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30 May 2023

P2437 UoN Gosford Campus DoP RFI

Corey O,Driscoll
Senior Assessment Officer
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Dear Corey

Response to Submissions, University of Newcastle Central Coast Campus, Gosford City Centre, NSW

Further to the correspondence received Seca Solution Pty Ltd has prepared this letter in response to the Submission received by Transport for New South Wales and the Local Health Authority to State Significant Development Application (SSDA) SSD-47749715. This SSDA provides for the redevelopment of the site at of 305 Mann Street, Gosford, NSW.

The submissions have been considered and Table 1 below provides the relevant responses.

Table 1 – Responses to Submissions

Transport for New South Wales	Response	Amendments in Report
1.1 It is recommended that an updated Traffic Impact Statement be provided to include the following detail in relation to the proposed intersection:		
▪ Current traffic counts for Mann Street within the vicinity of the site	Actioned	Updated Sec 2.5
▪ The distribution of the trips generated by the proposed development, shown diagrammatically	Actioned	Updated Sec 4.4 Traffic Generation
▪ Traffic analysis of the proposed intersection using Sidra and including submission of electronic files	Additional information is provided in report. Given minimal number of peak hour trips across a number of routes the impact at any one intersection is negligible. No detailed modelling considered necessary per substantiation in report.	Sec 4.4 Traffic Generation
▪ The peak hour traffic generation is to be taken at as the maximum and not the minimum, as discussed within the current traffic report. The minimum is not considered adequate for the residential trips as the site is isolated and it will be likely that residents will travel external to the site for shopping and employment.	This comment is unclear as it appears to relate to an alternate project. The subject site is for a campus within a city centre, is not isolated nor generating residential trips per the GtTGDs.	None
1.2 The following should be incorporated into the updated Draft Traffic and Parking Assessment:		
▪ There has been no assessment of where students/staff will be based. It states that 30% of students will be within 2km of the site so they can walk, but there is no justification for this figure. It would be useful to compare this with where students are located at other campuses.	Report amended to include data for NUSpace.and within 2km of Callaghan campus as well as a summary of benchmarking data of similar developments	Updated Sec 4.2

▪ The Traffic and Parking Assessment advises that 10% of trips will be via cycling or 69 trips. It is noted that 53 bike parking spaces and 64 lockers are to be provided. The provision of end of trip facilities should be reviewed and upgraded to match the anticipated demand along with capacity for future growth.	The bike storage and lockers has been increased to 69.	Updated
▪ There has been no assessment of public transport capacity to determine if the existing services will be sufficient to cater for this increased demand. There may be a need for additional services to be considered.	Additional information in report including data from TfNSW Opendata for Railway Station Demands. University hours are typically outside local commuter peaks and compliment demands at Gosford station given the tidal nature of outbound commuter trips. Public transport use has also dropped by around 20% since Covid.	Updated Sec 4.4
▪ There is a need to provide improved walking and cycling connections to this site to achieve their proposed mode targets. It is recommended that it is identified where these improvements are needed and work with Council and TfNSW to deliver them prior to operation of the site. All works should be at full cost to the developer and at no cost to Council or TfNSW.	As part of the CBD the site benefits from existing pedestrian facilities with these suitable to accommodate additional demands associated with the campus. Local streets in the area typically provide footpaths or wide verges to accommodate pedestrian demands. Cycling can be accommodated on street on most local roads due to the generally low traffic demands. The location of future developments providing residential/student accommodation would be the subject of individual DAs and would be required to provide suitable footpaths etc in accordance with Council's design requirements.	
▪ It is noted that a serious pedestrian crash has occurred in the vicinity. It appears most of pedestrians may leave via the southwest corner of the campus heading towards Gosford Railway Station. There is a high reliance on public transport to the Campus, therefore, the designer should consider a safe crossing at the Mann St and Beane St intersection that could cater for high pedestrian demand including those with disabilities.	It is unclear how this accident occurred. The Safe System Approach to pedestrian safety has identified that vehicle speed has the most significant impact on the severity of pedestrian collisions with speeds greater than 30km/h increasing the severity of incidents. It is unknown whether Council and Transport for NSW has reviewed the posted speed limit in this area in response to this pedestrian crash. Regarding the location of a safe crossing it is unclear whether an assessment has been undertaken to determine the need for and type of safe crossing at this location,	

	and whether this is to solve a problem or to contribute to the location's desired movement and place outcomes. As noted in TS00043.1 "Pedestrian crossings should not be used just to reinforce NSW Road Rules 72 or 73 (which require drivers turning into a side street or slip lane to give way to people who are crossing the side street or slip lane at or near the intersection)".	
▪ Consideration for a set of mid-block pedestrian signals or upgrading the existing signalised intersection with pedestrian legs to cater for increased foot traffic in the area should be discussed further with TfNSW.	Pedestrian access to the station across Mann Street has historically been available via the pedestrian overpass (Gateway Centre Bridge). The Gosford City Masterplan however recommends the removal of this bridge which has been leased to the owners of the Gateway Centre. The masterplan indicates that Council will liaise with the centre owner with the aim of removing the bridge in the future however provides no advice as to how pedestrian movements shall be accommodated. It is recommended that the future of this pedestrian facility be clarified with Council and what is proposed to allow for the safe movement of pedestrians to the station and bus interchange.	
7.9 Central Coast Local Health District		
▪ Whilst the University aspires for all students to use public transport, walk if living within 2km, or cycle if living within 5km of campus, the reality is many will probably drive and current demand for public parking in the CBD, particularly around Gosford Hospital, already challenges supply.	Regarding concerns over existing parking demands, this is a matter to be raised by CCLHD with Council.	Sec 4.3 Parking Asessment
7.10 ▪ UoN has not set any explicit motorcycle mode share target and has not proposed to provide any motorcycle parking. Motorcycles may be an attractive mode of transport for students.	Per the DCP one motorbike space has been included in the carpark. The use of motorcycles as an alternate mode of travel are not consistent with the environmental goals of the project which is to encourage the use of public and active transport.	Amended
7.11 The bicycle parking rate falls 13 spaces short of target and 79 spaces short of DCP compliance.	It is noted that the DCP requirement is for Educational Establishments with bike storage for children over Year 4 with a rate equivalent to 20% mode share or 1 per 5 students. Bike storage reflects the mode share target of 69.	Sec 3.4.3 Bike Facilities

8.1 Community Submission ▪ The proposal does not provide enough parking spaces to support the number of students.	The proposal provides parking for 24 vehicles spaces which exceeds that provided by similar developments. The strategy to not provide parking for students is consistent with other City based Universities along with Transport for NSW Future Transport Strategy which is committed to delivering a range of transport infrastructure service and technology initiatives which aims to encourage travel by public and active transport (such as walking and cycling), rather than by private car, which can help reduce traffic congestion and greenhouse gas emissions	Sec 4.3 Parking Assessment.
8.2 Community Submission ▪ The proposal does not provide enough parking spaces to support the number of students.	The proposal provides parking for 24 vehicles spaces which exceeds that provided by similar developments. The strategy to not provide parking for students is consistent with other City based Universities along with Transport for NSW Future Transport Strategy which is committed to delivering a range of transport infrastructure service and technology initiatives which aims to encourage travel by public and active transport (such as walking and cycling), rather than by private car, which can help reduce traffic congestion and greenhouse gas emissions	
▪ It is recommended 2 hour parking limits are incorporated to discourage students from parking in surrounding residential streets.	The project cannot influence on street parking controls.	
Central Coast Council		
▪ The proposed the laneway along the northern boundary of the site provides connection as a one way accessway for service vehicles between Mann and Hills Streets. It is noted that the proposed egress turning paths as designed in the Parking and Transport Assessment prepared by SECA Seca Solutions and the internal civil engineering plans prepared by Northrop Engineers do not provide the necessary pedestrian safety sight triangles in accordance with AS2890.1:2004 Fig 3.3. This requirement is considered essential due to the existing high pedestrian use of the footways areas around the site.	The plans have been amended to reflect these given the following: AS2890 nominates the suitable dimensions for sight splays for pedestrians and defines the minimum dimensions required to enable a pedestrian on the public road footpath to evade a vehicle emerging from an access driveway (AS2890.2). The requirement is 2.5m. The footpath on Hills Street is located 1.95m from the property boundary and the north side fencing can be designed to ensure that visibility is available for a pedestrian to see an exiting vehicle within 600mm of the property boundary achieving the necessary distance. Pedestrian awareness can also be reinforced with suitable signage placed at the boundaries of the site.	

▪ The proposed boom gates located within the accessway connecting to Hill Street provides sufficient clearances for passenger vehicles however it is not clear if service vehicles can negotiate the central barrier when exiting the laneway.	The boom gates have been removed from the proposal. Autoturn has been undertaken by Northrop to confirm the suitability of this amended arrangement to allow for the movement of service vehicles.	
▪ Recommended Roads Act Conditions	Noted and Accepted	
Prepare a Construction Traffic and Pedestrian Management Plan (CTPMP) for all activities related to works within the site. The plan must be prepared and implemented only by persons with Roads and Maritime Service accreditation for preparing and implementing traffic management plans at work sites. The CTPMP must describe the proposed construction works, the traffic impacts on the local area and how these impacts will be addressed. The CTPMP must address, but not be limited to, the following matters: • Ingress and egress of construction related vehicles to the development site. • Details of the various vehicle lengths that will be used during construction and the frequency of these movement. • Use of swept path diagrams to demonstrate how heavy vehicles enter, circulate and exit the site or Works Zone in a forward direction. • Deliveries to the site, including loading / unloading materials and requirements for work zones along the road frontage to the development site. A Plan is to be included that shows where vehicles stand to load and unload,	A Preliminary Construction Pedestrian and Traffic Management Plan was prepared by Seca Solution and submitted as Appendix K to the SSDA package. A finalised Construction Pedestrian and Traffic Management Plan will be prepared by the project contractor once engaged.	

