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Date: ......................................................................................................30 June 2009

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## Contents

<table>
<thead>
<tr>
<th>Section</th>
<th>Page Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Executive summary</td>
<td>i</td>
</tr>
<tr>
<td>1. Introduction</td>
<td>1</td>
</tr>
<tr>
<td>2. Methodology</td>
<td>3</td>
</tr>
<tr>
<td>3. Study area and stakeholders</td>
<td>4</td>
</tr>
<tr>
<td>3.1 Identifying the study area</td>
<td>4</td>
</tr>
<tr>
<td>3.2 Identify cycling stakeholders</td>
<td>6</td>
</tr>
<tr>
<td>4. Barriers to cycling</td>
<td>8</td>
</tr>
<tr>
<td>5. Analysis and key findings</td>
<td>10</td>
</tr>
<tr>
<td>5.1 Bicycle infrastructure</td>
<td>10</td>
</tr>
<tr>
<td>5.1.1 Bicycle network data</td>
<td>10</td>
</tr>
<tr>
<td>5.1.2 Current bicycle network and infrastructure</td>
<td>11</td>
</tr>
<tr>
<td>5.1.3 Bicycle parking and end-of-trip facilities</td>
<td>13</td>
</tr>
<tr>
<td>5.1.4 Bicycle encouragement programs</td>
<td>15</td>
</tr>
<tr>
<td>5.2 Cyclist profile and bicycle usage</td>
<td>17</td>
</tr>
<tr>
<td>5.2.1 Cyclist usage data</td>
<td>17</td>
</tr>
<tr>
<td>5.3 Safety and security</td>
<td>18</td>
</tr>
<tr>
<td>5.3.1 About bicycle crashes</td>
<td>18</td>
</tr>
<tr>
<td>5.3.2 About cyclists in bicycle crashes</td>
<td>22</td>
</tr>
<tr>
<td>5.3.3 Bicycle security</td>
<td>22</td>
</tr>
<tr>
<td>6. About the potential increase to cycling</td>
<td>24</td>
</tr>
<tr>
<td>7. Capturing the potential</td>
<td>29</td>
</tr>
<tr>
<td>7.1 Strategies to encourage cycling in Hurstville</td>
<td>29</td>
</tr>
<tr>
<td>7.2 Administrative and policy improvements</td>
<td>34</td>
</tr>
<tr>
<td>7.2.1 Changes to How to Prepare a BikePlan – an easy 3 stage guide</td>
<td>34</td>
</tr>
<tr>
<td>7.2.2 Information clearing house</td>
<td>38</td>
</tr>
<tr>
<td>7.2.3 Changes to the role/responsibility of the Road Safety Officer (RSO)</td>
<td>39</td>
</tr>
<tr>
<td>7.2.4 NSW Guide to Traffic Generating Developments</td>
<td>41</td>
</tr>
<tr>
<td>8. References</td>
<td>43</td>
</tr>
</tbody>
</table>
Contents (continued)

List of tables
Table 4-1  Key barriers to cycling in the subregion, identified at the 3 March workshop 9
Table 5-1  The current guidelines and requirements for bicycle parking and end-of-trip facilities by LGA 13
Table 5-2  2006 Census Journey to work and 2003-2007 Household Travel Survey cycling data 17
Table 5-3  Reported bicycle thefts 22
Table 6-1  Matrix to refine and compare potential responses to increase cycling in the Hurstville subregion 27

List of figures
Figure 3-1  The original study area with 5 and 8 km radii or "crow flies" cycling catchments 5
Figure 3-2  The indicative 5 and 8 km "bike shed" reflecting an on-road bike ride from Hurstville Mall and Station 5
Figure 3-3  The final "bike shed" used to identify potential cycling destinations and partners 5
Figure 3-4  Consulted stakeholders 6
Figure 3-5  Additional stakeholders identified in meeting 7
Figure 5-1  The bicycle existing and proposed bicycle networks across the three core LGAs. The type and level of detail for information recorded varies between the LGAs 5
Figure 5-2  Bicycle crash locations from the RTA TADS between 2003 and 2007 18
Figure 5-3  Movements of motor vehicle that led to a crash involving bicycles 19
Figure 5-4  Bicycle movements and driver behaviour that led to a bicycle crash 20
Figure 5-5  "Point density" map of crash locations in the subregion 21

List of photos
Photo 7-1  Stylised bike parking in Vancouver Canada 36
Executive summary

Background

The 2008 report *Cycling in NSW – What the data tells us*, PB’s previous work on the PCAL NSW BikePlan, identified that short car trips to Sydney’s major centres represented a potential market to increase commuter cycling. Five kilometres is a comfortable, 20-minute ride for a casual cyclist. Centres with a high proportion of short car trips would have more car drivers that might reasonably shift to bicycle use. Hurstville is one of the sub-regional centres that attracts a high proportion of these short car trips (PB 2008) and provides an opportunity to test programs to achieve mode shift to bicycle.

The purpose of this study was to understand individual barriers to cycling in the nominated cycling catchment of Hurstville. Understanding the barriers to cycling would be useful to:

- identify context-sensitive cycling initiatives that could potentially increase cycling in the local area
- identify transferable initiatives that could be used more widely to increase cycling.

As the study progressed, administrative and policy issues were identified that constrained previous implementation of bicycle strategies and infrastructure. At the request of the PCAL NSW BikePlan team, jointly led by the NSW Roads and Traffic Authority (RTA) and the Department of Environment and Climate Change (DECC), these constraints were documented to:

- highlight potential improvements and updates to the RTA guidelines *How to Prepare a Bike Plan – an easy 3 stage guide* (RTA 2002)
- highlight priorities for the Road Safety Officer (RSO).

During the course of the study, the PB project team identified two further opportunities to reduce administrative constraints to implementing bicycle programs.

- a bicycle trip generation rate and bicycle parking update for the RTA’s 2002 *NSW Guide to Traffic Generating Developments*
- a central information clearinghouse to increase the transferability of entire bicycle initiatives, monitoring strategies/technologies or key strategic insights gathered from prior research.

Study methodology

PB’s methodology was designed to engage active local stakeholders and encourage their input throughout the planning study. In the inception workshop, participants provided input on current cycling initiatives and individual barriers to cycling in the subregion.

Using desktop analysis of available cycling data and examples of international cycling encouragement programs, the project team analysed barriers perceived by workshop participants. Based on their inputs the team also documented administrative and policy constraints.
The finding directed the development of potential initiatives to reduce barriers to cycling. Potential initiatives discuss the timelines, costs, partners and monitoring strategies to identify if initiatives have increased cycling in the subregional area.

The study concluded with two categories of recommendations:

- *cycling encouragement programs* designed to alleviate individual barriers to cycling
- *administrative changes* designed to improve and standardise the implementation of bicycle initiatives.

**Findings**

1. **Constraints**

   Early in the project, the PB project team identified four constraints which could hamper the implementation of bicycle initiatives, these were:

   - lack of available funding
   - lack of local interest in cycling
   - poor data management and coordination of existing policies
   - lack of government agency cooperation on projects.

   These constraints might affect the success, or prevent the implementation of, cycling initiatives by:

   - affecting the available funding or political support (from within the community and/or local politicians) required to implement infrastructure or encouragement programs
   - constraining potential partnering institutions by restricting resources, or time, to develop and implement cycling initiatives
   - daunting partners, who might find the task overwhelming based on the variety of places information may be stored or the variety of people responsible for an aspect of cycling infrastructure or encouragement programs.

2. **Barriers**

   In addition to administrative and policy constraints, the consultation process identified individual barriers to cycling in the subregion. This study identified additional barriers that are specific to the subregion. These include:

   - railway lines that have few crossings divide the area
   - large arterial roads with high volumes of traffic
   - individual perception of cyclists (by potential riders, current riders and motorists)
   - driver aggression towards cyclists.
The current cycling data for Hurstville was used to investigate the barriers perceived by workshop participants. The analysis of the cycling data revealed:

- A lack of dedicated bicycle infrastructure is a common barrier to participation in cycling programs and events like Ride-to-School. One stakeholder mentioned that liability for bicycle crashes and novice cyclists will constrain their development and funding of activities until there is a cohesive bicycle network.

- Where there are bicycle routes identified, in several instances the routes stop at the LGA boundaries.

- Where there is bicycle infrastructure, there is no consistency in the description of bicycle infrastructure between and within the core LGAs. Bicycle parking requirements in Development Control Plans (DCPs) and design guides vary between councils. This makes it more complicated for planners and developers to make decisions about monitoring or providing bicycle parking.

- Cycling receives varying support from local decision-makers. While the draft Hurstville Bike Plan has not been approved by Hurstville Council the Sutherland Shire Council actively researched and implemented a fleet bike for staff to use for short work trips.

- As part of the Sydney Airport Master Plan, there is support to increase sustainable travel by staff to the airport. Several small infrastructure link projects were identified to link nearby cycleways.

**Recommendations**

A selection of encouragement programs and initiatives were identified during this study. Policies and guidelines to increase the effectiveness of bicycle programs and initiatives were also identified. The proposed encouragement programs may achieve higher rates of cycling, if the complementary administrative improvements are addressed at the same time.

To take a coordinating role on programs and administrative improvements, the PCAL NSW BikePlan team will need to be supported by adequate funding. Likewise, to demonstrate success, program results will need to be tied to Key Performance Indicators (KPI)s achieving clear predetermined goals for the number of riders or kilometres of connected cycleways.

**Strategies to encourage bicycle use in the Hurstville subregional area (Section 7.1)**

To respond to individual barriers in taking up cycling, strategies to encourage individual bicycle use have been identified. Initiatives have been grouped by timeframe for potential implementation.

- prioritise the design and construction of a strategic north-south route and east-west route. Identify firm funding commitments and partnering arrangements to deliver these routes

- support the existing Sydney Airport Ground Travel Plan and the developing staff cycling encouragement program by completing identified infrastructure and line-marking improvements

- trial a fleet bike at councils and state agencies in the subregion, based on lessons learnt by Sutherland Shire Council

- adapt marketing and promotional materials for a trial cycling encouragement program at Hurstville Council
identify opportunities to integrate cycling with existing health promotion messages, like Measure Up Australia.

**Administrative improvements to reduce constraints to cycling initiatives** (Section 7.2)

To respond to constraints in delivering bicycle initiatives, changes to staffing and policy documents have been identified for the RTA documents *How to prepare a Bike Plan – an easy 3 stage guide* and the *NSW Guide to Traffic Generating Developments* and for the related role of the Road Safety Officer (RSO), which currently receives 50–50 funding from the RTA and the participating LGA. A further information-sharing initiative was identified as a way to increase the effectiveness of funding for bicycle projects.

