

**GREEN TRAVEL PLAN
FOR THE
MIXED USE SUBDIVISION
AT
25 MOSS VALE ROAD, BOMADERRY**

Assessed and Approved by:



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1 Introduction

McLaren Traffic Engineering (MTE) was commissioned by EG - Project Management to provide a Green Travel Plan (GTP) for the mixed-use subdivision at 25 Moss Vale Road, Bomaderry. This GTP has been prepared to satisfy a SEARs requirement, which is reproduced below:

Issue and Assessment Requirements	Documentation
<p>10. Traffic, Transport and Accessibility</p> <ul style="list-style-type: none"> • Provide a transport and accessibility impact assessment, which includes: <ul style="list-style-type: none"> ○ an analysis of the existing transport network, including the road hierarchy and any pedestrian, bicycle or public transport infrastructure, current daily and peak hour vehicle movements, and existing performance levels of nearby intersections. ○ details of the proposed development, including pedestrian and vehicular access arrangements (including swept path analysis of the largest vehicle and height clearances), parking arrangements and rates (including bicycle and end-of-trip facilities), drop-off/pick-up-zone(s) and bus bays (if applicable), and provisions for servicing and loading/unloading. ○ analysis of the impacts of the proposed development during construction and operation (including justification for the methodology used), including predicted modal split, a forecast of additional daily and peak hour multimodal network flows as a result of the development (using industry standard modelling), identification of potential traffic impacts on road capacity, intersection performance and road safety (including pedestrian and cyclist conflict) and any cumulative impact from surrounding approved developments. ○ measures to mitigate any traffic impacts, including details of any new or upgraded infrastructure to achieve acceptable performance and safety, and the timing, viability and mechanisms of delivery (including proposed arrangements with local councils or government agencies) of any infrastructure improvements in accordance with relevant standards. ○ proposals to promote sustainable travel choices for employees, residents, guests and visitors, such as connections into existing walking and cycling networks, minimising car parking provision, encouraging car share and public transport, providing adequate bicycle parking and high quality end-of-trip facilities, and implementing a Green Travel Plan. • Provide a Construction Traffic Management Plan detailing predicted construction vehicle routes, access and parking arrangements, coordination with other construction occurring in the area, and how impacts on existing traffic, pedestrian and bicycle networks would be managed and mitigated 	<ul style="list-style-type: none"> • Transport and Accessibility Impact Assessment • Construction Traffic Management Plan • Green Travel Plan or Equivalent

1.1 Previous Approvals

The subject development was previously approved by Shoalhaven City Council under application number SF10851. The subject development was approved for the following:

- A bowling club consisting of:
 - One (1) Indoor Bowling Green and One (1) Outdoor Bowling Green, each accommodating up to 64 people;
 - Club premises with 739m² GFA;
 - Maximum of 10 staff on-site.
- Residential development comprising of townhouses, residential apartments and aged care units as per the following:
 - Twelve (12) x townhouses;
 - 121 x residential apartments;
 - 85 x Seniors Living units;
 - Maximum of 24 staff on-site.
- Commercial premises with 2,100m² GFA comprised of:
 - 1,500m² GFA commercial uses located beneath the aged care units;
 - 600m² GFA of Southern Cross Housing (SCH) Office.

1.2 Development Proposal

Under the proposed scheme, the development has the following characteristics relevant to traffic and parking:

- Lot 1 will follow the approved “Bowling Club” scale as follows:
- Retail area consisting of 215m² NLA;
- Medical Centre / Retail use consisting of 462m²;
- Commercial uses consisting of 880m² NLA;
- Boarding house consisting of:
 - 18 Studio Units;
 - One (1) Bedroom dedicated to the Manger
- Attached housing / multi dwelling housing consisting of:
 - 6 x 1-bedroom house;
 - 28 x 3-bedroom houses;
 - 13 x 4-bedroom houses;
- Dual key apartments consisting of:
 - 8 x 2-bedroom apartments;

- 6 x 3-bedroom apartments;
- Apartments consisting of:
 - 73 x 1-bedroom apartments'
 - 45 x 2-bedroom apartments.
- A child care centre accommodating 55 children and 10 staff members as per the following:
 - 15 children between 0-2 years old (staff assigned at 1 per 4 children, or 4 staff);
 - 20 children between 2-3 years old (staff assigned at 1 per 5 children, or 4 staff);
 - 20 children between 3-5 years old (staff assigned at 1 per 10 children, or 2 staff).
- A "Maintenance Workshop" consisting of 233m².

1.3 Site Context

The location of the site is shown on an aerial photo and a street map in **Figure 1** and **Figure 2** respectively.