where construction plant will stand, location of storage areas for equipment, materials and waste, locations of Work Zones (if required) and location of cranes (if required). • Works Zones if heavy vehicles cannot enter or exit the site in a forward direction. • Control of pedestrian and vehicular traffic where pre-construction routes are affected. • Temporary Road Closures • Where the plan identifies that the travel paths of pedestrians and vehicular traffic are proposed to be interrupted or diverted for any construction activity related to works inside the development site an application must be made to Council for a Road Occupancy Licence. Implementation of traffic management plans that address interruption or diversion of pedestrian and/or vehicular traffic must only take place following receipt of a Road Occupancy Licence from Council or the Roads and Maritime Service where on a classified road. • Where a dedicated delivery vehicle loading and unloading zone is required along the road frontage of the development site a Works Zone Application must be lodged and approved by Council. A minimum of 3 months is required to allow Traffic Committee endorsement and Council approval. • The Construction Traffic and Pedestrian Management Plan must be reviewed and		

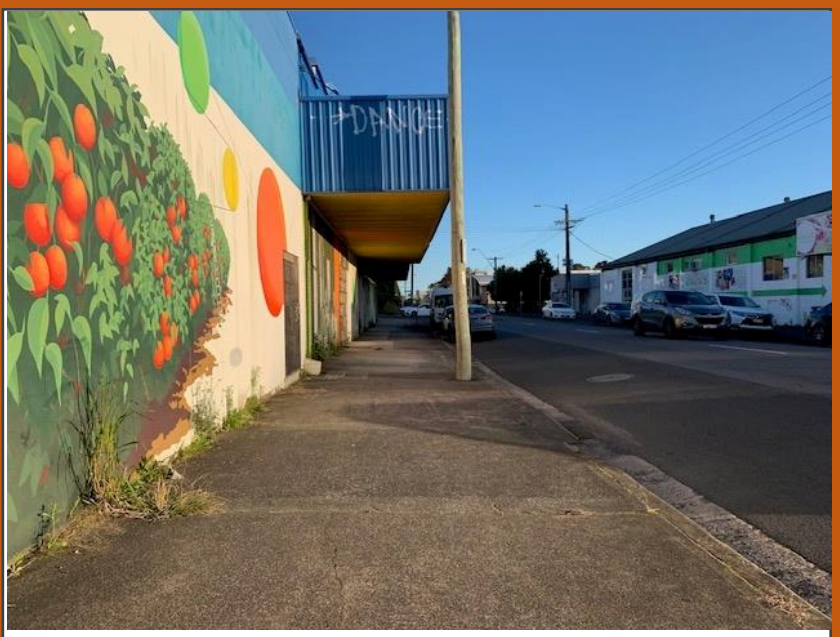
updated during construction of the development to address any changing site conditions. • A copy of the Construction Traffic and Pedestrian Management Plan must be held on site at all times and be made available to Council upon request.		

We trust that the above amendments to the report and responses provided satisfies the questions raised.

Please feel free to contact our office on 4032 7979 should there be any further queries.

Yours sincerely

Sean Morgan
Director



Gosford City Campus Development

University of Newcastle

Parking and Transport Assessment

Stage 1

May 2023

SECA solution

Gosford City Campus Development
Mann Street and Beane Street, Gosford

Parking and Transport Assessment

Author: Cathy Thomas / Sean Morgan

Client: University of Newcastle

Issue: Ver03/10.05.2023

Reference: P2437

10 May 2023

Quality Review and Document History

Version	Date	Description	Prepared By	Approved By
Ver01	5/12/22	Draft	C Thomas/S Morgan	S Morgan
Ver02	13/12/22	Final ToA	C.Thomas/S.Morgan	S.Morgan
Ver03	27/4/22	Response to RFI	C.Thomas/S.Morgan	S.Morgan

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Contents

1 Introduction

1.1 Background

Seca Solution Pty Ltd has been commissioned by Lyons on behalf of the University of Newcastle to prepare a mode share and transport impact assessment for Stage 1 of the proposed Gosford City Campus Development (GCCD) to be located at the corner of Mann Street and Beane Street, Gosford.

The subject site, zoned B4, has previously operated as a Mitre 10 Hardware store with a shopfront on Mann Street and a large hardstand area off Hills Street to the rear.

The concept for the campus provides teaching accommodation, and space to suit an Innovation Centre along with Community engagement. The development will seek to provide a building fostering collaboration in the areas of education and entrepreneurial endeavour.

The development will provide a showcase for innovation with a Green Star rating and sustainable travel encouraged to access the site.

1.2 Scope of Report

The scope of this report is to undertake an assessment of the existing traffic and transport situation, the public transport network in Gosford and surrounds and opportunities for access to Gosford taking into consideration policies and strategies to provide for a shift in travel culture favouring the use of public transport, walking and cycling. In doing so to then determine the parking and transport requirements for Stage 1 of the proposed development. These requirements shall take into consideration the demographics and travel needs of the end users of the GCCD.

1.3 GCCD Transport Access Strategy

The proposal to incorporate the GCCD into the Gosford city centre is based in part on increases in the number of people living and working in the City with GCCD providing for significant staff and students over time.

This Transport Access Strategy (TAS) considers the strategic policies for Gosford City Centre and the University's sustainable transport goals including the analyses of case studies of similar projects including Q Building and NUSpace in Newcastle.

Overall the GCCD TAS has been developed with consideration to the future of the Gosford City Centre and the University and supports the strategy based on:

- The projected higher density population within Gosford and surrounds will provide further opportunities to increase active travel in the Gosford City Centre;
- Quality transport opportunities enables the University to benefit from public transport usage;
- University existing transport-related data demonstrates that commencing students are already driving less and are seeking other modes of transport; the University of Newcastle is committed to support sustainable transport modes and will encourage this behaviour shift;
- Other Universities, like UTS, have been implementing similar transport strategies, anchored around active and public transport, and have been instrumental in changing behaviours.

The University of Newcastle Transport Access Strategy for GCCD is a long-term strategy that aligns with the future of the Gosford City Centre and supports the University's commitment to promote sustainable transport options.

1.4 Issues and Objectives of the study

The issues relative to the proposal are:

- Consider the Stage 1 proposal in determining the impact of the development on the road network, including pedestrian facilities, cycling facilities and public transport
- Consider the GCCD TAS on determining the parking demands for the development
- Review the service arrangement for the development; and
- Assess any other transport impacts associated with the proposal

The objective of the report is to document the impacts of Stage 1 and provide advice on any infrastructure work required as part of the proposal.

1.5 SEARS

10. Traffic, Transport and Accessibility

Provide a transport and accessibility impact assessment, which includes:	
an analysis of the existing transport network, including the road hierarchy	2.4 Existing Situation
and any pedestrian, bicycle or public transport infrastructure, current	2.4.3 Pedestrian and Cycling Facilities 2.9 Pedestriand and Cycling Network
daily and peak hour vehicle movements, and existing performance levels of nearby intersections.	2.5 Traffic Flows
details of the proposed development, including pedestrian and vehicular access arrangements (including swept path analysis of the largest vehicle and height clearances),	3.0 Proposed Development 3.2 Access
parking arrangements and rates	3.4 Parking
(including bicycle and end-of-trip facilities), drop-off/pick-up-zone(s) and	3.4.3 Pedestrian and Cycling Facilities
bus bays (if applicable), and provisions for servicing and loading/unloading.	3.3 Site Servicing
analysis of the impacts of the proposed development during construction	4.9 Impact of Construction Traffic
and operation (including justification for the methodology used), including predicted modal split,	4.1 and 4.2 Mode Travel Targets
a forecast of additional daily and peak hour	4.3 Traffic Generation
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.	4.5 Traffic Impact Assessment 4.8 Impact on Road Safety
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.	The mode share target allowing 5% of occupants on site to drive, and the provision of 24 parking spaces on site, will see up to 35 trips generated by the site in the AM peak. 24 of these would approach along Hills Street, with a split 60/40 consistent with the AM flows on Mann Street. Additional trips shall be distributed across the broader road network with the grid patterns of roads providing various routes depending upon the origin/destination of trips. This distribution reduces the impact at any one intersection with the main intersections being the 4 way roundabouts at Hills Street/Etna Road (14 trips) and Hills Street/Beane Street (10 trips). The impact of these additional trips will be minimal and well within the capacity of these roundabouts. The impact of this vehicle traffic on the local road network is therefore considered acceptable.

measures to promote sustainable travel choices for employees, residents, students 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.	5.0 Measures to promote active travel choices
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.	Separate Cover

1.6 Planning Context

In preparing this document, the following publications and documents were used:

- Australian / New Zealand Standard – Parking Facilities Part 1: off-street car parking (AS2890.1:2004);
- RMS Guide to Traffic Generating Developments, Version 2.2 Dated October 2002;
- RMS TDT 2013/04 "Update Traffic surveys August 2013".
- Central Coast Regional Transport Plan 2014
- SEPP Gosford City Centre 2018
- Gosford City Council Development Control Plan 2018
- Gosford Bike Plan 2019-2029
- Gosford Pedestrian and Mobility Plan 2019
- Y Combinator Start Up School Podcasts 2015-2016 Stanford University
- HCCD Transport Access Strategy (Seca Solution 2018)
- HCCD Parking and Transport Assessment – Concept Master Plan (Seca Solution 2018)

2 Existing Situation

2.1 Site Description and Proposed Activity

The subject site is located within the Gosford city centre on a site previously operating as a Mitre10 Hardware store.

The project allows for a city based campus and accommodates teaching and workspaces for the university including space to incorporate an Innovation Centre.

2.2 Site Location

Located at the northern end of the Gosford CBD, the design seeks to activate the street frontages along Mann Street (west) and Beane Street (south) whilst also seeing light vehicle access from Hill Street (east).

The subject site is surrounded by commercial and mixed-use development to the north with residential development to the east. To the west is the heavy rail corridor with Gosford Hospital to the west of that again.

South of the site is the main shops and commercial space associated with the city centre along with the Gosford transport interchange including bus and train services.

The location of the site is shown below in **Figure 2-1.**

Figure 2-1 Site Location (Source: Nearmap)

2.3 Site Access

Historic vehicle access to the site has been from Hills Street along the eastern frontage. Pedestrian access has been from Mann Street and Beane Street.