*Changes to ‘How to prepare a Bike Plan – an easy 3 stage guide’*

Changes to the *How to prepare a Bike Plan* document should include:

- introduce benchmark setting for an LGA to commit to increase cycling
- develop minimum bicycle parking criteria for use in town centre Development Control Plans (DCPs)
  
  Standard text to this effect could address three types of bicycle parking minimums:
  
  - end-of-trip bicycle parking standards for employees cycling to work at commercial (offices) and industrial land uses, based on the GFA
  - bike cage/storage for residential apartment buildings, based on GFA
  - casual bike parking standards for use at retail shops (based on NLA) and community uses, based on GFA – (short term).
- establish data standards to be followed when naming and mapping bicycle facilities
- construct casual bike parking at Council facilities and end-of-trip facilities for Council staff
- roll-out a cycling encouragement program for Council staff.

*Develop an information clearinghouse*

To prevent the duplication of efforts during Bike Week initiatives and during the planning for Bike Plans, develop a clearinghouse for planners to share initiatives, research methodology, data collection and bike facilities.

Developing a cohesive, branded identity that is used throughout the clearinghouse will increase the utility of cycling initiatives by using communication technologies to make that information accessible and available across a variety of channels.
Changes to the role/responsibility of the Road Safety Officer (RSO)

At the suggestion of the NSW BikePlan team, the PB project team also identified opportunities for the role of the RSO to promote bicycle use and bike safety:

- promote internal, local and regional partnering between RSOs and stakeholders responsible for cycling infrastructure and initiatives
- develop an “issue of the month” safe cycling task for RSOs to action, preferably citing common responses and/or common potential partners
- develop a more robust bicycle network decision-making tool based on existing bicycle crash and injury data.

Changes to the ‘NSW Guide to Traffic Generating Developments’

The *NSW Guide to Traffic Generating Developments* document should include the following changes to help further promoting cycling:

- update the guide to reflect bicycle parking minimum standards and parking types
- rollout the requirements to all other state planning and policy documents to ensure consistency
- offer the updated, minimum standards to local councils for use in their LEPs and DCPs.
1. Introduction

NSW BikePlan background
The NSW state government has set a target to double the number of commuter cyclists in NSW to reach the Australian commuter cycling benchmark mode share of 1.5%. To do so, NSW must reach 43,447 commute trips by bicycle, an additional 20,000 cyclists, to approach parity with other states.

Based PB’s on the 2008 report Cycling in NSW – what the data tells us, short car trips account for more than 50% of travel to centres like the Hurstville centre. Car trips of less than five kilometres offer great potential for mode shift to cycling, as this is a comfortable 20-minute bicycle trip for a non-sporting cyclist.

It was identified that a suite of new cycling infrastructure and programs were required to reach the target of increasing cycling and decreasing reliance on the car for short trips. A selection of programs is required because there is no one step solution to increase cycling. Just as there are a variety of factors influencing why people choose not to cycle, there are a variety of responses to these factors to increase cycling. While it is unlikely that one initiative on its own will produce 20,000 additional cycle trips, a suite of cycling infrastructure and programs introduced together could achieve that goal in NSW.

To increase cycling in these centres, a coordinated introduction of responses to these barriers must be developed. These must be appropriate to the local context, or risk becoming a “white elephant” piece of infrastructure or under-utilised program. A suite of infrastructure and encouragement programs might include:

- bike lanes
- bike parking
- cyclist encouragement marketing materials
- driver behaviour programs
- road safety improvement programs.

The purpose of this study
PB to identify a programme of short, medium and long term programs to increase cycling trips in the Hurstville subregional area.

The purpose of this final report is to:

- document the issue identification process
- review the subsequent analysis conducted as part of this Subregional Bike Planning Study
- provide a platform of background data for to support the development of a programme of programs and infrastructure to increase cycling
- recommend short, medium and long term initiatives and identify the potential target market to increase cycling.
The value of the final bicycle initiatives selected, developed and tested as an outcome of this study will go beyond the local subregion where the bicycle infrastructure is constructed or the behaviour programs are launched. The processes and methodologies developed for this report will indicate a way forward for the NSW BikePlan, indicating:

- the most successful initiatives for increasing bicycle use to trial elsewhere
- the most successful methodology for setting up initiatives to trial elsewhere
- updates for the RTA’s “How to Prepare a Bike Plan – Easy 3 Stage Guide”.

The format of this report
Section 2 of this report outlines the methodology during this study to arrive at the findings.

Section 3 identifies and refines the study area and critical stakeholders.

Section 4 outlines key barriers to cycling in the Hurstville subregional area.

Section 5 summarises the existing cycling context for the study area and documents the existing bicycle usage throughout the subregion. Key findings and potential responses to perceived barriers are identified by topic area.

Potential solutions are summarised in Section 6 as part of the potential ‘toolkit’ of responses to increase cycling.

Section 7 provides recommendations around two key themes:

- activities to promote cycling in the Hurstville subregion
- administrative and policy changes to the reduce constraints to bicycle initiative implementation.
2. Methodology

PB has identified a four step process for developing the Sub-regional Bike Planning Studies. The tasks in the methodology are designed to be replicated in further bicycle studies.

PB’s methodology was designed to engage active local stakeholders (Study area and Stakeholders) and encourage their input regarding current initiatives (About the area) and local barriers to cycling (Potential), from the project inception. The findings and recommendations (Capturing the potential) identify potential initiatives and identify timelines, costs, potential partners and monitoring strategies to identify if these initiatives have increased cycling in the subregional area. The identified monitoring strategies are key to demonstrating return on investment, namely which initiatives are the most successful within the Hurstville geographic context.

**Study area and stakeholders**
Define the study area (Section 3.1, RTA Task 1 + 7).

Identify and engage stakeholders in an inception workshop (Section 3.2, RTA Task 2 + 3).

**About the area**
Identify existing bicycle infrastructure and programs (Section 5.1, RTA Task 4 + 7).

Evaluate baseline cycling outcomes (Section 5.2, RTA Task 5 + 7).

Identify barriers to cycling (Section 4, RTA Task 5 + 7).

**Identify the potential programs to increase cycling**
Identify potential funding sources (Section 6).

Identify the relative contribution to bicycle targets (Section 6, RTA Task 8).

Develop actions to increase cycling (Section 6, RTA Task 9).

**Capturing the potential**
Recommend a package of actions to increase cycling (Section 7, RTA Task 9).
3. Study area and stakeholders

3.1 Identifying the study area

For the purposes of this subregional bike planning study, the study area was centred on Hurstville Westfield Mall and train station, which was identified as a major trip generator for the subregion. The Hurstville Mall and station were identified as a logical centre for short trips terminating in the centre or regional public transport trips from the station. The red dashed circle in Figure 3-1 below shows a catchment of 5 km, the solid red circle is a catchment of 8 km. In principle, these two catchments illustrate a comfortable 20-30 minute bike ride for a recreational or non-sporting cyclist. The study area includes Canterbury, Hurstville, Kogarah, Rockdale, and Sutherland Local Government Areas (LGA).

This catchment was used to identify major destinations in the centre and was also used for discussion purposes with stakeholders from the participating LGAs.

Developing the study area

PB used a series of geospatial tools to refine the 5-8 km catchments from the centre of Hurstville Westfield Mall and train station. The study area was refined to arrive at a 5-8 km on-road or on-cycleway bike ride from the centre, rather than the simple “crow-flies” catchments shown in Figure 3-1. The resulting Figure 3-2 more accurately reflects a comfortable 20-30 minute bike ride from the Hurstville centre. The 5 km ride from the centre is shown in light orange, with the 8 km ride shown in dark orange.

Refining the study area

The study area was further refined to include major trip generators like the Sydney Airport and logical links to bicycle routes leaving the study area and connecting to other major destinations. Stakeholder consultation also resulted in a few minor adjustments to the study area resulting in the final map shown in Figure 3-3.
Figure 5-1 The bicycle existing and proposed bicycle networks across the three core LGAs. The type and level of detail for information recorded varies between the LGAs.
3.2 Identify cycling stakeholders

Key cycling stakeholders in the study area were identified using a desktop analysis of nearby major destinations and local project team knowledge of the region. The project team conducted phone calls to the identified stakeholders to request existing data on cycling and to use their experience to identify existing barriers and opportunities to increasing cycling for short trips in the draft study area.

Figure 3-4 shows stakeholders identified by PB and contacted for the initial stakeholder meeting.

<table>
<thead>
<tr>
<th>Government</th>
<th>Non-government</th>
</tr>
</thead>
<tbody>
<tr>
<td>State/Federal</td>
<td>Local</td>
</tr>
<tr>
<td>RTA</td>
<td>Marrickville Council™</td>
</tr>
<tr>
<td>PCAL</td>
<td>Botany Bay Council™</td>
</tr>
<tr>
<td>DECC</td>
<td>Randwick Council™</td>
</tr>
<tr>
<td>MoT</td>
<td>Bankstown Council™</td>
</tr>
<tr>
<td>Department of Planning</td>
<td>City of Sydney Council™</td>
</tr>
<tr>
<td>NSW Police</td>
<td>Railcorp</td>
</tr>
<tr>
<td>Australian Bicycle Council</td>
<td></td>
</tr>
</tbody>
</table>

* Identified as neighbouring councils

Figure 3-4 Consulted stakeholders

To avoid duplication of efforts or gaps in the planning study, the project team conducted an inception workshop with the available stakeholders to identify:

- major destinations
- current cycling infrastructure and encouragement initiatives
- current cycling outcomes
- key perceived barriers to cycling in the centre
- core opportunities to increasing bicycle use.

Figure 3-5 shows the additional stakeholders identified in the inception workshop, who were subsequently contacted for input.
The workshop also represented an opportunity for PB to outline the background to the study, the methodology to be employed and the expected outcomes.

Stakeholders were invited to attend a workshop on 28 April 2009, following the completion of the data analysis and program development stage of the subregional bike study. A draft version of this short technical report was made available to the stakeholders prior to this second workshop.
4. Barriers to cycling

During the first workshop, barriers were identified with the assistance of local stakeholders. Four barriers, specific to Hurstville, were identified. These are the:

- lack of a bicycle network and bicycle parking
- high rates of bicycle crashes
- cyclist perception of safety when riding
- driver aggression towards cyclists.

