

2016-20

SUSTAINABLE TRANSPORT PLAN

017

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FIGURE 1:
ALUMNI GREEN

IMAGE: ASPECT STUDIOS

The University of Technology Sydney (UTS) is committed to improving sustainability. UTS strives to sustain its local and global environment, organisational health and ability to create a positive, viable future. UTS endeavours to include environmental sustainability principles and targets in all aspects of its decision-making. Through its research, teaching and learning, operations and community engagement, UTS aims to:

- Minimise the environmental impact of its operations and move towards restoring environmental integrity
- Promote social justice, equity and diversity
- Contribute to human health and well-being
- Maintain its financial viability.

As part of its commitment to sustainability, UTS has a high level Sustainability Policy and Sustainability Strategy 2016 – 2019. Beneath this sit a series of Sustainability Plans on water, waste, energy and greenhouse, and transport to support implementation of the Policy and Strategy. This document is the UTS Sustainable Transport Plan 2016 – 2017.

A COLLABORATIVE APPROACH

The pathway towards sustainability demands a collaborative approach, in which organisations work together to share knowledge and learn from each other. UTS collaborates with many organisations on its journey towards sustainability. For example, UTS works closely with the City of Sydney, Frasers Property, the ABC, the TAFE Sydney Institute and the Powerhouse Museum on sustainable development of the Ultimo precinct.

1.1 SUSTAINABLE TRANSPORT AT UTS

UTS has two campuses; the City Campus (including Broadway, Blackfriars and Haymarket) which enjoys a central location with easy access to major public transport routes (see Figure 3); and the Moore Park Campus located in the Moore Park sporting complex. This too, is well served by public transport and UTS provides a free shuttle bus between the City and Moore Park campuses during class times.

Due to its central location public transport is the major mode used by both staff and students travelling to and from the university¹. Despite this approximately 19% of staff at the City Campus still use a private car to travel to work, while only 7% of students currently drive to the City Campus.



FIGURE 2: THE CYCLING FACILITIES HUB IN BUILDING 10.

A major objective of this Sustainable Transport Plan is to reduce the number of people driving. The Plan sets a target of under 10% of staff and 5% of students travelling to UTS City Campus by car in 2017.

UTS promotes the use of public transport as a preferred mode of travel through marketing and information provision but has only a limited ability to influence public transport provision. UTS is more directly able to facilitate active transport such as walking, cycling and skateboarding through the provision of on-campus facilities to make these transport modes more attractive. Showers, lockers and bike parking have been significantly expanded as part of the Campus Masterplan. The University is also collaborating with other organisations such as the City of Sydney to improve pedestrian and cycling access around UTS. In 2008, approximately 10% of staff and students walked to UTS and 6% cycled². The on-going improvements to the walking and cycling environment at UTS and in the surrounding area suggest that achieving a 25% mode share for active transport by 2017 is realistic.

1 Institute for Sustainable Futures, 2008, UTS Staff Travel Survey (staff figures); Halcrow MWT, 2009, Concept Plan – University of Technology, Sydney Transport Management and Accessibility Plan (student Figures
2 As above