2.4 Existing Traffic Conditions

2.4.1 Road Hierarchy

The major road through the locality is **Mann Street,** which forms part of the Pacific Highway. The Pacific Highway forms part of the regional road network and to the north of the site, from its intersection with Henry Parry Drive, forms part of HW10. In the immediate vicinity of the site Mann Street is an unclassified regional road. Council is therefore the road authority.

Mann Street provides a single lane of travel in each direction in the immediate vicinity of the subject site, with timed parking on street permitted for much of its length. There is no central median, allowing vehicles to turn right in and out of numerous existing developments along this length of Mann Street. It operates under the posted speed limit of 60 km/h. There are footways to both sides of the road and there are signal controlled intersections at key locations along the length of the road that allow for pedestrian movements across Mann Street.

Mann Street connects with Beane Street adjacent to the subject site at a T-intersection with Mann Street having priority. Beane Street is a local street providing access to various business sites and to the east to the local established housing area.

To the east of the site is Hills Street which connects with Beane Street via a 4-way roundabout. Hills Street connects with Watt Street to the south and runs in a north-south direction parallel to Mann Street, allowing for alternative access routes to connect with the centre of Gosford to the south of the site.

To the north Hills Street connects with Etna Street via a 4-way roundabout. Etna Street then connects with Mann Street via a 4-way signal controlled intersection. The fourth leg of the intersection is Racecourse Road that connects over the nearby railway line and provides access to Gosford Hospital and a connection further south-west of the location with the Central Coast Highway.

Parking is restricted at the immediate approach to the traffic signals at Mann Street to ensure maximum capacity for vehicles approaching the signals.

2.4.2 Roadworks

At the time of this project Mann Street south of the site was partially closed due to upgrades associated with storm water and sewer. No other road works were noted in the location.

Past discussions with Council indicated that the intersection of Mann Street and Etna Street was reviewed to consider improvements to the capacity and operation of this intersection. It is understood that the railway bridge over the main rail line (to the west of the intersection) is the main capacity constraint and that options for upgrading this bridge to provide 2 lanes of travel in both directions, whilst being investigated, had no plans for works nor any timetable for works available.

2.4.3 Pedestrian and Cycling Facilities

The site benefits from exiting pedestrian pathways along the three site frontages. These connect with existing public transport services running along Mann Street.

There are no mid-block pedestrian crossings along Mann Street however there are splitter islands with pedestrian refuges at the roundabout intersection of Mann Street and Faunce Street south of the site in the vicinity of the railway station and bus interchange. There is also an overhead pedestrian bridge 50m south of this intersection.

The signalised intersection of Mann Street and Racecourse Road to the north of the site provides pedestrian phases on 3 of the 4 legs allowing for safe pedestrian movements at this intersection and full connectivity.

There are pedestrian pathways across the heavy rail line between the site and Gosford Hospital with a fenced path on the northern side which in turn connects with the signalised pedestrian crossing on Mann Street. To use the pathway on the southern side of the bridge pedestrians need to cross along Mann Street and use the footpaths on the western side of Mann Street. There are no crossing facilities provided to support this between Beane Street and Racecourse Road.

2.5 Traffic Flows

2.5.1 Peak Hour Flows

Traffic surveys were undertaken adjacent to the site to determine two way flows along Mann Street.

Two way flows on Mann Street were:

- 812vph split 413 southbound (51%) in the morning peak; and
- 826 vph split 510 northbound (62%) in the in the afternoon peak

This data is similar to data collected by Seca Solution in 2015 which determined the two-way flows on Mann Street (south of Etna Street) were:

- 864vph split 505 southbound (58%) in the morning peak; and
- 968 vph split 559 northbound (58%) in the in the afternoon peak

The TfNSW Traffic Volume Viewer provides data from the automatic count station to the north of the site on the Pacific Highway (ID05793). This data (2010) indicates that the daily traffic flow was in the order of 19,250 vehicles per day. Data was also provided for further north on the Pacific Highway, near Narara (approx. 5 kms north of the subject site). This second data shows that from 2006 through to 2018 the daily traffic flow has changed from 26,506 in 2006 to 26,288 in 2015 and 25.790 in 2018, further confirming there has been very little growth along this corridor.

The RTA Guide to Traffic Generating Developments provides guidance on the hourly capacity of an urban road which shows that during both the morning and afternoon peak period on Mann Street is operating at a level of service of C for the peak movement being less than 600 vph per direction

2.5.2 Daily Traffic Flows

Typically, peak hour flows represent in the order of 10% of the daily flows and on this basis the daily traffic flows along Mann Street could be in the order of 8700-9700 vehicles per day.

2.5.3 Daily Traffic Flow Distribution

Daily traffic movements are reasonably balanced in both directions.

North of the site there is a strong bias of traffic to and from Racecourse Road and north along Mann Street, reflecting demands associated with the hospital, schools and the connection through to the Central Coast Highway.

2.5.4 Vehicle Speeds

No speed surveys were completed as part of the study work. It is considered however that drivers do not speed in this location due to its interaction with the intersections as well as the heavy vehicle flows in the peak periods.

2.5.5 Existing Site Flows

The site has been vacant for some time however historically operated as a Mitre 10 hardware store and so would have generated traffic flows, both light and heavy, associated with this use.

2.5.6 Heavy Vehicle Flows

Heavy vehicle demands along Mann Street are typically associated with the various bus services which operate along this corridor. The route is otherwise not appealing for through traffic however there are deliveries to the various commercial businesses in the CBD.

2.5.7 Current Road Network Operation

Current observations on site show that the surrounding road network operates well with minimal delays.

The intersection of Mann Street and Racecourse Road / Etna Street however creates delays and congestion for drivers, but the queues for each approach clear on most cycles of the green phase.

There is a very high demand for the right turn southbound on Mann Street turning into Racecourse Road and the reverse left turn movement. The delays for these turning movements are exacerbated by the single lane of travel over the railway line and the operation of the roundabout of Racecourse Road and Showground Road. This is a single lane roundabout with restricted visibility and vehicle movement through this roundabout are slow, leading to queues back to Mann Street.

2.6 Traffic Safety and Accident History

Crash data obtained from the NSW Centre for Road Safety indicates there have been a number of accidents in the locality of the subject site over the 5 years 2017-2021.

The accident data shows 3 accidents at Mann Street and Beane Street (1 with moderate injuries to 2 people being an off left on left bend, 1 serious injury to a pedestrian and the other no injury). There have been no accidents at the roundabout intersection of Beane Street and Hills Street or Hills Street and Etna Street.

The intersection of Mann Street and Etna Street has seen 12 accidents, the majority reflective of the nature of this being a signalised 4-way intersection. No crashes resulted in serious or fatal injuries.

2.7 Parking Supply and Demand

2.7.1 On-street Parking Provision

Parking is generally available along the streets fronting the site with 1 or 2 hour parking restrictions Monday to Friday and Saturday mornings.

Parking controls on Beane Street include a No Parking zone except for buses.

2.7.2 Off-Street Parking Provision

Off-street parking is available to the public in the Gosford City Car Park at 1 Baker Street. This multi-deck carpark with 650 places is open Monday to Friday 6am to 8pm and Saturday 7.30am-3pm. It is also open to provide for local events at the Industree Group Stadium (Central Coast Stadium).

Off Street parking is provided for commuters at the Gosford Station carpark (1050 spaces) with public parking for shoppers within the city centre.

It is noted that historically many established developments throughout the City have not provided off-street parking and have been reliant upon public transport, public parking stations or on-street parking.

2.7.3 Historical Parking Provision

As a hardware store the site provided parking for shoppers with access off Hills Street. There was a large hardstand area providing parking and access for deliveries and commercial vehicles.

2.7.4 Parking Demand and Utilisation

There is generally a high demand for parking in the locality of the site, both on-street and off-street. A review of aerial imagery for mid week versus a Sunday shows that the vast majority of this is associated with the various businesses throughout the city centre. The timed parking within the immediate vicinity of the site would ensure a suitable turn over of parking in the area.

2.7.5 Short term Set down or pick up areas

There are no set down/pick up areas noted within the immediate vicinity of the site.

2.8 Public Transport

2.8.1 Rail Station Locations

Gosford railway station is approximately 300 metres south of the site on Mann Street. This station services the Central Coast and Newcastle line and provides a link for trains to Sydney and beyond to the south and Newcastle and beyond to the north. All trains stop at Gosford providing a high frequency of service for commuters and day travellers. This is reflected in the high number of commuters between Gosford and Sydney each day.

2.8.2 Bus Routes and Associated Facilities

There is an extensive range of bus services and routes operating through the Gosford CBD as shown below, utilising bus stops along Mann Street in the vicinity of the subject site.