Though Cycling: Getting Australia Moving (CPF 2008) identifies five main barriers to cycling – individual factors, social and cultural factors, environmental factors, safety, and policy and regulation – the barriers identified in the workshop were originally categorised in line with PB’s Cycling in NSW – what the data tells us report, based on the cycling indicators from the Cycling Data and Indicator Guidelines report (2000). These are:

- **infrastructure** network, casual bike parking and end of trip facility components
- **cyclist** infrastructure usage, demographics, bicycle mode share, length of trip, trip purpose and bicycle ownership
- **safety/security** including injury and morbidity, infringements by cyclists and thefts.

The barriers were categorised into the three categories to form the basis for subsequent data analysis and the ultimate development of ideas to encourage cycling in the study area. There are a number of synergies where key barriers overlap in topic areas, where this occurs the barrier is assigned to a “primary” category to focus efforts in developing responses.

These key categories are carried through Section 6 in order to illustrate key findings around these barriers and to begin to identify potential solutions to specific barriers in the Hurstville subregional area.

The specific barriers raised during the workshop are outlined in Table 4-1.
### Table 4-1  
**Key barriers to cycling in the subregion, identified at the 3 March workshop**

<table>
<thead>
<tr>
<th>Infrastructure</th>
<th>Cyclists</th>
<th>Safety and Security</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>GEOGRAPHIC:</strong></td>
<td><strong>PERCEPTION:</strong></td>
<td><strong>SECURITY:</strong></td>
</tr>
<tr>
<td>- topography</td>
<td>- its too hard to figure out the route</td>
<td>- lack of safe, obvious casual bike parking for short trips</td>
</tr>
<tr>
<td>- climate</td>
<td>- difficult to ride with packages</td>
<td>- lack of secure staff bike parking safe</td>
</tr>
<tr>
<td>- constrained by major roads and rail lines, which have limited and busy crossings</td>
<td></td>
<td>- lack of secure bike parking in apartment buildings and residences</td>
</tr>
<tr>
<td><strong>INFRASTRUCTURE - NETWORK:</strong></td>
<td>THREES TYPES OF CYCLIST: All have different needs</td>
<td><strong>SAFETY ON THE ROAD:</strong></td>
</tr>
<tr>
<td>- there are not many safe, connected bike routes</td>
<td></td>
<td>- poor driver awareness</td>
</tr>
<tr>
<td></td>
<td>- recreational</td>
<td>- cyclist’s poor road rule knowledge</td>
</tr>
<tr>
<td></td>
<td>- commuter</td>
<td>- high road speeds</td>
</tr>
<tr>
<td></td>
<td>- shopper</td>
<td>- narrow streets</td>
</tr>
<tr>
<td><strong>INFRASTRUCTURE - BIKE PARKING:</strong></td>
<td>TYPE OF TRIPS:</td>
<td></td>
</tr>
<tr>
<td>- short term bike parking can be hard to find (hidden or not provided)</td>
<td>- Trips that involve multiple members of families</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Trips that have multiple destinations, often far apart</td>
<td></td>
</tr>
<tr>
<td><strong>INFRASTRUCTURE - BIKE OWNERSHIP</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- not everyone has a bike</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>access to a fleet bike can be a very expensive/unwieldy insurance investigation</td>
<td></td>
</tr>
</tbody>
</table>
5. Analysis and key findings

This section analyses the following:

- available bicycle infrastructure
- use of any bicycling programs
- existing cycling in the subregion
- road safety and security outcomes for cyclists.

Existing bicycle infrastructure and the current level of cycling was analysed as part of the process to identify programs which address the barriers to cycling and attempt to shift short car trips of less than 5 km to cycling. The existing cycling infrastructure and programs were identified primarily through desktop studies and discussions with stakeholders involved in the inception process.

These are key components to understanding the cycling context before programs to increase cycling are implemented. For each finding, potential programs were nominated and ultimately discussed with stakeholders at the second workshop. The proposed programs are summarised in Section 6 and considered as part of the potential toolkit of responses to increase cycling recommended in Section 7.

5.1 Bicycle infrastructure

The five main councils in the study area are in various stages of bicycle network planning and implementation. Councils range from having no bicycle plan and little to no infrastructure, to having a mature bike plan with completed infrastructure. This makes it difficult to generalise about the region as a whole, therefore the core LGAs are reviewed separately.

5.1.1 Bicycle network data

Figure 5-1 shows the existing and proposed bicycle network in the subregion. The map shows a clearly disjointed network with very few routes that offer continuity that may encourage commuting or recreational cycling. This evident not only in the lack of connections in paths at LGA boundaries, but also in the descriptions of the paths demonstrated in the map’s key. The map also shows a different approach to building bicycle infrastructure by the different LGAs and the various levels of completion of their networks.

Findings

Often bicycle routes end at LGA boundaries without any connectivity to the bicycle routes in the neighbouring LGA. The LGAs have different names and ways of describing bicycle routes, making it more difficult to determine their characteristics. Each Council provided their bicycle information in a different format, ranging from JPEG to GIS layers.

The lack of data continuity between local areas makes it difficult for those responsible for the bicycle networks to identify the status of the existing network. In particular, routes may vary in the consistency of provision or type of bicycle route (i.e. the route may be composed of a shared path, signed shoulder then purpose built cycleway) but it is mapped as a single bicycle route without differentiation.
The lack of continuity also complicates the information provided to local cyclists in terms of network and route information. This hinders the ability of local cyclists to navigate across the various networks in a coherent, logical fashion.

**Potential solutions**

Engage in communication with neighbouring councils directly and through South Sydney Regional Organisation of Councils (SSROC) to encourage planning continuity across LGA boundaries (Short term).

Consolidate all remaining bicycle information, updated in subsequent LGA bike plans and audits into a comprehensive bicycle network geodatabase that uses the same nomenclature to describe infrastructure (Short term).

Produce a comprehensive map for cyclists that show all current bicycle routes for the subregion and links to the surrounding areas (Short term).

Review and implement the St George Bikeplan (1991) (Short to medium term).

Based on the short-term work, widely advertise the existing bicycle network information with cyclists and non-riders. Trial a “cycle to Hurstville” text and standard map for use on “how to find us” portion of the Council website. If this is successful (i.e. monitoring illustrates higher use of the available bicycle racks near the offices) roll out the text and map to nearby businesses and organisations websites in the centre (Long-term).

5.1.2 Current bicycle network and infrastructure

**Canterbury**

There is an existing bike plan that is being implemented. The plan currently contains:

- three completed East-West bike routes
  - Cooks River trail from Tempe to Sydney Olympic Park
  - M5 Motorway trail from Salt Pan Creek to King Georges Road
  - Hannans Road/Union Street from Riverwood Park to Narwee Station.

- no constructed North-South cycle routes

- a proposed network that includes North-South routes in addition to routes along railway corridors.

**Hurstville**

There is a bike plan currently under development but it has not been approved by Hurstville Council. There is no GIS information available for Hurstville because it has not been completed. Currently Hurstville has very limited off-road bicycle routes through parks and two existing on-road routes along Forest Road (East-West) and Penshurst Street (North-South) although these may not be well sign posted. The unapproved bike plan includes several proposed north-south and east-west routes, along with encouragement programs for their use.
Kogarah
Currently there is no local bike plan. Kogarah was a part of the St. George Bikeplan (1991) which was reviewed in 2006. There are no on-road bicycle route treatments, only limited sign posts indicating recommended routes and only three very limited and isolated off-road bicycle shared paths in parks. With the exception of the Oatley cycleway that connects to the Como bridge cycleway in Sutherland, the trails do not connect to form a coherent network. The St. George Bikeplan proposes several routes through the LGA, but these have not yet been implemented. Due to the lack of infrastructure there are no encouragement programs for cycling, and Council is concerned about liability issues related to cycling encouragement in the absence of a bicycle safe on-road and off-road network.

Rockdale
A current bike plan is being developed, but is not yet complete. The current network has:

- four North-South bike routes along:
  - Lorraine Avenue from Croydon Road to Wolli creek
  - Railway Street/Arncliffe Street from Kempt Field to Wolli Creek
  - Chuter Avenue/Francis Avenue/Crawford Road from Taren Point Bridge to Cook Park and the M5 motorway
  - along the foreshore from Taren Point Bridge to Cook Park and on to Wolli Creek.
- two East-West routes:
  - Rockdale Plaza Drive from Fry’s Reservoir to Crawford Road
  - shared path connecting Turrella, Wolli Creek and Cook Park.

Part of the proposed Cooks Cove development, should it proceed, will result in the building of a direct shared pedestrian and bicycle path from Wolli Creek to Cook Park along the Cooks River and will create a bridge over Muddy Creek.

Sutherland
A current bike plan is being implemented, but is not yet complete. Currently Sutherland has three main cycling routes:

- a North-South route along the Princess Highway and into Royal National Park along McKell Avenue
- an East-West route along Captain Cook Road from Taren Point to Kurnell
- and an East-West route from Woronora to Alfords Point via Menai along River Road and Menai Road.

There is a network of proposed routes that will create a commuter and recreational network by connecting other council networks and linking the Royal National Park.
Findings
There is no network consistency between the LGAs.
There are network gaps within LGAs and at council boundaries.
Higher risk areas are created for cyclists where routes end and force the cyclist on to the road network without direction, leaving the cyclist vulnerable.
The comprehensive 1991 St. George Bikeplan was not implemented due to a lack of funding and partnering opportunities. Further bicycle networks and associated infrastructure was identified in the thorough 1998 Regional Trails Project by South Sydney Council, these have not been implemented.

Potential solutions
Build a short connecting path at the airport to provide access to a major employment site (jet base) and link it to the existing bicycle network (Short term).
Prioritise the design and construction a strategic north-south route and east-west route for cyclists in the subregional area. Review and implement the local bicycle infrastructure links identified in the St George Bikeplan (1991) and Regional Trails Project (1998).
Facilitate communication between councils with identified network gaps in order to facilitate a continuous network across LGA boundaries. Identify firm funding commitments and partnering arrangements to deliver these routes (Medium term).
Use bicycle crash information to identify and monitor potential cycling crash hotspots and expedite construction to reduce safety risks (Long term).

5.1.3 Bicycle parking and end-of-trip facilities
Bicycle parking standards in the subregion vary across the five core LGAs. Development Control Plans (DCPs) for the five councils in the subregion provide guidelines for the provision of bicycle parking and, occasionally, end-of-trip facilities. However, no control is the same. The following table summarise the bicycle parking and end-of-trip legislation and guidelines for each Council.