INTRODUCTION

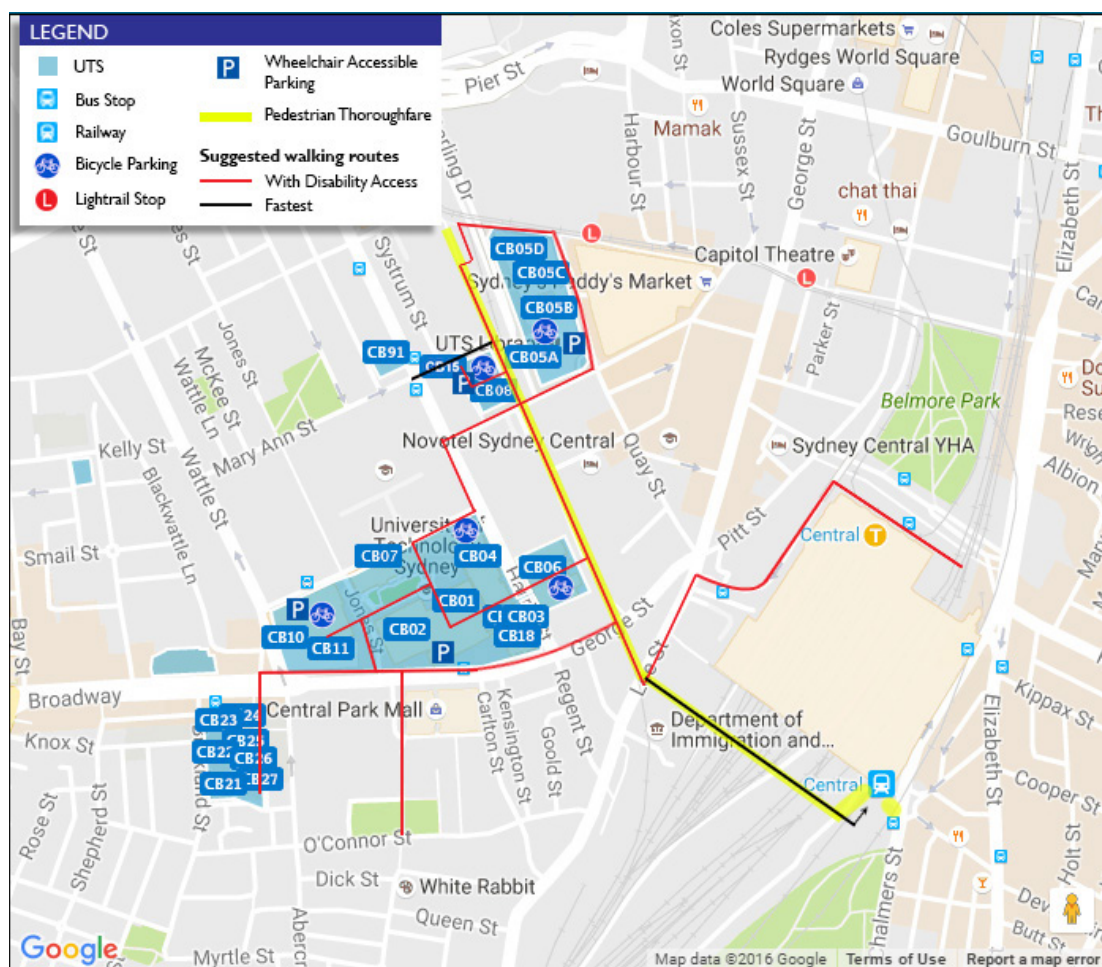


FIGURE 3: TRANSPORT ACCESS AT UTS CITY CAMPUS

2.1 THE ISSUE

Large cities such as Sydney face increasing pressure to reform their passenger transport system in order to reduce greenhouse gas emissions, reduce congestion and improve travel times and productivity. Transport accounts for 17% of Australia's domestic greenhouse emissions³. The majority of these emissions are from road transport, in particular passenger cars. Transport emissions have been steadily rising and are expected to be 65% above 1990 levels by 2020⁴.

Transport is also the major contributor to oil depletion consuming 74% of all liquid fuels used in Australia⁵. Oil is a non-renewable fossil fuel and many analysts believe society has hit 'peak oil' and production will begin to decline forcing petrol prices to rise.

Our dependence on cars also has negative societal impacts; car travel takes up significantly more valuable urban space than travelling by public or active transport (see Figure 4).

Traffic congestion remains a serious problem that is estimated to result in lost productive time amounting to \$12 billion/annum⁶ in Sydney alone.

Sustainable transport encourages less reliance on cars and increased use of environmentally friendly travel modes such as public transport, walking and cycling. Where this is not possible sustainable transport planning encourages using passenger cars as efficiently as possible through carpooling and carsharing schemes.

With the consolidation of UTS operations to the inner city location well served by public transport, along with the redevelopment of the campus to better facilitate active transport, UTS has the opportunity to become a sustainable transport leader in the Australian university sector.

