NeW Space Newcastle

University of Newcastle

Transport Access Strategy

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SECAsolution

University of Newcastle NeW Space

Transport Access Strategy

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1 Executive Summary

The University of Newcastle is one of the key stakeholders in the plan to revitalise the City of Newcastle. Its proposed City Campus (NeW Space) forms one of the cornerstones of the implementation of the strategy.

Seca Solution Pty Ltd has been commissioned by Lyons Architecture on behalf of the University of Newcastle to provide input and analysis of the transport and access issues associated with the proposed NeW Space Development to be located on the corner of Hunter Street and Auckland Street in Newcastle, NSW. NeW Space also includes the refurbishment of the existing University House on the corner of Auckland Street and King Street. The location of the site is shown in Figure 1-1 below.

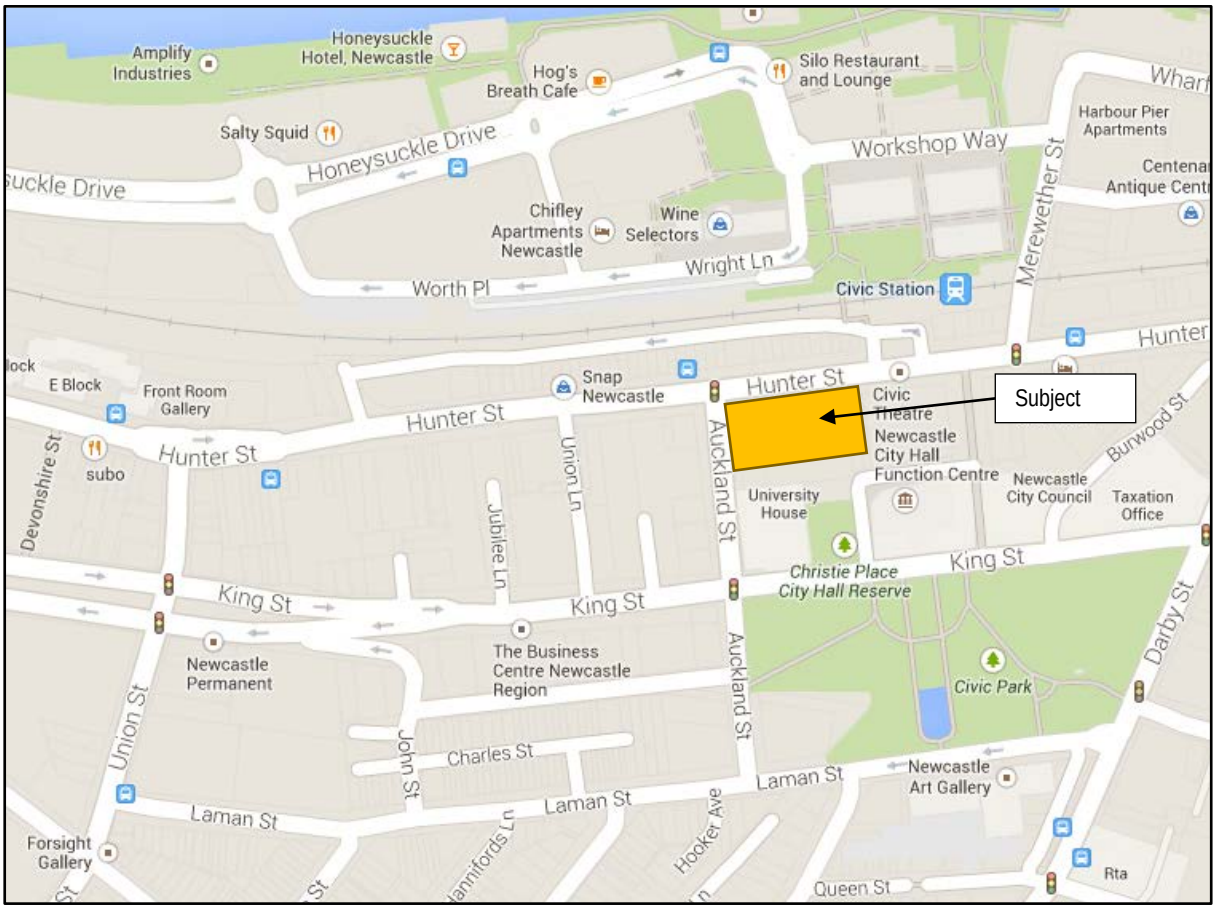


Figure 1-1 Site location of NeW Space

Policy Context

The Newcastle Urban Renewal Strategy 2012 (NURS) is underpinned by a range of state, regional and local planning instruments and forms the underlying plan for the city's future. It outlines the key initiatives and guidelines and has inter-related components which can be broadly categorised in three sections as:

1 place-based
2 economic
3 transport-related.

The strategy to encourage renewal in the city centre is multi-faceted and includes:

- A planning framework that promotes activity, development and well-located land uses
- A place-making approach to the future development of the city
- Physical improvements to the city's key public domain spaces
- A series of economic initiatives that will support urban renewal
- A strategy to promote transport, access and connectivity to and within the city centre

The guiding principles as they relate to the Transport and Access requirements for NeW Space are:

Transport, access and connectivity

- Maximise accessibility and convenience of public transport to and within the city centre, and prioritise a range of transport modes to reduce private vehicle use.
- Promote connections and way-finding between precincts and to the waterfront, and encourage pedestrian activity throughout the city centre.
- Support infrastructure and public domain improvements to attract people to the city centre.

Housing mix and affordability

- Encourage a range of housing types for a variety of markets, including student and seniors housing.

The key transport-related initiatives as they relate to NeW Space are:

- support for integrated public transport in the city centre and promoting a mode shift
- creating a connected pedestrian and cyclist network
- managing the impact of carparking
- Improve the amenity of the streets through activation, giving pedestrians priority. Footpath widening to accommodate activity zones in selected locations will also improve safety simply by providing more space for people.
- Promotion of flexibility with respect to carparking requirements, especially in view of site constraints, development feasibility and the presence of Council owned carparking.

To be successful NURS needs to be embraced by all facets of government, stakeholder, developers and the community as it provides a framework for a cohesive, vibrant and exciting future for the city.

<u>NURS Transport Key Points</u>

- 7,500 parking spaces utilised whilst the overall supply is nearly 10,500 spaces (GTA 2008)
- Recommended that carparking be capped to 11,000 spaces (AECOM 2012)
- Newcastle has a well-established and extensive public transport network
- Strategic initiatives seek to provide a more balanced transport network with lesser reliance on private car use by encouraging the use of more sustainable forms of transport, such as public transport and active transport (walking and cycling)
- Further investigation recommended to determine whether there is scope in:
    - Reducing the current rate for non-residential development or adopting a maximum rate.
    - Allowing for some of the parking for non-residential development to be reduced based on availability of carparking in nearby parking stations
    - Amending the current maximum rate of visitor carparking spaces for residential development to allow for a lesser number of spaces.
- Investigate Car Share

NeW Space

The centre piece of the Hunter Education Precinct will be a new facility which will realise the "university-of-the-future" with a library and information common, collaborative learning spaces and zones for professional and community engagement. The student experience will be supported by state-of-the-art technology and 24/7 accessibility. Adjacent to the new building will be a refurbished University House with approximately 1,400m^2 of upgraded space housing a moot courtroom, legal clinic and enhanced learning spaces.

The Effective Full Time Student Load (EFTSL) is expected to total 4,335 by 2019 with 300 staff including academic, professional and administrative roles. Of these it is anticipated that a maximum of 2,347 people may be at NeW Space at any one time. (NeW Space Schematic Design Report Volume 1 – June 2014).

In considering the transport needs for both the students and staff it is recognised that NeW Space campus will not achieve 100% utilisation. Despite this, this strategy has been based upon the potential for peak use with the maximum number of 2,347 people on site used for all transport calculations and subsequent assessments. This provides for a worst case scenario and absolute peak usage of NeW Space.

NURS identifies a capacity for up to 6,000 additional dwellings by 2036 in the Newcastle CBD with the development of NeW Space providing a driver for the increased number of students living in the city centre, which in turn would contribute to demand for retail shops and services, and increase general street activity and passive surveillance. Further, students can create a stable and reliable customer base for existing business, drive growth in the leisure and entertainment sectors, while also providing a labour pool for other businesses.

An analysis of the existing Law and Business Faculty student cohort indicates that 56% currently live in the Newcastle LGA and of these 60% live within walking or cycling distance of the future NeW Space site. This area is identified in this report as the Active Transport Zone (ATZ) centred on NeW Space and the City CBD. The balance of existing Law and Business Facility students live within 1 kilometre of their existing Callaghan Campus, indicating a preference to live close to their study centre. It is concluded that in the future the equivalent of these students would continue this pattern by choosing to locate within a similar proximity to NeW Space. It is also expected that students who move to Newcastle from out of the region would also choose to locate within the city, rather than live in the outer suburbs and commute.

An analysis of existing staff for the Law and Business Faculty indicates that 59% of staff would be expected to be living within the ATZ with the balance living in Lake Macquarie City (18%), Lower Hunter (5%), Port Stephens (2%) and Central Coast (8%). This makes no allowance for staff living in these surrounding areas relocating to the city.

Current trends in non-car travel show that Gen Y (20-34 year olds) are giving up driving in favour of alternatives.

- Mileage by GenY is down 23%
- 25% less 20-24yo held licenses in 2008/09 than 2001/02
- 13% of public transport users are 18-25yo
- Many car share not car own. They are open to car share programs such as "Go Get" (as recommended within the NURS)
- The car is no longer seen as a status symbol

With the embracing of new technology the choice between texting and not driving or driving and not texting is seeing public transport and walking being embraced as an appealing choice (Tolley 2014)

Based on the policy context of the NURS and the TNSW Long Term Transport Masterplan and considering the existing student accommodation data the following mode split targets have been determined for the future student cohort travelling to NeW Space.

