Sub-regional Bike Planning Study: Penrith

Client: PCAL NSW BikePlan
Reference: HS11151
GTA Consultants Office: Sydney

Quality Record

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Executive Summary

In Sydney, 55% of all car journeys are less than five kilometres and 33% are less than three kilometres. These distances represent a travel time of 10-20 minutes by bicycle. Further research by PCAL has identified five sub-regional centres in the Sydney Metropolitan region where a particularly high percentage of car trips are less than 5km. The PCAL NSW BikePlan has commissioned studies of these centres to develop local cycle encouragement and infrastructure improvement programs to serve the catchment within a 5-8 km radius of each centre.

GTA Consultants was commissioned to undertake the sub-regional bike planning study for the Penrith City Centre catchment area. There were three broad objectives identified in the project brief for the Penrith sub-regional study as follows:

- To identify specific cycling encouragement initiatives for the Penrith local area
- To generate transferable ideas for inclusion in PCAL’s New South Wales Bike Plan for encouraging wider uptake of cycling in NSW, and
- To identify and recommend improvements and updates to the NSW Bicycle Planning and Design Guidelines.

Penrith Study Area

The Penrith LGA is relatively large and wide spread, with generally low urban densities. The region is typified by a strong town centre and main street, surrounded by groups of relatively young subdivisions for residential and industrial development. A significant part of the region is rural or semi-rural in nature with long lengths of two-lane black top roads. The cycling catchment is affected by the Nepean River, the Western Railway and the M4 Motorway; all of which are significant barriers to accessibility.

The key points to note in relation to cycling in Penrith are as follows.

Key Statistics

- 47% of car trips are under 5km in length
- 68% of Penrith residents travel to work by car, and
- 9% of households do not own a car, compared with a Sydney average of 14% while 57% of households own 2 or more cars.

Opportunities

- Compared to the Sydney Statistical Division, there is a larger proportion of people in the younger age groups (0-24) and a smaller proportion in the older age group (60-85+), including both vulnerable child cyclists (5-11) and more confident teenage / young adult cyclists (12-24)
- There are recreational facilities within the study area which with little effort and cost could be upgraded to a suitable standard for cycling of all ages and abilities
- There are educational cycling facilities within the study area (CARES) which are being used currently
- In general the study area is flat
- There are large individual employers within the study area who could influence a mode shift towards cycling such as Nepean Hospital, Penrith Panthers, Penrith Plaza (Westfield) and the University of Western Sydney (staff & students)
Executive Summary

- Penrith includes a number of popular markets including Sydney's biggest mid-week market called Penrith Showground Markets, and
- The Blue Mountains plateau begins less than 5km west of Penrith and extends over a quarter of a million hectares of native bushland which is easily accessible to and from Penrith City Centre by train.

Constraints
- Although the existing on-road bicycle route network is significant (154km or 12% of the total road length), it is fragmented, with significant sections of below-standard facilities, and
- The physical barriers of the M4, the Western Railway Line and the Nepean River reduce cyclist accessibility to and from the Penrith City Centre subsequently reducing the potential cycling catchment.

Consultation
Three stakeholder consultation sessions were held:
- Pre-Sub-Regional Study Consultation (21 February 2009, by PCAL NSW Bike Plan)
- Penrith Stakeholder Workshop 1 (23 February 2009, by GTA Consultants), and
- Penrith Stakeholder Workshop 2 (5 May 2009, by GTA Consultants).

The consultation process was used both to identify and develop ideas for encouraging cycling in Penrith and to evaluate and prioritise these ideas.

Project Assessment Framework
In the current political environment, there is increasing pressure on the application of limited funding across a wide range of transport-related projects. Therefore it is important to establish a consistent project assessment framework across all transport projects such that the relative merits of (for example) a small cycling project can be compared to a major highway upgrade project. To provide a simple yet effective method of prioritising projects where consistent quantitative data is not available, GTA Consultants has developed a two-step assessment process including a “Priority Evaluation Matrix” (refer Table 7.3, Page 53) and an “Action Evaluation Matrix” (refer Table 7.4, Page 53). This process allows equal standing to be given to both infrastructure and non-infrastructure projects, while taken a number of factors into consideration, such as expected costs, potential benefits, engineering or political feasibility, community consultation and opinion, as well as conflicting priorities and needs.

Penrith Priority Initiatives
The priority initiatives developed by GTA Consultants for the local level are summarised in Table 5.1 including three categories: (1) Bicycle Infrastructure Measures; (2) Bicycle Facilities; and (3) Education, Awareness and Promotion Initiatives. The improvements to the Key Planning Principles and Guidelines primarily relate to a wider application across New South Wales and are documented in a separate working paper.
## Table S.1: Priority Action Plan for Penrith

<table>
<thead>
<tr>
<th>Priority Initiative</th>
<th>Initiative Description &amp; Application</th>
<th>Issue Addressing</th>
<th>Target Audience</th>
<th>Cost</th>
</tr>
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<tbody>
<tr>
<td><strong>Bicycle Infrastructure Measures</strong></td>
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<tr>
<td>1. Implement Strategic Bicycle Network</td>
<td>Focus on two pilot “high quality” cycle routes the first being Glenmore Park to the Penrith City Centre including the implementation of a facility which overcomes the M4 barrier, possibly name “Suburb to City route 1”. The second should be a recreational cycle route along the Nepean River connecting Penrith Lakes to Penrith Panthers. This route should be promoted as a safe route which is suitable for cycling of all ages and abilities and should provide non-cyclists with a good opportunity to cycle in a safe environment prior to using the on-road routes.</td>
<td>Network Deficiencies &amp; Safety Concerns</td>
<td>Glenmore Park Residents &amp; Novice Cyclists</td>
<td>Medium</td>
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<tr>
<td>2. Comprehensive Bicycle Route Signage</td>
<td>Cyclist way-finding and implementing a cycle network irrespective of specific cycle infrastructure. Develop and focal point plan taking into account local and regional destinations with signage integrated with street signs where possible.</td>
<td>Lack of Way Finding Information</td>
<td>Existing and new cyclists</td>
<td>Low</td>
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<td><strong>Bicycle Facilities</strong></td>
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<td></td>
<td></td>
<td></td>
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<tr>
<td>1. High Density Secure Bike Parking</td>
<td>High density secure bike parking should be provided at key town centre and transport node locations where there is existing high demand such as Penrith Railway Station, as well as shopping centres such as Westfield Penrith and close to Government services in the town centre. The provision of these facilities will be fundamental to other non-infrastructure encouragement initiatives</td>
<td>Lack of end of trip facilities</td>
<td>Existing and new cyclists</td>
<td>Low</td>
</tr>
<tr>
<td><strong>Education, Awareness and Promotion Measures</strong></td>
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<tr>
<td>1. Penrith Cycling Map/Brochure</td>
<td>Common initiative developed by many Councils and organisations. Needs to be in an electronic format which can be easily transferred onto Council’s website and must include everything cycling i.e. Bike routes, Bike shops, Bike contacts, Safe Riding tips etc.</td>
<td>Lack of cycle route knowledge/ information</td>
<td>Whole Community</td>
<td>Low</td>
</tr>
<tr>
<td>2. Frequent Cycling Scheme Pilot</td>
<td>This pilot initiative should initially focus on cycling to and from Penrith Station. In association with a local station business (coffee shop/café) offer food/coffee discount incentives to cyclists. If successful this could be rolled out to Westfield Penrith shoppers, i.e. Offering discount shopping vouchers for cyclists.</td>
<td>Improving the attractiveness of cycling to non cyclists “Why is he/she getting a discount?”</td>
<td>Commuters</td>
<td>Medium</td>
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<tr>
<td>Priority Initiative</td>
<td>Initiative Description &amp; Application</td>
<td>Issue Addressing</td>
<td>Target Audience</td>
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<td>3. Voluntary “Pilot” Employee TravelSmart</td>
<td>This initiative could be co-ordinated through the Chamber of Commerce but be offered on a voluntary basis. Penrith City Council to provide expertise and resources to execute.</td>
<td>High motor vehicle use for short trips to and from City Centre.</td>
<td>City Centre Business Employers/ Large Business Employers i.e. Strip Shops/ Nepean Hospital, Council, Westfield Penrith</td>
<td>Medium</td>
</tr>
<tr>
<td>4. Bicycle Information Stations</td>
<td>It is envisaged that there be two types of information station. The first is of a static nature located in the City Centre to include the bicycle map/brochure and any other available cycling resources. The second is a mobile information station located at the various Penrith Markets. These information stations should also be supported by the BUG’s and local bicycle shops with opportunities to offer bicycle buddy support, bicycle maintenance skills advice, run the bicycle helmet scheme and a market activity etc.</td>
<td>Lack of cycle route knowledge/information</td>
<td>Whole Community</td>
<td>Medium</td>
</tr>
<tr>
<td>5. Local Heritage/Arts/Attractions Cycle Tours</td>
<td>There are two cycle tour opportunities which would have some merit. The first could be within the Penrith City Centre itself taking in the various heritage items, museums, galleries and parks. The second tour could be associated with links to the Blue Mountains where people catch the train to Glenbrook and cycle back to Penrith. Penrith City Council needs to take advantage of the closeness of the Blue Mountains and in particular the tourism aspect of it. The Blue Mountains Regional Tourism Plan indicates a need to develop a Tourism Management Committee which Council should actively engage in. Some examples of existing active cycle tours operating include Manly Tours and the Parramatta Heritage ride.</td>
<td>No existing local cycle tourism rides or local established recreational rides</td>
<td>Whole Community</td>
<td>Medium</td>
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1. Introduction

1.1 Background

In Sydney, 55% of all car journeys are less than five kilometres and 33% are less than three kilometres (PCAL, 2007). These distances represent a travel time of 10 to 20 minutes by bicycle. Further research undertaken by PCAL has identified five sub-regional centres in the Sydney Metropolitan region where a particularly high percentage of car trips are less than 5km, therefore presenting a good opportunity to encourage a higher uptake and mode share for bicycles in these areas.

Cycling is the fourth most popular physical activity for adults in Australia. It can be undertaken by people of all ages and fitness levels, is affordable and can be easily integrated into people's daily lives and used as a form of transport (CPF, 2008). In 2007, NSW residents purchased around 430,000 new bicycles, and overall bicycle ownership in Australia is high (CPF, 2008), indicating an underlying interest in cycling, with considerable potential for increased participation. Research by the City of Sydney found that 75% of non-regular cyclists said off-road routes would make them cycle more regularly. Thus, with the appropriate facilities, education and management to address and overcome actual or perceived issues, a behavioural change and mode shift can be achieved.

The PCAL NSW BikePlan has commissioned studies of the five sub-regional centres to develop local cycle infrastructure improvements and local encouragement programs to be used for a wide range of common trip purposes. GTA Consultants was commissioned by the PCAL NSW BikePlan in early 2009 to undertake the sub-regional bike planning study for the Penrith City Centre catchment area.

The Penrith LGA is relatively large and wide spread, with generally low urban densities. The region is typified by a strong town centre and main street, surrounded by groups of relatively young subdivisions for residential and industrial development. A significant part of the region is rural or semi-rural in nature with long lengths of two-lane black top roads. The cycling catchment is affected by the Nepean River, the Western Railway and the M4 Motorway, all of which are significant barriers to accessibility therefore reducing the catchment area for cyclists.

1.2 Key Project Objectives

There were three broad objectives identified in the project brief for the Penrith sub-regional study as follows:

- To identify specific cycling encouragement initiatives for the Penrith local area
- To generate transferable ideas for inclusion in PCAL’s New South Wales Bike Plan for encouraging wider uptake of cycling in NSW, and
- To identify and recommend improvements and updates to the NSW Bicycle Planning and Design Guidelines.

The brief also stated that as well as suggested local infrastructure improvements, the study would need to produce ideas for sustainable local programs to encourage cycle use for a wide range of common trip purposes. These programs would also need to be designed to be implemented successfully through partnerships between government and community-based stakeholders.

It was further specified that the methodology for the study should be designed to plan, develop and guide the subsequent implementation of a "sub-regional cycle access package" to serve the catchment within a
5.8 km radius of the major centre under study. This integrated package of actions should encourage bicycle use for commuting, recreational, education, shopping, personal business and social purposes, particularly for short trips.

1.3 Purpose of This Report

This report sets out the findings and recommendations of the Penrith sub-regional bike planning study, including consideration of the following:

- Key features of the Penrith study area
- Existing cycle usage, infrastructure and encouragement programs
- Consultation with bicycle users and stakeholders
- Funding opportunities
- Encouraging cycling through infrastructure and non-infrastructure initiatives and actions, and
- Highlighting required improvements and updates to the NSW bicycle planning and design guidelines.

1.4 Referenced Documents

In preparing this report, reference has been made to a number of background documents, including:

- NSW Cycle data and statistics prepared for the Premier’s Council for Active Living
- Specific cycle practice and research documentation as referenced, and
- Other documents as nominated.
2. Penrith Study Area

2.1 Extent of Study Area

The study area for the Penrith sub-regional strategy is a 5-8km radius around the Penrith City Centre, which represents a cycling time up to approximately 30 minutes. The study area is shown in Figure 2.1.

2.2 Geography and Topography

The Penrith Local Government Area (LGA) is located on the western extent of Greater Sydney at the foot of the Blue Mountains. The Penrith LGA is relatively large and wide-spread, with generally low urban densities. The region is typified by a strong town centre and main street, surrounded by groups of relatively young subdivisions for residential and industrial development. The Penrith City Centre is one of the major commercial centres in Greater Western Sydney, with St Marys the other large centre in the LGA. A significant part of the region is rural or semi-rural in nature with long lengths of two-lane black top road.

The cycling catchment is affected by the Nepean River, the Western Railway and the M4 Motorway, all of which form barriers to cross and reduce the effective catchment area.

In terms of topography, the Penrith area is relatively flat with minimal grade changes when travelling the full length (north-south and east-west) around the study area, making it attractive for comfortable cyclist travel. The topography of the study area is shown in Figure 2.1.
2.3 Trip Attractors and Generators

Identification of trip attractors helps to identify those places that cyclists will most commonly visit and are useful in determining the main cycle desire lines. The focal point for the study area is the Penrith City Centre, with key trip attractors within the study area including commercial and retail land uses, railway stations, schools and educational establishments, recreational areas and hospital/medical uses.

The trip attractors and generators within the study area are shown in Figure 2.2, with the details included as follows.

**Commercial and Retail:**
- Penrith Plaza Shopping Centre
- Nepean Square Shopping Centre, Penrith
- High Street main street shopping, Penrith
- St. Marys City Centre, and
- Local centres, including Emu Plains, Kingswood, Glenmore Park and Werrington County.

**Industrial/Employment Areas:**
- Penrith Industrial Area
- Emu Plains Industrial Area
- Jamisontown Industrial Area, and
- St. Marys Industrial Area (within the catchment around St. Mary Railway Station – minimal connection to Penrith).

**Railway Stations and Interchanges:**
- Penrith railway station and interchange
- Emu Plains railway station and interchange
- Kingswood railway station and interchange
- Werrington railway station, and
- St. Mary’s railway station and interchange.

Werrington and St. Marys railway stations are located more than 5km from Penrith City Centre and would have their own catchment areas, with minimal travel occurring between Penrith and these stations.

**Hospital/ Medical:**
- Nepean Hospital – Public and Private, Kingswood
- Governor Phillip Hospital, Penrith, and
- Various local medical centres.

**Education:**
- University of Western Sydney – Penrith Campus, Kingswood and Werrington sites
- TAFE NSW Western Sydney Institute – Nepean College, Penrith Campus and Kingswood Campus
- Libraries – Penrith, St Marys, Emu Plains, and
- Primary and Secondary schools – including Penrith Public School, Penrith High School, Nepean High School (Emu Plains), Kingswood High School, Jamison High School and Cambridge Park High School.
Recreation:

- Penrith Park, including Penrith Stadium and Howell Oval
- Penrith Rugby League Club
- Penrith Lakes Regional Park
- Nepean River – foreshore and weir reserve
- Jamison Park
- Werrington Lakes Flora & Fauna Reserve, and
- Various Sporting Fields, Leisure Centres and Swimming Pools.

2.4 Road Network

2.4.1 Road Hierarchy

The administrative/functional classification of roads in NSW is:

- **State/Arterial** – Predominantly carry through traffic from one region to another, forming principal avenues of communication for urban traffic movements
- **Regional/Sub Arterial** – Connect the arterial roads of development and carry traffic directly from one part of a region to another. They may also relieve traffic on arterial roads in some circumstances
- **Collector** – Connect the sub arterial roads to the local road system, and
- **Local** – Access roads to properties.

Figure 2.2 shows the road hierarchy for the Penrith study area.
2.4.2 Traffic Volumes

Traffic volume data on the road system has been collated from RTA data for 2005. A summary of the Annual Average Daily Traffic (AADT) volumes for a number of key roads are summarised in Table 2.1. The data in Table 2.1 indicates that, in addition to the M4 Motorway that runs east-west through the LGA, there are a number of key roads that carry significant volumes of traffic, particularly the north-south roads of The Northern Road and Mulgoa Road/Castlereagh Road. These roads service both local trips and regional ‘through’ trips.

Table 2.1: Traffic Volumes in Penrith Study Area

<table>
<thead>
<tr>
<th>Road</th>
<th>Two-Way Daily Traffic Volume (AADT)</th>
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<tr>
<td>M4 Motorway</td>
<td>56,000</td>
</tr>
<tr>
<td>Parker Street (The Northern Road), north of Great Western Highway</td>
<td>41,150</td>
</tr>
<tr>
<td>Mulgoa Road, south of Preston Street</td>
<td>37,500</td>
</tr>
<tr>
<td>Richmond Road (The Northern Road), south of Andrews Road</td>
<td>34,000</td>
</tr>
<tr>
<td>Castlereagh Road, north of Great Western Highway</td>
<td>33,200</td>
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<tr>
<td>Great Western Highway, west of Parker Street</td>
<td>27,500</td>
</tr>
<tr>
<td>Great Western Highway, at Victoria Bridge/Nepean River crossing</td>
<td>25,150</td>
</tr>
<tr>
<td>Jamison Road, west of Woodriff Street</td>
<td>16,500</td>
</tr>
<tr>
<td>Coreen Avenue, west of Castlereagh Road</td>
<td>13,800</td>
</tr>
<tr>
<td>Old Bathurst Road, Emu Plains</td>
<td>13,200</td>
</tr>
<tr>
<td>Evan Street, at railway overpass</td>
<td>11,000</td>
</tr>
<tr>
<td>Henry Street, west of Woodriff Street</td>
<td>10,900</td>
</tr>
<tr>
<td>Belmore Street, west of Lawson Street</td>
<td>9,700</td>
</tr>
<tr>
<td>Great Western Highway, east of Russell Street</td>
<td>9,300</td>
</tr>
<tr>
<td>Andrews Road, west of Greygums Road</td>
<td>7,150</td>
</tr>
</tbody>
</table>

2.5 Barriers to Cycling in Penrith

There are a number of significant barriers to cycling in Penrith:

- The cycling catchment of Penrith is affected by the Nepean River, the Western Railway and the M4 Motorway, all of which form travel barriers and reduce accessibility for cyclists
- The heavily trafficked major roads and high speeds on roads such as the Great Western Highway, The Northern Road, Castlereagh Road, Mulgoa Road (indicated in Section 3.4) presents safety issues for on-road cycling and consequently requires off-road facilities of a high standard and cost
- Lack of awareness of cycling opportunities along with insufficient knowledge of available network facilities and alternative back street routes
- The existing Penrith bicycle network is fragmented and discontinuous which currently limits the attractiveness of the routes to potential cyclists
- Insufficient end-of-trip and parking facilities, limited number of safe and convenient opportunities to cross major roads and limited extent of off-road cycle paths
- There is a long-standing dependence on motor vehicles seemingly overriding the benefits that cycling can offer
- There is a lack of driver education and awareness in relation to cyclist interaction and sharing the road space given that often the only barriers separating the two modes is a painted line on the pavement, and
• Insufficient levels of funding and support to build infrastructure (such as pedestrian/cycle bridges) that will permit the safe and efficient crossing of these obstacles.