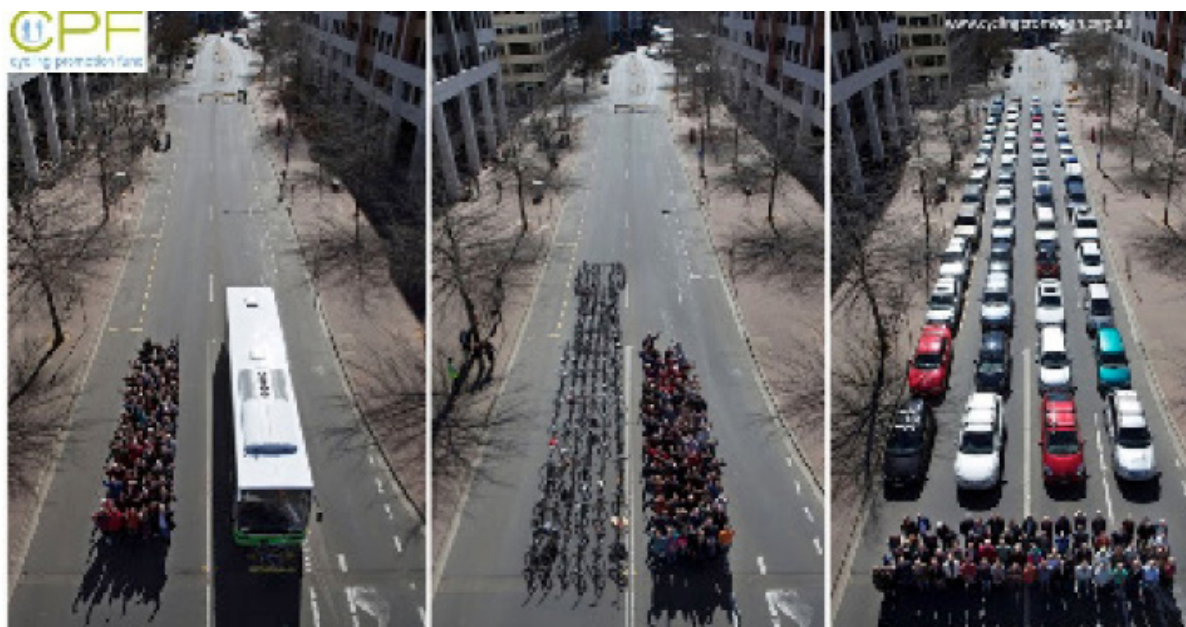


FIGURE 4: A PHOTO SHOWING THE EQUIVALENT AMOUNT OF ROAD SPACE TAKEN BY BUSES, BIKES AND CARS⁷

3 Department of Energy and Environment, Australia's Emissions Projections. (2014-15).

4 Bureau of Infrastructure, Transport and Regional Economics. (2009)

5 Australian Bureau of Agriculture and Regional Economics (2011)

6 Centre for International Economics (2005)

7 Cycling Promotion Fund, 2011

2.2 POLICY RESPONSES

Urban transport is predominantly planned for, and regulated by, state and local governments.

NSW Government

The NSW State Government's Transport Masterplan provides the guidelines for how transport will be planned and funded for the next twenty years. Among the eight objectives of this Masterplan is to 'Improve sustainability by growing the proportion of travel by sustainable modes such as public transport, walking and cycling'⁸.

The new Circular Quay to Randwick light rail line and the the existing Lilyfield service to Dulwich Hill light rail lines (both lines are within walking distance of UTS) will improve and consolidate access to UTS from the eastern suburbs and inner west respectively. The new North West Rail Link will dramatically improve travel times from the North-western suburbs to UTS from 2018-19.

CITY OF SYDNEY COUNCIL

Over the past few years the City of Sydney has been undertaking an ambitious program of upgrading Sydney's cycling infrastructure. The Cycle Strategy and Action Plan 2007 – 2017 aims to increase the mode share of cycling from 2% in 2006 to 5% in 2011 and 10% in 2016, and aims for 20% of all trips between 2 and 20km being made by cycling. The City has developed a network of separated cycleways and cycle friendly streets, which is having a big impact on cycling numbers – between 2010 and 2012 the number of commuter cyclists increased by 82%⁹. The City is now planning the Broadway Link project that will provide an attractive corridor for cyclists and pedestrians from UTS through to Chippendale, Darlington and Newtown¹⁰ (see Section 4). It has also developed draft Development Control Plans that state that tertiary institutions should provide one bicycle parking space for every ten staff or students¹¹. Given the significant investment by the City in cycling infrastructure and the likely impact this will have on demand for cycling UTS is planning for cycling rates significantly above their current levels.