<table>
<thead>
<tr>
<th>LGA</th>
<th>Relevant planning legislation/documentation</th>
<th>Bicycle parking and end-of-trip requirements</th>
</tr>
</thead>
</table>
| Canterbury           | DCP 20 – Car Parking
Adopted 4 December 2008
Enforced 15 January 2009 | Residential – varies between nil for dwelling houses to 1 space per 5 units for residents and 1 space per 10 units for visitors
Commercial – Minimum of 1 space per 200 m² or part thereof for staff and minimum 1 space per 750 m² over 1,000 m² or part thereof
Retail – Minimum 1 space per 300 m² or part thereof for staff and minimum 1 space per 500 m² over 1,000 m² or part thereof for patrons |
| Hurstville           | Hurstville Local Government Area Wide DCP
Hurstville City Centre DCP | Both DCPs adopt the 2002 RTA guide for traffic generating developments for bicycle parking rates            |
<table>
<thead>
<tr>
<th>LGA</th>
<th>Relevant planning legislation/documentation</th>
<th>Bicycle parking and end-of-trip requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kogarah</td>
<td>Residential Design Guide 2005</td>
<td>(b) Secure bicycle parking is to be: (i) provided in multi unit developments at the rate of 1 space per 3 dwellings, plus 1 space per 10 dwellings, or part thereof for visitors. (ii) Provided in the form of Class 2 compounds, as specified in AS2890.3 – Bicycle Parking Facilities. The parking facilities may be located in the vehicle parking area. These facilities may be located in storage areas if access to parked bicycles is not impeded by the design of the storage area.</td>
</tr>
<tr>
<td>Rockdale</td>
<td>No known legislation or guidelines specific to bicycle parking provision</td>
<td></td>
</tr>
<tr>
<td>Sutherland</td>
<td>Sutherland Shire Development Control Plan 2006 – Chapter 7 Vehicular Access, Traffic, Parking and Bicycles</td>
<td>Residential - Bicycle parking shall be provided at the rate of 1 per 5 dwelling units plus 1 visitor space per 10 units. Industrial &amp; Commercial - Bicycle parking shall be provided at the rate of 1 per 5 dwelling units plus 1 visitor space per 10 units and 1 unisex shower per 10 employees.</td>
</tr>
</tbody>
</table>

Additional bicycle parking guidelines exist on a state and national level:

- Planning Guidelines for Walking and Cycling (DoP 2004)
- NSW Bicycle Guidelines (RTA 2005)
- Part 14 Bicycles (Austroads)
- Australian Standard AS 2890.3.

**Findings**

There are two central administrative concerns about bicycle parking:

1. there is no single source for bike parking requirements
2. after installation, very few details about the level and type of bicycle parking provision are tracked.

The variety of guidelines and different bicycle parking suggestions causes two issues:

- difficult to know which guideline to use
- guidelines are perceived as non-binding.

Unlike the prescriptive car parking requirements in DCPs and LEPs these guidelines are non-binding. Local traffic engineers, transport planners, strategic planners and parks and recreation staff may struggle to establish and enforce decisions about casual bicycle parking requirements and end-of-trip facilities at redevelopments or new developments. A regular reference for planners and developers during the development stage is the *NSW Guide to Traffic Generating Developments* (RTA 2002) which contains a brief mention about the preferred characteristics of bicycle parking, but no guideline for the total bicycle parking provision required. In the US, the Institute of Transportation Engineers is beginning to revise its *Parking Generation* and *Trip Generation* manuals to reflect active transport (PedBikeDocumentation 2009).
After installation, bike parking provision is not recorded or widely monitored, making it difficult to establish the amount of parking currently available and likely to be provided in the near future. Tracking the provision of bicycle parking locations would assist forward planning for the provision of facilities and monitoring the use of these bike parking facilities would guide the provision of additional facilities when these are full.

**Potential solutions**

Consolidate all available information regarding bicycle parking and end-of-trip facilities locations and quantities into a single resource, available to planners and cyclists for use in the Standard LEP template (Short-term).

Develop standard bicycle parking controls for use in the study area within the three council’s town centre DCPs, to address the provision of bicycle parking at the development application stage. The guideline would address three types of bicycle parking minimums:

- end-of-trip bicycle parking standards for employees cycling to work at commercial (offices) and industrial land uses, based on the Gross Floor Area (GFA)
- bike cage/storage for residential apartment buildings, based on GFA
- casual bike parking standards for use at retail shops based on Net Lettable Area (NLA) and community uses, based on GFA – (medium term).

Update the *NSW Guide to Traffic Generating Developments* with a bicycle “trip generation rate” and minimum criteria for casual and staff parking (Medium-term).

Develop a bike parking and end-of-trip facilities map for the region especially at key destinations such as the Hurstville Interchange and shopping centres (Medium term).

### 5.1.4 Bicycle encouragement programs

Currently there are a number of cycling promotion programs run by various state government organisations including the RTA, Department of Health and NSW Police such as:

- Ride2School
- CARES
- MeasureUp Australia.

A problem in the region is that none of the schools within the study area are taking part in the Ride2School program, which is a Bicycle NSW initiative with support from a number of stakeholders including the NSW RTA, to encourage primary school students to cycle to school by providing bicycle training and encouraging kids to travel safely. The main reason for the lack of participation is the lack of a safe bicycle network that schools can encourage children to ride on.

CARES, operated by the NSW Police through a partnership with the RTA, is a road safety education program designed to teach school children in years 4 to 6 about the road rules (RTA 2009).

Employer-based fleet bike programs have been not been widely established due to high insurance costs and potentially high costs of repairs to fleet bicycles. There is an example of a fleet bike at Sutherland Shire Council’s depot.
Findings

Commuters present an opportunity to increase bicycle use in the subregion. A large employer can use one consistent cycling message and reach a wider audience than individualised bicycle encouragement campaigns or mode shift programs. As commuters make the same trip regularly, this group presents an opportunity to shift weekday round-trips from private car to bicycle. Sydney International Airport supports cycling by providing active transport facilities, including safe bike storage, lockers, shower and change room facilities for cyclists at the airport. The airport encourages cycling for their employees by enhancing cycle links to the airport.

There is a lack of participation in programs in the subregion, with the exception of organised weekend group rides that are conducted by various local bicycle user groups: schools in the subregion do not participate in the Ride2School and NSW Police CARE programmes.

There is a lack of education and encouragement programs in the region.

Fundamentally, participation is low due to the lack of cycling infrastructure upon which to base cycling encouragement initiatives. Stakeholders cited serious concerns about liability for encouraging cycling.

Existing health messages, prioritised at the state and federal level and supported regionally by the Southeast Sydney Illawarra Area Health Services, do not incorporate cycling as a solution for obesity related to inactivity.

Potential solutions

Identify and contact appropriate schools with access to the existing network, potentially the Botany Bay trail, and assist their participation in the Ride2School (short term).

Partner up CARES and area schools to increase participation in bicycle safety education programs for school children (short term).

Investigate other employer based fleet bike programs in LGAs in other subregions to determine how insurance and funding issues were resolved. Adapt these successful programs and partner with employers in the subregion (medium term).

Investigate partnerships with South Eastern Sydney and Illawarra Area Health Service (SESIAHS) to encourage Healthy Weight and Measure Up campaigns in order to increase awareness of cycling benefits to people’s health. Particularly the benefits of increased activity and the reduction of inactivity-related diseases like obesity (short term).

Encourage bicycle retailers and core councils to take part and promote Gear Up Girl or other similar programs (short term).
5.2 Cyclist profile and bicycle usage

5.2.1 Cyclist usage data

Usage data on cycling in the study area, led to a profile of bicycle use in the core LGAs in the subregion. Without bicycle counter data for specific areas in the LGA it is difficult to confirm any changes in cycling since the 2006 Census Journey to work (JTW) data and the amalgamated data from the NSW Transport Data Centres, Household Travel Survey (HTS) data from 2003-2007. The JTW and HTS data for the core LGAs, Greater Metropolitan Region (GMR) and wider NSW are shown in Table 5-2 below. Due to the large size of Sutherland LGA and the relatively small proportion of it that falls within the study area it was not included in these findings.

Table 5-2 2006 Census Journey to work and 2003-2007 Household Travel Survey cycling data

<table>
<thead>
<tr>
<th></th>
<th>Canterbury</th>
<th>Hurstville</th>
<th>Kogarah</th>
<th>Rockdale</th>
<th>GMR</th>
<th>NSW</th>
</tr>
</thead>
<tbody>
<tr>
<td>2006 Population</td>
<td>129,963</td>
<td>73,724</td>
<td>52,536</td>
<td>92,126</td>
<td>3,646,256</td>
<td>6,538,996</td>
</tr>
<tr>
<td>Access to adult bike only</td>
<td>5,937 (4.6%)</td>
<td>4,817 (6.5%)</td>
<td>4,080 (7.8%)</td>
<td>6,841 (7.4%)</td>
<td>183,476 (5.0%)</td>
<td></td>
</tr>
<tr>
<td>Access to child bike only</td>
<td>2,874 (2.2%)</td>
<td>2,488 (3.4%)</td>
<td>1,527 (2.9%)</td>
<td>1,888 (2.0%)</td>
<td>80,334 (2.2%)</td>
<td></td>
</tr>
<tr>
<td>Population with access to bikes</td>
<td>10,916 (8.40%)</td>
<td>8,809 (11.95%)</td>
<td>10,750 (20.46%)</td>
<td>14,715 (15.97%)</td>
<td>342,061 (9.38%)</td>
<td></td>
</tr>
<tr>
<td>2001 JTW</td>
<td>0.29%</td>
<td>0.36%</td>
<td>0.24%</td>
<td>0.37%</td>
<td>0.63%</td>
<td>0.71%</td>
</tr>
<tr>
<td>2006 JTW</td>
<td>0.38%</td>
<td>0.36%</td>
<td>0.31%</td>
<td>0.46%</td>
<td>0.76%</td>
<td>0.74%</td>
</tr>
</tbody>
</table>

When comparing the LGA’s within the study area to the GMR, it becomes clear that bicycle ownership levels are higher in all but Canterbury LGAs, while bicycle usage in the region is significantly lower than the rest of Sydney.

Findings

Between the 2001 and 2006 Census Journey to work, NSW posted a very low growth rate of just 1.7% per annum in bicycle-only trips for the journey to work, while the subregion experienced an even slower growth rate.

All the LGAs in the study area except Canterbury have higher bicycle ownership rates than the Sydney Greater Metropolitan average.

Potential solutions (short and medium term)

Identify destinations that could promote cycling to groups of cyclists with traditionally high (for NSW) participation in cycling, for example men between 31 and 40 years old (medium term).
5.3 Safety and security

5.3.1 About bicycle crashes

PB used NSW RTA Traffic Accident Database System (TADS) data from 2003-2007 to determine accident hot spots in the study area in order to be able to identify locations that require the highest priority of improvement and will result in the highest safety level improvements. Figure 5-2 shows the location of the cycle crashes and a cyclist fatality.