In identifying and understanding these barriers, it is possible to target and address these issues to enable greater participation by cyclists and encourage non-cyclists to start cycling.

2.6 Actual Cycling Catchment

Due to the layout of the study area road and cycleway network, particularly the location of the physical barriers described in Section 2.5, the actual cycling catchment does not cover as much area as the circular 5-8km radius shown in Figure 2.1 may indicate. The actual 30-minute cycling catchment is shown in Figure 2.3.

Figure 2.3 indicates that the potential catchment for cycling is somewhat reduced when these barriers to accessibility are taken into account. This highlights the need to open up these barriers and extend the catchment area to enable cycling to become a feasible transport mode for a larger proportion of the community.
Figure 2.3: Actual Study Area Cycling Catchment

Legend
Cycle Catchment Area
- Potential 5km Catchment
- Actual 5km Catchment

Road Hierarchy
- Motorway
- State Road
- Regional Road
- Local Road
3. Consultation

3.1 Pre-Sub-Regional Study Consultation

On the 11th February 2009 the PCAL NSW Bike Plan convened a workshop with relevant Bicycle User Groups and local Council representatives of Penrith to gather initial thoughts and ideas for improving cycling within the Penrith LGA. This workshop focused on three key areas as follows:

- Important external Penrith consultation stakeholders
- The opportunities and constraints of the 1996 Penrith Bike Plan, and
- Ideas for encouraging further cycling uptake in Penrith.

The outcomes of this initial workshop are detailed in the following sections of this report.

3.1.1 Composition of Consultative Groups

The Penrith focus group considered the following 12 agencies and organisations important to the facilitation and encouragement of cycling in the Penrith area:

- TAFE and University of Western Sydney
- Penrith Triathlon Club
- School Representatives/ Parents & Citizens Association
- Hospitals
- Developers (eg Delfin Lend Lease, Landcom and PLDC)
- Westfield
- City Rail
- Community Development / Community Neighbourhood Centre
- Sydney International Regatta Centre
- Penrith Valley Sports Foundation
- Panthers World of Entertainment, and
- Local / Neighbourhood Shop representatives (i.e. not City Centre).

3.1.2 Penrith 1996 Bike Plan

Penrith City Council listed the status, priorities and shortcomings of the Penrith 1996 Bike Plan as follows:

- The 1996 Bike Plan is currently being reviewed by GTA Consultants and will determine what has already been implemented
- Priorities of the 1996 Bike Plan were:
  - Integrated lane marked paths
  - Safe routes to schools, shops and public transport facilities
  - Provision of bike facilities for recreation and commuting
- The 1996 Bike Plan appears to have had limited success due to:
  - Council focus on other priorities
  - Lack of funding
  - Lack of consensus within the Council (Engineers vs Planners, Environmental officers and groups, Community Development groups)
• There are no measures of success, and
• No ongoing community engagement initiatives between Council/Planners and wider groups.

3.1.3 Local Encouragement Ideas

The focus groups were asked to brainstorm bike encouragement ideas using their local knowledge. A summary of the outcomes are as follows.

• Overcome physical barriers of M4 and Nepean River (and Victoria Bridge)
• Safer routes:
  • Community reluctance to ride without dedicated paths
  • No recognition for role of cyclists
• Actual paths which are attractive and direct/lead to where they want to go
• No more studies – pilot program, do something to demonstrate things working (e.g. trip to school, link between parents, children, school – riding bus)
• Need for one flagship bike path – e.g. Riverwalk, which encourages people to ride first (even recreationally) and then extend to short journeys
• Secure certainty of funding – threat to Development Contribution Funds for District cycle paths
• Hazards – some could be fixed very easily and cheaply and thereby enhance the riding experience, and
• UWS initiatives – keen to link with wider works.

3.2 GTA Consultants Penrith Sub-Regional Study Consultation

3.2.1 Penrith Stakeholder Workshop 1

On the 23rd February 2009 GTA Consultants convened a further workshop to formally introduce the study and to begin collecting ideas and information at a local level for encouraging greater cycling uptake in Penrith (refer Appendix A).

While the PCAL NSW BikePlan workshop consulted with the bicycle user groups and Council representatives only, the GTA Consultants workshop consulted with a wide range of local representatives. Input to the study was received from the following agencies and organisations through emails, telephone discussions, and/or attendance at the workshop.

• PCAL
• RTA
• Department of Environment and Climate Change NSW
• Penrith City Council
• Penrith City Centre Association
• Landcom
• Ministry of Transport
• NSW Police
• Western Sydney Institute of TAFE, Nepean College
• University of Western Sydney
• City Rail and RailCorp
• NSW Health
• Penrith Panthers Cycling Club
The workshop was mostly conducted as a group brainstorming and discussion session covering the areas of:

- Network development
- Encouragement initiatives
- Transferable ideas, and
- Improvements to the NSW Guidelines.

Some of the thoughts and ideas offered by the groups are outlined as follows:

**Network Development**

- Direct routes vs. green corridors
- Recreational cycling vs. commuter cycling
- Links from subdivisions to town centre
- Street crossings (focus on children)
- Dedicated on-road facilities
- End of trip facilities at railway stations, and
- Signage (policy, installation, advocacy).

**Network Rationale**

- Older areas not continuous
- Bikes follow network, and
- Need links through cul-de-sacs.

**Local Encouragement Initiatives**

- Safety of children
- Penrith map/brochure, and
- Points system – redeemable at local businesses.

**Transferable Ideas**

- City Rail train provisions and policy
- Early behavioural patterns for new residents
- Riding school bus
- Speed limits on streets
- Schools competition for best bike plan or other competition
- Bike hire readily available in the City Centre, and
- Universal designs – mobility.

**Improvements to Guidelines**

- LATM design for cyclists, and
- Broadening to cover other mobility issues/choice.

The thoughts and ideas identified during the above workshops were investigated and developed further by the project team as described in Sections 9, 10 and 11 of this report.
3.2.2 Penrith Stakeholder Workshop 2

On the 5th May 2009 a second workshop was convened by GTA Consultants at Penrith City Council offices to discuss the preliminary findings of the Penrith Sub-Regional Bike Planning Study (refer Appendix A). This included a presentation of the initiatives developed to date in the following areas:

- Bicycle facilities and infrastructure
- Education awareness and promotion, and
- Planning principles and guidelines.

Following the presentation, the workshop was divided into focus groups where attendees were asked to:

- Identify any missing initiatives
- Prioritise the initiatives developed
- Identify key issues critical to the success of the priority initiatives, and
- Identify possible partnerships with agencies and organisations.
4. Existing Cycling Infrastructure and Programs

4.1 Existing Bicycle Network

The existing bicycle network in Penrith municipality is estimated to consist of approximately 154km of on-road bike routes in the LGA representing 12% of the total road length in the LGA. About 51km are on classified roads (25% of total road length) and 103km on council roads (9% of total road length). There is just over 18km of bike routes identified in the rural areas.

The 1996 Penrith Bike Plan sought to develop a network consisting of on-road and off-road routes connecting throughout the Penrith LGA. Stages 1 to 5 were developed which identified the high priority actions for implementation in Stage 1, which were as follows:

- Bicycle parking
- Missing links along existing routes
- Routes to schools, and
- Signposting and line marking exercises.

Stages 2 to 5 included development of other routes within the LGA, including commuter links on urban and rural roads and off-road recreational paths.

Site inspections were undertaken by GTA Consultants to compile a list of the current facilities which make up the Penrith Bicycle Network. It was identified that only a small percentage of the total bicycle network had been implemented to date, with many facilities not meeting the standards required by the current NSW bicycle design guidelines (see Figure 4.1). However, bicycle route and local link opportunities were identified where the existing road shoulders or off-road paths were of sufficient width that only line marking and signage was required.

Discussions with local bicycle user group representatives indicated that:

- Existing off-road bicycle route infrastructure is used for recreational purposes by younger age groups, and
- Existing on-road bicycle route infrastructure is underutilised and primarily used by confident commuter cyclists only.

Some of the reasons identified for the current usage patterns include:

- Poor driver attitude in the local area towards cyclists
- High traffic volumes and/or vehicle speeds on key routes, and
- Narrow or deficient on-road bicycle route infrastructure with lower continuity and connectivity.
Legend

Land Use
- Penrith Town Centre
- Residential
- Business
- Rural
- Industrial
- Green Space & Nature Reserve
- University / School

Cycle Catchment Area
- Potential 5km Catchment
- Potential 8km Catchment

Existing Facilities Status
- Satisfactory
- Signage and Linemarking Improvements Required
- Inadequate Lane Width

Proposed Shared Paths on Existing
- Existing Footpath >=2.0m

Proposed Bicycle Shoulder Lanes
- Existing Road Shoulder >=3.4m

PCAL NSW Bike Plan
Penrith Bike Plan 2009
Penrith Bike Plan 2009 (Draft)
Current Bike Network Status

Legend

Land Use
- Penrith Town Centre
- Residential
- Business
- Rural
- Industrial
- Green Space & Nature Reserve
- University / School

Cycle Catchment Area
- Potential 5km Catchment
- Potential 8km Catchment

Existing Facilities Status
- Satisfactory
- Signage and Linemarking Improvements Required
- Inadequate Lane Width

Proposed Shared Paths on Existing
- Existing Footpath >=2.0m

Proposed Bicycle Shoulder Lanes
- Existing Road Shoulder >=3.4m

PCAL NSW Bike Plan
Penrith Bike Plan 2009
Penrith Bike Plan 2009 (Draft)
Current Bike Network Status
4.2 Typical Penrith Treatments

Some of the typical treatments that have been implemented in the study area are detailed as follows:

4.2.1 Shared Paths

There is a network of pathways running throughout the study area which provide a shared facility for cyclists and pedestrians through road reserves and residential subdivisions. Generally these are not marked or signposted as a shared facility so some improvements are required to delineate these routes for cyclist use. Some typical treatments are shown in Figures 4.2 to 4.5.

Figure 4.2: Shared Path – Penrith Park Reserve

![Figure 4.2: Shared Path – Penrith Park Reserve](image)

Figure 4.3: Shared Path – Penrith Park Reserve

![Figure 4.3: Shared Path – Penrith Park Reserve](image)
4.2.2 Bicycle Lanes

There are bicycle lanes and bicycle shoulder lanes at some locations throughout the study area. However, these tend to be located on busy roads, such as The Northern Road and Mulgoa Road, and are generally too narrow and inappropriate to safely accommodate cyclists with low levels of experience. There are also some issues with intersections where the bicycle facility is either provided only mid-block with discontinuous treatment through an intersection, or the intersection treatment is the only bicycle facility along a route. Some typical treatments and issues are shown in Figures 4.6 to 4.11.
Figure 4.6: Bicycle Lanes at Intersection Only - Wedmore Road, Emu Plains

Figure 4.7: On-Road Intersection Treatment - The Northern Road/M4 intersection, Glenmore Park

Discontinuous Bicycle Shoulder Lane
Figure 4.8: Bicycle Lane - Mulgoa Road

Figure 4.9: Bicycle Lane End with Risky Merge with Vehicles - Mulgoa Road

Bicycle “Squeeze” Point
4.2.3 Unmarked Bicycle Shoulders

Throughout the study area there are roads which have wide areas of sealed pavement with wide shoulders for parking. This type of layout is typical for the collector roads through residential areas, where on-street car parking is relatively low. In some locations, these shoulders have been marked with simple signage to identify the use as a cycling route. The signage used is not appropriate to adequately define the cycleway but the available space suggests that these routes could be simply updated with logos and signage to define a suitable cycleway. Some typical treatments are shown in Figures 4.12 and 4.13.
4.2.4 Local Area Traffic Management (LATM)

It is important that LATM measures, such as speed humps, kerb outstands and chicanes, do not act as cyclist pinch points. There are some locations within the study area where these pinch points have been avoided, such as extending shoulder lanes across a speed hump and providing cyclist detours. An example is shown in Figure 4.14.
4.3 Network Opportunities and Constraints

As highlighted by Council representatives, the Bicycle Plan has not been effective in enabling the development of a comprehensive bicycle network for Penrith, with the main reasons being a lack of commitment from Council and a lack of available funding. By not achieving many of the physical aims of the bicycle plan study, the key aim of encouraging the community to take up cycling and to cycle more often has been difficult to achieve. The quantitative data relating to cycling usage is discussed in Section 5.

In terms of the physical infrastructure of the network, observations indicate that there are opportunities to undertake low-cost works to enable the existing infrastructure to better accommodate cyclists both on-road and off-road. This is due to the wide sections of sealed roadways through residential estates, wide road reserves for both urban and rural areas and existing extent of off-road pedestrian links. Many other opportunities exist for development of the bicycle network, including space for new pathway networks through radial riparian corridors centred on the Penrith CBD and implementation of facilities as part of new site development (residential and industrial land releases). Whilst these opportunities exist, it is noted that there are also some major constraints to overcome, including the crossing of the Nepean River to connect Emu Plains and surrounds with the Penrith City Centre. The main opportunities and constraints are identified in Figures 4.15 to 4.25.
Nepean River Crossing

The current bridge width is too narrow to accommodate pedestrians or cyclists in a safe manner. Consideration should be given to upgrading the existing bridge with a separated shared path addition.

Figure 4.15: Nepean River Crossing - Great Western Highway (Victoria Bridge)

Wide Shoulders

The wide shoulders with minimal on-street parking would be suitable for designating as a bicycle shoulder lane with the addition of some logos and signage.

Figure 4.16: Wide Shoulders suitable for Bicycle Facilities - Coreen Avenue
Cul-de-sac Links

There are many cul-de-sac links which contain obstructions or are not properly treated to allow easy cyclist movements. These should be reviewed and reworked to accommodate both pedestrians and cyclists.
Figure 4.19: Obstructions in Cul-de-sac Link - South Penrith

Figure 4.20: Obstructions in Cul-de-sac Link - South Penrith
Crossing Treatments

There are crossing treatments which do not formally recognise the use by cyclists. There are also locations where crossings have not been provided but should be installed.

Figure 4.22: Crossing Treatment with wide median treatment but without bicycle signage - Tukara Road, South Penrith
New Footpaths

There are some locations where shared paths could be provided, either along existing desire lines or via the upgrade of standard footpaths in wide road reserves to a suitable shared path width.
4.4 Cycling Related Programs

Local Government Road Safety Program (LGRSP)

The Local Government Road Safety Program (LGRSP), implemented in 1992, has evolved to include 80 road safety officers employed in full or part time positions across 99 councils. The NSW Centre for Road Safety funds local councils to deliver road safety community behavioural and educational projects to their residents and to raise the profile of road safety within their councils. The LGRSP is funded until June 2010 under the terms of a Memorandum of Understanding signed in 1999 by the then Minister for Roads. Penrith City Council is one of the Councils who have employed a road safety officer to administer this program.

As stated in the 2009/10 Project Funding Guidelines, the objectives of the LGRSP for 2009/10 are to:

- "Facilitate the development and involvement of local level road safety networks and partnerships.
- Demonstrate the impact and effectiveness of community-based road safety programs.
- Improve the coordination of local government road safety initiatives with state and national road safety initiatives.
- Increase the priority of road safety within local government areas (LGAs).
- Increase the road safety expertise of council road safety officers (RSOs) and other local government personnel."

The role of Council’s road safety officers is to:

- "Provide an action plan of all projects in accordance with the Program Funding Agreement (PFA).
- Submit project proposals for RTA funding through the database.
- Report monthly via the database to RTA regional officers on the progress of projects as detailed in their action plan.
- Aim to incorporate road safety into high level council management and annual operational plans.
- Utilise existing road safety creative material and resources provided on the Road Safety Public Education Creative DVDs in accordance with the LGRSP objective to foster a whole-of-government approach."
One of the RTA road safety program areas identified in the 2009/10 Project Funding Guidelines is Bicycle Safety. This includes programs that aim to reduce the incidence and severity of crashes involving bicyclists throughout NSW. Its objectives are to:

- “Enhance awareness, knowledge and understanding of rider safety.
- Continue to improve attitudes, hazard perception and skills of cyclists.
- Promote the need for all motorists to watch for cyclists at all times.
- Provide for cyclists in the design, construction and maintenance of roads.
- Ensure that the design and use of all vehicles leads to improved safety for bicyclists.
- Engage the whole community in relation to the safety of bicyclists.”

Typical council road safety officer projects include:

- “Develop local media releases using approved RTA campaign strategies to target a specific group and time of year e.g. bike week.
- Identify a bicyclist crash area or time of year and conduct an investigation as to the nature of the problem and coordinate a targeted countermeasure. This can be conducted in partnership with an engineering project.
- Work with NSW Police on bicycle safety enforcement strategies.
- Identify bicyclist crash patterns and develop cycleway strategies.”

Road Safety Strategy 2005-2009

Penrith City Council’s Road Safety Strategy 2005-2009 outlines the five year goals for the Council to improve road safety across the LGA. Included within this are actions associated with improving safety for cyclists and in turn encourage greater cycling participation. These programs are summarised in Table 4.1.

<table>
<thead>
<tr>
<th>Five Year Goal</th>
<th>Action</th>
<th>Responsibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vulnerable Road Users</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Five year vulnerable road user strategy</td>
<td>Develop and Implement behavioural pedestrian, motorcycle and bicycle programs integrating education and engineering</td>
<td>Road Safety Coordinator RTA</td>
</tr>
<tr>
<td></td>
<td>Support and promote RTA pedestrian, motorcycle and bicycle safety campaigns at local level especially for children and older people</td>
<td>Road Safety Coordinator RTA</td>
</tr>
<tr>
<td></td>
<td>Develop strategies to sustain Community and Road Education Scheme (CARES) Facility in St Marys and ensure utilisation by schools over the long term</td>
<td>Road Safety Coordinator NSW Police School Education Consultants</td>
</tr>
<tr>
<td>Improved Road Safety for Pedestrians and Cyclists</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Improve safety and access for pedestrians and cyclists in CBD and across Penrith City</td>
<td>Implement a strategy for the provision of footpaths and cycleways</td>
<td>Asset Manager Road Network Services Engineer</td>
</tr>
<tr>
<td>New developments meet road safety needs of a growing population</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Quality assets meet the needs of the community</td>
<td>Consider appropriate installation of all road safety features, including cycleways, in forward management plans for new land release areas</td>
<td>Asset Manager Transport Planner Public Transport Providers Environmental Planner Senior Social Planner Development Services Unit Coordinator</td>
</tr>
</tbody>
</table>
Community and Road Education Scheme (CARES) Program

The Community and Road Education Scheme (CARES) Program is run by the NSW Police Service.

This program is run through bicycle education centres which run road safety education programs designed to teach school children in years 4 to 6 about the road rules. A bicycle education centre is located in St Marys, which is one of five such centres in metropolitan Sydney.

Operation Eggshell

One of the bicycle awareness campaigns that was organised by Penrith City Council was the Operation Eggshell Bicycle Helmet Program (refer Figure 4.26). This program was conducted to reinforce safe riding habits and to educate young people about bicycle safety. An allocation of 30 to 40 helmets was distributed to students from a school within the targeted suburb with the assistance of NSW Police.

