Sub-regional Bike Planning Study: Bondi Junction
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Client: PCAL NSW Bike Plan
Reference: HS11152
GTA Consultants Office: Sydney

Quality Record

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Executive Summary

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

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

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

Bondi Junction Study Area

The Bondi Junction precinct comprises commercial and residential land uses with a high volume of trips occurring in close proximity of the Bondi Junction Transport Interchange and Westfield Shopping Centre. On the one hand, the tight network of roads, laneways and paths affords enormous potential for increasing cycling and integrating cycling with public transport. On the other hand, the topography and the constrained road widths limit opportunities for new connections and new (off-road) facilities. The catchment potential is significantly reduced due to the proximity of the Pacific Ocean and Sydney Harbour, although this effect on the total trip potential may be offset against high urban densities.

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

Key Statistics

- Approximately 65% of car trips are under 5km in length
- 45% of Waverley residents travel to work by car, and
- 21% of households do not own a car, compared with a Sydney average of 14% while 34% of households own two or more cars.

Opportunities

- Existing staff resources at Waverley Council as well as the adjacent Councils actively seek inclusion of cycling and the related infrastructure, including sustainable transport officers, environment sustainability officers, bicycle planning officers, cycling education officers with reportedly programs in place for future appointments in these areas
- Strong political and financial commitments in Waverley and adjacent Councils for continued investment in cycling encouragement and infrastructure programs
- Significant uptake of cycling - among the highest in the State, despite the undulating terrain
- High density residential and employment within the 5-8km Bondi Junction catchment area
- Significant roll-out of local bicycle parking facilities, which are well-used
- Existing and widely distributed bike route maps for Waverley & Woollahra (and parts of Randwick), including apparently popular recreational routes
Executive Summary

- Cycling Proficiency & Maintenance Courses are regularly undertaken by Waverley Council – 18 held in 08/09; 24 courses to be held in 09/10; other workshops being planned for schools and after care.
- Similarly successful programs are also undertaken on a voluntary basis by the UNSW-BUG as well as with reportedly significant volumes of attendants for both workshops and rides, and
- Empty shop-fronts with economic downturn which could be used for Cycle Stations.

Constraints
- Existing parking facilities are not secure and overused - no space for new users, low security for all-day commuters.
- Cycling access restrictions through the Mall and the Bus Only streets, in the heart of the catchment.
- Significant network gaps in close proximity to town centre (“the last 100m”), including crossing facilities, missing links along key desire lines as well as signs and markings (both regulatory and directional), and
- Geometric constraints of the town centre street network.

Consultation
Three stakeholder consultation sessions were held:
- Pre-Sub-Regional Study Consultation (11 February 2009, by PCAL NSW Bike Plan)
- Bondi Junction Stakeholder Workshop 1 (19 February 2009, by GTA Consultants), and
- Bondi Junction Stakeholder Workshop 2 (1 May 2009, by GTA Consultants).

The consultation process was used both to identify and develop ideas for encouraging cycling in the Bondi Junction catchment area and to evaluate and prioritise these ideas.

Project Assessment Framework
In the current political environment, there is increasing pressure on the application of limited funding across a wide range of transport-related projects. Therefore it is important to establish a consistent project assessment framework across all transport projects such that the relative merits of (for example) a small cycling project can be compared to a major highway upgrade project. To provide a simple yet effective method of prioritising projects where consistent quantitative data is not available, GTA Consultants has developed a two-step assessment process including a “Priority Evaluation Matrix” (refer Table 7.3, Page 43) and an “Action Evaluation Matrix” (refer Table 7.4, Page 43). This process allows equal standing to be given to both infrastructure and non-infrastructure projects, while taken a number of factors into consideration, such as expected costs, potential benefits, engineering or political feasibility, community consultation and opinion, as well as conflicting priorities and needs.

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

<table>
<thead>
<tr>
<th>Priority Initiative</th>
<th>Initiative Description &amp; Application</th>
<th>Issue Addressing</th>
<th>Target Audience</th>
<th>Cost</th>
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| **Bicycle Infrastructure Measures**                                                                                                                                         | **1. Implement 'Last 100m' Bondi Junction Bicycle Network** New and improved cycling infrastructure in close proximity to Bondi Junction, including:  
   - Contra-flow separated cycleway in Spring Street (currently under separate investigation by Waverley Council).  
   - New pathway along the northern perimeter of Oxford Street from York Rd to Lang Rd (currently under separate investigation by Waverley Council and others).  
   - False one-way streets in laneways and other streets in and around Bondi Junction.  
   - Access through cul-de-sacs and pocket parks such as Waverley St at Oxford St, Brisbane St at Ebley St, St James Rd at Gowie St.  
   - Other network gaps, deficiencies and barriers as identified by BIKEast (refer Table 6.3, Table 9.1). | Local access missing links legitimising cycling                                                                 | Existing and potential future cyclists                                         | High  |
| **2. Signing the 'Last 100m' Bondi Junction Bicycle Network** Directional & Regulatory signage, including:  
   - bicycle access to the Oxford St Pedestrian Mall by way of “Shared Path” signage  
   - along the “Bus Only” streets using “bicycles”                                                                                                                         | Local access Missing links Legitimising cycling                                                                 | Existing and potential future cyclists                                         | Low   |
| **Bicycle Facilities**                                                                                                                                                         | **1. High Density Parking Facilities (refer to Cycle Station in Table 11.3)** High density parking facilities at three locations:  
   - Vacant shop front in the Oxford St Mall (Figure 11.1).  
   - Vacant shop front in the Westfield Mall, facing the Oxford Street Bus Way (Figure 11.1).  
   - Syd Einfeld viaduct*, directly opposite the entry to the Grafton St entry to the railway station. A new high quality crossing across Grafton St is required (Figure 11.2). | Respond to strong parking demand (current facilities over-utilised) | Existing and potential future cycling commuters | Medium to high |
### Executive Summary

#### Education, Awareness and Promotion Initiatives

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<thead>
<tr>
<th>Priority Initiative</th>
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<th>Issue Addressing</th>
<th>Target Audience</th>
<th>Cost</th>
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<tbody>
<tr>
<td><strong>1. Cycle Station</strong></td>
<td>In conjunction with the three proposed high density parking facilities Combined bike parking, bike repair, bike loan/share as well as potential cafe. Separately market access to lockers and showers for use by Bondi Junction employees for lunch time sports (many local offices and shops do not afford shower and locker facilities). Full access to all relevant cycling promotional material, maps, brochures, etc. Develop in conjunction with other initiatives such as bike loan/share scheme, bike workshops, ride programs.</td>
<td>Bicycle parking Legitimising cycling Knowledge gaps</td>
<td>Whole community Bondi Junction employees</td>
<td>Medium-high</td>
</tr>
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</table>
| **2. Main streaming cycling campaign**     | Local based campaign using existing strengths and opportunities such as:  
- mayor columns in local papers  
- BIKEast & UNSW-BUG rides and workshops  
- grouped stands at local markets and fairs supported by BUGs, local bike retailers, cycle importers and wholesalers (“which bike to I buy, “try this bike”) | Cycling is for everyone  
Cycling is a legitimate mode of transport  
Cycling is healthy and good for the environment  
Cycling reduces road and public transport congestion | Whole community                          | Medium     |
| **3. Sharing knowledge**                   | Build on and expand existing Waverley Council, BIKEast and UNSW-BUG initiatives:  
- bike maintenance and repair workshops  
- cycling proficiency workshops  
- marketed rides program | Overcoming knowledge gaps and confidence | Existing and potential future cyclists | Low         |
| **4. Bike loan/share scheme**              | Low key rather than high profile program, integrated with the Cycle Station | Improving access to bicycles | Potential future cyclists Low income earners Students | Medium     |
| **5. Map/Brochure Last 100m**              | On completion of the local network, Detailed insert on existing map rather than stand-alone showing exact details of all facilities, incl routes, parking, bike shops, bike repair, showers, lockers. Supported by local media campaign. | Local access | Whole community                          | Low         |
| **6. Map/Brochure Randwick and UNSW**      | A good map already exists for the Waverley/ Woollahra area. This map needs to be complemented by a map for the Randwick LGA and the UNSW catchment. | Crossing LGA boundary access from the south | Randwick residents, UNSW employees and students | Low         |
| **7. Report-a-Hazard**                     | Hazard reduction program through web-based self-reporting mechanism. Expand to encourage reporting of popular/useful routes that require minor facilities. | Road safety and cycling convenience | Existing cyclists                          | Low         |
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1. Introduction

1.1 Background

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

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

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

The Bondi Junction precinct is made up of commercial and residential land uses with a high volume of trips occurring in close proximity of the Bondi Junction Transport Interchange and Westfield Shopping Centre. On the one hand, the tight network of roads, laneways and paths affords enormous potential for increasing cycling and integrating cycling with public transport. On the other hand, the topography and the constraint with road widths limit opportunities for new connections and new (off road) facilities. The catchment potential is significantly reduced due to the proximity of the Pacific Ocean and Sydney Harbour, although this effect on the total trip potential may be offset against high urban densities.

1.2 Key Project Objectives

There are three broad objectives for the Bondi Junction sub-regional study:

- To identify specific cycling encouragement initiatives for the Bondi Junction local area
- To generate transferable ideas for the wider promotion of bicycle use via the NSW BikePlan, and
- To identify and recommend improvements and updates to the NSW Bicycle Planning and Design Guidelines.

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

It was further specified that the methodology for the study should be designed to plan, develop and guide the subsequent implementation of a "sub-regional cycle access package" to serve the catchment within a 5-8 km radius of the major centre under study. This integrated package of actions should encourage bicycle
use for commuting, recreational, education, shopping, personal business and social purposes, particularly for short trips.

1.3 Purpose of This Report

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

- Key features of the Bondi Junction study area
- Existing cycle usage, infrastructure and encouragement programs
- Consultation with bicycle users and stakeholders
- Funding opportunities
- Encouraging cycling through infrastructure and non-infrastructure initiatives and actions, and
- Highlighting required improvements and updates to the NSW Bicycle Planning and Design Guidelines.

1.4 Referenced Documents

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

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

2.1 Extent of Study Area

The study area for the Bondi Junction sub-regional strategy is a 5-8km radius, which represents a cycling time of approximately 30 minutes. The study area and topography is shown in Figure 2.1.

2.2 Geography and Topography

The Bondi Junction regional centre serves as a commercial and transport hub for Sydney’s Eastern Suburbs and surrounding Inner West, Botany/Mascot and Sydney Inner East areas. The Bondi Junction regional centre is situated on a prominent sandstone plateau some 100 metres above Sydney Harbour to the north and the Pacific Ocean to the East. The Bondi Junction plateau, as shown in Figure 2.2, is connected via radiating flat-topped ridges to:

- Sydney CBD via Oxford Street in the west
- Edgecliff and Bellevue Hill via Edgecliff and Victoria Roads in the north
- Bondi Beach in the east (via Bondi Road), and
- Randwick in the south (via Carrington and Frenchmans Roads).

This plateau slopes steeply to the north and east and more gently to the west and south. The large green space of Centennial Parklands (including Centennial, Queens and Moore Parks) occupies a large basin on the southern slopes of the ridge. Centennial Parklands is a major trip attractor to the region in its own right.

During the early industrial and residential development of Sydney, transport, commerce and housing spread initially along the flat topped ridge lines. The region's most prominent road, Oxford Street, is built on the top of the main connecting ridge and follows earlier aboriginal trade routes. Bondi Junction gets its name from the junction of a large number of tram lines which radiated out from its ridge-top location to termini such as Watsons Bay, Rose Bay, Bondi Beach, Bronte, Clovelly and Coogee.

With the construction of the Eastern suburbs Rail line (opened in 1979), the importance of Bondi Junction as a regional transport hub was further consolidated with the routing of a majority of bus services in the northern part of the region through the bus interchange situated on top of the terminal station. The bus/rail interchange is a significant public transport node with 50,000 bus passengers and 35,000 rail passengers daily (Waverley Transport Policy 2002).

On an average day, approximately 19,500 passengers enter the Bondi Junction Railway Station, and around the same number go out (WTP 2001). In the AM peak period (6:00am -9:30am), approximately 12,250 passengers pass through the Bondi Junction Station (2007 City Rail figures) of these passengers 3,600 are bound for Bondi Junction and 8,650 are bound for the Sydney CBD.

Census journey to work data shows that of all trips originating in Bondi Junction approximately 21 percent are to Sydney CBD, 20 percent are to other parts of within Waverley LGA, 12 percent are to South Sydney and 7 percent to Woollahra. These trips make up 60 percent of total trips.

The Bondi Junction commercial centre is described in the NSW Planning’s Metropolitan Strategy and State Plan as a sub-regional commercial centre servicing Sydney’s Eastern Suburbs. Bondi Junction’s role as a commercial centre is dominated by shopping activities and is built around Westfield’s flagship shopping centre, the Waverley Council operated Oxford Street Mall and a small number of commercial office buildings housing mostly local service providers, small to medium size businesses and professional suites.
Principal bicycle routes in relation to topography

Key to routes
No Route between Bondi Junction and:
1 Sydney Harbour Bridge to Bondi Junction via Cahill Expressway path, Macquarie St and Domain paths
2 Pyrmont Bridge to Bondi Junction via King St, College St, Oxford St, Burton St, Paddington St, Victoria St, Wally St, Nelson St and Oxford St
3 Sydney CBD to Bondi Junction via Campbell St, Flexers St and Moore Park Rd
4 Redfern to Bondi Junction via George St, Prince Alfred Pk paths, Domain St and Moore Park paths
5 Redfern to Bondi Junction via Padding St, Telopea St, Thallon St, Moore Pk paths, Centennial Pk roads and Oxford St
6 Victoria Park to Bondi Junction via South Dowling St, Drygy Av, Anzac Pk, Robertson Rd, Centennial Pk roads and Oxford St
7 Rosebery to Bondi Junction via Leifsdottir St, Tralmaben Av, Duran Av, Darley Rd, Queen Pk path, Rosecr St, Bronte St, Rosecr St and Oxford St
8 Kensington/UNSW (west side) to Bondi Junction via Centennial Pk roads, Alice Rd, Darley Rd, Queen Pk path, Rosecr St, Bronte St, Rosecr St and Oxford St
9 Kensington/UNSW (east side) to Bondi Junction via Centennial Pk roads, Alice Rd, Darley Rd, Queen Pk path, Queens Pk Rd, Rosecr St, Bronte St and Bronte Rd
10 Kensington/UNSW (east side) to Bondi Junction via Centennial Pk roads, Alice Rd, Darley Rd, Queen Pk path, Queens Pk Rd, Rosecr St, Bronte St and Bronte Rd
11 Coogee Basin (western slope) via Mount St, Fern St, Albion St and Bronte Rd
12 Coogee Beach to Bondi Junction via Beach St, Burnie St, Leichhardt St, Bronte Rd, Gipps St, Henry St, Waverley Pk path and Waverley St
13 Bronte Beach to Bondi Junction via Tramway Av, Gipps St, Henry St, Waverley Pk path and Waverley St
14 Tamarama Beach to Bondi Junction via Derridwa St, Fletcher St, Bondi Rd and Waverley St
15 Bondi Beach to Bondi Junction via Lennard Av, Richard St, Wellington St, Martin Av, Watkins St, Ben Acco Rd and Old South Head Rd
16 Rose Bay to Bondi Junction via New South St, Old South Head Rd, Bunde St, Victoria Rd, Old South Head Rd and Old South Head Rd
17 Rose Bay Ferry Wharf to Bondi Junction via New South Head Rd, Lamrock Av, Old South Head Rd and Victoria Rd
18 Point Piper/Woollahra Council to Bondi Junction via Victoria Rd and Old South Head Rd
19 Double Bay to Bondi Junction via either Bellevue Rd or Manning Rd

PCAL NSW Bike Plan
Sub Regional Bike Planning Study: Bondi Junction

Figure 2.1
Principal bicycle routes in relation to topography
Bondi Junction is a focal point for road transport in Sydney’s East and is surrounded by heavily trafficked major roads. In 1970 the commercial centre fronting Oxford Street was bypassed by a six lane (80km/h) elevated expressway structure (Syd Einfield Drive) linking Oxford Street at Ocean Street, Woollahra to the major junction of Old South Head Road and Bondi Road.

