

Lismore Base Hospital Precinct Travel Plan



Health Promotion
Northern NSW
Local Health District

Acknowledgements

The Travel Plan was the result of a process involving many people. A steering group guided the development of the Travel Plan and comprised:

Manager, Health Promotion (chair)

Manager, Capital Works

Executive Director, Richmond Clarence Network

Community Representative (Cancer Council volunteer)

Project Officer, Phase 3A Redevelopment, Lismore Base Hospital (also representing Health Infrastructure)

Transport Project Officer, Northern Rivers Social Development Council

Community Development Officer, Lismore City Council

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Background

Why are we developing a travel plan?

The purpose of this plan is making it easier for patients, staff and visitors to travel to the Lismore Base Hospital Precinct, to reduce parking issues and to promote active transport (including walking cycling, carpooling and use of public transport).

Lismore Base Hospital is undergoing a major development to better respond to the increasing health demands of the population. As part of the Stage 3A development, staff numbers are expected to increase from 850 per day to 956 per day and outpatients and visitors to increase from 600 per day to 710 per day. Additional car-parking will be partly provided by the construction of a multi-storey car-park.

As part of the hospital redevelopment, Lismore City Council and Northern NSW Local Health District, local residents and other key stakeholders participated in a three day Inquiry by Design workshop in November 2012. The newly formed Lismore Health Precinct Committee then developed a Health Precinct Plan which formed the basis of the Development Control Plan prepared by Council in collaboration with NNSW LHD. This plan requires NNSW LHD to develop a Travel Plan for Lismore Base Hospital Precinct.

Potential benefits of the travel plan:

Health and Social: Daily incidental exercise is absent from the lives of many people in the Northern Rivers. Car dependence, a lack of public transport, and a legacy of poor urban design means many people live, work and study in obesogenic environments unfriendly to walking and cycling. If Australians could convert just 5% of car trips under one kilometer to walking, we could save \$134 million in health and environmental benefits over 5 years (Mulley et al, 2013). If more staff use active transport modes of travel (walking cycling, public transport) then this has the potential of increasing daily physical activity and this can increase overall health and reduce sick leave. A growing body of evidence also demonstrates the social benefits. Active communities are more likely to be strong and connected communities showing greater participation in activities; inactive communities may be less inclusive and cohesive (NSW Premier's Council for Active Living, 2010)

For every additional hour spent in a car, people increase their risk of being obese by 6%. Conversely, for every additional kilometer walked, people reduce their risk of obesity by 4.8%. (Frank et al 2004)

Better Access for Non-Drivers: By increasing non-car options for staff to travel to work, we also increase the accessibility of the workplace to current and future employees that may not drive. An increasing number of people under 35 are choosing to not have a driver's licence (Raimond T and Milthorpe F, 2010). In addition, many disadvantaged and vulnerable residents do not have private cars for transport or are too unwell to drive. These users must be considered in the Travel Plan.

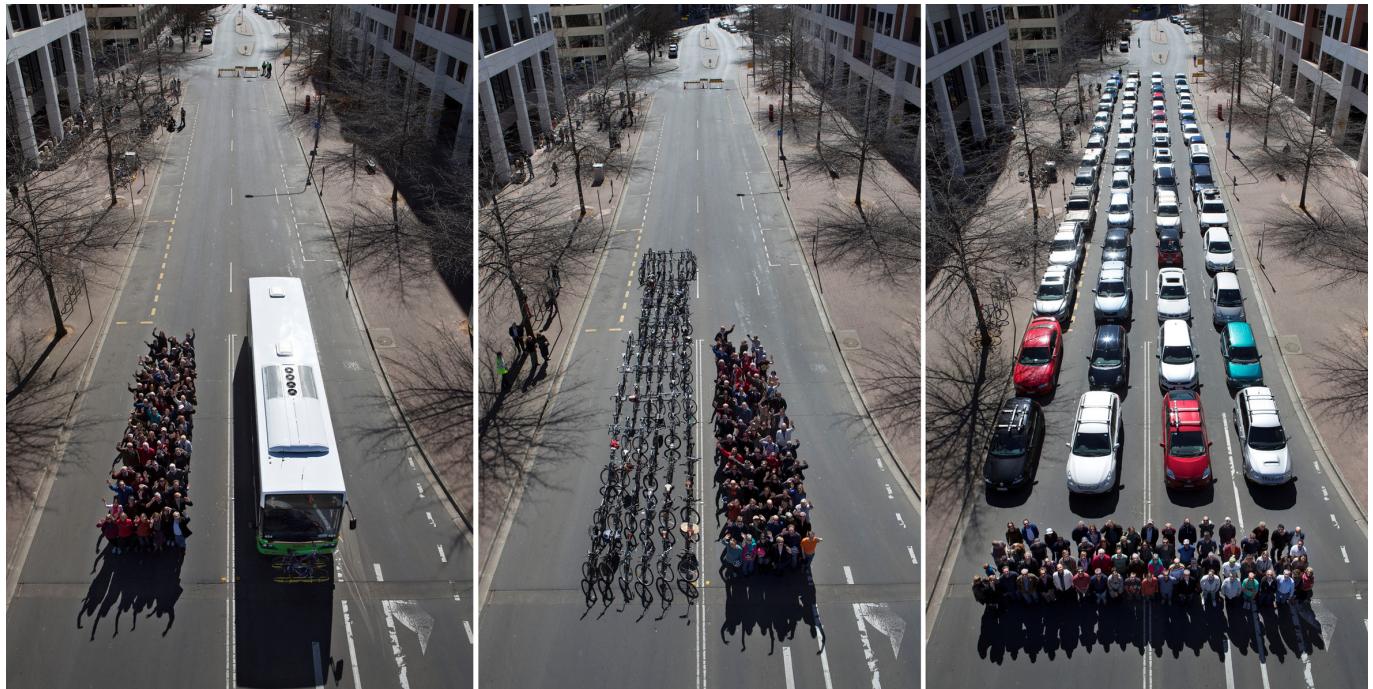


Figure 1. Road space comparison of 69 bus passengers on a single bus, 69 pedestrians, 69 bicycle riders and 40 cars, Canberra ACT. © Cycling Promotion Fund.