FIGURE 1: SITE CONTEXT – AERIAL PHOTO

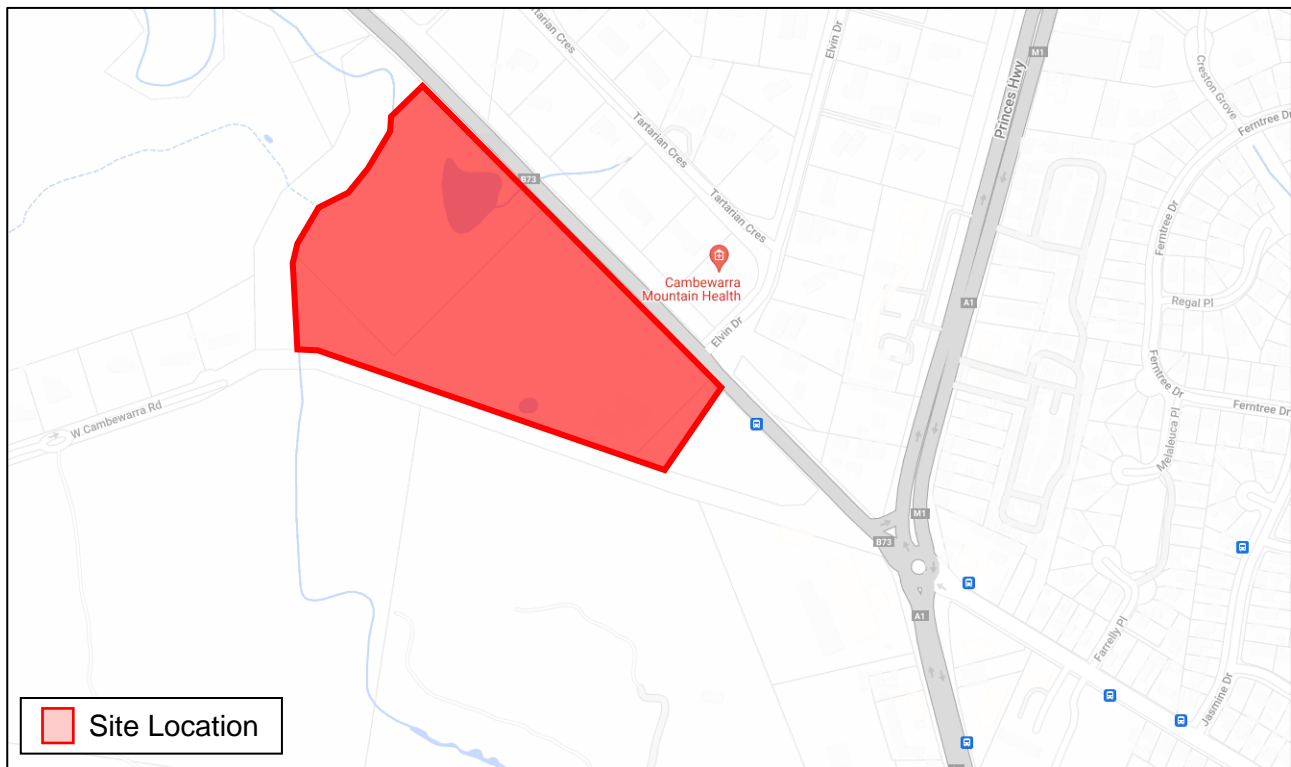


FIGURE 2: SITE CONTEXT – STREET MAP

1.4 References

A number of sources have been consulted to inform the preparation of this Green Travel Plan including:

- NSW Premier's Council for Active Living's Workplace Travel Plan Guidelines – Final Report (April 2010);
- NSW State Government Long Term Transport Master Plan;
- Transport for NSW Future Transport Strategy 2056;
- Australian Bureau of Statistics (ABS) Census Data;
- NSW Bureau of Transport Statistics Journey to Work Data;
- *Nowra Bombaderry Structure Plan* dated 24 October 2006 created by Shoalhaven City Council.
- *Nowra bypass and transport improvements – Consultation summary report* dated May 2024 created by Transport for NSW (TfNSW).
- *The Pedestrian Access and Mobility Plan (PAMP)* created by Shoalhaven Council dated 5 March 2002
- Public Transport or Private Vehicle: Factors That Impact on Mode Choice, Grace Corpuz (Transport Data Centre, New South Wales Ministry of Transport).

2 Objectives

Embracing public and active transport modes quantifiably promotes healthier lifestyles and fosters more sustainable and connected communities through the reduction in traffic congestion and pollution. The NSW State Government *Long Term Transport Master Plan* emphasises the importance of alternative transport options in the growth of Greater Metropolitan Sydney. Further to this, the *Future Transport Strategy 2056* also emphasises the importance of encouraging active travel (walking and cycling) and the use of public transport.

The SEARs requirement of a GTP for a development of this nature results in a document that is generally broad in scope. The transport preferences and behaviours of residents, employees and visitors can be considered substantially different and individual choices are made based on the availability of infrastructure (i.e. footpaths, cycle lanes and car parking quantity), convenience (i.e. travel time and distance) and travel costs.

Reference is made to the *NSW Premier's Council for Active Living Workplace Travel Plan Guidance – Final Report (April 2010)* provides examples of travel plans appropriate for different size and types of employers outlining that for:

20-250 employees

Mainly office-based employees

Likely to be beneficial to form alliances with other organizations in the locality also developing a WTP [Workplace Travel Plan].

Could focus on key cost saving opportunities such as business travel, and reducing fleet expenses.

Whilst the employees of any retail or commercial premises within the subdivision may not be strictly office-based employees this description best matches the nature of how staff are likely to work and their associated travel patterns.

The goal of this GTP is to outline the nearby public and active transport facilities and propose general strategies to encourage the use of alternative modes of transport for residents and employees within the subdivision. Ultimately, each residential, retail and commercial development within the subdivision should be responsible in the creation of a personalised GTP or Travel Access Guide (TAG). The overall objective is to shift travel from private cars to active or public transport options, with the following positive implications:

- Reduced parking demand;
- Reduced traffic congestion and trip duration;
- Positive health outcomes from walking and cycling;
- Improved air quality and reduced per-capita emissions.

3 Existing Alternative Transport Facilities

3.1 Public Transport – Bus Services

Public transport facilities within close proximity of the subject site are shown in **Figure 3**.