Major roads in the area experience peak traffic flows during the weekend as high as during the week due to the popularity of the Westfield Centre and the nearby beaches.

Figure 2.3 illustrates the road network and bicycle route network surrounding Bondi Junction. The roads with motor vehicle traffic are shown in red with a thicker line representing more traffic, while the cycle routes are shown in green. The key off-street car park entrances/exits are shown with black arrows.

Figure 2.3: Bondi Junction Road and Cycle Network

2.3 Trip Attractors and Generators

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

The trip attractors and generators within the study area are shown in Figure 2.4, with the details included as follows.

Commercial and Retail:
- Westfield Bondi Junction
- Local Shopping Centres
- Convenience Stores
- East Gate Shopping Centre, and
- Oxford Street Mall.
Railway Stations and Interchanges:
- Bondi Junction Railway Station, and
- Bondi Junction Bus Interchange.

Hospital/ Medical:
- St Vincent’s Hospital
- War Memorial Hospital, and
- Bondi Junction private Hospital.

Education:
- St Catherines
- Holy Cross Primary School
- Waverley Primary
- Reddam House
- Waverley College
- Mariah College, and
- Bondi High.

Recreation:
- Centennial Park
- Moore Park
- Waverley Park
- Bondi Beach
- Bronte Park
- Bondi Junction and Waverley RSL
- Bondi to Bronte Walk, and
- Local libraries, swimming pools and parks.
3. Consultation

3.1 Pre-Sub-Regional Studies Workshop

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

- Important external Bondi Junction consultation stakeholders
- The opportunities and constraints of the existing local bike plans, and
- Ideas for encouraging further cycling uptake in Bondi Junction.

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

3.1.1 Composition of Consultative Groups

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

- Councils (Randwick/ Woollahra/ Waverley/ City of Sydney)
- Centennial Parklands
- Transport:
  - Sydney Buses
  - State Transit
  - City Rail
  - Ministry of Transport
- Chamber of Commerce
- Westfield
- Other Shopping Centres:
  - Eastgate
  - Royal Randwick
- University of New South Wales (Randwick Lifestyle Centre), and
- Sydney University.

3.1.2 Local Bike Planning

A discussion was held in relation to the local bike plans relevant to Bondi Junction. A summary of the discussion is as follows.

- 1999 Waverley Bike Plan
  - Conflict with buses and bikes, and
- 1999 Randwick Bike Plan
  - Reviewed in 2008
  - There is a need to align adjoining bike plans.
3.1.3 Local Encouragement Ideas

The focus groups were asked to brainstorm key local attributes and bike encouragement ideas using their local knowledge. A summary of the outcomes is included as follows:

Key Points

- There is a need for analysis of trip purpose
- Conflict between pedestrians and cyclists
- Education
- Impact on schools
- Demographic of the area
- Is focusing on centres appropriate
- Recreational riding, and
- Conflict with public transport.

Encouragement Ideas

- Need to know who to target
- Need to illustrate safe cycling routes, and
- Bike parking.

3.2 GTA Consultants Bondi Junction Sub-Regional Study Consultation

3.2.1 Bondi Junction Stakeholder Workshop 1

On 19th February 2009 GTA Consultants convened a further workshop to formally introduce the study and to begin collecting ideas and information at a local level for encouraging greater cycling uptake in Bondi Junction (refer Appendix A).

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

- PCAL
- RTA
- Department of Environment and Climate Change NSW
- Waverley Council
- Woollahra Council
- Randwick Council
- City of Sydney
- Ministry of Transport
- NSW Police
- Sydney Buses
- Centennial Parklands
- BIKEast (bicycle user group)
- Department of Planning
- University of NSW, and
- Westfield.
The workshop was mostly conducted as a group brainstorming and discussion session covering the areas of:

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

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

**Network Development**
- Town Centre gateway treatments
- Possible shared zone treatments
- Bike penetration of Bondi Junction – access difficult
- Possible 30km/h local speed limits noting self-enforcement issues
- Contra-flow treatments of one-way streets, and
- Signage rather than infrastructure first.

**Encouragement Initiatives**
- Risk Management, insurance (organised rides)
- Addressing safety concerns (public perceptions)
- Responsibilities brochure (opportunities for incorporating cycling awareness into RTA licensing, drivers test for older drivers, and licence renewals)
- Bike trip planning facilities
- Visibility, shopping trips, and
- Offering incentives to cycle.

**Transferable Ideas**
- Incorporating cycling into standard info methods (e.g. 131500 first, local Council second, contact details)
- Cyclist help line, informed by BUGs
- Inter-agency information and communication
- “Report-a-hazard” style scheme for electronic recording of deficiencies
- Information on school facilities and education etc
- Addressing linked trips
- Standardised training, bike buddy systems
- Influencing the “influencers” (e.g. Westfield)
- Delivery services for retail shopping (e.g. Darebin, Vic), and
- Coordination of interests a local level.

**Improvements to Guidelines**
- Including bike volumes in speed zoning warrants
- Addressing and facilitating cycling on footpaths
- Focal point mapping and development to inform directional signage, and
- Cycling in bus lanes.

The thoughts and ideas identified during the above workshops were investigated and developed further by the project team as described in Sections 8, 9 and 10 of this report.
3.2.2 Bondi Junction Stakeholder Workshop 2

On 1st May 2009 a second workshop was convened by GTA Consultants at the Waverley Council offices to discuss the preliminary findings of the Bondi Junction Sub-Regional Bike Planning Study (refer Appendix A).

This included a presentation of the initiatives developed in the following areas:

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

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

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

4.1 Existing Bicycle Network

Waverley and Woollahra Councils have been progressively implementing their Bike Plan studies adopted in 1999 and 2000 respectively. A number of routes have been marked, many on lower traffic volume streets using linemarking or awareness raising bicycle pavement symbols. Some examples of existing facilities in close proximity to Bondi Junction can be seen in Figures 4.1 to 4.4.

Figure 4.5 shows the planned bicycle routes in the vicinity of the Bondi Junction area, based on the current Council bike plans. While parts of these routes currently exist in some form, many implemented routes are not to a suitable standard for encouraging significant numbers of new cyclists.

Table 4.1 provides an analysis of principal cycling routes centred on Bondi Junction, based on the route numbers previously identified in Figure 2.4. All cycle routes need directional signage to enable greater use.

Figure 4.1: Bicycle Parking in Oxford Street Mall

Figure 4.2: Grafton Street Mixed Traffic Treatment
Figure 4.3: Syd Einfeld Drive Shared Bicycle and Pedestrian Bridge

Figure 4.4: Cyclist Squeeze Points at Traffic and Pedestrian Facilities
Figure 4.5
Council planned bicycle networks as of 2008

Key to routes
No Route between Bondi Junction and:
1 Sydney Harbour Bridge to Bondi Junction via Cahill Expressway
2 Pyrmont Bridge to Bondi Junction via King St, College St, Oxford St, Barton St, Paddington St, Victoria St, Wattle St, Nelson St and Oxford St
3 Sydney CBD south to Bondi Junction via Campbell St, Fiddlers St and Moore Park Rd
4 Randwick & The Spot to Bondi Junction via
5 Randwick to Bondi Junction via
6 Victoria Park to Bondi Junction via South Dowling St, Dunny Av, Anzac Pde, Robertson Rd, Continental Pk roads and Oxford St
7 Rosebery to Bondi Junction via Leichhardt St, Trajan Av, Donations Av, Darling Rd, Queens Pk path, River St, Bronte Rd and Bondi Rd
8 Kensington to UNSW (west side) to Bondi Junction via Doncaster Av, Alison Rd, Darling Rd, Darling Rd, Queens Pk path, River St, Bronte Rd and Bondi Rd
9 Randwick to Bondi Junction via Harry St, Church St, Darling Rd, Queens Pk path, River St, Bronte Rd and Bondi Rd
10 Randwick & The Spot to Bondi Junction via Prime St, Anzac St, Queens Pk path, Queens Pk Rd, River St, Bronte Rd and Bondi Rd
11 Cooper Basin (western slope) via Mount St, Form St, Allison St and Oxford Rd
12 Cooper Beach to Bondi Junction via Beach St, Bourke St, Unicorn St, Bondi Rd, Yeronga St, Waverley Pk path and Waverley St
13 Bemeto Beach to Bondi Junction via Bemeto Rd, Gipps St, Hornsby St, Waverley Pk path and Waverley St
14 Tamarama Beach to Bondi Junction via Dalkihe St, Fletcher St, Bondi Rd and Waverley St
15 Bondi Beach to Bondi Junction via Lorne St, Richard St, Wellington St, Martin Av, Watters St, Ben Aaron St and Old South Head Rd
16 Rose Bay to Bondi Junction via Newcastle St, Old South Head Rd, Bexley St, Victoria Rd, Old South Head Rd and Oxford St
17 Rose Bay Ferry Wharf to Bondi Junction via Rose Bay Rd, Bathurst St, Brunner Rd and Victoria Rd
18 Peats Pipe/Whitaker Council to Bondi Junction via Victoria Rd and Old South Head Rd
19 Double Bay to Bondi Junction via either Bellerose Rd or Manning Rd

Map legend
Planned or existing cycle routes
Regional routes
Local bicycle routes
Schools, colleges and universities
Inner, outer and employment centres
Business centres
Parks and open spaces
Freeway and major roads
Sub-regional and industrial

PCAL NSW Bike Plan
Sub Regional Bike Planning Study: Bondi Junction
## Existing Cycling Infrastructure and Programs

### Table 4.1: Access to and from Bondi Junction Regional Centre by bicycle

<table>
<thead>
<tr>
<th>No</th>
<th>Route Description</th>
<th>Facilities</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Sydney Harbour Bridge via Cahill Expressway path, Macquarie St, Domain paths, Bourke St, William St, New South Head Rd, Edgecliff Rd, Grosvenor St.</td>
<td>Few dedicated cycle facilities.</td>
<td>Some 'missing link' projects will greatly improve this route: Harrington St connection to Cahill Path; Macquarie St off-road; Bourke St separated cycleway; cycle lanes on William St; Off-road path along New South Head Rd; remarking cycle lanes on Edgecliff Rd. Route requires effective directional signage.</td>
</tr>
<tr>
<td>2</td>
<td>Pyrmont Bridge via King St, College St, Oxford St, Burton St, Macdonald St, Glenmore Rd, Broughton St, Paddington St, Hall's La, Victoria Av, John St, Ocean St, Wallis St, Nelson St, Oxford St.</td>
<td>Mostly back street route. Party direction signed through Paddington.</td>
<td>Inbound alternative to this route via Oxford St morning peak period bus lanes is also available outbound during the afternoon peak. Completion of King St cycleway to Macquarie St is essential as a critical cross city link. Route requires effective directional signage.</td>
</tr>
<tr>
<td>3</td>
<td>Sydney CBD South via Campbell St, Flinders St, Moore Park Rd, Oxford St.</td>
<td>Wide bus lanes on Oxford St, Shoulder lanes in top part of Campbell St and Moore Park Road, no other facilities.</td>
<td>Critical missing links needing quality cycle facilities are: Flinders St (particularly the intersection with Moore Pk Rd and Anzac Pde); Oxford St between Moore Pk Rd and Newland St. Route requires effective directional signage.</td>
</tr>
<tr>
<td>4</td>
<td>Redfern via George St, Prince Alfred Pk paths, Devonshire St, Bourke St, Parkham St, Moore Park paths, Moore Park Rd, Oxford St.</td>
<td>Mostly off-road paths and residential streets with some cycle facilities existing.</td>
<td>See recommendation for Oxford Street in Route 3. Route requires effective directional signage.</td>
</tr>
<tr>
<td>5</td>
<td>Redfern via Redfern St, Telopea St, Thurlow St, Moore Pk paths, Centennial Pk roads, Oxford St.</td>
<td>Major connection to Inner West via rail line. Planned CoScycleways along part of route.</td>
<td>See recommendation for Oxford Street in Route 3. Route requires effective directional signage.</td>
</tr>
<tr>
<td>6</td>
<td>Victoria Park via South Dowling St, Dacey Av, Anzac Pde, Robertson Rd, Centennial Pk roads, Oxford St.</td>
<td>Major north-south route connecting to Sydney Airport and Alexandra Canal. Few existing facilities.</td>
<td>Planned facilities include shared paths along St Dowling, Dacey Av, and Anzac Pde. Route requires effective directional signage.</td>
</tr>
<tr>
<td>7</td>
<td>Rosebery via Lenthall St, Todman Av, Doncaster Av, Alison Rd, Darley Rd, Queens Pk path, Queens Pk Rd, Bourke St, Brisbane St, Bronte Rd.</td>
<td>Some existing on-road shoulder lane marked streets and off-road paths.</td>
<td>Existing off-road paths require improved connections to on-road routes. Route requires effective directional signage.</td>
</tr>
<tr>
<td>8</td>
<td>Kensington/UNSW (west side) via Doncaster Av, Alison Rd, Darley Rd, Queens Pk path, Queens Pk Rd, Bourke St, Brisbane St, Bronte Rd.</td>
<td>Some existing on-road shoulder lane marked streets and off-road paths.</td>
<td>Existing off-road paths require improved connections to on-road routes. Route requires effective directional signage.</td>
</tr>
<tr>
<td>9</td>
<td>Randwick UNSW (east side) via Botany St, Church St, Dangar St, Darley Rd, Queens Pk path, Queens Pk Rd, Bourke St, Brisbane St, Bronte Rd.</td>
<td>On-road sections lack cycle facilities.</td>
<td>Existing off-road paths require improved connections to on-road routes. Route requires effective directional signage.</td>
</tr>
<tr>
<td>10</td>
<td>Randwick &amp; The Spot via Perouse Rd, Avoca St, Queens Pk path, Queens Pk Rd, Bourke St, Brisbane St, Bronte Rd.</td>
<td>On-road sections lack cycle facilities.</td>
<td>Existing off-road paths require improved connections to on-road routes. Route requires effective directional signage.</td>
</tr>
<tr>
<td>11</td>
<td>Coogee Basin (western slope) via Mount St, Fem St, Alison St, Bronte Rd.</td>
<td>On-road route (mostly low traffic volume) lacking cycle facilities.</td>
<td>On-road route sections require additional linemarking and intersection improvements. Route requires effective directional signage.</td>
</tr>
</tbody>
</table>
## Existing Cycling Infrastructure and Programs