⁸ Transport for NSW, 2012

⁹ City of Sydney 2013a

¹⁰ City of Sydney 2013b

¹¹ Halcrow 2011

2.3 UTS SUSTAINABILITY RESPONSES

HISTORY OF SUSTAINABILITY AT UTS

UTS has a long history of engaging with sustainability, stretching back to the establishment of the Institute for Sustainable Futures in 1997 and the signing of the Talloires Declaration in 1998. UTS committed to a Sustainability Policy in 1999 that was revised in 2008 and 2015.

In 2008, UTS joined with other universities in the Australian Technology Network of Universities to declare its commitment to local, national and global sustainability. Sustainability has also been an important consideration in the UTS City Campus Masterplan re-development.

Today, the UTS Sustainability Strategy, established in 2012, guides sustainability at UTS across research, teaching and learning, community engagement and campus operations. A high-level Sustainability Steering Committee provides strategic guidance for a team of three full-time staff members.

The UTS Sustainability Strategy identifies several key strategic initiatives including the establishment of the following greenhouse gas reduction targets:

- Reduce Scope 1 and 2 greenhouse gas emissions by 30% between 2007 and 2020-21 and reduce greenhouse gas intensity to 105 kg CO₂-e/m².

The Draft UTS Cycling Strategy was developed in 2011¹². It recommended an objective of doubling the rates of active transport to UTS. The Campus Masterplan for the redevelopment of the City Campus also commits to promoting sustainable transport as one of its objectives stating:

...the campus's connection to established transportation routes can be strengthened, with improved facilities and circulation corridors and expanded way-finding schemes. In addition, more bicycle storage facilities, locker rooms, and parking for electric vehicles and other alternative transportation incentives should be included in campus development¹³.