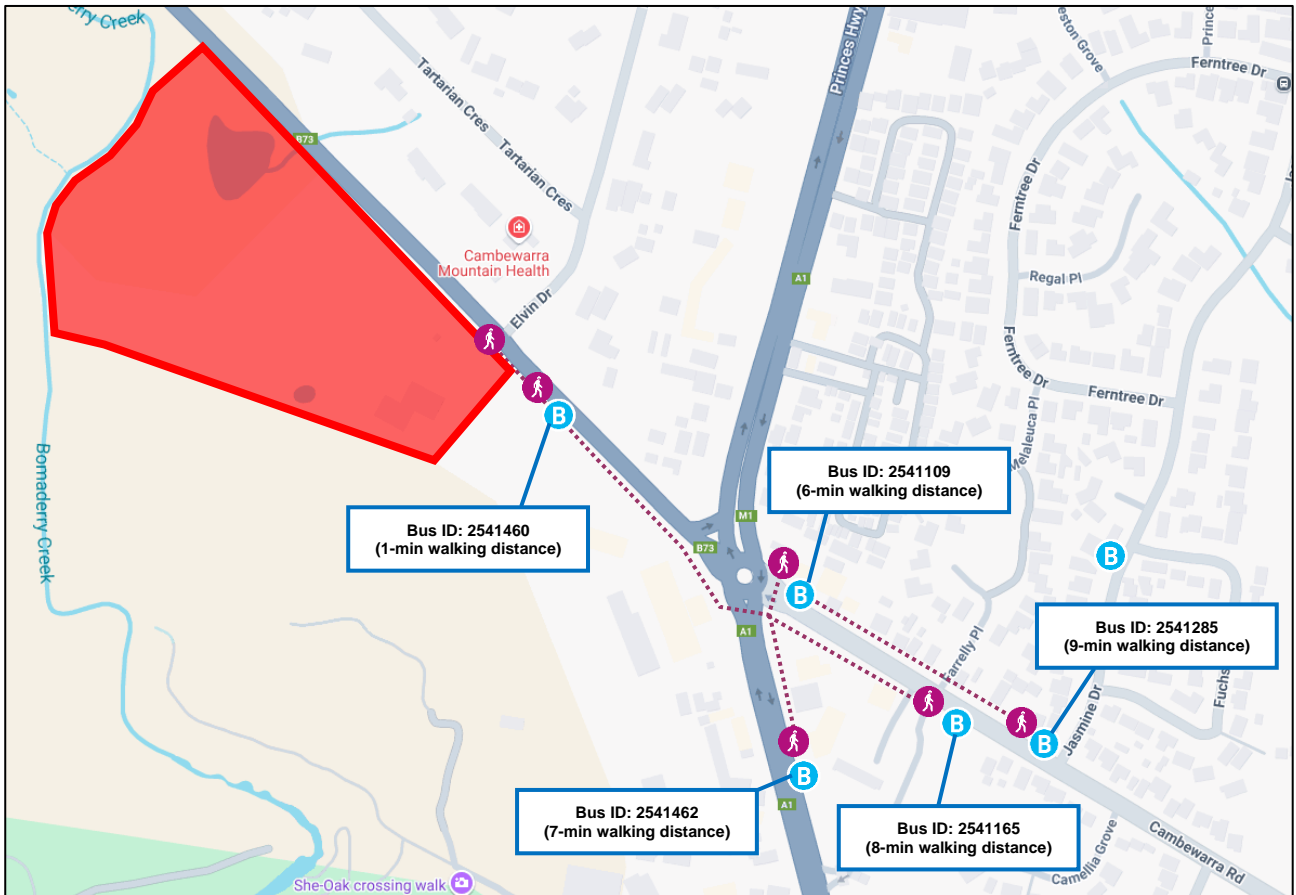


FIGURE 3: PUBLIC TRANSPORT FACILITIES – BUS STOS

The bus routes serviced by the bus stops shown above are summarised in **Table 1**.

TABLE 1: BUS ROUTE SUMMMARY

Bus Route ID	Bus Destinations	Bus Service Provider
112	Kangaroo Valley to Nowra via Cambewarra & Bomaderry	Kennedy's Bus and Coach
131	Bomaderry to Nowra via Bomaderry Station (Loop Service)	Shoalbus
810	Nowra to Moss Vale via Kangaroo Valley & Fitzroy Falls	Berrima Buslines

TABLE 2: BUS ROUTE FREQUENCY

Route	Destination	Frequency		
		Off-Peak ⁽¹⁾	8 – 9 AM	3 – 4 PM
112	Kangaroo Valley to Nowra via Cambewarra & Bomaderry	1-hour	1-hour	1-hour
131	Bomaderry to Nowra via Bomaderry Station (Loop Service)	1-hour	1-hour	1-hour
810	Nowra to Moss Vale via Kangaroo Valley & Fitzroy Falls	(2)	(2)	1-hour

NOTE:

- (1) Off-peak period – 11:00_{AM} to 1:00_{PM}.
- (2) Does not run during this period.

Whilst there are bus stops within close proximity of the site, the services which operate are not frequent and would likely be unattractive to all riders. There is potential to increase the frequency of bus services to promote bus use for residents and staff.