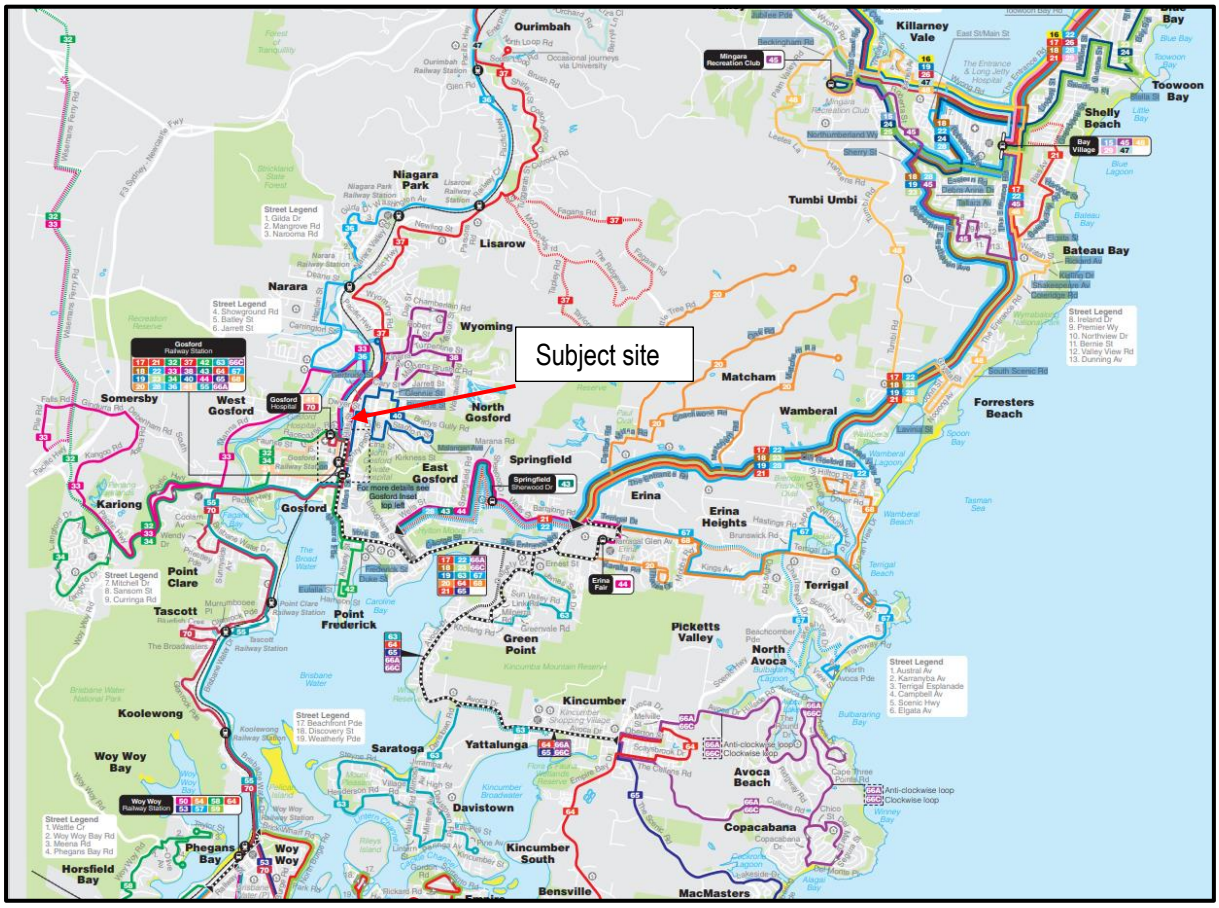


Figure 2-2 Network map showing extent of services operating from the Gosford CBD

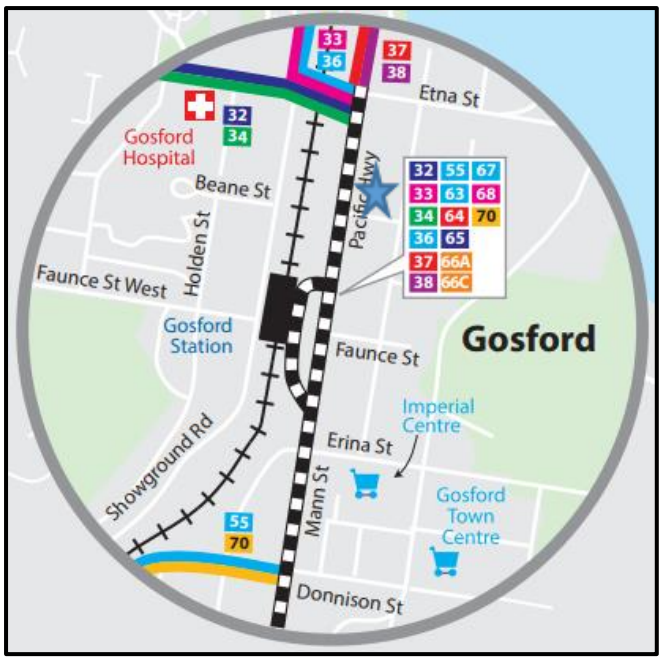


Figure 2-3 Busways transport services operating from the Gosford CBD (★ - subject site)

There is a bus stop on both sides of Mann Street north of the site whilst to the south of the site there is the Gosford interchange with extensive bus facilities including seats and shelters.

The site is located less than a five minute walk from the Gosford Station and the bus interchange with quality pedestrian connectivity consistent with the site being located within the CBD.

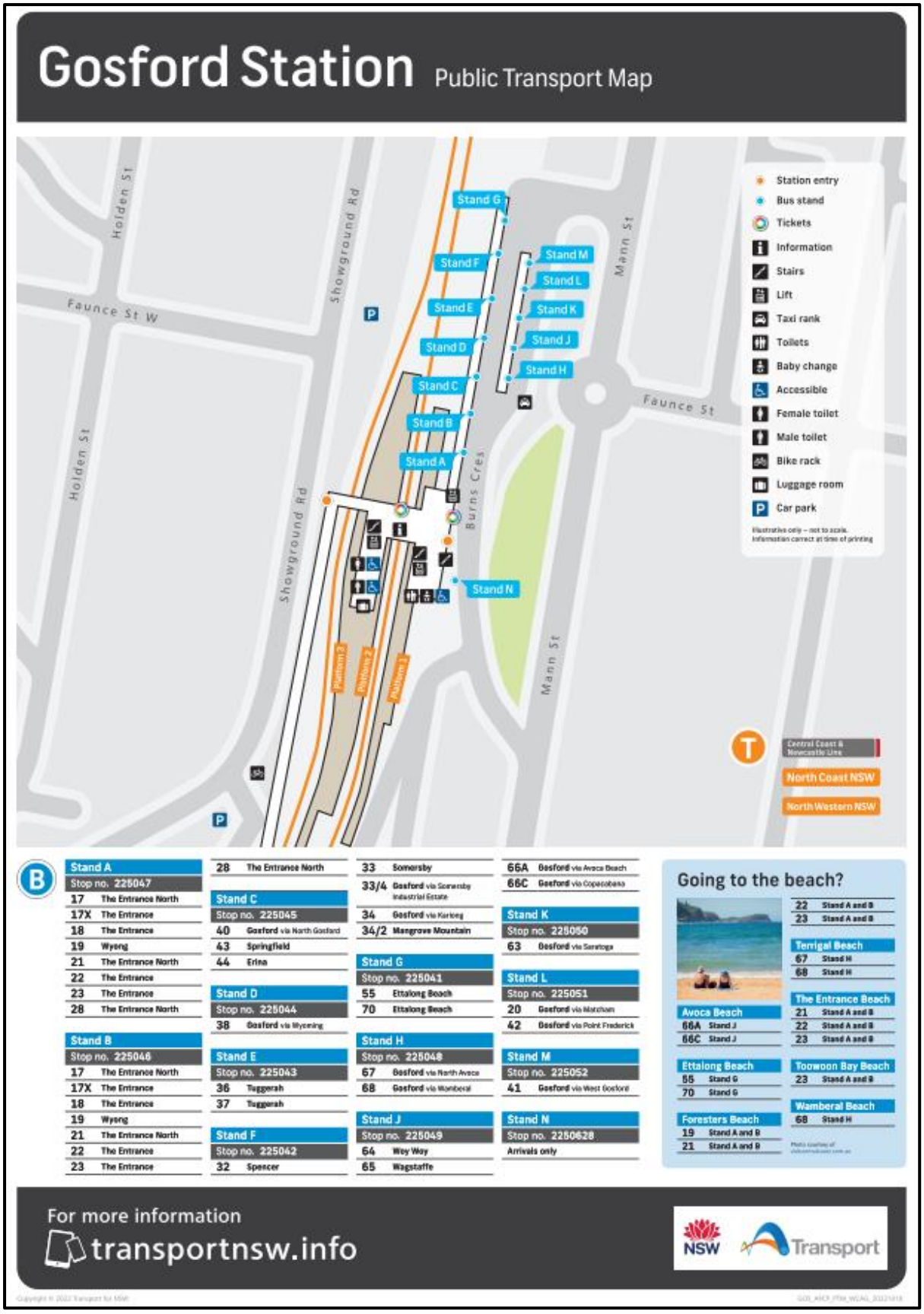


Figure 2-4 Transport services operating from the Gosford Station

2.8.3 Rail and Bus Service Frequencies

As the hub for most bus services through the Central Coast, the CBD provides access to a wide range of bus services with high frequency reflecting its importance as a major transport interchange. Bus services are provided by Busways, Red Bus Services and Coastaliner.

Train services run every hour during the morning and afternoon peak periods to Newcastle and more frequently to Sydney.

2.9 Pedestrian and Cycling Network

There is a well-developed network of footpaths in the locality, allowing for good connectivity to local attractions throughout the Gosford city centre.

Mann Street/Beane Street has a walkability score of 86 and 82 out of 100 with the location considered "Very Walkable with most errands able to be accomplished on foot".