Figure 5-2 Bicycle crash locations from the RTA TADS between 2003 and 2007

A high-level safety review was conducted for the areas which displayed the highest levels of bicycle crashes. These areas are as follows:

- Ramsgate Road (10 crashes)
- President Road (6 crashes)
- corner of Forest Road and Princess Highway (4 crashes)
- corner of Stoney Creek Road and Forest Road (5 crashes).
All of the areas above have a number of factors in common which are likely to contribute to the high level of cyclist related accidents. These factors are:

- high traffic volumes
- direct routes which are desirable to cyclists and therefore attract higher cyclist volumes
- lack of existing cyclist infrastructure and signage on the route concerned and in adjacent areas
- in the case of President Avenue and Ramsgate Road, on-street parking is allowed in the kerbside lane. This can contribute to cyclist exposure by forcing cyclists into adjacent traffic lanes and reducing visibility for vehicles leaving side roads.

In order to reduce the incidence of cyclist incidents at these locations, the most obvious solution would be to improve the cyclist facilities on the routes identified above. However due to space constrained sites this would be a costly and long-term solution only. Whilst this solution is possible, (many cyclist facilities can be incorporated into Council and RTA upgrade projects), a more feasible solution would be to develop and promote safe alternate cycling routes along lightly trafficked parallel streets.

Figure 5-3 shows the five main vehicle movements that led to a bicycle crash. Crashes occurred most often when a vehicle was emerging from a driveway, crossing traffic or moving through an intersection using right of way rule. Vehicles travelling in the same direction as the bicycle were far less likely to result in a crash.

![Top 5 motor vehicle movement causing crashes](image)

**Figure 5-3 Movements of motor vehicle that led to a crash involving bicycles**

Figure 5-4 shows the top five bicycle movements and driver behaviours leading to a cycle crash. A crash was most likely to occur when a cyclist entering a roadway from a footpath, where they hit a vehicle that was either moving or stationary in the traffic stream.
The second highest cause for crashes was for the cyclist to be out of control on the road, followed by someone in a vehicle opening a door in front of the cyclist. 165 (91%) of all bicycle crashes occurred in 50 kph or 60 kph speed environments, while 59 (33%) occurred on two-way undivided roads.

**Findings**

165 (91%) of crashes occurred in higher speed environments of 50 kph and 60 kph.

A large majority of crashes occurred when vehicle and bicycle were in conflict.

38 (38%) of cyclists entered the stream of traffic from a footpath leading to an accident, while 12 (12%) hit a vehicle door that was opened into their path.

Currently due to a lack of alternative safe cycle routes, cyclists tend to utilise roads that they become familiar with during their day-to-day driving. However cyclists may prefer to use calmer roads with less traffic if they were well marked and were direct. Therefore, it is important to establish and promote alternative safe routes for cycling.

**Potential solutions**

Develop a branded awareness campaign about sharing the road or reintroduce previous “share the road” campaigns targeting the interactions between bicyclists and drivers, especially with the high risk behaviours (short term).

Provide bicycle education for school age children as recommended in section 5.1.4 of this report (short term).

Identify and assess any existing parallel alternative cycling routes which could be promoted to cyclists to allow them to avoid routes with a high vehicular exposure. Some examples are Alice Street in lieu of Ramsgate Road and Wollongong Road and Caledonian Street in lieu of Forest Road (short term).

Lower speed limits along on-road bicycle routes when possible, or relocate routes to roads with lower speed limits that have adequate space for bicycles to share the road with motor vehicles (medium to long term).
Use the available accident data to develop a prioritisation for cycling infrastructure improvements, in conjunction with recommendation identified in section 5.1.2 of this report based on maps created from crash data such as Figure 5-5 (medium term).

Install required infrastructure such as signage and line markings to identify the route for cyclists. Install any other infrastructure upgrades to make safe connections to the rest of the existing network (medium term).

![Figure 5-5 "Point density" map of crash locations in the subregion](image_url)
5.3.2 About cyclists in bicycle crashes

The crash hotspots and accident types could potentially be targeted with an infrastructure solution (as discussed in Section 5.3.1). From a different standpoint, a cyclist safety or road behaviour program could be rolled out to reduce issues common to specific cycling user groups.

Findings

A majority of the crashes in the study area occur during daylight hours, especially during the peak commuter hours (38%). Tuesday and Wednesday had the highest number of crashes in the week.

The two age groups that had the highest number of crashes were children age 11 to 16 and adults between 27 and 43 years old, with women only accounting for 14% of all cycle crashes.

Potential solution

Develop or more widely roll out existing safe cycling programs particularly focussing on road rules, defensive cycling and how to be more visible on the road. Educate road users about the NSW Road Rules, including cyclist's rights responsibilities (medium term).

5.3.3 Bicycle security

Based on reported bicycle thefts from the NSW Bicycle Geodatabase, an analysis of reported thefts was conducted. Major types of locations for reported thefts in the study area were compared to the Greater Metropolitan Region (GMR).

The subregion showed a similar decrease in the number of reported bicycle thefts to the GMR between 2003 and 2007. The subregion has a significantly higher proportion of thefts from residential premises (85% in 2007) versus the GMR (67% in 2007) Unlike the GMR which showed a decline in the percent of thefts from residential premises, the subregion shows a steady proportion between 2003 and 2007. Table 5-3 shows theft distribution for each LGA and subregion, compared to the Greater Metropolitan Region (GMR).

<table>
<thead>
<tr>
<th>Table 5-3 Reported bicycle thefts</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sydney Metro</td>
</tr>
<tr>
<td>Total</td>
</tr>
<tr>
<td>2 (Rank) Outdoor/Public</td>
</tr>
<tr>
<td>3 (Rank) Carpark</td>
</tr>
<tr>
<td>4 (Rank) Business/Commercial</td>
</tr>
<tr>
<td>5 (Rank) Education</td>
</tr>
<tr>
<td>Total</td>
</tr>
</tbody>
</table>

| Hurstville                      |
| Total | 634 | 565 | 472 | 463 | 458 | 458 | 458 | 458 | 458 |
| 1 (Rank) Residential | 64 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 |
| 2 (Rank) Outdoor/Public | 625 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 |
| 3 (Rank) Carpark | 372 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| 4 (Rank) Business/Commercial | 272 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| 5 (Rank) Education | 134 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| Total | 915 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 |

When thefts occurred from private residences (85% in 2007), 61% were from non-dwelling areas like garages or verandas. The remaining 39% of thefts occurred from within the house or apartment itself. This indicates that people were not taking adequate measures to secure their bicycles when at home in areas they believed were safe.
Finding
Between 2003 and 2007 the number of reported thefts decreased in the subregion, but the proportion of bicycles stolen from private residences remained the same. The bicycles that were stolen from private residences were mostly stored in non-dwelling areas. This seems to reflect the low rates of bicycle use in the area.

Potential solutions
A public awareness campaign to inform residents of the risk of leaving bicycles unsecured at home in conjunction with a programme to increase access to bike locks (Short and medium term).

Create criteria for bicycle parking in line with recommendations in Section 5.1.3 of this report (Short term).

Develop and introduce a branded bicycle parking program with a uniform logo similar to the disabled car parking signage. Facilities can vary to suite individual areas but must allow the bicycle to be locked through the frame and front wheel, should be sheltered, be monitored actively with CCTV or passively by people passing by, and be easily identifiable as bicycle parking locations (Medium term).
6. About the potential increase to cycling

The potential solutions discussed in Section 5 are based on stakeholder reported barriers, analysis of planning and policy constraints and analysis of the available data. In the matrix in Table 6-1 is the complete potential solutions list or “toolkit” of infrastructure and programs, that might address the subregional findings and increase the use of cycling for short trips in the study area.

Stakeholders attended a second workshop on 28 April 2009, following the completion of the data analysis, initial program development and the issue of the short technical report. The second workshop used stakeholders’ local knowledge to prioritise potential projects based on available funding, potential partners, local bicycle community interest/backing and the likelihood of success.

General theme

The matrix was used to identify a broad theme using the categories of cycling established in PB’s report Cycling in NSW – What the data tells us. Though not critical in the options development stage, the type of intervention has a bearing on what funding may be available. These categories are:

- infrastructure
- cyclist
- safety/security.

The infrastructure category includes network and end-of-trip-facility related options, while safety/security includes options dealing with the safety of both the cyclist and their property. The cyclist category includes factors like demographics, trip purpose, bicycle ownership, rider education and others.

To these categories “data” and “policy/planning” categories were added as several of the initiatives were not directed at public uptake of cycling, but rather at the alleviation of policy or administrative constraints which were identified during the study. Where one or more category was appropriate this is noted in the matrix.

Potential partners

During the study, discussions with area businesses and organisations were used to identify potential partners with available funding or the capacity to deliver the identified potential programs to increase cycling in the study area.
Indicative costs

During the second stakeholder workshop discussions centred on potential funding partners or available project teams may be identified. As a guide a cost estimate range was developed to compare initiatives:

- $< 1,000
- $1,000 - $15,000
- $15,000 - $30,000
- $30,000 - $50,000
- $50,000 +

Timing

Initiatives were assigned an indicative implementation timeframe to guide discussions with stakeholders. For the purposes of the subregional bike planning study, the timeframes defined as:

- **short**: within 12 months
- **medium**: between 1-5 years
- **long**: beyond 5 years

In several cases initiatives are contingent on the successful roll-out of an earlier initiative, these necessarily are assigned the next longer timeframe to complete.

Monitoring

The PB project team also identified indicators as part of a potential monitoring strategy to track progress towards achievement of cycle usage targets in the subregional area. Without monitoring these indicators, it will be difficult to demonstrate increased bicycle use in the area and may possibly make the planning, design and construction of bicycle infrastructure more difficult in the future.

Prioritising initiatives

Following the workshop with local bicycle stakeholders, the potential solutions in the matrix in Table 6-1 were updated to reflect the most appropriate initiatives prioritised by stakeholders. The initiatives recommended to carry forward in Section 7 were selected based on:

- ease of implementation
- relative effects in increasing cycle usage
- indicative available funding.