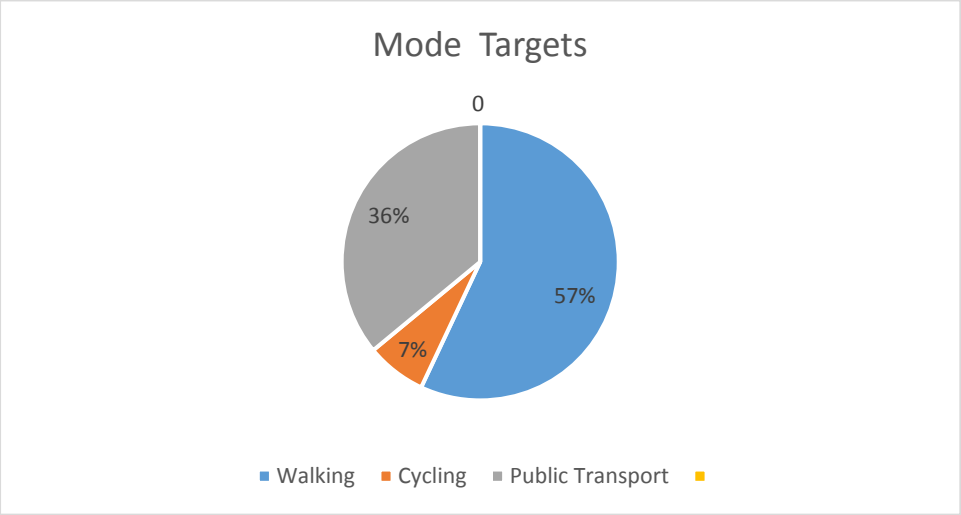


Figure 1-2 Mode Targets for NeW Space Students

It is recognised that future students will want to live in the Newcastle CBD and surrounds because they are studying in the city. The desirability of the Newcastle CBD to be a lifestyle study/living/work choice is a large driver behind the Revitalising Newcastle strategy. Based on the enrolment data of existing students, 66% of future students attending NeW Space would live in the ATZ and of these 82% (approximately 2,350 students) will live within 2 kilometres of the NeW Space development and be able to walk to the campus. Allowing for the maximum number of people on site this could equate to 1250 staff and students arriving throughout the day on foot. To support this the NeW Space development will provide 25 parking spaces, 5 in the new building and 20 in the upgraded Laman Street carpark which is within close proximity to the NeW Space but will not be for use by students

NeW Space and the new City of Newcastle

To enable effective transportation of staff and students NeW Space embraces the key guidelines and initiatives of Revitalising Newcastle:

- The need for quality walking routes
- Cycling routes and end of trip facilities
- The need for strategic bus corridors, transport interchanges and park and ride opportunities
- The development of a Travel Demand Management Strategy
- Encouraging car sharing opportunities in the city
- Managing the need for inter-campus travel through timetabling, promotion and support of public transport and cycling

Implementation Strategy

The University of Newcastle will further investigate consultation with authorities regarding

- quality pedestrian connectivity and cycling in the City,
- implementation of public transport improvements including encouraging park and ride opportunities and the development of strategic bus corridors
- City based car share programs

Development of a Travel Demand Management Strategy for NeW Space including

- Education and awareness programs for all staff and students
- Workplace travel plan for staff
- University travel plan for students and visitors including potential shuttle buses

Benchmarking Case Studies

A review of comparable educational facilities, built in the past 10 years, has been undertaken and the following summarises the findings:

	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	

2 Policy Context

This NeW Space Transport Access Strategy draws on the current policies being developed to underpin the future development of the City of Newcastle. This section provides an overview of the key aspects of the various strategies as they relate to the NeW Space development and include material drawn directly from the various documents for accuracy.

The Newcastle Urban Renewal Strategy 2012 (NURS) has been developed in consultation with the City of Newcastle and key State Government agencies to recommend / formulate an integrated package of initiatives aimed at developing a solid basis for the long-term successful renewal of the city centre.[1]

It is a dynamic document which must be read in light of the progress that is already occurring as part of its implementation e.g. installation of light rail and the decision by the University to locate its new campus in Civic. The strategy will in turn be updated to reflect the outcomes of the light rail project with the Department of Planning and Infrastructure updating an implementation plan to provide a delivery framework for renewal over the life of the strategy.

The framework of the NURS is underpinned by a number of state, regional and local environmental planning instruments:

- The State Environmental Planning Policy (Urban Renewal) 2010
- Newcastle Precinct Outcomes Brief
- New South Wales 2021
- The Lower Hunter Regional Strategy
- City Centre Vision
- Newcastle 2030
- Hunter Street Revitalisation Master Plan

Subsequent strategies and policies which are also providing crucial guidance in the planning of the renewal include:

- NSW Transport Long Term Masterplan December 2012
- Newcastle City Centre Renewal - Transport Management and Accessibility Plan
- Newcastle Truncation - Wickham Station Preliminary Assessment and ongoing reporting
- Hunter Regional Transport Plan March 2014

2.1 The Newcastle Urban Renewal Strategy 2012

2.1.1 Key Initiative and Guiding Principles

The strategy and resulting initiatives have inter-related components which can be broadly categorised in three sections as

1 place-based
2 economic
3 transport-related.

[1] www.planning.nsw.gov.au/HousingDelivery/UrbanRenewal/RevitalisingNewcastle

The strategy to encourage renewal in the city centre is multi-faceted and includes:

- A planning framework that promotes activity, development and well-located land uses
- A place-making approach to the future development of the city
- Physical improvements to the city's key public domain spaces
- A series of economic initiatives that will support urban renewal
- A strategy to promote transport, access and connectivity to and within the city centre

Several key initiatives have been nominated as having significant short term benefits as well as being catalysts for stimulating a wider change in the city centre. Prioritising their implementation has been recommended.

These include:

- establishing a university campus in the city centre to stimulate and drive demand for commercial and retail floor space, introduce a student resident and worker population, and create synergies with established businesses and industry sectors
- revitalising Hunter Street Mall into a distinct retail, entertainment, leisure and residential precinct to catalyse other renewal in the east end, including nearby major landholdings
- reshaping Hunter Street as a key city destination to promote activity, business opportunities, events and other uses in identified nodes. Reshaping can start with less permanent measures on a trial or temporary basis
- providing additional connections across the rail corridor for pedestrians, cyclists and cars
- appointing a Local Business Coordinator to prepare and implement a Business Improvement Plan
- attracting more residents into the city centre to support and build a vibrant and viable city centre
- promoting a higher mode shift to public transport to reduce the number of cars in the city centre, encourage activity and support for business, and utilise existing infrastructure and services.

An implementation plan supports the strategy and provides a framework for delivery of renewal over the life of the plan. Indicative timeframes are divided into short (1 - 3 years), medium (3 - 8 years), and longterm (greater than 8 years). The implementation plan can be used to guide future decision making and to measure the progress and success of urban renewal in Newcastle's city centre. The implementation is being updated to reflect developments within the strategy.

The guiding principles as they relate to the Transport and Access requirements for NeW Space are:

Transport, access and connectivity

- Maximise accessibility and convenience of public transport to and within the city centre, and prioritise a range of transport modes to reduce private vehicle use.
- Promote connections and way-finding between precincts and to the waterfront, and encourage pedestrian activity throughout the city centre.
- Support infrastructure and public domain improvements to attract people to the city centre.

Housing mix and affordability

- Encourage a range of housing types for a variety of markets, including student and seniors housing.

2.1.2 The Urban Renewal Initiatives

The urban renewal initiatives as they relate to the NeW Space development include:

2.1.2.1 Place-based

- reshaping Hunter Street as the main street of the city
- recognition and strengthening of the civic precinct as the main municipal, educational and cultural hub of Newcastle
- positioning of the west end as the city's future CBD

2.1.2.2 Economic

- promoting and supporting the city centre as an education hub
- a living city, attracting more residents to the city centre

2.1.2.3 Transport-related

- support for integrated public transport in the city centre and promoting a mode shift
- creating a connected pedestrian and cyclist network
- improving the efficiency of the road network for all users
- managing the impact of carparking
- improving connection for all transport modes across the rail corridor

2.1.2.4 Hunter Street

Key Concepts

- Reshaping the street through improved public domain, wider footpaths for activity, more landscaping and dedicated bus and cycle lanes to ensure Hunter Street provides for all users

- Use of Hunter Street to facilitate better connections between precincts within the city centre, and focusing activity in nodes rather than dispersing it along the full length of the street

- The re-establishment of Hunter Street as the main street of the city needs to take into consideration its function, appearance and place within the wider connected network

- To develop a series of concentrated activity nodes which can radiate outwards over time

- Improve the amenity of the streets through activation. Giving pedestrians priority and providing for cyclists in certain parts of Newcastle and certain areas of the street zone will contribute greatly to increasing activity in the city centre

- The land take devoted to vehicles in the form of multiple carriageways and parking areas in a street is dead space, taking away from the amount of land that can be devoted to commercial enterprises and community and cultural facilities, which will attract more customers and visitors. Reducing this land take by encouraging people to access the centre by foot and bicycle will provide opportunity for a more diverse range of activities and enterprises. This does not mean that there will be no parking in the city centre, rather that people are encourage to park and walk.

- More people on the street results in greater safety by providing more opportunity for passive surveillance. Footpath widening to accommodate activity zones in selected locations will also improve safety simply by providing more space for people. This is of critical importance to more vulnerable sectors of the community who may avoid a certain area if they feel unsafe.

Action to be implemented as they relate to this project:

- DCP should be amended to incorporate revised view and pedestrian permeability mapping. Special area controls should be included to identify proposed public domain upgrades and pedestrian links.

2.1.2.5 Civic Precinct

The introduction of new activities such as more educational facilities associated with the University of Newcastle will potentially stimulate positive change and renewal. The location of a significant student body and increased wider population within the city will create a flow-on demand for housing, retail and other services within the city centre, all of which will stimulate activity within Civic. Error! Bookmark not defined.

Actions to be implemented as they relate to this project:

- Planning controls that nominate appropriate building heights, with uses and densities that promote design excellence, particularly on the Civic Arcade site.
- Promotion of flexibility with respect to carparking requirements, especially in view of site constraints, development feasibility and the presence of Council owned carparking.

2.2 Summary

Guiding Principles

Transport, access and connectivity

- Maximise accessibility and convenience of public transport to and within the city centre, and prioritise a range of transport modes to reduce private vehicle use.
- Promote connections and way-finding between precincts and to the waterfront, and encourage pedestrian activity throughout the city centre.
- Support infrastructure and public domain improvements to attract people to the city centre.

Housing mix and affordability

- Encourage a range of housing types for a variety of markets, including student and seniors housing.

Transport-related Initiatives

- support for integrated public transport in the city centre and promoting a mode shift
- creating a connected pedestrian and cyclist network
- managing the impact of carparking
- Improve the amenity of the streets through activation, giving pedestrians priority. Footpath widening to accommodate activity zones in selected locations will also improve safety simply by providing more space for people.
- Promotion of flexibility with respect to carparking requirements, especially in view of site constraints, development feasibility and the presence of Council owned carparking.

3 Transport Initiatives

The Newcastle City Centre Renewal Transport Management and Accessibility Plan (AECOM 2010) states that "The provision of high levels of relatively inexpensive public carparking contributes to the dominance of the private motor vehicle. Based on research (GTA, 2006), the total daily carparking demand, both surveyed and modelled, peaks at around 7,500 spaces, whilst the overall supply is nearly 10,500 spaces. This enables more than 70% of drivers to park within a five-minute walk of a destination and with a search time of less than five minutes (GTA 2006).

Despite high levels of car use, Newcastle has a well-established and extensive public transport network, including:

- 26 bus routes servicing large areas of Newcastle and Lake Macquarie, with most terminating in the city centre
- Passenger rail stations provide regular access to and from the Hunter Valley and Sydney
- The Newcastle - Stockton ferry services, which run regularly between the two centres during peak periods
- A transport interchange located at Newcastle Station that integrates bus, rail and taxi transport, and includes a park-and-ride facility. This will be relocated to the new Wickham Station."

Subsequent to the release of the NURS, Transport for NSW (TNSW) has released a NSW Long Term Transport Master Plan, there has been the announcement of light rail for Newcastle with public consultation and a preferred route announced and TNSW has released the Hunter Regional Transport Plan (March 2014).