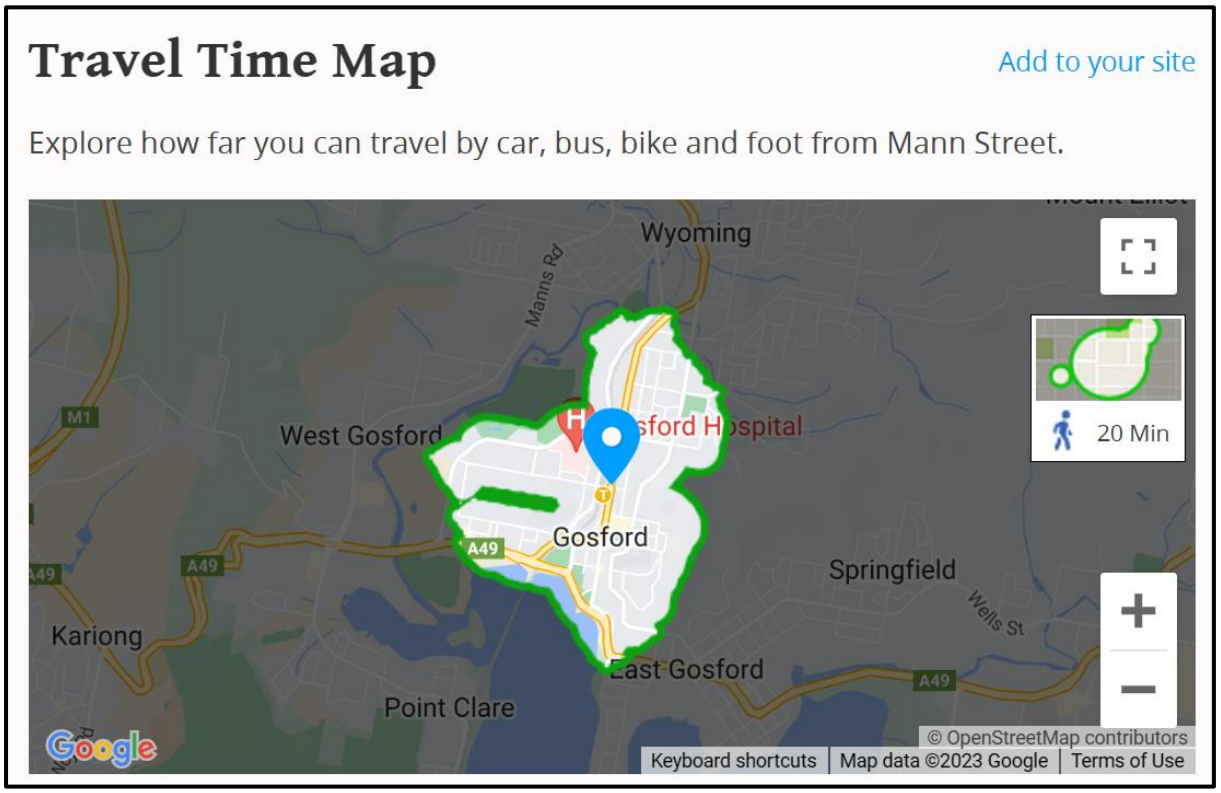
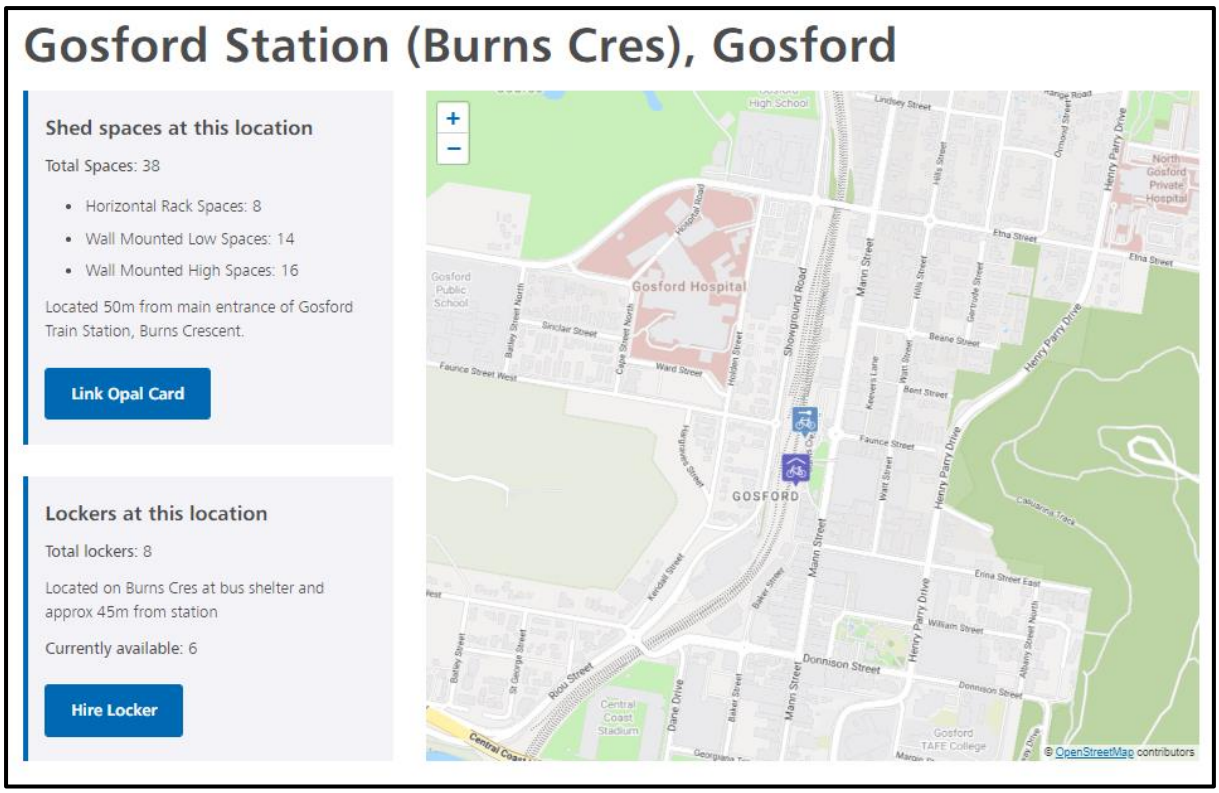


Figure 2-5 20 minute walking distance from the subject site (www.walkscore.com)

Whilst there are some shared pathways and identified cycling routes in the Central Coast LGA, there are also gaps in connections. Quite streets allow for suitable riding options, and whilst the topography can create barriers for some riders, the uptake of e-bike and other forms of micromobility is overcoming this for many riders.

The Central Coast Bike Plan 2019-2029 has identified a series of prioritised routes including a focus on transport hubs which may over time see ongoing upgrades to the network surrounding Gosford.

Bike Storage is available at Gosford Station. The bike shed spaces are free whilst the lockers incur a charge.



2.10 Other Proposed Developments

Gosford city centre is subject to a revitalisation effort supported by State and local government initiatives including the SEPP Gosford City Centre 2018.

It is anticipated that there shall be ongoing upgrades to the city centre and infill development including the subject site.

3 Proposed Development

3.1 Proposed Development

The Gosford Campus for the University of Newcastle will be the flagship for the CBD providing a vibrant hub for learning and community engagement. Located within the Gosford CBD within 250 metres of the Gosford railway station and bus interchange and 550 metres from the Gosford Hospital and the Central Coast Clinical School, the new campus will be conveniently located as an extension to the current health campus.

The Gosford campus provides the potential for 3500m2 GFA of learning and community space with student number of 660 and up to 50 staff on site. The community engagement space would complement the learning spaces being primarily used during term break, of a weekend or evening when main campus demands are at their lowest. This may allow for up to 540 attendees across four levels.

As a driver to change for the Gosford City Centre the campus shall be aspirational in its design and its environmental credentials seeking a 6 green star rating. Critical to this is developing mode share targets that not only support the sustainable transport rating for the site but also the sustainable transport goals for the city and Transport for NSW's Future Transport Strategy. The targets for the campus will maximise public and active travel, recognising the city's location as a key public transport hub whilst the revitalisation of the Gosford City Centre will enable students and attendees of the campus to study, work and live within the city and its environs.

The inclusion of an Innovation Centre within the building allows for members to access the various start-up/business development spaces with the majority of these anticipated to be directly related to existing University clientele. There is also the potential to support local businesses in the wider start-up and entrepreneur community with accelerator and incubation programs available.

Start-ups traditionally develop their products and start their businesses whilst either at university or having just completed university. Many will work part time around developing their business or shall work full time and work on the start-up after hours. As such the need for a workspace varies considerably around their time availability. The need to be located within a workspace can be driven by the desire to be part of a collaborative work environment, it can be dictated by the need for high speed, quality internet facilities, for convenience and a space away from other distractions, or the need to have a formal work environment to support the development and application of a start-up process. Access to mentors, courses and facilitators can also determine the location chosen by start-up founders. This is consistent with a survey of users of the University of Newcastle's small site incubator (Three76 Hub) which showed that the frequency of use by attendees of the facility is less than 3 days per week.

The start-up demographic (20-34 years of age) and the flexibility required by Start-Ups means that the Innovation Centre will rarely be fully utilised at any given point in time but rather people will come and go throughout a week and across a 24 hour day as necessary. The Innovation Centre will provide a convenient workplace for this cohort and appeal to those who live in or close to Gosford or who rely on public transportation to connect work with home.

3.2 Access

The concept allows for activation of the Mann Street and Beane Street frontages with a focus on public domain and pedestrian access. Vehicle access to the carpark is planned from Hills Street whilst service access is via a one way entry off Mann Street with the exit off Hills Street.

Access to bus services and heavy rail are than 250 metres to the south of the site at the Gosford Transport Interchange.

The site is also conveniently located to the Gosford Hospital where the UoN already has a presence.

3.3 Site Servicing

Servicing of the site will not be significant with service vehicles typically being waste vehicles (anticipated to be twice per week) and delivery vehicles associated with the café and occasional deliveries to the campus being generally small vans e.g. Hi-Ace and i-load. Access may however be required for occasional larger vehicles. Based on arrangements at NUSpace and Q Building in Newcastle the servicing demands are likely to only be 1 or 2 trucks requiring access each day. The majority of deliveries are received at the Ourimbah Campus to then be delivered as required to the subject site.

A service access and "laneway" is therefore proposed through the site. Entry off Mann Street and exit to Hills Street will allow these vehicles to enter and exit the site in a forward direction, maximising the space within the site. The entry at Mann Street will also ensure maximum visibility to pedestrians rather than exiting in this location. Having the one-way route through the site shall minimise the footprint required for this service area, as turning a vehicle around within the site can have a significant impact upon the development footprint. The access and servicing laneway has been designed to allow for left turns into the site by a Heavy Rigid Vehicle to the exit onto Hills Street. (**Appendix A**).

A service area layout within the site will enable service vehicles to pull off the laneway to undertake deliveries or waste collection.

3.3.1 Access to Public Transport

The site is well serviced by public transport as well as having good pedestrian and cycling connectivity.

The Gosford transport interchange provides access to train options between the City and south towards Hornsby and Sydney and north towards Wyong and Newcastle and is less than a five minute walk from the site

Bus services from the interchange provide excellent transport opportunities for people living within the broader Central Coast area.

3.4 Parking

3.4.1 Proposed Supply

The subject site is to be developed as part of the revitalisation of Gosford and forms part of the University of Newcastle's plans to extend its presence in the Gosford city centre. The development draws on the plans for the long-term redevelopment of Gosford. Located as it is within such close proximity to public transport as well as Gosford Hospital and surrounded by housing, the proposed development allows for active transport and trip containment within the city centre by providing services and facilities.

