

See Appendix A for a copy of the survey.

3.4 Seniors Focus Group

GHD conducted a Focus Group at Banora Point Community Centre on Friday 21 March 2014 as part of Seniors Week. Running from 9:00 am to 1:00 pm in the main common area of the building, three facilitators (Cass Thies and Brooke Maki from GHD and Jade Hopkins from Council) were on hand to discuss the PAMP with seniors and assist them in filling out community surveys.

A0 maps of each of the five study areas were displayed around the room, guiding discussions about specific areas of concern and ideas for improvement. 17 surveys were completed during the focus group and valuable anecdotal input was received.

3.5 Community Workshop

A workshop was conducted on Friday 21 March 2014 from 2:00 pm to 4:00 pm in the Community Room at Tweed City Shopping Centre. Participants were key pedestrian groups such as seniors, disability organisations, people with a disability, schools, youth, cyclists and recreational users. The purpose of the workshop was to seek input on key needs, concerns and preferences of the groups these people represent and encourage further distribution of information and survey links within these groups.

The workshop was facilitated by Cass Thies and Brooke Maki from GHD and Jade Hopkins from Council.

The atmosphere was open, informative, engaging and relaxed, and the intimate group size allowed people to access project information and provide feedback through one-one-one discussions as well as group discussions, structured activities and visual materials available around the room.

3.5.1 Participants

A total of 43 representatives of the above key groups were invited. A total of five people participated in the workshop, covering a fairly broad cross-section of groups.

- Karen Collins – Tweed Shire Council, Aged and Disability Development Officer
- Lee Clark – Spinal Cord Injuries Australia
- Anne-Gabrielle Thompson – Blind Citizens Australia
- Vicki Burr – Murwillumbah Cycle Club
- Leelah Broughton – Principal, Sathya Sai Primary School

3.5.2 Workshop format

Overview

GHD provided an overview of the project – what a PAMP is, why Council is developing the PAMP, the key study areas, what the audit has found, what we hope to gain from the workshop.

Individual Exercise 1 – identify concerns and ideas by location

- Each participant was stationed at one of the A0 study area maps placed around the room, showing the existing path network and audit results, including missing links.
- Participants were given post it notes in two different colours – pink representing 'concerns' and yellow representing 'ideas/opportunities'
- Participants were asked to write their concerns or ideas on the corresponding coloured post-it notes and place them on the maps, at the specific location of their idea/concern.
- Participants spent around 10 minutes at each map, before moving on to the next.
- A workshop facilitator explained the maps to vision impaired participant Anne-Gabrielle Thompson and scribed for her.
- A total of seven ideas and 42 concerns were placed on the maps by the end of this exercise.

Individual Exercise 2 – prioritisation of ideas and concerns by user group

- Each participant was given five coloured sticky dots in a colour representing their group. Blue = disability sector, green = recreation/cyclist, red = seniors, orange = schools.
- Participants were asked to review all the ideas and concerns on each of the five maps and place their dots on the ideas/concerns they felt were the most important/of the highest priority to their group.

Group discussion 1 – To the future

A facilitator led an open discussion on the requirements of pedestrian infrastructure to meet the future needs of all users. Discussion topics included particular journeys becoming more popular, areas becoming busier and

requiring more attention, forecasted changes to the way each group may use pedestrian facilities in the future and other planned infrastructure/facilities/programs that might affect the requirements of each group.

Group discussion 2 – Blue sky thinking

This exercise asked participants think outside the box and share a 'wish list' of pedestrian infrastructure, facilities and programs to better facilitate pedestrian movement around the Tweed, assuming unlimited resources and technology.

4. Findings and outcomes

The team offered four main ways for people to provide their input to the PAMP process:

- Community survey (online)
- Community survey (hardcopy – Seniors Focus Group, Workshop, council offices)
- Community Workshop - post-it exercise and group discussions
- Email or posted submissions

Significant anecdotal or qualitative feedback was received via both the open question on the survey (Questions 9, 10b and 12) and the post-it exercise and group discussions at the workshop. Valuable quantitative data was also obtained from the survey.

4.1 Quantitative findings from community survey

This section relates to the quantitative element of the community survey, specifically Questions 1-8, 10a and 11. The open questions, Questions 9, 10b and 12, are covered in Section 4.2 as part of the summary of anecdotal or qualitative feedback received.

4.1.1 Surveys completed

A total of 166 surveys were completed up to 14 April 2014 – 122 online and 25 hard copy. The below table shows a breakdown of the number of surveys completed and the key study area in which respondents indicated they spend most of their time.

	Surveys completed	% of Total
Tweeds Heads	22	15%
Tweed Heads South	39	27%
Kingscliff	29	20%
Banora Point	26	18%
Murwillumbah	30	20%
Unknown	1	0.006%
TOTAL	**147**	

4.1.2 Online Survey

Some users reported technical difficulties completing the survey online. This appears to have been due to a technical glitch in Survey Monkey, which Council

has been informed has now been resolved. While this may have deterred some people from providing feedback, the opportunity remained for users to complete a hard copy of the survey. Stakeholders and community members who contacted Council to report technical difficulties were provided a PDF copy of the survey, which they were invited to return via email or post at their convenience.

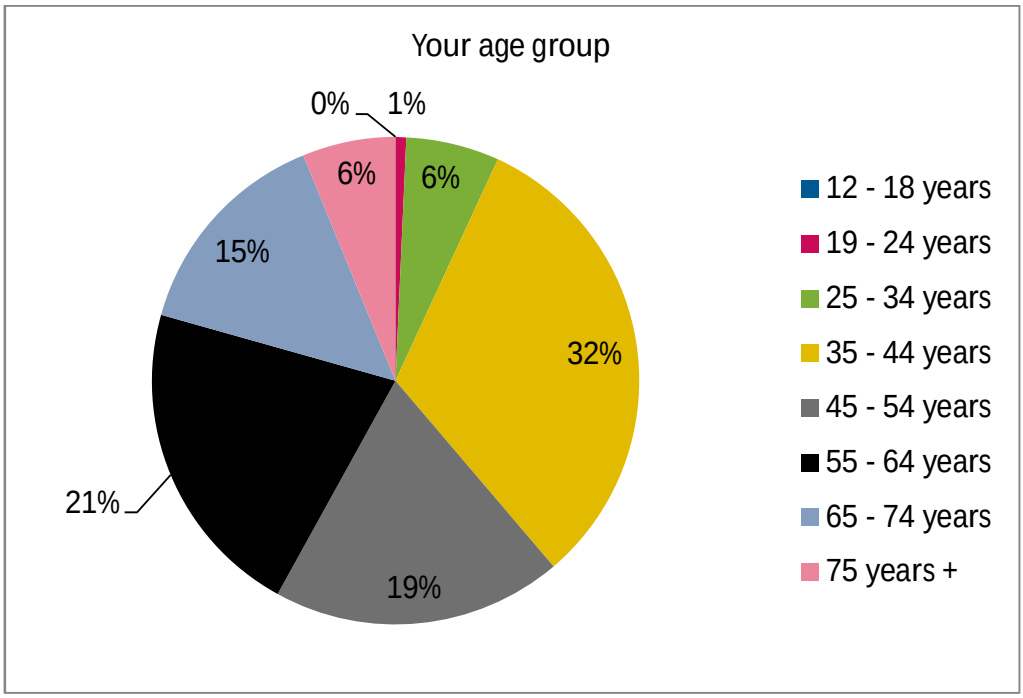
The report includes all survey responses and comments received up to 14 June 2014. Any additional survey responses and feedback received after this date will be included in the Stage 2 Community Engagement Report and Final PAMP. The community will have the opportunity to review the Draft PAMP during a public exhibition phase and the survey will remain open through this period

4.1.3 Overview of key findings from community survey

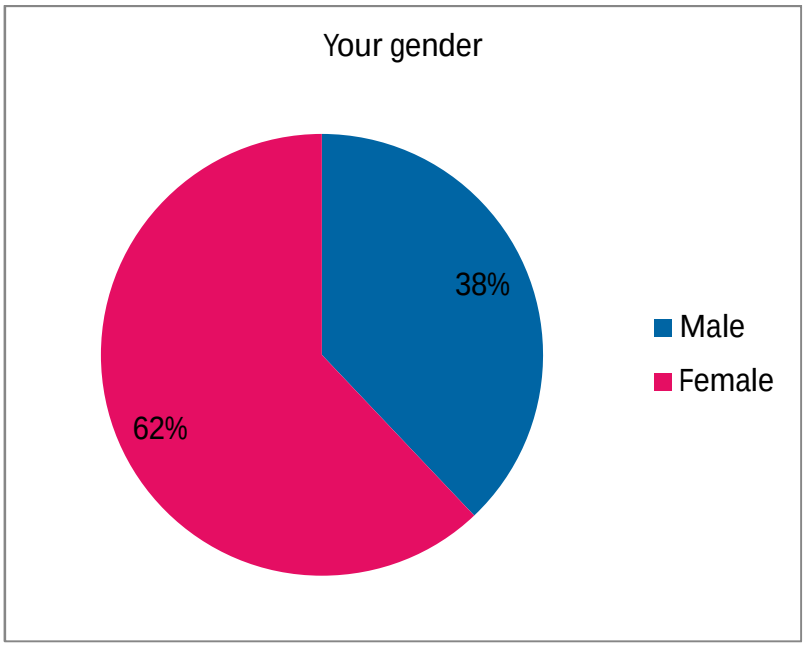
- The majority of respondents are in the 35-44 year age group (32%).
- The majority of respondents identified Tweed Heads South as the study area they spend most of their time (26.5%).
- 23.8% of respondents identified as having a disability or caring for someone with a disability. Of these people, 66.7% identified as having or caring for someone with a physical disability.
- 65.5% of respondents selected ‘bicycle’ as something they use when accessing local shops and neighbourhoods.
- Tweed City Shopping Centre was most commonly identified as a location regularly visited, followed by Tweed Centro, Kingscliff Shopping Centre and Murwillumbah CBD.
- 83% of respondents said they used a private vehicle to access key locations and 56.3% said they used pedestrian routes.
- The most commonly identified reason for not using pedestrian routes more frequently to access key locations was ‘the routes don’t feel safe’ (38.1%).
- Only 25.5% of respondents said it was easy or always easy to move around key locations using pedestrian routes, while 46.3% said it was difficult or always difficult.
- ‘Footpath condition and width’ was the most commonly identified priority for improvement to the pedestrian network, followed by ‘pedestrian crossing locations’, ‘access for cyclists’ and ‘access for wheelchairs/mobility scooters’.