<table>
<thead>
<tr>
<th>No</th>
<th>Route Description</th>
<th>Facilities</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>12</td>
<td>Coogee Beach via Beach St, Battery St, Flood St, Bumie St, Winchester Rd, Boundary St, Brandon St, Knox St, Leichhardt St, Bronte Rd, Henrietta St, Waverley Pk path, Waverley St.</td>
<td>On-road route (mostly low traffic volumes) lacking cycle facilities.</td>
<td>On-road route sections require additional linemarking and intersection improvements. Route requires effective directional signage.</td>
</tr>
<tr>
<td>13</td>
<td>Bronte Beach via Bronte Rd, Gipps St, Henrietta St, Waverley Pk path, Waverley St.</td>
<td>On-road route (mostly low traffic volumes) lacking cycle facilities.</td>
<td>On-road route sections require additional linemarking and intersection improvements. Route requires effective directional signage.</td>
</tr>
<tr>
<td>14</td>
<td>Tamarama Beach via Dellview St, Fletcher St, Bondi Rd, Waverley St.</td>
<td>On-road route (mostly low traffic volumes) lacking cycle facilities.</td>
<td>On-road route sections require additional linemarking and intersection improvements. Route requires effective directional signage.</td>
</tr>
<tr>
<td>15</td>
<td>Bondi Beach via Campbell Pde, Lamrock Av, Rickard St, Wellington St, Martins Av, Watkins St, Bon Accord St, Old South Head Rd, Oxford St.</td>
<td>Route recently signposted and linemarked. Most signs have been taken down or damaged.</td>
<td>Route requires detailed directional signage.</td>
</tr>
<tr>
<td>16</td>
<td>Rose Bay via Newcastle St, Old South Head Rd, Biriga St, Victoria Rd, Old South Head Rd, Oxford St.</td>
<td>Some existing on-road shoulder lane marked streets and off-road paths.</td>
<td>Existing off-road paths require improved connections to on-road routes. New off-road path required along Old South Head Rd between Newcastle and Biriga. Route requires effective directional signage.</td>
</tr>
<tr>
<td>17</td>
<td>Rose Bay Ferry Wharf via New South Head Rd, O’Sullivan Rd, Latimer Rd, Bundarra Rd, Victoria Rd, Old South Head Rd, Oxford St.</td>
<td>On-road route (mostly low traffic volumes) lacking cycle facilities.</td>
<td>On-road route sections require additional linemarking and intersection improvements. Route requires effective directional signage.</td>
</tr>
<tr>
<td>18</td>
<td>Point Piper/Woolawhia Council via Victoria Rd, Old South Head Rd, Oxford St.</td>
<td>Some existing on-road shoulder lane marked streets and streets lacking cycle facilities.</td>
<td>On-road route sections require additional linemarking and intersection improvements. Route requires effective directional signage.</td>
</tr>
<tr>
<td>19</td>
<td>Double Bay via either Bellevue Rd or Manning Rd.</td>
<td>Some existing on-road shoulder lane marked streets and streets lacking cycle facilities.</td>
<td>On-road route sections require additional linemarking and intersection improvements. Route requires effective directional signage.</td>
</tr>
</tbody>
</table>
4.2 Cycling Related Programs

The Waverley Bike Plan (1999) and Woollahra Bike Plan (2000) do not address education and awareness programs however, during the implementation of the plan both Councils have initiated a number of useful programs in this area, including:

- Cycling in Waverley/Woollahra map (Figure 4.6) which shows recommended cycling routes (regardless of the existence of cycling infrastructure). This map also includes five suggested bike rides in the area to encourage residents to cycle.
- Support for National Ride to Work Day. In the past three years Waverley Council has supported this event with a free breakfast and an information stall in the Oxford Street Mall in Bondi Junction, and
- Support for BIKEast organised events including Seniors Week rides and an annual bicycle planning forum.

The Waverley Transport Policy (2001) sets targets for reducing the net areas dedicated to the movement and associated activities of private vehicle within Waverley. The Strategy includes supporting and encouraging cycling in Waverley through the following actions:

- Actively promote cycling through the layout and design of facilities and the establishment of an attractive and amenable cycling environment.
- Provide secure parking and ‘end-of-trip’ facilities for cyclists.
- Reduce the road speed limit throughout Waverley to 40 km/h on local roads and 50 km/h elsewhere.
- Integrate and coordinate the planning, design and implementation of bicycle facilities in Waverley with surrounding Local Government Areas and key public transport corridors and nodes.
- Implement any new works carried out in the public domain in such a way that responds to the future needs of cyclists.
- Undertake education, and promotion programmes to compliment and support the provision of bicycle facilities.
- Develop policies, guidelines and assessment measures to ensure that the needs of cyclists are considered when planning and designing elements that make up Waverley’s urban environment, and
- Increase the level of knowledge and skills relating to bicycles within Council to ensure that bicycle requirements are understood and considered at all levels of planning and design.

Waverley and Woollahra have an existing bicycle route map available which includes information about specific recreational/tourist routes, cycling rules and rights as well as contact information.
Figure 4.6: Cycling in Waverley and Woollahra
5. Current Cycling Outcomes

5.1 Introduction

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

- Approximately 65% of car trips are under 5km in length
- Cycling accounts for 1.35% of commuter trips (journey-to-work) in the Waverley LGA compared with 0.95% for the Greater Metropolitan Region
- 45% of Waverley residents travel to work by car, with a further 1.6% travelling to a public transport node by car, and
- The average car ownership is 1.14 vehicles per household, where 21% of households do not own a car (compared with a Sydney average of 14%) and 34% of households own two or more cars.

5.2 Car Ownership

Information associated with car ownership was collated from 2006 Census data for the Waverley, Woollahra and Randwick LGAs. The results are summarised in Table 5.1 and Figure 5.1.

Table 5.1: Car Ownership – 2006 Census Data

<table>
<thead>
<tr>
<th>LGA</th>
<th>No vehicles</th>
<th>1 vehicle</th>
<th>2 vehicles</th>
<th>3 or more vehicles</th>
<th>Not stated</th>
</tr>
</thead>
<tbody>
<tr>
<td>Waverley</td>
<td>21%</td>
<td>45%</td>
<td>24%</td>
<td>6%</td>
<td>5%</td>
</tr>
<tr>
<td>Woollahra</td>
<td>16%</td>
<td>43%</td>
<td>28%</td>
<td>18%</td>
<td>4%</td>
</tr>
<tr>
<td>Randwick</td>
<td>20%</td>
<td>44%</td>
<td>25%</td>
<td>7%</td>
<td>4%</td>
</tr>
<tr>
<td>Average</td>
<td>20%</td>
<td>44%</td>
<td>25%</td>
<td>7%</td>
<td>4%</td>
</tr>
</tbody>
</table>

Figure 5.1: Average Car Ownership - Waverley, Woollahra and Randwick
5.3 Mode Share

5.3.1 Journey to Work

Analysis of 2006 Census data was undertaken to determine the mode split for people travelling to work within the Waverley LGA. This would include trips to all places of employment throughout the LGA, including the centre of Bondi Junction. It was found that 0.69% of people travel to work in Waverley by bicycle, whilst the majority at 43.1% travel to work by car as a driver or passenger. There was also a large number which travelled by public transport, with nearly 10% each by bus and train. This is summarised in Table 5.2.

Table 5.2: Mode Split Journey to Work - Waverley LGA as Place of Employment

<table>
<thead>
<tr>
<th>Mode</th>
<th>Number of Persons</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Car, as driver</td>
<td>7,354</td>
<td>39.36%</td>
</tr>
<tr>
<td>Car, as passenger</td>
<td>699</td>
<td>3.74%</td>
</tr>
<tr>
<td>Bus</td>
<td>1,794</td>
<td>9.60%</td>
</tr>
<tr>
<td>Train</td>
<td>1,703</td>
<td>9.11%</td>
</tr>
<tr>
<td>Bicycle</td>
<td>129</td>
<td>0.69%</td>
</tr>
<tr>
<td>Truck</td>
<td>117</td>
<td>0.63%</td>
</tr>
<tr>
<td>Motorbike/scooter</td>
<td>99</td>
<td>0.53%</td>
</tr>
<tr>
<td>Taxi</td>
<td>66</td>
<td>0.35%</td>
</tr>
<tr>
<td>Ferry</td>
<td>9</td>
<td>0.05%</td>
</tr>
<tr>
<td>Other</td>
<td>83</td>
<td>0.45%</td>
</tr>
<tr>
<td>Walked only</td>
<td>1,632</td>
<td>8.73%</td>
</tr>
<tr>
<td>Two methods</td>
<td>1,066</td>
<td>5.70%</td>
</tr>
<tr>
<td>Three Methods</td>
<td>127</td>
<td>0.68%</td>
</tr>
<tr>
<td>Worked at home</td>
<td>1,459</td>
<td>7.81%</td>
</tr>
<tr>
<td>Did not go to work</td>
<td>2,087</td>
<td>11.17%</td>
</tr>
<tr>
<td>Not stated</td>
<td>262</td>
<td>1.40%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>18,686</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>

5.3.2 Quantum of Car Trips for all Trip Purposes

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

- Car trips less than 5km = 18,812 trips
- Car trips between 5km and 10km = 8,855 trips
- Car trips greater than 10km = 4,121 trips, and
- Total car trips = 31,788 trips.

The above results were used to identify those centres that had a large percentage of car driver trips less than 5km. With a total of 59% of car driver trips to Bondi Junction less than 5km, Bondi Junction was identified as one of the top five centres that have a high potential for modal shift to cycling.
5.4 Bicycle Theft

Recent statistics (PCAL, 2008) indicate that the most popular place for bicycle theft to occur in NSW is from a residential property (based on 2006 data). This is summarised in Figure 5.3.

The level of bicycle theft in Randwick in comparison to the other key centres in the Sydney region is relatively high in terms of overall numbers, where approximately 250 bicycle theft occurrences were reported in 2006. The comparison can be seen in Figure 5.4. However, it is noted that bicycle thefts in Randwick have reduced slightly in total numbers between 2003 and 2007.
Current Cycling Outcomes

Figure 5.3: Theft Proportion by Premises in NSW (2006)

Source: PCAL, 2008

Figure 5.4: Bicycle Theft by LGA in 2006

Source: PCAL, 2008
5.5 Cyclist Handlebar Questionnaire

Cyclist Handlebar Questionnaire - November 08

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

From the data, there were 10 responses from cyclists at Bondi Junction Station/Interchange (note that this is a low number of cyclists surveyed and may not necessarily reflect the views of the wider community). Of these 10 cyclists, 8 were male and 2 were female. The cyclists surveyed were adults over 25 years of age, cycling to the station to then travel by train or bus to work, education or social events. All cyclists surveyed reported riding 3-5 times a week as it was deemed more efficient than car travel. The time taken for cyclists to get to the station/interchange varied from 5 to 30 minutes, with the average being around 10 minutes.

This is consistent with what is regularly referred to as the ideal cycling trip length. Six commuters noted they had daily access to a car yet chose to cycle.

The main reasons listed for cycling to the station included:
- Being the quickest and easiest mode
- Improving health and fitness
- Being environmentally friendly, and
- Saving money.

The main reasons not to ride included:
- Weather conditions
- Having too much to carry to work, and
- Health.

From the data, seven cyclists still use the station/interchange but using a different mode to cycling. These included walking and catching a bus or taxi.

Cyclists were able to provide additional comments relating to their cycling experience to the Bondi Junction Station/Interchange. Many respondents suggested the need for secure bicycle parking, the use of CCTV for security, additional casual bike racks, installation of covered areas to protect from weather conditions as well as expanding parking area and improving pavements. Other suggestions included more lighting for safety and more bicycle lanes for safer travel.

5.6 Bicycle Parking Usage at Railway Stations

The northern part of the Eastern Suburbs is well connected to the Sydney passenger rail system via the Eastern Suburbs Rail Line which terminates at Bondi Junction. Each day State Transit buses carries large numbers of passengers to the bus/rail interchange built above this station.

Though many of these bus services pass through Bondi Junction and continue their journeys into the Sydney CBD, large numbers of bus passengers prefer to break their journeys at the interchange and complete their trips into the City and elsewhere via train due to quicker rail travel times and the higher frequency of rail services operating during the daily peak periods.

A large number of bus passengers travel fairly short distances to Bondi Junction Station. Barriers to increased bicycle travel to the station, particularly from the relatively flat areas of the Bondi
Junction/Waverley/Woollahra plateau are mainly due to the access difficulties and the lack of adequate parking facilities in the station precinct.

The only formal bicycle parking facilities at Bondi Junction Station are six Ministry of Transport cycle lockers located inside the commuter car park under Syd Einfeld Drive (about 50 metres from the station’s Grafton Street entrance). Though there is some demand for this level of parking facility, there greater need is for high volume shorter term storage as evidenced by the large number of informally parked bicycles locked to railings and poles in Grafton, Grosvenor and Oxford Streets within 100 metres of the interchange.

In European countries where cycling to train stations is a popular activity the provision of adequate parking facilities has usually come about as a response to a growing demand. In many instances the transport authorities have barely been able to keep up with demand.

The Australian leader in dual mode cycle parking provision is Perth in West Australia where the Public Transport Authority employs a full time coordinator to manage its cycle and ride program. This program employs a number of push-pull techniques to both stimulate cycle parking demand and to respond to an increase in demand.

Promotional campaigns raise public awareness of cycle and ride options mainly to encourage the use of bicycle parking facilities at stations though some promotion has been undertaken to educate transport the users on carrying bicycles on trains.