The proposed parking supply of 24 spaces takes into consideration the mode share targets determined for the site and shall be designed to achieve a Green Star Rating for the development. It will provide bicycle facilities, accessible parking provision, EV parking and a loading area within the site. Public domain upgrades and drop off zones along the street frontages will see an improvement to the existing situation. It will not provide general parking.

3.4.2 Council code and local parking policies and plans

The SEPP Gosford City Centre 2018 provides a parking rate of 1 space per 75m^2 for commercial activities and 1 space per 4m2 for retail activities.

The Gosford City Centre DCP 2018 provides the following for Educational Establishments:

- Car parking: 1 space per 2 staff and 1 space per 30 students
- Motorcycle parking: 1 space/25 car spaces or part thereof
- Bicycle parking: 1 space/5 students above Grade 4

3.4.3 Pedestrian and Bicycle Facilities

The site connects with existing pedestrian facilities and provides activated site frontages to engage the community with the broader space. As a city campus the site benefits from the existing pedestrian network that supports the majority of streets and roads throughout Gosford.

Austroads Guide to Road Design Part 6A: Pedestrian and Cyclist Paths provide guidelines on the widths of pedestrian facilities to accommodate pedestrian demands (**Figure 3-1**).

Table 6.1: 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	

Notes:

Whilst the minimum width may be used where demand is low it is generally desirable to provide a path that will accommodate two pedestrians side by side.

Wider than the minimum width (e.g. up to 5 m) may also be necessary at locations where pedestrian flows are high or where pedestrians gather such as in the vicinity of schools and associated road crossings, at recreation facilities and at important bus stops.

Where demand is significant it may be necessary to provide adequate congregation areas clear of the path required for through movement of pedestrians.

Figure 3-1 Austroads Guide to Road Design Part 6A: Pedestrian and Cyclist Paths Table 6.1

Therefore, the pedestrian interface between the campus access points and the broader pedestrian network shall be designed to meet these guidelines.

The distribution of pedestrian traffic across various routes will see the impact of pedestrian volumes reduced. Pedestrians with a desire line to the Gosford transport interchange shall use the existing path network south along Mann Street.

Pedestrians with an origin/destination to the west towards the hospital will be able to use the existing pedestrian phases at the signal controlled intersection of Mann Street and Etna Street to then cross over the rail line using the footpath on the bridge.

Bicycle storage shall be provided to support this stage of the development with storage for 69 bikes per the mode share target along with 69 lockers.

Shower facilities suitable for use by cyclists and walkers to the campus are to be provided.

4 Transportation Analysis

4.1 Policies to Support Mode Share Targets

Reviewing the objectives for B4 uses nominated in the SEPP the following is noted:

To provide a mixture of compatible land uses.

- To integrate suitable business, office, residential, retail and other development in accessible locations so as to maximise public transport patronage and encourage walking and cycling.
- To encourage a diverse and compatible range of activities, including commercial and retail development, cultural and entertainment facilities, tourism, leisure and recreation facilities, social, education and health services and higher density residential development.
- To create opportunities to improve the public domain and pedestrian links of Gosford City Centre.

The City Centre DCP 2018 notes:

- To facilitate an appropriate level of on-site parking provision in the city centre to cater for a mix of development types.
- To minimise the visual impact of on-site parking.
- To provide adequate space for parking and manoeuvring of vehicles (including service vehicles and bicycles).
- To promote Gosford City Centre as a more lively and vibrant place by providing parking incentives for certain developments in the city centre.
- To encourage economic growth in the city centre.
- To enable the conversion of above ground parking to other future uses.
- To recognise the complementary use and benefit of public transport and non-motorised modes of transport such as bicycles and walking.

4.2 Establishing Site Travel Mode Targets

Taking into consideration the concept for the campus the University aspires for all students to use public transport, walk (being accommodated within the CBD or surrounds) or to cycle. The proposed development is consistent with the on-going revitalisation of the Gosford City Centre and provides a nexus for change, so must be assessed taking into consideration the future for this CBD.

The mode targets are consistent with Transport for NSW Future Transport Strategy which aims to encourage travel by public and active transport (such as walking and cycling), rather than by private car, which can help reduce traffic congestion and greenhouse gas emissions.

Public Transport will provide the most practical active transport opportunity given the proximity of the site to train services and the bus interchange. Staff and students, whether travelling from surrounding suburbs or from the broader areas of northern Sydney, Lake Macquarie and Newcastle will be able to rely upon convenient travel services given the significance of Gosford as a major public transport hub.

The CCDCP notes that AS 2890.13:2015 Parking Facilities suggests a 10% mode share is a reasonable starting point to accommodate cyclist trips in urban environments. The take up of e-bikes as they become more affordable and other forms of micromobility reduces the barriers to ride to the CBD, allowing for existing pathways to be used, connecting along quieter local streets. Cycling within a 5km distance from Gosford is to be encouraged. The bicycle riding National average is 18% and regional NSW is 16.2% so the goal of 10% cycling is a conservative and realistic target.

As part of the revitalisation of Gosford City Centre it is expected that there shall be an increase in affordable and student housing over time to support the demand generated by the University's presence. This, coupled with the new campus having potential cross uses between it and the existing University presence within the Gosford Hospital Precinct will see both staff and students able to walk to the subject site being based or living within a walking distance (2kms based on the Walking Communities Program).

A review of the cohort data investigated for the approved NUSpace development in Newcastle identified that 33.6% lived within walking and cycling distance of the Newcastle CBD whilst 22.4% lived within the suburbs of Callaghan, Jesmond, Shortland and Birmingham Gardens (areas within a 1-2 kilometre radius of the Callaghan campus), demonstrating desires by students to live within close proximity to campuses as well as within city centres. This saw of total of 56% of students within walking or cycling distance. The proposed Gosford campus allows for only 40% to be within walking or cycling distance with 30% living within 1-2 kilometres to be able to walk to the campus.

In this way the campus will support the ongoing redevelopment of the Gosford city centre per the SEPP, bringing students who can live, work and study into the city.

Table 4-1 Mode Share Targets

Travel mode	Target Percentage	Targeted Patrons	Assume 700 (657 students/50 staff) being 75% attendance at peak load
Public Transport	55%	All attendees	385
Cycling	7.5% 10%	Staff and other attendees Students	4 65
Walking	30%	Primarily students including those based at the hospital and so walking across to the campus. Includes those resident in the surrounding area within 2 kms of the city centre	210
Driving	5%	Focused as being staff with some external demands	35

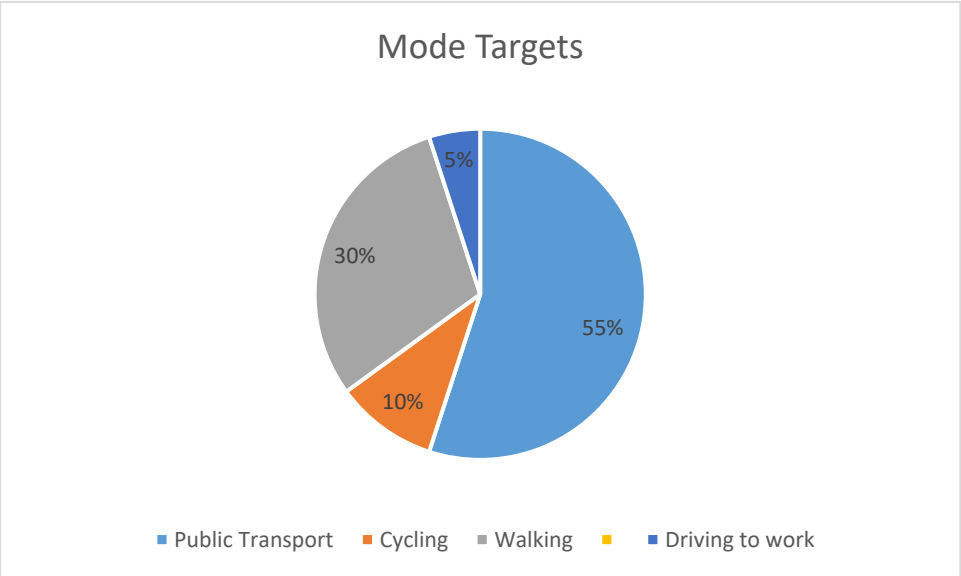


Figure 4-1 Mode targets for combined staff and students

4.3 Parking Assessment

The provision of 24 parking spaces is in the order of 1 space per 2 staff on site and is consistent with the DCP on the basis that no students are encouraged to drive nor provided with parking. One motorbike spaces is provided per the DCP.

Given that hybrid working arrangements established by the University allow staff to work away from the campus 40% of the time this would equate to an average of 30 staff on site. The provision of parking as proposed would enable parking on site for 80% of this attendance, requiring 20% of staff to use alternate travel modes. This is consistent with existing journey to work data for the LGA without any improvement in mode share.

This parking provision is higher than for many similar university campuses. **Table 4-2** summarises the findings of benchmarking studies undertaken of comparable educational facilities, built in the past 10 years, to support the NUSpace approval.

Table 4-2 Summary of recent University campus developments as they relate to parking and active transport.

	Floor Area (GFA)	Public Transport	Parking Ratio (Space/GFA m2)	Student Accommodation	Active Transport Measures	Parking Context (On-street / off street)	Green Star Rating
NeW Space – University of Newcastle	12434	√	1:497	√	√	On-street/ Public carparks	5
Dr Chau Chak Wing Building UTS Sydney	15488	√	1:500	√	√	Limited/ Public carparks	
Jeffrey Smart Building – UniSA		√	nil	√	√	Metered & Free/ Public carparks	5
The Spot Building-University of Melbourne	25850	√	nil	√	√	Public carpark	5
Medical Precinct – University of Tasmania	20000	√	1:769	√	√	Public carpark	5
The Swanston Academic Building -RMIT	34350	√	nil	√	√	Metered/ Public carparks	5
Mirvac School of Sustainable Development – Bond University		√	1 space	√	√	Carpark in surrounding campus	6
Waterfront Building – University of Tasmania	5350	√	1 space	√	√	On-street/ Public carparks	5
Camp Street Campus Ballarat – Federation University Australia	8000	√	Nil	√	√	On-street	

To encourage staff to use alternate modes of travel a Workplace/Green Travel Plan shall be developed to outline actions to support the Greenstar aspirations of the site.