4.1.4 Key survey findings, by question

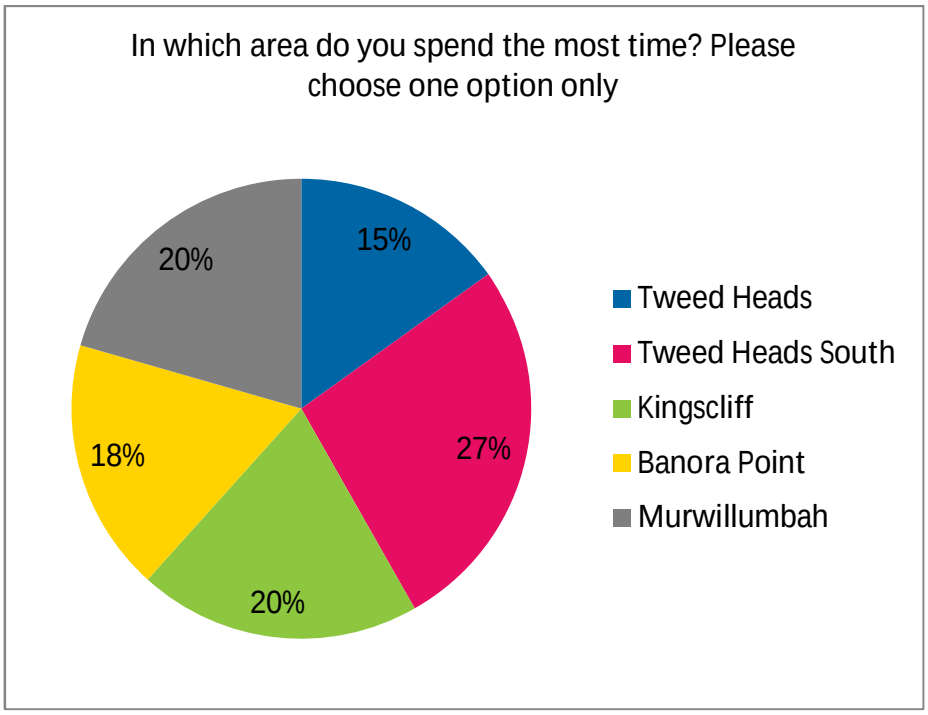
Question 1



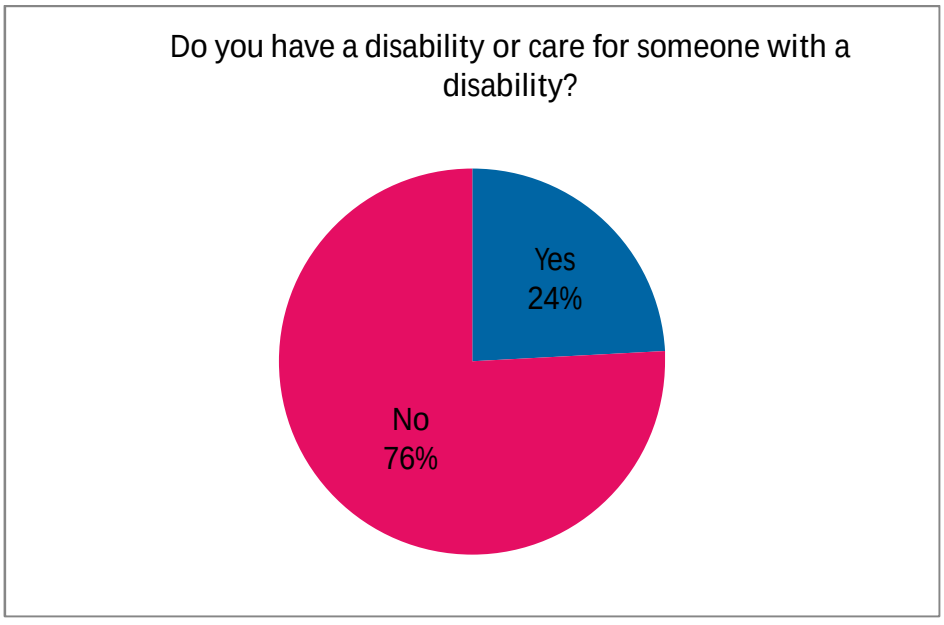
Question 2



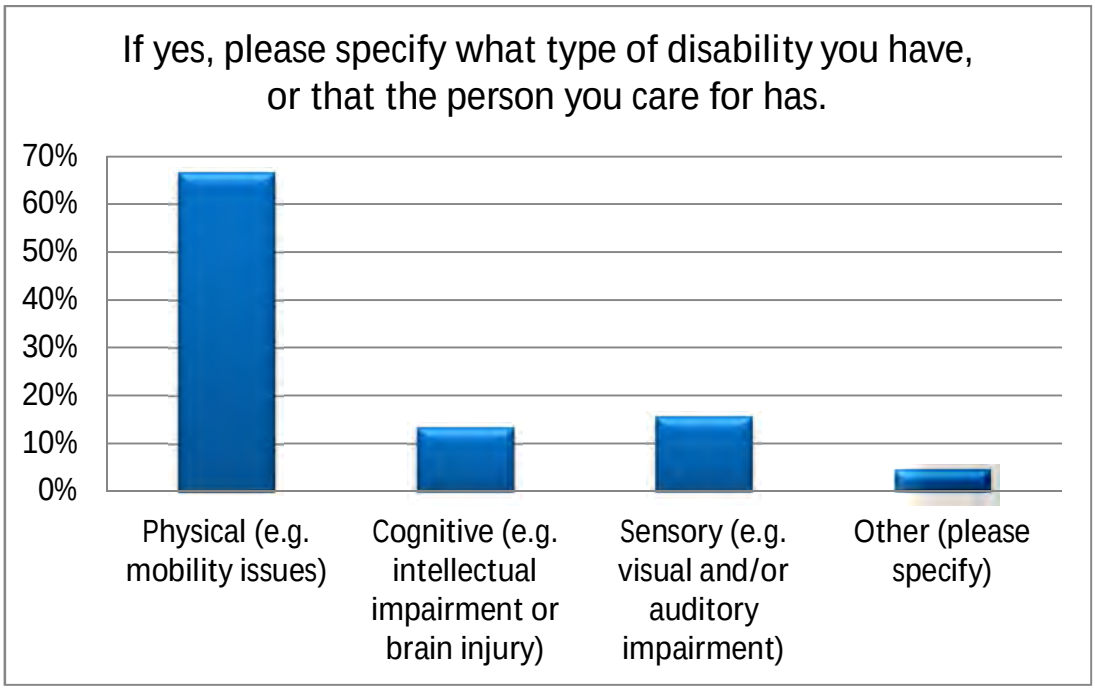
Question 3



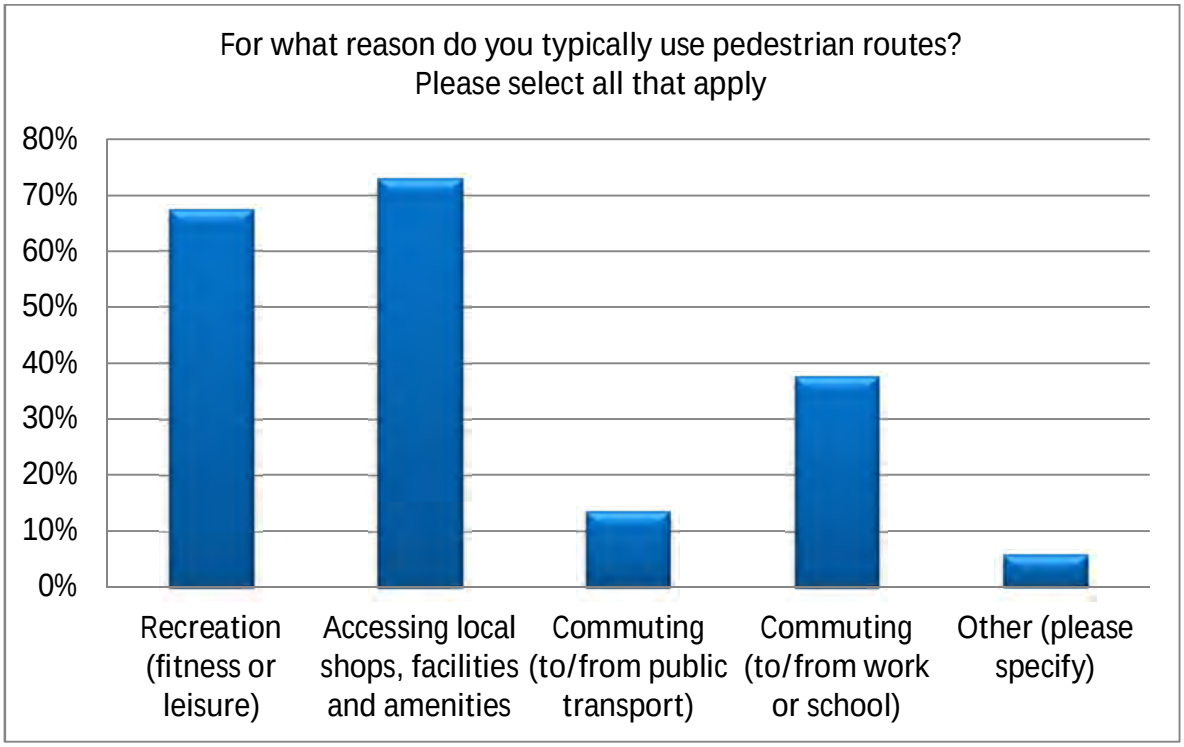
Question 4a



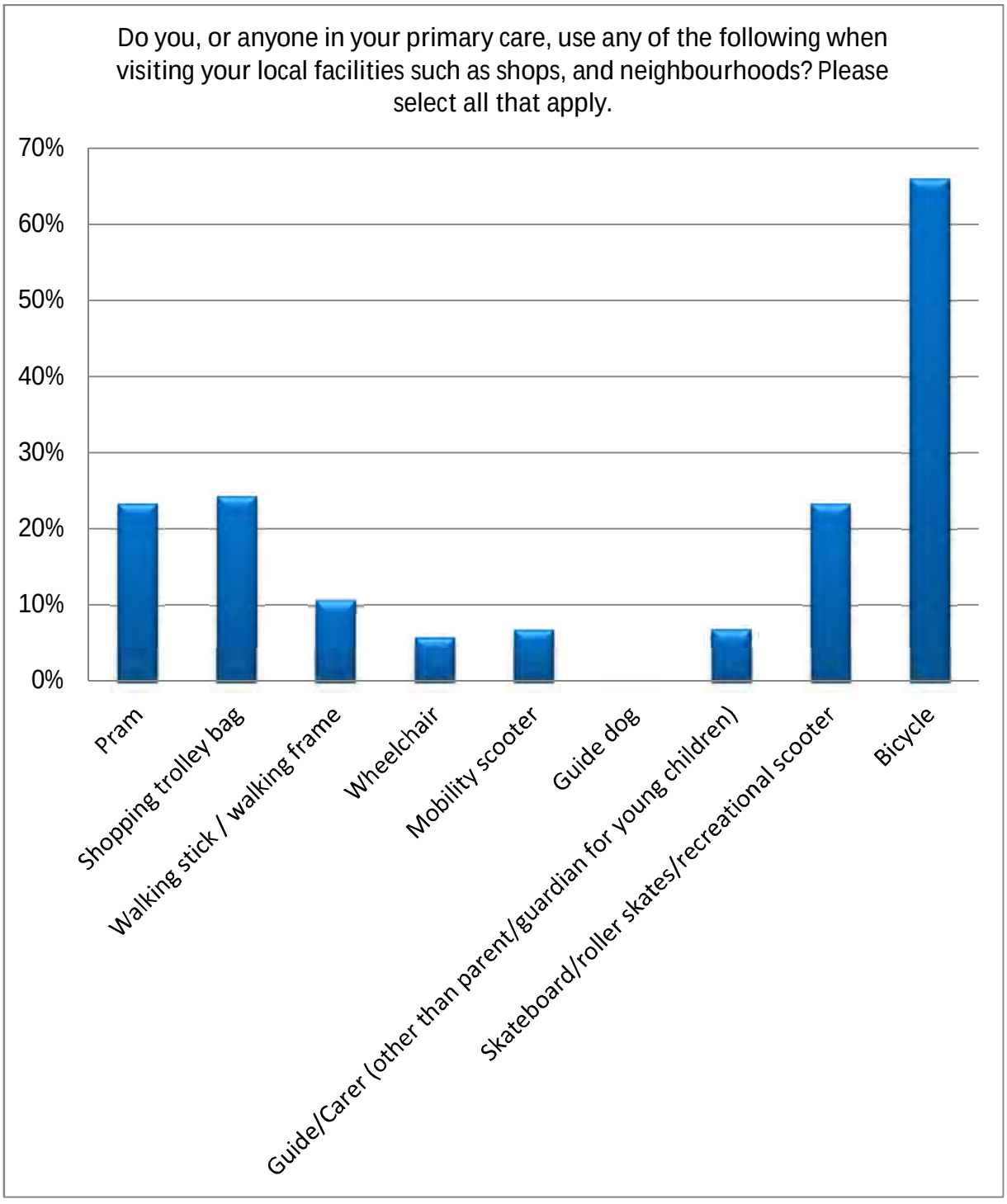
Question 4b



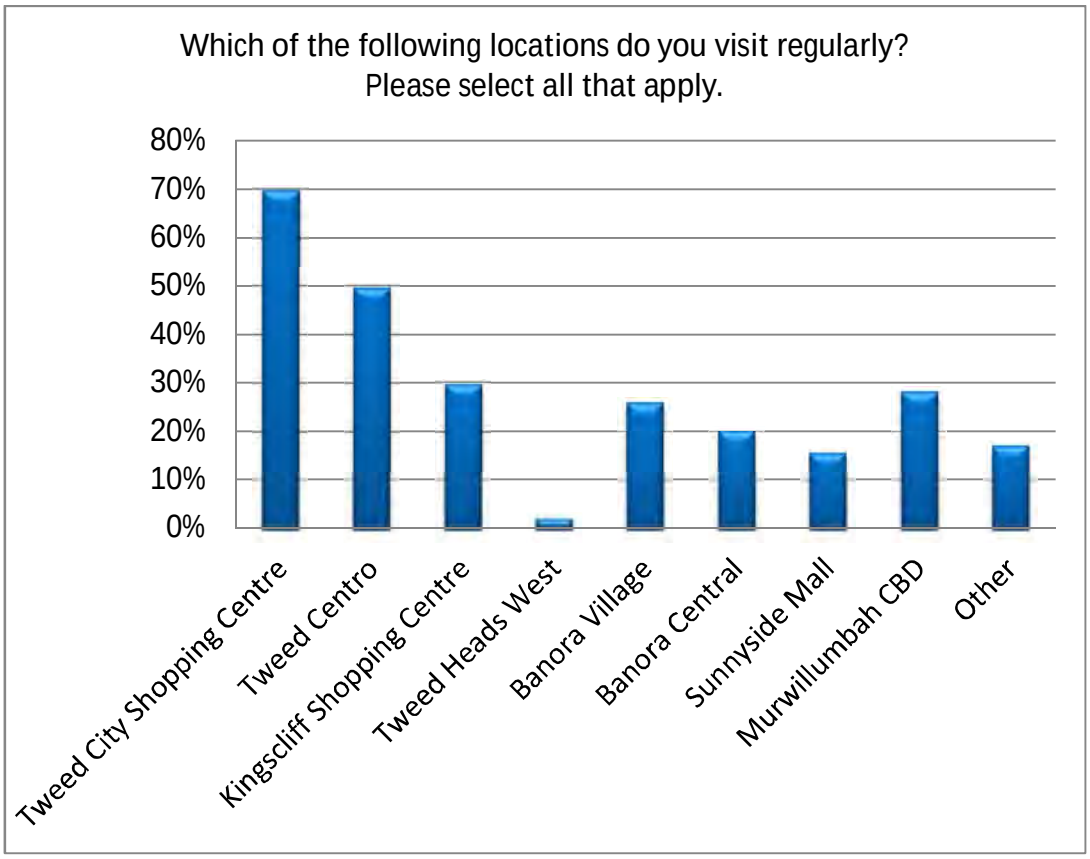
Question 5



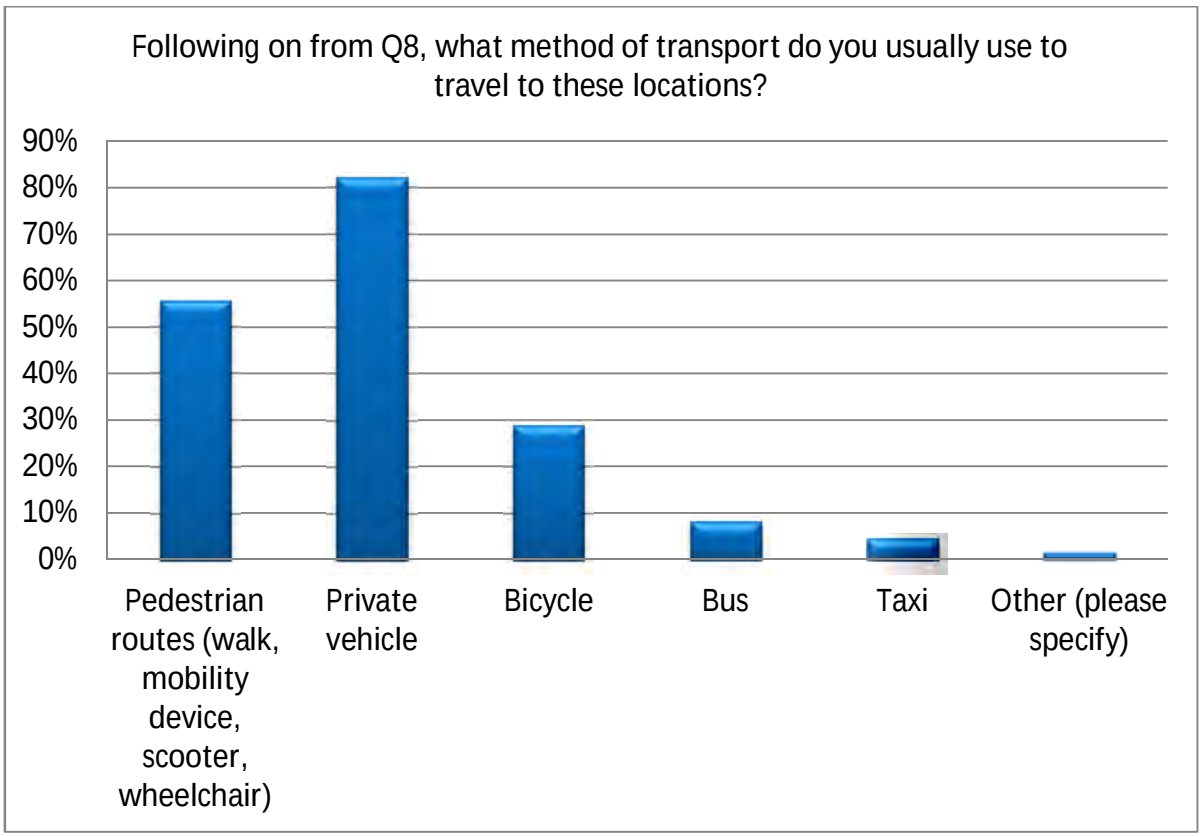
Question 6


Do you, or anyone in your primary care, use any of the following when visiting your local facilities such as shops, and neighbourhoods? Please select all that apply.
70%
60%
50%
40%
30%
20%
10%
0%
Pram
Shopping trolley bag
Walking stick / walking frame
Wheelchair
Mobility scooter
Guide dog
Guide/Carer (other than parent/guardian for young children)
Skateboard/roller skates/recreational scooter
Bicycle