Less congestion: The Travel Plan and new car-park could reduce the impact of staff and visitors parking in nearby residential streets which can be a cause of irritation to neighbours. When people travel by public transport or bicycle they take up less space on the roads (figure 1).

Environmental: Active travel (walking, cycling and using public transport) is a recognised strategy to mitigate and reduce the impacts of climate change (Rissel, 2009).

Economic: Evidence shows that our economy benefits (in health and infrastructure savings) by more than \$14 every time a person cycles to work (Dep't Health and Infrastructure, 2013).

Lismore Health Precinct

Lismore Base Hospital Precinct is a regional hub for medical services and research, including the University Centre for Rural Health. Currently there are about 850 employees on-site at the hospital and surrounding health facilities and 600 outpatients and visitors each day. Currently there are 934 car-parking spaces for Hospital use comprising 304 off street and 630 on street. Most people arrive at the site by private car.

The Lismore Health Precinct recommends well managed parking access for all. To achieve this, it recommends the development of a multi-storey car-park for hospital staff, patients and visitors, a resident parking scheme developed by Council and a Travel Plan for hospital staff to reduce the number of staff car-parks required (Newton Denny Chappelle, 2013).

The Precinct report also recommends Lismore City Council audit the existing street lighting and footpath network in accordance with CPTED principles, to explore a pedestrian and cycle course from the Health Precinct to the CBD and to consult with public transport service providers in relation to health precinct serviceability requirements.

Scope of proposed plan

The Lismore Base Hospital Precinct Travel Plan will outline strategies and monitoring methods to help staff, patients and visitors choose methods of transport which will make their travel to health services easier

- 1 An infrastructure review of the existing transport facilities in the Lismore Base Hospital Precinct. This will include an assessment of:
 - Existing infrastructure including cycle parking, showers and lockers
 - Assessment of walking and cycling routes (cycling audit undertaken by a safe cycling expert)
- 2 Review of car and bicycle parking (including considering current and planned restrictions)
- 3 Policy Review (review of existing policies to assess how they contribute or form a barrier to creating sustainable transport)
- 4 Staff Travel Survey:
 - Review previous surveys
 - Conduct a new survey once the multi-storey car-park and restricted car-parking has commenced to:
 - a. Current mode of travel to work
 - b. Question exploring potential for change to non-car travel options

and more sustainable. This Travel Plan particularly focuses on employees working 'standard business hours (8.30 - 5pm)' as they potentially have more travel options and less need to drive to work.

The plan includes:

- 5 Public Transport Review
 - Review current public transport routes, times and costs
- 6 Review transport issues facing patients using hospital services
- 7 Plan and implement strategies to increase non-car transport
- 8 Monitor impact
- 9 Communicate goals, strategies and outcomes
- 10 A separate car-park, traffic and parking report has been prepared for Health Infrastructure (Taylor Thompson Whiting, 2015). A Car-parking Management Strategy will also be developed parallel to this process and this will detail car-parking fees and any on street parking restrictions in the Hospital Precinct (Taylor Thompson Whiting, 2015).

Outside of scope:

Travel for work related trips in fleet cars.

Potential outcomes:

- Successful negotiations with private transport providers (if necessary) to provide increased public transport services to the hospital precinct.
- Improvements to cycle and walking infrastructure, if required.
- Recommendations for any relevant policy changes will be made to management (e.g. flexible work and work from home/hub policies).
- A visual Transport Access Guide will be developed for use by staff, patients and visitors and available on the website and in hard copy form and will detail:
 - Best walking and cycling routes
 - Public transport routes
 - Taxi ranks
 - Cycle parking
 - Carpooling car-parks
 - Staff end-of-journey facilities
 - Car-parking
 - Fleet car-parking.
- A campaign promoting the health and other benefits of non-car modes of travel will be implemented for staff.
- End-of-journey infrastructures will be improved, if required.

Evaluation and Monitoring

- Staff surveys (mode of travel to work)
- Number of Transport Access Guides downloaded/hard copies used.
- Patronage on any new commuter public transport services
- Feedback from public transport providers
- Private car-park usage
- Carpooling use (number of new users)

Relevant priorities from the NSW State Plan (NSW Health, 2011)

- Increase walking and cycling
- Increase the number of people participating in physical activity
- Improve health in the community
- Increase share of journey to work trips on a safe and reliable public transport system
- Improve the efficiency of the road network
- Increase the number of jobs closer to home
- Tackle climate change
- Improve air quality

Consultation

Consultation with a wide number of stakeholders was held to ensure a range of perspectives to inform the development of the Travel Plan. The list of key stakeholders is included in Appendix 2 and include representation from:

- Local residents
- Aboriginal community
- Patients
- Staff
- Visitors
- Patient transport providers
- Public transport providers
- Bicycle users
- People with disabilities

An Aboriginal Health Impact Statement was prepared (Registration number 2015/12).

2. Developing the Travel Plan

Policy and work organisation review

Health Promotion reviewed existing hospital policies to assess how these contribute to or form a barrier to creating a sustainable transport environment.