The PTAWA provides three levels of bicycle parking facilities at stations: lockers, cages and racks. The bicycle locker installations are being wound down and replaced with more space efficient and popular lockable cages. These are usually located close to station entrances and within the station’s CCTV surveillance zone. Lockable cages offer a higher level of security than racks. Users usually access the cage via their SmartRider public transport smart-card to access the cage. Bicycles are secured to racks inside the cages by user-provided locks.

The Perth system is flexible and is demand driven. When racks or lockers at one locality are underutilised, after a predetermined period, they can be removed and relocated to other stations on the system experiencing increased demand for bicycle parking.

While there is ample evidence that there is substantial number of active residents living within easy cycling distance of Bondi Junction Station and there is evidence of an existing need, there are a number of major physical barriers which discourage easy access to the station and the core business area. These issues are discussed in detail in the Bike Hub proposal outlined in Section 8.4 of this report.

5.7 Barriers to Cycling in Bondi Junction

It is acknowledged that the wider constraints of motorist perceptions, awareness and attitudes to cyclists contribute to the barriers facing cyclists around Bondi Junction. Feeding into this are uncertainties from cyclists who lack experience and confidence riding in mixed traffic conditions and are fearful of motorist behaviour and attitudes to cyclists.

Based on user experience, BIKEast have compiled a summary of barriers to cycling in Bondi Junction along with some comments and recommendations for improvement. According to BIKEast, the two major outstanding constraints facing cyclists in Bondi Junction are:

- Bike route network discontinuities, and
- Poor riding environments.

Table 5.3 outlines the route network constraints and recommendations prepared by BIKEast.
<table>
<thead>
<tr>
<th>Item</th>
<th>Issues</th>
<th>Comments</th>
<th>Recommendations</th>
<th>Photos</th>
</tr>
</thead>
</table>
| 1    | Poor gateways to Bondi Junction | The main gateways are:  
- Waverley Street from east;  
- Bronte Road from south-east;  
- Brisbane Street from south & south west;  
- Oxford Street from west;  
- Grosvenor Street from north; and  
- Old South Head Road from north-east  
Access along Oxford Street between Adelaide and Bronte Streets and from Ebly Street to Spring Street along Bronte Road, need special consideration. | Short-term action:  
- Improve pavements; provide painted shoulder lanes up-hill and mixed traffic down-hill (Grosvenor is an example); or shared path (Waverley Street up-hill to Botany and thence on-road) and basic signage and street-side bike parking.  
Long-term action:  
- Undertake a redesign of these gateways; providing new lighting, landscaping and higher standard of access and facilities for pedestrians and cyclists; provide paired bicycle road (based on CoS scheme for 12.8 m roadways). | ![Image 1] |
| 2    |  
- Riding through Bondi Junction Mall  
- Provide tenable safe routes around the Bondi Junction Mall |  
- Road rules do not permit riding through Malls. BIKEast strongly opposes a ban on riding through the Bondi Junction Mall until safe and usable alternatives are available.  
- Spring Street is one-way west for its eastern part. Grafton Street and Ebly Street do not provide comfortable grades and relatively high traffic, but could be used more if redesigned. | Short-term action:  
- Provide painted contra-flow lane, as part of a temporary paired cycle road along all of Spring Street; sign Mall to permit cyclists by exception, until long-term solutions are in place  
Long-term action:  
- Undertake an urban streetscape design for the eastern half of Spring Street; providing new lighting, landscaping and higher standard of facility for pedestrians and cyclists; Consider a 10 km/h Shared zone and angle parking to slow traffic and offset loss of parking along Bronte Road. | ![Image 2] |
<table>
<thead>
<tr>
<th>Item</th>
<th>Issues</th>
<th>Comments</th>
<th>Recommendations</th>
<th>Photos</th>
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</table>
| 3    | Grafton Street is not safe for cyclists as implemented | Since the establishment of Westfield, this bike route needs re-design. Mixed traffic use east of Newland St is totally unacceptable, although footpath is underutilised. Mixed traffic use up-hill from Newlands is not perceptively safe. | **Short-term action:**  
- Provide two-way shared path use of northern footpath east of Newland St and up and down Grafton under the Sid Einfeld Drive to meet existing marking.  
- Provide shoulder lane up Grafton west of Newland Street; mixed traffic use downhill as presently, with transition to shared path 15m west of intersection  
**Longer-term:**  
- Provide separated bicycle road | ![Photo of Grafton Street] |
| 4    | Traffic lights for bikes |  
- Access across many traffic light controlled crossing is either unsafe or extremely inconvenient, or both.  
- Opportunities exist under existing signal timing, to provide for cyclists | **Short to Medium-term:**  
- Provide for bike crossing at face of Sid Einfeld Drive at start of Old South Head Road, for east-bound access to shared path  
**Longer-term:**  
- Provide for riding through all lights at approaches to Bondi Junction, including for paired bicycle roads | ![Photo of traffic lights] |
### Current Cycling Outcomes

<table>
<thead>
<tr>
<th>Item</th>
<th>Issues</th>
<th>Comments</th>
<th>Recommendations</th>
<th>Photos</th>
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</thead>
</table>
| 5    | Busway beside Westfield | Bicycle access along Oxford Street is not currently permitted. This is an important access route and shopping and community services destination. | Short-term action:  
- Sign to permit cyclists by exception;  
- provide more bike parking facilities | ![Image](image1.jpg) |
| 6    | Transport Interchange - unsafe and inadequate pedestrian and cyclist access and amenity | There is no clear direct pedestrian linkage to either the Westfield Centre or the Mall Bike parking facilities are woeful in and around the Interchange. | Short-term:  
- Replace and relocate the current bike lockers to a visible closer place to a Grafton Street crossing, with more short-term bike parking, some under cover.  
Longer-term:  
- As part of Council’s proposed future upgrade of the Mall and creation of an urban open space, between the Mall & Spring Street, fully re-design access to the Interchange and redevelop the area between the laneway and the Interchange. Provide a bicycle garage and maintenance facility in any major redevelopment | ![Image](image2.jpg) |
| 7    |  
- Centennial Park – Access through gates and along its boundary.  
- Proper connection to Moore Park Road and Oxford Street west of Centennial Park is important for commuting and park access. | Access into and through the park is constrained by the nature of the heritage gates and narrowness at key locations adjacent to Oxford Street. Careful planning between the three Councils, the RTA and Sydney Buses, will enable these to be overcome. Sufficient road space is available. | Provide separated on and part-off road bicycle facilities along Centennial Park’s northern boundary:  
- two-way along the southern boundary, within Randwick LGA;  
- one-way east along the northern edge of Oxford Street within Woollahra LGA;  
- with Centennial Park, provide better access and egress through the gates for cyclists. | ![Image](image3.jpg) |
### Current Cycling Outcomes

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<tr>
<th>Item</th>
<th>Issues</th>
<th>Comments</th>
<th>Recommendations</th>
<th>Photos</th>
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</thead>
</table>
| 8    | Public Liability Risks:  
- Collaboration difficulties arise for Local Councils and Community Groups with any cycling event, including BNSW BIKEast led rides. | Most bike riders are uninsured (with the exception of BNSW members). This is in contrast with some European countries, which require this with every bike sold, and place an obligation on owners to renew every year. Council's Risk Officers find risk promoting rides as unacceptable. If not addressed, this will inhibit promotion and future participation. | This issue needs inter-governmental consideration and must be resolved as common law action is an unacceptable process and with unacceptable monetary risks for all concerned/affected. Establish a 'global' cover for all bikes and users. | ![Photo of cyclists] |
<p>| 9    | Correlation of land use, urban design and transport plans, strategies, policies and actions does not occur sufficiently. | There is insufficient collaboration and cooperation up and down and across areas of responsibilities in these planning and administrative areas. The so called 'silo' effect applies, which results in overall poor outcomes, particularly in amenity terms. The RTA and DoP worked well together in development of planning guidelines for Walking and Cycling, but there is no follow-up and dovetailed action. | For a complex area such as a centre like Bondi Junction, there should be a higher level coordination mechanisms established and maintained that involves applying responsible local and State land use planner and transport planning expertise, over-sighted by a Bondi Junction Council Committee. | ![Photo of urban planning documents] |
| 10   | Maps - Identification and selection of safe and comfortable ride routes. | Council's publish good bike maps. These need wider promotion and distribution. Alternatives exist, including web based material. This stuff is currently poorly documented and inconsistent, although potentially highly accessible to future younger ride entrants. | Identify more events and opportunities to promote maps and their use. Establish standard(s) for web based mapping and guidelines for identifying safe and useful routes. | ![Photo of maps] |</p>
<table>
<thead>
<tr>
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<th>Issues</th>
<th>Comments</th>
<th>Recommendations</th>
<th>Photos</th>
</tr>
</thead>
</table>
| 11   | Future new and development:  
* Identification of trip generators and attractors  
* Requirement for on-site facilities | Regional and local plans do not require explicit or direct enough provisions. The DoP and RTA relevant guidelines provide adequate models, but these are not being applied. | Update plans to require adequate on-site facilities for bicyclist (showers, lockers, secure parking). | ![Photo](image1.png) |
| 12   | Local Council Bike Plan | Randwick and Woollahra Councils have or are undertaking, their reviews. Waverley Council needs to do likewise ASAP. Waverley’s Plan dates from the 1990s and was adopted in 2000. Presently, the plan is being implemented purely on an opportunistic and non-transparent basis. | • These Bike Plans need to be fully considered and integrated into the Bondi Junction Subregional Plan.  
• Councils need to be consulted and recommendations made where their local plans may or should be improved. Waverley Council update its Bike Plan and identify and include clear strategic actions and priorities for implementation. | ![Photo](image2.png) |
| 13   | Overtaking across double centre lines – particularly along straights | • In 40 and 50 km/h speed zoned areas  
• Traffic Engineers are applying devices and markings to try and gain un-pooled compliance.  
• The double centre line sections of roads now often also used are abused and lead to unsafe situations, even where raised pavement markers are used. | Provide a mid-block flat top raised humps or crossing refuges to slow traffic in appropriate locations and where there are pedestrian crossing desire lines/routes. | ![Photo](image3.png) |
### Current Cycling Outcomes

<table>
<thead>
<tr>
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<th>Issues</th>
<th>Comments</th>
<th>Recommendations</th>
<th>Photos</th>
</tr>
</thead>
</table>
| 14   | Road rule ignorance and confusion:  
- Motorists and bicyclists alike are not familiar with road rules, particularly those important for cyclists.  
- Confusion is caused by the manner in which pedestrian and cyclists are to use shared paths, and the inconsistent way logos are shown on some shared paths. |  
- Road rules need more active promotion. Shared path use requires cyclists and pedestrians to keep left. Current marking, for example, Old South Head Road shows cyclists one-way to ride right (wrongly).  
- The NSW Bicycle Guidelines illustrate appropriate delineation (Fig. 7, page 43) for a one-way off-road bicycle path. | Short to medium-term actions:  
- Provide advice and some checks, even tests, at time of license renewal and increase programs to raise younger people’s awareness, before they ride and drive (at school).  
- Provide a separation line down the middle of the footpath to create the equivalent of a one-way off-road bicycle facility. | ![Not appropriate](image1.png) |
| 15   | Existing pedestrian crossing:  
- Squeeze points for cyclists – inappropriate lane widths  
- The shoulder bicycle lane widths through many pedestrian crossings and flat top humps are often too narrow or for where mixed traffic lane of an undesirable width (being more than 3.3, but less than 4.2m).  
- Photo example is at Bellevue Hill, with mixed traffic lane width of 3.45m, causing a squeeze point. | Modify the position of the centre refuges keep cycle lanes to at least 1.4m wide, or in mixed traffic situations make the traffic lanes 3.2m wide each, to minimise pedestrian crossing distance. | ![Kerb blister and median creates a “squeeze point” for cyclists](image2.png) |
5.8 City and State Wide Cycling Growth Objectives

As noted in Section 5.1, the Waverley LGA currently already has a relatively high cycling mode split in comparison with greater Sydney. Table 5.4 shows that Bondi Junction has a lower number of daily vehicle trips to the centre, when compared to other centres currently being studied in Sydney. However, a larger proportion of these trips are less than 5km in length. These numbers identify a significant target audience from which relatively small mode shift percentages can still translate to a significant number of additional cyclists.

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

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

The above targets suggest that up to 5% of total trips made by bicycle in the next 5-10 years is achievable while up to 10% of total trips might represent a realistic stretch target, given Bondi Junction’s close proximity to the City of Sydney.

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

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

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

There are two websites that provide further detail:

- http://www.cyclingresourcecentre.org.au/?Funding

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

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

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

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

- Sustainable Cities.
RTA

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

- Regional Road Block Grants: The RTA assists Council with the costs for maintaining regional roads. For the maintenance, construction, resurfacing, shoulder widening and upgrades of regional roads, cycling infrastructure can easily be included within this cost.
- Black-spots and “black-areas”: The NSW Black Spot Program is funded by the NSW government and is also part of the Australian Government’s AusLink Black Spot Program. Its objective is to reduce the occurrence and severity of crashes at known locations by installing cost effective treatments. This funding benefits cycling infrastructure by increasing cyclist safety and reducing crash rates at intersections and other known crash locations. Any unsuccessful conforming nominations in the AusLink Black Spot Program will be automatically considered for the NSW Government’s Black Spot Program.
- NSW Bike Week Funding: This program is a government funded initiative that raises the profile of cycling as a healthy, easy, low cost and environmentally friendly transport alternative for driving short trips. RTA funding is only provided for the promotion and advertising component of an event’s budget. Funding is not fixed and will be assessed and valued independently. The RTA encourages both local government and community based organisations to apply for funding if they fulfil criteria.
- Co-Funding Program for bicycle infrastructure: The Government recognises that most cycling takes place on local roads. The development and implementation of local cycling networks is important to increase cycling within communities. The Government provides dollar for dollar funding to local councils which assists improving and developing cycling infrastructure within the Local Government Area, and
- Bicycle User Support: The program supports the use of cycling through research, training and promotion. Funding of bicycle use promotions, bike plan preparation, development and production of cycleway maps, research into bicycle facilities and the implementation of bicycle training facilities can increase the number of cyclists and improve skills and knowledge on bicycle facilities design and implementation.

Department of Planning

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

Department of Environment, Climate Change and Water

Various grants can be awarded for projects addressing climate change, and reducing Australia’s green house gas emissions. Councils can apply for the grants up to $50,000. Cycling infrastructure can be incorporated into projects as a way to reduce green house gas emissions by reducing car dependency and increasing cycling.
DECCW – Environmental Trust
The Environmental Trust is an independent statutory body established by the NSW government to support exceptional environmental projects that do not receive funds from the usual government sources. The Trust is empowered under the Environmental Trust Act 1998, and its main responsibility is to make and supervise the expenditure of grants. The Trust is administered by the Department of Environment and Climate Change.