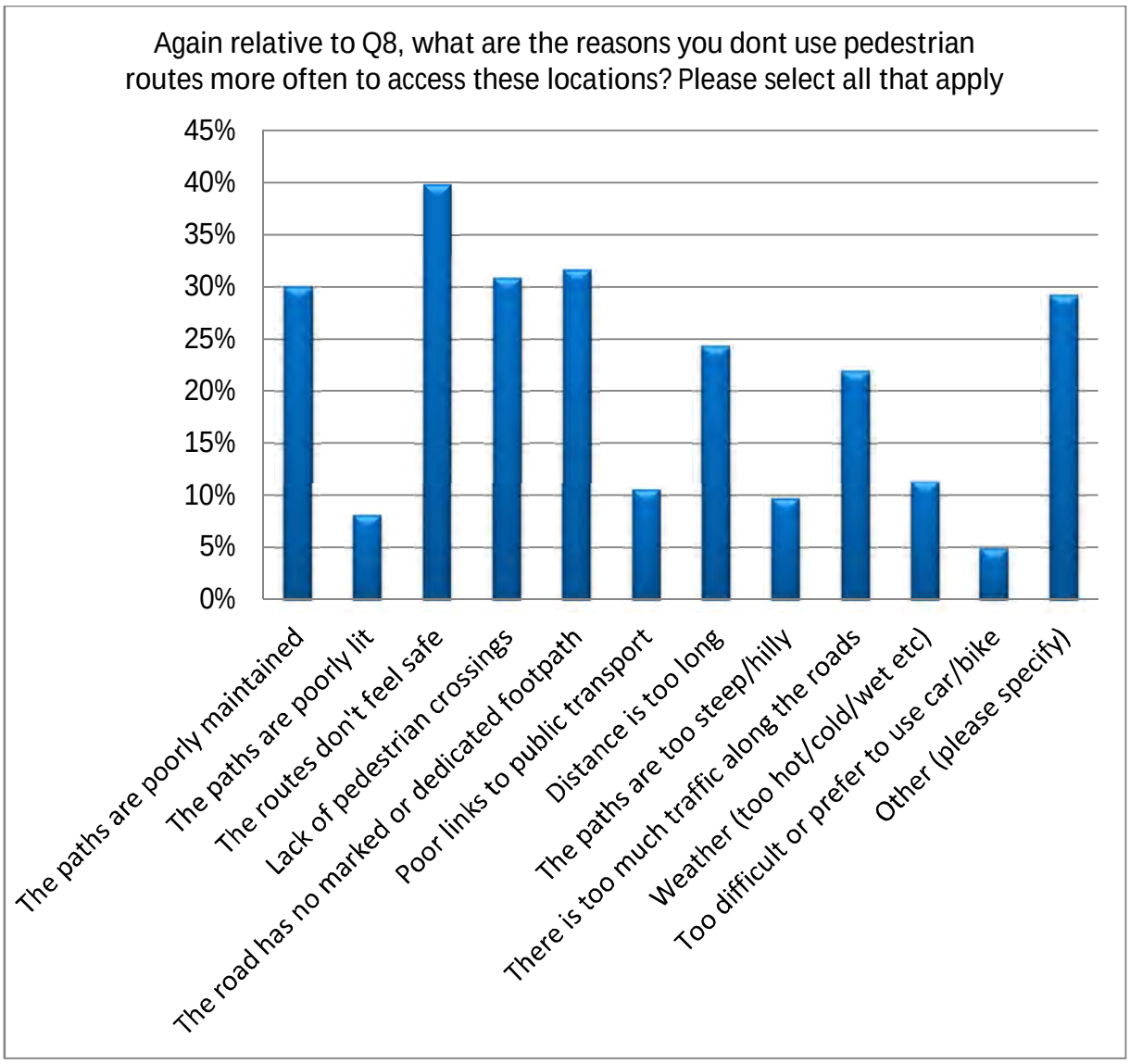
Question 7



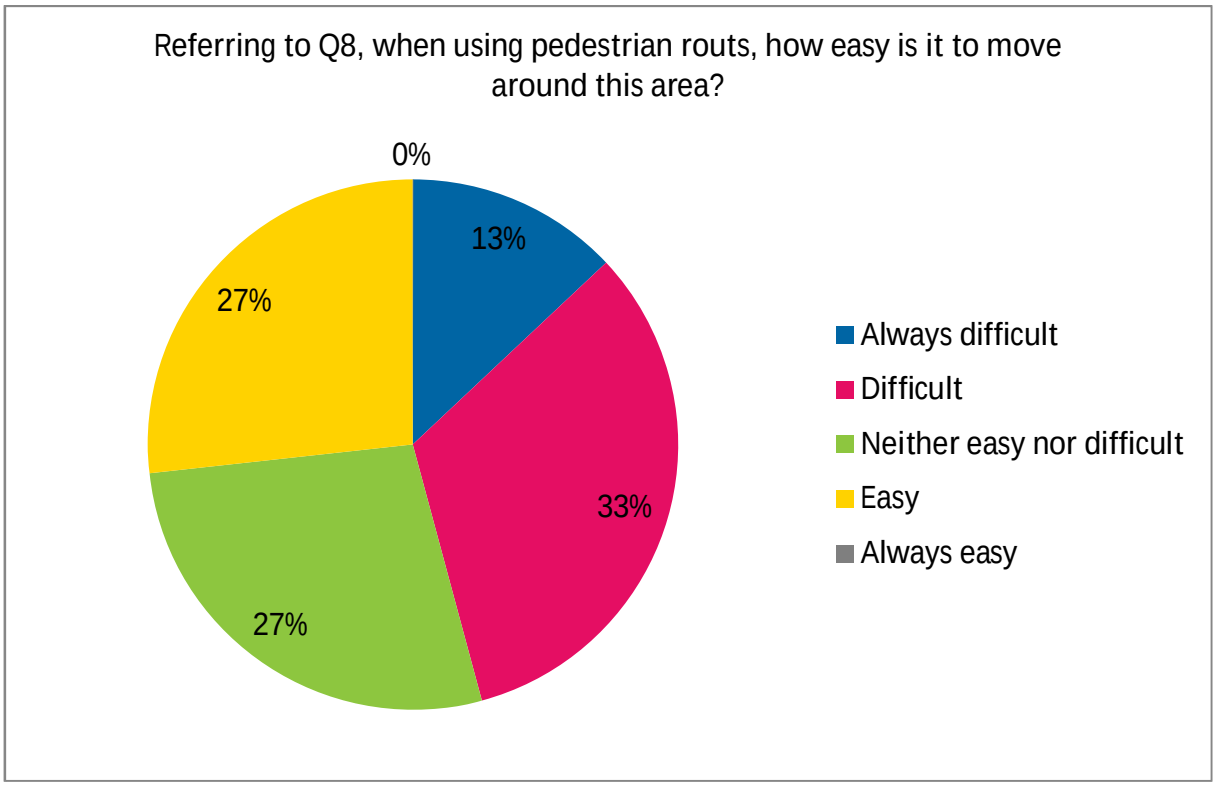
Question 8



Question 9

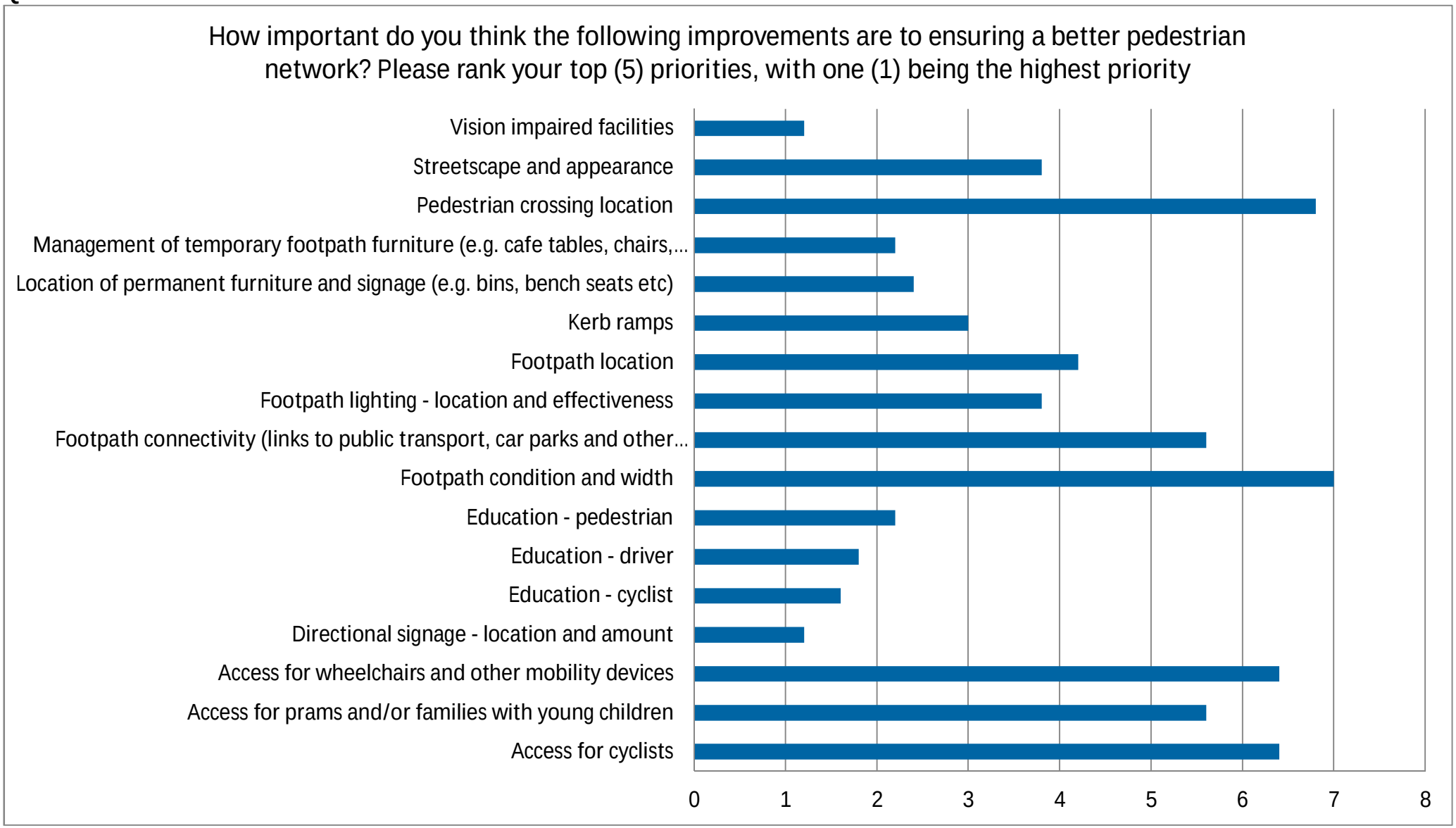

Again relative to Q8, what are the reasons you dont use pedestrian routes more often to access these locations? Please select all that apply
45%
40%
35%
30%
25%
20%
15%
10%
5%
0%
The paths are poorly maintained
The paths are poorly lit
The routes don't feel safe
Lack of pedestrian crossings
The road has no marked or dedicated footpath
Poor links to public transport
Distance is too long
The paths are too steep/hilly
There is too much traffic along the roads
Weather (too hot/cold/wet etc)
Too difficult or prefer to use car/bike
Other (please specify)

Question 10a



Question 10b (anecdotal)

Question 11


How important do you think the following improvements are to ensuring a better pedestrian network? Please rank your top (5) priorities, with one (1) being the highest priority
Vision impaired facilities
Streetscape and appearance
Pedestrian crossing location
Management of temporary footpath furniture (e.g. cafe tables, chairs,...
Location of permanent furniture and signage (e.g. bins, bench seats etc)
Kerb ramps
Footpath location
Footpath lighting - location and effectiveness
Footpath connectivity (links to public transport, car parks and other...
Footpath condition and width
Education - pedestrian
Education - driver
Education - cyclist
Directional signage - location and amount
Access for wheelchairs and other mobility devices
Access for prams and/or families with young children
Access for cyclists
0
1
2
3
4
5
6
7
8

Question 12 (anecdotal)

4.2 Findings from anecdotal/qualitative comments

4.2.1 Survey and workshop post-it notes

The below table shows the number of anecdotal or qualitative comments received via the open survey questions and the workshop post-it exercise, broken down by key study area. The nature of these comments is further analysed in in Section 4.3.

For reference, the open survey questions were:

Question 9: Relative to Question 8, what are the reasons you don't use pedestrian routes more often to access these locations?

Question 10b: If you indicated difficulty in moving around the pedestrian routes in your most frequented locations, what are the reasons for this?

Question 12: Do you have any further comments regarding pedestrian access and mobility, or specific location in the Tweed?

A breakdown of these comments by feedback mechanism and location is below.

- A total of 183 comments were received via the open survey questions and the workshop post-it notes, the majority of which are location-specific (i.e. relate to one of the five study areas).
- A total of 36 people provided a qualitative response to Question 9 of the survey, 59 for Question 10b and 39 for Question 12. While some of the comments were not location-specific, most comments specified a location.
- A total of 49 comments were received as part of the workshop post-it note exercise – 42 concerns and 7 ideas – all of which are location-specific.
- The majority of location-specific comments relate to the Kingscliff study area.

-

	Survey open questions	Workshop post-its		TOTAL	% OF TOTAL
		Concerns	Ideas		
Tweeds Heads	22	5	2	**29**	**16%**
Tweed Heads South	1	8	0	**9**	**5%**
Murwillumbah	24	8	2	**34**	**19%**
Kingscliff	27	15	1	**43**	**23%**
Banora Point	8	6	2	**16**	**9%**
Non location-specific	52	0	0	**52**	**28%**
TOTAL	**134**	**42**	**7**	**183**	

4.2.2 Post-it note priorities by group

Participants were asked to use five sticky dots (colour coded by group) to identify the ideas and concerns, across all five study areas, that are of highest importance to them. The key priorities of each group are summarized below. The full list of comments by group is provided in Appendix B.

Disability sector

- Concerns of highest importance were around lack of footpaths or missing links, footpath width, lack of kerb ramp access and dangerous crossings
- The majority of concerns of importance are located in the Kingscliff study area
- Ideas of importance include adding shaded seating along Turnock Street, Kingscliff

Seniors

- Concerns of highest importance were around dangerous crossings, lack of kerb ramp access, dangerous or inadequate crossing points and unsafe or discontinued paths.
- The majority of concerns of importance are located in the Tweed Heads and Banora Point study areas

Schools

- Concerns of highest importance were around lack of pedestrian crossings at schools, lack of footpaths leading to schools and unsafe footpath width
- The majority of concerns of importance are located in the Murwillumbah study area (it should be noted that the representative of this group is the Principal of Sathya Sai Primary School in Murwillumbah, hence the focus is on this study area)

Recreational users/cyclists

- Concerns of highest importance were around the need for more ramp access, lack of or discontinued footpaths, need for more crossings and dangerous shared paths.
- The majority of concerns of importance are located in the Murwillumbah study area
- Ideas of importance include adding a boardwalk along Terranora Creek to improve the footpath area and continuing the pathway along Greenway Drive (Banora Point) to include crossing two busy roads, including Bunnings.