The NSW State Plan identifies eight priorities that are relevant to promoting active travel to work (see box on right) (NSW Government, 2011)



Figure 1 Staff bicycle parking at Lismore Base Hospital

Secure bicycle storage for 5% of tenancy staff (or 1 bike park per 300m² of NLA, whichever is higher) 1 shower unisex per 10 bicycle parking spaces provided" is a mandatory requirement of the NSW Government Office Design Requirements (2010, ref). Lismore Base Hospital has 850 staff currently (956 when Phase 3A is complete) and has only 8 bicycle parking spaces (Figure 1). Additional bike parking at the front entrance is recommended.

Other considerations in the NSW Government Office Design Requirements (2010, ref) include:

- All work points should be considered as being available for hot desking when not occupied.

NNSW LHD subscribes to the NSW Health Policy on Flexible Work Practices (Policy Directive 2005-087) however there is no specific NNSW LHD policy on this topic. A future NNSW LHD policy could consider that some staff who are not front line workers could work from home or working from work sites with 'hot desks' closer to home one or two days per week to reduce travel/ enable active travel rather than commuting by car.

Staff travel surveys

Two staff travel surveys have been conducted, in 2008/9 and in 2012.

The survey of staff travel modes conducted for the North Coast Area Health Service One Car Less program in 2008 (Molyneux et al, 2010) found that:

- 25% of drivers were interested in cycling and 10% were interested in walking. However, almost a third of respondents who lived within 5km of their workplace were considering walking to work as an alternative to driving. An additional 7% who lived within 10 km of work were considering walking to work and 45% were interested in cycling.
- 65% of drivers were interested in carpooling and 15% were interested in using a bus.

The factors that influence our travel choices are listed in Table 1.

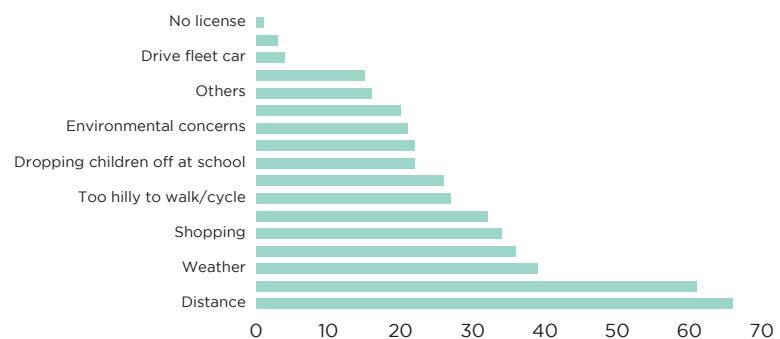


Table 1 Factors which influence our staff travel choices, (NCAHS 2009)

Understanding the influences on choices for travel can assist in strategy development. The need to drop off children at school has also been raised as a reason for school children not walking to school. There may be some scope for influencing staff to make some changes to car driving if the pay off is good enough. E.g. Staff may be willing to take a little longer to get to work in exchange for an opportunity to improve health through walking to work if this is feasible.

A more recent staff Lismore Base Hospital staff survey conducted in 2012 found that:

- 98.6% of respondents (n=283) came by private car, none came by public transport, 0.35% (n=1) came by motorbike, 1% (n=3) came by bike and none walked (figure 1). By contrast 4.6% of Sydney commuters walk to work (figure 2).

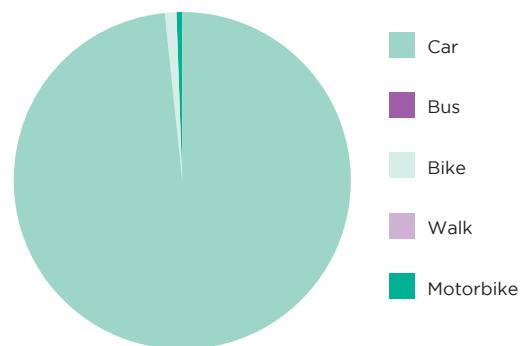


Figure 2
Proportion of Lismore Base Hospital Staff who travel to work using different modes (2012)

The Lismore Base Hospital survey also found that:

- 68% of respondents worked usual office hours but 83% said that carpooling was not an option for them.
- 62% said that car-parking was an issue for them. 76 respondents (28%) were prepared to pay \$21 per week for car-parking and 119 (91%) were prepared to pay \$15 per week.

A further survey of staff should be undertaken in late 2015 after the parking restrictions and paid parking fees are announced to gauge staff's interest in alternative commuter transport, in particular commuter bus services. This information can be used to assist private bus companies to plan new commuter routes.

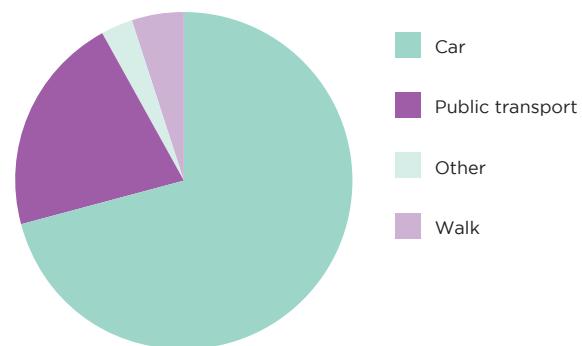


Figure 3
Proportion of Sydney commuters using different transport models (2012, ref)

Where we live

Staff commuting choices are also heavily influenced by where we live. Twenty-two per cent of staff who completed the Lismore One Car Less survey in 2008 lived within 5 km and 32% lived within 10 Km of Lismore Base Hospital (figure 4). Up to 2km is a reasonable walk distance, 5 km is a 20 minute cycle ride and 10km is a 40 minute cycle ride. In an urban environment, riding a bicycle is often faster than driving for trips up to 5km, while walking is faster for trips up to 400m (Dep't Infrastructure and Transport, 2013).