This was deemed a successful program that was adopted for implementation on a more regular basis. Future versions of this same campaign may be conducted with the assistance of NSW Police or as part of Ride to School or Bike Week activities.

Figure 4.26: Operation Eggshell – Council Website Extract
5. Current Cycling Outcomes

5.1 Introduction

The key points to note in relation to cycling in Penrith are as follows:

- 47% of car trips are under 5km in length
- Cycling accounts for 0.59% of commuter trips (journey-to-work) compared with 0.95% for the Greater Metropolitan Region (New & Rissel, 2008)
- 68% of Penrith residents travel to work by car, with a further 2.5% travelling to a train station or bus stop by car (ABS, 2006)
- Only 9% of households do not own a car, compared with a Sydney average of 14% (ABS, 2006), and
- 57% of households own 2 or more cars (ABS, 2006).

5.2 Car Ownership

An assessment was done of the car ownership levels of the suburbs located in the Penrith study area. In the suburb of Penrith, 23% of households do not own a car. This is a relatively high proportion which can be credited to the wide range of public transport options located in close proximity which may be accessed by walking or cycling. Other suburbs with low levels of car ownership include Kingswood and Werrington, both of which are serviced by railway stations.

Areas with a very low numbers of households without a car include Glenmore Park, Leonay, Llandilo – Berkshire Park, Emu Heights and Claremont Meadows. These types of suburbs have been built around the private car and accessibility to the road network and are located outside of a reasonable walking distance from the railway line and other shops and services. However, they are still located within 5km of the centre of Penrith, a reasonable distance for cycling. It is suburbs like these where cycling may be used by those seeking some form of physical activity to destinations that would be too far to walk.

The full data summary is included in Table 5.1.
Table 5.1: Car Ownership Levels by Suburb in Penrith Study Area

<table>
<thead>
<tr>
<th>Suburbs</th>
<th>Household with no cars</th>
<th>Number of Households in the Area</th>
<th>% of Households without a car in the Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>Penrith City</td>
<td>5129</td>
<td>58912</td>
<td>8.7%</td>
</tr>
<tr>
<td>Cambridge Park</td>
<td>221</td>
<td>2204</td>
<td>10.0%</td>
</tr>
<tr>
<td>Claremont Meadows</td>
<td>31</td>
<td>1085</td>
<td>2.9%</td>
</tr>
<tr>
<td>Cranebrook</td>
<td>253</td>
<td>4490</td>
<td>5.6%</td>
</tr>
<tr>
<td>Emu Heights</td>
<td>28</td>
<td>1059</td>
<td>2.6%</td>
</tr>
<tr>
<td>Emu Plains</td>
<td>237</td>
<td>2862</td>
<td>8.3%</td>
</tr>
<tr>
<td>Glenmore Park</td>
<td>137</td>
<td>5944</td>
<td>2.3%</td>
</tr>
<tr>
<td>Jamisontown</td>
<td>184</td>
<td>1879</td>
<td>9.8%</td>
</tr>
<tr>
<td>Kingswood</td>
<td>574</td>
<td>3362</td>
<td>17.1%</td>
</tr>
<tr>
<td>Leonay</td>
<td>7</td>
<td>834</td>
<td>0.8%</td>
</tr>
<tr>
<td>Llandilo - Berkshire Park</td>
<td>15</td>
<td>741</td>
<td>2.0%</td>
</tr>
<tr>
<td>Penrith</td>
<td>1160</td>
<td>5040</td>
<td>23.0%</td>
</tr>
<tr>
<td>South Penrith</td>
<td>280</td>
<td>4160</td>
<td>6.7%</td>
</tr>
<tr>
<td>St Marys</td>
<td>762</td>
<td>4006</td>
<td>19.0%</td>
</tr>
<tr>
<td>Werrington</td>
<td>205</td>
<td>1382</td>
<td>14.9%</td>
</tr>
<tr>
<td>Werrington - Werrington County - Cambridge Gardens</td>
<td>106</td>
<td>2985</td>
<td>3.5%</td>
</tr>
</tbody>
</table>

5.3 Mode Share

5.3.1 Journey to Work

Analysis of Census data was undertaken to determine the mode split for people travelling to work within the Penrith LGA. This would include trips to the Penrith Centre, the various industrial areas and other local places of employment throughout the LGA. It was found that 0.58% of people travel to work by bicycle, whilst the majority at 71.86% travel to work by car as a driver or passenger with a further 0.49% using the car as part of a multi-mode trip. This is summarised in Table 5.2.
Table 5.2: Mode Split Journey to Work - Penrith LGA as Place of Employment

<table>
<thead>
<tr>
<th>Mode</th>
<th>Number of Persons</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Car, as driver</td>
<td>34,025</td>
<td>65.0%</td>
</tr>
<tr>
<td>Car, as passenger</td>
<td>3,580</td>
<td>6.8%</td>
</tr>
<tr>
<td>Truck</td>
<td>955</td>
<td>1.8%</td>
</tr>
<tr>
<td>Train</td>
<td>850</td>
<td>1.6%</td>
</tr>
<tr>
<td>Bus</td>
<td>445</td>
<td>0.85%</td>
</tr>
<tr>
<td>Bicycle</td>
<td>301</td>
<td>0.58%</td>
</tr>
<tr>
<td>Motorbike/scooter</td>
<td>262</td>
<td>0.50%</td>
</tr>
<tr>
<td>Taxi</td>
<td>78</td>
<td>0.15%</td>
</tr>
<tr>
<td>Other</td>
<td>196</td>
<td>0.38%</td>
</tr>
<tr>
<td>Walked only</td>
<td>1,395</td>
<td>2.7%</td>
</tr>
<tr>
<td>Two methods</td>
<td>862</td>
<td>1.7%</td>
</tr>
<tr>
<td>Three Methods</td>
<td>126</td>
<td>0.24%</td>
</tr>
<tr>
<td>Worked at home</td>
<td>2,204</td>
<td>4.2%</td>
</tr>
<tr>
<td>Did not go to work</td>
<td>6,387</td>
<td>12.2%</td>
</tr>
<tr>
<td>Not stated</td>
<td>664</td>
<td>1.3%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>52,330</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>

### 5.3.2 Quantum of Car Trips for all Trip Purposes

Analysis undertaken by the Transport Data Centre using the 2006 Census data identified the total number of car driver trips with Penrith as a destination undertaken on an average weekday for all trip purposes and a range of trip lengths. The results are shown in Figure 5.1 and summarised as follows:

- Car trips less than 5km = 34,946 trips
- Car trips between 5km and 10km = 13,330 trips
- Car trips greater than 10km = 25,457 trips, and
- Total car trips = 73,733 trips.

The above results were used to identify those centres that had a large percentage of car driver trips less than 5km. With a total of 47% of car driver trips to Penrith less than 5km, Penrith was identified as one of the top five centres that have a high potential for modal shift to cycling.
5.4 Road Safety

Analysis was undertaken of the data for crashes involving a cyclist between 2003 and 2007. A summary of the crash severity and the location of crashes is shown in Figure 5.2.

The crash locations are relatively spread out, with some concentrations identified in the Penrith and St Marys City Centres and along sections of Richmond Road (The Northern Road) and Bringelly Road. There was one recorded fatality within the 5km study radius on Castlereagh Road.

Figure 5.3 shows all bicycle accidents within the 5km notional catchment of Penrith, classified by general accident type. 93 accidents occurred within the 5-year period analysed. Of these, the most common accident type was collision with a vehicle from an adjacent direction at an intersection (26 accidents), followed by manoeuvring (23 accidents) such as entering or leaving parking and emerging from driveways.
Figure 5.2: Crashes Involving a Cyclist – Penrith LGA, 2003 to 2007 (Source: RTA)
Figure 5.3: Bicycle Accidents within 5km Catchment by Accident Type
5.5 Bicycle Theft

Recent statistics (PCAL, 2008) indicate that the most popular place for bicycle theft to occur in NSW is from a residential property (based on 2006 data). This is summarised in Figure 5.4.

Figure 5.4: Theft Proportion by Premises in NSW (2006)

![Pie chart showing theft proportion by premises in NSW (2006). Residential premises account for 84% of thefts, followed by outdoor/public places (14%), business/commercial (6%), carpark (7%), education (5%), others (4%).](image)

Source: PCAL 2008

The level of bicycle theft in Penrith in comparison to the other key centres in the Sydney region is relatively high in terms of overall numbers, where approximately 260 bicycle theft occurrences were reported in 2006. The comparison can be seen in Figure 5.5. However, it is noted that bicycle thefts in Penrith have reduced in numbers between 2003 and 2007.
5.6 Cyclist Handlebar Questionnaire

Austraffic undertook a survey for the RTA in November 2008 in order to collect information from people cycling to access Penrith Railway Station and/or Interchange. The data collected provided information on the type of people most regularly cycling in the Penrith area and for what reasons.

From the data, there were seven responses from male cyclists at Penrith Station/Interchange (note that this is a low number of cyclists surveyed and may not necessarily reflect the views of the wider community. The cyclists were mostly adults over 18 years of age cycling to the station to then travel by train or bus to work. Six cyclists rode between 3 to 5 times a week as it was deemed more efficient than car travel. The time taken for cyclists to get to the station/interchange varied from 5 to 30 minutes, with the average being between 10 and 20 minutes. This is consistent with what is regularly referred to as the ideal cycling trip length. Six commuters noted they had daily access to a car yet chose to cycle.

The main reasons listed for cycling to the station included:

- Being the quickest and easiest mode
- Improving health and fitness
- Being environmentally friendly, and
- Saving money.

The main reasons not to ride included:

- Inclement weather conditions, and
- Problems with bicycle theft.
From the data, six cyclists use the station/interchange but using a different mode to cycling. These include walking, catching a bus, being a car driver or a car passenger. And two cyclists choose to ride to further stations from home because of frequent and express trains.

Cyclists were able to provide additional comments relating to their cycling experience to the Penrith Station/Interchange. Many respondents suggested the need for secure bicycle parking, including bike racks, the use of CCTV for security, more lighting for safety and have bike racks located closer to the station.

5.7 Bicycle Parking Usage at Penrith Railway Stations

Information associated with the usage of bicycle parking at the railway stations within the study area was collated from the PCAL report (PCAL, 2008). Table 5.3 summarises the usage of lockers and the observed bicycles parking in racks or similar parking structure.

<table>
<thead>
<tr>
<th>Location</th>
<th>No. of Lockers</th>
<th>No. of Hired Lockers</th>
<th>Occupancy Level %</th>
<th>No. of Bicycle Racks</th>
<th>No. of Observed Bicycles Parked</th>
</tr>
</thead>
<tbody>
<tr>
<td>Penrith</td>
<td>40</td>
<td>28</td>
<td>70%</td>
<td>0</td>
<td>19</td>
</tr>
<tr>
<td>Emu Plains</td>
<td>40</td>
<td>24</td>
<td>60%</td>
<td>2</td>
<td>16</td>
</tr>
<tr>
<td>Kingwood</td>
<td>0</td>
<td>0</td>
<td>n/a</td>
<td>0</td>
<td>10</td>
</tr>
<tr>
<td>Werrington</td>
<td>0</td>
<td>0</td>
<td>n/a</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

Table 5.3 indicates that the usage of the lockers at Penrith and Emu Plains railway stations is moderate but with available vacancies that could be filled. Only Emu Plains station provides some form of bicycle rack, but with an obvious demand for additional facilities.

Recent interrogation of the booking system for the Penrith Station bike lockers detailed in Table 5.3 indicates that the occupancy level has increased to nearly 100% with only 1 available locker (17/5/09).

5.8 City and State-Wide Cycling Growth Objectives

As noted in Section 5.1, the Penrith LGA currently has a low cycling mode split, however Table 5.4 shows that Penrith has a high number of daily vehicle trips to the Town Centre, when compared to other centres currently being studied in Sydney, along with a high number of trips less than 5km in length. These numbers identify a significant target audience from which relatively small mode shift percentages would translate to a significant number of additional cyclists.

In order to quantify a feasible cycling mode split target, some assessment of current best practice and future bicycle mode share targets has been undertaken as follows:

- The Public Transport Authority of Western Australia currently provides bicycle parking at a rate of 2% per 1500 daily boarding’s, with a target of 10% by 2016
- City of Sydney has set specific targets to increase the number of bicycle trips made in the City of Sydney, as a percentage of total trips, from less than 2% in 2006 to 5% by 2011, and to 10% by 2016
- Brisbane City Council aims to achieve an 8% mode share target for cycling in Brisbane City by 2016
- The City of Melbourne Bicycle Strategy aims that by 2011, 10% of on-road vehicle movements to or through the CBD in the morning peak will be undertaken by bicycles
- The Queensland Bicycle Strategy aims to increase the proportion of all person trips made by bicycle by an additional 50% by 2011 and by 100% by 2021 (minimum targets), and
- The target for South-East Queensland in the Queensland Bicycle Strategy is for 8% of all trips to be made by bicycle by 2011.

The above targets suggest that up to 5% of total trips made by bicycle in the next 5-10 years are achievable while up to 10% of total trips might represent an aspirational target, bearing in mind the regional nature of Penrith.

Table 5.4 identifies the potential number of new cycling trips generated from just a 1% and 2.5% mode shift to bicycle for existing trips less than 5km in length. These calculations demonstrate with a small percentage of cycling uptake, there is the potential for the Penrith sub-regional centre to make a significant contribution to the state-wide cycling growth objectives.

### Table 5.4: Potential Number of Cycling Trips by Sub-Region (based on typical weekday)

<table>
<thead>
<tr>
<th>Destination</th>
<th>Total Vehicle Trips</th>
<th>Vehicle Trips less than 5km</th>
<th>No of new cycling trips per day (mode shift for trips less than 5km)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No.</td>
<td>% of Trips in Sydney</td>
<td>No.</td>
</tr>
<tr>
<td>Bondi Junction</td>
<td>31,788</td>
<td>0.33%</td>
<td>18,812</td>
</tr>
<tr>
<td>Brookvale/Dee Why</td>
<td>45,577</td>
<td>0.47%</td>
<td>25,391</td>
</tr>
<tr>
<td>Hornsby</td>
<td>52,915</td>
<td>0.55%</td>
<td>28,545</td>
</tr>
<tr>
<td>Hurstville</td>
<td>51,736</td>
<td>0.54%</td>
<td>26,531</td>
</tr>
<tr>
<td><strong>Penrith</strong></td>
<td><strong>73,733</strong></td>
<td><strong>0.77%</strong></td>
<td><strong>34,946</strong></td>
</tr>
<tr>
<td>Total Greater Sydney</td>
<td>9,629,445</td>
<td>100%</td>
<td>3,960,738</td>
</tr>
</tbody>
</table>
6. Funding Opportunities

The recommended bicycle network plan proposes high quality infrastructure in line with contemporary community aspirations for bicycle use. There are a number of funding programs which may provide the additional financial support necessary for implementation of both the physical infrastructure and the related social plan to meet current and future community needs.

There are two websites that provide further detail:

http://www.cyclingresourcecentre.org.au/7/Funding


Department for Infrastructure, Transport, Regional Development and Local Government (DITRDLG)

- AusLink Roads to Recovery Program
  In November 2000, this program was introduced as a single intervention by the Commonwealth to address the specific problem of local roads reaching the end of their economic life, and their replacement being beyond the capacity of local government. Over four years from 1 July 2005, the Australian Government, will provide additional funding of $1.23 billion. This is in addition to its untied Financial Assistance Grants to councils for roads and other purposes. On 8 May 2007, the Australian Government announced that it will further extend the Roads to Recovery Program until June 2014. Funding for the program will also be increased from $307.5 million a year at present to $350 million a year from 2009-10. This program has been used by many Councils throughout Australia to fund bicycle infrastructure development and upgrades. It is administered by the Commonwealth Department of Transport and Regional Services

- AusLink Black Spot Program:
  The Black Spot program began in 1996-97. In recognition of its success the Australian Government has now extended the program until 30 June 2014 and Black Spot funding under AusLink 2 will be increased to $60 million annually from 2009-10 to 2013-14. That is an increase of 33% on current program funding. The government will also provide $45 million for black spot projects in 2008-09 as part of its current AusLink program. This program has been used by many Councils throughout Australia to fund bicycle infrastructure development and upgrades. It is administered by the Commonwealth Department of Transport and Regional Services

- Infrastructure Australia fund; is a new, national approach to planning, funding and implementing the nation’s future infrastructure needs. It will provide advice to Australian Governments about infrastructure gaps which can include cycling infrastructure.
  (www.infrastructure.gov.au/department/infrastructureaustralia), and

- Sustainable Cities.
The RTA’s Bicycle Program allocates approximately $5 million annually to NSW Council bicycle projects, which includes over $1 million for Sydney Metropolitan Councils. The dollar for dollar funding is to assist Councils with the development and implementation of their local bicycle networks. Detailed information on RTA funding for Sydney Council projects is available from the website www.rta.nsw.gov.au. Programs for potential funding include:

- Regional Road Block Grants: The RTA assists Council with the costs for maintaining regional roads. For the maintenance, construction, resurfacing, shoulder widening and upgrades of regional roads, cycling infrastructure can easily be included within this cost.

- Black-spots and “black-areas”: The NSW Black Spot Program is funded by the NSW government and is also part of the Australian Government’s AusLink Black Spot Program. Its objective is to reduce the occurrence and severity of crashes at known locations by installing cost effective treatments. This funding benefits cycling infrastructure by increasing cyclist safety and reducing crash rates at intersections and other known crash locations. Any unsuccessful conforming nominations in the AusLink Black Spot Program will be automatically considered for the NSW Government’s Black Spot Program.

- NSW Bike Week Funding: This program is a government funded initiative that raises the profile of cycling as a healthy, easy, low cost and environmentally friendly transport alternative for driving short trips. RTA funding is only provided for the promotion and advertising component of an event’s budget. Funding is not fixed and will be assessed and valued independently. The RTA encourages both local government and community based organisations to apply for funding if they fulfil criteria.

- Co-Funding Program for bicycle infrastructure: the Government recognises that most cycling takes place on local roads. The development and implementation of local cycling networks is important to increase cycling within communities. The Government provides dollar for dollar funding to local councils which assists improving and developing cycling infrastructure within the Local Government Area, and

- Bicycle User Support; the program supports the use of cycling through research, training and promotion. Funding of bicycle use promotions, bike plan preparation, development and production of cycleway maps, research into bicycle facilities and the implementation of bicycle training facilities can increase the number of cyclists and improve skills and knowledge on bicycle facilities design and implementation.

Department of Planning
The Metropolitan Greenspace Program (MGP) has provided over $15m to over 300 projects since 1990. It allocates over $1 million annually to Councils on a matching dollar basis and last year provided almost $1.5 million to Councils. The key objective of the program is to assist local government in the development and planning of regionally significant open space and to enable more effective use of these areas by the public. The program aims to promote partnerships between State and Local Government.

Department of Environment, Climate Change and Water
Various grants can be awarded for projects addressing climate change, and reducing Australia’s green house gas emissions. Councils can apply for the grants up to $50,000. Cycling infrastructure can be incorporated into projects as a way to reduce green house gas emissions by reducing car dependency and increasing cycling.
DECCW – Environmental Trust

The Environmental Trust is an independent statutory body established by the NSW government to support exceptional environmental projects that do not receive funds from the usual government sources. The Trust is empowered under the Environmental Trust Act 1998, and its main responsibility is to make and supervise the expenditure of grants. The Trust is administered by the Department of Environment and Climate Change.

Sport and Recreation

Grants and financial assistance: The NSW Sport and Recreation department provides funding for local councils to build and upgrade sporting facilities. This could include cycling tracks and training facilities. The 2008-2009 Capital Assistance Program can provide up to $30,000 for each local government and can be used for cycling sport and recreation facilities throughout the LGA.