As outlined in the NURS the five strategic directions for transport in the city centre are:

1. Making the most of the public transport network
2. Creating a connected pedestrian and cycle network
3. Improving the efficiency of the road network for all users
4. Changing behaviour for a better city
5. Enhancing Hunter Street and established activity nodes

These strategic initiatives seek to provide a more balanced transport network with a lesser reliance on private car use. Providing greater balance through encouraging the use of more sustainable forms of transport, such as public transport and active transport (walking and cycling) has a number of benefits that include:

- Supporting accessibility into and within the city centre
- Supporting an increased and more concentrated residential and employment population, without a concurrent increase in traffic congestion
- Supporting the creation of attractive, vibrant and high amenity places
- Improving resilience to respond to emerging and potential future issues surrounding resources availability

Key elements of the transport initiatives are:

- Maximising public transport networks. The State Plan (NSW 2021) set a target of increasing the share of commuter trips to the city centre made by public transport during peak hours to 20% by 2016. Key to this is investigating the introduction of strategic bus corridors which would provide frequent bus movements during the peak period with bus priority measures at intersections, peak clearways, behaviour change programs and integrated ticketing.

- Implementation of an improved pedestrian and cyclist network to enhance the attractiveness of active transport.

- Commitment to end-of-trip bicycle facilities

- Car Share NURS recommends that the City of Newcastle investigate car share for the city centre and pursue and agreement with a car share provider e.g. Go Get which includes a target rate for car sharing as a percentage of all trips and measures to achieve this target.

- Capping Carparking NURS recommends that on and off-street car parking be capped at a maximum number of 11,000 spaces within the Newcastle City Centre (AECOM 2012) consistent with GTA's 2006 recommendation. This is based on the recognition that of the estimated 10,500 existing spaces there is a daily parking peak of 7,500 spaces (GTA 2006).

To achieve this car parking cap NURS suggests that consideration should be given to:

- A gradual increase in long-stay parking tariffs
- Expanding the commuter carparking control area in accordance with the recommendations in the Newcastle Parking Strategy
- Expanding the commuter carparking control area to areas adjoining the city centre to discourage commuter carparking (which disadvantages residents)
- Inclusion of a policy statement in the DCP that does not support the provision of new commercial carparks in the city centre
- The use of parking revenues to invest in initiatives that encourage more sustainable forms of transport such as cycleways

Further investigation was also recommended to determine whether there is scope for:

- Reducing the current rate for non-residential development or adopting a maximum rate
- Allowing for some of the parking for non-residential development to be reduced based on availability of carparking in nearby parking stations
- Amending the current maximum rate of visitor carparking spaces for residential development to allow for a lesser number of spaces.

Such measures could encourage the use of public and active transport, and will result in a more efficient utilisation of land, and reduced construction costs associated with basement or podium carparking and loss of yield associated with such parking. Maximum parking controls would be supported by mandatory Workplace Travel Plans for all new major developments to encourage public and active transport use.

3.1 Summary

- 7,500 parking spaces utilised whilst the overall supply is nearly 10,500 spaces (GTA 2008)
- Newcastle has a well-established and extensive public transport network
- Strategic initiatives seek to provide a more balanced transport network with lesser reliance on private car use by encouraging the use of more sustainable forms of transport, such as public transport and active transport (walking and cycling)
- Recommended that carparking be capped to 11,000 spaces (AECOM 2012)
- Further investigation was also recommended to determine whether there is scope in:
    - Reducing the current rate for non-residential development or adopting a maximum rate.
    - Allowing for some of the parking for non-residential development to be reduced based on availability of carparking in nearby parking stations
    - Amending the current maximum rate of visitor carparking spaces for residential development to allow for a lesser number of spaces.
- Investigate Car Share

4 Vision of NeW Space

The centre piece of the Hunter Education Precinct will be a new facility consisting of some 15,219 m^2 of which 10,800m^2 will be functional space and the remaining consisting of basement, loading docks etc. This technology-enabled building will realise the "university-of-the-future" with a library and information common, collaborative learning spaces and zones for professional and community engagement. The student experience will be supported by state-of-the-art technology and 24/7 accessibility.

Throughout the building, multi-purpose, technology enabled active learning (TEAL) spaces ranging from 30-125 seats will transport the learning experience and student engagement. Amenities for executive development and corporate programs, a Business Incubator and community engagement facilities will complement the TEAL spaces. Discrete meeting rooms and postgraduate, research degree and collaborative spaces will be integrated with adaptable academic and administrative workspace designed to foster shared activity. The design will welcome and encourage prospective and current students and will help city-based professionals to easily access outstanding education. (Source: UoN Project Description)

Adjacent to the new building will be a refurbished University House with approximately 1,400m^2 of upgraded space housing a moot courtroom, legal clinic and enhanced learning spaces.

The Effective Full Time Student Load (EFTSL) is expected to total 4,335 by 2019 with 300 staff. Of these a maximum of 2,347 people may be at NeW Space at any one time allowing for optimum utilisation at the finishing and the starting lecture periods. (NeW Space Schematic Design Report Volume 1 – June 2014).

4.1 Locality

The potential relocation of parts of the University of Newcastle campus into the city centre would increase the number of students living in the city centre, which in turn would contribute to demand for retail shops and services, and increase general street activity and passive surveillance. Further, students can create a stable and reliable customer base for existing business, drive growth in the leisure and entertainment sectors, while also providing a labour pool for other businesses. (NURS)

Students locating themselves at NeW Space are expected to have a preference to locate in the suburbs surrounding the city and south along the coastal strip to Merewether. A review of the University of Newcastle's off-campus accommodation guide directs students wishing to live in or near the city and beaches to consider the following: Merewether, Bar Beach, Cooks Hill, Newcastle, Newcastle East, The Junction, The Hill for beach living whilst Maryville, Wickham and Carrington are considered close to the city. Hamilton is also recommended whilst a review of the accommodation database shows significant rental options in Tighes Hill and Mayfield.

An analysis of the 2013 student registrations by postcode (fulltime and part time but not distance) for the Faculty of Law and Business show:

Newcastle LGA	56%
Lake Macquarie City	15%
Lower Hunter	9.5%
Port Stephens	4%
Central Coast	5%
Other Regions	10.5%

A further analysis of the Newcastle LGA cohort indicates that 60% live within a walking or cycling distance of the future NeW Space site. These students live within what could be considered an Active Transport Zone centred around the CBD.

The balance of the Newcastle LGA cohort, 40%, live within the post codes of Callaghan, Jesmond, Shortland and Birmingham Gardens. This area is within a 1 kilometre radius of their current campus. This would indicate a preference for these students to seek accommodation that is close to their existing campus. It can be assumed that over time the equivalent future students will have a similar preference, with the choice of location being within a similar area centred on NeW Space.

An analysis of the Other Regions data would indicate that these students have registered from out of area in either regional NSW or inter-state. As either full time or part time students these students would have temporarily relocated to Newcastle to undertake their studies. It is assumed that these students in the future would choose to locate close to their campus, with convenient accommodation, employment, social life and transport.

It would be expected that based on this data of existing students 66% of future students attending the city campus would live in the suburbs surrounding the city. This recognises the desire of future students to live in Newcastle and surrounds because they are studying in the city. The desirability of Newcastle to be a lifestyle study/living/work choice is a large driver behind the Revitalising Newcastle strategy.

In considering the transport needs for both the students and staff it is recognised that the campus will not be fully utilised. Despite this, this strategy has been based upon the potential for peak use with the maximum number of 2,347 people on site used for all transport calculations and subsequent assessments. This provides for a worst case scenario and absolute peak usage of NeW Space.

4.2 Travel Options for the City Student

4.2.1 Current Trends in non-car travel

- GenY (20-35 year olds) are giving up owning cars and instead looking at alternatives. Mileage by Gen Y is down 23%
- Later getting their licences than previous generations
- 13% of public transport users are 18-25yo
- Many car share not car own. They are open to car share programs such as “Go Get”
- The car is no longer a status symbol
- As embracers of new technology the choice between texting and not driving or driving and not texting is seeing public transport and walking being embraced as an appealing choice (Tolley 2014)

These trends are reinforced by the Bureau of Transport Statistics data. Although the percentage for 2008-09 for 15-19 year olds can be explained in part by changes to the provisional license system in recent years, the decrease in license holding for 20-24 year olds reinforces other evidence.

Sydney’s Walking Future (TNSW 2013) identifies that tertiary students have a higher rate of walking than other groups. “As we increase walking trips to school, work or university we reduce the pressure on our road network and public transport system.”

The peak car driving boom is over in large urban centres. For example, between 2006-2011, despite 9% more workers in the Sydney CBD car usage dropped by 9%. The opportunity is to remove the barriers for non-driving options.

Table 1: Percentage of persons with full Driver's Licence by age and year, Sydney GMA

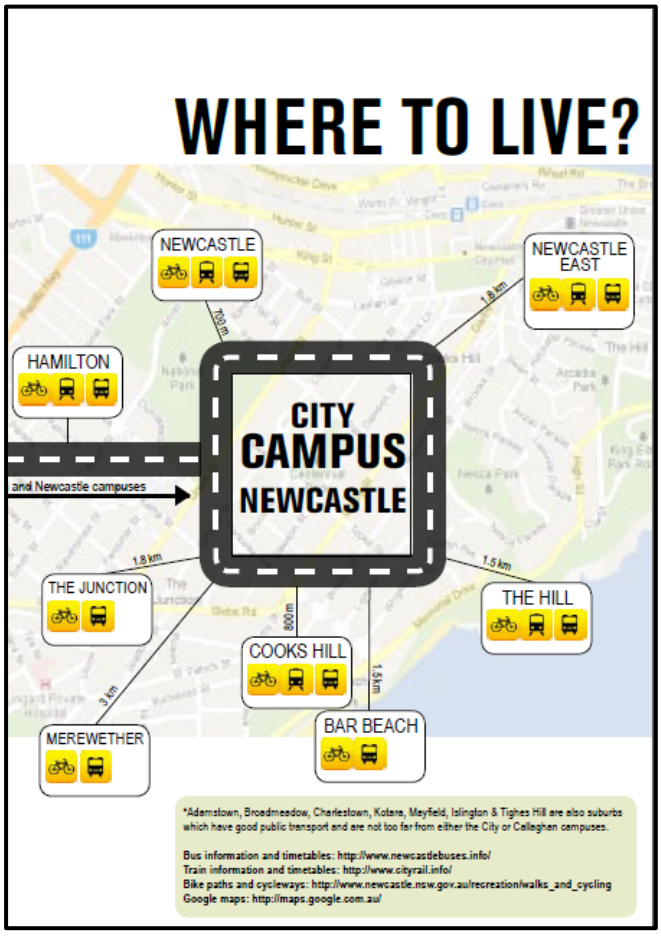
Age Group	Year 1991/92	2001/02	2008/09
15-19	23%	23%	3%
20-24	79%	80%	51%
25-34	86%	88%	83%
35-44	89%	92%	91%
45-54	86%	91%	92%
55-64	74%	85%	89%
65+	55%	63%	68%
Full	74%	79%	76%
Provisional	2%	1%	5%
Full + Provisional	76%	80%	81%

Source: Bureau of Transport Statistics, Household Travel Survey, Sydney Greater Metropolitan Area, 15+ yrs

Figure 4-1 Percentage of full licensed drivers by age and year Error! Bookmark not defined.