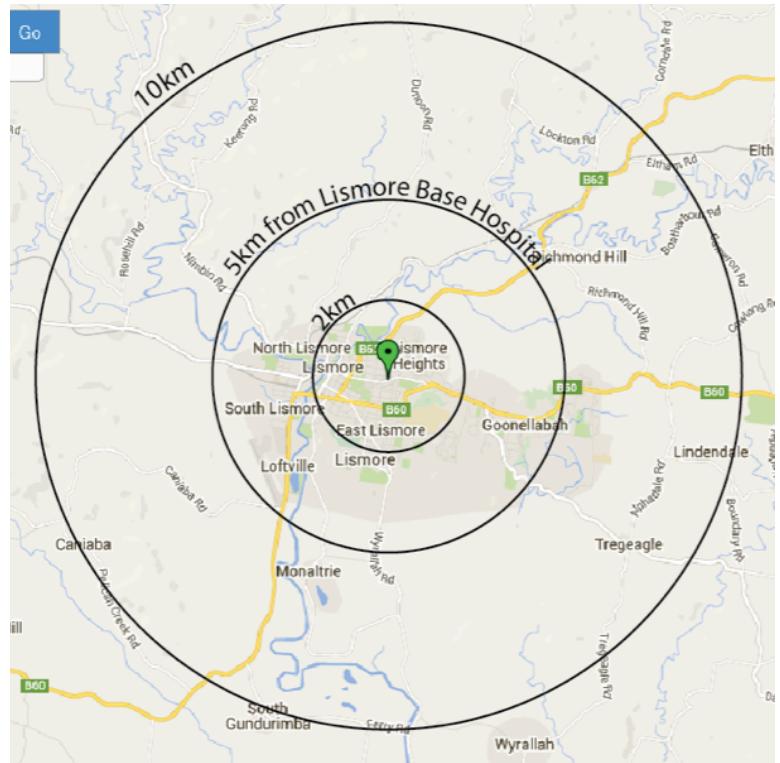


Figure 4. Two, five and ten km distances to Lismore Base Hospital

How physically active are we?

Understanding the level of physical activity within the workforce can be helpful in assessing staff's likely response to programs which promote active commuting modes of walking, cycling and public transport.

The national guidelines for physical activity recommend 150 minutes of physical activity per week to maintain the health of adults. In Northern NSW only 57% of people aged over 16 achieved this minimum (NSW HealthStatistics, 2012). Obesity levels across NSW have dramatically increased in the past decade and are now at record levels, with more than half of all adults and a quarter of all children overweight or obese. These figures are alarming because they will lead to significantly higher levels of chronic illnesses such as Type 2 diabetes, heart disease and some cancers.

Integrating physical activity into people's daily routines is more cost effective and more likely to be sustained than structured exercise programs (Garnaut,

Physical inactivity contributes to the deaths of over 13000 people a year in Australia. Direct comparisons are difficult, but breast cancer kills about 2500 people a year, heroin up to 500 and drink-driving more than 300. (Premier's Council for Active Living, 2010)

2007). By far the easiest way to build physical activity into one's activity pattern is to walk or cycle to work and school. Using public transport is also good for increasing incidental physical activity as it involves walking to and from the bus stop programs (Garnaut, 2007). Carpooling can also increase physical activity if the passengers need to walk to or from a central pick up or drop off point.

What influences walking, cycling and using public transport?

Environmental factors (urban design, housing density and walking and cycling and public transport infrastructure) are major influences on levels of walking, cycling and public transport (Garnaut, 2007, Newman and Kenworthy, 1999). Individual barriers can also affect active travel uptake, such as a lack of skills and confidence have been found to prevent many people from cycling (Garnaut, 2007).

Salary packaging and other fringe benefit deals encourage car dependency using taxpayer dollars. In 2003 it was estimated that government and company cars make up 40% of peak hour traffic and 20% of all traffic in Australia. Public transport passes or bicycles are not afforded similar tax concessions and until carbon emissions are incorporated into the costs, active transport will be disadvantaged (Catford, 2003).

Considerations in selecting strategies for increasing active transport include:

- People perceive cars as more convenient for school drop-offs, pick up and work commitments. Parents who drive to work will often drop children off at school as well (VicHealth, 2007).
- People are more likely to cycle if workplaces have end-of ride facilities (VicHealth, 2007).
- People will walk and cycle more if there is safe infrastructure (Garnaut, 2007) (VicHealth, 2007).
- Walking for transport is associated with living in neighbourhoods that have population density, good connectivity, mixed use planning and neighbourhood aesthetics (Heart Foundation, 2014).
- Mass marketing campaigns promoting the benefits of cycling can increase the numbers of cyclists (Bauman et al, 2008).
- Bicycle education programs can increase skills, confidence and safety (Bauman et al, 2008).

- Policy and regulatory factors governing key influences on cycling, such as urban density and motor vehicle speed limits have been identified as non-health sector issues that nonetheless have important outcomes for public health through their effect on cycling (Bauman et al, 2008).
- Cycling events to provide incentives for people to ride in a supportive environment particularly for novice riders can be effective (Bauman et al, 2008).
- Slower traffic speeds (e.g. 40 km/hr.) and traffic calming will increase the number of people riding bicycles, extensive driver education to raise motorists awareness of cyclists use of the roads and relevant road rules, traffic regulations and enforcement that heavily favour pedestrian and cyclists, restrictions on motor vehicle use, including limited parking(Bauman et al, 2008).

In Australia, about half of all households have at least one bicycle. As this is much higher than the number of staff actually riding to work, it suggests there is an opportunity to increase cycling as a share of the commuting profile. Between 2003 and 2012 an additional 72,200 Australians started riding to work (ABS, 2012). The more separated bike lanes and paths are introduced, the number of cyclists increase (Pucher et al 2011).

Walking is the most common form of exercise we do in Australia and has potential as an alternative for driving for people who live close to work.