Council

- Annual allocation for walking and cycling infrastructure: The RTA builds onto its annual allocations an allowance for bicycle and pedestrian pathways. Another source of funding is from the NSW State Government’s Department of Planning. Under the Metropolitan Greenspace Program there is support provided for the development of a linked pathway system from Penrith to the Western Sydney Regional Park. The amount available specifically for pathways is limited and highly competitive, and
- Developer contributions; until recently Council has depended upon Section 94 funding from developers to provide resources for construction of cycle ways, along with a range of other community facilities. This source is in doubt pending the outcomes of a review into the application of Section 94 levies on developers in NSW.

Business and Clubs

- Advertising (ped bridges, bus shelters): Revenue from business and clubs in the local area can provide funding for advertising within the LGA. These advertisements could be cycling related by providing cycle maps and information as well as encouragement advertisements
- Clubs NSW – CDSE funding: Clubs that earn over $1 million annually in gaming machine revenue provide funding for community projects and services, and in turn receive dollar-for-dollar gaming tax deductions. In 2008, clubs reported CDSE expenditure of over $58 million across New South Wales. This funding can be used to implement cycling encouragement initiatives like cycling programs, workshops and distributing maps. ([www.clubsnsw.com.au](http://www.clubsnsw.com.au)/AM/ContentManagerNet/HTMLDisplay.aspx?ContentID=13935&Section=Community_Support), and
- Developers can also choose to fund local cycling infrastructure in the local area. If a major development is occurring (such as a Shopping Centre), bicycle parking facilities and safe bicycle routes around the centre can be integrated into the plans to increase cycling and encourage cycling for short trips.
Cycling Promotion Fund

- Innovative projects to promote and encourage cycling: In the past the Cycling Promotion Fund has funded a number of innovative projects that promote and encourage cycling to assist in developing the evidence base that such projects are effective in encouraging and promoting cycling. CPF assists by listing potential funding sources for cycling encouragement and promotion programs, and
- Continued advice and guidance on the development of effective cycling programs and initiatives.

Past and possible future Australian Government funding programs

**Cycle Connect**

The Australian Government has funded the installation of secure bicycle parking at public transport nodes. Cycle Connect, a $2.4 million initiative, was part of the Australian Government's 'Sustainable Cities' urban environment program*. Cycle Connect which ended in 2005-06, was a two-year grant initiative to provide secure parking, principally in the form of bike lockers, at suburban bus and train stations.

This project extended the ‘catchment’ areas of public transport networks by offering facilities for those who find it too far to walk to their local station but who are happy to cycle. Substituting short car trips with bicycle rides is one way of keeping fit and healthy, while reducing congestion, greenhouse gas and pollution at the same time. For each three kilometres that are cycled rather than driven, we save about a kilogram of greenhouse gas emissions.

Cycle Connect has helped to improve air quality so we have better places to live and work and help create sustainable cities. Over the duration of the project the number of secure bike lockers provided in major cities will have been boosted by approximately 3,000. It was targeted at those commuters who would use public transport regularly. Secure bike lockers and cages are a low-cost alternative for those who currently pay for their car to sit all day at their local bus or train station.

**Healthy and Active Transport (HEAT) Program**

This initiative of the Bicycle Sector (consisting of the bicycle industry and national and state cycling organisations) has put this proposal onto the national political agenda. The proposal calls on the Commonwealth Government to establish an infrastructure funding program of $50 million each year for four years for local government to build cycling and walking facilities. The program would fund significant, high-quality cycling and walking infrastructure projects, providing health, transport, environment and community benefits across urban, regional and rural areas.
7. Encouraging Cycling

7.1 Cyclist Demographics

Before considering how to increase cycling participation levels, it is important to understand the people being targeted for such a mode shift or transfer. Bicycle riders have no standard characteristics. The way a destination is accessed by them depends on what type of rider they are. This depends on a number of factors including:

- Age
- Level of experience
- Riding proficiency
- Their vehicle (bicycle type)
- Fitness
- Motivation for travel, and
- Comfortable travel speed.

Austroads Guide to Traffic Engineering Practice, Part 14 – Bicycles (AUSTROADS 1999) lists seven broad categories of bicycle rider which it urges bicycle facilities designers to take into account. This broad categorisation is regarded by designers as unwieldy and impractical and has often resulted in major facilities which are usable for one distinct category but do not adequately cater for others.

A user-oriented categorisation as outlined in Table 7.1 provides a good understanding of target audiences for cycling. This approach is used with great success in countries with high levels of cycling such as the Netherlands and Germany (TU-DELFT, 2000) as a method for including the broadest range of users. The four user groups listed in Table 7.1 encompass the Austroads Part 14 categories.

<table>
<thead>
<tr>
<th>Group</th>
<th>Description</th>
<th>Characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Vulnerable to traffic</td>
<td>Children between the ages of 10 and 16, the elderly, the hard of hearing, very short trips, slow speeds (less than 15km/h), traffic shy, slower reaction times.</td>
</tr>
<tr>
<td>B</td>
<td>Borderline “fair weather” cyclists</td>
<td>Infrequent adult cyclists, alert but lacking confidence, low to average riding skill, short to medium trips, primarily journey-to-work trips.</td>
</tr>
<tr>
<td>C</td>
<td>Active adults</td>
<td>Speeds between 15 and 30 km/h, alert and ‘road aware’, average to high level of riding skill and proficiency, all trip purposes.</td>
</tr>
<tr>
<td>D</td>
<td>Sports and fitness</td>
<td>Speeds higher than 30 km/h, prefers ‘main road’ environments.</td>
</tr>
</tbody>
</table>

A number of the current local council bike plans adopt a similar user-oriented categorisation for the planning and designing of bicycle routes, which contains three user groups (Groups A, C and D). For the purposes of this study, a fourth user group (Group B) has been added to clearly identify one of the key target groups for cycling in and around Penrith. These users are likely to own a bicycle but are infrequent users; perhaps cycling with their children for recreational trips on the weekend. With the increasing costs of owning and using a second vehicle, along with increasing congestion on the road network, this user group represents the greatest opportunity for journey-to-work mode transfer from private car to bicycle; whether from car-only trips or park-and-ride trips.
7.2 Target Areas

Effective encouragement of cycling involves the following target areas:

- Bicycle facilities and infrastructure (including route infrastructure and end-of-trip facilities)
- Education, awareness and promotion
- Communicating key planning principles and improving existing guidelines, and
- Establishing a consistent project assessment framework across transport projects.

Table 7.2 identifies a matrix for the development and categorisation of ideas, initiatives, applications and action. This forms the basis for assessing priorities and identifying funding opportunities.

Table 7.2: Cycling Encouragement Strategic Framework

<table>
<thead>
<tr>
<th>Bicycle Facilities and Infrastructure</th>
<th>Education, Awareness and Promotion</th>
<th>Planning Principles and Guidelines</th>
</tr>
</thead>
<tbody>
<tr>
<td>Short Term</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Medium Term</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Long Term</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

7.3 Bicycle Facilities and Infrastructure

7.3.1 Planning Principles

The planning of the new development, redevelopment and transport nodes presents the opportunity to develop sustainable travel habits throughout catchments through adopting a hierarchy of access that gives preference to sustainable transport modes. This concept is widely accepted and used for transport planning throughout Europe, with a hierarchy as follows:

- Walking
- Cycling
- Public transport interchange (buses), and
- Other modes and trips.

The location and surrounds of the above development presents a series of opportunities for maximising the mode share of cycling for trips. These include:

- Key links to nearby facilities and destinations
- Radial walking and cycling networks
- Bike parking facilities
- Bike parking and storage in conjunction with Transport-Oriented Development
- Bike fleet/second bike arrangements in conjunction with development and employers within a suitable radius, and
- Bike shops in close proximity.

Bicycle catchment mapping should be used to design new release areas and for retrofitting existing areas.
7.3.2 Comprehensive Bike Route Signage

Signing routes is very important for cyclists in complex urban street networks. Signage can inform bicycle riders of routes which are often more direct and less heavily trafficked. Cycle network signage can help the community to become aware of the many route possibilities other than the prominently-signed main road network.

Directional and way-finding signage is a critical element of any transport system. Every transport system needs these signs to help the users find their way around the network and to make full use of the system’s infrastructure. We are all so used to the signage systems which are integrated into airports and railway stations along with the ubiquitous big green highway signs, that we often forget how dysfunctional these transport systems would become without their accompanying signage.

Though the bicycle has been in use in our cities and towns since the end of the 19th Century, providing an urban system for bicycle travel is only a fairly recent development. This began in Australia with the development of state and local bicycle plans and strategies and was a response to growing community interest and use of bicycles for transport, fitness, recreation and tourism.

Signage provides great cohesion for the cycle network by regulating the use of roads, streets and paths, warning of hazards and difficulties, and indicating destinations where individual trips may start and end. This section looks broadly at the processes for signing cycle networks and recommends methodologies for signing both before and after the installation of cycle route infrastructure.

Why sign networks?

Cycle network signage, particularly direction signage is a crucial aid to navigation and the safe operation of the system. Providing cycle route direction signage benefits the community because it:

- Expands the usage of the cycle network
- Increases the visibility of routes both for cyclists and the wider community, and
- Guides local people and those from further afield to destinations along the cycle network.

Without direction signage cyclists cannot easily work out where routes lead or even if the route exists as a functional entity. Engineering treatments and street linemarking on their own may not be valued by cyclists or seen only as ad hoc measures if these improvements are not seen in the broader context of cycle routes designed to help riders complete their journeys.

This process of cycle network development may take a number of years depending on the extent of the necessary route improvements and the resources of councils and government agencies. For this reason it is important to consider the installation of direction signage on a route by route basis as a first stage in developing the network as a whole.

Signing and infrastructure provision

It is important to consider the signing of routes as an undertaking that is critical to the network. Signage is of great benefit to the community even when done independently of major infrastructure provision. For over twenty years Australian councils have been signing cycle routes before major infrastructure can be provided. This type of signed route often utilises the residential street network, paths and local short cuts.

There are major advantages in signing cycle routes before any engineering works are installed. Direction signage can provide the necessary information to enable cyclists to more easily find their way to trip destinations. To ensure that cycle routes are suitable for signing, regardless of the level of infrastructure
existing or newly installed, it is advisable to undertake a simple risk analysis route assessment before commencing the signing planning process.

7.3.3 End-of-Trip Facilities

End of trip facilities include:

- Bicycle parking
- Showers and change rooms
- Lockers (for clothes and equipment), and
- Bicycle sales and repair shops.

Bicycle parking at key trip attractors and transport nodes is an essential requirement of an integrated transport system. It is important to distinguish between the varying qualities of bicycle parking. Key aspects of high quality bicycle parking include:

- Security: to minimise the risk of theft. Best practice involves either attended bicycle parking or a lockable shelter with internal bicycle racks for secondary locking
- Visibility: located in an area with a high amount of passing foot traffic, to deter theft
- Shelter: to protect against rain
- Convenient: positioned as close as possible to the trip attractor or transport node, or within a prominent area, and
- Signage: to clearly identify the direction of bicycle parking facilities from areas where the parking facility is not visible.

Bicycle parking needs to cater for both the regular and infrequent users. Whilst there may be a small degree of cross over, regular users will generally prefer high security bicycle enclosures and infrequent users will generally have their needs met by casual bicycle parking arrangements. Short term users (parking for less than 4 hours) will usually be satisfied by casual parking as well.

7.4 Education, Awareness and Promotion

Raising the awareness, attractiveness and profile of cycling in the Penrith area is essential in order to change attitudes and foster a supportive environment that will enable the community to benefit from the many positive outcomes that result from a shared vision and goal to endorse cycling as a way of life.

A number of national initiatives designed to encourage cycling currently exist and can be readily adopted by cities, towns, schools, communities and businesses. These events provide a terrific opportunity to gather support for cycling as a viable transport mode and can provide the impetus to change behaviour and perceptions associated with commuter cycling. A recent follow-up survey for the National Ride to Work Program shows 39% of first time commuters are now riding to work at least once per month and 55% of survey participants are riding more often than this time last year.¹

At a local level, communities, businesses and local governments can continue to host events throughout the year to build upon the rising interest and enthusiasm of cycling. More investment in infrastructure and a demonstrated commitment to improving the conditions for cyclists throughout the Penrith LGA will further assist in attracting people to cycle for trips to work, trips to school, fitness, recreation as well as other opportunities such as shopping trips.

Providing clear, quality and up-to-date maps and information on existing and proposed cycle facilities in Penrith is important, along with regular opportunities to share information locally and obtain advice through the establishment of bicycle user groups or informative websites.

There are many current initiatives being used to promote cycling in NSW that may be adopted for local use or given further support by Penrith stakeholders. Some of these events and initiatives are as follows:

- **Ride to Work Day**
- **Ride to School Day**
- **NSW Bike Week (26 Sept – 4 Oct 2009)** – events may include Sunday festival, car free days, breakfasts/bbqs, themed rides, school education sessions, etc
- **Group rides**, including those for fundraising and charity purposes, such as City of Sydney Spring Cycle, Great Escapade, and M5 Sydney to the Gong
- **Gear Up Girl group rides and education sessions**
- **Cycle Routes web pages** (such as Bikely) which allow users to search for, or create and share, routes in the local area
- **Providing easy to read maps and brochures** of bicycle tracks/routes around the Penrith Area
- **Setting up bicycle groups** which meet and ride together which encourages physical and social activity
- **Carless Day** - Which requires employees, senior school students to forget the car and ride a bike to work or school for the day
- **Breakfasts and BBQ’s** held in local parks or community centres which encourages people to get out of the house and car
- **Information packs** for new residents of Penrith which includes information about cycling, the benefits, any upcoming events and the different cycle routes and facilities in the area
- **Regular council maintenance and sweeping of bicycle paths and shoulders** which will encourage more people to cycle as there is a limit of obstacles and debris build up in gutters which could potentially be a hazard for cyclists, and
- **Cycling Skills workshops** conducted by council or local cycling organisations which may be able to provide their services in order to teach cyclists new skills and even teach people how to cycle. This will encourage people to feel more comfortable when cycling and potentially increase the distance and locations of where they cycle.

7.5 **Planning Principles and Guidelines**

7.5.1 **Updating Policy and Planning Documents**

PCAL, RTA, DECC, Planning NSW, Councils and the cycling community have recognised that there are opportunities for improvements to the current cycle planning guidelines in the context of best practice and recent NSW experience. Opportunities which have been identified by GTA Consultants during local and regional bicycle planning projects are discussed in more detail in section 11 of this report.
7.5.2 Policy Development

There is considerable industry debate about the public health benefits of cycling (and walking) versus the increased exposure of vulnerable road users in the context of road safety. As a result there are mixed messages to the community, which affects a significant number of potential opportunities to encourage cycling, such as:

- **riding on footpaths**
  The Australian Road Rules concerning riding on footpaths differs from State to State (Figure 7.1). There is anecdotal evidence that there is no difference in the crash risk between pedestrian and cyclists among the States and Territories, which indicates riding on footpaths is safe and does not warrant the current access restrictions imposed to NSW cyclists. Further research is required to confirm the anecdotal information, and

- **encouragement programs such as ride to school, seniors rides and the walking school bus**
  Encouragement programs are affected by complications of liability and the requirement for insurances. There is evidence that events have been cancelled due to insurance costs and concerns about liability. The cancellation of a recent seniors ride in Woollahra during Seniors Week in February 2009 is a good example.

Figure 7.1: Cycling on Footpaths

![Figure 7.1: Cycling on Footpaths](image)

**BICYCLES ON FOOTPATHS**

- Permitted
- Prohibited unless accompanying a child 12 yrs or under

7.6 Project Assessment Framework

In the current political environment, there is increasing pressure on the application of limited funding across a wide range of transport-related projects. Therefore it is important to establish a consistent project assessment framework across all transport projects such that the relative merits of (for example) a small cycling project can be compared to a major highway upgrade project.
One common tool used for road projects is cost-benefit analysis. Such analysis seeks to derive a benefit-cost ratio (BCR) through valuing in current terms:

- Capital project cost
- Maintenance and other ongoing costs
- Vehicle operating cost (VOC) savings
- Time cost savings per vehicle hour
- Accident cost savings, and
- Environmental externalities (costs or benefits).

Such analysis can relatively easily be applied to cycling projects with additional economic parameters include such as health benefits. Such analysis is dependent of the availability of suitable data which can be difficult, particularly for smaller projects. Due to the wide-ranging benefits, quantification can be difficult where these involve other government sectors and indirect links, such as health benefits.

Historically, in terms of local cycling projects, prioritisation of projects has often been on the basis of cost (absolute or distance-based), ease of funding or perceived feasibility (often a measure of political or community resistance). This relatively ad-hoc approach has focused on “quick wins” at an infrastructure level, creating an under-utilised and often disjointed network.

To provide a simple yet effective method of prioritising projects where consistent quantitative data is not available, GTA consultants has devised the priority evaluation matrix shown in Table 7.3. The matrix allows equal standing to be given to both infrastructure and non-infrastructure projects.

Table 7.3: Priority Evaluation Matrix

<table>
<thead>
<tr>
<th>Cost Estimate</th>
<th>Potential Benefits</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>High</td>
</tr>
<tr>
<td>&lt;$20,000*</td>
<td>Priority 1</td>
</tr>
<tr>
<td>$20,000 - $100,000*</td>
<td>Priority 1</td>
</tr>
<tr>
<td>&gt;$100,000*</td>
<td>Priority 2</td>
</tr>
</tbody>
</table>

* Values are indicative only and can be varied to suit the needs of local areas or government agencies

Once the relative priorities have been established, it is valuable to consider the overall feasibility of the projects or initiatives being considered. This includes, engineering feasibility, political feasibility, community consultation and opinion, as well as conflicting priorities and needs. This “degree of difficulty” for implementation should avoid overlap with cost considerations where possible. Table 7.3 shows how the priorities from Table 7.4 can be translated to short, medium and long term actions through consideration of project feasibility.

Table 7.4: Action Evaluation Matrix

<table>
<thead>
<tr>
<th>Priority</th>
<th>Project Feasibility</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>High</td>
</tr>
<tr>
<td>Priority 1</td>
<td>Short Term</td>
</tr>
<tr>
<td>Priority 2</td>
<td>Short Term</td>
</tr>
<tr>
<td>Priority 3</td>
<td>Medium Term</td>
</tr>
</tbody>
</table>
8. Bicycle Facilities and Infrastructure

8.1 Overview

The stakeholder workshops and the general research carried out for the subregional bicycle planning studies have identified a wide range of bicycle facilities and infrastructure initiatives.

Table 8.1 provides an overview of these initiatives, evaluated in accordance with the methodology set out in Section 7.6. Details of each initiative are provided in a separate working paper. The remainder of this section describes the initiatives of particular relevance to Penrith.

Table 8.1: Overview of Bicycle Facilities and Infrastructure Initiatives

<table>
<thead>
<tr>
<th>Initiative</th>
<th>Potential Benefits</th>
<th>Cost Estimate</th>
<th>Action Time Frame</th>
</tr>
</thead>
<tbody>
<tr>
<td>i1. Review of 1996 Penrith Bike Plan</td>
<td>Medium</td>
<td>Medium</td>
<td>Short Term</td>
</tr>
<tr>
<td>i2. Implement Regional Cycle Network</td>
<td>High</td>
<td>High</td>
<td>Medium Term</td>
</tr>
<tr>
<td>i3. Road Network Crossing Points</td>
<td>Medium</td>
<td>Medium</td>
<td>Medium Term</td>
</tr>
<tr>
<td>i4. Transforming Existing Streets</td>
<td>Medium</td>
<td>High</td>
<td>Long Term</td>
</tr>
<tr>
<td>i5. Comprehensive Bike Route Signage</td>
<td>High</td>
<td>Low</td>
<td>Short Term</td>
</tr>
<tr>
<td>i6. High Density Secure Bike Parking</td>
<td>High</td>
<td>Medium</td>
<td>Short Term</td>
</tr>
<tr>
<td>i7. Short Term and Casual Bike Parking</td>
<td>Medium</td>
<td>Low</td>
<td>Short Term</td>
</tr>
<tr>
<td>i8. Shower and Locker Facilities</td>
<td>High</td>
<td>Medium</td>
<td>Medium Term</td>
</tr>
</tbody>
</table>

Note
* Items marked with an asterisk (*) are detailed further in this section. Other items are discussed in a separate working paper.