4.2.2 How will the NeW Space Students Travel?

A review of the University of Newcastle's student accommodation guide illustrates various transport options for students choosing to live in the suburbs surrounding the existing City Campus with cycling and bus transport being the most prevalent.



4.2.2.1 Walking

One of the guiding principle of NURS is to encourage pedestrian activity throughout the city centre.

Applying the walking tool Walk Score (walkscore.com) to the suburbs surrounding Newcastle provides the walkability rating for these locations. Walk Score is a number between 0 and 100 that measures the walkability of an address.

90-100	Daily errands do not require a car
70-89	Most errands can be accomplished on foot
50-69	Some errands can be accomplished on foot
25-49	Most errands require a car
0-24	Almost all errands require a car

This data indicates that all of these suburbs are very walkable with most errands being able to be accomplished on foot. Similarly the Walk Score site provides us with a travel time map based on 30 minute journey time from the NeW Space location for both walking and cycling which covers the majority of suburbs promoting accommodation opportunities for students.

Newcastle Suburbs

Rank	Name	Walk Score	Transit Score	Bike Score	Population
1	Newcastle	94	-	-	2,362
2	The Hill	89	-	-	1,713
3	Cooks Hill	89	-	-	3,625
4	Hamilton	86	-	-	4,049
5	Newcastle West	85	-	-	590
6	Newcastle East	84	-	-	995
7	Wickham	83	-	-	944
8	The Junction	81	-	-	1,491
9	Bar Beach	80	-	-	1,129
10	Hamilton East	79	-	-	888
11	Islington	75	-	-	1,806
12	Jesmond	74	-	-	2,609
13	Broadmeadow	70	-	-	1,556

Figure 4-2 Walk Score for Newcastle Suburbs (source: www.walkscore.com)

Sydney's Walking Future states that there are around seven million journeys that are shorter than two kilometres made daily (Monday to Friday). More than three million of these short trips are walk only trips (43%) and a further three million are travelled by car. Many short car trips could be replaced with walking trips. The number of trips less than two kilometres is projected to increase by more than 20 per cent in the next 20 years. Figure 4-3 below shows a two kilometre perimeter for walking applied to the NeW Space location.

Figure 4-3 30 minute walk zone centred around the NeW Space location.

Of the student cohort who will be living within the Active Transport Zone it is expected that 82% or approximately 2350 students will live within walking distance of the NeW Space Campus. Of these up to 1100 could walk to the campus during periods of peak utlisation.

Photo 1 Laneways can provide convenient and attractive connectivity

4.2.2.2 Cycling

Cycling provides a very viable alternative for students living within a five to eight kilometre radius of the NeW Space development.

According to Sydney's Cycling Future (TNSW 2013), since 2006, the number of people riding to work has increased by 50 per cent in metropolitan Sydney. Most of this increase in bike riding is occurring close to town

centres, where people are choosing to live closer to where they work, shop and socialise. Cycling is ideal for short distances of about five kilometres or 20 minutes. Riding a bike can be quicker than a car for trips up to five kilometres, and faster than public transport for trips up to eight kilometres.

The topography of Newcastle provides a comfortable ride for novice cyclists within the basin shown in Figure 4-4. The ridgeline to the south and south-west of the city forming Merewether Heights, Adamstown Heights, Blackbutt Reserve and Lookout Road creates a physical barrier for less experienced cyclists. This area within 8 kilometres of the city however also provides an extensive supply of student accommodation and as such is ideal for commuting to NeW Space.

Of the students living in the ATZ 10% are expected to cycle to NeW Space.

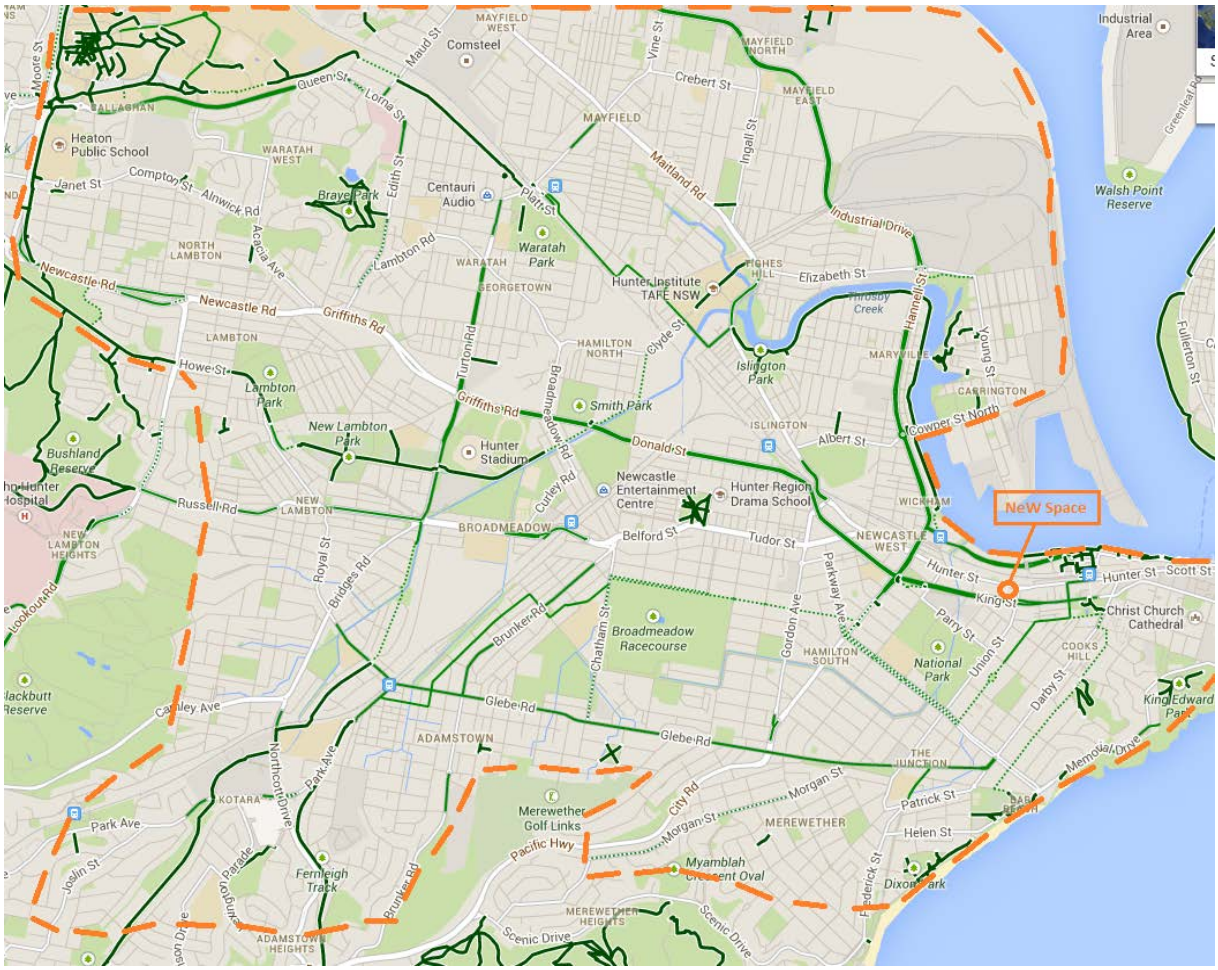


Figure 4-4 Cycling catchment based on topography of Newcastle and its environs

Based on the viability of walking and cycling as effective transit modes and given the significance placed on this by the Newcastle Urban Renewal Strategy, it is assumed that students living within a walking or cycling distance from NeW Space will utilise these modes of travel to the City Campus. The area is referred to as the Active Transport Zone (ATZ).

The use of public transport (either bus or train) with interchange to light rail where appropriate in the future will enable effective travel to the City Centre for those students not living within the ATZ. The improvements outlined in NURS further supports these as viable travel options for the vast majority with future opportunities to participate in park and ride at strategic bus interchanges (Glendale, Charlestown, Broadmeadow) or to light rail at Wickham.

NSW 2021 targets an increase in commuter trips made by public transport to and from the Newcastle CBD to reach 20% by 2016. This compares with the figure of 14% in 2006 (AECOM 2008). Similarly a walking target has

been set of 25% with a cycling target set to more than double the existing mode share. The NeW Space cohort has an opportunity to be significant drivers in this mode shift.

A detailed analysis of the future cohort provides for 66% living in the ATZ with 34% travelling from out of this zone from:

Lake Macquarie City	15%
Lower Hunter	9%
Port Stephens	4%
Central Coast	5%

Of these some (2%) may cycle however the majority will either utlise public transport or park and ride facilities.

This is supported by the following policies :

- The key principles of the Urban Renewal SEPP to provide greater access to public transport
- NSW 2021 goal of growing patronage on public transport by making it an attractive choice
- City Centre Vision and Civic Improvement Plan key vision direction of strengthening public transport
- Hunter Street Revitalisation Master Plan key theme of integrated transport

4.3 Mode Share Targets

Based on the policy context of the NURS and the TNSW Long Term Transport Masterplan and considering the existing student accommodation data the following mode split targets have been determined for the future student cohort travelling to the NeW Space Campus.

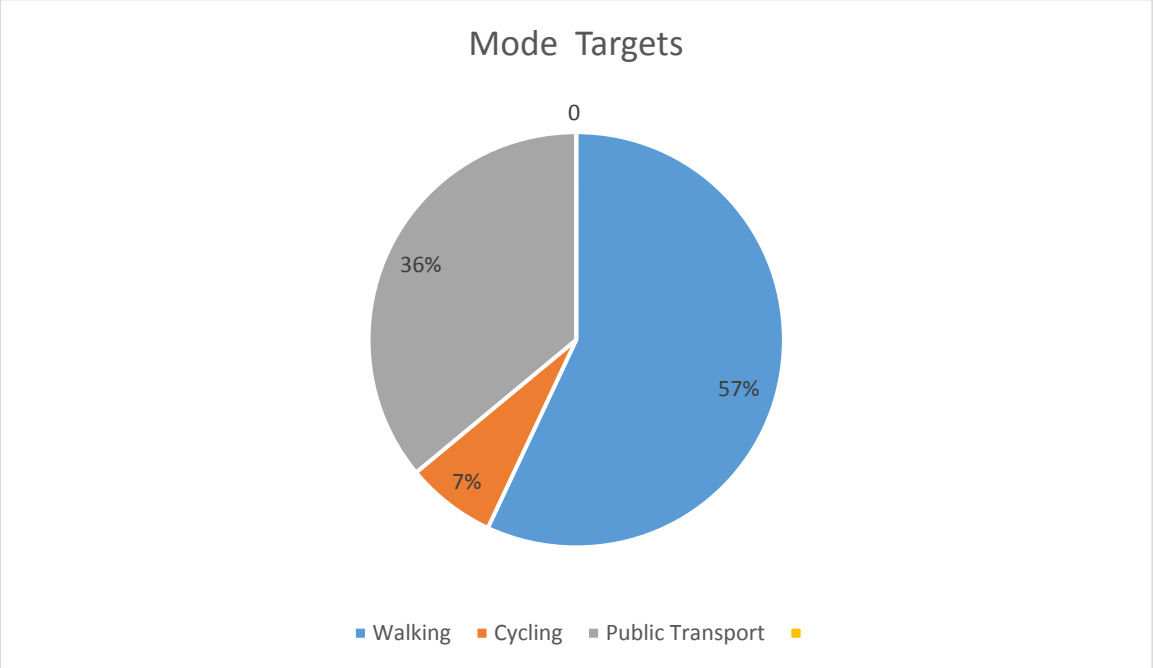


Figure 4-5 Mode Targets for all NeW Space Students

4.4 Staff at NeW Space

Current staffing for the NeW Space is proposed to be 300. An analysis of the staff data by postcode provides the following:

Newcastle LGA	42%
Lake Macquarie City	18%
Lower Hunter	5%
Port Stephens	2%
Central Coast	8%
Other Regions	25%

Again, assuming that staff with a residential address from other regions would move to Newcastle to meet their work commitment and would choose to locate within the Newcastle City area, the percentage of staff who would live within the ATZ would be 59% or 125 people.