4.2.3 Workshop discussions

Workshop group discussions were not designed to receive location-specific feedback, but rather encourage broader thinking around pedestrian networks throughout the Tweed (though it is noted some comments to reference a particular location). For this reason, the feedback received from these

discussions is being analysed separately. Key points from each discussion topic are below.

To the future

- Tweed Heads - Boyd Street - a lot of people are using motorised scooters
- Foreshore area of Tweed Coast - Opportunity for pedestrians to enjoy
- Way Finding - Simple, direct access from key areas to car parks
- Pathway width for guide dogs and carers
- Way Finding - needs to be considered in DA's
- Arkinstall Park (Tweed) being redeveloped - pedestrian network has been overlooked
- Less children are riding to school because of a lack of safe pathways. Same with walking - unsafe crossings
- Review paths from paths to bus stops
- People want to walk: meet other people, every 400 - 500m need rest stops, seating with backs and arm rests, places to park walking aids/prams
- Shade and lighting
- Cyclists are going to other areas (Casuarina) because pathway in the Tweed not continuous
- Education and signage so cyclists and pedestrians know who has right of way etc.
- Increase width for shared pathways
- Pathways along beach get overcrowded for cyclists so they have to move into suburbs - but not continuous here

Blue sky thinking

- Maps of suggested cycle and walking routes around schools - parents would feel more comfortable allowing children to cycle
- Continuous paths of travel (30 mins max) to any facility
- Landscaping of routes to make journeys more enjoyable
- Coastal walkway and bikeway along whole foreshore (3m + width)
- More funding for cycle skills programs – kids scooter skills and skateboard
- Lots of shade / shelter along routes
- Nicer bus stops: size, shelter, disability access
- Rethink terminology / language around "disabled" access i.e. accessible toilet not disabled toilet

4.3 Specific areas of concern

Analysis of the anecdotal feedback reveals some areas of particular concern, raised by multiple respondents (i.e. more than one). A full list of comments, by study area, is attached as Appendix C.

	Comment	No. of mentions
Tweeds Heads	Florence Street and Boyd Street – traffic comes from all directions – need more signage for motorists to give way to pedestrians to allow safer crossing	2
	No path on Dry Dock Road – have to walk across private lawns. Dangerous for pedestrians. Need pedestrian crossings	5
	Poor pedestrian access to shopping centres	5
	Lack of street parking and turnaround areas on Mahers Lane makes it dangerous during school times	5
	Sunshine Avenue – dangerous during school drop off/pick up	4
Tweed Heads South	No footpath in Sullivan Street – many people with disabilities in this street	2
Kingscliff	Cudgen Road – dangerous/lack of crossings	2
	No safe access to Cudgen Creek from Sutherland and Viking Streets	4
	Lack of trees/shade and lighting along Turnock Street	3
	Lack of pedestrian crossings on Turnock Street	2
	Poor pedestrian and cycle movement along Marine Parade (missing links, narrow footpaths, lack of crossings)	6
	Poor footpath lighting	10
Banora Point	Leisure Drive – footpath obstructions, inadequate/dangerous crossings, narrow paths,	6
	Banora Boulevard – no footpaths	3
	Bunnings Crossing very difficult to cross	2
Murwillumbah	No footpath at Showground	2
	Nullum Street – poor/lack of pedestrian crossing at school	11
	Tumbulgum Road – missing links, narrow paths and lack of pedestrian crossings	5
	Poorly lit paths	2
	Byangum Road – lack of crossing, footpath near roundabout is dangerous	4
	Footpaths should have more shade	2

5. Key recommendations

5.1 Recommendations for consideration in the PAMP

Based on GHD's analysis of findings from the survey and anecdotal feedback and responses at the focus group and workshop, the community raised the following key areas for improvement to the pedestrian network, which should be considered when developing the PAMP:

- **Safety improvements** along the routes, including improved lighting, crossing locations and footpath obstructions.
- **Additional crossings** to ensure safe passageway for pedestrians across busy roads.
- **Enhanced connectivity** with new links between streets and land uses and filling in 'missing links'.
- **Additional school crossings** to decrease the risk to children in busy school drop-off/pick-up hours and allow children to safely walk to and around school zones.
- **Better kerb ramp or access ramps** along the routes, including additional kerb ramps.
- **Additional shade and seating** along the routes to allow more comfortable pedestrian movement.
- **Increased footpath widths** to allow room for safe shared use between pedestrians (including those with mobility aids) and cyclists.

5.2 Other recommendations moving forward

Based on GHD's close involvement in the consultation program, and its review of the community feedback and wishes, the GHD team recommends the following:

- Keep the community regularly updated about the project's progress following the completion of consultation, to ensure the team 'closes the loop' and reports back on the outcomes
- Ensure those who participated in the workshop receive swift notification of the improvements that Council is taking forward
- Widely promote and communicate the improvements, including details of the reasons for making those choices, and consider outlining suggestions that were discounted and why
- Promptly respond to any ongoing community and stakeholder questions raised via the email address
- Communicate the next steps to achieve funding support and any further engineering assessments required to progress and confirm the PAMP

Appendices

Appendix A – Community survey questions

Pedestrian Access and Mobility Plan

Community Survey

Tweed Shire Council is preparing a Pedestrian Access and Mobility Plan (PAMP) for the local government area. The aim of the PAMP is to improve pedestrian access to, and movement around, your local shops, schools, community facilities and neighbourhoods.

To ensure the PAMP addresses your needs, we would appreciate your assistance by completing this short survey. Individual responses will remain confidential.

1. Your age group?

- ☐ 12 -18 years
- ☐ 19 - 24 years
- ☐ 25 - 34 years
- ☐ 35 - 44 years
- ☐ 45 - 54 years
- ☐ 55 - 64 years
- ☐ 65 - 74 years
- ☐ 75 +

2. Your gender?

- ☐ Male
- ☐ Female

3. In which area to do you spend the most time? Please tick one only.

- ☐ Tweed Heads
- ☐ Tweed Heads South
- ☐ Kingscliff
- ☐ Banora Point
- ☐ Murwillumbah

4.

a. Do you have a disability or care for someone with a disability?

- ☐ Yes
- ☐ No

b. If yes, please specify what type of disability you have or the person you care for has:

- ☐ Physical *(e.g. mobility issues)*
- ☐ Cognitive *(e.g. intellectual impairment or brain injury)*
- ☐ Sensory *(e.g. visual or auditory impairment)*
- ☐ Other *(please specify below)*

_____

5. For what reasons do you typically use pedestrian routes? Please tick all that apply.

- ☐ Recreation *(fitness or leisure)*
- ☐ Commuting *(to/from public transport)*
- ☐ Other *(please specify)*
- ☐ Accessing local shops, facilities and amenities
- ☐ Commuting *(to/from work or school)*

_____

6. Do you or anyone in your primary care use any of the following when visiting your local facilities such as shops and neighbourhoods? Please tick all that apply.

- ☐ Pram
- ☐ Shopping trolley bag
- ☐ Walking stick/walking frame
- ☐ Wheelchair
- ☐ Bicycle
- ☐ Mobility scooter
- ☐ Guide dog
- ☐ Guide/Carer (other than parent/ guardian for young children)
- ☐ Skateboard/ roller skates / recreational scooter

7. Which of the following locations do you visit regularly? Please tick all that apply.

- ☐ Tweed City Shopping Centre
- ☐ Tweed Centro
- ☐ Kingscliff Shopping Village
- ☐ Tweed Heads West
- ☐ Other *(please specify)* _____
- ☐ Banora Village
- ☐ Banora Central
- ☐ Sunnyside Mall
- ☐ Murwillumbah CBD

8. Following on from Question 7, what method of transport do you generally use to travel to these locations?

- ☐ Pedestrian routes (walk, mobility scooter, wheelchair)
- ☐ Private vehicle
- ☐ Bicycle
- ☐ Bus
- ☐ Taxi
- ☐ Other *(please specify below)*

_____

9. Again, relative to Question 7, what are the reasons you don't use pedestrian routes more often to access these locations? Please tick all that apply.

- ☐ The paths are poorly maintained
- ☐ The routes don't feel safe
- ☐ Lack of pedestrian crossings
- ☐ The road has no marked or dedicated footpath
- ☐ Poor links to public transport
- ☐ Distance is too long
- ☐ The paths are too steep/hilly
- ☐ There is too much traffic along the roads
- ☐ Weather (too hot/cold/wet etc.)
- ☐ Other *(please specify below)*

_____

10.

a. Referring to Question 7, when using the pedestrian routes, how easy is it to move around this area?

☐	Always difficult
☐	Difficult
☐	Neither easy nor difficult
☐	Easy
☐	Always easy

b. If you indicated difficulty, please explain the main reasons for this:

_____

_____

_____

_____

11. How important do you think the following improvements are to ensuring a better pedestrian network? Please rank your top 5 priorities, with 1 being the highest priority.

	Your priorities (number 1 - 5)
Access for cyclists	
Access for prams and/or families with young children	
Access for wheelchairs and other mobility devices	
Directional signage - location and amount	
Education - cyclist	
Education - driver	
Education - pedestrian	
Footpath condition and width	
Footpath connectivity (links to public transport, car parks and other facilities and amenities etc.)	
Footpath lighting - location and effectiveness	
Footpath location	
Kerb ramps	
Location of permanent furniture and signage (bins, bench seats etc.)	
Management of temporary footpath furniture (café tables, chairs, stalls)	
Pedestrian crossing location	
Streetscape and appearance	
Vision impaired facilities	

12. **Do you have any further comments regarding pedestrian access and mobility or specific locations in the Tweed where access could be improved?**

Thank you for taking the time to provide your feedback.

Please return your completed survey to Council's offices at Tumbulgum Road, Murwillumbah or Brett Street, Tweed Heads or via post to:

PAMP Community Feedback
The General Manager
Tweed Shire Council
PO Box 816
MURWILLUMBAH NSW 2484

Alternatively, this survey can be completed online via www.yoursaytweed.com.au/PAMP.

Further information about the PAMP is available from:

- Council's website www.tweed.nsw.gov.au/PAMP or
- Council's online engagement hub, Your Say Tweed www.yoursaytweed.com.au/PAMP.

Appendix B – Workshop notes and discussion

PAMP workshop post-it exercise

	Concern	Disability	Seniors	Schools	Recreation/ cycle	TOTAL	Idea	Disability	Seniors	Schools	Recreation/cycle	TOTAL
Tweeds Heads												
	Coral St - site for all access playground paths need wideing and upgrading						Pathway with no steps to gain beach access from Coral St, Hill St, Eden St					
	Dangerous crossing point Kennedy Dr (near TAB)			1		**1**	Boardwalk along Terranora Creek (i.e. Navigators Way/Keith Compton Dr) to improve footpath area				1	**1**
	Path narrow around Terranora Creek (i.e. creek side of Navigators Way) and surface not good for wheelchairs	1				**1**						
	No kerb ramp or accessible parking bays entire length of Florence St to Bay St	1		1		**2**						
	Non-existing paths/disconnected paths, inadequate kerb ramps Powell St to Centro. All kerb ramps need to be accissible by design	1				**1**						
Tweed Heads South												
	Terranora Tce - narrow with bus stop on footpath											
	Greenaway Dr - footpath ends, needing to cross 2 busy roads to continue											
	No connecting path to Tweed City. Many people with disability in the suburb (pocket between Kirkwood Rd and Water St)	1				**1**						
	Broken footpath trip hazrad behind bus stop - Minjungbal Dr (near Water St)											
	Needs good footpath Minjungbal Dr to Dry Dock Rd											
	Sullivan St = worst street in Tweed Heads - no footpath											
	Need more frequent ramp access to river path from Dry Dock Rd	1			1	**2**						
	There are people with disabilities in Sullivan St who cannt access river path											
Murwillumbah												
	No footpath at showground. Farmers market every week. Unsafe to walk	1			1	**2**	Need crossing at Byangum Rd, Wentworth Lane					
	Nullum St - no pedestrian crossing at school. Extremely dangerous outside Sathya Sai School			1		**1**	Bicycle pathways to schools					
	Need footpath on both sides of Nullum St as they are walking for students			1								
	Schools use the walkways to swimming pool											
	Tumbulgum Rd needs pedestrian crossing near Coolamon Centre in better spot			1	1	**1**						
	Tumbulgum Rd footpath ends - missing link to access Charles St											
	Tweed Valley Way - inadequate footpaths											
	Tweed Valley Way - access to art gallery	1				**1**						
Kingscliff												
	No paths on Ocean and Ozanne St						Add a shaded seat along Turnock St		1			**1**
	Missing path Monarch Dr between Bellbird Dr and Elrond Dr	1				**1**						
	Cudgen Rd Tafe entry is poor											
	Crossing opportunities are dangerous - Cudgen Rd	1				**1**						
	No trees along Turnock St											
	No crossings - Cudgen Rd											
	Lack of crossing - Moss St											
	Can't cross Pearl St to shops from bus	1				**1**						
	Dangerous shared path - Urban Dr	1			1	**2**						
	Road island not safe for bikes - Urban Dr/Marin Pde											
	No crossing north of Bowls Club - Marine Pde											
	No footpaths either side of Beach St											
	Zephyr St no footpaths, stops halfway											
	Missing link Marine Pde (near Beach St)	1				**1**						
	Bus stop Womans Bay Rd no footpath											
Banora Point												
	Path obstructed by light poles on Leisure Dr						Conitnue path along Greenway Dr to avoid crossing 2 busy roads inc Bunnings car park				1	**1**
	Inadequate crossing point. Dangerous to cross Leisure Dr			1		**1**	Bridges along Avondale Dr to access other pathways					
	Paths not wide enough - safety. Leisure Dr	2			1	**3**						
	Machinery Dr - unsafe and inadequate paths, discontinued			1		**1**						
	Poor wayfinding from Minjungbal Dr to Tweed City											
	Residents at southern end of Winders Pl use driveways as footpath access from shops to lake											

To the future

- Tweed Heads - Boyd Street - A lot of people are using motorised scooters
- Foreshore area of Tweed Coast - Opportunity for pedestrians to enjoy
- Way Finding - Simple, direct access from key areas to car parks
- Pathway width for guide dogs and carers
- Way Finding - needs to be considered in DA's
- Arkinstall Park (Tweed) being redeveloped - pedestrian network has been overlooked
- Less kids are riding to school because of a lack of safe pathways
    - Same with walking - unsafe crossings
- Review paths from paths to bus stops
- People want to walk:
    - Meet other people
    - Every 400 - 500m need rest stops
    - Seating - with backs and arm rests
    - Place to park walking aids/prams
- Shade
- Lighting
- Cyclists are going to other areas (Casuarina) because pathway in the Tweed not continuous
- Education and signage so cyclists and pedestrians know who has right of way etc.
- Increase width for shared pathways
- Pathways along beach get overcrowded for cyclists so they have to move into suburbs - but not continuous here.