During April the following template was used to further develop initiatives and was ultimately used to rank initiatives during the 28 April workshop at Hurstville Council. By developing and implementing these projects and programs with key local stakeholders – including major trip generators, local businesses and government institutions – it is more likely these initiatives will increase cycling. Table 6-1 shows a list of potential programs and potential partners that have been identified as the most likely to participate in the program. The next step in the
process is to identify potential partners, timelines, costs, monitoring strategies and a benchmark to illustrate the project has been successful.
## Table 6-1  Matrix to refine and compare potential responses to increase cycling in the Hurstville subregion

<table>
<thead>
<tr>
<th>Initiative name</th>
<th>General theme</th>
<th>Potential partner</th>
<th>Timing to implement</th>
<th>Associated costs (in $ ,000)</th>
<th>Measurement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Build on and support established active transport programs</td>
<td>Cyclist/Safety</td>
<td>Sydney Airport Rockdale Council Other councils</td>
<td>Very short term</td>
<td>15-30</td>
<td>Monitor the number of bike to work cyclists at the airport Audit bike racks for bikes per day Journey to work questionnaire for participants per month</td>
</tr>
<tr>
<td>Use existing ‘share the road’ safety campaigns</td>
<td>Safety Cyclist</td>
<td>Amy Gillett Foundation</td>
<td>Very short time frame</td>
<td>0</td>
<td>Use intercept questionnaires - awareness of ad - understanding of road rules</td>
</tr>
<tr>
<td>Investigate the Sutherland Shire fleet bike program and adapt for other employers in the region</td>
<td>Cyclist</td>
<td>Hurstville Council Other councils</td>
<td>Short term</td>
<td>1-15</td>
<td>Uptake of cycling by staff for commuting and work short trips</td>
</tr>
<tr>
<td>Integrate cycling messages with health campaigns</td>
<td>Cyclist</td>
<td>SESIAHS BUGs</td>
<td>Short term</td>
<td>15-30</td>
<td>Total number of advertisements number of ride participants uptake of free cycle gear</td>
</tr>
<tr>
<td>Develop a bicycle plan</td>
<td>Infrastructure Planning</td>
<td>Kogarah Council</td>
<td>Short term</td>
<td>50-100</td>
<td>Completion of bicycle plan or adoption of St. George Bikeplan or Sydney Trails</td>
</tr>
<tr>
<td>Develop and maintain consistent data standards for the bicycle network and end-of-trip facilities</td>
<td>Infrastructure Data Planning</td>
<td>SSROC DoP RTA</td>
<td>Short term</td>
<td>1-15</td>
<td>Compatibility of maps with each other</td>
</tr>
<tr>
<td>Safe cycling for school children</td>
<td>Cyclist/Safety</td>
<td>AustCycle Area schools CARES Centres RTA</td>
<td>Short to Medium term</td>
<td>1-15</td>
<td>Participation in the programs, number of children cycling to school</td>
</tr>
<tr>
<td>Initiative name</td>
<td>General theme</td>
<td>Potential partner</td>
<td>Timing to implement</td>
<td>Associated costs (in $ ,000)</td>
<td>Measurement</td>
</tr>
<tr>
<td>--------------------------------------------------------------------------------</td>
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<tr>
<td>Increase the number of bicycle owners through discount programs, possibly as an</td>
<td>Cyclist</td>
<td>councils, Bike shops, CARES Centres</td>
<td>Short to Medium</td>
<td>15-30</td>
<td>Increase in bicycle ownership in subregion, Enrolment in education programs</td>
</tr>
<tr>
<td>‘award’ for completing bicycle education programs</td>
<td></td>
<td></td>
<td>term</td>
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<tr>
<td>Identify a standard bicycle parking product</td>
<td>Security</td>
<td>SSROC, RTA, Hurstville, Rockdale and Kogarah Councils</td>
<td>Medium term</td>
<td>1-15</td>
<td>Number of high quality bicycle parking locations</td>
</tr>
<tr>
<td></td>
<td>Planning</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Construct a cross-region bicycle route connecting Oatley cycleway to the Botany</td>
<td>Infrastructure</td>
<td>SSROC, RTA, Kogarah and Hurstville Council</td>
<td>Medium term</td>
<td>$50,000 +</td>
<td>Kms of bicycle route constructed</td>
</tr>
<tr>
<td>Bay foreshore cycleway</td>
<td></td>
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<tr>
<td>Develop a “how to ride here” website for Hurstville Council</td>
<td>Safety</td>
<td>councils</td>
<td>Medium term</td>
<td>1-15</td>
<td>Number of businesses using the information on their websites</td>
</tr>
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<td></td>
<td>Security</td>
<td></td>
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<tr>
<td>Trial the map as part of a staff cycling encouragement program</td>
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<tr>
<td>• Implement the bicycle plan including infrastructure upgrades and route</td>
<td>Infrastructure</td>
<td>Kogarah and Hurstville Council</td>
<td>Medium term</td>
<td>100+</td>
<td>Percent of bicycle plan completed, Total kilometres in network</td>
</tr>
<tr>
<td>signage</td>
<td></td>
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<tr>
<td>Develop a robust decision making tool to prioritise gaps in the bicycle network</td>
<td>Infrastructure/</td>
<td>RTA, Kogarah and Hurstville Council</td>
<td>Medium term</td>
<td>100+</td>
<td>Number of crashes reduced, Crash areas identified, prioritised for road</td>
</tr>
<tr>
<td>based on injury data or high use areas</td>
<td>Safety</td>
<td></td>
<td></td>
<td></td>
<td>safety audits, Number of audits conducted and the number of issues identified</td>
</tr>
<tr>
<td>• use GIS maps to identify crash problem areas</td>
<td></td>
<td></td>
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<tr>
<td>• use road safety audits to confirm crash issues</td>
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</table>
7. Capturing the potential

During the second stakeholder meeting the programs that PB identified were prioritised according to short, medium and long term timeframes to launch. The following table summarises programs that were identified as being relatively low cost, quick to implement and would result in more bicycle trips within the subregion. These programs would act as case studies, and if successful, they will be introduced to other regions of NSW that have similar barriers.

It is increasingly obvious that a coordinated introduction of infrastructure construction and program development is required.

Recommendations arising from this study centre around two main areas:

- encouragement programs and infrastructure to increase cycling in the Hurstville subregional area
- administrative and policy recommendations to reduce constraints to bicycle planning and implementation.

The proposed encouragement programs may achieve higher rates of cycling, if the complementary administrative improvements are addressed at the same time.

To take a coordinating role on programs and administrative improvements, the PCAL NSW BikePlan team will need to be supported by adequate funding. Likewise, to demonstrate success, program results will need to be tied to Key Performance Indicators (KPI)s achieving clear predetermined goals for the number of riders or kilometres of connected cycleways.

7.1 Strategies to encourage cycling in Hurstville

Following the second workshop with local bicycle stakeholders, the potential solutions in the matrix in Table 6-1 were refined to reflect the initiatives prioritised by stakeholders in the timelines discussed in the workshop. Based on desktop research of other bicycle encouragement initiatives, the following priority initiatives are discussed in greater detail below, based on:

- potential partners
- available funding and likely cost
- basic program requirements
- potential monitoring strategy
- potential contribution to cycling
- steps required to launch the initiative.
Safety and education campaign

Partner: NSW BikePlan (lead) and Amy Gillett Foundation (partner).

Cost estimate: nil

Basic requirements:

Programs are not only available from multiple sources such as the Amy Gillett Foundation and the Cycling Promotion Fund, but they are also free and available immediately. Councils, Bicycle User Groups or bicycle shops can access websites for either of the aforementioned organisations and download or link the existing ads to their own websites. These advertising campaigns can be even more effective if they are partnered with education programs to make both child and adult riders feel more comfortable riding their bicycles. Partnering opportunities exist with CARES centres to help provide this needed education.

Monitoring:

- awareness of road rules, by cyclists and motorists, in questionnaires.

Potential cycling contribution:

The total contribution to cycling is unknown as it depends largely on the forum. In 2007 the Amy Gillett ads were shown on the Sci-Fi cable channel and at Val Morgan cinemas. The total viewers would depend on the total number of times the community service ad and on the media used for it (i.e. 10,000 movie goers or 100,000 television viewers). Obviously the wider distribution of the message is important, given the perceived dangers of cycling and poor understanding of the NSW Road Rules.

Next steps:

To launch this initiative, the Premiers Council for Active Living (PCAL) could use their website and newsletter to notify readers and partners that these programs exist and how to proceed in obtaining the programs.

To rollout the campaign across the state, advertising time should be costed to air the safety “advertisement” from the Amy Gillett Foundation. This should be included in NSW BikePlan or Department of Health budgets, to increase awareness or reduce risk of injury. The air time should then be purchased from cinemas and television stations. The ads should be run regularly, like drug and alcohol abuse campaigns, to heighten awareness and responsibilities amongst all road users. Council websites and other state agency websites can also have a link to the advertisements or have a hosted video directly on their website.
Workplace programs

Partner: Sydney Airport Corporation (lead), NSW BikePlan (partner), SSROC and Marrickville Council (partner).

Cost estimate: information $5,000

bicycle network connection design and construction (cost separately).

Basic requirements:

Encourage the development of workplace travel plans that include active modes of transport such as cycling. The Sydney Airport is developing their ground travel plan which includes provisions for cycling. The airport is a very large employer in the region with over 16,000 employees concentrated in four main locations:

- International terminal
- Domestic terminal
- Jet base
- and Qantas headquarters.

The airport is developing a map of available end-of-trip facilities. They are also working on adding a “How to get here” section for bicycles to be posted on their website alongside directions for other travel modes. This webpage content can be adapted for other employers, such as councils or local businesses.

The Jet base and Domestic terminal currently do not connect to the existing bicycle path from Tempe and the rest of the bicycle path network to Rockdale and Kogarah. A short 50-metres of cycleway and road treatment would provide a link between these two major sources of employment and the bicycle network. There is a potential partnership that can be developed between the Airport, NSW BikePlan and local councils to provide funding and build this short link. The link project is currently in the pre-planning stage with no funding allocated to it.

Potential cycling contribution:

This connection would be relatively inexpensive and provide an alternative, active transport access for up to 10,000 employees in the subregional area.

Next steps:

To launch this initiative, the NSW BikePlan officer should liaise directly with the Sydney Airport to share the information about bicycle facilities and trails, and to share the format for their “How to get here” section with other bicycle stakeholders identified in this study. If this is coordinated with SSROC, there may be a role for the regional or state-wide promotion of cycling information and encouragement activities by the NSW BikePlan.

The Sydney Airport Corporation also needs to source of funding for the construction of the missing link between the Jet base and the existing bicycle trail along the Alexandria Canal. The NSW BikePlan or SSROC may be in a position to coordinate information-sharing between potential partners and beneficiaries of increased bicycle use:

- A potential opportunity is to work with Marrickville Council to pursue a 50-50 funding grant from with the NSW RTA.
- There is potential to link the improvements to the proposed cycleway at the Alexandria Canal.