8.2 i1 - Review of 1996 Penrith Bicycle Plan

8.2.1 Initiative Description

GTA Consultants is currently undertaking a review of the 1996 Penrith Bike Plan, including an audit of the existing cycleway facilities to gain an understanding of the current relevance and appropriateness of items within the 1996 Bicycle Plan and their conformity to the current best practices in terms of lane widths, line markings, signage and other facilities. The main outcome for this project is the development of an achievable, prioritised and costed implementation plan of staged works to address identified gaps in the cycleway network.

The final 2009 Bike Plan is to be adopted by Council and used to guide the development of bicycle facilities over the next 5-10 years.

8.2.2 Local Implementation and Partnerships

With long term commitment from the Councillors and Council officers, as well as constant engagement with the community, the new facilities implemented out of the plan can gradually build acceptance and usage of cycling as a viable transport mode.
8.2.3 Encouragement Value

- Target audience:
  - Councillors need understand the importance of the 2009 Bike Plan and lead the way in getting it implemented
  - Community to be made aware of new facilities so that usage is high on implementation
- Community benefits: Provision of facilities, and
- Success factors:
  - Need the Councillors to be on board and push the relevance of the 2009 Bike Plan to the Council officers and the community
  - Council officers across all disciplines need to be aware of incorporating the 2009 Bike Plan goals and objectives into all Council processes
  - Requires long term commitment.

8.3 i2 - Implement Regional Cycle Network

8.3.1 Key Priority Routes - Radial Links to City Centre

The 2009 Bike Plan has identified several key cycling routes focused on bicycle travel to and from the Penrith and St Marys City Centres. The key elements of the priority route network are identified as follows:

- Focus on the city centres of Penrith and St. Marys and the connections with surrounding residential suburbs
- Provide good access to railways stations
- Maximise the length of off-road facilities, particularly on roads with high traffic volumes and speeds, to maximise the safety for cyclists of all ages and abilities, and
- Provide routes that are as direct as possible.

The key priority routes combine dedicated on-road and off-road facilities with routes through green corridors.

Dedicated On-Road and Off-Road Facilities

Typically, when members of the general public are asked what kind of bicycle facility they would most like to ride they invariably answer a separated cycleway. Though most roads in the urban environment are not considered unsafe for motorists, many cyclists comment that on a bicycle they are decidedly unsafe. Full separation is not always possible as it is usually required when there are high volumes of traffic and high speeds. There also may not be the required amount of space needed to construct the desirable degree of separation. Therefore, construction of a successful shared road environment by marked lanes and treated intersections will ensure that transitions from separated space to shared space are safely handled.

The provision of high quality bicycle routes, both on- and off-road, is considered fundamental to encourage cycling. Various treatments are available for bicycle routes, ranging from mixed traffic to bike lanes and off-street cycle paths depending on the speed and volume of traffic, availability of space and level of use.

On road facilities including bicycle shoulder lanes and bicycle lanes will provide cyclists with the opportunity to cycle on the road, with their own riding space and increased safety. Having designated cycle lanes encourages cyclists who do not feel comfortable riding in mixed traffic conditions. Cities that have a high proportion of bicycle routes generally have higher rates of cycling participation (Steele, 2007). An option to further increase safety and make bicycle lanes obvious is to use a painted green road surface. Painting the
road surface along a bicycle lane has proven to be an effective method of increasing awareness of the bicycle lanes presence. This is especially useful in areas of potential conflict between different modes, such as intersections or when lanes merge. In addition to raising awareness of the presence of bicycles, coloured pavement surfaces tend to be avoided by motorists with less chance of encroachment compared to only a painted cycle lane treatment.

Bicycle logos and signage are required for on-road routes. These facilities provide awareness to cyclists and motorists of the facilities available and also if there are any changes to traffic conditions ahead.

Off-road cycle paths should be lit at night to improve safety and patronage along these routes. Solar powered LEDs are a good solution to provide an environmentally friendly option. Lighting is particularly important at path intersection locations and nearby obstructions.

**Green Corridor Routes**

Green corridor routes are off-road paths which are clear from main roads and traverse through areas such as parks and channels. Green corridors are beneficial in that they provide a safe environment for inexperienced cyclists clear from vehicular traffic. They have the opportunity to provide a competitive advantage in some road based areas by accommodating short cuts and direct links into trip attractors where disconnected subdivision street layout makes distances between origins and destinations much longer than the straight line distance between the two locations (such as some new residential estates in Penrith).

**Complementing Trip Purpose**

A key point that government and bicycle groups are trying to convey is that cycling should not only be seen as a recreational activity, but also as a form of transport. Recreational cycling is highly encouraged and there are many areas throughout the Penrith LGA which provides shared paths and facilities for cyclists, including encouraging cycling as a tourist activity.

It is important to develop and encourage commuter cycling, particularly for an area like Penrith where current commuter cycling levels are low in comparison to the greater Sydney area. Commuter cycling not only reduces traffic congestion, greenhouse gases and other emissions into the air, but also reduces the impact on the economy and individuals by providing an affordable and sustainable method of transport. Distance is a major limiting factor when considering cycling, so it is therefore important to emphasise the advantages of multi-mode commuting. This enables transport interchanges and railway stations to widen their catchment for non-motorised transport modes, with a 10-minute cycling trip covering a greater distance than a 30-minute walking trip.

**8.3.2 Local Implementation and Partnerships**

People cannot cycle without good facilities so it is crucial to implement routes that the community want and will use. Constant engagement with the community is essential along with funding commitment and general support from Council.

**8.3.3 Encouragement Value**

- **Target audience:** The wider community – providing the facilities that take people to where they want to go
- **Community benefits:** A viable transport alternative in the form of good cycleway facilities that cater for all ages and get people to places they want to go, and
Success factors:

- Need the Councillors to be on board and push the relevance of the 2009 Bike Plan to the Council officers and the community
- Council officers across all disciplines need to be aware of incorporating the 2009 Bike Plan goals and objectives into all Council processes
- Input from BUGs and potential users on delivering the right projects
- Requires long term commitment.

8.4 i4 - Transforming Existing Streets

8.4.1 Initiative Description

Collector roads within the Penrith area generally in the order of 12.8m width and consist of two travel lanes (i.e. one in each direction) and a wide parking lane or shoulder on each side of the carriageway.

The 12.8m wide road with kerb and gutter is adequate to accommodate a typical bicycle shoulder lane treatment as outlined in the NSW Bicycle Guidelines (refer Figure 8.1). This type of treatment is suitable for areas which have low turnover of parking, such as adjacent to residential properties. The current road layout could be adjusted simply to include logos, signage and intersection treatments to provide a good on-road facility for minimal cost or works involvement.

For those roads with unsealed shoulders, there is also a low cost option for implementation of an on-road cycleway facility, depending on the available width of sealed shoulder. The Austroads Guide to Traffic Engineering Practice Part 14 – Bicycles outlines the widths required for sealed shoulders for bicycle usage,
which is dependent on the number of cyclists and the speed and composition of motor traffic. Table 8.2 presents the desirable and acceptable sealed shoulder widths for bicycle usage.

Table 8.2: Sealed Shoulder Dimensions (Source: Austroads Part 14 Bicycles - Table 4.1)

<table>
<thead>
<tr>
<th>Road Speed (km/h) [1]</th>
<th>Lane Width (m)</th>
</tr>
</thead>
<tbody>
<tr>
<td>60</td>
<td>80</td>
</tr>
<tr>
<td>Desirable</td>
<td>1.5</td>
</tr>
<tr>
<td>Acceptable Range</td>
<td>1.2-2.5</td>
</tr>
</tbody>
</table>

Notes: [1] The posted or general speed limit is used, unless 85th percentile speed is known and is significantly higher.
[2] Interpolation for different speed limits is acceptable.

The pavement quality of the sealed shoulder needs to be in a good condition with level transition onto the adjacent verge or outer section of shoulder. When there is no requirement for any pavement widening, a bicycle facility may be implemented with the inclusion of logos, signage and intersection treatments for minimal cost or works involvement. Shoulder widening would be required where the existing sealed pavement does not meet the widths outlined in Table 8.2.

Figures 8.2 to 8.5 provide a visual example of what can be achieved in terms of transforming existing road environments similar to some of the semi-rural roads in the Penrith area.

Figure 8.2: Existing conditions example similar to Penrith

![Existing conditions example similar to Penrith](image1)

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Figure 8.3: Rendered Streetscape - Stage 1

![Rendered Streetscape - Stage 1](image2)

© Urban Advantage. Reproduced with permission
8.4.2 Local Implementation and Partnerships

To be considered when implementing the wider network:

8.4.3 Encouragement Value

- **Target audience:** The wider community – providing safe crossing facilities to complement the cycleway network
- **Community benefits:**
  - A viable transport alternative in the form of safe cycleway facilities that cater for all ages and get people to places they want to go
  - Cost effective by complementing existing road characteristics, and
- **Success factors:**
  - Need the Councillors to be on board and push the relevance of the 2009 Bike Plan to the Council officers and the community
  - Council officers across all disciplines need to be aware of incorporating the 2009 Bike Plan goals and objectives into all Council processes
  - Input from BUGs and potential users on delivering the right projects
  - Requires long term commitment.
Bicycle Facilities and Infrastructure

8.5 i5 - Comprehensive Bike Route Signage

8.5.1 Initiative Description - Key Steps

Selecting destinations
Focal Point Signage Practice is used for determining all key destination and decision points within a cycle network to ensure the accurate and consistent signing of the network. Focal Point Signage Practice is commonly used to determine all place names for the State Road Network and road networks in cities and towns. These focal point maps are maintained by RTA Regions for the State Road Network and by local councils for networks within cities and towns.

As bicycle networks are locally or regionally based, bicycle network focal point maps will usually be more fine-grained and urban-oriented and will often use additional or differing focal points to the RTA road-based maps. A cycle network signage focal point map should be maintained by Penrith City Council in consultation with the RTA and neighbouring LGAs and use destinations initially based on road network focal point mapping for the Penrith area.

Route assessment
Prior to signing a cycle route a physical risk assessment of the route should be made. This assessment will study the route and note the condition of existing street/road facilities, intersections/crossing points and any critical safety issues for cyclists using the route. Where major deficiencies occur in the permanent infrastructure (lane widths too narrow, hazardous drainage grates etc) remedial action will be recommended and carried out prior to sign installation.

The type and extent of remedial work will usually depend on the structure of the road environment and the availability of any bicycle specific treatments and infrastructure.

Signage schedules
The signage required for each cycle route in the Penrith area should be determined by a detailed field inspection, with a route signage schedule prepared for use by the sign manufacturer and the sign erection crew. The route signage schedule will be made up of individual intersection schedules. To ensure accurate installation of the signs it is advisable to provide detailed maps, sketches or marked up plans or aerial photography to guide the sign erection crew.

Following installation it is recommended that the route be inspected by the sign system designer or other knowledgeable cycle network specialist to ensure that the installation work has been carried out correctly and that the sign system functions safely and efficiently for the users.

8.5.2 Local Implementation and Partnerships

Local bicycle user groups in conjunction with Council officers should determine the routes to be signposted and the local destinations to be used in conjunction with the regional destinations.

8.5.3 Encouragement Value

- **Target audience:** The wider Penrith community – visual recognition of destinations that may be reached by bike, reassurance of correct route so that people do not get lost on unfamiliar routes;
- **Community benefits:** A viable transport alternative in the form of clear directions along safe cycleway facilities that cater for all ages and get people to places they want to go, and
Success factors:

- Need the Councillors to be on board and push the relevance of the 2009 Penrith Bike Plan to the Council officers and the community
- Council officers across all disciplines need to be aware of incorporating the 2009 Penrith Bike Plan goals and objectives into all Council processes
- Input from the various BUGs in the Penrith area and potential users in determining the focal points to be signposted.

8.6 i6 - High Density Secure Bike Parking

8.6.1 Initiative Description

To complement the focus on travel to as part of commuting and other non-recreational trips, the provision of high-density bike parking is recommended for inclusion at key transport nodes and trip attractors. This may also be extended to include schools and workplaces as required.

Bicycle lockers are no longer considered an effective method of providing high security bicycle parking at transport nodes and key centres. Their limitations are listed as follows:

- Occupancy is poor
- Space and capital intensive
- Can only be signed out to one person at a time, even if seldom used, and
- Difficult to determine the contents of a locker (possible security risk).

An alternative bicycle parking facility to the bicycle lockers is the secure bicycle cage. These are becoming more popular around Australia as the preferred storage facility for large numbers of bicycles particularly at transport nodes such as railway stations and large bus stops. This type of facility contains racks within a compound that provides security and shelter from the weather. An essential feature of this type of parking is the smart card technology to enable a high level of security to be provided. Users would register with the relevant authority (Council, Bicycle NSW, Ministry of Transport or other) and receive a swipe card which contains identification details. This would enable the activity of the user to be recorded each time they use the facility. Only those that are registered users would be able to access the cage.

One example of this type of facility being implemented in Sydney is the Whistler Street Bicycle Parking Station (Cycle Central, see Figure 8.6). The bicycle parking station, set up and administered by Manly Council, has the capacity to store 72 bicycles in an area the size of five car parking spaces. Users are charged a one-off access card fee of $50 per bicycle parking space that enables easy access into the facility.

Another example at a railway station in Perth is shown in Figure 8.7.
8.6.2 Local Implementation and Partnerships

High density secure bike parking should be provided at key town centre and transport node locations where there is existing high demand such as Penrith Railway Station, as well as shopping centres such as Westfield Penrith and close to Government services in the town centre. The provision of these facilities will be fundamental to other non-infrastructure encouragement initiatives outlined in Section 9.

8.6.3 Encouragement Value

- **Target audience:**
  - Commuters – to the key centres and transport nodes as their main trip or as part of a multi-mode trip
  - School children

- **Community benefits:**
  - Safe place to store bicycles
  - Less demand for car parking around stations and in key centres
  - Less vehicles on the road in the high density congested centres, and

- **Success factors:**
  - Provide convenient locations for the bike cages that are appealing to new users
  - Engage businesses to provide these types of facilities for their employees.
9. Education, Awareness and Promotion

9.1 Overview

The stakeholder workshops and the specific research carried out for the subregional bicycle planning studies have identified a wide range of opportunities for education, awareness and promotion of cycling for health, transport and recreation.

Table 9.1 provides an overview of these initiatives, evaluated in accordance with the methodology set out in Section 7.6. Details of each initiative are provided in a separate working paper. The remainder of this section describes the initiatives of particular relevance to Penrith.

Table 9.1: Overview of Cycling Education, Awareness and Promotion Initiatives

<table>
<thead>
<tr>
<th>Initiative</th>
<th>Potential Benefits</th>
<th>Cost Estimate</th>
<th>Action Time Frame</th>
</tr>
</thead>
<tbody>
<tr>
<td>e1. Media Campaign - Mainstreaming Cycling</td>
<td>High</td>
<td>High</td>
<td>Medium Term</td>
</tr>
<tr>
<td>e2. Frequent Cycling Incentive Scheme</td>
<td>High</td>
<td>Medium</td>
<td>Short Term</td>
</tr>
<tr>
<td>e3. Voluntary Behaviour Change - TravelSmart</td>
<td>Medium</td>
<td>Medium</td>
<td>Short Term</td>
</tr>
<tr>
<td>e4. Bike Route Maps/ Brochures</td>
<td>High</td>
<td>Low</td>
<td>Short Term</td>
</tr>
<tr>
<td>e5. Marketing New Bike Facilities</td>
<td>Medium</td>
<td>Low</td>
<td>Short Term</td>
</tr>
<tr>
<td>e6. Bike Information Stations</td>
<td>Low</td>
<td>Low</td>
<td>Medium Term</td>
</tr>
<tr>
<td>e7. Internet-Based Trip Planning</td>
<td>Medium</td>
<td>High</td>
<td>Long Term</td>
</tr>
<tr>
<td>e8. Mobile Bike Trip Navigation</td>
<td>Medium</td>
<td>High</td>
<td>Long Term</td>
</tr>
<tr>
<td>e9. Communicating Local Bicycle User Knowledge</td>
<td>Medium</td>
<td>Low</td>
<td>Short Term</td>
</tr>
<tr>
<td>e10. Developing Safe Cycling Habits</td>
<td>Medium</td>
<td>Medium</td>
<td>Medium Term</td>
</tr>
<tr>
<td>e11. Cycling School Bus</td>
<td>Medium</td>
<td>Low</td>
<td>Medium Term</td>
</tr>
<tr>
<td>e12. Commuter Bike Bus</td>
<td>Medium</td>
<td>Low</td>
<td>Medium Term</td>
</tr>
<tr>
<td>e13. Bike Buddy System</td>
<td>Low</td>
<td>Low</td>
<td>Short Term</td>
</tr>
<tr>
<td>e14. Bike Sharing/Hire Scheme</td>
<td>Medium</td>
<td>High</td>
<td>Long Term</td>
</tr>
<tr>
<td>e15. Bike Loan Scheme</td>
<td>Low</td>
<td>Low</td>
<td>Medium Term</td>
</tr>
<tr>
<td>e16. Bicycle Maintenance Workshops</td>
<td>Low</td>
<td>Low</td>
<td>Short Term</td>
</tr>
<tr>
<td>e17. Helmet Design Workshops</td>
<td>Low</td>
<td>Low</td>
<td>Short Term</td>
</tr>
<tr>
<td>e18. Cycling Tours &amp; Heritage Rides</td>
<td>Medium</td>
<td>Low</td>
<td>Medium Term</td>
</tr>
<tr>
<td>e19. Encouraging Older Cyclists</td>
<td>Low</td>
<td>Low</td>
<td>Short Term</td>
</tr>
<tr>
<td>e20. Report-a-Hazard</td>
<td>Medium</td>
<td>Low</td>
<td>Short Term</td>
</tr>
</tbody>
</table>

Note: Items marked with an asterisk (*) are detailed further in this section. Other items are discussed in a separate working paper.

9.2 e1 - Mainstreaming Cycling - Media Campaign

9.2.1 Initiative Description

The bicycle is not currently perceived as an attractive, viable transport mode in Sydney, especially for commuter trips. Opinions of cycling include:

- typically associated with a lower socio-economic demographic
- something reserved for cycling fanatics and “road warriors”, and
- full of “too’s” – too difficult, too dangerous, too time consuming, etc.
Extensive global coverage of high profile cycle events such as the ‘Tour de France’ assist in promoting cycling as a sport and increasing its popularity. This in turn promotes awareness of the sport and has the potential to generate large-scale changes in behaviour and attitudes to the sport. The seasonality of these events however means that they are only prominent for a short period of the year. Furthermore, this focuses primarily the sporting aspect of cycling while their remains a large gap in media coverage promoting cycling as a lifestyle and way of life.

- The majority of the limited other cycling-related media reports relate to negatives such as cycle accidents or someone complaining about bikes on the roads. Some media coverage has recently improved with cycle-tourism stories on lifestyle shows and a recent newspaper report that cycling is “the new golf” (see Figure 9.1).