Blue sky ideas

- Maps of suggested cycle and walking routes around schools - parents would feel more comfortable allowing children to cycle
    - show crossings
- Continuous paths of travel (30 mins max) to any facility
- Landscaping of routes to make journeys more enjoyable
- Coastal walkway and bikeway along whole foreshore (3m + width)
- More funding for cycle skills programs
    - Kids scooter skills and skateboard
- Lots of shade / shelter along routes
- Nicer bus stops:
    - size
    - shelter
    - disability access
- Rethink terminology / language around "disabled" access
    - i.e. accessible toilet - not disabled toilet

Appendix C – All comments by area

Breakdown of all anecdotal comments by study area

Tweed Heads
Coral St - site for all access playground paths need wideing and upgrading
Dangerous crossing point Kennedy Dr (near TAB)
Path narrow around Terranora Creek (i.e. creek side of Navigators Way) and surface not good for wheelchairs
No kerb ramp or accessible parking bays entire length of Florence St to Bay St
Non-existing paths/disconnected paths, inadequate kerb ramps Powell St to Centro. All kerb ramps need to be
Currently pregnant and using a vehicle more than normal. When visiting Tweed shopping centres it is for shopping and take my vehicle to carry goods.
Very dark in our street. Plover Place, West Tweed Heads
It is dangerous at school start and finish times especially at the Lindisfarne school at Terranora. This is due to a lack of street parking and turn-around areas on Mahers Lane. I have witnessed 2 accidents recently and am
It is dangerous at school start and finish times especially at the Lindisfarne school at Terranora. This is due to a lack of street parking and turn-around areas on Mahers Lane. I have witnessed 2 accidents recently and am
too far to walk to tweed city from kingscliff
In my mobility scooter the access on and off the footpaths is unsafe and dangerous. The access route to Tweed City Shopping Centre is dangerous in one section where few people can be at one time when waiting for light (Cnr
A few trees planted on the footpaths have large metal plates around the base all the trees, all trees planted on
When with a client that has a powered wheelchair there is not enough access points to cross the roadway. The camber of the footpath to roadway when crossing the road is sometimes too steep and not uniform. For example at Kirkwood Dve/ Midgingbul intersection the steepness of the rise from roadway to footpath is too steep when pushing a manual wheelchair and the gradient is also outside of the parameters for using a powered wheelchair as
too much traffic on dry dock road when going to and from lindisfarne school - needs traffic lights operating for the
As above, due to cars turning around and parking on Mahers Lane. Also lack of street parking on Sunshine
As above, due to cars turning around and parking on Mahers Lane. Also lack of street parking on Sunshine
The corner of Sunshine Avenue and Dry Dock Road is a disaster waiting to happen. Someone (most likely a school kid) will be seriously injured or killed there unless something is done about it. It's just as dangerous for pedestrians and people in vehicles. I'm amazed that they just did a significant amount of work on that section of Dry Dock Road and didn't add a pedestrian crossing over Sunshine Avenue, and a 2nd lane on Dry Dock Road for cars turning right out of Sunshine Avenue. Cars around 8.30am and 3.00pm are queued up trying to get out of Sunshine Avenue. Cars need to 'floor it' to find a gap on Dry Dock Road often with angry drivers behind them waiting. There are lots of 'near misses', often due to cars illegally overtaking heading west on Dry Dock Road when the car in front of them is turning left into Sunshine Avenue (when cars are coming out of Sunshine Ave). In addition to this, the school buses struggle to fit around this corner, possibly interfering with pedestrians waiting on the curb at the corner. Due to these issues for motorists, it's obviously a very unsafe place for pedestrians. Solutions - FOR ALL OPTIONS BELOW - Add a pedestrian crossing on BOTH Sunshine Avenue and Dry Dock Rd near the corner of Dry Dock Rd and Sunshine Avenue. OPTION 1 - Open the other end of Sunshine Ave to the new freeway entrance/exit. I have no idea why a wall was built there when this road could have been connected and it would have alleviated a LOT of school traffic in the South Tweed area (Minjungbul Rd).
Tweed Heads West Seagull Isle paved footpath along water is very bad. A lot of elderly people use this path.
Some sides of road are ok. One side of Drydock ok. But off river side = none
Footpath along scenic drive connecting bilambil heights to west tweed is needed for children to safely travel on,
Sunshine Avenue school drop off
It is very dangerous for pedestrians and cyclists on Fraser Drive between Banora Central and Dry Dock Road.
Drivers need to be educated about pedestrian awareness when they are leaving shopping centers etc they don't give way to pedestrians who are on footpaths. Shopping centers need to provide signage where their driveways cross footpaths notifying drivers of pedestrians and to give way to them. The exit of Tweed Centro front car on Wharf Street is particularly dangerous as there is a garden blocking drivers view of the footpath and most drivers

Very little shade/protection from sun on pathways, specially Minjungbal Dr to shopping centre. Need more trees along pathways. Love cycleways around Kingscliff, lots of trees and shade along paths. Trees help absorb heat off pathways. Cunninham St - Oxley St - Kirkwood Rd are becoming less and less accessible due to
Recreation and Florence Street - lighting not working well along footpath, too dark. Tweed Centro side street (Frances) - lighting motorists don't stop for pedestrian crossing, need more signage to alert motorists earlier. Boyd
To get to Tweed City would have to walk / ride to corner at lights at Drydock Rd and Midgebal Dr. No path on Drydock Rd - have to walk across private lawns. Dangerous trying to share path w/ wheelchairs, bikes, prams etc.
Boyd St and Florence St traffic coming from all directions.
Add a pathway with no steps to gain beach access from Coral St, Hill St, Eden St
Add a boardwalk along Terranora Creek (i.e. Navigators Way/Keith Compton Dr) to improve footpath area
Tweed Heads South
Terranora Tce - narrow with bus stop on footpath
Greenaway Dr - footpath ends, needing to cross 2 busy roads to continue
No connecting path to Tweed City. Many people with disability in the suburb (pocket between Kirkwood Rd and
Broken footpath trip hazrad behind bus stop - Minjungbal Dr (near Water St)
Needs good footpath Minjungbal Dr to Dry Dock Rd
Sullivan St = worst street in Tweed Heads - no footpath
Need more frequent ramp access to river path from Dry Dock Rd
There are people with disabilities in Sullivan St who cannt access river path
No pedestrian access on Fraser drive from Harrier street to Banora central.
Kingscliff
No paths on Ocean and Ozanne St
Missing path Monarch Dr between Bellbird Dr and Elrond Dr
Cudgen Rd Tafe entry is poor
Crossing opportunities are dangerous - Cudgen Rd
No trees along Turnock St
No crossings - Cudgen Rd
Lack of crossing - Moss St
Can't cross Pearl St to shops from bus
Dangerous shared path - Urban Dr
Road island not safe for bikes - Urban Dr/Marin Pde
No crossing north of Bowls Club - Marine Pde
No footpaths either side of Beach St
Zephyr St no footpaths, stops halfway
Missing link Marine Pde (near Beach St)
Bus stop Womans Bay Rd no footpath
Turnock Street has no lighting along the path between Pearl Street and Elrond Drive so I feel less safe when walking in the evening and at night. Many people of various age groups and mobility levels use this pedestrian
no crosswalks on busy Kingscliff street and turnock street. Drivers fly through the roundabout there and a person takes their life in their hands to cross on bike or foot. I have young kids and we find it a terrifying intersection, just
Many pedestrian routes in Kingscliff are poorly lit after sunset. Pedestrian routes frequently have youths riding skateboards at unsafe speeds to maneuver safely past elderly
In Kingscliff the footpaths are littered with cars parked on them and sometimes half on road and half on footpath
Many pedestrian routes in Kingscliff are poorly lit after sunset. Pedestrian routes frequently have youths riding skateboards at unsafe speeds to maneuver safely past elderly
Many pedestrian routes in Kingscliff are poorly lit after sunset. Pedestrian routes frequently have youths riding skateboards at unsafe speeds to maneuver safely past elderly
Many pedestrian routes in Kingscliff are poorly lit after sunset. Pedestrian routes frequently have youths riding skateboards at unsafe speeds to maneuver safely past elderly
There are far too many bike riders on the pathways around the Salt area in particular from Salt into Kingscliff. They ride far too fast and too close for safety. When you are walking you are forever having to get out of their
when attempting to get to Cudgen Creek by heading down sutherland ST
Insufficient paths around Kingscliff Primary School
heading south east from corner of viking and sutherland sts toward cabarita there is no safe route to access cudgen creek - very dangerous walking down the hill toward the creek with vehicles travelling very close to
There is no adequate pathway for pedestrians to walk in a south easterly direction from the intersection of Viking and Sutherland Streets down Sutherland St heading toward Cudgen creek and Cabarita. I see children with surfboards and women with prams regularly walking down the road with cars only narrowly missing them. This is
inadequate cross walks. Also, marine parade is very difficult to cycle down, now that the street is only one
excessive speed of traffic on Casuarina Way and no marked crossings at South Kingscliff
Cars parked on footpath or footpath and half gutter. Kingscliff from Hotel down chairs out everywhere people

Cars parked on footpaths or half on path and road.From Kingscliff Hotel to Fig Tree is bad news and has become exclusion zone for some people. People with chairs stuck out people delivering hot food. Its like a pop up with
Cars parked on footpaths or half on path and road. From Hotel Kingscliff to Fig Tree is impossible. Chairs stuck out on path people delivering food and hot drinks. It is an obstacle course. It has become a part of town not
Many pedestrian routes in Kingscliff are poorly lit after sunset. Pedestrian routes frequently have youths riding skateboards at unsafe speeds to maneuver safely past elderly
cars parked on footpath and sometimes half out driveways Marine pde from Hotel down is not friendly for anyone to walk there.People with hot coffee people with chairs stuck out,it used to be for all but now it is really only for
Many pedestrian routes in Kingscliff are poorly lit after sunset. Pedestrian routes frequently have youths riding skateboards at unsafe speeds to maneuver safely past elderly
Many pedestrian routes in Kingscliff are poorly lit after sunset. Pedestrian routes frequently have youths riding skateboards at unsafe speeds to maneuver safely past elderly
Many pedestrian routes in Kingscliff are poorly lit after sunset. Pedestrian routes frequently have youths riding skateboards at unsafe speeds to maneuver safely past elderly
Kingscliff generally has very poor street lighting making it difficult to walk or ride after dark
Homes on north Pottsville hill (Elanora Ave) and SAFE direct access to the CBD, park and creek for kids (and adults) going the catholic church (and planned new school) via the beach side without having to back track some
Walking down Marine Pde heading South, turning into Turnock St for shopping centre. Should be more crossing
Murphy's Rd - so well used, speed limit supposed to be 50km/hr, but people use it like a racetrack, and there is no footpath, no kerb and guttering. Cars park along LHS of road to access sportsfields, is dangerous. Footpaths
Heading east along Sutherland St from intersection of Viking and Sutherland St towards Cudgen Ck and Cabarita. There's no footpath and pedestrian access is dangerous because of the traffic volume on Sutherland St and the
Add a shaded seat along Turnock St
Banora Point
Path obstructed by light poles on Leisure Dr
Inadequate crossing point. Dangerous to cross Leisure Dr
Paths not wide enough - safety. Leisure Dr
Machinery Dr - unsafe and inadequate paths, discontinued
Poor wayfinding from Minjungbal Dr to Tweed City
Residents at southern end of Winders Pl use driveways as footpath access from shops to lake
Terranora road Bungalora has only single lanes and no pathways at all until it reaches the flat. So my kids can't
Need footpaths along Banora Blvd b/c new connection road is pushing more traffic over from East Banora into the quieter residential streets. Need footpath from Banora Blvd through Muirfield Pl (linking to stairs) and cross over to
Banora Blvd - no footpath. Could put one on the western side for strollers, wheelchairs. New development will
All the new areas being developed, pedestrain access is good, but in older streets transition from footpath to road is challenging. Footpath past Bunnings, difficult to cross road. Due to traffic, often get stuck at refuge in the middle of the road (scooter and 2 dogs). Lots of kids use area too, speed limit is 50km/hr but people drive much faster. Need to ensure availability of disabled parking close to M'bah pool. On Leisure Dr one side of the road, footpath is
Some uneven pathways in Botanical circuit. More concrete paths, not just grass.
Missing network links. Look at adding two pedestrian bridges up near Auordale Dr and Riversdale Blvd. Look at
Winders Place - The bend in the road located between the two entry points to Kentia Cresent has limited visibility and no footpath, which can make it dangerous when cars come around the bend. Otherwise, access to the shops
Footpath to Banora Club on Leisure DR maintained. Southern footpath leading to shopping centre. Need pathway
Continue path along Greenway Dr to avoid crossing 2 busy roads inc Bunnings car park
Need bridges along Avondale Dr to access other pathways
Murwillumbah
No footpath at showground. Farmers market every week. Unsafe to walk
Nullum St - no pedestrian crossing at school. Extremely dangerous outside Sathya Sai School
Need footpath on both sides of Nullum St as they are walking for students
Schools use the walkways to swimming pool
Tumbulgum Rd needs pedestrian crossing near Coolamon Centre in better spot
Tumbulgum Rd footpath ends - missing link to access Charles St
Tweed Valley Way - inadequate footpaths
Tweed Valley Way - access to art gallery
The weather is actually more an issue of shade and the need for tree planting along with the building of footpaths.
No Lighting along bike/pedestrian path on Marine Parade and footpaths are not continuous on the off coast side of
I live too far away from Murwillumbah CBD but once there I tend to move about on foot.
The footpath along Nullum street from the corner of prince street to Sathya Sai Primary school is incomplete and requires that I walk my 4 children either across the vacant lot (grass in rarely mown and frequently muddy) or onto
Where paths do exist, they are often poorly lit (the whole of Knox Park & around Murwillumbah Primary School)

Water across paths due to stormwater drains not being clear after 2013 flooding. The white paint on all of the Murwillumbah CBD pedestrian crossings is a major slip hazard in the wet.
As for question 10. Poor or non-existent footpath, and aggressive drivers.
Footpath on Tumbulgum Rd between Old Wharf St and library is too narrow and too close to a dangerous road.
Footpath on Tumbulgum Rd between Old Wharf St and library is too narrow and too close to a dangerous road.
I have 2 boys who loves to cycle to school everyday but there is no pedestrian footpath at the end of William St, Murwillumbah. So they walk first until they reached the footpath. Even then walking around the corner of William St the verge bushes are over grown and the boys almost have to walk on a busy road. The roundabout on William
The footpath along Nullum street from the corner of prince street to Sathya Sai Primary school is incomplete and requires that I walk my 4 children either across the vacant lot (grass in rarely mown and frequently muddy) or onto
My children like to ride to school but there is no foot path at the end of William st. They have to walk for a while before they get connected to a footpath. The verge is not maintained bush is grown and the kids have to almost
For an able bodied person, the network of footpaths in Murwillumbah is adequently to walk to almost all parts of
The path along Tumbulgum Road is very narrow and traffic is so close and fast. Cyclists have to dismount as its
I am here on behalf of my school community - Sathya Sai Primary School and Nullum Street in Murwillumbah. It is currently an unsafe situation with no pedestrian crossing merely crossing flags. Buses pull out after dropping
Sunnyside Mall desperately needs an escalator
Footpaths must be designed to fit with landscaping for shade and street furniture, including bubblers. This is critical in our hot, humid climate. People will use paths if the walk is pleasurable. Routes should be planned from
My children go to school in Nullum St opposite Knox Park and I do not like them crossing there. The current arrangement is not clear to drivers, that pedestrians take priority. I also find the intersection at Nullum St and
There needs to be a pedestrian crossing out the front of the Sathya Sai Primary School.
Queensland road, between St Patricks and the showgrounds. Access to the Murwillumbah Farmers Market is along a road with no line markings, no footpath (dry & dusty or wet & muddy). A defined footpath would be helpful
Sathya Sai School Nullum St Murwillumbah I have been witness to and had my own experience of nearly been hit by a passing vehicle. The most important observation is the p platers from the the high school down the road seem unaware of the crossing conditions. My children and I were almost hit by a car full of school students with a student driver of the last day of school last
We need a proper pedestrian crossing at 9 Nullum street to reach the Sathya Sai school. Often drivers don't stop
Byangum Rd Murwillumbah, footpath near roundabout (Willumbin St). Improved signage for pedestrian crossing near Hayes Toyota. Bicycle lane on Tweed Valley way post petrol stations (from bridge onto M'Bah to Quarry Rd).
Please do look at the traffic situation on Nullum Street with regards to the safety of students crossing the road. The carpark for the school is on the opposite side of the road and hence students need to CROSS the road. A
Need crossing at Byangum Rd, Wentworth Lane
Need bicycle pathways to schools