- Also, the recent Jobs Funding offered construction funding for “shovel-ready” bicycle infrastructure. By completing the design for the identified “missing link” infrastructure, the partners may be better placed to apply for similar opportunities.

**Employer fleet bike programs**

**Partner:** Sutherland Shire Council, Hurstville and Rockdale Councils (partners), SSROC (partner), NSW BikePlan team (partner).

**Cost estimate:** $500.

**Basic requirements:**

Sutherland Shire Council is currently operating a bicycle ride share program for employees to use for short trips during the work day. This has been successful and has led to fewer car trips and shows that Council is serious about reducing their impact on the environment. In this program:

- Currently volunteers repair and maintain the bicycles as is needed and only purchase parts from the $500 budget.

- Employees attend a short bicycle familiarisation briefing before being allowed to sign out a helmet and bicycle with panniers. The user can then use the bicycle for short work trips.

- Council made an initial investment to purchase bicycles, helmets and develop a training program.

- The program has an annual budget of $500 to repair and maintain the bicycles.

- The program is primarily used for site inspections currently and will be introduced as a way to travel between two depots for Council vehicles.

At the second workshop, other councils expressed interest in developing a similar program. These councils are ideal candidates for implementing such a program, though state agencies and larger organisations/businesses could also be candidates. Insurance obstacles can be overcome by being a member of Bicycle NSW, which provides insurance for corporate members.

**Monitoring:**

- use of the fleet bike

- increased requests for budget (for flat tyres or another bicycle)

- uptake of cycling for non-work purposes, reported in a staff questionnaire.

**Potential cycling contribution:**

- increased awareness of cycling as a legitimate travel option by council staff

- if there are potentially 600 staff and half know about the program, the profile of cycling will increase in the subregion

- non-riders might try the fleet bike and consider cycling for non-work purposes.
Next steps:

To launch this initiative, the Sutherland Shire Council bike fleet must be promoted more widely to other councils. The NSW BikePlan team could facilitate this information sharing in the short term, though councils may prefer to liaise directly with SSROC due to its regional coordinating role.

By sharing the fully developed program, Sutherland Shire Council is in a position to reduce the cost burden other interested councils might face establishing the program. For example, Sutherland Shire Council had to address liability issues, develop training and safety guidelines, and develop a maintenance routine. These issues will be faced by the other interested councils and the responses will likely vary very little.

If the NSW BikePlan and SSROC could facilitate the wider information-sharing (see Section 7.2.2) between councils, and Sutherland Shire Council can act as a point of contact for other councils, this becomes more attractive for other councils to trial.

Integrate health education programs

Partner: South East Sydney Illawarra Area Health Service (SESIAHS).

Cost estimate: $500-$1,000.

Basic requirements:

SESIAHS has a health benefits promotion fund that can be used to promote health benefits. The small grants available may be used in conjunction with a bike week event or organised rides conducted either by councils or Bicycle User Groups (BUGs). SESIAHS can promote the health benefits at these events through promotional materials. The funding is available for SESIAHS to participate in events in the short term, 0 – 6 months.

Monitoring:

Participants in an event.

Next steps:

The NSW BikePlan officer should leverage the contacts with NSW Health representatives not only at SESIAHS, but also on the BikePlan steering group. NSW Health need to include the health benefits of cycling in their current programs. In addition contacting SESIAHS and encourage them to participate in Bike Week activities and put them in touch with other bicycle stakeholders, especially BUGs and councils, that are conducting bicycle events. The resulting events would have more coverage and help raise awareness of the health benefits of cycling.
7.2 Administrative and policy improvements

During the two stakeholder meetings and subsequent subregional data analysis, several administrative issues were identified. The two main issues were:

- reservations about funding and liability
- uncertainty on how to proceed.

These two issues highlight the need to coordinate state and local investment in bicycle infrastructure and programs. To increase the return on investment in the cycling programs and infrastructure identified in Section 7.1, cycling policies, guidelines and programs must be integrated. As more cycling data, programs and infrastructure become available, there will be more lessons to share across the state.

Responses to the constraints are discussed in the sections below, including:

- improvements to policy documents like the How to Prepare a Bike Plan and the NSW Guide to Traffic Generating Developments
- opportunities to improve the role of the Road Safety Officer (RSO)
- a central information clearinghouse to share established programs, policies and lessons learnt by stakeholders developing cycling programs and infrastructure.

7.2.1 Changes to How to Prepare a Bike Plan – an easy 3 stage guide

The RTA has proposed to update the 2002 How to Prepare a Bike Plan – an easy 3 stage guide. The update to this document is a strategic opportunity to update the bicycle stakeholders, refresh the cycling messages and encourage councils to establish a firmer commitment to cycling in their LGA.

Not all of the five core LGAs in this study had bike plans, active transport strategies and/or trail strategies. Several initiatives pre-dated ‘How to prepare a Bike Plan’. Therefore, several useful steps in the guide may not have been implemented.

The PB project team does not propose widespread changes to the ‘How to prepare a Bike Plan’. In many respects the steps are logical and still relevant. For council staff and transport planners diligently following the guide to update or develop a Bike Plan for their LGA, the methodology developed for this subregional bike study may be useful to identify stakeholders, classify the existing bicycle use, identify a realistic cycling benchmark and prepare a plan to capture that potential.
Below are minor clarifications recommended by the PB project team to solidify the message of the ‘How to prepare a Bike Plan’ during the update.

**Benchmarking**
Benchmark setting is not currently part of the Bike Plan preparation.

A benchmark could, for example, aim to “reduce car use” or “increase cycling” in the LGA. Associating these benchmarks with specific, measurable targets like “500 car trips” or “10% increase in cyclists” would use existing rates of bicycle ownership and non-work trips from the Household Travel Survey (MoT) or data available from the most recent Census Journey to Work (ABS) as a baseline.

Progress on the benchmark could be tracked regularly, either annually, quarterly or monthly, using bike parking audits or regular counts at bike routes. These tools allow the LGA to regularly monitor progress and could become a cornerstone of the bike plan.

**Bicycle parking controls (Stage 2, Step 15)**
There is an opportunity to strengthen the criteria for locating and providing bicycle parking. By providing standard text for use in town centre Development Control Plans (DCPs), Bike Plan developers will have a clearer link to other documents which may need to be updated to reflect priorities in their Bike Plan. Providing specific minimum bicycle parking criteria for casual bike parking and end-of-trip facilities will improve the consistency of bike parking requirements between LGAs which have used the ‘How to prepare a Bike Plan’ document.

Standard text could address three types of bicycle parking minimums:

- end-of-trip bicycle parking standards for employees cycling to work at commercial (offices) and industrial land uses, based on the Gross Floor Area (GFA)
- bike cage/storage for residential apartment buildings, based on GFA
- casual bike parking standards for use at retail shops, based on the Net Lettable Area (NLA) and community uses, based on GFA.
Bicycle parking products and branding (Stage 2, Step 15)

In the ‘How to prepare a Bike Plan’ document, the only bicycle parking product mentioned specifically is the former Secure Bicycle Locker Program, set up by Transport NSW.

The updated ‘How to prepare a Bike Plan’ document should cite minimums for secure parking products without necessarily specifying a particular product or brand (i.e. “bicycle parking products should, at a minimum, enable a cyclist to lock their bicycle frame and front wheel”). Establishing and maintaining these firm criteria in the LGA’s Bike Plan and other policy documents will assist town planners assessing bike parking at re-developments or new developments. The ‘How to prepare a Bike Plan’ document could further highlight the potential to brand casual bicycle products with a locally specific safe cycling or council brand/insignia to raise the profile or awareness of cycling in the area.

Photo 7-1 Stylised bike parking in Vancouver Canada

Consultation with non-riders (Stage 2, Step 6)

Non-riders make up a substantial portion of an LGA residential and employment population. It is important that the views of non-riders are incorporated into the bike plan. Non-riders will have the strongest views about barriers to cycling, and about infrastructure and programs that will best alleviate their concerns.

Data standards

Data standards are not currently part of How to Prepare a Bike Plan – an easy 3 stage guide though the plan may be the ideal opportunity to set standards for bicycle data, including standards for GIS mapping, auditing, monitoring and terminology. This planning study identified a variety of terminology for bicycle routes and a ranging level of detail recorded for the bicycle network. This is not unique to the Brookvale-Dee Why subregional area. In “How to prepare a Bike Plan” data standardisation might take the following shape:

- develop and maintain consistent bicycle network terminology
- firmly indicate standards for GIS schema
- outline a regular reporting framework for councils with a geodatabase to link their information to the NSW Cycling Geodatabase, particularly after new bicycle routes are constructed or line-marked (potentially as a condition of 50-50 funding)
• nominate a council contact (preferably the GIS manager or analyst) to liaise with the RTA geodatabase manager to ensure changes to the standards are reflected and updated.

**Data consistency and management standards**

Partner: RTA, DoP, local councils.

Cost estimate:

The cost of this implementation is relatively low, depending on the agency developing the standards and timeframe for local organisations to adapt to them. Councils will need to be willing to share their information with other councils and users.

Basic requirements:

Data continuity is critical in attracting cyclists to riding their bicycles. This program would be operated through the RTA or SSROC who would facilitate a standard nomenclature for bicycle facilities across LGAs. This will make it easier for both planners and cyclists to have a clear idea of what exists or is planned at various locations. This includes:

• bicycle infrastructure like cycleways
• bicycle parking
• and end-of-trip facilities.

This will allow a cyclist to look at a map and know exactly what to expect along a chosen route, and know that the route will not suddenly be different or non-existent once they cross to another LGA.

A central government agency needs to oversee this flow of information from all associated councils and have an up-to-date database of bicycle infrastructure. For planners knowing the status of existing infrastructure makes planning new infrastructure more efficient, enabling a more complete network to be built.

Monitoring:

• terminology is consistent across LGA boundaries
• a number of councils participate in the standardisation program
• a number of councils comply with the standards program.

Potential cycling contribution:

• The implementation of data standards will not lead directly to a measurable increase in the cyclists in the area, but is key infrastructure and information dissemination for bicycle planning.