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

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

Business and Clubs
• Advertising (ped bridges, bus shelters): Revenue from business and clubs in the local area can provide funding for advertising within the LGA. These advertisements could be cycling related by providing cycle maps and information as well as encouragement advertisements
• Clubs NSW – CDSE funding: Clubs that earn over $1 million annually in gaming machine revenue provide funding for community projects and services, and in turn receive dollar-for-dollar gaming tax deductions. In 2008, clubs reported CDSE expenditure of over $58 million across New South Wales. This funding can be used to implement cycling encouragement initiatives like cycling programs, workshops and distributing maps. (www.clubsnsw.com.au/AM/ContentManagerNet/HTMLDisplay.aspx?ContentID=13936&Section=Community_Support ), and
• Developers can also choose to fund local cycling infrastructure in the local area. If a major development is occurring (such as a Shopping Centre), bicycle parking facilities and safe bicycle routes around the centre can be integrated into the plans to increase cycling and encourage cycling for short trips.
Cycling Promotion Fund

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

Past and possible future Australian Government funding programs

Cycle Connect

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

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

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

Healthy and Active Transport (HEAT) Program

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

7.1 Cyclist Demographics

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

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

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

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

Table 7.1: Bicycle user group categories and characteristics

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

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

Effective encouragement of cycling involves the following target areas:

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

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

Table 7.2: Cycling Encouragement Strategic Framework

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

7.3.1 Planning Principles

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

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

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

- Key links to nearby facilities and destinations
- Radial walking and cycling networks
- Bike parking facilities
- Bike parking and storage in conjunction with Transport-Oriented Development
- Bike fleet/second bike arrangements in conjunction with development and employers within a suitable radius
- Bike shops in close proximity, and
- Bicycle catchment mapping should be used to design new release areas and for retrofitting existing areas.
7.3.2 Comprehensive Bike Route Signage

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

Directional and wayfinding signage is a critical element of any transport system. Every transport system needs these signs to help the users find their way around the network and to make full use of the system's infrastructure. We are all so used to the signage systems which are integrated into airports and railway stations along with the ubiquitous big green highway signs, that we often forget how dysfunctional these transport systems would become without their accompanying signage. Though the bicycle has been in use in our cities and towns since the end of the 19th Century, providing an urban system for bicycle travel is only a fairly recent development. This began in Australia with the development of state and local bicycle plans and strategies and was a response to growing community interest and use of bicycles for transport, fitness, recreation and tourism.

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

Why sign networks?

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

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

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

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

Signing and infrastructure provision

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

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

7.3.3 End-of-Trip Facilities

End of trip facilities include:

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

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

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

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

7.4 Education, Awareness and Promotion

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

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

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

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Encouraging Cycling

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

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

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

### 7.5 Planning Principles and Guidelines

#### 7.5.1 Updating Policy and Planning Documents

The RTA, Department of Planning, Councils and the cycling community have recognised that there are opportunities for improvements to the current cycle planning guidelines in the context of best practice and recent NSW experience. Opportunities which have been identified by GTA Consultants during local and regional bicycle planning projects are discussed in more detail in Section 10 of this report.
7.5.2 Policy Development

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

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

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

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

7.6 Project Assessment Framework

In the current political environment, there is increasing pressure on the application of limited funding across a wide range of transport-related projects. Therefore it is important to establish a consistent project assessment framework across all transport projects such that the relative merits of (for example) a small cycling project can be compared to a major highway upgrade project.

One common tool used for road projects is cost-benefit analysis. Such analysis seeks to derive a benefit-cost ratio (BCR) through valuing in current terms:
- Capital project cost
- Maintenance and other ongoing costs
- Vehicle operating cost (VOC) savings
- Time cost savings per vehicle hour
- Accident cost savings, and
- Environmental externalities (costs or benefits).

Such analysis can relatively easily be applied to cycling projects with additional economic parameters include such as health benefits. Such analysis is dependent of the availability of suitable data which can be difficult, particularly for smaller projects. Due to the wide-ranging benefits, quantification can be difficult where these involve other government sectors and indirect links, such as health benefits. The use of cost-benefit analysis is further discussed in Section 10.6.

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

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

Table 7.3: Priority Evaluation Matrix

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

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

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

Table 7.4: Action Evaluation Matrix

<table>
<thead>
<tr>
<th>Priority</th>
<th>Project Feasibility</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>High</td>
</tr>
<tr>
<td>Priority 1</td>
<td>Short Term</td>
</tr>
<tr>
<td>Priority 2</td>
<td>Short Term</td>
</tr>
<tr>
<td>Priority 3</td>
<td>Medium Term</td>
</tr>
</tbody>
</table>
8. Future Development of Cycling Infrastructure

8.1 Overview

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

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

Table 8.1: Overview of Bicycle Facilities and Infrastructure Initiatives

<table>
<thead>
<tr>
<th>Initiative</th>
<th>Potential Benefits</th>
<th>Cost Estimate</th>
<th>Action Time Frame</th>
</tr>
</thead>
<tbody>
<tr>
<td>8. Comprehensive Bike Route Signage</td>
<td>High</td>
<td>Low</td>
<td>Short Term</td>
</tr>
<tr>
<td>9. Improving Cycle Access to the Bondi Junction CBD</td>
<td>High</td>
<td>High</td>
<td>Medium Term</td>
</tr>
<tr>
<td>10. Bondi Junction Cycle Hub</td>
<td>High</td>
<td>Medium</td>
<td>Short Term</td>
</tr>
<tr>
<td>11. Contra-Flow Bike Lanes</td>
<td>Medium</td>
<td>Low</td>
<td>Short Term</td>
</tr>
</tbody>
</table>

Note: Items 1-4 and Items 6-8 are documented in a separate working paper but are not directly relevant to the Bondi Junction Subregional Study.

8.2 i5 - Comprehensive Bike Route Signage

8.2.1 Initiative Description - Key Steps

Selecting destinations

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

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

Route assessment

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

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

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

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

8.2.2 Local Implementation and Partnerships

BIKEast in conjunction with Council officers should determine the routes to be signposted and the local destinations to be used in conjunction with the regional destinations. Some existing signage is currently available; an example of which is shown in Figure 8.1. Such existing signage should be integrated or replaced as appropriate in developing the signage strategy.

8.2.3 Encouragement Value

- **Target audience:** The wider community – visual recognition of destinations that may be reached by bike, reassurance of correct route so that people do not get lost on unfamiliar routes

- **Community benefits:** A viable transport alternative in the form of clear directions along safe cycleway facilities that cater for all ages and get people to places they want to go, and

- **Success factors:**
  - Need the Councillors from all four Councils to be on board and push the relevance of bike route planning to their Council officers and the community
  - Council officers across all disciplines need to be aware of incorporating the respective local Bike Plan goals and objectives into all Council processes
  - Input from BUGs and potential users in determining the focal points to be signposted.

*Figure 8.1: Existing Bicycle Route Signage at the Syd Einfeld Drive Bridge*
8.3 i9 - Improving Cycle Access to the Bondi Junction CBD

8.3.1 Initiative Description

A major difficulty for cyclists in accessing the Bondi Junction commercial, transport and retail centre is safely and comfortable negotiating the often heavily trafficked roads which surround the centre. Figure 8.2 shows the Bondi Junction CBD. Heavily trafficked roads are shown in red with identified cycle access routes overlaid in green.

Table 8.1 details the bicycle access issues and list remedial actions for each of the numbered locations shown on the map.

Figure 8.2: Bicycle Access Issue Locations
8.3.3 Table 8.2: Barriers to Bondi Junction Cycle Access and Remedial Recommendations

<table>
<thead>
<tr>
<th>Item</th>
<th>Type</th>
<th>Description</th>
<th>Issue/Barrier</th>
<th>Recommendations</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Gateway W</td>
<td>Oxford Street between Moore Park Road and York Road</td>
<td>Six lane road with no cycling provision. Major city commuter route via Oxford Street bus lanes.</td>
<td>Install two-way off-road path on southern side of Oxford Street between Moore Park Road and York Road. 2-way off road path also on northern side of Oxford Street to provide local connections and connections to Oxford and Queen Streets (Paddington) and Walls Street (Bondi Junction).</td>
</tr>
<tr>
<td>2</td>
<td>Gateway W</td>
<td>Oxford Street between York Road and Newland Street</td>
<td>Two lane road with on-street parking. No cycling provision.</td>
<td>Install two-way separated cycleway linking Oxford Street Mall and Centennial Park. York Road intersection redesigned to accommodate changes.</td>
</tr>
<tr>
<td>3</td>
<td>Zone</td>
<td>Oxford Street Mall</td>
<td>Shared space. Major peak cyclist flows during lowest level of pedestrian traffic.</td>
<td>Monitoring of cyclist and pedestrian behaviour and interaction. Implement direct engagement with users for behavioural improvement measures if cyclist numbers increase during pedestrian peak periods.</td>
</tr>
<tr>
<td>4</td>
<td>Gateway S</td>
<td>Brisbane Street between Bronte Road and Birrell Street (continuing via Bourke Street to Queens Park and Randwick)</td>
<td>Low traffic streets. Birrell Street connection to Bourke Street difficult to negotiate.</td>
<td>Install cycle intersection improvements in Birrell between Brisbane and Bourke Streets to assist cyclist turning movements. Cycle lanterns installed at Brisbane &amp; Bourke intersection.</td>
</tr>
<tr>
<td>5</td>
<td>Gateway E</td>
<td>Oxford Street between Grosvenor Street and Hollywood Avenue/Adelaide Street</td>
<td>Bus lanes</td>
<td>Install prominent signage positively sanctioning legal cycle use of bus lanes. Improve pedestrian crossing at Westfield by installing high intensity lighting on crossing area.</td>
</tr>
<tr>
<td>6</td>
<td>Gateway S</td>
<td>Bronte Road between Albion Street and Oxford Street</td>
<td>Two lane road with on-street parking.</td>
<td>Intermediate: Install parking advisory lines (L5 line 2.0m from kerb) and bicycle logos. Long term: Install two-way separated cycleway between Carrington Road and Ebley Street, mixed traffic through Waverley Shops and south of Ebley Street.</td>
</tr>
<tr>
<td>7</td>
<td>Gateway E</td>
<td>Waverley Street between Waverley Park/Bondi Road and Oxford Street</td>
<td>Two lane road with on-street parking.</td>
<td>Install two-way separated cycleway linking Waverley Park shared path/Paul Street route with Oxford Street via Waverley Street Mall.</td>
</tr>
<tr>
<td>8</td>
<td>Gateway E</td>
<td>Oxford Street between Bondi Road and Hollywood Avenue/Adelaide Street</td>
<td>Heavily trafficked road with on-street parking. No cycling provision.</td>
<td>Install two-way separated cycleway linking B &amp; Oxford Street Mall to shared path along southern edge of Old South Head Road. Install cycle crossing lamps at Bondi Road intersection.</td>
</tr>
</tbody>
</table>

8.3.2 Local Implementation and Partnerships

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

8.3.3 Encouragement Value

- **Target audience:** Existing and new cyclists – improving the accessibility of Bondi Junction to less familiar and less confident cyclists. Motorist – sending a clear message that active travel will gradually overtake the private motor vehicle in terms of access priority to Bondi Junction
- **Community benefits:** Improved amenity and community interaction within Bondi Junction. Improved cycle access and competitive travel times, self-promoting cycling as a viable transport alternative, and
8.4 Bondi Junction Cycle Hub – The Green Travel Centre Concept

8.4.1 Initiative Description

To positively encourage residents of the surrounding areas (most who are not currently well-served by existing bus capacity) it is proposed to establish a major end of trip centre in the centre of the Bondi Junction business and commercial centre. The Bondi Junction Cycle Hub would offer primarily bicycle parking facilities. Other services could be progressively developed in line with community response and operator needs. The proposal is modelled on the Cycle Centre concept now widespread in the USA and Europe. A similar centre has recently opened in Brisbane CBD.

The Bondi Junction Cycle Hub could be initially established in the commuter car park under Syd Einfeld Drive opposite the Grafton Street entrance to Bondi Junction Station and a short walk from the Westfield Centre, Oxford Street Mall and other commercial and retail businesses. Alternatively the centre could be initially established with council support in one of the large number of vacant retail premises in the Bondi Junction CBD.

The centre would primarily cater for commuters travelling from within a 5km radius. For residents of the Bondi Junction plateau and surrounds journeys will be short and will offer advantages for those who normally attempt to use bus services full to capacity by the time they reach their stop. Shower and change facilities for longer distance trips would be added as the centre was developed.

8.4.2 Local Implementation and Partnerships

Bondi Junction Cycle Hub – start-up mode

The aim of this proposal is to start the centre and build services and facilities in response to demand. Active marketing of the proposal to the surrounding community is essential. Initial operating space would need to accommodate the following:

- Multiple banks of high volume bicycle racks suitable for self locking
- Brightly painted (green colour preferred) and lit area to provide a welcoming and cheerful presentation to users (see Figure 8.3 example)
- Staffing by local volunteers (expenses provided), and
- Supported by a local promotional campaign.
Bondi Junction Cycle Hub – operational mode

Once underway the aim of the centre is to service existing users and attract more by adding to the services offered such as:

- Coffee cart
- Lock-up cages offering a higher level of security (access via swipe card)
- Modular showers/change rooms for longer trips to centre
- Bicycle repair shop, and
- Bicycle hire shop.

One example of this type of facility being implemented in Sydney is the Whistler Street Bicycle Parking Station (Cycle Central, see Figure 8.4). The bicycle parking station, set up and administered by Manly Council, has the capacity to store 72 bicycles in an area the size of five car parking spaces. Users are charged a one-off access card fee of $50 per bicycle parking space that enables easy access into the facility.
Another example at a railway station in Perth is shown in Figure 8.5.

Figure 8.5: Class 2 Bicycle Facility Example – High Security bike cage, Perth

Photos: Jim Kyner, PTA WA

An example of the use of vacant shop-fronts is shown in Figure 8.6.

Figure 8.6: Council operated Cycle Station using a vacant shop front in the main street if the town Apeldoorn, The Netherlands
8.4.3 Encouragement Value

- **Target audience:** Existing and potential new cyclists travelling to Bondi Junction including commuters, school and university students, retail, community service and business customers
- **Community benefits:**
  - Safe place to store bicycles
  - Less demand for car parking around railway station and shops
  - Less vehicles on roads accessing Bondi Junction, and
- **Success factors:** Dedication of car parking spaces to be used for bike parking from RTA and Council (Cycle Hub), suitable subsidised commercial arrangements for the use of retail shop-fronts, support from the Bondi Chamber of Commerce and local businesses.