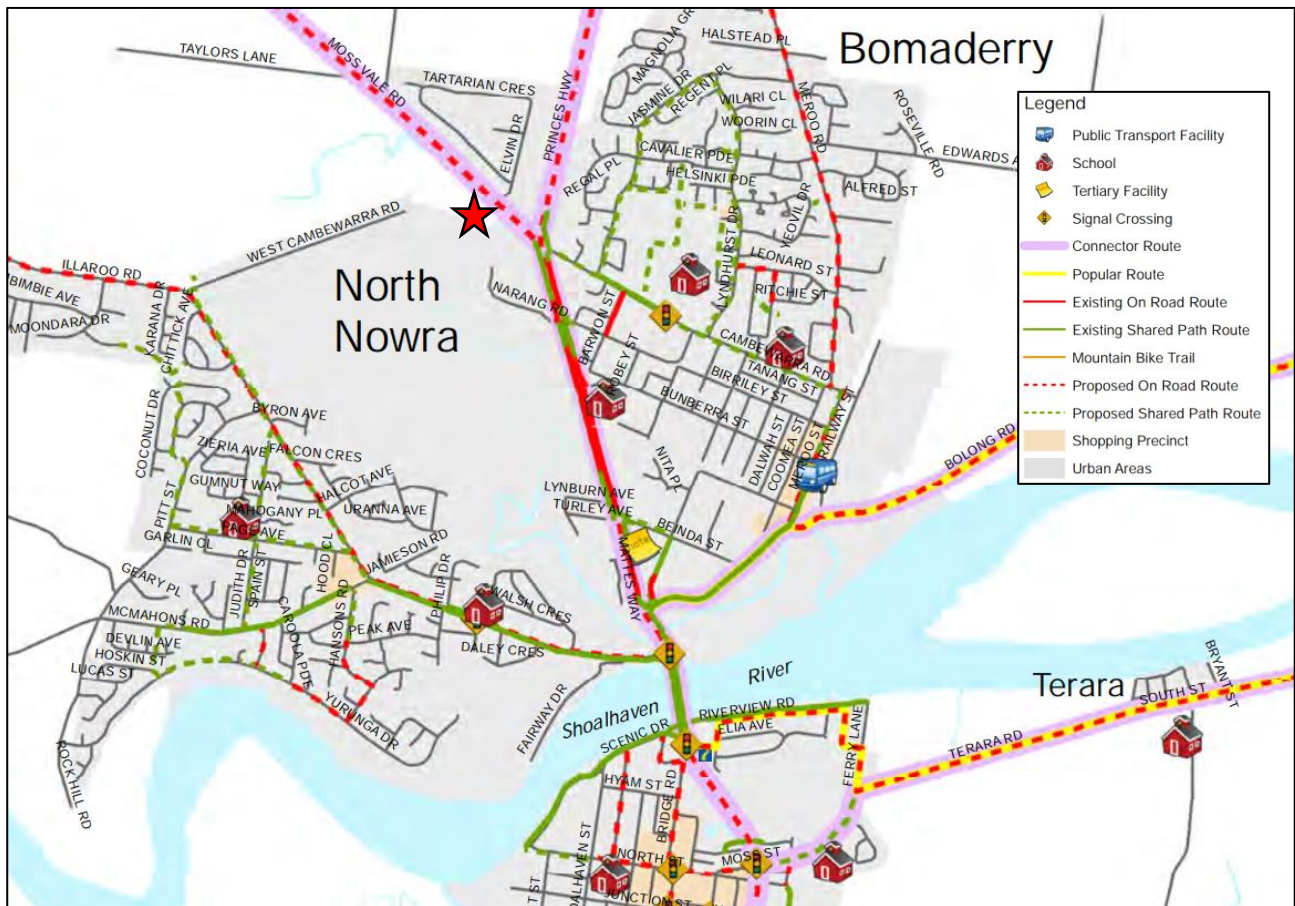
3.2 Public Transport – Train Services

Bomaderry Train Station is located 2.5km southeast of the subject site and is accessible by bus routes 112 and 131. Bomaderry Train Station services the *SCO – South Coast Line* which provide a connection between Kiama and Bomaderry.

3.3 Active Transport – Cycling

The *Shoalhaven Bike Plan* by *Shoalhaven City Council* identifies that under existing conditions, there are very few continuous, safe bike routes that are easily identifiable. There are minimal bicycle lanes, whether on-road or off-road, provided within the LGA and many roads are not optimal for cyclists use due to pavement quality. *Shoalhaven Council* identifies that there is potential to increase bicycle usage for residents and visitors within the LGA. A bike route network map was created as a part of this report which details any existing and proposed bicycle routes.

The location of the site relative to the surrounding cycling routes is depicted in **Figure 4**, with a copy of the cycle route map provided in **Annexure A**.



 Site Location

FIGURE 4: SITE CONTEXT – CYCLING ROUTES

Any future cycling infrastructure will further encourage residents, visitors and staff to consider cycling as an alternate mode of transport.

3.4 Active Transport – Walking

Under existing conditions, pedestrian walking facilities are provided within close proximity of the site, however these facilities are located closer to the Bomaderry town centre. There are no pedestrian footpaths available on either side of the road within close proximity of the site. It is understood that the intersection of the Site Road / Moss Vale Road / Elvin Drive is proposed to be upgraded to a signalised intersection. It is likely that pedestrian connectivity between the subject mixed-use subdivision and the Bomaderry town centre will be available in the future, further promoting walking as an alternate mode of transport.

There are pedestrian footpaths on either side of the road along Princes Highway and Cambewarra Road with crossing facilities provided in the form of pedestrian refuge island near the roundabout of Princes Highway / Cambewarra Road.

4 Alternative Transport Strategy

4.1 Timeframe

This Green Travel Plan will apply from the issue of the Occupation Certificate for any works performed under this development application.

4.2 Existing Transport Use in Surrounding Area

The NSW Bureau of Transport Statistics' 2016 Journey to Work data has been consulted for the North Nowra – Bomaderry Statistical Area 2 (SA2) to determine the existing travel mode of patrons travelling to work. The data shows that on average, 85% of workers in these areas drive to and from work, with the detailed travel mode split summarised in **Table 3** illustrated in **Figure 5**.