Of these approximately 100 would be within a walking distance of 2 kilometres whilst 25 would be able to cycle or use public transport to the NeW Space.

The balance would be seeking to travel to the campus by other means and would be the candidates most requiring the promotion of public transport as a travel alternative. Although some staff may relocate their homes to suit the change in campus location many are not as fluid as students and so are committed to their existing locations.

Travel Demand Management Strategies outlined in Section 6 would be promoted to all staff to support active or public transport choices.

4.5 Inter-campus travel

It is recognised that a number of students, as well as staff will need to travel between NeW Space and the Callaghan Campus. The requirement that Law degrees be combined with Arts, Business, Commerce, Communication, Science or Social Science necessitates students to commute to Callaghan for part of their learning.

This has been given careful consideration in the planning of NeW Space and timetabling will be such to ensure adequate time between the completion of courses at one campus and the commencement at the other. The turnaround time will be sufficient to ensure students are able to commute by either public transport, dedicated shuttle or bicycle.

The improvement in public transport opportunities between the City and Callaghan will enable the majority of these trips to be by light rail and train or by bus. The utilisation of public transport for these trips is an important part of the revitalisation model. Students arriving or departing by train at Warabrook Station can utilise the campus shuttle to ensure an efficient transfer to the main student hub at Shortland.

The idea of a dedicated shuttle between campuses should be investigated to augment existing public transport services however it is considered that consultation with Transport for NSW can enable the provision of services to suit the majority of student/staff trips.

Cycling between the two campuses is also a viable option with various cycling routes available depending upon the confidence of riders. The provision of end of trip facilities, including bike hubs at both NeW Space and Callaghan, encourage cycling as a suitable form of inter-campus transport.

There are also opportunities to tele-conference lectures and tutorials from Callaghan to NeW Space, maximising the technology and smart learning facilities of the new campus as well as reducing the need for students to travel.

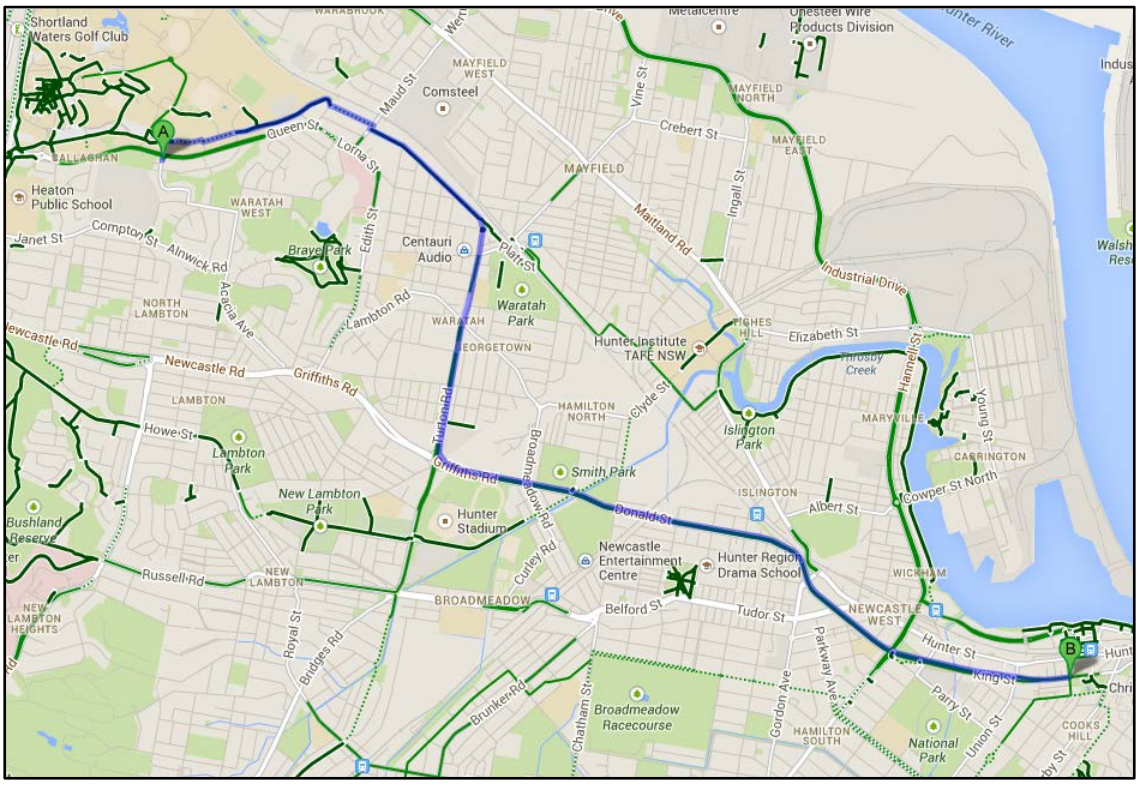


Figure 4-6 City to Callaghan Option A 8.9kms 31minutes

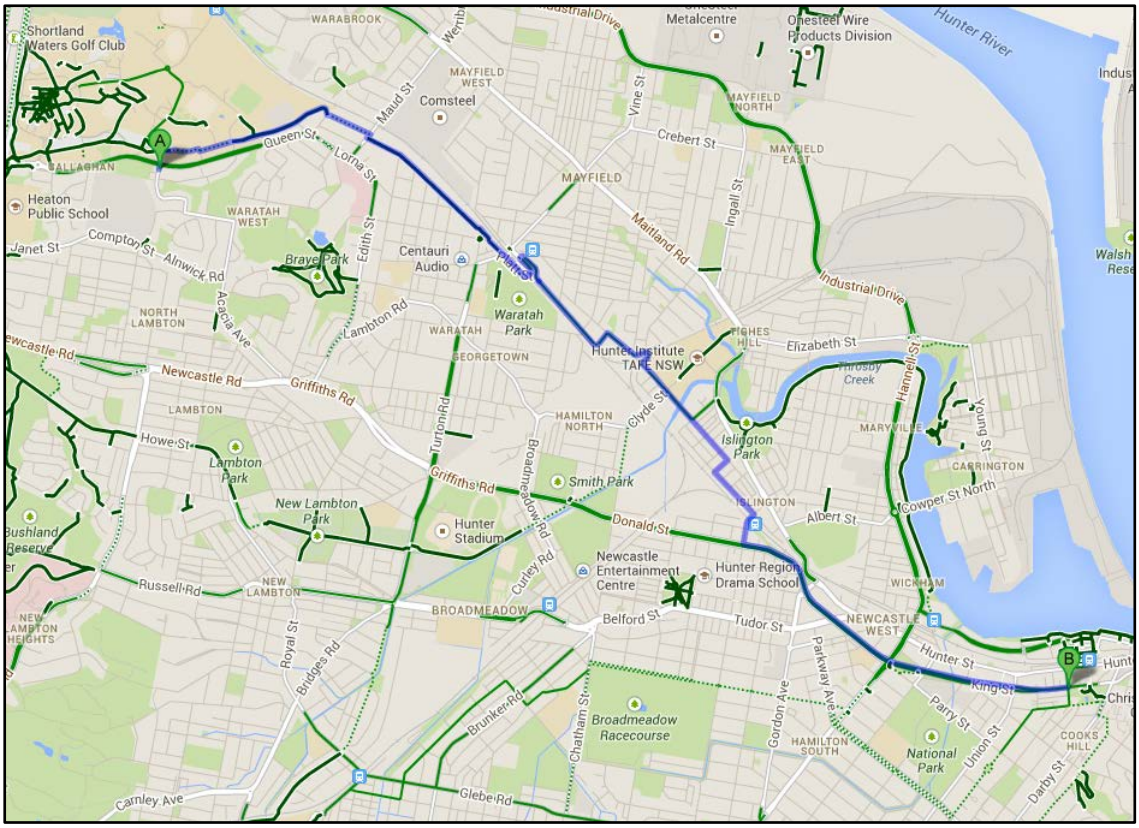


Figure 4-7 City to Callaghan Option B 8.8kms 30minutes

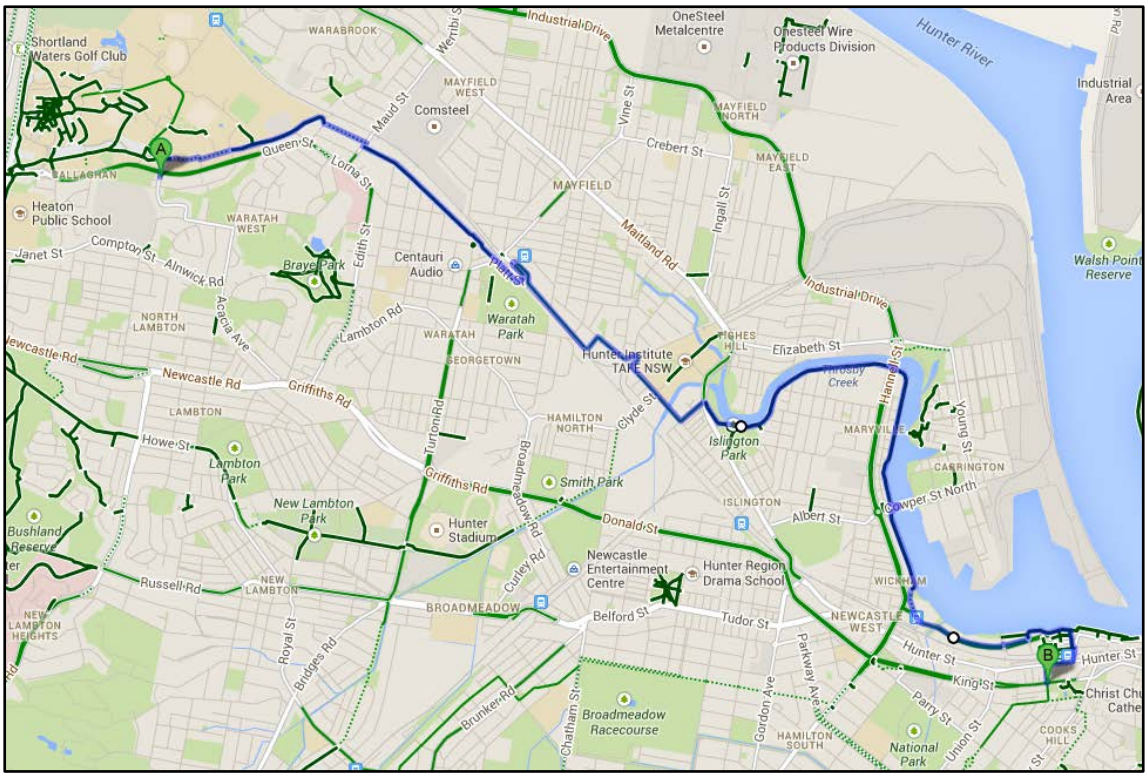


Figure 4-8 City to Callaghan Option C 10.6kms 37minutes

4.6 Future Parking in the City

The NURS outlines the need to restrict access by private vehicle to the city centre and identifies that as there are over 2,500 underutilised parking spaces in the peak then there is limited requirement for the supply of additional parking. The area defined as the city centre within NURS is provided below:

Figure 4-9 – City Centre Limits defined by NURS report

Parking is recommended to be capped at 11,000 spaces, 500 more than when assessments were undertaken.