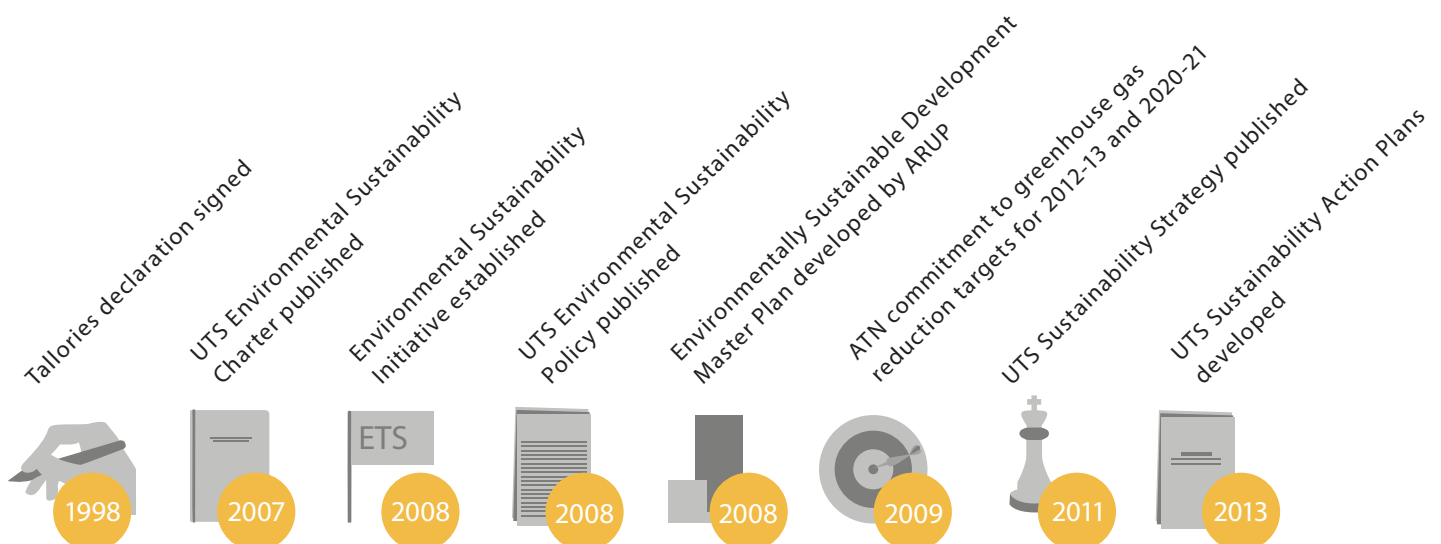


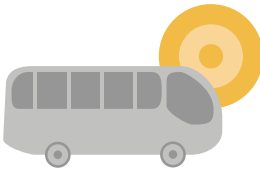
FIGURE 5: – UTS SUSTAINABILITY RESPONSES

3.1 KEY ACTIONS TO DATE



BICYCLE FACILITIES

UTS currently has 523 internal and 107 external bicycle parking spaces. These include relatively large secure parking facilities in buildings 6, 8, and 10 (see figure 2). There are also showers and lockers available near the bike parking facilities in buildings 5 and 10 and in the Ross Milbourne Sports Hall.



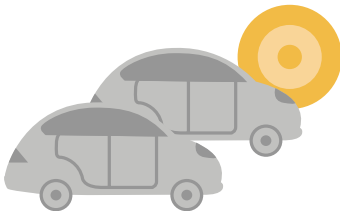
MOORE PARK SHUTTLE

UTS runs a free shuttle bus between the City and UTS Moore Park campuses during semester time. The shuttle runs to a schedule set by the faculties at the beginning of each semester. The buses carry up to 24 passengers per trip. The university also encourages the use of public transport between the two campuses, and has extensive information on the different travel modes available on the UTS website.



CARPOOLING

Public and active transport should always be encouraged as the most sustainable transport options, but in some circumstances car travel may be the only option. In this situation UTS promotes carpooling to encourage people to use cars in the most efficient way possible. UTS encourages informal car pooling and has provided staff and students with guidelines to facilitate safe and friendly carpooling.



CAR PARKING

UTS has a limited amount of allocated car parking for staff on its City and Haymarket campuses. The CB10 car park is available for public use. With the aim of encouraging fuel-efficient transport to UTS, the Dr Chau Chak Wing Building and building 11 car parks (shared basement with building 10) include the provision of dedicated spaces for small fuel efficient vehicles in preferred locations (e.g. next to lift core).



TRAVEL PLANNING

UTS provides travel and transport information to students and staff to help them plan the easiest way to travel to the university using public transport. This includes printed material provided during student orientation and new staff induction sessions, as well as links to guides and information on the UTS website.



RIDE TO WORK DAY

UTS takes part in the annual Ride to Work day by running its own Ride to UTS day. This event is an excellent way of promoting cycling and introducing new or inexperienced cyclists to the idea of commuting by bike to UTS.



VIDEO CONFERENCING AND TELE-WORKING

Rapid improvements in communications technology are making it more possible than ever to avoid the need to travel for work. UTS has invested in cloud storage and other technologies to facilitate people working from home, thus reducing transport emissions and congestion on road and public transport networks. UTS has also installed professional quality video conferencing facilities in buildings 5, 8, 7, and 11. which are available to all staff.

A number of other faculties and institutes have their own video conferencing facilities and the Aerial function centre is able to provide high quality web streaming facilities for its clients. These technologies allow UTS staff and students to interact with people in other states and countries without needing to catch carbon intensive flights.



UTS VEHICLES

UTS has a pool of three Prius Hybrid vehicles available for staff to use for work related travel. Prius' use approximately 4.4L of petrol per 100km, which is much less than the almost 10L that the average passenger car uses, resulting in fewer greenhouse gas emissions.

3.2 PERFORMANCE TO DATE

In comparison to most similar organisations UTS already performs well in terms of the share of journey to work travel undertaken by sustainable modes. As noted earlier, approximately 19% of staff and 7% of students travel to UTS by private motor vehicle. The mode share splits for motor vehicle travel are much better than the Health and Education Camperdown/Ultimo Precinct that include UTS (42%) but are comparable to those in the CBD (19%), which UTS borders. This similarity between the CBD mode split and the UTS staff mode suggest that the high sustainable transport mode share may be more a product of UTS's natural locational advantage than it's own inherent policies or programs.