TABLE 3: NORTH NOWRA – BOMADERRY EXISITING TRAVEL MODE SPLIT

Mode of Transport	Usage Rate
Vehicle Driver	85%
Vehicle Passenger	7%
Taxi	<1%
Train	<1%
Bus	<1%
Walk Only	4%
Bicycle	<1%
Motorbike / Scooter	1%
Truck	1%
Other	<1%

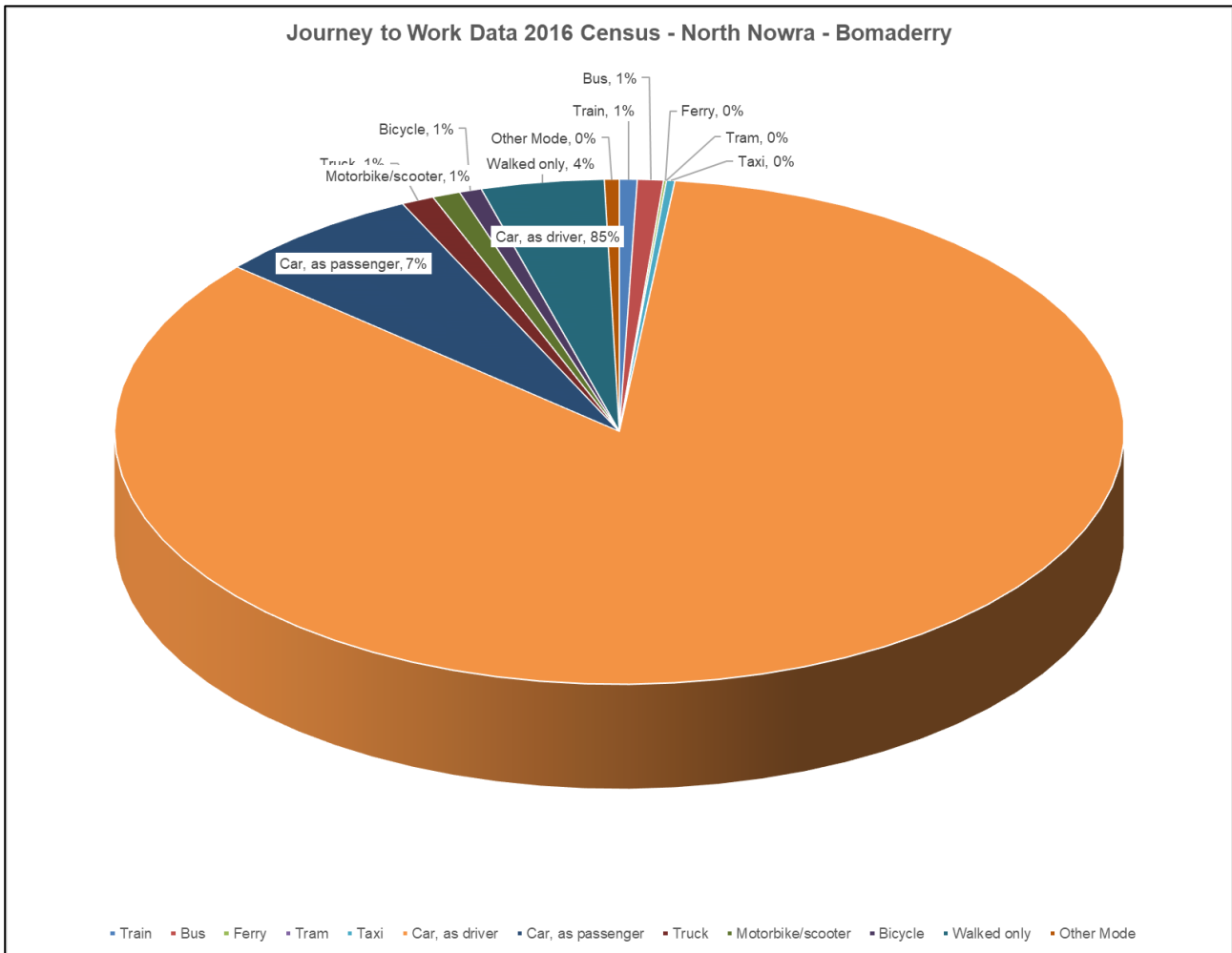


FIGURE 5: JTW WORK DATA FOR NORTH NOWRA – BOMADERRY SA2

As shown, it is evident that a majority of individuals travelling to work within the North Nowra – Bomaderry SA2 do so via a private vehicle. The rate of public transport and active transport utilisation is very low. There is potential to increase these rates in the future with the implementation of convenient bus services and construction of dedicated cycleways and footpaths.

4.3 Measurement and Reporting

The measurement and reporting of the effectiveness of the Green Travel Plan is usually undertaken annually by the manager of a business, school or specific development. As the subject development is not yet constructed, a baseline transport mode split cannot be determined.

It is possible to conduct an initial travel mode survey for the entire subdivision during the occupation stages of each development, however it would require the cooperation and coordination of all residents and employees within the subdivision which is unlikely to occur.

The transport preferences are typically subject to the available public and active transport infrastructures, not only within the subject site, but the surrounding area. It is appropriate to

monitor changes in transport modes once more active and public transport infrastructures become available.

5 Projects and Programs

The following actions form the basis for the implementation of the Green Travel Plan. Collectively, these actions have been designed to encourage residents and employees to transition to public or active transport from private vehicle utilisation. It should be noted that due to the wide scope of the GTP, any actions are only potential options that should be investigated and implemented as appropriate.