It recognises that there is a ready supply of parking available in public parking stations and on-street parking (timed and ticketed) within the CBD.

As such, it proposed that there is no dedicated parking provided within the NeW Space development, in accordance with NURS and in recognition of the availability of public parking within the CBD. There will be five parking spaces provided within the building footprint that is provided to satisfy the servicing requirements of the site only and 20 spaces provided within other University of Newcastle properties in the city. This provision equates to a parking ratio of 1:432m^2. The service spaces will be located in close proximity to the loading zone which will cater for large vehicles needing to access the site.

4.7 Summary

- Effective Full Time Student Load 4,335 by 2019 with 300 staff
- Maximum site capacity of 2,347 occupants based on maximum utilisation of the campus. This would only be achieved in periods of absolute peak attendance.
- Capacity for up to 6,000 additional dwellings by 2036 with the NeW Space development driving an increase in the number of students living in the city centre.
- Mileage by 20-35yo down by 23% on older generations with tertiary students having a higher walking rate than other groups
- The number of trips less than two kilometres is projected to increase by more than 20 per cent in the next 20 years in Greater Sydney
- 82% of students living in the ActiveTransport Zone (approximately 2,350 students) will live within 2 kilometres of the NeW Space development and be able to walk to the campus
- 10% of students living in the Active Transport Zone (287 students) are expected to cycle to NeW Space.
- 100 staff are expected to live within 2 kilometres of NeW Space and so be able to walk.
- Alternate public transport options available for staff and students not living within a walking or cycling distance from NeW Space
- Travel Demand Management Strategy necessary to reduce the dominance of private car travel, particularly with staff who are less fluid in their housing options.
- Inter-campus travel available via public transport or cycling
- Public Park and Ride options to coincide with strategic express bus routes from Charlestown, Glendale and Broadmeadow

5 NeW Space and the new City

5.1 Quality walking routes

When considering the distance that people will travel by walking it is not a question of quantity but rather quality. Sydney's Walking Future Connecting People and Places (TNSW 2013) outlines that people will walk more often in places where there are:

- Direct, connected and safe routes
- Quality facilities along the way and at the end of their journey, such as seating, change rooms and showers, and protection from the weather
- Pleasant environments and ambience.

Quality and consistency of wayfinding and signage for pedestrians is also frequently nominated as a barrier to affective walking as is adequate lighting and CCTV surveillance. Ultimately areas that have high pedestrian patronage with good urban form including activity spaces and social hubs (e.g. cafes and coffee shops) feel safer to pedestrians.

The Newcastle City Centre Connectivity and Accessibility Study (AECOM 2012) nominates a series of connection points to ensure an effective pedestrian and cycling network for the City of Newcastle (Figure 5-1).

For the NeW Space Campus there is the particular need to ensure that quality pedestrian connectivity is maximised between:

- Accommodation zones and NeW Space
- NeW Space and social hubs and activity nodes
- NeW Space and public transport facilities
- NeW Space and city based employment precinct

Photo 2 and 3 Suburbs within a walking distance of the city often have quality pedestrian access

Figure 5-1 Pedestrian and Cycling Network

5.2 Cycling routes and end of trip facilities

Where Journeys to Work to Newcastle are within a 5km catchment of the city it is recognised that they could potentially be made on foot or with a bicycle as opposed to being made by car. The implementation of clearly marked safe and convenient cycle and pedestrian routes will provide the infrastructure for shorter journeys in the city to be made via active transport modes. However, the uptake of these modes needs to be supported by a behaviour change program that raises the awareness of the benefits of this travel choice, and deters private vehicle use. (Newcastle City Centre Connectivity and Accessibility Study AECOM 2012)

The implementation of such routes will support the mode shift of students in the ATZ to walking and cycling.

A review of the Newcastle City Council Cycling Strategy and Action Plan (Appendix 2) provides a number of regional routes that connect with local routes to provide access to the city centre.

Table 5-1 Appendix 2 of the NCC Cycling Strategy and Action Plan details proposed cycling routes

Proposed regional, local and scenic/recreational routes are as follows:

	Regional Routes
R1	Adamstown Heights to Fern Bay
R2	Newcastle to Maitland
R3	Kotara – John Hunter Hospital – Sandgate
R4	Kotara to Tighes Hill TAFE
R5	Newcastle City Centre to Glendale
R6	Newcastle City Centre – University – Birmingham Gardens
R7	Fernleigh Tunnel to Newcastle City Centre
R8	Birmingham Gardens to Tarro via Hexham Swamp
R9	Minmi to Hexham
R10	Wallsend to Minmi
R11	Minmi to Beresfield
R12	Newcastle Link Rd to City Centre
R13	R2 (Industrial Dr at Tourle St) to Port Stephens

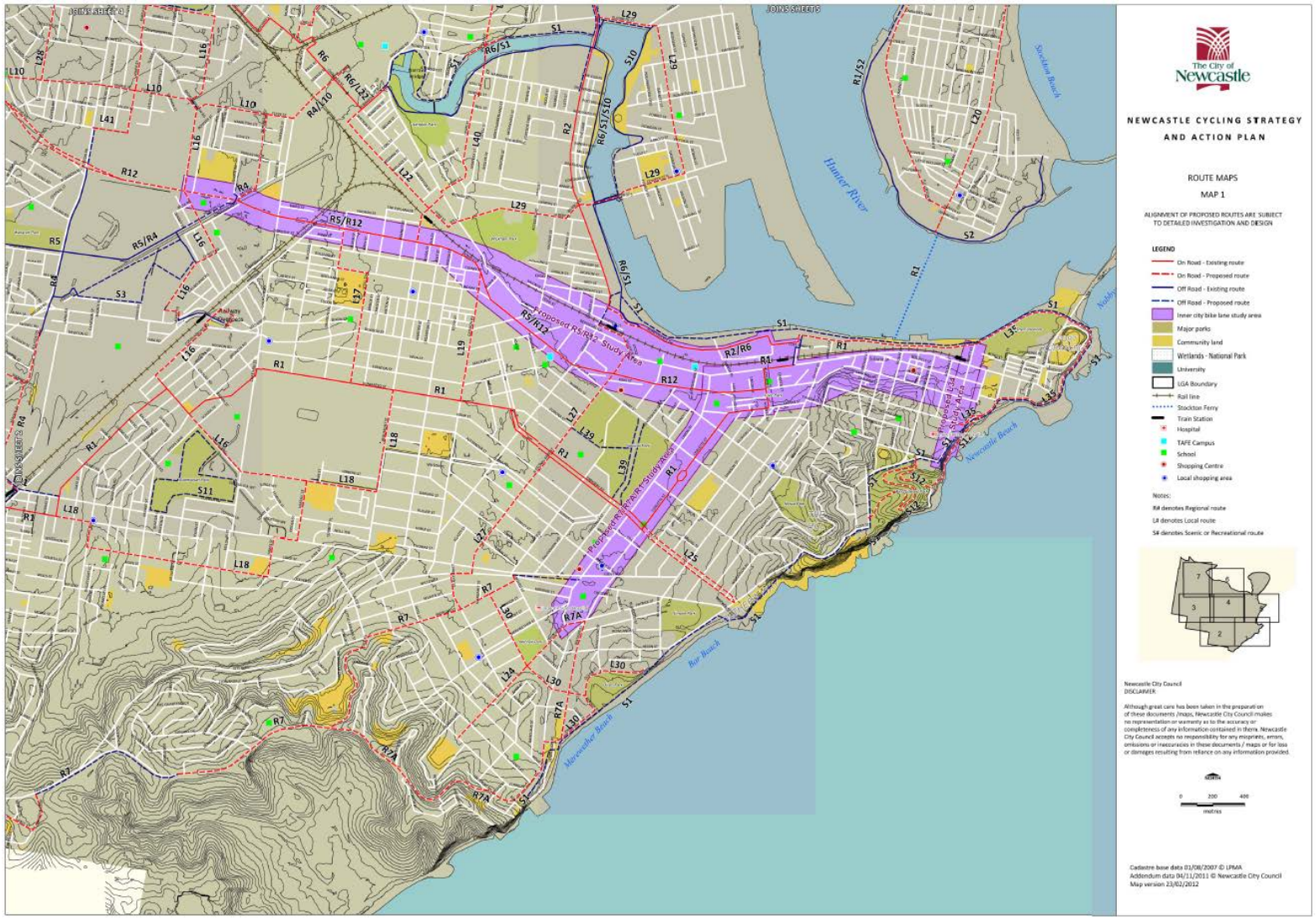


Figure 5-2 NCC Cycling Strategy and Action Plan (Figure 1) showing the extent of local and regional routes

End of trip facilities are planned for the NeW Space and are currently being upgraded at the Callaghan Campus which will support inter-campus travel. The NeW Space Bike Hub has been proposed to be located in University House and is expected to accommodate 212 bikes and 74 lockers as well as six showers and two toilets. This allows for 8% of travel to NeW Space by bicycle during the peak periods. External bike parking is also proposed catering for approximately 36 bike spaces.

The new Callaghan Campus Bike Hubs are DA approved and are currently being delivered by Design and Construct and will be available by the time NeW space is complete. There are two hubs, one located on the East Campus and one on the West Campus. They include secure undercover bike storage, as well as electric battery recharging amenity, lockers, showers and toilets. The overall capacity is for an additional 96 bikes in total across the two bike hubs.

5.3 Strategic Bus Corridors

The Transport Management and Accessibility Plan (AECOM 2010) (TMAP) suggests introducing new express corridors to the city centre from Charlestown and Glendale, to improve journey times from the suburbs as well as supporting park and ride bus services.

Similarly the implementation of bus priority measures and modifications to accommodate bus movements at intersections in the city centre will complement the suggested bus lanes, and allow the more efficient movement of buses.