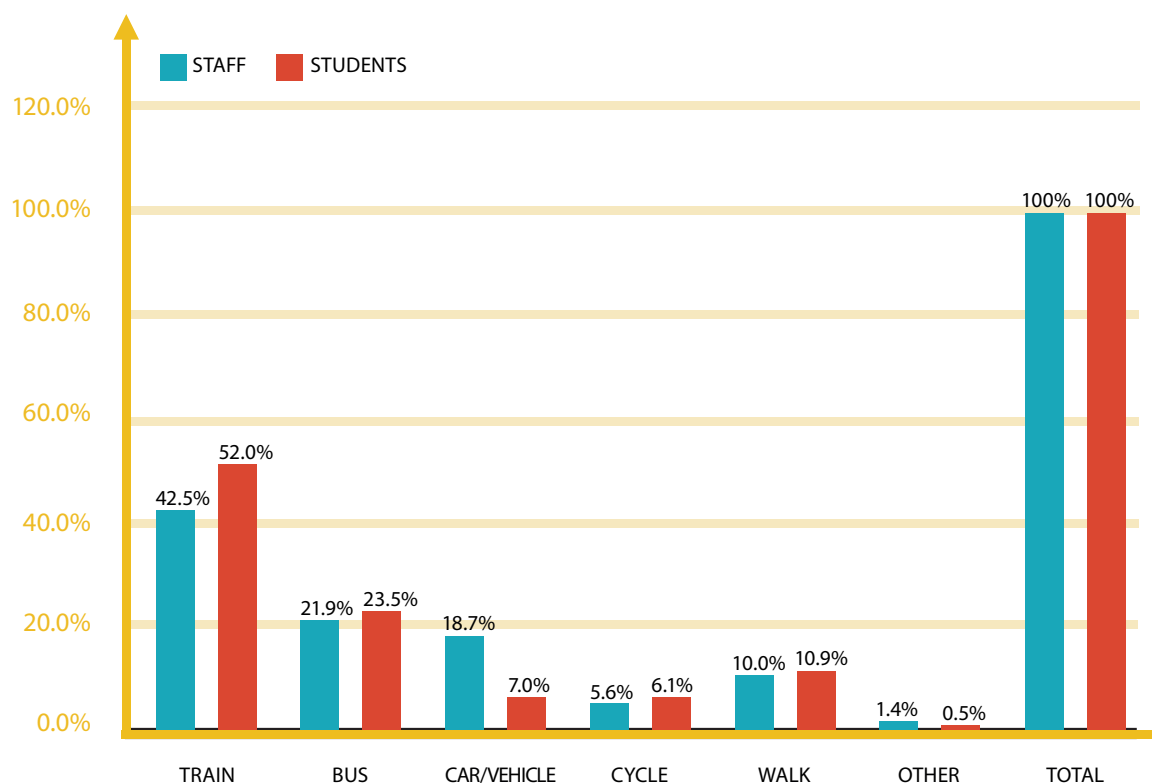


FIGURE 6: – MODE SPLIT FOR STAFF AND STUDENTS TRAVELLING TO CITY CAMPUS¹⁴

¹² Halcrow, 2011

¹³ ARUP 2008

¹⁴ Institute for Sustainable Futures, 2008, UTS Staff Travel Survey (staff figures); Halcrow MWT, 2009, Concept Plan – University of Technology, Sydney Transport Management and Accessibility Plan (student figures).

4.0 COMMITTED ACTIONS

IMPROVING CYCLING FACILITIES

The Draft UTS Cycling Strategy 2011 recommended doubling the number of staff and students who walk or cycle to UTS (based on 2008 mode shares). This Strategy sets a target of 25% of staff and students travelling to work by active transport by 2017. The recent upgrade of bicycle facilities will make a significant contribution to increasing the number of cyclists at UTS.