4.4 Traffic Generation

The proposed development will generate minimal additional vehicle traffic however will see an increase demand for pedestrians, cyclists and public transport use. Such demands are consistent with the Central Coast Regional Transport Plan with the activation of the CBD fundamental to the revitalisation of the City.

The vehicle demands associated with the Gosford Campus Stage 1 will include some demands for the pick up and drop off of people as well as for those staff or students requiring accessible parking and those staff driving to work. Based on the above demands, the vehicle traffic generated by the subject site are determined as being in the order of up to 35 trips in the AM peak and less in the PM peak (based on 5% on site driving). This is considered to be less than that previously associated with the site as a hardware store which had ongoing demands coming and going throughout the day.

The distribution of these trips are anticipated across a variety of routes with origin/destination likely to be equally split from all directions. Allowing all trips to be equally split to the north, south, east and west each route may see 9 vph in the peak. Whilst some vehicles may drop off passengers as part of a passing trip, those vehicles parking shall all approach along Hill Street. As shown below in **Figure 4-2** this would see 12 vehicles approaching from the north and the same from the south to enter the site in the morning or depart across the afternoon. The distribution across the afternoon is more likely to be spread across a two hour period 3.30-5.30pm.

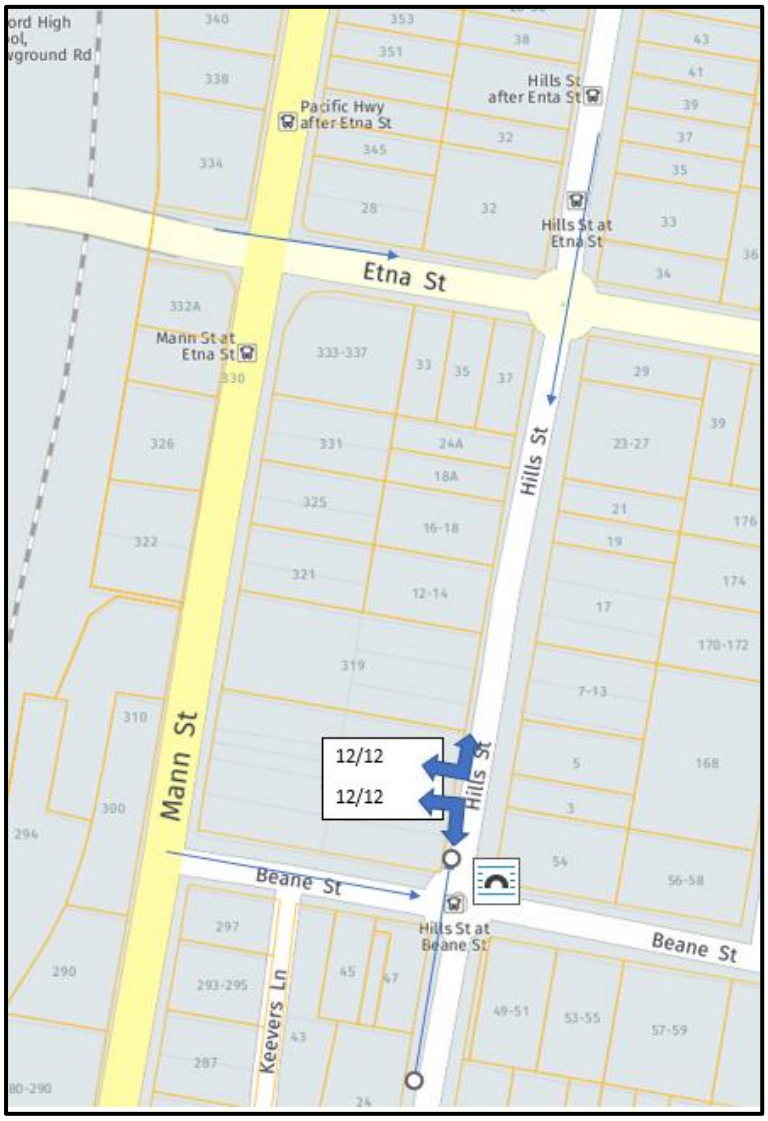


Figure 4-2 Trip distribution AM/PM peak

The impact of these additional nine trips along each route will have a minimal impact on any individual intersection. Observations on site are that the roundabout intersections of Hill Street and Beane Street and Hill Street and Etna Street operate very well with minimal delays. The cumulative impact of up to 12 vehicles an hour from the north or south along Hill Street will have a negligible impact on the operation of these roundabout intersections with no Sidra assessment or further traffic analysis required.

As per Table 4-1 the mode share indicates up to 385 patrons using public transport. The type of transport will depend upon their location with those living to the north and south of Gosford likely to use train services whilst those living throughout the Central Coast LGA also have access to a broad range of bus services. The trains and buses that service the area have capacity to accommodate these additional demands with public transport use typically 20% lower than pre-Covid demands.

A review of the entry and exit data for Gosford Railway Station (Opendata.transport.nsw.gov.au) indicates that commuter demands are tidal with entries to the station typically twice that of exits in the AM peak and the opposite in the PM. The demands generated by the university will therefore compliment this and use underutilised capacity rather than adding to the existing demands.

4.5 Site Servicing

As detailed above the servicing for the site shall include waste management with some demands for deliveries and servicing/maintenance of equipment and facilities by contractors. There may be further demands associated with retail deliveries (café) etc.

Many of these services are provided in conjunction with other sites throughout the City e.g. waste collection, parcel deliveries, facility servicing and as such don't generate additional traffic demands but rather become part of a shared trip.

Such servicing is consistent with the permitted uses for the site and would be less than those associated with products being delivered to the site as a large hardware store. Given the size of this development such servicing requirements shall be minimal and acceptable.

The impact of these occasional deliveries to the site will see some demands for trucks turning into the site from Mann Street. The majority of these are expected to approach from the north and undertake a left turn into the site. Exits onto Hills Street may be to either the north or south with visibility at this access consistent with the past arrangements along this frontage.

4.6 Traffic Impact Assessment

Given that much of the site has been previously operated as a retail outlet allowing for the traffic previously generated in conjunction with this the future traffic flows associated with the site will be less than that historically provided for across the site.

The mode share target allowing 5% of occupants on site to drive, and the provision of 24 parking spaces on site, will see up to 35 trips generated by the site in the AM peak. 24 of these would approach along Hills Street, with a split 60/40 consistent with the AM flows on Mann Street. Two way flows north of the site could increase by 14 trips in the AM peak with 10 trips approaching from the south.

The demand for 14 right turns into the site will have a minimal impact on the operation of the access with minimal queuing given the low flows along this road.

In the PM peak demands are expected to be less given that exiting demands are spread across the afternoon.

Additional trips shall be distributed across the broader road network with the grid patterns of roads providing various routes depending upon the origin/destination of trips (**Figure 4-3**). This distribution reduces the impact at any one intersection with the main intersections being the 4 way roundabouts at Hills Street/Etna Road (14 trips) and Hills Street/Beane Street (10 trips). The impact of these additional trips will be minimal and well within the capacity of these roundabouts.

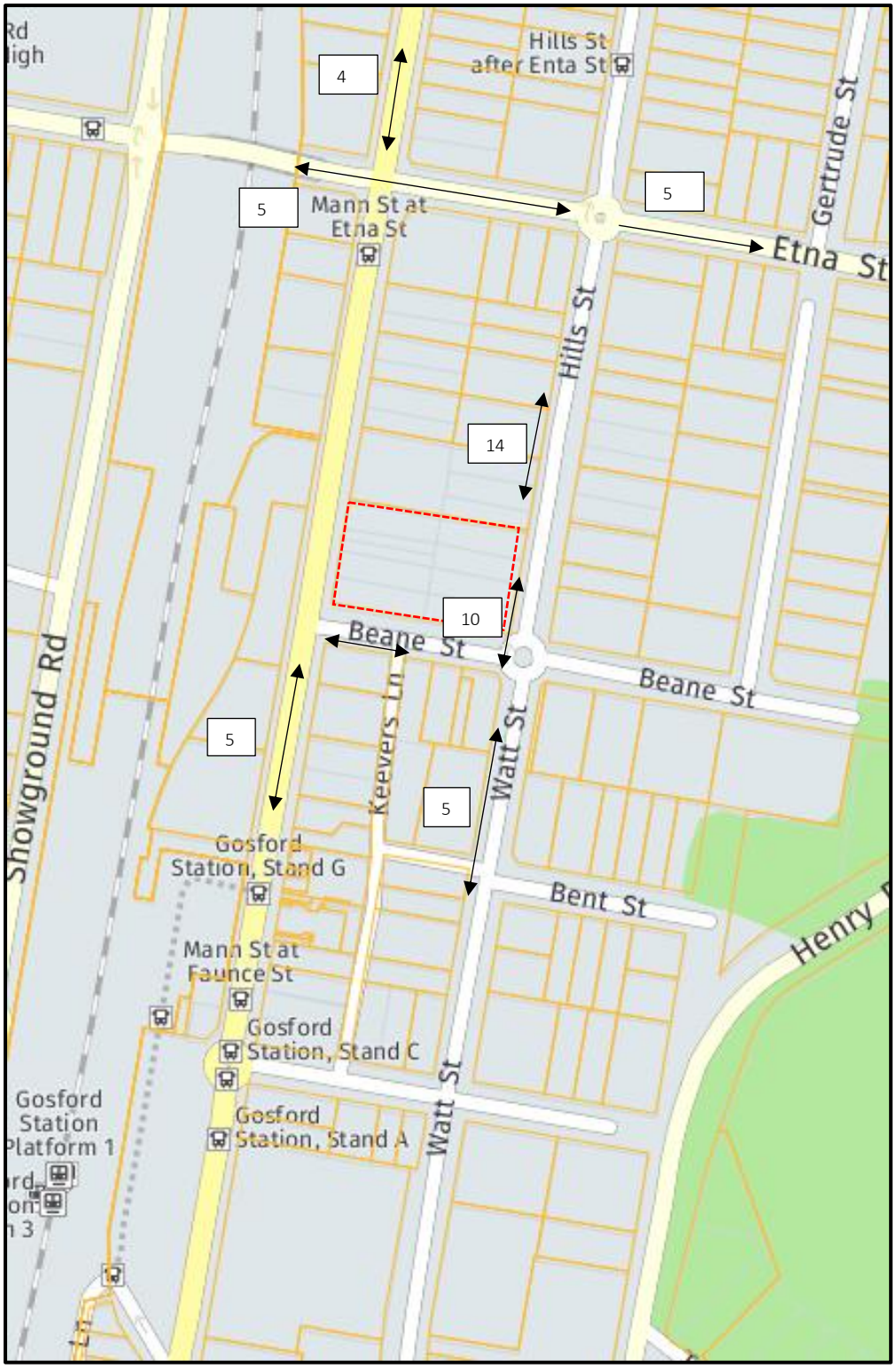


Figure 4-3 Traffic distribution to the broader network

The impact of this vehicle traffic on the local road network is therefore considered acceptable. The cumulative impact is less than historically occurred in conjunction with the site as a hardware store. The distribution of the traffic across various routes will have a minimal impact (5 vph) on the local road network and various intersections.