The implementation of peak direction clearways between 7- 10am along the length of Hunter Street and King Street to allow for a bus lane will see more efficient bus operations into and out of the city centre. Bus priority measures are also recommended in the TMAP along Newcastle Road to Jesmond, which would allow buses to operate more efficiently on a main access road to the city centre. Public consultation will be undertaken where implementation of clearways is considered and the TMAP recommends this be implemented in the short to medium term.

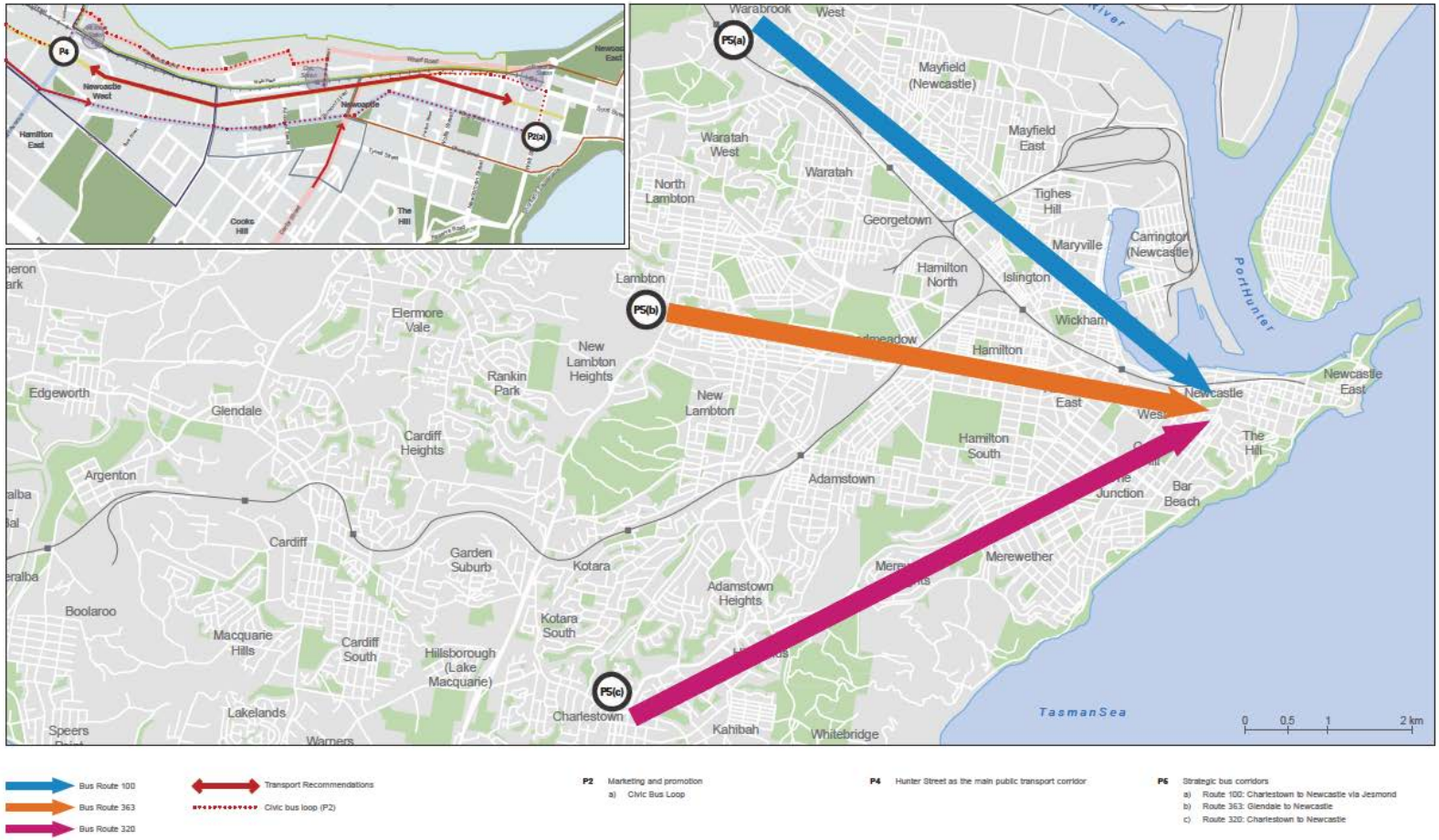


Figure 5-3 Strategic Transport Corridors

5.4 Effective transport interchanges and Park and Ride opportunities

AECOM 2012 recommends that "consistent with current City of Newcastle policy, park and ride should be supported in Newcastle where aligned with the provision of frequent or express bus services, along with complementary central area long term parking restrictions and improved public transport efficiency through bus priority measures and improved services"

It is suggested that they could be provided at the following three locations:

a. B2a - Serving the north-west in the vicinity of Warabrook;
b. B2b – Serving the west in the vicinity of Lambton, and;
c. B2c – Serving the south/south-west in the vicinity of Northcott Drive/Pacific Highway.

The report goes on to say that "prior to being established, locations must be investigated and fully costed. The establishment of new park and ride facilities should be undertaken considering capacity requirements and the likely impacts on local traffic. Park and ride could be initially trialled at facilities such as Hunter Stadium or Broadmeadow Showground to better understand impacts.

A number of locations further away from the city centre are also potentially suitable for park and ride facilities.

These locations include within the Lake Macquarie Council area, Thornton and along the Maitland rail line."

5.5 Travel Demand Management Strategy

The shift away from the private car dominance currently experienced in Newcastle necessitates a change in behaviour that could be supported by:

- Education and awareness programs;
- Workplace travel plans, in particular for the City of Newcastle and government agencies;
- Residential travel plans;
- School/university travel plans, and;
- The introduction of alternative travel choices, such as car sharing schemes.

The Hunter Street Revitalisation Framework also discusses the need for a Travel Demand Management strategy and changes to parking controls to encourage the use of alternative modes of transport to private car.

5.6 Car Sharing Opportunities

AECOM 2012 recommends that consideration be given to the implementation of a formalised car pooling program, with incentives to encourage higher vehicle occupancy rates among commuters. This would involve the City of Newcastle offering incentives such as reduced parking costs to drivers who travel to the city with, for example, 2 or more passengers.

Consideration can also be given to the City of Newcastle actively working with a car share provider to provide space for car share vehicles either through a capital works program or as a condition of development approval.

Car sharing opportunities however can also be promoted through car membership programs such as Go Get. Such programs are based on a membership scenario where users pay and have access to a network of vehicles parked locally which are then available for their personal casual use. They are promoted to members on the basis that it is cheaper to have access to the program than to own a vehicle. They provide city residents with access to a car on those odd times when it is necessary, removing the need for car ownership and associated parking demands.

5.7 Inter-Campus Transfers

It is recognised that there is a need for students and staff to transfer between campuses due to split course loads where certain classes are not in the law or business faculties or similarly where students normally based at Callaghan may need to travel to NeW Space for some of their lectures. The application of technology through tele-conferencing of lectures and tutorials has the ability to reduce this travel demand.

It is considered that the majority of these trips should be able to be undertaken using the improved public transport options that will develop in conjunction with the revitalisation of Newcastle.

Timetabling of classes will take into account student and staffs' needs to undertake these trips with adequate time provided to ensure there is no perceived need for a car.

The University currently provides an on campus shuttle at Callaghan which provides connections with trains arriving and leaving Warabrook Station in the morning and afternoon. It is expected that this shuttle will be able to improve the efficiency of train transfers from the City to Callaghan by meeting students and transferring them to the main student hub at Shortland.

Ongoing discussions with Transport for NSW are recommended to understand the options for suitable public transport to facilitate the movement of staff and students between campuses.

6 Implementation Strategy

6.1 Promotion of quality pedestrian routes

It is recommended that the University of Newcastle (UoN) consult with Newcastle City Council to promote routes between NeW Space and areas identified as being student accommodation zones be included in planning mechanisms for qualify pedestrian treatments. Current planning focuses on connectivity between the city and the foreshore and between the various activity zones however quality pedestrian routes are also desirable between NeW Space and future student accommodation or affordable housing developments.

6.2 Transport Management Strategy

The mode split being adopted for NeW Space is a result of the application of the Newcastle Urban Release Strategy and promotes the key transport elements of walking, cycling and public transport. To ensure these are adopted by staff and students it is recommended that a Travel Demand Management Strategy be developed that actively encourages behaviour change and a shift away from travel by private vehicle. The implementation and monitoring of this strategy should be overseen by a NeW Space Transport Coordinator. This person may also liaise with a Transport Management Association should one be developed as part of the Newcastle Revitalisation.

Consistent with the TMAP recommendations this strategy would include:

6.2.1 Education and awareness programs

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

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

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

6.2.2 Workplace travel plan

The implementation of the HMRI Workplace Travel Plan[2] (WTP) has effectively influenced mode shift for staff moving to the new research facility at Rankin Park. The WTP involved the surveying of staff to understand their existing travel patterns prior to relocation and their future anticipated travel patterns to analyse programs could be best implemented to support a shift to public transport, active transport, park and ride shuttle and car pooling.

The development and implementation of a WTP for staff both traveling to NeW Space and commuting between campuses will be essential in ensuring the shift away from private vehicle dependence.

6.2.3 University travel plan

The implementation of a NeW Space Travel plan would include Travel Access Guides (TAGs) for students that not only provide information about access to NeW Space and inter-campus travel to Callaghan but could also include information to support students with their travel needs to and from Newcastle and within the Newcastle environs. The inclusion of suitable transport transfers for inter-campus on timetables for example would promote ease of travel to new students.

[2] HMRI Workplace Travel Plan Better Transport Futures March 2012

The travel plan could include information about adopting technology as a commuter, information from Newcastle Buses, trip planning, walking and cycling apps, bike routes and bike user groups (BUGs) as well as car sharing schemes, online shopping and local grocery delivery options.

6.3 Quality End of Trip Facilities for walking and cycling

Extensive consideration has been given to including quality end of trip facilities for staff and students within NeW Space as well as casual bike storage to compliment this where appropriate.

It is recommended that end of trip facilities be monitored to ensure appropriate take up of the space by cyclists and to ensure that there is adequate facilities to suit the peak demands of NeW Space. This would be undertaken by the NeW Space Transport Coordinator.

6.4 Car Share Programs

It has been recommended that the City of Newcastle investigate and support commercial car share programs. These programs are well supported by Gen Y and the implementation of such a program could be supported in principle by UoN. The inclusion of suitable car share parking at the Callaghan campus could be an example of this support.

6.5 Support Park and Ride opportunities

The suggestion that TNSW investigate and implement park and ride locations in conjunction with strategic bus corridors would also benefit staff and students travelling from outside the ATZ to NeW Space.

There is also the possibility that staff or students undertaking part of their study/work load at Callaghan may choose to park at Callaghan and use public transport to transfer to and from NeW Space.

7 Benchmarking Studies

Dr Chau Chak Wing Building – UTS Sydney

Project Description

This 11 story high building will house the UTS Business School and the related teaching and research faculty. The proposed gross floor area of the building is 15,488 m2. The building will accommodate 454 academic/ support staff and research students and 7905 undergraduate and post graduate students with a maximum of approximately 1260 students at any one time.