8.5 i11 - Contra-Flow Bike Lanes on One-Way Streets

8.5.1 Initiative Description

One-way streets can often result in journeys by bicycle becoming longer and more hazardous, with more junctions to negotiate. One effective means of addressing this situation may be to introduce arrangements that allow cyclists to travel in both directions in a one-way street. Where traffic speeds and flows are relatively low and the street layout conducive, contraflow cycling may be introduced safely with less physical infrastructure than in other circumstances.

8.5.2 Local Implementation and Partnerships

Utilising routes such as Spring Street can provide a relatively flat route to and from the Bondi Junction town centre through a dedicated bike facility. Such a treatment could be undertaken as part of an overall streetscaping upgrade or through the use of relative cheap separation techniques currently being trialled by the City of Sydney.

8.5.3 Encouragement Value

- **Target audience:** Existing and potential new cyclists who would be encouraged to cycle more frequently with additional bike route infrastructure
- **Community benefits:** Contra-flow bike lanes give cyclists a competitive advantage in providing greater accessibility than available by car. Additional cyclists can improve the amenity of existing car and service vehicle-dominated streets, and
- **Success factors:** Policy support from Waverley Councillors and senior technical staff. Understanding and support from local businesses and residents.
9. Education, Awareness and Promotion

9.1 Overview

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

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

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

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

9.2 e4 - Bike Route Maps/ Brochures

9.2.1 Initiative Description

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

- Safe cycling routes on lower traffic volume roads for less confident riders are as well as more direct routes for experienced riders. Such routes may or may not have marked bicycle route facilities.
9.2.2 Local Implementation and Partnerships

Already a good map exists for the Waverley / Woollahra area. This map needs to be complemented by a map for the Randwick LGA and the UNSW catchment. The bike route maps and brochures should be prepared by the local Councils in conjunction with BIKEast to maximise local route knowledge. The map could be sponsored by local bike shops and businesses in return for advertising rights.

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

9.2.3 Encouragement Value

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

9.3 e5 - Marketing New Bike Facilities

9.3.1 Initiative Description

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

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

9.3.2 Local Implementation and Partnerships

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

• Local businesses (such as a butcher, bakery or cafe) in return for advertising
• Local newspapers such as the Bondi View, Spectator and Wentworth Courier
• Local clubs, schools, and societies for inclusion in newsletters
• Local bicycle user groups, and
• Radio (such as Bondi FM) and television stations.

9.3.3 Encouragement Value

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

9.4 e6 - Bike Information Stations

9.4.1 Initiative Description

Bike information stations are totems, plinths or other free-standing structures similar to tourist information facilities. A small-scale example is shown in Figure 9.1. Available information could include:

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

Bike information stations would ideally be located near major pedestrian generators and town centre locations such as Oxford Street Mall, Bondi Junction Railway Station and Bus Interchange, Westfield Bondi Junction and community facilities. Smaller versions can also be located at prominent points along major cycle routes.

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

9.4.3 Encouragement Value

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

9.5 e9 - Communicating Local Bicycle User Knowledge

9.5.1 Initiative Description

Bicycle User Groups (BUG) are a useful platform and starting point for the sharing of local, area-specific bicycle user knowledge. BIKEast is a BUG representing cyclists in the eastern suburbs of Sydney stretching from the South Head of Sydney Harbour to La Perouse at the mouth of Botany Bay and west to the fringes of
Sydney's CBD. BUG's provide a great forum to ask questions, connect with cycling enthusiasts and participate in everything cycling. They exist throughout the greater Sydney area with information primarily contained on BUG websites and mailing lists.

9.5.2 Local Implementation and Partnerships

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

9.5.3 Encouragement Value

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

9.6 e14 - Bike Sharing Schemes

9.6.1 Initiative Description

Bicycle hire initiatives began in the 1960’s, and have increased dramatically in both number and effectiveness in the last decade. Bicycle hire programs vary from city to city, but essentially involve a fleet of public bicycles distributed from shops throughout the city.

In theory the bike sharing scheme could be similar to the ‘Go Get’ where you are able to hire a car from allocated pods throughout the area and pay a minimal hourly fee and for the petrol you use. The bike sharing scheme would be even cheaper and there would be no worry about extra petrol costs and emissions from using a motor vehicle. It is also a very attractive option for tourists who wish to ride around in the fresh air rather than being enclosed in a vehicle.

Public bicycle systems are commonly initiated by city councils with the combined aim of reducing traffic congestion, improving the environment and increasing transport choice. Most are financed through an agreement with advertising companies, whereby the agency gains advertising contracts in the city in exchange for running the public bicycle scheme.

Larger scale schemes have been successfully deployed throughout many European cities including:

- **Paris** – Paris launched a ‘bicycle transit system’ in July 2007 called Velib
  Thousands of bikes are available across hundreds of stations throughout the city. Collection stations are never more than 300m apart and the bikes are priced to encourage high turnover (i.e. they become more expensive the longer they are ridden). The scheme has been very successful. However, more recently it has been battling with thefts and vandalism of the bikes

- **Berlin, Frankfurt, Cologne, Munich, Stuttgart and Karlsruhe** – Call a bike
  Call a Bike is a special service of Deutsche Bahn AG: a whole fleet of superb high-tech bikes are available in the six cities above around the clock. Pick-up points are located at ICE railway stations. The idea behind this system is that many of the trips that people make inside a city begin...
at the railway station and, if you have an appointment somewhere in the city centre for instance, end there again. The railway station is therefore the starting and finishing point of your journey by bike. In order to use a bike – once registered – you must call the customer service number to receive a code that will unlock the bicycle

- **Copenhagen – City Bike**
  City Bike has 2,000 free city bikes available to locals and tourists alike. There are 110 city bike-racks in Copenhagen City, one bicycle repair shop only for city bikes and four mobile city bike-repair shops for on-the-spot repairs. The scheme is well established and has become a tourist attraction in its own right. Some key aspects of the scheme are frequent maintenance, free to use, responsible riding and high rider/driver awareness, and

- **Other cities soon to be introducing bike share schemes include:**
  London (scheme to offer approx. 6,000 bikes in the City and West End) and Melbourne (recently piloted a 3 week trial scheme to determine the interest).

### 9.6.2 Local Implementation and Partnerships

Bondi Junction would benefit from bicycle hire as it would provide convenient and cheap access to a bicycle. It also allows cyclists to ‘try before they buy’ which gives them a feel for riding and if they like it enough, may purchase a bicycle and make cycling an everyday activity. Current bicycle ownership in the Waverley, Woollahra and Randwick Local Government Areas is between 15-25% (PCAL, 2008), indicating that a significant proportion of the Bondi Junction cycle catchment may not have access to a bicycle. The higher residential density in these areas would provide limited opportunities for bicycle storage and regular use.

Bicycle hire would primarily service recreational activity and infrequent users unless commuters choose to ride a hire bike home instead of owning one themselves. Opportunities for bike hire should be investigated in conjunction with existing bike shops or interested operators.

A number of options are available for the development of a bicycle share scheme in Bondi Junction. If suitable funding was available the scheme could be developed by the local Councils along with various membership options. A scheme could be set up by volunteers using disused/recycled bicycles and maintained and shared adopting a similar practice to the pilot scheme currently in place at Monash University Clayton where 70 bicycles are available for on-campus residents to ride around the university. Another option would be a partnership with a sponsor to supply and maintain (or supply only) the bicycles in exchange for advertising rights or some other commercial benefit.

### 9.6.3 Encouragement Value

- **Target audience:** students, shoppers, day trippers, tourists, those without bicycles
- **Community benefits:** less cars on the road, heightened awareness of bicycles on the road, tourist attraction, access to bikes for those not able to afford them, and
- **Success factors:** funding, Council support, appropriate infrastructure, suitable partnerships.

### 9.7 e15 - Bike Loan Schemes

#### 9.7.1 Initiative Description

An alternative to the bike sharing schemes described in Section 9.6 is the ‘Loan a Bike’ scheme: an arrangement to borrow a bike for 2 weeks gives people enough time and opportunity to establish whether owning a bike is a viable means of transport for them.
The Western Sydney Cycling Network aims to promote healthy living by repairing and maintaining unused bicycles which are then offered for loan to local residents so that they can take advantage of the extensive cycleway network in Fairfield City.

The Fairfield City bicycle recycling program consists of three main themes:

- Donation of bikes
- Repair of bikes, and
- Loan of bikes to the public.

For a single, one-off payment of $25, members can borrow a bicycle on a permanent basis. Bicycle donation programs allow disadvantaged and low income families the opportunity to own bicycles.

9.7.2 Local Implementation and Partnerships

Implementation options for this item are similar to Section 9.6 and would involve the establishment of a pool of bicycles that can be loaned out to members who subscribe to the service. The scheme would aim to be low-cost and accessible to all. Partnerships can be organised with local bicycle user groups and community volunteers. They collect or donate bicycles and help with maintenance to restore the used bicycles and loan to people who wish to trial a bicycle or do not have the opportunity or income to own their own bicycle. Depending on the scheme adopted, a bike loan scheme could be implemented in the medium term and result in high benefits to the community and tourists.

9.7.3 Encouragement Value

- **Target audience:** students, shoppers, day trippers, tourists, those without bicycles
- **Community benefits:** less cars on the road, heightened awareness of bicycles on the road, tourist attraction, access to bikes for those not able to afford them, and
- **Success factors:** funding or donation of a pool of reliable, functional bicycles; a systematic repair facility to ensure all bicycles are well maintained, roadworthy and operational.

9.8 e16 - Bicycle Maintenance Workshops

9.8.1 Initiative Description

It is important to maintain bicycles in order to stay safe and prevent further damage. A healthy bike works better, is safer and more fun to ride than one that has been neglected by its owner. Servicing and repairing a bike is inexpensive compared to a car. Depending on the amount of cycling that a person does, maintenance should be carried out on a daily, weekly or monthly basis. No matter how new or expensive the bike may be, it must be serviced at least once a year.

In the meantime, there are various maintenance workshops that can involve the wider community and be free. Workshops can be supported by Council, the Cycling Promotion Fund, bike shops and the Bondi Chamber of Commerce. They should cover the basics of maintaining your bicycle and dealing with punctures and other problems that may be encountered whilst cycling. Maintenance workshops can be held in two sessions; for example, one in the first week of the month for beginners and one in the last week of the month for advanced cyclists. Class duration depends on the popularity and what is to be covered that lesson. 1-2 hours should be a reasonable time frame to follow.

An existing bicycle maintenance program in Victoria provides free bicycle maintenance to the community for one afternoon a week. The program called ‘Free Bike Fix’ is a volunteer based program which was started by two volunteer bicycle mechanics who believed it was important to educate their community on bicycle maintenance and that more people will cycle more often if their experiences of cycling are enjoyable. This is why the social aspect is important as it appeals to many more people, making cycling voluntary and fun.

An informal Bicycle User Group at the University of NSW also regularly runs free bicycle maintenance workshops which are reportedly similarly well attended.

9.8.2 Local Implementation and Partnerships

Workshops can be implemented in various ways through local Councils, UNSW, BIKEast and local bike shops (including Bike Bar). An ongoing local arrangement could also be developed through AustCycle and the associated DECCW funding for cycle training. Workshops can include a social aspect and encourage more people to learn valuable skills and knowledge about keeping their bicycle safe and maintained. The workshops can be incorporated into the loan or sharing schemes where people involved in the workshop can assist in fixing and maintaining the used bicycles for use in the loaning schemes in addition to their own. Partnerships with local businesses and bike shops for sponsoring and providing support and tools will ensure the smooth running of this program. Bicycle maintenance workshops could be integrated with the Bondi Junction markets.

9.8.3 Encouragement Value

- **Target audience:** students, bicycle owners wishing to gain skills and knowledge in bicycle maintenance and who also wish to save money
- **Community benefits:** social interaction, increased community understanding of bicycle operation, reduced road safety risks through the lower likelihood of bike malfunction during use, and
- **Success factors:** Funding from Councils, UNSW, DECCW and/or bike shops for workshop teachers or volunteers from BIKEast. Ability to identify a local champion for the workshops. Sufficient advertising and promotion of workshop availability and dates.

9.9 e18 - Cycling Tours and Heritage Rides

9.9.1 Initiative Description

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

Incentives could be provided from the local Councils to encourage young people to establish commercial cycle tour businesses in the Eastern Suburbs area.

Cycle tourism and recreation provides a strategic opportunity to promote the Eastern Suburbs and its natural and cultural heritage. Similar initiatives in Manly recently featured on Channel 9’s “Getaway” program (19 February 2009) - http://getaway.ninemsn.com.au/article.aspx?id=754314 (Figure 9.2).
Another good example is the Green Grocer Cyclery in Goulburn, which operates a successful green grocer with a cafe and a bike sales and repairs shop. The Cyclery also organises regular weekend events with a bicycle courier company for fitness training, with flow-on benefits to the Goulburn accommodation and hospitality industry (Figure 9.3).

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

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

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

9.10 e19 - Encouraging Older Cyclists

### 9.10.1 Initiative Description

Bike riding for seniors is a great way to maintain a healthy lifestyle and enhanced quality of life. It is well known that regular exercise, such as riding a bicycle offers the following benefits:

- Builds physical activity into a busy lifestyle
- Improves health and fitness
- Helps with stress reduction
- Is fun and enjoyable
- Is socially interactive
- Naturally reduces risk of chronic disease, and
- Helps control weight.

Furthermore, riding a bicycle is an excellent way to exercise and has special benefits for seniors as it:

- Is low impact, easing loads on joints
- Is aerobic, improving cardiovascular fitness and reducing the risk of heart attack, and
- Helps prevent obesity, colon and breast cancer, type 2 diabetes, mild depression, hypertension and arthritis.

Bicycle Victoria undertook a pilot project (titled ‘Time to Ride’) between July 2005 and March 2006 to encourage and support over 150 men and women aged 45+ to get started or back into bike riding. The project was undertaken in partnership with the Office of Senior Victorians, Department for Victorian Communities and local partners.

**Time-to-Ride** involved group coaching and encouragement sessions, a Getting Started Guide, provision of regular local calendars of introductory bike rides, experienced and helpful local ride leaders and mentors, participant buddy groups, complimentary basic bike maintenance courses and a helpline. The program was developed to give these riders the skills, confidence, motivation and social support they needed to get back on their bikes. Figure 9.4 shows the program launch and inaugural ride.
9.10.2 Local Implementation and Partnerships

With support and guidance from the local Councils, and in partnership with senior citizen associations in the area, a similar initiative could be developed in the Bondi Junction and Eastern Suburbs area. With Australia’s aging population it is more important than ever to encourage and promote exercise and healthy living among the seniors in our society.