Figure 9.1: Cycling is the new golf

A comprehensive, multi-faceted mass media campaign over a significant period of time is required to communicate to existing cyclists, potential cyclists and non-cyclists alike that cycling is simply another mode of transport along with cars, trains, buses and walking that can be efficient for trips around 1-5km in length. Key imagery should relate to everyday people riding average bikes with minimal preparation or additional effort.

Mass-media campaigns do not necessarily need to be cycling specific. They can be undertaken in conjunction with other government agencies or private organisations where the advertising goal related to one of the many benefits or cycling. Cycling might even be a secondary message such as the advertising of healthy foods (see recent McCain "Healthy Choices" television advertisement, paraphrased in Figure 9.2). Media opportunities include:

- Extensive television advertising similar to recent RTA road safety campaigns (although these are noted as a very expensive approach)
- Supporting billboard and newspaper coverage
- Radio advertising
- Humorous short videos distributed through viral networks using electronic media such as 'youtube' and email, similar to recent initiatives undertaken by Transport for London in the UK
- Frequent articles in local papers
- Brochures and leaflets (see Figure 10.3 example)
- Static displays at schools and local Council facilities such as civic centres and community centres
- Integration within Government websites
- Working with journalists and media organisations/ networks to ensure coverage of cycling activities
- Weekly bike activities that receive news coverage such as escorted bike buses across Sydney Harbour Bridge or a ministerial ride around Parliament House before Question Time
- Use of social networks such as Facebook, Twitter, MySpace and ‘blogs’ to promote cycling as a lifestyle or transport choice, and
- Bicycle use by Government employees that are regularly in the public eye such as parking rangers.

Campaigns could also include interactive elements and references to online material containing information, maps and resources to assist in creating informed decision-making. Acceptance and uptake of campaigns can be enhanced by the appointment of a prominent celebrity to endorse the campaign and become the ‘face’ of the media roll-out. Media campaigns should promote cycling as part of a healthy lifestyle, not just a sport or hobby. It should show how cycling can be fun and easy for all different types of people and ages.

Figure 9.2: Paraphrasing of the Recent ‘McCain Healthy Choices’ TV Advertisement

Healthy Choices Means Healthy Thinking

take the bike

take the stairs

take the healthy choice
9.2.2 Local Implementation and Partnerships

Local implementation and partnership opportunities include:

- Cycling related articles in local newspapers such as the Penrith Press, Penrith Star and Western Weekender
- Cycling related articles in the many clubs, schools, and society’s newsletters
- ‘Cycle to the shops’ advertising in conjunction with the Penrith Valley Chamber of Commerce
- Healthy Living promotion in conjunction with the Sydney West Area Health Service
- ‘Arriving by Bicycle’ as the first mode choice in directions to any local Penrith facility, including the University of Western Sydney
- Advertising in local shopping centres, malls and other retail facilities, sponsored by businesses
- A “Media Challenge” for university and TAFE students targeted towards media-related courses. This could be a competition for the best advertising campaign, pitch or slogan for cycling with prizes sponsored by local businesses or DECC, and
- Regular local recreational ride through Penrith sponsored and promoted by local businesses. Such an event could also include a charity fund-raising element.

Such a comprehensive local media campaign would require a local marketing manager or consultant to coordinate. The most efficient approach is likely to be the preparation of a framework and ongoing packages of advertising material and ideas at a Sydney-wide or state level suitable for customisation and adaptation at a local level. The media framework would allow local organisations to put forward and adopt their own ideas as well as taking ownership locally of transferable ones.

9.2.3 Encouragement Value

- **Target audience:** The wider community including local residents, educational institutions, local business, community groups, sporting associations
- **Community benefits:** Improved community knowledge and appreciation of cycling and the associated benefits, improved cyclist safety through education of non-cyclists, enhanced community relations and promotion of local businesses, and
9.3 e2 - Frequent Cycling Incentive Scheme

9.3.1 Initiative Description

A frequent cycling incentive scheme would seek to reward residents for cycling in their local area. The scheme would provide recognition for time commitment and effort by cyclists who make the choice to cycle instead of using a motor vehicle. Such a scheme could be implemented in a number of ways and with target different groups. These include:

- Commuter cycling to railway stations – free coffee, breakfast pack, lunch pack, travel voucher or stamps/points towards these items
- Employee cycling to local businesses – free or subsidised laundry service, towel service, parking space rebate or entry into a prize draw
- Student cycling to UWS, TAFE and secondary schools – free access to a high quality end-of-trip facility, free coffee, breakfast pack, canteen voucher, lunch pack or stamps/points towards these items, entry into a weekly or monthly prize draw for vouchers, bikes or other sustainable prizes
- Retail customers cycling to local shops and shopping centres (e.g. Westfield Penrith) – stamps or points towards a gift voucher, and
- General cycling to specific town centre bike storage pods – bike storage is accessed at a minimal charge with tickets going into a barrel for a monthly prize draw (such as a free bike).

9.3.2 Local Implementation and Partnerships

Local partnerships should be formed with those who can potentially benefit from a frequent cycling incentive scheme which could involve:

- NSW Health, Sydney West Area Health Service, Heart Foundation and/or Department of Education to promote healthy breakfasts and/or healthy lifestyles for commuter and student trips
- City Rail, RailCorp and/or Ministry of Transport provision of rail tickets for commuter trips in return for likely increased rail patronage and reduced commuter car parking pressures
- Provision of free coffee/upgrade or food arrangements from coffee shops and cafes in close proximity to Penrith Railway Station in return for increased trade. This might also present a new business opportunity for a coffee cart etc. to be located close to a new bike parking facility
- Penrith Valley Chamber of Commerce and Westfield provision of gift vouchers for retail trips in return for increased local shopping patronage
- Local business/employer funding for employee schemes in return for health and productivity benefits, improved workplace culture as well as other cost savings
- Provision of sample packs/material from private companies such as ‘Uncle Tobys’, ‘Sanitarium’ and ‘Spring Valley’ in return for the promotional benefits and increased (product sales, and
- Supply of prizes by local bike shops etc. at significantly reduced costs in return for advertising opportunities.

9.3.3 Encouragement Value

- **Target audience:** All local residents and employees who currently make regular trips to and from the Penrith Town Centre and Railway Station
Community benefits:
- Increased active travel benefits
- Rewards for undertaking existing trips by bicycle
- Reduced town centre car parking pressures and expense
- Raising awareness of local businesses and strengthening partnerships within the local community, and

Success factors:
- Support from potential partners identified in Section 10.2.2
- Adequate management/supervision
- Ability to link in with existing staffing arrangements rather than provide attended parking schemes. This could include using existing shopping centre management staff, workplace champions/administrative staff, City Rail staff and any other opportunities in close proximity to bike parking facilities.

9.4 e3 - Voluntary Behaviour Change - TravelSmart

9.4.1 Initiative Description

Concerted and progressive efforts are required to encourage behaviour change in peoples transport use perceptions. It is recognised that behaviour change can be influenced as follows:
- Change is easiest if it suits our lifestyle and fits into our core values
- Change is more likely if there is a wide range of choices
- We are more likely to change if we gain personal benefits
- We are more likely to change if it is perceived to be easy for us, and
- We are more likely to change if other people are also making changes.

In order for people to consider cycling as a mode of transport that fits into their lifestyle, the best way is to show them how it can be done and get them to trial the bicycle to travel to work, the shops or as part of their other daily travel behaviour. It is important to encourage people to experience for themselves what it is like to include cycling as part of their travel activities and to experience riding a bike as opposed to their perception of cycling.

Encouraging people to make small changes and occasionally choosing alternate modes of travel is an effective way to generate noticeable changes. Penrith could benefit by adopting many of the well developed initiatives used by TravelSmart WA including the deployment of individualised marketing techniques which have been proven to increase the uptake of, not only cycling, but public transport patronage and walking as well. This would require engagement of small focus groups for targeting as part of a long term behaviour change initiative, for example workplaces, community groups or even large households. By getting a group of people to work together, it enables them to encourage one another in their travel mode choices.

Case Study 1 – Swindon Cycle Challenge

The Swindon Cycle Challenge is a fun and free workplace based challenge that encourages more people to give cycling a go, and is run by CTC Challenge for Change. Challenge for Change is a social marketing agency that specialises in designing and implementing behavioural change programmes that get more people cycling, CTC is the UK's national cyclists’ organisation.

The Bike to Work Challenge aims to encourage more people to start cycling by giving them a positive cycling experience. The Bike to Work Challenge is open for various workplaces and departments who register on the
website. Every trip that Bike to Work Challenge participants cycled to work or for transport purposes is logged on the website. The challenge is open for two weeks and the workplace with the most trips cycled win prizes.

After the challenge, three month post intervention surveys were completed to determine changes to cycling numbers. Of participants who were ‘non cyclists’ before the challenge (i.e. they hadn’t ridden a bike in more than a year):

- 32% of former ‘non-cyclists’ are now cycling at least once a week
- 20% are now cycling 2-3 days or 4+ days each week
- 93% have cycled again since the Challenge
- 20% are now cycling to work at least once a week, and
- 15% are now cycling to work 2-3 days or 4+ days each week.

The website still allows participants to continue logging trips even when the challenge is not running. It allows people to see how well others are going and encourages them to keep cycling if they see how well others are doing. The “peer pressure” of work colleagues encouraging one another in their travel behaviour can help to create an environment that accepts and welcomes cycle usage.

Case Study 2 – ‘SMARTi’ (Smarter Mobility Achieving Reduced Traffic Initiative), City of Melville, WA.

The SMARTi program was offered to businesses within the Canning Bridge precinct to encourage staff to use active transport modes to and from work. SMARTi acknowledges that whilst “often there are unavoidable reasons to use the car for work, SMARTi provides information and in some cases incentives for you to consider the most suitable transport mode when you travel”. Business are able to sign up to the program for free and there are many benefits available to employees who use active travel as part of the program, including a free bike for staff who agree to cycle to work three times a week for one year, free public transport tickets for staff who agree to travel three days per week or more using public transport and other prizes and incentives. More information is included in the brochure attached in Appendix B.

9.4.2 Local Implementation and Partnerships

To implement a local TravelSmart program effectively in Penrith would require a part-time or full time travel planner. This resource would be employed by Council with funding from State Government agencies including DECC, the Ministry of Transport, NSW Health and the RTA. They would work with local businesses to specifically tailor a Workplace Travel Plan to the needs of the business, assist with the initial start-up phase and identify a champion within the business to ensure the ongoing success of the travel plan.

9.4.3 Encouragement Value

- **Target audience**: Small to medium focus groups including Government agencies, educational institutions, businesses of all sizes within the local area, community groups and large households;
- **Community benefits**:
  - Practical advice for participants on available transport modes, including facilities available for cycling
  - Involvement and sustained bicycle use by people who currently do not perceive cycling as a positive activity or one that can be used as part of their lifestyle
  - Ongoing encouragement from colleagues or others involved in the program at the same time
• Building healthy competition within the community which drives people’s perceptions and ability, and

• **Success factors:**
  
  - State Government support for a local travel planning officer within Council
  - Top-down support within local agencies, organisations and businesses
  - Ongoing monitoring and expanding of the number and variety of focus groups
  - Ability to engage businesses to run their own initiatives within their workplaces with some input from a local travel planner
  - Long-term commitment from those involved in the program.

### 9.5 e4 - Bike Route Maps/ Brochures

#### 9.5.1 Initiative Description

Easily accessible bike route maps are essential for new cyclists, infrequent cyclists and those unfamiliar with parts of the local area. As the majority of the local population drive a car on a regular basis, local route knowledge is primarily confined to major roads which are often not desirable routes by bicycle. A successful local bike route map/brochure should contain:

- Safe cycling routes on lower traffic volume roads for less confident riders are well as more direct routes for experienced riders. Such routes may or may not have marked bicycle route facilities
- Include legible base mapping consistent with a street directory approach for ease of understanding and location
- Provide a comprehensive network for connections between local trip attractors and generators (with key locations noted on the map
- Warning to cyclists of any difficult locations and steep grades
- Contain a suitable legend to explain map symbology
- Include contact information for bicycle organisations/shops and public transport operator information
- Brief route summaries should be included for the primary/key routes, including estimated journey times and key landmarks en route
- Include information on recreational rides including approximate travel times, and
- Identify local tourist attractions coffee/rest stops (for recreational routes) and heritage items where possible.

A good example of a route map/brochure for the eastern suburbs Councils of Waverley and Woollahra is included in Figure 9.4. The brochure includes information about cycling rules and rights, as well as contact information.

#### 9.5.2 Local Implementation and Partnerships

The bike route maps and brochures should be prepared by Penrith City Council in conjunction with local bicycle user groups to maximise local route knowledge. The map could be sponsored by local bike shops and businesses in return for advertising rights.

Once prepared, route maps and brochures can be easily distributed through local shops, community centres, letter-drops, packaging with rates notices, public transport interchanges and buses, as well as being available for download and possibly customised for use on a mobile phone.
9.5.3 Encouragement Value

- **Target audience:** local residents, visitors and tourists
- **Community benefits:** Overcoming the trip planning barrier to cycling, improved road safety for cyclists through appropriate route selection, increasing awareness of bicycle facilities and local attractions, and
- **Success factors:**
  - Support from Penrith City Council, support from local businesses, appropriate marketing and distribution strategy
  - Ideally bicycle route maps should replicate a common agreed template prepared at a State Government level. The format of the bicycle map including bicycle route lines, colours, symbology and legend should be universal throughout the greater Sydney region. This ensures that cyclists travelling from Penrith to other areas can easily follow the maps with little confusion. Each local Council can then customise their map within the template framework to give it a local flavour.

Figure 9.4: Draft Bicycle Route Map for Waverley and Woollahra City Councils

9.6 e5 - Marketing New Bike Facilities

9.6.1 Initiative Description

Any new bike facilities and associated infrastructure constructed in the local area should be marketed strongly to improve local awareness of the facilities. The wider network connectivity and interaction with existing facilities should also be reinforced. Such promotion could include:

- Articles in the local newspapers
• Letterbox drops to the relevant local area (either commercially done or using volunteers from local interest groups including bicycle user groups)
• Promotion on the Penrith City Council website
• Display panels at local community facilities, transport nodes and shop-fronts
• An official opening or launch including notable dignitaries and celebrities
• A free cycling breakfast or BBQ run by local clubs (such as the Lions Club) and sponsored by local businesses
• TV and radio media coverage, and
• Organised rides and tours of the new facility.

9.6.2 Local Implementation and Partnerships

The marketing of new bicycle facilities should be driven by Council. Potential partnerships to ensure maximum penetration and minimum cost to Council include:

• Local businesses (such as a butcher or bakery) in return for advertising
• Local newspapers such as the Penrith Press, Penrith Star and Western Weekender
• Local clubs, schools, and societies for inclusion in newsletters
• Local bicycle user groups, and
• Radio and television stations.

9.6.3 Encouragement Value

• Target audience: existing and potential cyclists, local residents and families
• Community benefits: greater awareness and use of new and existing facilities; improved community interaction, and
• Success factors: Support from Council and identified potential partners, sufficient Council marketing resources to coordinate media opportunities.

9.7 e6 - Bike Information Stations

9.7.1 Initiative Description

Bike information stations are totems, plinths or other free-standing structures similar to tourist information facilities. A small-scale example is shown in Figure 9.5. Available information could include:

• Bike route maps and brochure information
• Location of the bike information station on the route map
• Directions to nearby bike parking facilities
• Information on new and proposed facilities
• Upcoming cycling events
• Bicycle user group contact details
• Current bicycle advertising and cycle safety messages, and
• Advertising of sponsors.
9.7.2 Local Implementation and Partnerships

Bike information stations would ideally be located near major pedestrian generators and town centre locations such as Penrith Plaza, Civic Centre, Penrith Railway Station and Bus Interchange, The Mall, Nepean Square Shopping Centre and Community Centres. Smaller versions can also be located at prominent points along major cycle routes.

Council should develop a bike information station design and information layout that is consistent with any existing public facility design guidelines. Sponsorship could then be sought from local businesses to subsidise the installation costs in return for advertising rights.

9.7.3 Encouragement Value

- **Target audience:** Existing cyclists, passing pedestrians
- **Community benefits:** Greater awareness of cycling and cycling facilities and promotion of local businesses, and
- **Success factors:** Council support and initial design work, a suitable framework for identifying appropriate bike information station locations and funding/sponsorship support from local businesses.

9.8 e9 - Communicating Local Bicycle User Group Knowledge

9.8.1 Initiative Description

Bicycle User Groups (BUGs) are a useful platform and starting point for the sharing of local, area-specific bicycle user knowledge. The western Sydney cycling advocacy group 'Cyclist's Action Movement West (CAMWEST) is one such group which seeks to advocate for better cycling conditions, shares user information, creates a social meeting point and holds events for cycling enthusiasts based in western Sydney. BUG's provide a great forum to ask questions, connect with cycling enthusiasts and participate in everything cycling. They exist throughout the greater Sydney area with information primarily contained on BUG websites and mailing lists.
9.8.2 Local Implementation and Partnerships

Local BUG contact listings should be included in local community newspapers, Council websites and online listings. Initial consultation with established bicycle user groups in the surrounding areas would be a good starting point for identifying the level of cycling enthusiasts within the Penrith area. Additionally, local advertisements seeking bicycle enthusiasts could be used to gather interest and build a membership base.

A bicycle user group can be established in the short-term at minimal cost and result in medium-high benefits.

9.8.3 Encouragement Value

- **Target audience**: regular cyclists, enthusiasts and those interested in getting more involved in cycling and meeting similarly minded people
- **Community benefits**: increase in cycling awareness, encouraging recreational riding, community involvement and health benefits for members, and
- **Success factors**: motivated cycling volunteers to generate interest and gather members, regular activities and proactive role.

9.9 e11 - Cycling School Bus

Cycling school buses are a great way to encourage children to cycle to school regularly, safely and in a fun environment. Similar in nature to the ‘walking school buses’, the cycling school bus is a regular, organised group of volunteers who cycle to school along a predetermined route, collecting ‘passengers’ along the way. Cycling school buses can be organised by volunteer parents using a roster system and should be promoted, particularly during the lead up to Ride2School Cycle to Work Day. The following schools should be approached and encouraged to develop a cycling school bus program:

- St. Nicholas of Myra Primary School  
  (Higgens Street, Penrith)
- Cambridge Gardens Public School  
  Trinity Drive, Cambridge Park)
- Jamisontown Public School  
  (Thurwood Avenue, Penrith)
- Penrith South Public School  
  (Jamison Road, Penrith), and
- Braddock Public School,  
  (Laycock Street, Cranebrook).

A joint approach to the development of the programs would benefit each school by creating a shared vision and assist in adopting a best practice approach.

9.9.1 Local Implementation and Partnerships

The cycling school bus could be developed and promoted in conjunction with safe riding education programs in schools. It could be marketed as a safe environment where newly young riders can apply and develop their riding skills in a safe and monitored environment. A successful program would require a team of volunteers (usually parents) to ride with the children on a regular basis. RSOs could play a role in establishing and promoting a cycling school bus program.

A cycling school bus could be developed and delivered in the short-term and result in high benefits to the community.
9.9.2 Encouragement Value

- **Target audience:** schools and students, parents and their children
- **Community benefits:** health benefits for children, rider awareness and increased safety for children, doesn’t cost anything to run it only requires the time and organisation from volunteers, community interaction and involvement and greater uptake of cycling among young people, and
- **Success factors:** support from schools and parents, volunteers to operate the ‘bus’ and the provision of a regular and reliable service.