Many actions for the subject subdivision are reliant on the wider public and active transport initiatives within the Shoalhaven LGA by Shoalhaven City Council.

5.1 Initiatives to Specifically Reduce Private Car Use

The following initiatives are suggested to lower private car usage by providing for facilities or programs with the aim to allow for greater flexibility in the choice of travel mode to and from the site. The strategies that can be implemented with this goal in mind are not limited to the following actions as shown in **Table 4**, but these are the basis for further reduction in private car reliance.

TABLE 4: INITIATIVES TO REDUCE PRIVATE CAR USAGE

Action	Cost	Target Group	Date
Provide large lockers or storage areas for the storing of books and other bulky items	Moderate	Staff	Ongoing
Encourage staff to plan ahead and to transport heavy/bulky items once or twice per week only	Minimal	Staff	From date of implementation
Limit the number of car spaces when more sustainable transport options are available in the future	Minimal	Staff	Ongoing
Charge a fee for car parking which is pledged toward sustainable transport initiatives	Moderate	Staff	Ongoing
Provide pre-loaded opal cards to staff dedicated to public transport use	Moderate	Staff	Ongoing
Provide accessible footpaths within the subdivision connecting to key retail and commercial centres	As per Construction	Residents and Staff	From date of implementation
Provide bus stops at convenient walking distances from residential catchments	As per Construction	Residents and Staff	From date of implementation
Provide bicycle racks at locations used by the community (i.e. parks, retail and commercial centres, public transport facilities)	Moderate	Residents and Staff	From date of implementation
Construct shared footpaths or dedicated bicycle lanes within the subdivision	As per Construction	Residents and Staff	From date of implementation

5.2 Public Transport Initiatives

The following actions are focused on encouraging residents and staff to partake in public transport when travelling to and from the site. The strategies to be implemented are not limited to the following actions as shown in **Table 5**, but these are the basis for further development of public transport options.

TABLE 5: PUBLIC TRANSPORT INITIATIVES

Action	Cost	Target Group	Date
Develop a map outlining details of public transport facilities within close proximity of the subdivision	Minimal	Residents and Staff	Ongoing
Prepare a Transport Access Guide (TAG) for businesses	Minimal	Staff	From date of implementation
Make access to OPAL cards for staff more accessible	Minimal	Staff	Ongoing
Offer Staff subsidies to offset public transport costs	Minimal	Staff	Ongoing
Provide bus stops at convenient walking distances from residential, commercial and retail catchment areas	As per Construction	Residents and Staff	Residents and Staff
Ensure that bus services are attractive to users (i.e. frequent services during peak commuter periods)	As per Construction	Residents and Staff	Residents and Staff

5.3 Walking and Cycling Initiatives

5.3.1 Walking

The following actions are focused on encouraging residents and staff to partake in walking when travelling to and from the site. The strategies to be implemented are not limited to the following actions as shown in **Table 6**, but these are the basis for further development of active transport options.

TABLE 6: WALKING INITIATIVES

Action	Cost	Target Group	Date
Produce a map showing safe walking routes to and from the site with times, not distances, to local facilities, such as shops and public transport	Minimal	Residents and Staff	From date of implementation
Provide showers, lockers and changing room facilities	As per construction	Staff	From date of implementation
Implement incentive schemes to encourage employees to walk to work	Minimal	Staff	From date of implementation
Provide subsidised panniers or backpacks for staff committed to active travel	Minimal	Staff	Ongoing
Take part in 'National Walk to Work Day'	Nil	Staff	Annually
Have some 'TravelSmart Get to Work' days encouraging staff to commute by alternative transport modes	Nil	Staff	Annually
Construct safe footpaths as a part of the subdivision and connect them to existing footpaths external to the subdivision	As per construction	Residents and Staff	From date of implementation
Encourage staff and residents to walk as a method of exercise	Nil	Residents and Staff	Ongoing

5.3.2 Cycling

The following actions are focused on encouraging residents and staff to partake in cycling when travelling to and from the site. The strategies to be implemented are not limited to the actions as shown in **Table 7**, but these are the basis for further development of active transport options.

TABLE 7: CYCLING INITIATIVES

Action	Cost	Target Group	Date
Organise an after-work ride. It does not have to be long or strenuous and could end up somewhere for dinner. This idea is to encourage people who might be reluctant to cycle to give it a go	Nil	Staff	Quarterly
Provide sufficient bicycle parking to meet peak needs	As per construction	Residents and Staff	From date of implementation
Have good, secure parking in an easily accessible location	As per construction	Residents and Staff	From date of implementation
Ensure bicycle parking is clearly visible or provide signage to direct people to cycle bays	As per construction	Residents and Staff	From date of implementation
Provide end of trip facilities (i.e. showers, changing rooms and lockers)	As per construction	Staff	From date of implementation
Provide e-bike charging stations	As per construction	Staff	From date of implementation
Wayfinding for End of Trip facilities locating where showers, lockers and change rooms are.	As per construction	Staff	From date of implementation
Circulate maps of cycle paths in the vicinity	Nil	Residents and Staff	Ongoing
Participate in annual events such as 'Ride to Work Day'	Nil	Staff	Annually
Provide bicycle racks at locations used by the community (i.e. parks, retail and commercial centres, public transport facilities)	Moderate	Residents and Staff	From date of implementation
Provide salary sacrifice options for purchase of bikes or other micro-mobility options	Minimal	Staff	Ongoing
Allocate time in staff meetings to share tips and support for staff wanting to start cycling	Nil	Staff	Ongoing

5.4 Sustainable Transport Initiatives

5.4.1 Carpooling

The following actions are focused on encouraging staff to partake in carpooling and limiting the number of cars used to travel when travelling to and from the site. The strategies to be implemented are not limited to the following actions as shown in **Table 8**, but these are the basis for further development of alternative transport.