Public Transport Context

Located at Ultimo, UTS is well located to maximise the use of Sydney's public transport network and is connected along associated pedestrian paths to/ from the campus. Sydney's Central Railway Station and bus interchanges are within 5 minutes walking distance of the university.

Parking Supply

The new building provides 28 parking spaces at basement level plus service vehicle space for 3 courier-sized vans and either 2 small rigid or 1 medium rigid vehicle.

Student Accommodation within the vicinity

Student accommodation is available throughout the surrounding suburbs of Ultimo, Haymarket, Redfern in addition to on campus accommodation including the newly built Yura Mudang high rise apartment providing 720 beds.

Active Transport Measures

UTS provides comprehensive active transport information on its website encouraging people visiting or studying at the campus to utilise public transport.

Interactive maps and links provide information on bicycle parking and the location of end of trip facilities.

High quality end of trip facilities and secure bicycle storage is available.

Printable Travel Access Guides are available online including comprehensive bus route information.

Shuttle bus is available between Ultimo and Kuring-gai campuses.

The frequency, reliability and capacity of rail services and the close proximity of the campus to Central station means that the highest proportion of the existing student travel by train.

Parking Context

Limited metered onstreet parking is available in the vicinity of some of the UTS buildings.

Public carparking stations are available in Ultimo, Haymarket and Darling Harbour.

Other

Jeffrey Smart Building – University of South Australia

Project Description

7 stories high this building will cater for the learning needs of 15,000 students meeting their studying needs through the supply of education facilities in a creative and engaging environment. The new building is situated on the southern side of Hindley Street on the City West campus in Adelaide.

Public Transport Context

Located on the western fringe of the Adelaide CBD the campus is within walking distance of Adelaide Railway Station. City West is also easily accessible by bus, with many routes stopping on North Terrace and Currie Street.

Parking Supply

The University of South Australia City West campus provides very limited parking on site. The new building is consistent with this providing no additional parking.

Student Accommodation within the vicinity

Student accommodation is available in privately owned student apartments, hostels and residential colleges throughout Adelaide.

Active Transport Measures

The UniSA web site provides positive active transport information encouraging walking and cycling as viable transport options to the campus and encourages public transport where this is not practical.

Secure bike storage and showers are available with the location of all bike racks and end of trip facilities available on interactive web links.

Additional links are provided to encourage cyclists to connect with other cycling resources including maps, cycling clubs and bike hire.

Parking Context

No campus parking is available at City West. On-street parking, both metered and free is available in the city as well as off-road commercial car parking.

Other

The new Jeffrey Smart Building is being designed as a 5 Green Star development.

The "Spot" Building –University of Melbourne

Project Description

Located on the south-western gateway to the University of Melbourne this 12 storey combined academic and teaching facility is to house the Faculty of Economics and Commerce.

The building has 20,000 square metres of usable floor area and includes a 400+ seat theatre. (25,850m^2 in total).

Public Transport Context

Forming part of the University of Melbourne Parkville Campus The Spot Building is well located to take advantage of public transport. Buses and trams service the precinct directly whilst Melbourne Central Station is within walking distance of the campus.

Parking Supply

The Spot Building provides no parking.

Student Accommodation within the vicinity

The campus is centrally located with a variety of accommodation options available within Parkville, Carlton, North Melbourne and the top part of the CBD within easy walking distance. Outside these areas the university is walkable or a short tram ride. A number of on-campus residential colleges are also within walking distance.

Active Transport Measures

The building provides a bicycle hub located in secure and weather-protected area, 42 bicycle parking spaces are available with end-of-ride facilities such as changing rooms, showers, and lockers.

Location of the 1800 bike parks, hubs and bike repair stands are available online.

TAGs to promote public transport readily available and public transport is promoted over car usage.

Parking Context

Very limited parking is available for short term only throughout the Parkville Campus.

Public carparking station is available at University Square.

Other

5 Star Green Star Education Building

Medical Science Precinct- University of Tasmania

Project Description

Located in the Hobart CBD the new Medical Science precinct will have teaching facilities for more than 1,100 undergraduate students and office and laboratory facilities for 450 staff and postgraduate students. These two new buildings (MS1 and MS2) accommodate medical and clinical research facilities for the Menzies Research Institute, UTAS School of Medicine and the Royal Hobart Hospital incorporating flexible teaching spaces, PC2 and wet teaching laboratories. The precinct takes up over 20,000m^2.

Public Transport Context

Forming part of the University of Tasmania's Hobart Campus this precinct is located within the heart of Hobart, well located to take advantage of public transport. Buses (Metro) service the precinct directly with bus stops within close proximity to the complex.

Parking Supply

There are only 26 parking spaces with 11 for clinical patients, 10 share car spaces, 3 accessible spaces and 2 other. Priority parking for small cars.

The new space replaced a previous carparking site.

Student Accommodation within the vicinity

The University's Sandy Bay campus provides on-campus accommodation whilst various off-campus options are also available.

A new affordable housing project supported by the UTAS is currently being planned for the Hobart CBD.

Active Transport Measures

200 secure bike parking spaces with a shower and storage for staff and students.

Public transport is promoted by the University.

Parking policy supports active transport modes.

Parking Context

Public parking stations controlled by Hobart City Council.

Staff parking policy for this precinct.

Other

5 Star Green Star Education Building

The Swanston Academic Building –RMIT

Project Description

The Swanston Academic Building is located at 427 – 433 Swanston Street in Melbourne and has been built around the historic Oxford Scholar Hotel. Forming part of the redevelopment of the Melbourne campus of RMIT this 12 storey building is the home for the College of Business and provides a base for some 6, 600 students and staff. In an area of 34,350m^2 it houses 12 lecture theatres, 64 teaching spaces and 10 specialist learning venues to cater to the RMIT community.

Public Transport Context

Located as it is in the block bounded by Swanston Street, Franklin Street, Stewart Street and A'Beckett Street this building is well located to take advantage of public transport. Trams service the precinct directly along both Swanston Street and La Trobe Street whilst Melbourne Central Station is at the southern end of the campus.

Parking Supply

The Swanston Academic Building provides no parking.

Student Accommodation within the vicinity

The campus is centrally located with a variety of accommodation options available within Parkville, Carlton, North Melbourne and the top part of the CBD within easy walking distance. Outside these areas the university is walkable or a short tram ride. A number of on-campus residential colleges are also within walking distance.

Active Transport Measures

Secure bike parking is available for cyclists within the new building and includes showers, changing rooms and lockers.

Bike riding is promoted on the RMIT web site (RMIT Bicycle Information Hub) which includes suitable routes, riding promotion days and repair workshops.

TAGs to promote public transport readily available and public transport is actively promoted.

Parking Context

Metered street parking is available around the City campus.

Commercial car parks are available within a short walk to the campus.

Other

5 Star Green Star Education Building

Mirvac School of Sustainable Development – Bond University, Gold Coast

Project Description
Located on the Bond University Campus this facility houses the School of Sustainable Development.

Public Transport Context
Bus services operate from the campus providing access to shopping, residential and tourist areas on the Gold Coast. Robina Railway Station provides access to train services to Brisbane.

Parking Supply
Only one space is provided, suitable for a small, hybrid vehicle only.

Student Accommodation within the vicinity
The University provides accommodation on campus as well as promoting off campus facilities.

Active Transport Measures
Secure, undercover storage is provided for 10 student bicycles. In addition, lockable, undercover storage is provided for 6 staff bicycles. Showers, changing facilities and lockers are provided for cyclists.
A dedicated, well lit and signposted pedestrian route, linking the site to public transport nodes and other nearby amenities is provided
The building handbook provides details for bus and rail transport as well as outlining cycling facilities.

Parking Context
The Bond University provides parking throughout the campus.

Other
6 Star Green Star Education Building

Waterfront Building - University of Tasmania

Project Description
Located on the Hobart waterfront this facility provides teaching and research facilities for approximately 290 staff and students with a GFA of 5350m$^{2.}$

Public Transport Context
Forming part of the University of Tasmania's Hobart Campuses this building is located in the Salamanca precinct on the waterfront and is well located to take advantage of public transport. Buses (Metro) service the precinct directly with bus stops within close proximity to the building.

Parking Supply
1 disabled space and very limited short term parking for visitors

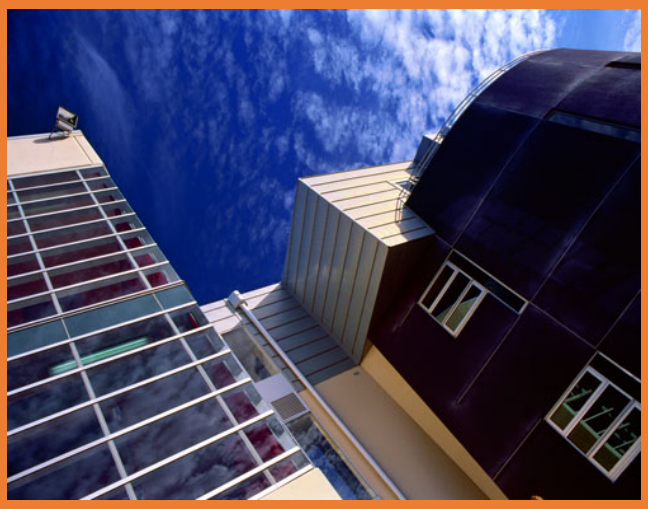
Student Accommodation within the vicinity
The University's Sandy Bay campus provides on-campus accommodation whilst various off-campus options are also available.

Active Transport Measures
There is space for 80 bikes to be stored externally and 30 internal spaces including 3 electronic bicycle charging stations. There are 34 lockers in the Waterfront Building for staff/student use.
Showers and change rooms can be accessed via internal bicycle storage area.
Public transport is promoted by the University.
Parking policy supports active transport modes.

Parking Context
On-street and public parking stations controlled by Hobart City Council.

Other
5 Star Green Star Education Building

Camp Street Campus – Federation University Australia



Project Description

Located in Ballarat's central business district, the Camp Street Campus is home to the Arts Academy. The integration of new and historic buildings provides a central precinct for the University's visual and performing arts. It incorporates 8,000 square metres of space for students and staff.

Public Transport Context

Located in the Ballarat CBD the campus is 5 minutes walk from the Ballarat Railway Station which also provides interchange to all local bus routes. There are 20 local bus services which operate between 6am and 9pm with most services between 30 and 60 minute intervals. V/Line provides railway services connecting Ballarat with Melbourne whilst regional bus services connect Ballarat with Geelong.

Parking Supply

The Camp Street Campus provides no free nor permit parking spaces. Limited parking is provided for student accommodation associated with the campus.

Student Accommodation within the vicinity

Student accommodation is available in both privately owned and university owned off-campus residences. There is on-campus accommodation for 38 art students.

Active Transport Measures

The Federation University provides clear transport information encouraging bus and active transport options prior to information about driving.

Parking Context

No campus parking is available at Camp Street Campus..There is a variety of short, medium and long-term free and paid parking available on-street around central Ballarat.

Other

8 References

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