The Green Building Council of Australia awards 2 points under its Green Star Education V1 tool for buildings that provide secure bicycle storage space for 10% of the peak number of students using the building at any one time (with 75% occupancy). Another 2 points are available where cycling facilities are provided for 10% of building staff.

The City of Sydney also recommends providing bicycle facilities for 10% of occupants, although its recommendations are based on commercial office building profiles where occupancy is higher¹⁵.

Universities differ from most workplaces in that at any one time less than half the total number of students and staff are actually on campus. Therefore the objective established for UTS is to provide bicycle parking for 10% of the maximum number of people actually on campus at any time, as shown in Table 1. The Draft UTS Cycling Strategy 2011 used timetable information to estimate the total number of staff and students on campus at any time.

		STUDENT (HEADCOUNT)	STUDENTS (EFTSL) ¹⁶	STAFF (FTE) ¹⁷	REQUIRED BICYCLE PARKING SPACES
2016	TOTAL	42,674	31,604	3,354	
	AVERAGE OCCUPANCY	9,126		1343	902
2020	TOTAL	44,835	33,342	3,819	
	AVERAGE OCCUPANCY	10,368		1527	1016

TABLE 1: UTS STAFF AND STUDENT NUMBERS

¹⁵ Green Building Council of Australia 2013; City of Sydney 2012

¹⁶ Equivalent Full Time Student Load (EFTSL)

¹⁷ The average occupancy calculations are based on the 2011 Cycling Strategy with Full Time Equivalent (staff) updated figures. However the Cycling Strategy assumed the ratio of total staff to average staff occupancy to be the same as for students. This is unlikely to be correct and therefore the actual average occupancy for staff may be ~ 500 to 1000 FTE higher than in the table above.

IMPROVING BIKE PARKING

In recent years UTS has significantly increased the number of bike parking facilities, showers and lockers provided on campus. In particular Building 10 and the Dr. Chau Chak Wing Building incorporate large bicycle hubs.

Table 2 below outlines the locations of current and proposed facilities. All the facilities in the 2016 column have been installed, while the facilities in the 2020 column are planned for installation.

SITE	2016 (EXISTING)			2020 PROPOSED		
	BIKE RACKS	SHOWERS	LOCKERS	BIKE RACKS	SHOWERS	LOCKERS
BUILDING 1	46 (EXTERNAL)	0	0	150 (INTERNAL)	10	100
BUILDING 4	40 (EXTERNAL) 24 (INTERNAL)	24	98	40 (EXTERNAL) 24 (INTERNAL)	24	98
BUILDING 5	19 (EXTERNAL) 41 (INTERNAL)	4	24	39 (EXTERNAL) 271 (INTERNAL)	14	130
BUILDING 6	96 (INTERNAL)	12	78	96 (INTERNAL)	12	78
BUILDING 10	288 (INTERNAL)	29	260	20 (EXTERNAL) 699 (INTERNAL)	29	260
DR CHAU CHAK WING BUILDING	32 (EXTERNAL) 74 (INTERNAL)	9	112	32 (EXTERNAL) 74 (INTERNAL)	9	112
GYM	-	12	120	-	12	120
GOODS LINE-SOUTH	10 (EXTERNAL)	0	0	40 (EXTERNAL)	0	0
TOTAL	107 (EXTERNAL) 523 (INTERNAL)	54	327	121 (EXTERNAL) 1400 (INTERNAL)	110	898

TABLE 2: EXISTING AND PROPOSED BIKE PARKING FACILITIES

BUILDING 10 BICYCLE HUB

The bicycle hub in the mezzanine of Building 10 is a high quality facility featuring 288 bicycle parking spaces as well as a bike pump, showers, change rooms and lockers, with a feature stairwell linking the mezzanine with the ground floor. As demand increases, the facility has been designed to expand the number of parking spaces to 576, and ultimately 699 by the year 2020.

COOPERATION WITH CITY OF SYDNEY ON THE BROADWAY LINK PROJECT

The City of Sydney's Broadway Link project aims to increase pedestrian amenity and cyclist safety in the Darlington, Chippendale and Ultimo areas. The Link travels along Jones St, through UTS, then on through the new Central Park development and into Chippendale (see Figure 7). UTS has been collaborating with the City of Sydney to ensure the design of the link benefits the university's pedestrians and cyclists.