Past interventions to reduce car use

In 2008, the Health Promotion team developed One Car Less, a program to increase active transport to work and reduce car transport for all staff working in the former North Coast Area Health Service (Molyneux, 2010). The program outcomes were mixed: 205 staff from 26 sites signed a pledge to leave their car at home at least one work day per week. A survey of mode of transport to work for staff was undertaken in 2008 (pre-program) and 2009 (post program).

In both 2008 and 2009, 77.3% of all trips to work reported on the week preceding the survey were solo car trips. There was a slight decrease in the numbers who car pooled from 12% in 2008 to 10.6% in 2009. The results for all other modes of transport were small. Walking increased from 3.5% to 4.4% as did cycling (from 3.1% to 4.2%), though neither change was statistically significant. The program started when petrol prices were high but fell during the course of the program and was low at the end of the program and this was thought to have an effect on commuter choices.

The program provided 12 cycling proficiency training courses for 49 staff members. As a spin off from the program, a local (Northern Rivers) car-pool website was established by NCAHS in collaboration with six local councils, Southern Cross University and Northern Rivers TAFE. A \$54,000 grant from the former NSW Ministry of Transport was obtained and the website was launched in August 2009. The website has now been adopted by other localities across Australia.



Figure 5 Example of dedicated patient parking



Staff who cycle to work with their One Car Less coffee cups.

Patient and visitor needs

Having access to public transport and pedestrian friendly zones enables people with disabilities or in poor health, older Australians and parents with prams to access health services more easily. People with disability are nearly five times as likely to be unable to travel for have difficulty travelling compared to people without disability. At any given time around 30% of pedestrians will have impaired mobility (Dep't Infrastructure and Transport, 2015) and this is likely to be higher around hospitals.

Consultation with health service user groups and the patient transport user groups has revealed that there have been some difficulties for patients and visitors using the hospital prior to Stage 3A Development. Some of these issues have been recently overcome but they are worth noting so that the solutions that have been created are not lost in future car-park management plans.

Driving: Patients receiving treatment at the Cancer Institute have in the past found it difficult to get all day car parking close to the hospital. A solution was to use the underground car park at the local shopping centre to park their cars and then use volunteers to ferry them up the hill to the hospital for treatment. The Cancer Institute has recently created dedicated car-parks for patients undergoing treatment under

the Cancer Institute and swipe cards for the car parks are issued to users. There is additional car parking for oncology patients in the driveway outside the Cancer Institute. Similarly, patients undergoing renal dialysis can use dedicated undercover car-parks while undergoing treatment (Figure 5).

The Aboriginal Liaison Officer felt that some clients may not be attending some services (for example non-urgent services such as ante-natal appointments) because of the current difficulties with parking and has suggested that dedicated parking for patients with prams be considered.

Disabled permit holders displaying a valid Mobility Parking Scheme permit can park in ticketed parking areas on the streets around the hospitals at no charge.

Health Transport: Community transport organisations and specialist transport providers provide transport for people to medical appointments who cannot drive or use public transport. These include wheelchair accessible vehicles. Health Transport Drivers need to be able to leave their car for 5-10 minutes to deliver frail elderly people to the hospital foyer. Aboriginal Health Transport drivers may need up to 15 minutes to unload their frail elders from the minibus. Patient transport vehicles need access near the Emergency entrance where patients can be unloaded with privacy rather than a busy thoroughfare and then these vehicles will need to park their vans for up to 2 hours.

Drivers and Their Options

The target of the travel plan will be to encourage staff currently driving to work to consider alternatives. Past work (Molyneux et al 2010) has shown that this is not easy. The One Car Less program survey found that 56.8% of respondents had not tried reducing their car use and were not thinking of doing so. This does not mean that these people will never change, only that they have not considered it to this point. Parking changes such as the introduction of paid onsite parking and restricted street parking is the most effective way of reducing car use (Dept. Transport UK, 2002). Effective travel plans also offer financial incentives to staff that arrive at work without a car, either directly or through subsidised alternative transport (Dept. Transport UK, 2002). Without these incentives and with limited public transport, it will be challenging to achieve a significant change.

The Physical Environment of Lismore Base Hospital

The review of transport infrastructure revealed a number of areas for improvement within the hospital and many of these will be referred to the authors of the Car-parking Management Plan.

End of journey facilities: Staff have access to change rooms and showers in the swimming pool complex and in the new level 3A block.

Walking: Pedestrian thoroughfares are adequate now but consideration will need to be given to access to the new multi-storey car-park to ensure adequate lighting at night and the effect of increased numbers of pedestrians crossing Uralba street on the traffic flow. Lismore City Council is considering the implementation of a 40km/hr. High Pedestrian Activity area along the full frontage of Hunter Street and Uralba Street adjacent to the Hospital. This would improve pedestrian safety within the area. Pedestrians and cyclists share the footpath on the south side of Uralba Street. Given the large number of disabled pedestrians in this vicinity and the

lack of cycle way signage, this is not ideal and consideration needs to be given to providing a separate cycle lane, possible in place of car parks on this section of the road.

Cycling: There are minimal dedicated cycle lanes or paths in Lismore. Bangalow Road and Bruxner Highway are dangerous for cyclists outside the city limits with less than 30cm of shoulder past Pineapple Rd going east and past St Carthage's School going north.

The cycle-way route on the footpath on the south side of Uralba Street has many hazards to both cyclists and walkers (figure 6). The street has a number of medical clinics and driveways leading to these have a steep grade so sightlines to the cycle-way and footpath are restricted. Cyclists cannot see cars exiting the clinic car-parks until they are very close. Cyclists also have to negotiate around people walking on the shared path. There are two poorly designed road crossings which are hard to maneuver on a cycle (see figure 7). Because of these safety issues, most cyclists use the busy road instead.