GHD

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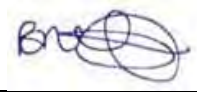
		Name	Signature	Name	Signature	Date
1	C. Thies	B. Maki				

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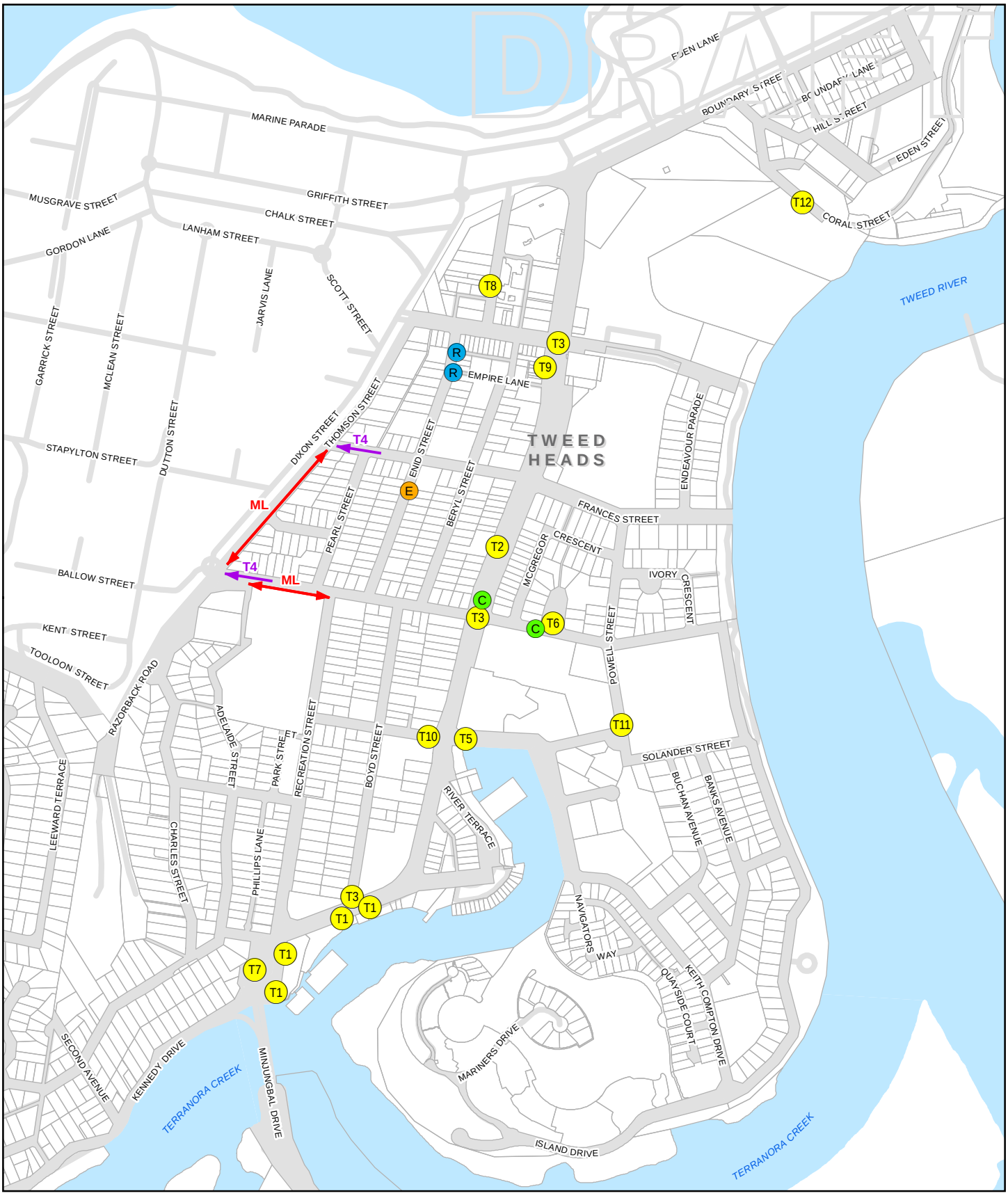


LEGEND

- Cadastre
- Waterbody
- Road corridor
- ? Site Specific Issues
- C Poor or Missing Crossing Opportunity
- E Footpath Ends with No Connection
- R Poor or Missing Kerb Ramps
- ML - Missing Link
- T4 - Steep Grade

Paper Size A4

0 90 180 270 360

Metres

Map Projection: Transverse Mercator
Horizontal Datum: GDA 1994
Grid: GDA 1994 MGA Zone 56

N

Tweed Shire Council
Pedestrain Access and Mobility Plan

Tweed Heads
Existing Footpath Audit Results

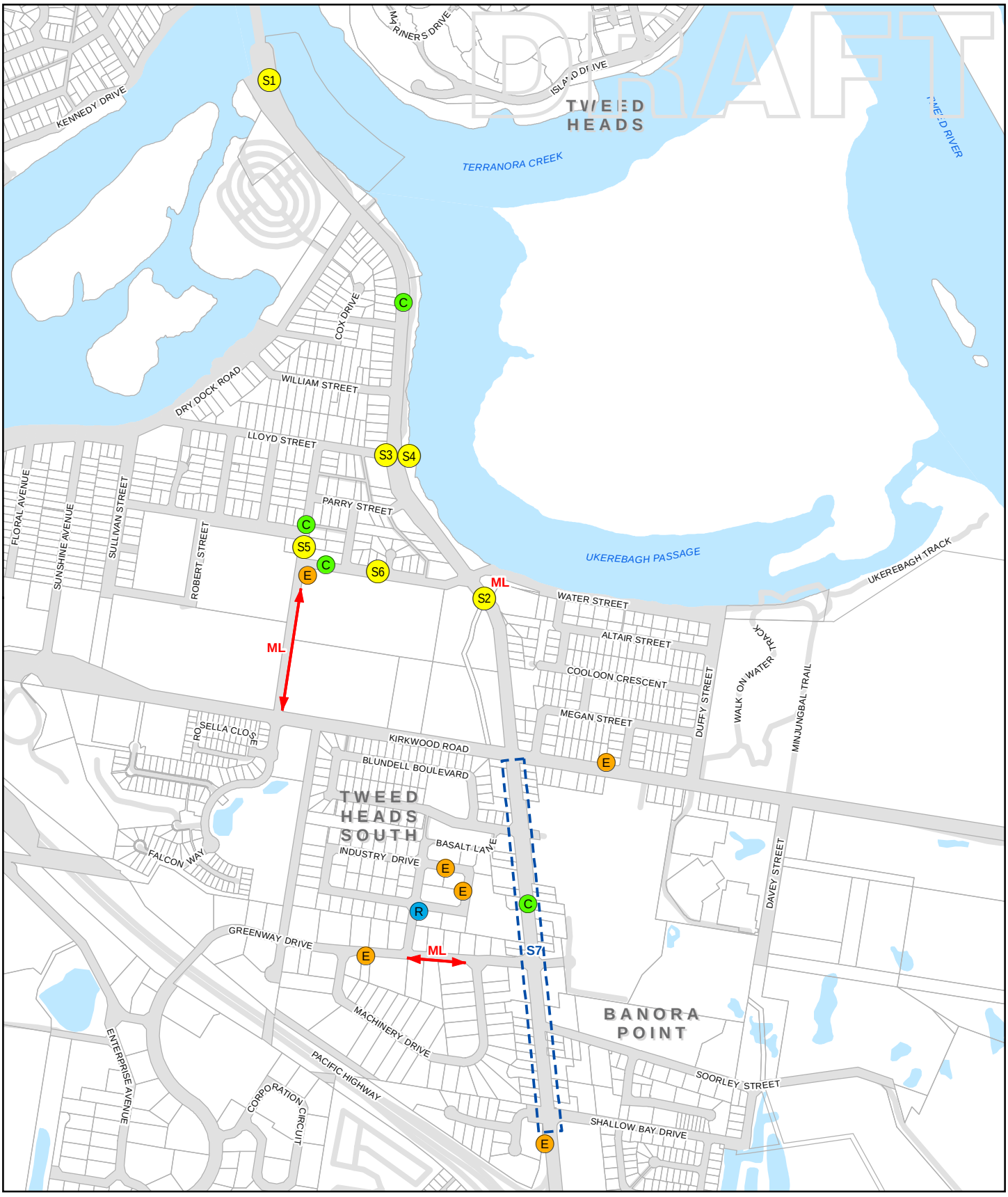
Job Number 22-17143
Revision A
Date 05 May 2014

Figure F.1

Level 3, GHD Tower, 24 Honeysuckle Drive, Newcastle NSW 2300 **T** 61 2 4979 9999 **F** 61 2 4979 9988 **E** ntlmail@ghd.com **W** www.ghd.com.au

G:\22\17143\GIS\Maps\Deliverables\PAMP\2217143_PAMP005_FootpathAudits_DDP_A.mxd

Data source: RMS: Crash Data 2014; LPI: DCDB & DTDB 2012. Created by: fmackay



LEGEND

- Cadastre
- Waterbody
- Road corridor
- ? Site Specific Issues
- C Poor or Missing Crossing Opportunity
- E Footpath Ends with No Connection
- R Poor or Missing Kerb Ramps
- ML - Missing Link
- S7 - Barrier to Pedestrian Accessibility

Paper Size A4

0 100 200 300 400

Metres

Map Projection: Transverse Mercator
Horizontal Datum: GDA 1994
Grid: GDA 1994 MGA Zone 56

N

Tweed Shire Council
Pedestrain Access and Mobility Plan

Tweed Heads South
Existing Footpath Audit Results

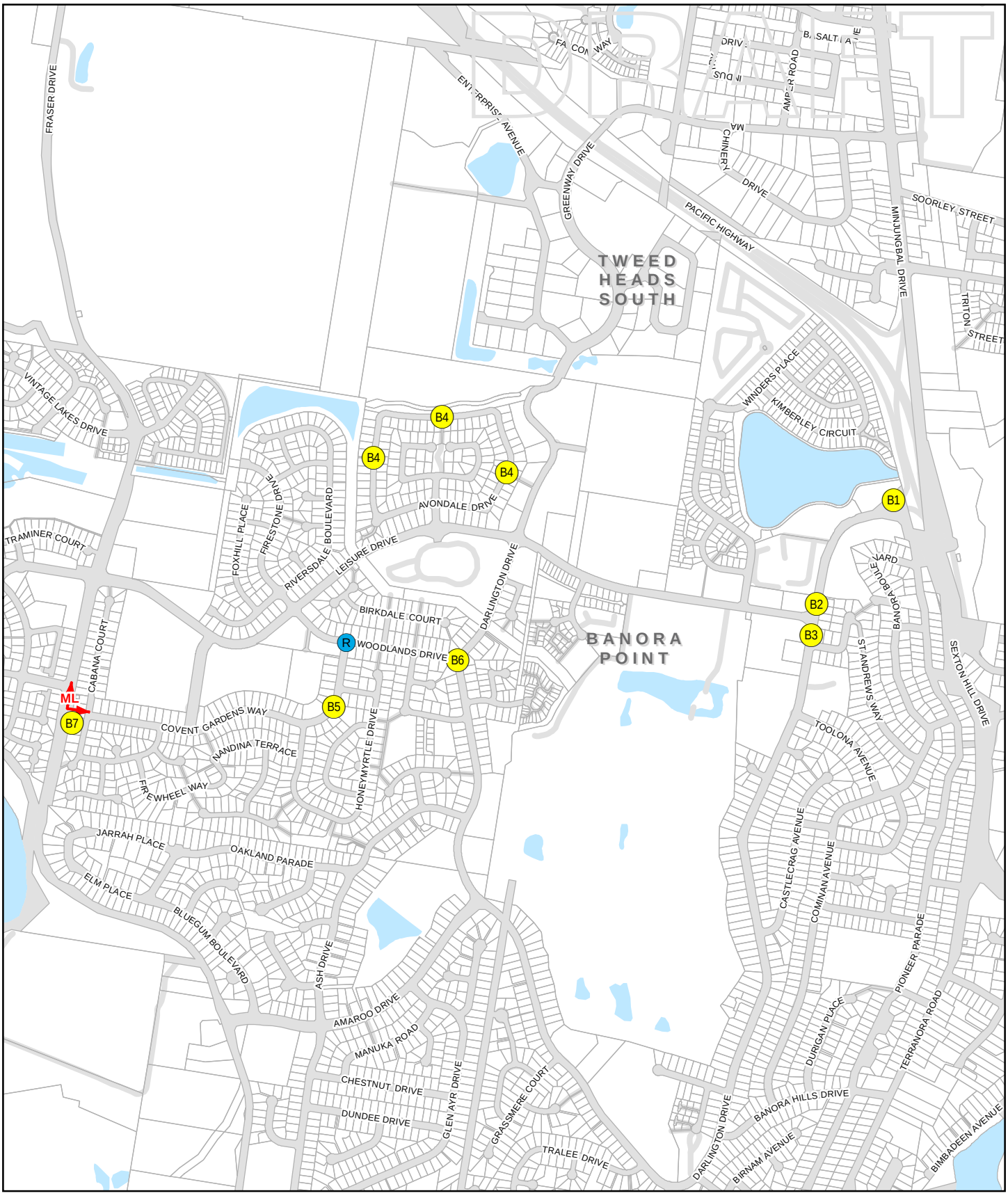
Job Number 22-17143
Revision A
Date 05 May 2014

Figure F.2

Level 3, GHD Tower, 24 Honeysuckle Drive, Newcastle NSW 2300 **T** 61 2 4979 9999 **F** 61 2 4979 9988 **E** ntlmail@ghd.com **W** www.ghd.com.au

G:\22\17143\GIS\Maps\Deliverables\PAMP\2217143_PAMP005_FootpathAudits_DDP_A.mxd

Data source: RMS: Crash Data 2014; LPI: DCDB & DTDB 2012. Created by: fmackay



LEGEND

- Cadastre
- Waterbody
- Road corridor
- ? Site Specific Issues
- R Poor or Missing Kerb Ramps
- ML - Missing Link