For pedestrians the combination of this project and the UTS Alumni Green (see page 15) and the Central Park developments result in UTS and its surrounds becoming an increasingly attractive walking environment for pedestrians featuring parks, green spaces and car-free boulevards.

This project also dramatically improves the ability of cyclists to safely access UTS. The university is surrounded on three sides (Wattle St, Harris St and Broadway) by heavily trafficked roads that act as a potentially dangerous barrier to cyclists. The Broadway project provides a route travelling through Chippendale and Darlington to the Wilson St Cycleway that provides cyclists with access to suburbs such as Newtown and Erskineville. The route makes use of traffic calming, road treatments and shared paths to provide a safer and more attractive cycling environment. It also links to proposed future cycle routes to the north of UTS.

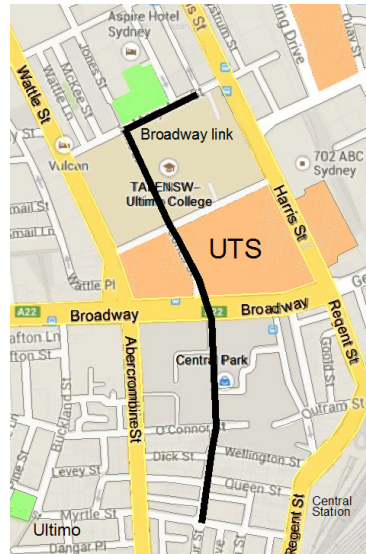


FIGURE 7: THE BROADWAY LINK PASSES THROUGH UTS AND CONNECTS THE UNIVERSITY TO INNER SYDNEY'S EXPANDING NETWORK OF CYCLEWAYS¹⁸.

THE GOODS LINE

UTS has been involved in the design of the innovative Goods Line, a linear park running from the Devonshire Street pedestrian tunnel to Darling Harbour. The Goods Line provides greatly improved pedestrian and cyclist access between Central Station and Darling Harbour, running past UTS. Stage 1 of the Goods Line was completed in 2015 with stage 2 due for completion in 2017, incorporating various uses such as seating and an outdoor cinema. (See Figure 8)



FIGURE 8: THE GOODS LINE

IMAGE: SYDNEY FORESHORE AUTHORITY

¹⁸ City of Sydney 2013b

THE CAR PARK OF THE FUTURE

In 2008 the UTS Institute for Sustainable Futures partnered with Szencorp to build Australia's first Plugin Hybrid Electric Vehicle. In 2014 UTS opened a new Faculty of engineering and IT building with three electric vehicle charging stations in the car park. The stations are one of the first electric vehicle charging locations in Sydney linked to renewable energy technology on the building's roof.

UTS ALUMNI GREEN AND JONES ST

As part of the campus redevelopment, UTS created a new 'green heart' at the centre of the university. The Alumni Green features a large lawn, a paved plaza and a secluded garden and has dramatically improved the walking environment (see figure 1). Jones St is likely to be pedestrianised following the completion of the UTS Central project in 2019, thus providing a pedestrian link to the plazas at Central Park and the TAFE Sydney Institute. The Jones St project, which will be one of the last parts of the campus redevelopment completed (as the road is needed for construction vehicles), will ensure that the campus surroundings encourage people to walk to UTS, either directly or in combination with public transport.



FIGURE 9: ELECTRIC CAR POWERED BY RENEWABLE ENERGY.

4.1 LOOKING AHEAD

In the period following this Action Plan (post-2017) UTS sustainable transport initiatives could include:

- Completing the sustainable transport initiatives envisioned as part of the campus redevelopment. These include increasing the overall number of internal bike parking spaces from 630 to 1246, along with the likely pedestrianisation of Jones Street.
- Develop a carbon-offset policy for work related flights. Flying is a highly carbon-intensive activity but is essential for many of the activities of UTS staff. If UTS centrally recorded all flights it would enable the calculation of associated greenhouse gas emissions and the purchase of bulk carbon offsets, allowing UTS a degree of control as to how the university wishes to invest its off-setting funds.



FIGURE 10: UTS CENTRAL PROJECT