4.7 Pedestrian Movements

Pedestrian access to the site will be available using the local pedestrian network throughout the city. The proposed development will see an increase in pedestrian traffic within the vicinity of the site, primarily along Mann Street towards the transport interchange and along local streets associated with residential demands. The high standard of footpaths between the site and the train / bus station is good and wide and therefore has capacity to cater for these pedestrian demands.

Safe pedestrian connections are available along key routes with pedestrian refuges provided mid-block on Hills Street, a raised pedestrian walkway near the station and pedestrian phases on the intersection of Mann Street and Etna Street. This pedestrian infrastructure is appropriate for these additional pedestrian demands.

4.8 Cycling Movements

The proposed development will encourage cycling by its occupants with the provision of suitable bike storage and access to end of trip facilities. Ongoing reviews of the bicycle network has been detailed in the Central Coast Bike Plan and in conjunction with opportunities in association with the Central Coast Regional Transport Plan can allow for the increased demand for cycling within a 5km radius of Gosford as a major transport hub.

4.9 Impact on Road Safety

The additional traffic flows associated with the development of the subject site will have a minimal impact upon traffic safety. Increases in pedestrian and cycling traffic are within the capacity of the local facilities.

4.10 Impact of Construction Traffic

The construction work shall require a number of trucks, to deliver materials including concrete to the site.

Stage 1 is consistent with other developments in the City and will occur over a number of months as the site is developed. A draft CTPMP shall be prepared to support this assessment and to provide guidance for the future contractors.

The size of the lot for Stage 1 shall see much of the construction zone contained within the site. Work zones on the adjoining roads may be required during specific elements.

All works on site will be governed by the relevant EP&A rules and as stipulated within any development consent granted. This will include hours of work.

4.11 Public Transport

4.11.1 Options for improving services

A demand for public transport will be generated by the new site proposal. This demand is accommodated within the ongoing desire of the State government for more people to use public transport in lieu of car travel for access to the Gosford CBD.

The impact of this development is well within the capacity of these services.

4.11.2 Pedestrian Access to Bus Stops and Transport Services

Pedestrian access is available to the Gosford station and bus interchange along existing pathways.

4.12 Evaluation

The demands associated with additional traffic will be minimal. Pedestrians and cyclists can be accommodated within existing facilities in the CBD and the public transport is adequate for the future public transport demands of the site.

5 Measures to promote Active Travel choices

5.1 Promotion of quality pedestrian routes

The CBD is supported by an historic network of good quality pedestrian pathways, generally provided along both sides of the roads. As Gosford is revitalised the ongoing development of quality pedestrian routes with adequate pathways, activity nodes, weather protection, lighting and security will occur.

5.2 Transport Management Strategy

The mode split being adopted for the Campus is a result of the application of the various key Council and State strategies and the aspirational sustainable goals for the subject site. To ensure these are adopted by staff and students a Travel Demand Management Strategy will be developed that actively encourages behaviour change and a shift away from travel by private vehicle. The implementation and monitoring of this strategy shall be overseen by the University through its facility management services.

This strategy would include the following.

Education and awareness programs

Particularly focussing on the move to and the excitement of the new campus for students and staff. These programs can build on the existing University web site for off-campus accommodation and travel options to the City campuses. They importantly focus on the message that being a student in Gosford means you don't need a car.

Include attendance during orientation of representatives from Transport for NSW and local bus providers to promote public transport and active transport options for staff and students. Also include representatives from other transport mode providers as appropriate such as Go Get, Uber, bicycle rider groups.

Promote and develop Ride to Campus and Walk to Campus days, cycling buddies etc.

Workplace travel plan

A Workplace Travel Plan (WTP) will be developed for the site to influence mode shift for staff attending the new campus. The WTP will include information on available travel options including public transport, walking and cycling. There will also be ongoing development of programs that support a shift to public transport, active transport and park and ride options for all staff and students.

University travel plan

Travel Access Guides (TAGs) for students are regularly updated to allow for current travel opportunities to the University's campuses. They will be updated to provide information on access to the GCCD but also provide information on inter-campus travel to Ourimbah and other relevant transport information if appropriate.

The travel plan as part of the University web site may include information about adopting technology as a commuter, information from Transport NSW, trip planning, walking and cycling apps, bike routes and bike user groups (BUGs) as well as relevant car sharing schemes, online shopping and local grocery delivery options.

The following provides examples of actions that may be considered appropriate for the Campus and may be included in a workplace and campus travel plan.

Active Transport

1. Introduce the role of Transport Coordinator to oversee the implementation and management of the Workplace and Active Travel Plan.
2. Maintain Travel Access Guides to include the Gosford Campus
3. Provide specific information for attendees at Gosford to access railways station and campus bicycle storage.

4. Educate all staff about their travel choices and provide an information pack to encourage active transport and shared travel as part of the staff induction procedure. Include accommodation, local public transport, walking and cycling information.
5. Encourage shared travel across the various Faculties, including those based at Gosford Hospital to maximise travel options.
6. Provide participants with information that makes their travel choices easy to make.

Bicycle and Pedestrian Travel

1. Ensure that those who are intending to ride are well supported including allocation of lockers, provision of route information, secure and easy to access bike storage, end of trip facilities.
2. Promote riding and walking to Uni during orientation.
3. Promote riding buddy groups and Bike User Groups (BUGs).
4. Promote use of E-bikes for easier travel.
5. Promote specific Ride to Work/Uni days.
6. Install NSW Transport Cycling trip planners on staff and student workstations.
7. Promote the benefits of walking and cycling to all staff and student that live between 2 and 5 kms of the campus.

Public Transport

1. Ensure students and staff who are open to travelling by public transport have sufficient information and support for this to be a positive experience. Deal with any problems that arise to assist them trying public transport travel again.
2. Add up to date travel information and trip planning to individual workstations and intranet.
3. Investigate technology implemented by Transport for NSW and incorporate into staff and student information at the time of occupancy
4. Provide information about public transport to new staff and students as part of the induction/orientation program.
5. Investigate the feasibility for staff to purchase tickets and passes through payroll deductions.
6. Ensure ticketing for public transport is readily available and staff and students are aware of how to access ticketing.

Events

1. Develop an Event Management Plan to provide for larger events at the site
2. Investigate use of the Ourimbah Shuttle to provide for inter-campus travel for guests if appropriate. Include information on parking at Ourimbah to use the shuttle.

Hybrid Working/Telecommuting

1. Support hybrid working for staff who do not need to attend the campus to reduce demands on private vehicle usage.
2. Encourage online meetings (Teams/Zoom etc) to avoid the need for travel for face to face attendance

Parking Policy

1. Implement parking policy which supports the Gosford Campus Travel Mode targets.

5.3 Quality End of Trip Facilities for walking and cycling

The inclusion of quality end of trip facilities including access to showers and bike storage has been incorporated into the plans for the site.

6 Summary and Recommendations

6.1 Summary

The GCCD Stage 1 represents the introduction of a city based campus for the University to expand on its presence near the Gosford Hospital.

The site previously operated as a Mitre 10 Hardware store with associated delivery and traffic movements.

The GCCD Transport Access Strategy, has been developed applying the earlier analysis undertaken for Honeysuckle Campus and NU Space and assessed against current data and transport trends. It has also taken into consideration the latest government strategies and benchmarked against City based university developments such as University of Technology Sydney (UTS) and University of NSW (UNSW).

This strategy has developed travel mode targets and a parking strategy to support alternate travel modes to the campus.

An assessment of the site demonstrates that it is well located to benefit from the extensive transport network with the Gosford railway station and bus interchange within 250 metres of the site. It is also well connected to the CBD and surrounds enabling people to walk and cycle to the campus and therefore not be reliant on private car usage.

The provision of 24 car parking spaces and one motorbike space on site equates to a rate of 1 parking space per 2 staff, given that projected staff and innovation centre demands are 40-50 people. There is no parking proposed on site for students. The parking supply does include accessible spaces. This parking is consistent with the DCP requirement for staff of an Educational Establishment

Bike storage and end of trip facilities provide for the mode share targets.

6.2 Recommendations

To meet the active travel targets for the site promotion of active and public transport options relevant to the end users should be undertaken. This information can be promoted by encouraging campus users to access Active Travel information from the University web site.

The overall conclusion from the investigations is that traffic and parking arrangements for Stage 1 are consistent with State and Local Government strategies and support the intent to revitalise Gosford City Centre. The proposed access and service parking is satisfactory and there is no traffic or parking impediment to this stage of the development.

The low number of vehicle trips associated with the development given the mode target and associated with the low on-site parking provision will have minimal traffic impacts with no requirement for any traffic modelling nor road infrastructure upgrades to maintain the existing performance standards on the road network.

Appendix A – Swept Paths