Paper Size A4

0 125 250 375 500

Metres

Map Projection: Transverse Mercator
Horizontal Datum: GDA 1994
Grid: GDA 1994 MGA Zone 56

N

Tweed Shire Council
Pedestrain Access and Mobility Plan

Banora Point
Existing Footpath Audit Results

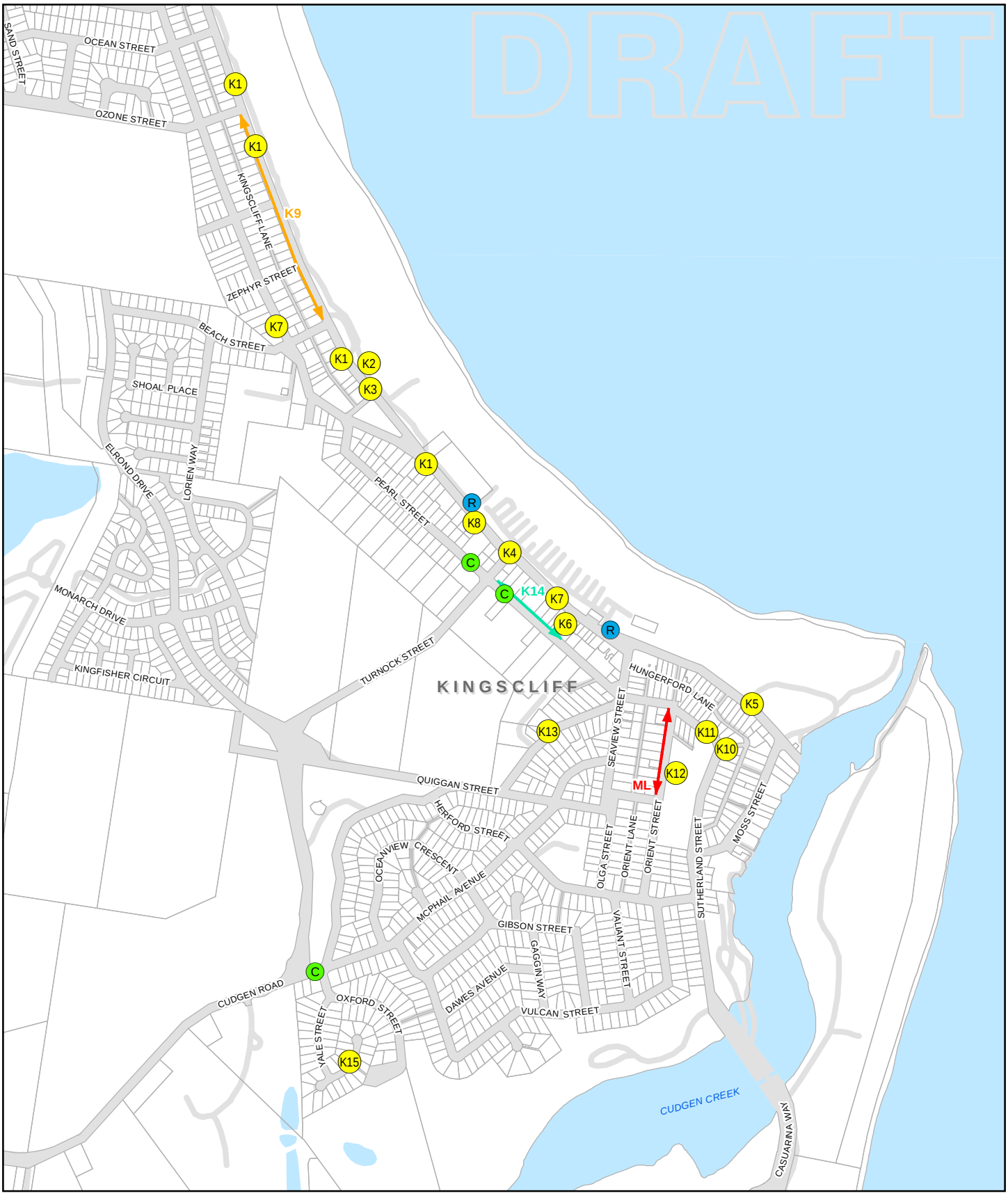
Job Number 22-17143
Revision A
Date 05 May 2014

Figure F.3

Level 3, GHD Tower, 24 Honeysuckle Drive, Newcastle NSW 2300 **T** 61 2 4979 9999 **F** 61 2 4979 9988 **E** ntlmail@ghd.com **W** www.ghd.com.au

G:\22\17143\GIS\Maps\Deliverables\PAMP\2217143_PAMP005_FootpathAudits_DDP_A.mxd

Data source: RMS: Crash Data 2014; LPI: DCDB & DTDB 2012. Created by: fmackay



LEGEND

- Cadastre
- Waterbody
- Road corridor
- ? Site Specific Issues
- C Poor or Missing Crossing Opportunity
- R Poor or Missing Kerb Ramps
- ML - Missing Link
- K14 - Footpath Width Past Construction Site
- K9 - Disjointed Footpath

Paper Size A4

0 100 200 300 400

Metres

Map Projection: Transverse Mercator
Horizontal Datum: GDA 1994
Grid: GDA 1994 MGA Zone 56

N

Tweed Shire Council
Pedestrain Access and Mobility Plan

Kingscliff
Existing Footpath Audit Results

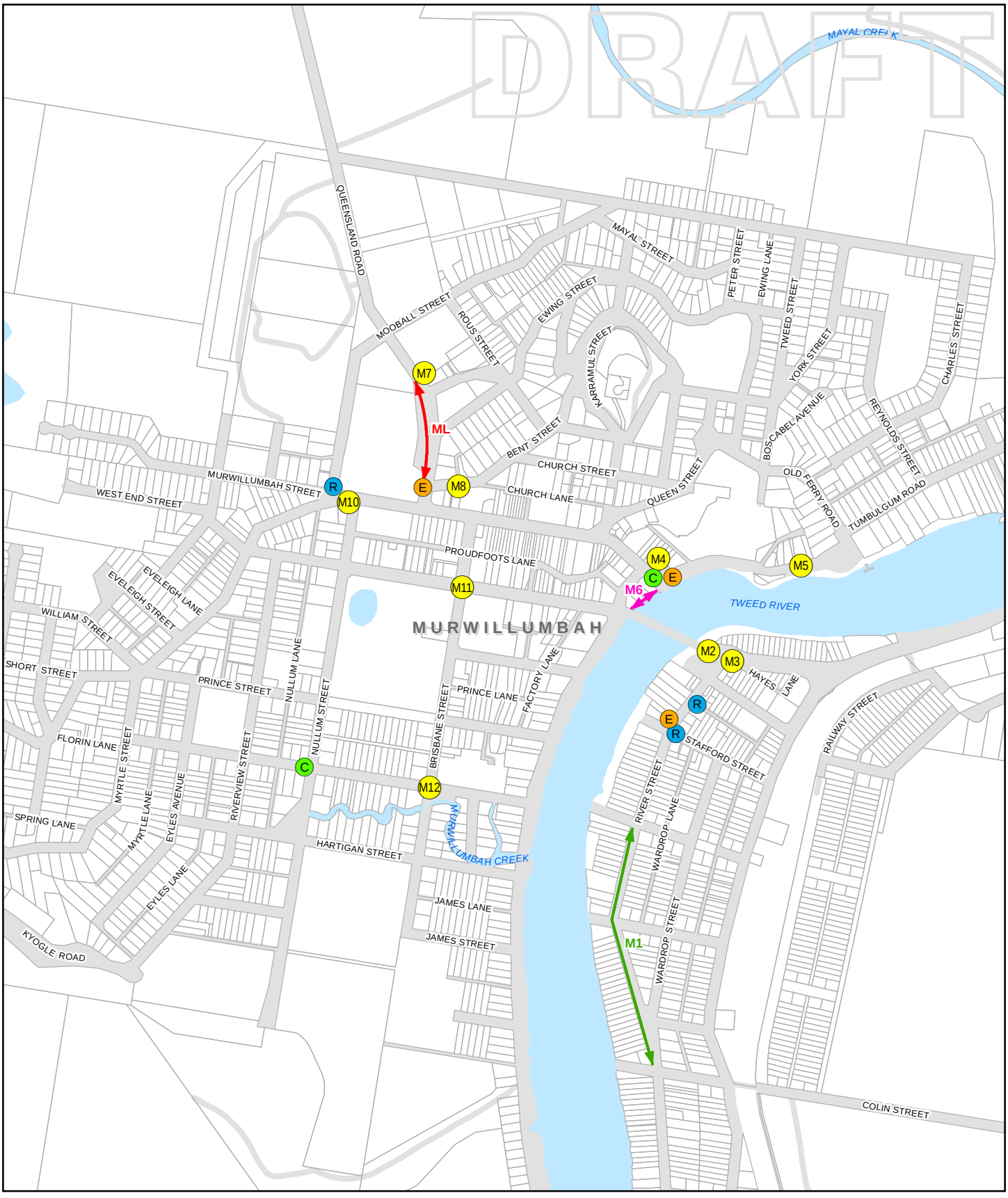
Job Number 22-17143
Revision A
Date 05 May 2014

Figure F.4

Level 3, GHD Tower, 24 Honeysuckle Drive, Newcastle NSW 2300 **T** 61 2 4979 9999 **F** 61 2 4979 9988 **E** ntlmail@ghd.com **W** www.ghd.com.au

G:\22\17143\GIS\Maps\Deliverables\PAMP\2217143_PAMP005_FootpathAudits_DDP_A.mxd

Data source: RMS: Crash Data 2014; LPI: DCDB & DTDB 2012. Created by: fmackay



LEGEND

- Cadastre
- Waterbody
- Road corridor
- ? Site Specific Issues
- C Poor or Missing Crossing Opportunity
- E Footpath Ends with No Connection
- R Poor or Missing Kerb Ramps
- ML - Missing Link
- M1 - Lack of Footpaths
- M6 - Discontinuous Path

Paper Size A4

0 90 180 270 360

Metres

Map Projection: Transverse Mercator
Horizontal Datum: GDA 1994
Grid: GDA 1994 MGA Zone 56

N

Tweed Shire Council
Pedestrain Access and Mobility Plan

Murwillumbah
Existing Footpath Audit Results

Job Number 22-17143
Revision A
Date 05 May 2014

Figure F.5

Level 3, GHD Tower, 24 Honeysuckle Drive, Newcastle NSW 2300 **T** 61 2 4979 9999 **F** 61 2 4979 9988 **E** ntlmail@ghd.com **W** www.ghd.com.au

G:\22\17143\GIS\Maps\Deliverables\PAMP\2217143_PAMP005_FootpathAudits_DDP_A.mxd

Data source: RMS: Crash Data 2014; LPI: DCDB & DTDB 2012. Created by: fmackay

ML	Missing links

Several locations were identified over the course of the footpath audits where an obvious pedestrian connection or link was missing. These were typically “gaps” in the network or between closely spaced, major pedestrian generators. Larger scale missing links were not recorded as they will be identified during the wider pedestrian network planning process.

Missing links are marked with arrows and an ML symbol in the attached maps.

E	Footpath ends with no connection

Footpaths often end with no connection to the remainder of the pedestrian network. While able bodied pedestrians would typically continue along the verge or the road shoulder (desire lines often evidenced by the presence of a worn track), ending footpaths have a significant impact on mobility impaired pedestrians.

Footpaths which end without a connection to the remainder of the network are marked with an E in the attached maps.

R	Poor or missing kerb ramps

Kerb ramps should be provided where a pedestrian needs to descend to the road level to cross the road (at intersections or mid-block crossings) or when entering a shared area. In many locations missing or non-compliant kerb ramps can cause an access issue for mobility impaired pedestrians, have a poor surface quality (steep inclined or decline), or are a tripping hazard.

Poor or missing kerb ramps are marked with an R in the attached maps.

Steep kerb ramp at Bowls Club entrance, Kingscliff

Tripping hazard on kerb ramp at Holstons Lane, Murwillumbah

C	Poor or missing crossing opportunity

Crossings opportunities should be provided where there is a significant demand for pedestrians to cross the road. Depending on the demand, crossings can be in the form of kerb ramps on either side of the road, a median refuge island,

pedestrian zebra crossing or a signalised pedestrian crossing. Some locations were identified during the audit where there was demand for a new crossing or where an existing crossing presented access or safety issues.

These locations have been marked with a C in the attached maps.

Tweed Heads

T1	Obstructions in footpath

There are several locations where signage support poles, light poles, bus stop infrastructure or other fixed structures obstruct the free movement of pedestrians on the footpath.

Risk Rating: Moderate

Sign pole obstructing footpath on Wharf Street

Light pole obstructing footpath on Kennedy Drive

Potential solutions: Remove or relocate obstructions

T2	Steep sections of footpath

The footpath on the western side of Wharf Street, between Florence Street and Frances Street, has small sections with steep grades.

Risk Rating: Moderate

Steep grade transition on Wharf Street

Potential solutions: Regrade footpath, provide non-slip surfaces

T3	Signalised Intersection issues

Long cycle times, and large green time allocation to the Wharf Street approaches, creates a barrier to pedestrian movement across Wharf Street at some intersections including Bay Street, Florence Street and Boyd Street. There is also a missing crossing at Florence Street.

Risk Rating: Low

Florence Street traffic signals

Florence Street missing crossing

Potential solutions: Reassess signal timing for pedestrian priority

T4	Steep grades

Many Streets west of Wharf Street have steep grades, including Francis Street and Florence Street.

Risk Rating: Comment only

Florence Street looking west from Recreation Street

Potential solutions: Limited

T5	Queuing across crossing point

Vehicles queuing back from Wharf Street obstruct pedestrian movement across

Brett Street. There is no pedestrian refuge provided.

Risk Rating: Significant

Vehicle queuing on Brett Street

Potential solutions: Provide a median refuge island, or provide a pedestrian (zebra) crossing

T6	Parking blocks kerb ramps

Vehicles parking in Florence Place regularly block the kerb ramps, restricting pedestrian access along Florence Street.

Risk Rating: Significant

Vehicles parked over kerb ramps on Florence Place

Potential solutions: Implement and enforce parking restrictions

T7	Sight distance restriction

The available sight distance on the slip road at the intersection of Kennedy Drive and Wharf Street is severely restricted by the presence of advertising signage.

Risk Rating: Significant

	
Kennedy Drive slip road looking South	Looking North (note sight distance restriction)
Potential solutions: Remove or relocate advertising signage	

T8	Crossfall of footpath
The footpath on the western side of Stuart Street slopes towards the edge of the road. The angle is steepest directly next to a side entry pit. Risk Rating: Significant	
	
Kerb angle and side entry pit on Stuart Street	
Potential solutions: Regrade footpath	

T9	Pedestrian desire line through vegetation
Pedestrians cross Wharf Street informally near the taxi rank. There is evidence of a desire line between the vegetation. Risk Rating: Moderate	

Gap in vegetation, rear of taxi rank shown

Desire line through vegetation

Potential solutions: Plant vegetation, construct pedestrian fence

T10	Lack of pedestrian protection

Vehicles turning left from Wharf Street (northbound) into Brett Street do so at speed and with continuous movement. There is no protection for pedestrians crossing Brett Street at the intersection.