**Local bicycle encouragement practice (Stage 2, Step 17)**

Strengthening current language around bicycle encouragement will go further to make council a ‘best practice’ cycling employer. Though many councils allow staff to salary package a motor vehicle or take-home a council vehicle, similar initiatives are not available for cyclists to purchase their own bike or for a fleet bike to be made available for use on short trips during the work day with the exception of Sutherland Shire Council which encourages work day cycle use through their fleet bike program.
Monitoring strategies (Stage 3, Step 4)
Identifying monitoring strategies and linking the monitoring strategies to the benchmarks set in the Bike Plan will enable planners to demonstrate firm cycling outcomes. For example, monitoring the peak use and off peak use of bicycle parking may help direct investment in bike parking facilities. As the basic components of an audit would not vary significantly between locations, providing a standardised audit would simplify the data collection and monitoring process so counts can be conducted more regularly and a richer data set can be developed (BikePed Documentation, 2009).

Next steps
The NSW BikePlan officer needs to communicate with the RTA and encourage a review of the How to Prepare a Bike Plan – an easy 3 stage guide. As part of the review benchmarking needs to be added to the guide so that responsibility and monitoring becomes a part of bicycle planning as is common with other forms of transport.

7.2.2 Information clearing house
Many replicable initiatives and techniques are employed by councils during bike week and in their Bike Plans. The main key event types and initiatives use many of the same promotional tactics, centre on the same bicycle themes, and require similar safety and financial arrangements. A central clearinghouse could increase the transferability of entire bicycle initiatives, monitoring strategies/technologies or key strategic insights gathered from prior research (like the subregional centres studies or BikeWeek initiatives) by providing a central location accessible by bicycle stakeholders. The clearing house would act like a catalogue of programs that were implemented by various groups and it would provide a guide for implementing those programs.

The utility of the clearinghouse would increase if a condition for state funding for cycling programs was to:

- use programs in the clearinghouse (potentially logos, print materials, safety brief, volunteer arrangements, media releases)
- check the clearinghouse before applying for funding
- share prototype programs with the central clearinghouse so that replicable programs could be repeated by other councils.

If used regularly, the clearinghouse could further be used to increase the dialogue between bicycle stakeholders. Beneficiaries of this information would be regular users from following bicycle fields: the NSW BikePlan state stakeholders, state traffic and transport planners, the 80 Road Safety Officers (RSOs), and the LGAs' transport planners and engineers.

The information clearing house offers two main benefits:

1. building a cohesive branded identity across all initiatives
2. maximise utility of cycling initiatives by using communication technologies to make that information accessible and available across a variety of channels (Ditton, 2009).

These benefits are discussed in greater detail, individually below.
Branding and identity
Establishing a uniform format and consistent bicycle terminology, would aim to target all channels and consumer touch points by:

- visually defining a central, authoritative source of cycling information in the subregions and wider NSW
- increasing the trust and recognition of individual initiatives by leveraging their affiliation with a broader NSW bike program identity
- building an enduring, primary awareness of the broader identity rather than transient awareness of multiple, disparate initiatives.

Communication technologies
A number of communication technologies are available to increase the utility of a clearinghouse, making information available to stakeholders using the most appropriate format.

- A website will become a location to share successful bicycle initiatives and monitoring strategies/technologies. This will enable more cost effective implementation of cycling initiatives, using research, data collection techniques or standard facilities trialled elsewhere.
- An email-based listserv (an email based question forum sent out to members of the list) will allow researchers or planners to refine research and initiatives results to more adequately address the evolving needs of the bicycle plans, cycling infrastructure and the public/end-users.
- An interactive discussion forum will reduce institutional constraints to bicycle promotion by linking professionals, researchers and stakeholders to continue their engagement with the challenges of this and future projects (Ditton, 2009).

Sharing information more widely will potentially encourage the continued progress or a more advanced trial of an initiative, giving investors more confidence that an initiative might be successful.

Next steps
To launch this initiative, the NSW BikePlan team should confirm the goals identified here and pursue the development of the appropriate format (web, blog, newsletter or other). The next round of programs which receive Bike Week funding could be written up and shared through the clearinghouse. Ahead of next year’s Bike Week, other councils could review the elements of previous programs, including the relative cost requirements and staff/volunteers required, and build on an existing initiative rather than develop a similar program in parallel.

7.2.3 Changes to the role/responsibility of the Road Safety Officer (RSO)
The PB project team was advised by the RTA that the Road Safety Officer (RSO) 50/50 funding arrangement between the RTA and local councils may be revamped in the next year. With 80 RSOs across 99 NSW councils (covering two-thirds of NSW Local Government Areas), introducing a standardised approach for RSOs to address common cycling issues will raise the profile of cycling.
Consulting with the RSOs will develop a more robust picture of their cycling knowledge and known cycling road safety issues. This picture will clearly illustrate the potential to shape the role to increase the consistency of cycling initiatives and messages across NSW.

Three high potential opportunities have been identified for further research:

- Identify key performance indicators for bringing cycling stakeholders together
- Identify the most appropriate technology to share cycling messages, based on the success of the RTA’s current road safety messaging campaigns
- Develop a consistent framework for identifying and prioritising bicycle crash hot spots.

**Key performance indicators**

Identify key performance indicators for RSOs to communicate with internal and neighbouring bicycle stakeholders about cycling. By changing the policies governing the RSO role, there is potential to improve the links between the RTA, Regional Organisation of Councils (ROCs) and local cycling stakeholders, including internal council staff like the strategic planner, transport planner, traffic engineer and drainage/water engineer (for bicycle-friendly rainwater grates).

Some of this coordination is already taking place with Kogarah Council and Rockdale Council holding a joint Bike Week event to highlight both council areas and promoting cycling. The two councils also have plans for future cooperation on Bike Week events.

A key performance indicator for this type of partnering would be associated with cross-communications (email and phone communications) between partners and attendance at joint-meetings between these three groups.

**Information sharing**

Identify an information-sharing email list or website for the RTA to share safe cycling messages with the sponsored RSOs. Explore a cycling issue of the month along with potential solutions or key stakeholders to engage. Using the example of bicycle-friendly rainwater grates, the prompts would direct the RSO to liaise with the bicycle planners, drainage engineer and area cyclists to investigate if rainwater grates are a bicycle wheel trap along the existing and proposed bicycle networks and main roads commonly used by cyclists. This could even be supplemented by photos, a standard guideline or proposed policy text.

As specific issues were addressed, a state-wide framework to respond to some typical bicycle issues would be refined.

**Crash hotspot response tool**

A robust bicycle network decision-making tool based on existing bicycle crash and injury data could be developed by the RTA to assist the RSO in their role.

Though cyclists accounted for just 0.7% of road users in the 2006 Census Journey to Work, bicycle crashes accounted for 3% of all reported crashes in 2006 (PB 2008). The higher rates of crashes for other road users focus the attention of the RSO on these locations, a straightforward methodology for “hot spot areas” requiring safe cycling programs or infrastructure solutions and key performance indicators for progress in these areas would maintain the importance of cyclists as a road user class.
Providing RSOs with a clear process for prioritising bicycle crash hot spots and providing a suite of potential infrastructure responses could maximise the time the RSO has available to spend on bicycle infrastructure and cyclist safety.

Monitoring or key performance indicators:

- demonstrate the bicycle network gaps and crash hotspots are identified
- prioritised gaps and hotspots for road safety audits, potentially using an electronic tool (NSW Cycling Geodatabase or similar)
- percentage of audits conducted compared to the total number of hotspots identified, total number of solutions identified (or as a percent of hotspots identified)
- 50-50 funding applied for
- kms of infrastructure designed
- kms constructed or kms line-marking conducted
- monitor bicycle network – number of riders/day
- monitor annual crash statistics for key hot spot locations compared to known cyclists on the bicycle network and five-yearly JTW results.

These performance indicators must then be used to help make bicycle usage and safety become a higher priority for the RSO and the amount of time they allot to cycling work.

**Next steps**

The NSW BikePlan team will need to work closely with the RTA when the review of the RSO role is conducted to ensure any changes to the role include a bigger focus on active transport encouragement rather than the traditional road safety role. Though there are fewer overall injuries involving pedestrians and cyclists, increasing the relative importance of cycling in the RSO job description will ensure that the RSO can then focus on active transport promotion, alongside the existing road safety duties.

The NSW BikePlan team should also facilitate a network for RSOs to share information, linking this improved role with the information clearinghouse identified in Section 7.2.2.

In the longer term, the NSW RTA could use the NSW Bicycle Geodatabase to provide a crash and injury data tool to focus RSO attention on bicycle crash hotspots that need to be audited or redesigned.

**7.2.4 NSW Guide to Traffic Generating Developments**

Due to the relative importance placed on the RTA’s 2002 *NSW Guide to Traffic Generating Developments* by local planners and developers, revising the guide will provide an important opportunity to specify bicycle parking controls. The current bicycle recommendations in the guide (page 5-3) state simply: that cyclists be “able to secure the frame and two wheels of a bicycle to a fixed, secure stand, preferably with the cyclist’s own lock and chain”.

There is no differentiation between casual, short-term bicycle parking, staff bicycle storage and end-of-trip facilities, or residential bicycle storage. The guide references the Australian Standard 2890.3, 1993 Bicycle parking facilities, which does not recommend the total bicycle parking likely to be required by different uses.
The RSOs are in a unique position to offer input to the RTA in the redevelopment of the ‘Guide to Traffic Generating Developments’. The RSO could survey the current bicycle parking controls in their local DCPs and conduct a local bicycle parking audits to confirming the provision and occupancy of the provided parking during peak and off peak periods.

Alternatively, the Bicycle Parking General Code (ACT Planning and Land Authority 2008) is a binding legislation which applies to “all activities that require development approval under the Planning and Development Act 2006, including development, redevelopment and refurbishment”. The code additionally specifies a reduction in car parking where the development’s users have access to a higher level of bicycle parking and network.

**Next steps**

The NSW BikePlan should develop more binding bike parking criteria for use in new developments and redevelopments. These definitive requirements should be used to update the various state bicycle guidelines and local bike parking recommendations, including the *NSW Guide to Traffic Generating Developments*. 
8. References

ACT Planning and Land Authority 2008, ‘Bicycle Parking General Code’

Amy Gillett Foundation, TV commercial, viewed 17 April 2009

AustRoads Part 14: Bicycles


NSW Department of Planning 2004, ‘Planning Guidelines for Walking and Cycling’

NSW Roads and Traffic Authority 2002, ‘How to Prepare a Bike Plan: An easy 3 stage guide’

NSW Roads and Traffic Authority 2005, ‘NSW Bicycle Guidelines’


PB 2008, ‘Cycling in NSW – What the data tells us”


St George Bike Plan (1991)

Sydney Airport 2009, ‘Preliminary Draft Sydney Airport Master Plan’