TABLE 8: CARPOOLING INITIATIVES

Action	Cost	Target Group	Date
Set up carpooling databases for staff	Nil	Staff	From date of implementation
Subsidise the cost of fuel for carpooling staff	Minimal	Staff	From date of implementation

5.5 Use of Incentives

Many of the alternative transport initiatives described above require the willing participation of residents and staff and would not otherwise be effective. The incentivisation of alternative transport options could increase the number of residents and staff using alternative transport options.

The direct advertisement for alternative transport use is suggested as part of increasing alternative transport utilisation. Some incentivisation strategies are outlined below.

- Provide bus stops at convenient walking distances from residential catchments;
- Ensure that bus services are attractive to users (i.e. frequent services during peak commuter periods);
- Provide bicycle racks at locations used by the community (i.e. parks, retail and commercial centres, public transport facilities);
- Encourage staff and residents to walk as a method of exercise.

The above incentivisation strategies could be implemented to boost uptake of alternative travel modes.

In addition, a review of the NSW Household Travel Survey by Grace Corpuz identified several factors that affected the use of alternative travel options, identifying the following factors as most influential on alternative transport use (in order of importance):

- Parking capacity and arrangements (destination factor);
- Where a vehicle is not available or accessible (origin factor);
- Where it is cheaper (origin & destination factor);
- Travel time (origin & destination factor);

- Convenience (origin & destination factor);
- Accessibility (origin & destination factor).

Future development of this Green Travel Plan should take into consideration the factors listed above.

6 Implementation Strategy

6.1 Management and Authority

The distribution of and implementation of the measures detailed in this Green Travel Plan is the responsibility of the management bodies of the subject subdivision. Ultimately, it will be the responsibility of a business manager, or the residents themselves to implement strategies previously mentioned. Due to the wide scope of this Green Travel Plan, it is recommended that the business formed as a part of this subdivision create a specific GTP relevant to their staff.

It is the responsibility of Shoalhaven Council to advertise and inform their residents of public transport infrastructures that become available in the future. The transport mode of a resident is reliant on the available infrastructure within close proximity of their place of residence.

6.2 Distribution

The subdivision manager can distribute this GTP, however, it will be the responsibility of either a business manager or the residents to implement the strategies previously outlined. Given the broad scope of this Green Travel Plan, it is recommended that any business established within this subdivision develop a tailored GTP specifically for their employees.

6.3 Proposed Incentives

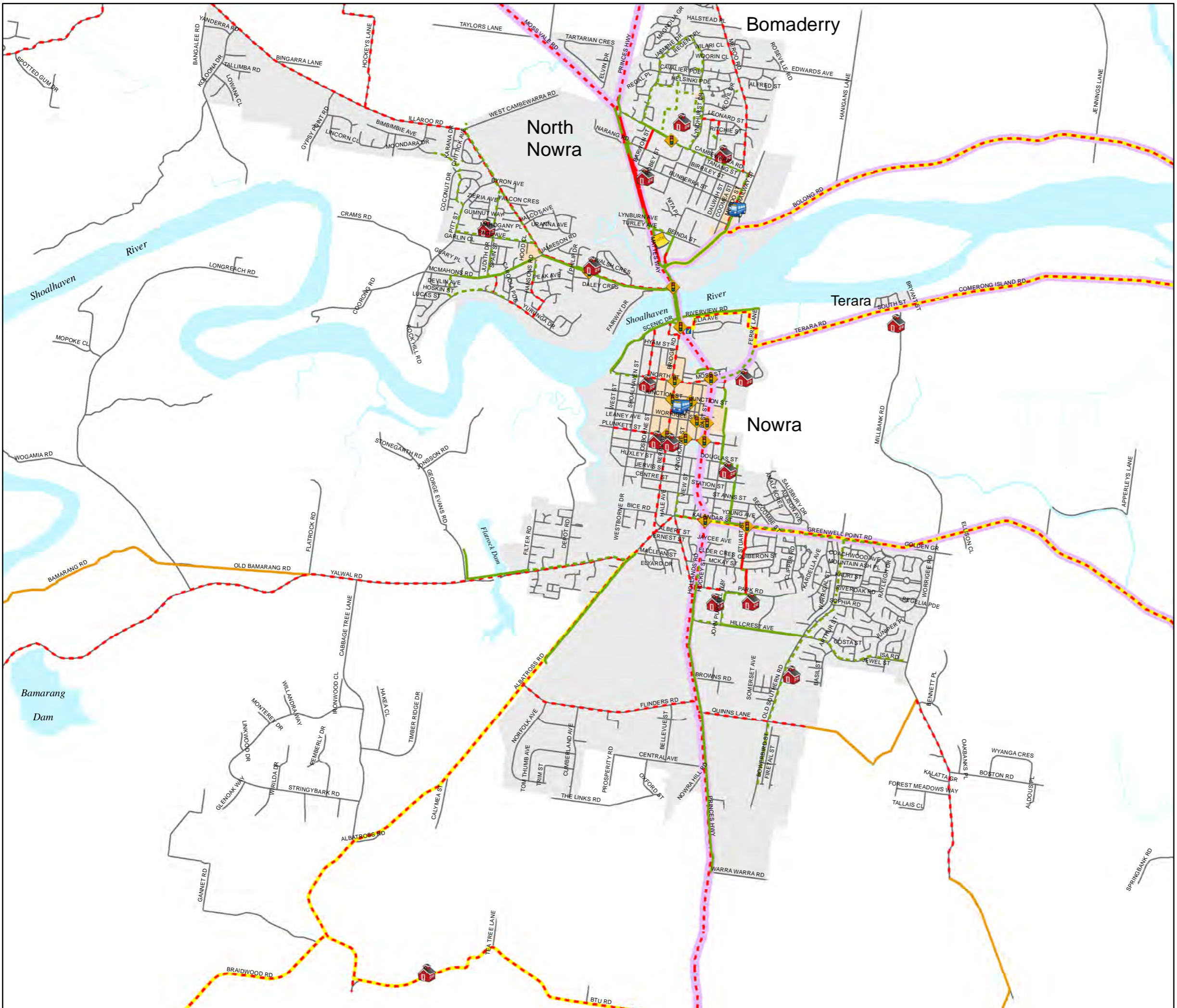
The proposed incentives to be adopted by the site and relevant timeframes for completion is presented in **Table 9**.