9.10 e18 - Cycling Tours and Heritage Rides

9.10.1 Initiative Description

Organised cycling tours provide a great opportunity to promote the Penrith area and attractions in a relaxed, enjoyable, friendly and intimate manner. Free cycle tours could be organised at regular periods throughout the day through the tourist information centre, with volunteers leading people around the City’s main highlights and providing a running commentary. Distances could vary depending on the interest/experience level of the group.

Incentives could be provided from the Local Government/Council to encourage young people to establish commercial cycle tour businesses in the Penrith area.

Cycle tourism and recreation provides a strategic opportunity to promote the Penrith LGA town centres and its natural and cultural heritage. Similar initiatives in Manly recently featured on Channel 9’s “Getaway” program (19 February 2009) - http://getaway.ninemsn.com.au/article.aspx?id=754314 (Figure 9.6).

![Figure 9.6: Channel 9's Get-Away Story on Cycle Tourism in Manly](image)

Another good example is the Green Grocer Cyclery in Goulburn, which operates a successful green grocer with a cafe and a bike sales and repairs shop. The Cyclery also organises regular weekend events with a bicycle courier company for fitness training, with flow-on benefits to the Goulburn accommodation and hospitality industry (Figure 9.7).
9.10.2 Local Implementation and Partnerships

Cycling tours and heritage rides could be set up on a volunteer basis and operated through the visitor information centre, with visitors signing up for scheduled tours that depart from the Penrith Valley Visitor Information Centre (Mulgoa Road, Penrith). Alternatively, support could be provided to encourage a local operator or group of young people to establish and promote the tours. There would also be scope for bicycle user groups to schedule semi-regular tours or rides for interested persons in the local area. These could depart from the same location on a monthly/fortnightly basis, be advertised at bicycle information stations, and be lead by volunteers and local cycling enthusiasts who would give a running commentary on the local sights and bicycle facilities in the area.

Depending on the model adopted, a cycling tour business could be implemented in the short-medium term and result in high benefits to the community and visitors to the area.

9.10.3 Encouragement Value

- **Target audience:** visitors and tourists to the Penrith area and those interested in eco-friendly tours
- **Community benefits:** promoting cycling in the area, tourist attraction, opportunity to encourage a new business opportunity for young people, and
- **Success factors:** local volunteers, government support or Council incentives/support to encourage the establishment of a new business opportunity.

9.11 e20 - Report-a-Hazard

9.11.1 Initiative Description

The Report-a-Hazard website was established in June 2006 to assist in reporting hazards which might affect cyclists, pedestrians, motorists and drivers. Road Safety Officers from the Goulburn Mulwaree, Wingecarribee and Wollondilly local government areas were responsible for developing, designing, implementing and evaluating this website project, with funding provided for this project by the RTA as part of the Local Government Road Safety Program.

The Report-a-Hazard service allows cyclists (and other road user categories) to report any type of hazard related to cycling on roads, paths and local routes so that the problems can be attended to suitably and effectively without having to wait for council routine maintenance. Each year crashes and road related injuries cost our community dearly at every level – financially, economically and emotionally. It is only
through a coordinated commitment by the community, lead road safety and management agencies that real outcomes can be achieved to reduce the occurrence, risk and cost of injuries to our community.

Report-a-Hazard can be set up as a reporting service for cyclists which allows them to report any hazards or maintenance requirements they may have observed when cycling along on-road or off-road paths. The service may allow cyclists to call a direct line, or use an online account to report. Cyclists may be known or anonymous when making a report and all information is kept confidential. This idea gives councils an insight to what cyclists think of their current facilities and if there are any underlying issues they may not be addressing in between maintenance.

Figure 9.8 shows a bicycle lane which is “cut off” and does not display warning signage, continuity lines or tapering. This is a serious hazard especially at night and when the traffic volumes are high.

**Figure 9.8: Example discontinuous bike lane with no signage or taper**

Figures 9.9 and 9.10 show the hazard imposed by a poorly located median and the (low cost) action which should be taken. The island should be removed to the kerb line in order to provide a suitable 1.5m bicycle shoulder. Such hazards and treatments can be identified by local cyclists without detailed written submissions.

**Figure 9.9: Island obstructing the bicycle lane by protruding from a side street**
9.11.2 Local Implementation and Partnerships

Discussions with some Road Safety Officers from the Local Government areas identified above indicate that there is a keen interest to assist other Councils with similar programs. Costs are limited to the development of a suitable Penrith website. In-kind “investment” is required to ensure feedback/complaints/requests are handled promptly and accurately.

9.11.3 Encouragement Value

- **Target audience:** Penrith residents and to a lesser extent visitors
- **Community benefits:** improved cycling facilities, long term cost savings due to improved maintenance practice, and
- **Success factors:** in-kind staff and political commitment for prompt maintenance.
10. Planning Principles and Guidelines

10.1 Overview

The stakeholder workshops and the general research carried out for the subregional bicycle planning studies have identified a wide range of opportunities for improvements to cycling planning principles and guidelines.

Table 10.1 provides an overview of these initiatives, evaluated in accordance with the methodology set out in Section 7.6. Details of each initiative are provided in a separate working paper. The remainder of this section describes the initiatives of particular relevance to Penrith.

<table>
<thead>
<tr>
<th>Initiative</th>
<th>Potential Benefits</th>
<th>Cost Estimate</th>
<th>Action Time Frame</th>
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<td>g1. Development Applications</td>
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<td>Short Term</td>
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<td>g2. Integration of Walking and Cycling</td>
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<td>g3. Network Development - &quot;Every Street is a Bicycle Street&quot;</td>
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<td>g4. Route Development and Evaluation</td>
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<td>g5. Forecasting Cycling Usage Patterns</td>
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<td>g6. The Economics of Cycling</td>
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<td>g7. Access to Stations - Neighbourhood Density and Connectivity</td>
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<td>g8. Treating 12.8m Wide Roads</td>
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<td>g9. False One-Way Streets</td>
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<td>g10. Separated Two-Way Cycleway</td>
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<td>Medium Term</td>
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Note: * Items marked with an asterisk (*) are detailed further in this section. Other items are discussed in a separate working paper.

10.2 Relevant Guidelines

The development of cycling infrastructure and the related encouragement initiatives is receiving fast increasing levels of interest, both in Australia and around the world. This is evident from an avalanche of new publications with many new concepts and refinements of old ones.

The study brief also requires “to highlight required improvements and updates to the Roads & Traffic Authority (RTA) guidelines 'How to Prepare a Bike Plan – An Easy 3 Stage Guide’ (2002)”. Cycling issues, however, are included in a much broader range of State and National guidelines and manuals, many of which could be updated to better reflect current best practice and to improve planning and designing of cycling facilities and cycling encouragement/promotion:

- RTA (2002) - How to Prepare a Bike Plan - An Easy 3 Stage Guide
- RTA (2002) - How to Prepare a Pedestrian Access and Mobility Plan - An Easy 3 Stage Guide
- RTA (2005) - NSW Bicycle Guidelines
- NSW Department of Planning (2004) - Planning Guidelines for Walking and Cycling
- Austroads (1999) - Guide to Traffic Engineering Practice - Part 14 Bicycles, and
This section identifies a range of opportunities to update some of these guidelines and manuals.

10.3 g1 - Integration of Walking and Cycling

Relevant Documents:
- RTA (2002) - How to Prepare a Bike Plan - An Easy 3 Stage Guide
- RTA (2002) - How to Prepare a Pedestrian Access and Mobility Plan - An Easy 3 Stage Guide
- RTA (2005) - NSW Bicycle Guidelines
- NSW Department of Planning (2004) - Planning Guidelines for Walking and Cycling
- Austroads (1999) - Guide to Traffic Engineering Practice - Part 13 Pedestrians, and

Increasingly, local government agencies are taking a joint approach to planning and designing for walking and cycling facilities. This is partly driven by economies of scale, both from a planning perspective and from an infrastructure perspective. It is also pragmatic - most off-road bicycle facilities are used by pedestrians as well.

Key aspects for an integrated manual include:
- Title and focus - How to prepare an Active Travel Manual - an easy to use guide to assist with the planning for walking, cycling and public transport
- Access to bus/tram stops and railway stations
- Bicycle parking - quality, quantity and security increases with service levels
- Seating and shelter at all stops (not an issue for stations) - seating is a key issue for elderly and mobility impaired people, both at the stops and along the way, even more so on grades
- Sealed paths to all stops with good crossing facilities and good access into local neighbourhoods (eg through cul-de-sacs) - Figure 10.1 and Figure 10.2
- Good visibility and passive surveillance
- Landuse assessment (refer Section 10.5 and Table 10.2)
- Clear guidance on more extended use of shared paths and when and where to introduce greater widths or separation. Many footpaths are of a 1.2m minimal width, which does not meet the requirement for shared paths defined by Austroads Part 14 and the NSW Bicycle Guidelines. However, in many environments pedestrian and cyclist volumes are low and would create minimal conflict between the user groups
- Clear guidance for new subdivisions for the need for footpaths on both sides of the road (except in formally declared Shared Zones), and
- Inclusion of education and encouragement programs to inform potential users of the new facilities, appropriate user behaviour and encourage greater use.
Figure 10.1: Missing Link through Cul-de-sac - Ambler Close at Old Bathurst Road, Emu Heights

Figure 10.2: Crossing Treatment with wide median treatment but without bicycle signage - Tukara Road, South Penrith

10.4 g2 - Network Development - “Every Street is a Bicycle Street”

Relevant Documents:
- RTA (2002) - How to Prepare a Bike Plan - An Easy 3 Stage Guide
- RTA (2002) - How to Prepare a Pedestrian Access and Mobility Plan - An Easy 3 Stage Guide
- RTA (2005) - NSW Bicycle Guidelines
- NSW Department of Planning (2004) - Planning Guidelines for Walking and Cycling
- Austroads (1999) - Guide to Traffic Engineering Practice - Part 14 Bicycles, and
Figure 3.2 of the NSW Bicycle Guidelines provides clear directions for the type of facility that is required in different road and traffic conditions. While the Guidelines recognise that cyclists use every street available to them (Guidelines Section 3.5), the focus is on the development of routes rather than the whole of the street and pathway network. This is useful for two purposes:

- Directional guidance - route signage to specific destinations (focal points), typically some distance apart, and
- Funding allocation - the bicycle network is under-developed and there is a need to target limited funding resources.

Best practice, however, is the development of “every street as a bicycle street”. In local streets this requires little or no intervention, other than maybe adjustments to traffic calming devices and some directional guidance where these streets are included as part of a long distance route.

On more significant roads, the recognition that “every street is a bicycle street” allows the inclusion of cycling facilities every time there are maintenance or enhancement works on these roads. This is an opportunistic but essential means of developing the network. A good example is Houston Road, Kingsford, which was re-line-marked with bicycle lanes following a pavement re-sheet, even though it was at the time not formally part of the bicycle network (Figure 10.3).

Another important issue in this context is the inclusion of ALL local streets on bicycle maps. A good example is Bruce Ashley’s “Sydney BIKE-IT - a back-street guide for cyclists”, although this is still focussed on routes rather than using all streets.

Figure 10.3: Re-sheeting work is a key opportunity to provide bicycle lanes - Houston Road, Kingsford

10.5 g3 - Route Development and Evaluation

Relevant Documents:

- RTA (2002) - How to Prepare a Bike Plan - An Easy 3 Stage Guide
- RTA (2002) - How to Prepare a Pedestrian Access and Mobility Plan - An Easy 3 Stage Guide
- RTA (2005) - NSW Bicycle Guidelines
- NSW Department of Planning (2004) - Planning Guidelines for Walking and Cycling
- Austroads (1995) - Guide to Traffic Engineering Practice - Part 13 Pedestrians, and
The route development and evaluation methodology set out in the NSW Bicycle Guidelines focuses on the suitability to the cyclist of a route by adding impediments that are present on individual route segments; including:

- the absolute distance of the route
- the nature of the route (on-road/off-road)
- any elevation which has to be overcome, and
- sharp turns and give-way / stop points along the route.

Based on these impediments, the Guidelines use a simple scoring method to calculate an equivalent length for each route segment. Those segments that add up to the shortest equivalent paths between the two end points make up the preferred route. The favoured route is therefore as direct as possible, with a maximum of off-road content, while avoiding unnecessary climbs and circuitous sections with stops, turn-offs and cross-overs.

Based on feedback received from stakeholders during the consultation process for a number of bicycle route development projects, two other tests should be considered for inclusion in the guidelines, including:

- Landuse Benefits (new criterion, Table 10.2), and
- Increased penalty for delays at traffic signals and for hill climbs (additional sensitivity test for existing criterion - double each).

Table 10.2: Landuse Weighting Allocation

<table>
<thead>
<tr>
<th>Land Use</th>
<th>Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Residential</strong></td>
<td></td>
</tr>
<tr>
<td>low density housing</td>
<td>0</td>
</tr>
<tr>
<td>high density housing</td>
<td>2</td>
</tr>
<tr>
<td>Senior Living</td>
<td>5</td>
</tr>
<tr>
<td><strong>Education</strong></td>
<td></td>
</tr>
<tr>
<td>University</td>
<td>5</td>
</tr>
<tr>
<td>TAFE</td>
<td>3</td>
</tr>
<tr>
<td>School</td>
<td>1</td>
</tr>
<tr>
<td><strong>Parks</strong></td>
<td></td>
</tr>
<tr>
<td>Regional</td>
<td>3</td>
</tr>
<tr>
<td>Local</td>
<td>1</td>
</tr>
<tr>
<td><strong>Retail and Commercial</strong></td>
<td></td>
</tr>
<tr>
<td>CBD / major town centre</td>
<td>5</td>
</tr>
<tr>
<td>Regional shops</td>
<td>3</td>
</tr>
<tr>
<td>Local shops</td>
<td>1</td>
</tr>
<tr>
<td>Major trip generator (not in CBD)</td>
<td>3</td>
</tr>
<tr>
<td>General employment</td>
<td>1</td>
</tr>
<tr>
<td><strong>Transport</strong></td>
<td></td>
</tr>
<tr>
<td>Major Transport Interchange</td>
<td>5</td>
</tr>
<tr>
<td>Railway Station or Ferry Wharf</td>
<td>3</td>
</tr>
</tbody>
</table>
10.6 g7 - Access to Stations - Neighbourhood Density and Connectivity

Relevant Documents:

- RTA (2005) - NSW Bicycle Guidelines
- NSW Department of Planning (2004) - Planning Guidelines for Walking and Cycling
- Austroads (1995) - Guide to Traffic Engineering Practice - Part 13 Pedestrians, and

The current usage of walking and cycling travel modes is dependent on residential and commercial land use densities as well as road and footpath/cycleway network connectivity and design. Figure 10.4 shows that the development of diagonal pathway networks can significantly improve the accessibility of stations.

Depending on the shape and size of the pathway network, diagonal pathways can reduce distances by 15%-30%. The benefits are strongest close to the station, say within 1km. Further afield more traditional grid-networks are acceptable.

Figure 10.4: The benefits of diagonal pathway networks

![Diagram of pathway networks showing benefits](image)

Reproduced from Huisman, 1982

Planning controls of residential and employment densities also significantly improve the accessibility of railway/metro stations. Figure 10.5 demonstrates the potential combined the effects of diagonal pathway networks and land use density with three scenarios:

- Traditional grid network with constant employment or residential densities (solid grey line)
- The same “average” residential/employment densities, but higher densities close to the station and reducing further afield (dashed grey line), and
- The scaled residential densities above with improved diagonal pathway networks (dashed black line).

It is evident that as the planning controls improve, there is a strong increase in the number of passengers within a short distance from the station. Accessibility of the station has increased significantly. It is clear that good station design practice must include suitable planning controls to achieve good accessibility outcomes.
It is well known that when designing for walking and cycling access, “the devil is in the detail”. Figure 10.6 and Figure 10.7 show the importance of the detail close to the station. As the distance to the station reduces, there is an exponential increase in the percentage of the remaining distance and travel time. Poorly designed or poorly performing crossing facilities such as multi-staged crossings at traffic signals or pedestrian control fences can significantly increase the percentage of remaining walking or cycling time.

Figure 10.6: The route approach angle should reduce \( (\dot{\alpha} - \alpha) \) close to the station

Reproduced from Huisman, 1982
Figure 10.7: One minute delay as a percentage of the remaining walking distance. Walking distance: 1000 metres equals 10 minutes

Reproduced from Huisman, 1982
11. Penrith Priority Initiatives

11.1 Background

The priority initiatives developed by GTA Consultants to encourage more cycling trips within the 5-8km catchment study area have been formulated based on an understanding of the broad area demographics, current transport statistics, physical cycling environment, community needs and concerns together with the current cycle barriers, challenges and opportunities facing Penrith City Council and its community.

Some of the opportunities and constraints identified by GTA Consultants which have guided the development of the Penrith Priority Initiatives include the following:

Opportunities

- Analysis of the age structure of Penrith City population in 2006 when compared to the Sydney Statistical Division indicates that there is a larger proportion of people in the younger age groups (0-24) and a smaller proportion in the older age group (60-85+); This younger age group consists of vulnerable child cyclists (5-11) on one hand but also more confident teenage and young adult cyclists (12-24) on the other
- There are recreational facilities within the study area which with little effort and cost could be upgraded to a suitable standard for cycling of all ages and abilities
- There are educational cycling facilities within the study area (CARES) which are being used currently
- In general the study area is flat
- There are large individual employers within the study area who could influence a mode shift towards cycling i.e. Nepean Hospital, Penrith Panthers, Penrith Plaza (Westfield) etc
- Penrith includes a number of popular markets including Sydney’s biggest mid-week market called Penrith Showground Markets, and
- The Blue Mountains plateau begins less than 5km west of Penrith and extends over a quarter of a million hectares of native bushland which is easily accessible to and from Penrith City Centre by train.

Constraints

- The existing on-road bicycle infrastructure (route network) is limited, fragmented, not continuous, unsafe and generally not sufficient to provide a level of confidence in its use
- The physical barriers of the M4, Railway Line and Nepean River reduce cyclist accessibility to and from the Penrith City Centre subsequently reducing the potential cycling catchment, and
- The limited success of the 1996 bike plan at a Council level was primarily due to lack of any real funding or local political support with nobody really responsible for coordinating and driving its implementation across all Council departments.

11.2 Cost of Initiatives

The implementation costs of the bicycle facilities and infrastructure and education, awareness and promotion initiatives will depend on the scale and level to which the individual initiatives are implemented. Generally the costs increase approximately in proportion to the scale of the initiatives. However, this
increase in scale also provides opportunities for additional partnerships to share the cost. The appropriate scale will be determined by the available resources and willing partner organisations as well as the benefits or return-on-investment for a particular level of investment.

11.3 Assessment of Initiatives

In order to provide a meaningful assessment of the initiatives for the purposes of this study, as well as to assist in the prioritisation an assessment of the relative costs and corresponding benefits has been undertaken in two ways as follows:

- Technical assessment by the project team, and
- Focus group assessment by stakeholders during the second project workshop.

This assessment was undertaken using the qualitative framework identified in Section 7.6 of this report, which was applied to the initiatives described in Sections 8, 9 and 10. The focus has been on initiatives that can be used inexpensively and quickly and to noticeable effect in a ground up Penrith situation as opposed to a top down process led by the State or Federal Government.

The priority initiatives developed by GTA Consultants for the local level are summarised below in three categories of Bicycle Infrastructure Measures (Table 11.1); Bicycle Facilities (Table 11.2); and Education, Awareness and Promotion Initiatives (Table 11.3). The improvements to the Key Planning Principles and Guidelines primarily relate to a wider application across New South Wales and as such are not included in this section.