A program designed to encourage older people to ride bikes could be implemented in the short-medium term and result in high benefits to the community.

9.10.3 Encouragement Value

- **Target audience:** seniors and older people living in the Bondi Junction and Eastern Suburbs area
- **Community benefits:** improved health and fitness, reduced demand on health services, more active lifestyles among seniors, social interaction, and
- **Success factors:** local volunteers, government or Council support, partnership with local senior citizen associations and interest from residents.

9.11 e20 - Report-a-Hazard

9.11.1 Initiative Description

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

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

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

Figure 9.5 shows a road and shared path in the Bondi Junction area which is in poor condition. The cracks are hazards to cyclists and should be resurfaced. An example of the Wingecarribee Report-a-Hazard website is shown in Figure 9.6.

Figure 9.5: Poor road and path surfaces in Bondi Junction.
9.11.2 Local Implementation and Partnerships

Discussions with Road Safety Officers in Councils using the Report-a-Hazard system has indicated a keen interest to assist other Councils with similar programs. Costs are limited to the development of a suitable Waverley (and/or the other three Councils) webpage. In-kind “investment” is required to ensure feedback/complaints/requests are handled promptly and accurately.

9.11.3 Encouragement Value

- **Target audience:** Bondi Junction residents and to a lesser extent visitors
- **Community benefits:** improved pedestrian and cycling facilities, long term cost savings due to improved maintenance practice, reduced potential accident liability through increased reporting of local issues, and
- **Success factors:** support from the four local Councils to set up and implement the system, Council staff and political commitment for prompt maintenance such that residents see reported issues being resolved.
10. Planning Principles and Guidelines

10.1 Overview

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

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

Table 10.1: Overview of Cycling Planning Principles and Guidelines Initiatives

<table>
<thead>
<tr>
<th>Initiative</th>
<th>Potential Benefits</th>
<th>Cost Estimate</th>
<th>Action Time Frame</th>
</tr>
</thead>
<tbody>
<tr>
<td>g1*. Developmment Applications</td>
<td>--</td>
<td>--</td>
<td>Short Term</td>
</tr>
<tr>
<td>g2*. Integration of Walking and Cycling</td>
<td>--</td>
<td>--</td>
<td>Short Term</td>
</tr>
<tr>
<td>g3*. Network Development - &quot;Every Street is a Bicycle Street&quot;</td>
<td>--</td>
<td>--</td>
<td>Short Term</td>
</tr>
<tr>
<td>g4. Route Development and Evaluation</td>
<td>--</td>
<td>--</td>
<td>Medium Term</td>
</tr>
<tr>
<td>g5. Forecasting Cycling Usge Patterns</td>
<td>--</td>
<td>--</td>
<td>Long Term</td>
</tr>
<tr>
<td>g6*. The Economics of Cycling</td>
<td>--</td>
<td>--</td>
<td>Short Term</td>
</tr>
<tr>
<td>g7. Access to Stations - Neighbourhood Density and Connectivity</td>
<td>--</td>
<td>--</td>
<td>Long Term</td>
</tr>
<tr>
<td>g8*. Treating 12.8m Wide Roads</td>
<td>--</td>
<td>--</td>
<td>Short Term</td>
</tr>
<tr>
<td>g9*. False One-Way Streets</td>
<td>--</td>
<td>--</td>
<td>Short Term</td>
</tr>
<tr>
<td>g10. Separated Two-Way Cycleway</td>
<td>--</td>
<td>--</td>
<td>Medium Term</td>
</tr>
</tbody>
</table>

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

10.2 Relevant Guidelines

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

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

- RTA (2002) - How to Prepare a Bike Plan – An Easy 3 Stage Guide
- RTA (2002) - How to Prepare a Pedestrian Access and Mobility Plan - An Easy 3 Stage Guide
- RTA (2005) - NSW Bicycle Guidelines
- NSW Department of Planning (2004) - Planning Guidelines for Walking and Cycling
- Austroads (1995) - Guide to Traffic Engineering Practice - Part 14 Bicycles, and

This section identifies a range of opportunities to update some of these guidelines and manuals.
10.3 g1 - Development Applications

Relevant Documents:

- RTA (2003) - NSW Bicycle Guidelines
- NSW Department of Planning (2004) - Planning Guidelines for Walking and Cycling, and

There are many opportunities available in relation to proposed developments within the Waverley, Woollahra and Randwick LGA’s where cycle facilities can be provided as part of the development. This is particularly relevant in locations where developments are directly adjacent to proposed bicycle networks. It is often the case that the developer can contribute to part if not all the costs associated with providing a shared facility on the cycle network.

It is recommended that the local Councils review their LEP and DCP to take advantage of the many opportunities available through the DA process to provide cycle facilities in the local area.

There are current and future developments where opportunities for the provision of bicycle facilities would exist within the local area.

It is recommended that the Town Planners be provided with the relevant cycle network maps once adopted by the local Councils and that a mechanism be put in place whereby specific Development Applications which correspond to the cycle network can be reviewed so that opportunities to provide additional cycle facilities are not lost.

10.4 g2 - Integration of Walking and Cycling

Relevant Documents:

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

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

Key aspects for an integrated manual include:

- Title and focus - How to prepare an Active Travel Manual - an easy to use guide to assist with the planning for walking, cycling and public transport
- Access to bus/tram stops and railway stations:
  - bicycle parking - quality, quantity and security increases with service levels
  - seating and shelter at all stops (not an issue for stations) - seating is a key issue for elderly and mobility impaired people, both at the stops and along the way, even more so on grades
  - sealed paths to all stops with good crossing facilities and good access into local neighbourhoods (eg through cul-de-sacs) - Figure 11.1 and Figure 11.2
  - good visibility and passive surveillance
- Landuse assessment
- Clear guidance on more extended use of shared paths and when and where to introduce greater widths or separation. Many footpaths are of a 1.2m minimal width, which does not meet the requirement for shared paths defined by Austroads Part 14 and the NSW Bicycle Guidelines. However, in many environments pedestrian and cyclist volumes are low and would create minimal conflict between the user groups
- Clear guidance for new subdivisions for the need for footpaths on both sides of the road (except in formally declared shared zones), and
- Inclusion of education and encouragement programs to inform potential users of the new facilities, appropriate user behaviour and encourage greater use.

10.5  g3 - Network Development - “Every Street is a Bicycle Street”

Relevant Documents:
- RTA (2002) - How to Prepare a Bike Plan - An Easy 3 Stage Guide
- RTA (2002) - How to Prepare a Pedestrian Access and Mobility Plan - An Easy 3 Stage Guide
- RTA (2005) - NSW Bicycle Guidelines
- NSW Department of Planning (2004) - Planning Guidelines for Walking and Cycling
- Austroads (1999) - Guide to Traffic Engineering Practice - Part 14 Bicycles, and

Figure 3.2 of the NSW Bicycle Guidelines provides clear directions for the type of facility that is required in different road and traffic conditions. While the Guidelines recognise that cyclists use every street available to them (Guidelines Section 3.5), the focus is on the development of routes rather than the whole of the street and pathway network. This is useful for two purposes:
- Directional guidance - route signage to specific destinations (focal points), typically some distance apart, and
- Funding allocation - the bicycle network is under-developed and there is a need to target limited funding resources.

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

On more significant roads, the recognition that “every street is a bicycle street” allows the inclusion of cycling facilities every time there are maintenance or enhancement works on these roads. This is an opportunistic but essential means of developing the network. A good example is Houston Road, Kingsford, which was re-line-marked with bicycle lanes following a pavement re-sheet, even though it was at the time not formally part of the bicycle network (Figure 10.1).

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

Relevant Documents:
- RTA (2005) - NSW Bicycle Guidelines
- RTA (1999) - Economic Analysis Manual, and

Until recently, it was difficult to provide an objective assessment of the economic benefits of investment in cycling infrastructure. A recent publication by the Cycling Promotion Fund (CPF) for the Federal Department of Health and Ageing has started to fill the void:
- Bauman A., Rissel C., Garrard J., Ker I., Speidel R., Fishman E., 2008. Cycling: Getting Australia Moving: Barriers, facilitators and interventions to get more Australians physically active through cycling, Cycling Promotion Fund, Melbourne.

Table 10.2 summarises the findings of the CPF research, focussing on health, decongestion and environmental benefits. RTA’s economic analysis manual and other research indicates a number of other parameters could also be considered for inclusion, eg:
- Savings in user cost
- Parking cost savings
- Travel time costs
- Bicycle crash cost
- Air pollution reduction
- Noise Reduction, and
- Infrastructure provision.

There is a need for further refinement and development of the various parameters in discussion with RTA and other agencies to develop a methodology that stands up to scrutiny for State and Federal Government funding applications.
Table 10.2: Summary of Cycling Benefits (2008 ¢ / bicycle km)

<table>
<thead>
<tr>
<th>Parameter</th>
<th>CPF (cents)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Decongestion Benefit</td>
<td>34.00</td>
</tr>
<tr>
<td>Health benefits</td>
<td>37.60</td>
</tr>
<tr>
<td>Greenhouse Gas Reduction</td>
<td>5.99</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>77.60</strong></td>
</tr>
</tbody>
</table>

GTA has started to apply the benefits from the CPF research to some generic projects, which was used to stimulate further development at a recent presentation to the Australian Institute of Traffic and Management (AITPM), as shown in Table 10.3.

Table 10.3: Benefit Cost Analysis Example

<table>
<thead>
<tr>
<th>Operant</th>
<th>Existing Cycling Usage</th>
<th>Cycling Usage After Completion of a Regional Network in 2016</th>
</tr>
</thead>
<tbody>
<tr>
<td>Typical project cost</td>
<td>$400,000</td>
<td>$400,000</td>
</tr>
<tr>
<td>Distance (km)</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>Daily traffic volume</td>
<td>15,000</td>
<td>15,000</td>
</tr>
<tr>
<td>Weekday Bike Volume (1% - 10%)</td>
<td>150</td>
<td>1,500</td>
</tr>
<tr>
<td>Weekend Bike Volume (0.5% - 5%)</td>
<td>75</td>
<td>750</td>
</tr>
<tr>
<td>VehKmTravelled / Year (weekday, 261 days)</td>
<td>39,150</td>
<td>391,500</td>
</tr>
<tr>
<td>VehKmTravelled / Year (weekend day, 104 days)</td>
<td>7,800</td>
<td>78,000</td>
</tr>
<tr>
<td>Benefits - commuter ($/km)</td>
<td>$0.78</td>
<td>$0.78</td>
</tr>
<tr>
<td>Benefits - recreational ($/km)</td>
<td>$0.38</td>
<td>$0.38</td>
</tr>
<tr>
<td>Benefits - commuter (annual)</td>
<td>$30,376</td>
<td>$303,765</td>
</tr>
<tr>
<td>Benefits - recreational (annual)</td>
<td>$2,933</td>
<td>$29,328</td>
</tr>
<tr>
<td>Benefits - Combined (annual)</td>
<td>$33,309</td>
<td>$333,093</td>
</tr>
<tr>
<td>Benefits - Combined (25 year life cycle)</td>
<td>$451,353</td>
<td>$4,513,527</td>
</tr>
<tr>
<td><strong>BCR</strong></td>
<td><strong>1.13</strong></td>
<td><strong>11.28</strong></td>
</tr>
</tbody>
</table>

10.7 g8 - Treating 12.8m Wide Roads

**Relevant Documents:**
- RTA (2005) - NSW Bicycle Guidelines, and

12.8m Wide roads are common in NSW. The NSW Bicycle Guidelines support the use of bicycle shoulderlanes on such roads, but warn that these provide “tightly spaced and less clearance than with conventional bicycle lanes” and that “riders still need to travel cautiously in the bicycle shoulder lane to avoid unexpected opening car doors, poorly parked cars and surface joint hazards”. Particularly the potential for cyclists to hit suddenly opened car doors was a key issue of content at the time of writing the Guidelines. This issue was again raised at various stakeholder meetings for the Sub-Regional Bicycle Studies. There is a need for further guidance and clarification, including:

- safety and user patterns
- greater emphasis on the need to investigate alternate routes, and
- alternative treatments with guidance on when and where to apply these such as shown in Table 10.4.

Alternate markings were considered when writing the Guidelines but were considered to be inappropriate. Bicycle shoulder lanes are specifically excluded from the Queensland Bicycle Guidelines.
Table 10.4: Examples of Alternatives to Bicycle Shoulder Lanes

<table>
<thead>
<tr>
<th>Alternatives</th>
<th>Parking Conditions*</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>removal of a parking lane</td>
<td>&lt;20% parking utilisation</td>
<td>possibly near parkland alternating road sides in response to landuse patterns</td>
</tr>
<tr>
<td>bicycle parking lanes</td>
<td>20-40% parking utilisation</td>
<td></td>
</tr>
<tr>
<td>bicycle shoulder lanes</td>
<td>&lt;80% parking utilisation low parking turn over</td>
<td></td>
</tr>
<tr>
<td>Main Street with “mixed traffic” and a reduced 40km/h speed zone</td>
<td>&gt;80% parking utilisation high parking turn over</td>
<td>Figure 10.10 (Main Street) Consider alternate routes in parallel streets or lanes for “traffic shy” cyclists (Figure 10.11)</td>
</tr>
<tr>
<td>uphill/downhill lanes</td>
<td>--</td>
<td>move the centreline so that there is no bike lane/shoulder downhill but a wider bike lane/shoulder uphill.</td>
</tr>
<tr>
<td>shared footpath</td>
<td>-</td>
<td>clear guidance is required on more extended use of shared paths and when and where to introduce greater widths or separation - refer §10.2</td>
</tr>
</tbody>
</table>

* research required to confirm thresholds

10.8 g9 - False One-Way Streets

Relevant Documents:
- RTA (2005) - NSW Bicycle Guidelines
- NSW Department of Planning (2004) - Planning Guidelines for Walking and Cycling
- Austroads (1999) - Guide to Traffic Engineering Practice - Part 14, Bicycles, and

The NSW Bicycle Guidelines include contra-flow facilities for bicycles in one-way streets. Figures 5.7 & 5.8 and Photos 5.9 & 5.10 of the NSW Bicycle Guidelines show several different design details. Recent work by the City of Sydney has identified further opportunities through the use of "false" one-way streets, whereby bicycles are exempted from the one-way restriction (sign reference R2-4) by a sub-plate (sign reference R9-3). This type of facility requires minimal infrastructural intervention (i.e. signs and markings at intersections only) and appears to function well in combination with Shared Zones (sign reference R44).
Figure 10.3: False One-Way Street in a Shared Zone (Wells Street, Redfern)
11. Bondi Junction Priority Initiatives

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

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

Opportunities

- Existing staff resources at Waverley Council as well as the adjacent Councils actively seek inclusion of cycling and the related infrastructure, including sustainable transport officers, environment sustainability officers, bicycle planning officers, cycling education officers with reportedly programs in place for future appointments in these areas
- Strong political and financial commitments in Waverley and adjacent Councils for continued investment in cycling encouragement and infrastructure programs
- Significant uptake of cycling - among the highest in the State, despite the undulating terrain
- High density residential and employment within the 5-8km Bondi Junction catchment area
- Significant roll-out of local bicycle parking facilities, which are well-used
- Existing and widely distributed bike route maps for Waverley & Woollahra (and parts of Randwick), including apparently popular recreational routes
- Cycling Proficiency & Maintenance Courses are regularly undertaken by Waverley Council – 18 held in 08/09; 24 courses to be held in 09/10; other workshops being planned for schools and after care
- Similarly successful programs are also undertaken on a voluntary basis by the UNSW-BUG as well as with reportedly significant volumes of attendants for both workshops and rides, and
- Empty shop-fronts with economic downturn which could be used for Cycle Stations.