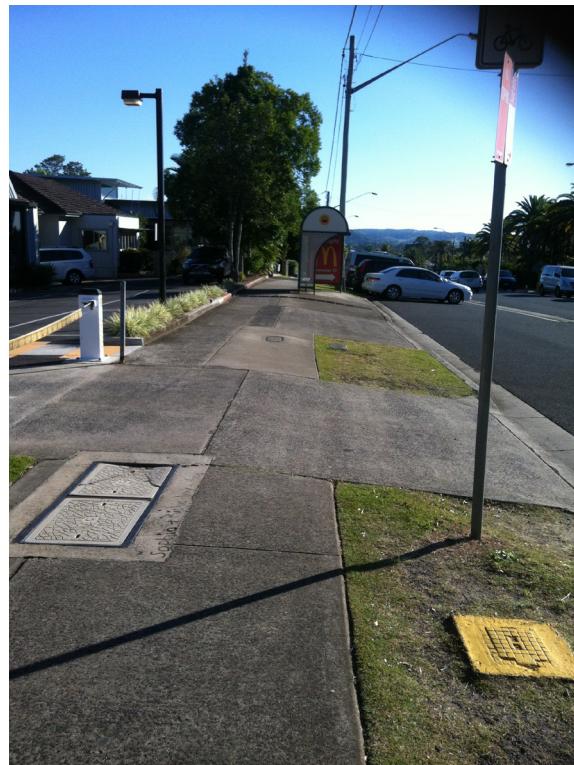


Figure 6
Uralba St Bike Path opposite Lismore Base Hospital

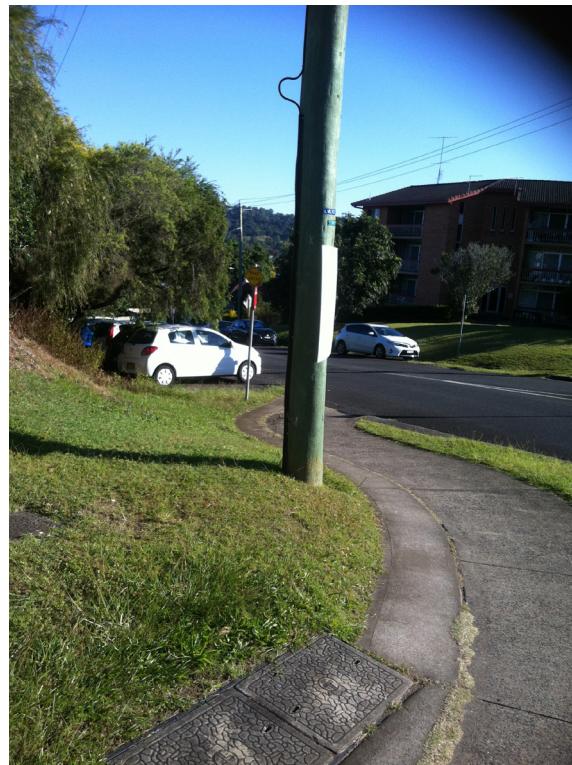


Figure 7
Cycle route, Uralba and Hunter St Intersection

If this section of the road becomes a 40km/hour shared road way then this will make it safer for cyclists, particularly if the pedestrian crossing 'blister' is adjusted so that cyclists aren't forced into the motor vehicle traffic. If the volumes of traffic increase in Uralba Street with cars using the multi-story car-park, this situation will worsen. As stated above, the bike path has very limited signage and consideration needs to be given to creating a separate bike path if this cycle route from Goonellabah to Lismore is to be promoted. Current bike parking is limited to staff parking at the rear of the hospital (Mental Health underground car-park area). Cyclists have requested a 'swipe' card to make it easier to enter the underground car park as it is very hard to maneuver a bike through the current doorway. Lockers for cyclists using these racks would be useful. Provision should be made for three undercover bike racks to be installed at the new front entrance to the hospital for staff and visitors.

Lismore City Council has recommended a new cycle-way from the CBD to the hospital via Laurel Avenue. This will improve access for cyclists coming from this area and North and South Lismore but will not improve access for cyclists coming from Lismore Heights or Goonellabah who will probably continue to use Uralba Street.

Public Transport: There is limited commuter public transport in the region compared with options in metropolitan areas. Lismore has a bus service but the train service was abandoned 12 years ago. State-subsidised school buses provide an addition to this network. These buses feed from villages to towns: they leave once in the morning and return between 3-4pm each afternoon.

Northern Rivers Buslines Bus routes 661, 681, 682 and 684 provide services to and from the Hospital to Lismore and Goonellabah. The frequencies of these services are generally limited to one per hour with the exception of the morning peak when two services occur. All city routes pick up and drop off in Uralba Street (at or opposite the main entrance) with the exception of 683 which only comes to Hunter Street.

Northern Rivers Buslines are keen to create more commuter routes services the hospital for staff and visitors if there is a demand. Northern Rivers Bus lines reduced their maximum each way fare from \$9 to \$6 in January, 2015 year to attract more non-student passengers. Pensioners and Senior Card Holders pay a maximum fee of \$2.50 per day. At present buses from Coraki, Nimbin (Waller's Buses), Mullumbimby and Casino only pick up and drop off passengers at the Lismore Transit Centre – approximately 2km from the hospital. Buses from Lennox Head, Ballina and Bangalow drop off and pick up at the Lismore Bus interchange (approximately 500 m from the hospital). Northern Rivers Buslines and Waller's Buses from outside Lismore could potentially pick up and drop off passengers at the front entrance of the hospital. The Traffic and Parking Report (Taylor Thompson Whiting, 2015). recommends that bus zones are maintained close to the hospital entry with improved access on Uralba Street. The new entrance way could display bus stop signage and timetables. Transport for NSW will consider requests to allow a travel free or at a reduced price for a limited trial to attract more passengers.