Table 11.1: Priority Package of Bicycle Infrastructure Measures for Penrith

<table>
<thead>
<tr>
<th>Priority Initiative</th>
<th>Initiative Description &amp; Application</th>
<th>Issue Addressing</th>
<th>Target Audience</th>
<th>Cost</th>
<th>Potential Funding Sources</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Implement Strategic Bicycle Network</td>
<td>Focus on two pilot “high quality” cycle routes the first being Glenmore Park to the Penrith City Centre including the implementation of a facility which overcomes the M4 barrier, possibly name “Suburb to City route 1”. The second should be a recreational cycle route along the Nepean River connecting Penrith Lakes to Penrith Panthers. This route should be promoted as a safe route which is suitable for cycling of all ages and abilities and should provide non-cyclists with a good opportunity to cycle in a safe environment prior to using the on-road routes.</td>
<td>Network deficiencies &amp; safety concerns</td>
<td>Glenmore Park Residents &amp; Novice Cyclists</td>
<td>High Medium</td>
<td>Federal Jobs Fund, RTA Council</td>
</tr>
<tr>
<td>2. Comprehensive Bicycle Route Signage</td>
<td>Cyclist way-finding and implementing a cycle network irrespective of specific cycle infrastructure. Develop and focal point plan taking into account local and regional destinations with signage integrated with street signs where possible.</td>
<td>Lack of way finding information</td>
<td>Existing and new cyclists</td>
<td>Low</td>
<td>RTA Council</td>
</tr>
</tbody>
</table>
### Table 11.2: Priority Package of Bicycle Facilities for Penrith

<table>
<thead>
<tr>
<th>Priority Initiative</th>
<th>Initiative Description &amp; Application</th>
<th>Issue Addressing</th>
<th>Target Audience</th>
<th>Cost</th>
<th>Potential Funding Sources</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. High Density Secure Bike Parking</td>
<td>High density secure bike parking should be provided at key town centre and transport node locations where there is existing high demand such as Penrith Railway Station, as well as shopping centres such as Westfield Penrith and close to Government services in the town centre. The provision of these facilities will be fundamental to other non-infrastructure encouragement initiatives.</td>
<td>Lack of end of trip facilities</td>
<td>Existing and new cyclists</td>
<td>Low</td>
<td>City Rail RA Council Local Business</td>
</tr>
</tbody>
</table>

### Table 11.3: Priority Package of Education, Awareness and Promotion Measures for Penrith

<table>
<thead>
<tr>
<th>Priority Initiative</th>
<th>Initiative Description &amp; Application</th>
<th>Issue Addressing</th>
<th>Target Audience</th>
<th>Cost</th>
<th>Potential Funding Sources</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Penrith Cycling Map/Brochure</td>
<td>Common initiative developed by many Councils and organisations. Needs to be in an electronic format which can be easily transferred onto Councils website and must include everything cycling i.e. Bike Routes, Bike shops, Bike contacts, Safe Riding tips etc.</td>
<td>Lack of cycle route knowledge/information</td>
<td>Whole Community</td>
<td>Low</td>
<td>Whole of Govt (NSW) Council Local Businesses</td>
</tr>
<tr>
<td>2. Frequent Cycling Scheme Pilot</td>
<td>This pilot initiative should initially focus on cycling to and from Penrith Station. In association with a local station business (coffee shop/café) offer food/coffee discount incentives to cyclists. If successful this could be rolled out to Westfield Penrith shoppers, i.e. Offering discount shopping vouchers for cyclists.</td>
<td>Improving the attractiveness of cycling to non cyclists. “Why is he/she getting a discount?”</td>
<td>Commuters</td>
<td>Medium</td>
<td>Council Local Businesses NSW Health City Rail Westfield</td>
</tr>
<tr>
<td>3. Voluntary “Pilot” Employee TravelSmart</td>
<td>This initiative could be co-ordinated through the Chamber of Commerce but be offered on a voluntary basis. Penrith City Council to provide expertise and resources to execute.</td>
<td>High motor vehicle use for short trips to and from City Centre.</td>
<td>City Centre Business Employers/ Large Business Employers i.e. Strip Shops/ Nepean Hospital, Council, Penrith Plaza</td>
<td>Medium</td>
<td>Council DECC MOT NSW Health</td>
</tr>
<tr>
<td>4. Bicycle Information Stations</td>
<td>It is envisaged that there be two types of information station. The first is of a static nature located in the City Centre to include the bicycle map/brochure and any other available cycling resources. The second is a mobile information station rotated at the various Penrith Markets. These information stations should also be supported by the BUG’s and local bicycle shops with opportunities to offer bicycle buddy support, bicycle maintenance skills advice, run the bicycle helmet scheme as a market activity etc.</td>
<td>Lack of cycle route knowledge/information</td>
<td>Whole Community</td>
<td>Medium</td>
<td>Council Whole of Govt (NSW)</td>
</tr>
<tr>
<td>Priority Initiative</td>
<td>Initiative Description &amp; Application</td>
<td>Issue Addressing</td>
<td>Target Audience</td>
<td>Cost</td>
<td>Potential Funding Sources</td>
</tr>
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</tr>
<tr>
<td>S. Local Heritage/Arts/ Attractions Cycle Tours</td>
<td>There are two cycle tour opportunities which would have some merit. The first could be within the Penrith City Centre itself taking in the various heritage items, museums, galleries and parks. The second tour could be associated with links to the Blue Mountains where people catch the train to Glenbrook and cycle back to Penrith. Penrith City Council needs to take advantage of the closeness of the Blue Mountains and in particular the tourism aspect of it. The Blue Mountains Regional Tourism Plan indicates a need to develop a Tourism Management Committee which Council should actively engage in. Some examples of existing active cycle tours operating include Manly Tours and the Parramatta Heritage ride.</td>
<td>No existing local cycle tourism rides or local established recreational rides</td>
<td>Whole Community</td>
<td>Medium</td>
<td>Council Tourism NSW</td>
</tr>
</tbody>
</table>
12. Referenced Documents

- City of Sydney, 2008 Sustainable Sydney 2030, City of Sydney Strategic Plan Final Consultation Draft, SGS Economics & Planning, Sydney.
- Kurko, J. 2007, Health by Design in Practice- a planners’ guide applied to Renwick green field development, NSW Division NHFA.
• Meiklejohn D., 2005 TOD and TDM: ensuring good policy outcomes in Melbourne, Department of Infrastructure, Victorian Government, Melbourne.
• RTA, 2008b Cycling In Sydney Bicycle Ownership and Use, Ministry of Transport, Sydney.
• Seethaler R., Rose G., 2003 Using the Six Principles of Persuasion to Promote Travel Behaviour Change, Monash University, Melbourne.
• Transit Cooperative Research Program, 2005 Integration of bicycles and transit: A synthesis of transit practice, Federal Transit Administration, United States Government, Washington, D.C.
  http://www.en.velib.paris.fr/
Appendix A

Stakeholder Consultation
Sub-regional Bike Plan Study
Penrith

23 February 2009 2pm-4pm
HS11151

Agenda
• Introductions and study background
• Existing cycle network and cycle catchment
• Opportunities and constraints
• Future cycle infrastructure solutions
• Education and awareness
• End-of-trip facilities
• Workshop brainstorming and discussion
• Other Business/Next steps

Time Lines
• Project commissioning and inception – early February 2009
• Interim progress report – end March 2009
• Draft final report – 15 May 2009

Project Objectives
• cycling encouragement initiatives for the local area
• transferable ideas
• improvements to guidelines

Project Tasks
• Describe study area
• Reference group
• Value-adding stakeholders
• Effectiveness of existing infrastructure
• Cycling patterns and issues
• PCAL Research
• Map
• Action packages - infra + non-infra
• Preferred packages of actions
• Document recommendations

Value-Adding Stakeholders
• who’s missing from the room?
• •
• •
• •
• •
Basic Facts

- $27.2 million savings per annum by existing commuter and recreational cyclists due to health, congestion and green house gases
- 52% of trips under 5km
- 34% of green house gases is for travel to work, shopping, etc
- obesity costs Australia $21 billion annually

Basic Facts

- A 30 minute cycle trip a day provides all the exercise you need to halve the chance of becoming obese or diabetic
- If Australians were more active, $720 Million would be saved each year in health costs
- 75% of non-regular cyclists said off-road routes would make them cycle more regularly

Basic Facts

- CSIRO predicts that petrol prices could increase to $8 per litre by 2018

Workshop

- network development
- cycling encouragement initiatives for the local area
- transferable ideas
- improvements to guidelines
- some ideas to get started
Local Bike Routes (Lonsdale Street, St Marys South)

Regional Bike Routes (The Northern Road/ M4 intersection)
Off-Road Connections (The Northern Road/Andrews Road)

Transferable ideas

Improvements to guidelines

Off-Road Shared Paths (Glenmore Park)

Remember

- 75% of non-regular cyclists said off-road routes would make them cycle more regularly

Existing road

New footpaths, narrower travel lanes, bike path, planted median, fence
Bike lane paving

Street trees

transferable ideas

improvements to guidelines

Benefit Cost Analysis

<table>
<thead>
<tr>
<th>Type of project</th>
<th>OpType</th>
<th>Cost (km)</th>
<th>Difference in Use</th>
<th>Benefit - commuter (annual)</th>
<th>Benefit - recreational (annual)</th>
<th>Benefit - Combined (annual)</th>
<th>Benefit - Combined (25 year life cycle)</th>
<th>BCR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Example</td>
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<tr>
<td>Bike lane paving</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Street trees</td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

cycling encouragement initiatives for the local area
Existing Bicycle NSW Initiatives

- Share the road
- Ride2School

Workshop
- Network development
- Cycling encouragement initiatives for the local area
- Transferable ideas
- Improvements to guidelines

Network Development
- Signage (policy, installation, advocacy)
- Recreational cycling vs commuter cycling
- Direct routes (vs green corridors)
- Dedicated on-road facilities
- Street crossings (focus on children)
- End of trip facilities at railway stations
- Links from subdivisions to town centre

Encouragement Initiatives
- Safety of children
- Penrith map/brochure
- Points system – redeemable at local businesses
<table>
<thead>
<tr>
<th>Transferable Ideas</th>
<th>Improvements to Guidelines</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Cityrail train provisions and policy</td>
<td>• LATM design for cyclists</td>
</tr>
<tr>
<td>• Early behavioural patterns for new residents</td>
<td>• Broadening to cover other mobility issues/choice</td>
</tr>
<tr>
<td>• Riding school bus</td>
<td></td>
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<tr>
<td>• Speed limits on streets</td>
<td></td>
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<tr>
<td>• Schools competition for best bike plan etc.</td>
<td></td>
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</tbody>
</table>
Sub-Regional Bike Plan Study

Penrith Workshop #2

Tuesday 5 May 2009 2pm - 4pm
HS123gs

Penrith

Penrith

Penrith

Penrith

Agenda

- Presentation of key study area characteristics
- Workshop #1 ideas revisited
- Presentation of initiatives developed
- Presentation of priority initiatives
- Focus groups - what's missing?
- Focus groups - prioritisation of initiatives
- Focus group presentations
- Closing discussion and next steps

Penrith
Key Characteristics – Penrith

- Large and wide spread LGA
- Generally low urban densities
- Strong town centre and main street surrounded by groups of relatively young subdivisions
- Relatively flat topography with minimal grade changes across the LGA (east to west and north to south)
- Cycling catchment is affected by the Nepean River, the Western Railway and the M4 Motorway, all of which form travel barriers and reduce the catchment area

Workshop #1 ideas revisited

- Network development
- Cycling encouragement initiatives for the local area
- Transferable ideas
- Improvements to guidelines

Workshop 1 - Network Development

- Signage (policy, installation, advocacy)
- Recreational cycling vs commuter cycling
- Direct routes (vs green corridors)
- Dedicated on-road facilities
- Rationalisation of bike network
- Street crossings (focus on children)
- End of trip facilities at railway stations (not token)
- Links from subdivisions to town centre
- Focus on trips to key destinations

Workshop 1 - Encouragement Initiatives

- Safety of children
- Penrith map/brochure
- Points system – redeemable at local businesses
- Bike hire
- Employers pay staff to give up parking
- Campus rides (UNSW and TAFE)
- Australia Day – ride @ Penrith Lakes
- BUG rides
- Bike demo day
- Rides and breakfasts/BBQs associated with rec facilities and trip attractors
- Using AustCycle training

Workshop 1 - Transferable Ideas

- CityRail train provisions and policy
- Early behavioural patterns for new residents
- Riding school bus
- Bike buses during peak periods
- Speed limits on streets
- Schools competition for best bike plan etc.
- Driver education and awareness – marketing
- Employers - pool bikes, retro-fits
Workshop 1

Improvements to Guidelines

• LATM design for cyclists
• Broadening to cover other mobility issues/choice
• DCP bikes requirements
• Universal designs - mobility

Bicycle Facilities and Infrastructure Initiatives

• Comprehensive bike route signage
• Identify and implement regional cycle network
• Regional radial links to town centre
• Road network crossing points
• Transforming existing streets (streetscaping)
• High density secure bike parking
• Short-term and casual bike parking
• Shower and locker facilities

Education, Awareness and Promotion Initiatives

• Mainstreaming cycling – media campaign
• Bike route maps/brochures
• Marketing new bike facilities
• Bike information stations
• Internet-based bike trip planning
• Mobile bike trip navigation
• Communicating local bicycle user knowledge
• Developing safe cycling habits

Planning Principles and Guidelines

• Integration of Walking and Cycling
• Network Development and Funding Priorities
• Route Development and Evaluation
• Forecasting Cycling Usage Patterns
• The Economics of Cycling
• Access to Stations - Neighbourhood Density and Connectivity

Priority Initiatives

There is no silver bullet!
Priority Initiatives - Transferable

- “Mainstreaming Cycling”
- Mass Media Campaign
- Maximising the use of internet-based marketing
- Whole-of-Government policy
- Promote cycling as a lifestyle, not just a sport or hobby
- Show how cycling can be fun and easy for all different types of people and ages

Priority Initiatives – Transferable

- Many low cost avenues available:
  - Social networking websites (e.g. Facebook)
  - You Tube videos
    - E.g. Cycling Promotion Fund has set up a channel
      [http://www.youtube.com/user/cyclingpromotionfund](http://www.youtube.com/user/cyclingpromotionfund)
  - Partnerships with food/health/travel companies, etc, for joint ads
  - Blogs/Wikis
  - Celebrities on bikes on TV, magazines, etc

Priority Initiatives – Penrith

- “Frequent Cycling Scheme”
  - Rewards provided for trips made by cycling
  - Redeemable at local businesses – encouraging people to spend money locally
  - Partnership with local chamber of commerce (workshop on commencement, ongoing consultation)
  - Tackling health issues requires exercise and better eating with exercise being more efficient at delivering benefits. The frequent cycling scheme can tackle both as part of a daily routine.

Priority Initiatives – Penrith

- Potential targets include:
  - Employees of retail businesses
  - Rail users travelling to and from the station
  - Receive validation at bike parking facilities (attended facilities best)
  - Healthy breakfast packs (partnership with Department of Health, Heart Foundation, Department of Education), coffees or lunch packs for cycling to station – recognises time commitment
  - Local delivery schemes for shoppers who cycle – partnership with council and community bus

Focus groups: what’s missing?

?
Focus groups: Prioritisation of initiatives

- Evaluation of actions/timing:

<table>
<thead>
<tr>
<th>Priority</th>
<th>Feasibility Benefits</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>High</td>
</tr>
<tr>
<td>Priority 1</td>
<td>Short Term</td>
</tr>
<tr>
<td>Priority 2</td>
<td>Short Term</td>
</tr>
<tr>
<td>Priority 3</td>
<td>Medium Term</td>
</tr>
</tbody>
</table>

Focus groups: Presentation of priorities

- What were your group’s top three short-term actions?
- What key issues are critical to their success?
Appendix B

SMARTi Brochure
SMARTi seeks to reduce traffic congestion by decreasing the amount of journeys taken by motor vehicles; specifically single occupant vehicle trips.

SMARTi acknowledges that often there are unavoidable reasons to use the car for work, SMARTi provides information and in some cases incentives for you to consider the most suitable transport mode when you travel.

We are committed to combating climate global warming, reducing congestion and pollutants, supporting active travel and providing a more pedestrian and cyclist friendly environment for the Canning Bridge Precinct employees.

Is it true that a certain number of staff will be provided with free bicycles and public transport tickets?
Yes, providing they commit to cycle or use public transport to work on three days each week.

What do I need to do to participate in SMARTi?
Fill out the attached form as soon as possible and mail it in the reply paid envelope or fax to the City of Melville. Numbers participating in the program are limited.

How will my business benefit from SMARTi?
SMARTi offers many great benefits for your business including increasing your business green credentials, enhancing your business image, reducing staff parking problems and helping to improve employee health and well being, leading to a more productive workforce.

How long will SMARTi continue?
Officially SMARTi will close in April 2008 although workplaces may choose to continue aspects of the program with support from the City of Melville.

Get involved today!
For further information please contact:

Ruth Behn
City of Melville
SMARTi Project Officer
W 9364 0880
M 043 346 3939
Fax (08) 9364 0285
E rbehn@melville.wa.gov.au

City of Melville
10 Almondbury Road
BOORAGOON
WA 6154
What is SMARTi?
SMARTi stands for ‘Smarter Mobility Achieving Reduced Traffic Initiative’ and is a program being offered to businesses within the Canning Bridge Precinct to encourage staff to use active transport modes to and from work.

Measures businesses take today directly affect the quality of life in our community. SMARTi aims to achieve a meaningful shift to environmentally friendly modes of travel, by developing partnerships with local business to promote smarter ways of traveling to and from work such as cycling, walking and public transport.

SMARTi acknowledges that sometimes the car may be the primary transport mode and so SMARTi provides information and incentives for staff to make informed decisions about alternative transport options for subsequent trips they make.

What can SMARTi do for your business?
- SMARTi will help to improve employee health and well being while saving them money.
- SMARTi offers many great benefits for your business including increasing your business’ green credentials, enhancing your business image, reducing staff parking problems and helping to improve employee health and well being, leading to a more productive workforce.
- SMARTi will help to reduce any staff parking problems and ensure more parking is available for your most valued customers and clients.

What can SMARTi offer your employees?
- Staff who agree to cycle to work three times a week for one year, get to keep the bike.
- SmartRiders – Up to three months worth of free public transport tickets for staff who agree to travel three days per week or more using public transport.
- Incentives for staff to walk to work
- Spot prizes for ‘active travelers’
- Lunchtime active transport information sessions

How can I participate in SMARTi?
Participating in SMARTi is easy. Simply complete the attached registration form, tear it off and send it or fax it back to the City of Melville on 9364 0285. Our SMARTi officer will organise to visit your business to include you in the program. (Places in the program are limited).

FAQ’s
Is there any charge to employers to participate in SMARTi?
No. The program is entirely FREE to businesses within the Canning Bridge Precinct. SMARTi, funded by the Department of the Environment and Water Resources and the City of Melville, focuses on encouraging staff to use active transport modes where convenient.

Will SMARTi affect our normal business functioning?
No. All information sessions will be conducted during lunchtime. Research shows that staff using active modes of travel are healthier and more productive than those who don’t.

Sign up to SMARTi today
This is an exciting opportunity to be part of the solution to traffic congestion and air pollution. Sign up to secure your position in SMARTi today.
Complete the below registration form and post back in the replied paid postage envelope enclosed or fax to 9364 0285.

Company name:
Contact name:
Title:
Address:
Phone:
Fax:
E-mail address:

How many employees are located at your Canning Bridge Precinct premises?
Melbourne
Greg Tucker & Associates Pty Ltd t/a
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