Risk Rating: Significant

Brett Street looking towards Wharf Street

Brett Street looking along Wharf Street footpath

Potential solutions: Provide a median refuge island, or provide a pedestrian (zebra) crossing

T11	Desire line

There is a desire line for pedestrians directly between Brett Street and the Hospital pedestrian access.

Risk Rating: Low

Looking along Brett Street footpath towards Hospital

Potential solutions: Provide a median refuge island, or provide a pedestrian (zebra) crossing

T12	Narrow shared path

There is a narrow section of the shared path directly adjacent to Coral Street which has insufficient width for two cyclists to safely pass.

Risk Rating: Moderate

Coral Street shared path

Potential solutions: Widen path

Tweed Heads South

S1	Obstructions in footpath

There are several locations where signage support poles, light poles, bus stop infrastructure or other fixed structures obstruct the free movement of pedestrians on the footpath.

Risk Rating: Moderate

Light poles obstructing shared path alongside Minjungbal Drive

Potential solutions: Remove or relocate obstructions

S2	Pedestrian access to school bus stop

Students were observed crossing Minjungbal Drive at the bus stop, south of the Heffron Street traffic signals. The students walked along the thin median between the fence and the traffic lane and weaved between queued northbound vehicles to reach Heffron Street. It is clear that the fence has been recently installed to combat this behaviour however it appears to be exacerbating the situation.

Risk Rating: Significant

Mingjungbal Road Heffron Street bus stop

Fence and traffic signals

Potential solutions: Provide additional fencing along the side of Minjungbal Drive

S3	Steep sections of footpath

The presence of services (drainage culverts etc.) often requires the footpath to be raised. In some instances, this has resulted in steep grade transitions on footpaths.

Risk Rating: Moderate

Minjungbal Drive shared path (near Lloyd Street)

North of Kirkwood Road

Potential solutions: Regrade footpath

S4	Lack of safe crossing facilities

The kerb ramp on Minjungbal Drive near Lloyd Street may result in pedestrians crossing at this location, however the nature of this intersection (i.e. long crossing distance, give-way controlled intersection, four-lane major road etc.) does not provide for safe crossings.

Risk Rating: Significant

Kerb ramp on Minjungbal Drive at Lloyd Street

Potential solutions: Remove kerb ramp, provide pedestrian refuge or provide alternative crossing location

S5	Poor connectivity

There are weak connections along Oxley Street, between Kirkwood Road, Heffron Street and Cunningham Street. Footpaths are disjointed and there are limited crossing opportunities in the area.

Risk Rating: Low

Dirt path alongside Oxley Street

Oxley Street between Heffron Street and Cunningham Street

Potential solutions: Provide sealed footpath and crossing opportunities on Oxley Street, Heffron Street and Cunningham Street

S6	Lack of footpath around car parking

There is no footpath provided along the northern side of Heffron Street, opposite the school, in front of the 45 degree on-street parking. Pedestrians tend to walk behind cars, near the active traffic lane and in the path of reversing vehicles.

Risk Rating: Moderate

Heffron Street parking

Heffron Street parking

Potential solutions: Provide footpath along northern side of Heffron Street

S7	Barrier to pedestrian accessibility

There are generally few crossing opportunities on Minjungbal Drive south of Kirkwood Road. Crossings are available at signalised intersections, which are spaced at around 350 metres. High traffic volumes on Minjungbal Drive and long cycle times are a further barrier to pedestrian movement. Pedestrian signals are typically available on only one of the Minjungbal Drive approaches.

Risk Rating: Low

Potential solutions: Provide additional crossing locations, provide grade

separated crossing facilities, reassess signal timing for pedestrian priority

Banora Point

B1	Wayfinding unclear

The preferred pedestrian route to Tweed Heads South is unclear. When approaching along Darlington Drive, the road signage indicates to turn left at Sexton Hill Drive, when pedestrians are actually required to cross Darlington Drive to access the shared path on Minjungbal Drive.

Risk Rating: Low

Darlington Drive shared path on approach to Sexton Hill Drive

Shared path on Minjungbal Drive (southern end)

Potential solutions: Provide additional wayfinding signage

B2	No pedestrian crossing

No crossing is provided at the bus stop on Darlington Drive north of Leisure Drive. A narrow, raised median is present which could provide a tripping hazard for pedestrians crossing.

Risk Rating: Significant

Bus stops and median on Darlington Drive

Potential solutions: Remove raised median, widen median to allow pedestrian

refuge

B3	Discontinuous footpath

The footpath on the eastern side of Darlington Drive is discontinuous at the Leisure Drive roundabout. There is clear evidence of a desire line leading to the shared driveway access. The nearest safe crossing point is a pedestrian refuge island located some 100 metres south of the roundabout.

Risk Rating: Moderate

Footpath ends on approach to roundabout

Shared driveway exit

Potential solutions: Connect footpath to shared driveway access, convert shared driveway access to shared zone, provide pedestrian crossing on southern leg of roundabout

B4	Confusing pavement treatments

Some pavement treatments may result in confusion for pedestrians and drivers regarding which has right of way.

Risk Rating: Low

Pavement treatment (slow point) on Avondale Drive

Potential solutions: Convert to pedestrian crossing, provide clear indication of priority

B5	Tripping hazard

The footpath at the park on Covent Gardens Way leads directly to the road edge, with no connecting footpath or kerb ramp opposite. The existing traffic calming treatment could cause a tripping hazard for pedestrians crossing at this location.

Risk Rating: Significant

Footpath on Covent Gardens Way

Traffic calming treatment

Potential solutions: Remove or relocate kerb ramp on Covent Gardens Way, remove or replace existing traffic calming treatment

B6	Pedestrian facilities at roundabout

Pedestrian treatments at the Darlington Drive/Woodbridge Drive roundabout are poor. There would be crossing demand on the Woodbridge Drive approach, however no kerb ramps are provided and a narrow roundabout splitter island may cause a tripping hazard.

Risk Rating: Moderate

Darlington Drive/Woodbridge Drive roundabout

Narrow roundabout splitter island, lack of kerb ramps at Darlington Drive/Woodbridge Drive roundabout

Potential solutions: Provide kerb ramps, remove narrow splitter island

B7	Lack of connection to footpath
The off-street footpath at the western end of Covent Gardens Way (at Cabana Court) leads directly to the edge of Fraser Drive with no connecting footpath. The end of the footpath is unsealed, with a relatively steep grade and tripping hazards present. Risk Rating: Moderate	
	
Fraser Drive	
Potential solutions: Provide connection to road edge, provide a median refuge island, provide a connection to footpaths on Fraser Drive	

Kingscliff

K1	Uneven footpath surfaces
Several footpaths have uneven surfaces which may cause a tripping hazard. In some cases, these have already been identified and are marked with yellow paint to highlight them. Risk Rating: Moderate	
	
Tripping hazard on Marine Parade shared use path	Tripping hazard on Marine Parade footpath
Potential solutions: Repair surfaces	

K2	Missing connection to shared use path

There is clear evidence of a desire line connecting between the southern end of the Marine Parade car park (near Beach Street) and the shared use path. This was likely formed by bicycles; however it attracts use by pedestrians.

Risk Rating: Low

Desire lines between Marine Parade car park and shared use path

Potential solutions: Provide formal connection

K3	Lack of connection to shared use path

The existing pedestrian refuge on Marine Parade north of Pearl Street does not connect to the shared use path

Risk Rating: Low

Missing connection to shared use path

Missing connection to shared use path

Potential solutions: Provide formal connection

K4	Longitudinal groove in shared use path

There is a wide longitudinal groove in the Marine Parade shared use path just north of Turnock Street. This has the potential to snag bicycle, pram or wheelchair wheels and is also a tripping hazard.

Risk Rating: Significant

Longitudinal groove in shared use path

Potential solutions: Fill and seal longitudinal groove

K5	Obsolete speed limit signage

Conflicting pavement markings at the southern end of Marine Parade may cause confusion for drivers relating to the posted speed limit

Risk Rating: Low

Old 50 km/h pavement markings contradict with 40 km/h posted speed limit

Potential solutions: Remove pavement markings

K6	Narrow pedestrian linkage

Dorans Walk, located between Marine Parade and Pearl Street provides an important link between these roads. The path is narrow. Walls and fencing (temporary and permanent) restrict the ability for pedestrians to pass

Risk Rating: Low

Dorans Walk looking towards Marine Parade

Dorans Walk looking towards Pearl Street

Potential solutions: Widen footpath

K7	Impact of temporary works

Several construction sites in Kingscliff have resulted in the removal of an important footpath link or works have cause a poor quality surface not suitable for use by mobility impaired pedestrians

Risk Rating: Significant (temporary)

Poor temporary kerb ramp at Marine Parade

Construction site at Kingscliff Street

Potential solutions: Ensure footpath reinstated once works are completed

K8	Confusing pavement treatments

Some pavement treatments may result in confusion for pedestrians and drivers regarding which has right of way.

Risk Rating: Moderate

Pavement treatment on Marine Parade

Potential solutions: Provide formalised pedestrian crossing, provide clear indication of priority

K9	Disjointed footpath

The footpath on the western side of Marine Parade, north of Beach Street, is discontinuous, short sections of footpath interspersed with short sections of no footpath, and few connections are provided where a footpath ends.

Risk Rating: Moderate

Disjointed footpath north of Beach Street

Disjointed footpath north of Ozone Street

Potential solution: Provide continuous footpath, provide additional connections to shared use path

K10	Lack of footpath connection to crossing point

Kerb ramps are provided at the intersection of Sutherland Street and Hungerford Lane, however there is no footpath available on the northern side of these roads. The ramps could attract pedestrian trips, mostly students, and result in pedestrians squeezing between the existing vegetation, signage and the edge of the road.

Risk Rating: Significant

Looking along Sutherland Street

Looking towards Hungerford Lane

Potential solutions: Remove kerb ramps, provide pedestrian footpath

K11	Lack of footpath connection to crossing point

There is no footpath on the northern side of Sutherland Street connecting to the pedestrian crossing.

Risk Rating: Moderate

No footpath on northern side of Sutherland Street

Sutherland Street looking east

Potential solutions: Remove or relocate existing crossing, provide footpath on northern side of Sutherland Street

K12	Children’s crossing

The children’s crossing on Orient Street is not connected to the existing footpath and does not have kerb ramps. This crossing services the primary school: Kingscliff Public School

Risk Rating: Moderate

Orient Street crossing (eastern side)

Orient Street crossing (western side)

Potential solutions: Provide footpaths on Orient Street connecting to Sutherland Street

K13	Narrow footpath

The footpath on Boomerang Street narrows, creating a squeeze point, to allow for a private access

Risk Rating: Moderate

Squeeze point on Boomerang Street

Potential solutions: Widen footpath, relocate property access

K14	Footpath width past construction site

Insufficient footpath width and poor surface quality on the northern side of Pearl Street between Tunnock Street and Seaview Street

Risk Rating: Significant (temporary)

	
Looking towards Seaview Street	Looking towards Tunnock Street
Potential solutions: Ensure footpath is reinstated after completion of works	

K15	Lack of footpath
Students leave the Kingscliff High School via the off-road path connecting between Oxford Street and Cambridge Street, however there is no connecting footpath on Cambridge Crescent or Yale Street. Students walk up Yale Street on the road. Risk Rating: Moderate	
Potential solutions: Provide footpath on Cambridge Crescent and Yale Street, connecting to McPhail Avenue and Cudgen Road	

Murwillumbah

M1	Lack of footpaths
No footpaths are provided on River Street, south of Greville Street. Several pedestrians were observed walking along the road surface. There are two pedestrian refuge crossings along this section of River Street without footpath connections. Risk Rating: Low	
	
Pedestrian refuge crossing on River Street	
Potential solutions: Provide footpaths along River Street	

M2	Debris over footpath
Dirt and sand currently obscures the footpath under the Alma Street bridge Risk Rating: Moderate	
	
Dirt and sand covering footpath	
Potential solution: Remove dirt and sand	

M3	Pedestrian (zebra) crossing
The existing pedestrian crossing on Alma Street east of the bridge is very wide. The long crossing distance and arterial nature of the road have safety implications for pedestrians Risk Rating: Moderate	
	
Alma Street pedestrian crossing	Alma Street pedestrian crossing approach
Potential solutions: Reduce crossing distance, provide kerb extensions, provide median refuge island, provide zig-zag pavement markings	

M4	Confusing pavement treatments
Some pavement treatments may result in confusion for pedestrians and drivers regarding which has right of way.	

Risk Rating: Moderate

Traffic calming at Aquatic Centre entrance (Tumbulgum Road)

Potential solutions: Convert to pedestrian crossing, provide clear indication of priority

M5	Narrow footpath

On-street footpath on Tumbulgum Road east of Council Offices is very narrow.

Risk Rating: Moderate

Narrow footpath on Tumbulgum Road

Potential solutions: Provide warning or advisory signage

M6	Discontinuous footpath

The off-street path between Tumbulgum Road and Commercial Road, alongside the edge of the Tweed River, is discontinuous for a short distance with “Footpath Closed Private Property” signage in place

Risk Rating: Low

	
Tumbulgum Road end	Commercial Road end
Potential solutions: Provide public footpath connection	

M7	Misaligned kerb ramps

The kerb ramps on Queensland Road at Ewing Street are misaligned which increases the total crossing distance and potentially results in pedestrians walking with or against the traffic flow

Risk Rating: Low

	
Queensland Road near Ewing Street	Kerb ramps on Queensland Road
Potential solutions: Realign kerb ramps	

M8	Stairs restricting access

Stairs on Bent Street restrict footpath access for mobility scooters. The remaining footpath width is insufficient and would require scooters, wheelchairs etc. to use the driveway crossover or road pavement

Risk Rating: Moderate

Stairs on Bent Street

Potential solutions: Reconfigure stairs, widen footpath

M9	Narrow pedestrian ramp

Ramp and fencing at Murwillumbah Street/Mooball Street roundabout inhibit manoeuvring by prams, mobility scooters and wheelchairs

Risk Rating: Moderate

Limited manoeuvring width

Limited manoeuvring width

Potential solutions: Redesign ramp and fencing, remove additional obstructions

M10	Trip hazard

A tripping hazard at the Murwillumbah Street / Byangum Road roundabout (access laneway) caused by the transition from asphalt to pavers could cause pedestrians crossing at this location to fall onto the road

Risk Rating: Significant

Tripping hazard at Murwillumbah Street laneway

Potential solutions: Provide small ramp to remove tripping hazard

M11	Pedestrian fencing

Pedestrian fencing prevents crossings at two legs of the Wollumbin Street/Brisbane Street roundabout, restricting pedestrian movement at this location. Pedestrians wanting to cross must travel extra distance to the traffic signals or another leg of the intersection

Risk Rating: Low

Brisbane Street leg (north)

Wollumbin Street leg (East)

Potential solutions: provide alternative crossing location

M12	Shared use path on road shoulder

The shared use path along Condong Street diverts briefly onto the road shoulder

Risk Rating: Moderate

	
Shared use path diversion	
Potential solutions: Continue shared use path through vegetation, reduce road width and continue footpath around vegetation	