Taxi Services have requested a dedicated car park for a taxi on Uralba Street near the new main entrance of the Hospital and will ensure a taxi is waiting at the rank most of the time. The NSW Government provide a half rate subsidy for taxi travel for people who are unable to use public transport or drive because of a severe or permanent disability.

Patient transport services have requested good access at the front entrance of the hospital to unload patients who are attending medical appointments. They require adequate short term parking at the entrance with enough access to get wheelchairs out of the rear of the vehicle. The LHD Patient Transport Vehicles will need long term (up to several hours) parking while they wait for patients to take them home.

Carpooling: Carpooling can reduce the number of cars parked at the hospital, save money for commuters and reduce fossil fuel use. It is a practical way of cutting transport costs in rural and regional areas where public transport is limited. The Northern Rivers Carpool is a free, online service which was set up by North Coast Area Health Service in collaboration with six local councils, Transport for NSW and Southern Cross University partly as the result of the One Car Less project. The car pool website was promoted to staff in 2009 and one car dedicated car-park was provided for car poolers in the Mental Health car-park at that time. Since then, the dedicated car-park has been built over and not replaced. It is recommended that this dedicated car park be reinstalled and provided free for staff that travel with two or more passengers (plus the driver). Enforcement would be by fellow travelers reporting drivers who break the rules.

On and off street car parking: The Lismore Hospital Car Park and Traffic Report (Taylor Thomson Whiting 2015) details most car parking issues for staff and patients however there are additional issues to consider.

Maximise and formalise on street parking in the Health Precinct: Uralba Street between Hunter and Diadem Street has rear to curb parking at 45 degree angle. Without lines to delineate car parks, space is wasted (figure 8). The addition of lines will increase the number of car parks. There is also some confusion about how to park cars as Diadem Street is also 45 degree angle parking but nose to curb (and this is more dangerous for exiting onto the busy road). Cyclists also find riding on streets with nose to kerb parking more dangerous.



Consistent on-site parking fees for all staff in all Lismore Health Precinct sites: The rules for on-site car parking for staff varies at each building and will need to be made consistent for all staff parking at all sites. Some sites already charge fees for staff to park. Other sites have limited car parking that is filled as staff arrive.

Consider solar power outlets in the new multi-storey car park: With increasing interest in cars powered by electricity generated by solar power, the multi-storey car park could lead the way by generating electricity by solar power and providing this power to a selected number of car parks. At present there are legal issues in selling this power on to people using the car park but this may be overcome in the near future and this could potentially be an additional source of income for the car park operator.

Car Park Fee Structure: Parking charges should be 'pay as you go' rather than 'pay up front'. Evidence shows that one staff purchase a weekly, monthly or annual parking permits they don't have a financial incentive and therefore are much less likely to use alternatives one or two days per week (Dep't Transport UK, 2002).



Figure 8, Informal and space-wasting parking in Hunter Street

4. Summary of considerations

The following points are key issues to consider in developing an effective staff and visitor travel plan for Lismore Base Hospital:

- Staff exhibit standard Australian commuting practice for a workplace located in an outer suburban setting, with the majority of staff driving to work (99%).
- The majority of drivers (57%) have not reduced their car use and are not considering doing so.
- Public transport is limited though bus lines are open to providing more appropriate commuter services for staff if there is a demand.
- A bus stop at the front entrance with appropriate signage and timetables is needed
- Past programs suggest that promotion walking and cycling to work will produce limited increases in active travel.
- Cycling infrastructure (cycle paths, storage facilities) needs development
- Car-parking restrictions, including paid parking can incentivise alternative travel modes.
- A flexible work policy could allow some non-front line staff to work from home or work from a hot desk in a worksite closer to home (if available) one or two days per week to reduce travel to Lismore.
- A dedicated car pool car-park needs to be restored and carpooling promoted amongst staff.

5. Travel Plan Actions

1. PUBLIC TRANSPORT			
	Action	Time	Responsibility
1.1	Confirm areas of restricted parking and costs of paid parking	September 2015	Lismore City Council Project Officer, Capital Works
1.2	Survey staff about potential future use of public transport, walking and cycling given their introduction of paid and restricted parking around the Hospital campus	October 2015	Health Promotion
1.3	Negotiate with NR Bus lines and Waller's Buses to provide a commuter service to the front entrance of the hospital to service office workers (8.30am- 5pm) based on results of survey once car-parking restrictions and paid parking have commenced	December 2015	Health Promotion
1.4	Negotiate with Transport for NSW to provide a period of free or very low cost travel to encourage new commuters to use the service	December 2015	Health Promotion
1.5	Promote new bus services for staff, patients and visitors	February 2016	Health Promotion
1.6	Monitor use of the new bus routes	February- April 2016	Bus services, Transport for NSW
1.7	Assess impact of pilot public transport campaign and make recommendations for future use or increased services	April 2016	Health Promotion
1.8	Ensure bus routes and numbers are included in the Transport Access Guide (see section 4)	December 2015	Health Promotion
1.9	Update Transport Access Guide as needed but review at least annually to ensure bus route information is accurate	April 2015 and then annually	Health Promotion
2.0	Provide a dedicated taxi car park on Uralba street	February 2015	Lismore City Council
2. CYCLING AND WALKING			
2.1	Install 3 bicycle stands undercover at the new Hospital entrance	January 2016	Capital Works
2.3	Provide new bike route infrastructure from CBD to Hospital and increase signage on existing routes.	When funding available	Lismore City Council
2.4	Test new and existing bike routes from CBD, North and South Lismore and Goonellabah to assess safest and easiest routes	June 2015 and when new bike route is built	Health Promotion
2.4	Ensure any new bike routes, bike racks, lockers and shower information is included in the Transport Access Guide update, and promote via channels listed in Communication.	December 2015	Health Promotion
2.4	Develop and implement a campaign to promote active travel to work (walk, cycle and public transport) for staff using health, cost savings and for environmental benefits as key drivers.	To coincide with car park opening	Health Promotion
2.5	Offer free safe cycling programs for staff and create buddy systems for new cyclists to support them getting to work safely	March 2016	Health Promotion
2.6	Annually run campaigns to promote walk to work day and cycle to work days	Annually	Health Promotion
2.7	Consider a separate cycle path on the south side of Uralba Street across from the hospital	September, 2015	Lismore City Council
2.8	Provide regular cyclists (who request them) with swipe cards to enable easy access to the bike rack in the Mental Health underground car park and lockers for cyclists.	February 2015	Capital Works