TABLE 9: PROPOSED INCENTIVES





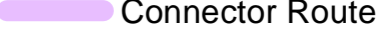




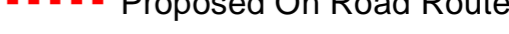



Inputs	Activities			Outputs	Impacts	Outcomes
What resources are required?	What	Who	When	What needs to be created?	Performance indicators	What will be achieved?
<ul style="list-style-type: none"> • Pedestrian Footpaths 	<ul style="list-style-type: none"> • Construction of footpaths within the subdivision and connecting them to existing pedestrian footpaths 	<ul style="list-style-type: none"> • Construction Manager, Shoalhaven Council 	<ul style="list-style-type: none"> • Prior to site operation and ongoing 	<ul style="list-style-type: none"> • Pedestrian Footpaths 	<ul style="list-style-type: none"> • Decrease reliance on private vehicles • 100% staff engaged with Travel Plan • Increase uptake of active transport for staff and residents 	<ul style="list-style-type: none"> • Improve health and wellbeing of residents and staff • Reduce Private Vehicle utilisation
<ul style="list-style-type: none"> • Bicycle Racks 	<ul style="list-style-type: none"> • Provision of bicycle racks at key community locations 	<ul style="list-style-type: none"> • Construction Manager, Shoalhaven Council 	<ul style="list-style-type: none"> • Prior to site operation and ongoing 	<ul style="list-style-type: none"> • Bicycle rack installation 		<ul style="list-style-type: none"> • Improve health and wellbeing of residents and staff • Reduce Private Vehicle utilisation
<ul style="list-style-type: none"> • Dedicated Cycle Lanes 	<ul style="list-style-type: none"> • Construction of dedicated on-road or off-road cycle lanes 	<ul style="list-style-type: none"> • Construction Manager, Shoalhaven Council 	<ul style="list-style-type: none"> • Prior to site operation and ongoing 	<ul style="list-style-type: none"> • Cycle Lanes 		<ul style="list-style-type: none"> • Improve health and wellbeing of residents and staff • Reduce Private Vehicle utilisation
<ul style="list-style-type: none"> • Funds for Opal Cards 	<ul style="list-style-type: none"> • Pre-loaded opal cards 	<ul style="list-style-type: none"> • Business Manager 	<ul style="list-style-type: none"> • Prior to site operation and ongoing 	<ul style="list-style-type: none"> • Public transport fare subsidies 		<ul style="list-style-type: none"> • Reduce the number of vehicles arriving at the site during peak periods
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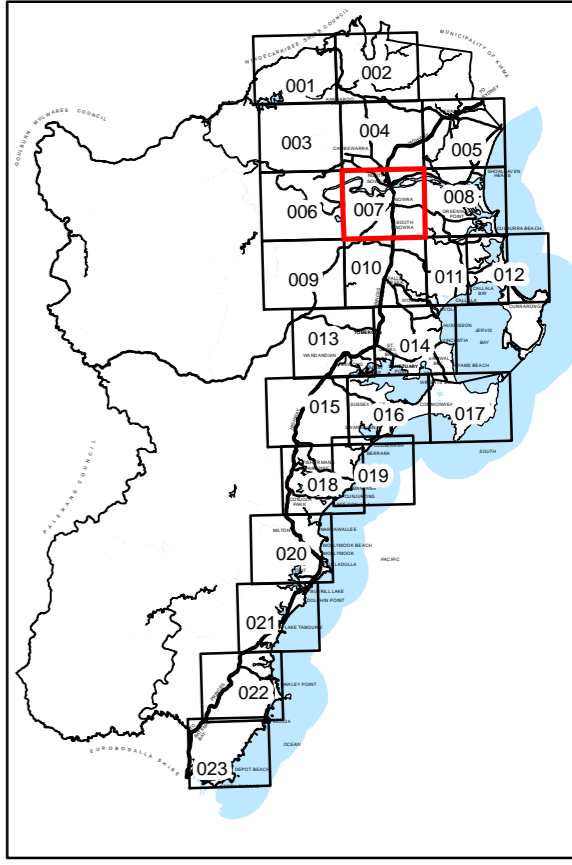


**ANNEXURE A: SHOALHAVEN BIKE PLAN MAP
(1 SHEET)**



Legend

-  Public Transport Facility
-  School
-  Tertiary Facility
-  Signal Crossing
-  Connector Route
-  Popular Route
-  Existing On Road Route
-  Existing Shared Path Route
-  Mountain Bike Trail
-  Proposed On Road Route
-  Proposed Shared Path Route
-  Shopping Precinct
-  Urban Areas



Shoalhaven Bike Plan
2013

Map 007