3. CARPOOLING			
	Action	Time	Responsibility
3.1	Promote carpooling amongst staff using cost savings as a key driver for behavior change	February 2016	Health Promotion
3.2	Host carpooling event to gauge likely numbers of carpoolers and form matches	February 2016	Health Promotion
3.2	Reinstate dedicated car pool car park at the rear of the Hospital as a free park for people with 3 or more passengers	February 2016	Capital Works
4. CAR PARKING			
4.1	Consider consistent on street parking rules in the Hospital Precinct (e.g. all rear to curb) and line painting to maximise car parks and on street parking restrictions in Hospital Precinct.	November 2015	Lismore City Council
4.2	On site car parking fees for staff should be consistent for all buildings in the Hospital Precinct	September 2015	
4.3	Ensure Car-Park Management Plan includes recommendations from this Travel Plan including: <ul style="list-style-type: none"> Restoring free dedicated car parking for car poolers Retaining dedicated car parking for oncology and renal patients undergoing treatment Creating adequate short and long term parking for official patient transport vehicles (see details p. 12) Creating adequate short term parking for wheelchair taxis at the front entrance Ensuring the new multi-story car park has adequate lighting and pedestrian access to the hospital Ensuring the new entrance to the car park and pedestrian crossing does not create unsafe conditions for cyclists. Consider cycle racks in the car-park if these cannot be accommodated at the main entrance. 	September 2015	Capital Works
4.4	Structure car parking fees so it is 'pay as you go' rather than 'pay up front'	September 2015	Capital Works
5. POLICY			
5.1	NNSW LHD consider working from home and/or "hot-desking" as part time alternatives for appropriate staff to reduce travel/ enable active travel rather than commuting by car in any new Flexible Work Policy	November 2015	Workforce

6. COMMUNICATIONS

	Action	Time	Responsibility
6.1	<p>Create a Lismore Base Hospital Transport Access Guide</p> <p>Print and place copies of the updated Transport Access Guide at all main hospital entrances.</p> <p>Host an online version of the Transport Access Guide on the hospital intranet and promote to existing staff.</p>	February 2016	Health Promotion
6.2	Provide information on non-car options for commuting on the NNSW LHD Health Promotion website.	February 2016	Health Promotion
6.3	Ensure travel plan information, including the Transport Access Guide and travel plan website page, is integrated into Lismore Base Hospital site orientation for new staff.	February 2016	Health Promotion
6.4	Develop calendar of regular communication (e.g. every 6 weeks for 4 months) about the travel plan for staff via District and Hospital newsletters, websites and Facebook pages.	February 2016	Health Promotion
6.5	Host a Staff Travel Expo in December 2013 offering Personal Journey Planning to encourage staff to adopt actions outlined in the travel plan.	February 2016	Health Promotion, NRSDC Travel Coordinator
6.6	Incorporate travel data in the information provided on the monitor at the main entrance	February 2016	Health Promotion

7. GOVERNANCE AND MONITORING

7.1	Conduct quarterly review to track progress of implementation of travel plan actions.	From February 2016	Health Promotion
7.2	Conduct staff travel survey to track progress of travel plan achievements.	April 2016 March 2017	Health Promotion
7.3	<p>Monitor:</p> <ul style="list-style-type: none"> • Number of Transport Access Guides downloaded/hard copies used. • Patronage on any new commuter public transport services • Feedback from public transport providers • Private car-park usage • Carpooling use (number of new users) 	April 2016 March 2017	Health Promotion

Appendix 1: References

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Appendix 2: Key stakeholders consulted

People:

Linda Wirf, Northern Rivers Social Development Councils Travel Project officer

Julie Dodds, Manager Patient Transport Services, Health Transport Unit

Doug Stenson, Cancer Council Volunteer, Far North Coast Cancer Council

Scott Huxley, Stage 3A Redevelopment Project Officer, NNSW LHD

Sophie Morris, Capital Works, NNSW LHD

Alanna Williams, Aboriginal Liaison Officer, NNSW LHD

Rachel Sipple, Safe cycling teacher, Auscycle

Ben Riley, Regional Transport Coordinator- Far North Coast, Transport for NSW

Anthony Knight, staff member and regular cyclist, NNSW LHD

Lizette Twizleton, Partnering and Community Engagement Officer, Lismore City Council

Dean Baldwin, Urban Works Engineer, Lismore City Council

Jane Milz, Manager Renal Services, MNCLHD & NNSWLHD

Committees:

Northern Rivers Health Transport Committee

Lismore Sustainable Transport Committee

Far North Coast Cancer Council Board

Lismore Health Precinct Steering Group

Local residents (regular meetings between Capital Works, Health Infrastructure, NNSW LHD Executive, Lismore City Council and local residents were held on a range of issues including car parking, the building work and future plans for the multi-storey car park)