Constraints

- Existing parking facilities are not secure and overused - no space for new users, low security for all-day commuters
- Cycling access restrictions through the Mall and the Bus Only streets
- Significant network gaps in close proximity to town centre ("the last 1km"), including crossing facilities, missing links along key desire lines as well as signs and markings (both regulatory and directional), and
- Geometric constraints of the town centre street network.

11.1 Cost of Initiatives

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

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

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

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

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

Waverley Council has already appointed a Sustainable Transport Officer with direct responsibility for the implementation and coordination of cycling infrastructure and encouragement initiatives, which has led to the successful implementation of a number of programs.
Table 11.1: Priority Package of Bicycle Infrastructure Measures for Bondi Junction

<table>
<thead>
<tr>
<th>Priority Initiative</th>
<th>Initiative Description &amp; Application</th>
<th>Issue Addressing</th>
<th>Target Audience</th>
<th>Cost</th>
<th>Potential Funding Sources</th>
</tr>
</thead>
</table>
| 1. Implement 'Last 100m' Bondi Junction Bicycle Network | New and improved cycling infrastructure in close proximity to Bondi Junction, including:  
- Contra-flow separated cycleway in Spring Street (currently under separate investigation by Waverley Council).  
- New pathway along the northern perimeter of Oxford Street from York Rd to Lang Rd (currently under separate investigation by Waverley Council and others).  
- False one-way streets in laneways and other streets in and around Bondi Junction.  
- Access through cul-de-sacs and pocket parks such as Waverley St at Oxford St, Brisbane St at Ebley St, St James Rd at Gowrie St.  
- Other network gaps, deficiencies and barriers as identified by BIKEast (refer Table 6.3, Table 9.1). | Local access missing links legitimising cycling | Existing and potential future cyclists | High | Waverley Council in partnership with other agencies as appropriate such as Centennial Park, RTA and adjacent Councils |
| 2. Signing the 'Last 100m' Bondi Junction Bicycle Network | Directional & Regulatory signage, including:  
- bicycle access to the Oxford St Pedestrian Mall by way of “Shared Path” signage  
- along the “Bus Only” streets using “bicycles” | Local access missing links legitimising cycling | Existing and potential future cyclists | Low | Waverley Council with funding support from RTA |
Table 11.2: Priority Package of Bicycle Facilities for Bondi Junction

<table>
<thead>
<tr>
<th>Priority Initiative</th>
<th>Initiative Description &amp; Application</th>
<th>Issue Addressing</th>
<th>Target Audience</th>
<th>Cost</th>
<th>Potential Funding Sources</th>
</tr>
</thead>
</table>
| 1. High Density Parking Facilities (refer to Cycle Station in Table 11.3) | High density parking facilities at three locations:  
  - Vacant shop front in the Oxford St Mall (Figure 11.1).  
  - Vacant shop front in the Westfield Mall, facing the Oxford Street Bus Way (Figure 11.1).  
  - Syd Einfeld viaduct*, directly opposite the entry to the Grafton St entry to the railway station. A new high quality crossing across Grafton St is required (Figure 11.2). | Respond to strong parking demand (current facilities over utilised) | Existing and potential future cycling commuters | Medium to high | Waverley Council  
Ministry of Transport  
Chamber of Commerce  
Westfield  
RTA carpark operator (as part of lease conditions)* |

Note:  
* It is understood that RTA is currently in the process of leasing the space under the Syd Einfeld Drive viaducts for use as a commercial carpark. The lease conditions could be developed to include a requirement for say 10-20 spaces to be used for high density secure bicycle parking, showers and lockers. Alternatively, RTA could sublease these spaces on a long term basis.
Figure 11.1: Vacant shop fronts in the Oxford St Mall and the Westfield Mall, facing Oxford Street. Potential for sponsored leases as Cycle Stations in Bondi Junction.

Figure 11.2: Syd Einfeld Drive viaduct – opportunity for cycle parking in the existing carpark, with a new crossing across Grafton Street.
**Table 11.3: Priority Package of Education, Awareness and Promotion Measures for Bondi Junction**

<table>
<thead>
<tr>
<th>Priority Initiative</th>
<th>Initiative Description &amp; Application</th>
<th>Issue Addressing</th>
<th>Target Audience</th>
<th>Cost</th>
<th>Potential Funding Sources</th>
</tr>
</thead>
</table>
| 1. Cycle Station    | In conjunction with the three proposed high density parking facilities
Combined bike parking, bike repair, bike loan/ share as well as potential cafe.
Separately market access to lockers and showers for use by Bondi Junction employees for lunch time sports (many local offices and shops do not afford shower and locker facilities).
Full access to all relevant cycling promotional material, maps, brochures, etc.
Develop in conjunction with other initiatives such as bike loan/share scheme, bike workshops, ride programs. | Bicycle parking
Legitimising cycling
Knowledge gaps | Whole community
Bondi Junction employees | Medium-high | Public
Private
Partnership between Council, State Govt and shop operator/ cafe |
| 2. Main streaming cycling campaign | Local based campaign using existing strengths and opportunities such as:
- mayor columns in local papers
- BIKEast & UNSW-BUG rides and workshops
- grouped stands at local markets and fairs supported by BUGs, local bike retailers, cycle importers and wholesalers ("which bike to I buy, "try this bike") | Cycling is for everyone
Cycling is a legitimate mode of transport
Cycling is healthy and good for the environment
Cycling reduces road and public transport congestion | Whole community | Medium | Waverley and adjacent Councils, PCAL, RTA, DECCW |
| 3. Sharing knowledge | Build on and expand existing Waverley Council, BIKEast and UNSW-BUG initiatives
- bike maintenance and repair workshops
- cycling proficiency workshops
- marketed rides program | Overcoming knowledge gaps
and confidence | Existing and potential
future cyclists | Low | BIKEast and
UNSW-BUG |
<table>
<thead>
<tr>
<th>Priority Initiative</th>
<th>Initiative Description &amp; Application</th>
<th>Issue Addressing</th>
<th>Target Audience</th>
<th>Cost</th>
<th>Potential Funding Sources</th>
</tr>
</thead>
<tbody>
<tr>
<td>4. Bike loan/share scheme</td>
<td>Low key rather than high profile program, integrated with the Cycle Station</td>
<td>Improving access to bicycles</td>
<td>Potential future cyclists, low income earners, students</td>
<td>Medium</td>
<td>Public private partnership between Council, state Govt and shop operator/cafe</td>
</tr>
<tr>
<td>5. Map/Brochure Last 100m</td>
<td>On completion of the local network. Detailed insert on existing map rather than stand-alone showing exact details of all facilities, incl routes, parking, bike shops, bike repair, showers, lockers. Supported by local media campaign.</td>
<td>Local access</td>
<td>Whole community</td>
<td>Low</td>
<td>Waverley Council, RTA</td>
</tr>
<tr>
<td>6. Map/Brochure Randwick and UNSW</td>
<td>A good map already exists for the Waverley/Woollahra area. This map needs to be complemented by a map for the Randwick LGA and the UNSW catchment.</td>
<td>Crossing LGA boundary access from the south</td>
<td>Randwick residents, UNSW employees and students</td>
<td>Low</td>
<td>Randwick Council, RTA, Cycling Promotion Fund</td>
</tr>
<tr>
<td>7. Report-a-Hazard</td>
<td>Hazard reduction program through web-based self-reporting mechanism. Expand to encourage reporting of popular/useful routes that require minor facilities.</td>
<td>Road safety and cycling convenience</td>
<td>Existing cyclists</td>
<td>Low</td>
<td>Waverley Council, BIKEast and UNSW-BUG</td>
</tr>
</tbody>
</table>
12. References

- Arup – Geoplan, 1999 Waverly Bike Plan, Waverly Council, Sydney
- City of Sydney, 2008 Sustainable Sydney 2030, City of Sydney Strategic Plan Final Consultation Draft, SGS Economics & Planning, Sydney.
- Kurko, J. 2007, Health by Design in Practice-a planners’ guide applied to Renwick green field development, NSW Division NHFA.
References

- Meiklejohn D., 2005 TOD and TDM: ensuring good policy outcomes in Melbourne, Department of Infrastructure, Victorian Government, Melbourne.
- RTA, 2008b Cycling In Sydney Bicycle Ownership and Use, Ministry of Transport, Sydney.
  http://www.en.velib.paris.fr/
Appendix A

Stakeholder Consultation
Sub-regional Bike Plan Study

Bondi Junction

19th February 2009, 10am-12pm
HS11152

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

Time Lines
• Project commissioning and inception – early February 2009;
• Interim progress report – end March 2009; and

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

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

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

• $227.2 million savings per annum by existing commuter and recreational cyclists due to health, congestion and green house gases
• 52% of trips under 5km
• 34% of green house gases is for travel to work, shopping, etc
• obesity costs Australia $21 billion annually

Basic Facts

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

Basic Facts

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

Workshop

• network development
• cycling encouragement initiatives for the local area
• transferable ideas
• improvements to guidelines
• some ideas to get started
transferable ideas
improvements to guidelines

Remember

- 75% of non-regular cyclists said off-road routes would make them cycle more regularly
transferable ideas
improvements to guidelines

Existing road
New footpaths, narrower travel lanes, bike path, planted median, fence

Bike lane paving

Street trees

Transferable ideas

Improvements to guidelines

Benefit Cost Analysis
cycling encouragement initiatives for the local area

- video clip - Tokyo Bicycle Parking
- video clip - do-the-test

Workshop
- network development
- cycling encouragement initiatives for the local area
- transferable ideas
- improvements to guidelines

Network Development
- town centre gateway treatments
- shared zone application?
- bike penetration, speed limit treatments
- 30km/h? self-enforcement issues?
- one-way streets (bikes excepted)
- signage rather than infrastructure first

Encouragement Initiatives
- Risk Management, insurance (rides)
- addressing safety concerns
- responsibilities brochure (RTA? licensing, drivers test for older drivers, delivery mechanism- renewals)
- bike trip planning facilities
- visibility, shopping trips
- incentives to cycle
Transferable Ideas

- standard info methods (e.g. 131500 first, local Council second, contact details)
- cyclist help line, informed by BUGs
- inter-agency info
- report-a-hazard
- info on school facilities and education etc.
- addressing linked trips
- standardised training, bike buddy systems
- influencing the "influencers" (e.g. westfield)
- delivery of shopping (e.g. Darebin, Vic, Kate Myers)

Improvements to Guidelines

- bike numbers included in speed zoning warrants
- footpath cycling
- focal points and directional signage
- cycling in bus lanes
- coordination of interests a local level
**Agenda**

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

---

**Bondi Junction**

- Commercial and residential land uses
- High volume of trips occurring in close proximity of the Bondi Junction Transport Interchange and Westfield Shopping Centre
- Dense network of roads, laneways and paths
- Bondi Junction located on a prominent sandstone plateau
- Topography and road widths are key constraints for travel by bicycle
Key Characteristics – Bondi Junction

- Bike penetration of Bondi Junction – access difficult
- Poor gateways to Bondi Junction – inadequate infrastructure, poor urban streetscape, amenity and design
- Conflict between pedestrians and cyclists, including within mall

Workshop #1 ideas revisited

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

Workshop 1 - Network Development

- Town centre gateway treatments
- Shared zone application?
- Bike penetration, speed limit treatments
- 30km/h? Self-enforcement issues?
- One-way streets (bikes excepted)
- Signage rather than infrastructure first

Workshop 1 - Transferable Ideas

- Standard info methods (e.g. 131500 first, local council second, contact details)
- Cyclist help line, informed by bugs
- Inter-agency info
- Report-a-hazard
- Info on school facilities and education etc.
- Addressing linked trips
- Standardised training, bike buddy systems
- Influencing the “influencers” (e.g. Westfield)
- Delivery of shopping (e.g. Darebin, Vic, Kate Myers)

Workshop 1 Encouragement Initiatives

- Risk management, insurance (rides)
- Addressing safety concerns
- Responsibilities brochure (RTA? Licensing, drivers test for older drivers, delivery mechanism- renewals)
- Bike trip planning facilities
- Visibility, shopping trips
- Incentives to cycle

Workshop 1 Improvements to Guidelines

- Bike numbers included in speed zoning warrants
- Footpath cycling
- Focal points and directional signage
- Cycling in bus lanes
- Coordination of interests a local level
Development of Cycling Initiatives

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

Bicycle Facilities and Infrastructure Initiatives

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

Education, Awareness and Promotion Initiatives

- Mainstreaming cycling – media campaign
- Bike route maps/brochures
- Marketing new bike facilities
- Bike information stations
- Internet-based bike trip planning
- Mobile bike trip navigation
- Communicating local bicycle user knowledge
- Developing safe cycling habits
- Cycling school bus
- Commuter bike bus
- Bike sharing schemes
- Bike loan schemes
- Bicycle maintenance workshops
- Helmet design workshops
- Frequent cycling scheme
- Voluntary behaviour change – travelsmart

Planning Principles and Guidelines

- Integration of Walking and Cycling
- Network Development and Funding Priorities
- Route Development and Evaluation
- Forecasting Cycling Usage Patterns
- The Economics of Cycling
- Access to Stations - Neighbourhood Density and Connectivity
- Bicycle Parking
- 3.6m Wide Roads
- One-way streets
- Bourke Street – Benchmark treatment
- Semi-Rural Roads
- Directional Signage
- LATM designs for cyclists
- Other mobility issues/choice
- Bus - bike interaction

Priority Initiatives

There is no silver bullet!

Priority Initiatives - Transferable

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

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

Priority Initiatives – Bondi Junction

- Bondi Junction “Green Centre”
  - Under Syd Einfeld Drive opposite the station entrance (between Grosvenor St and Newland St)
  - Partnership between Waverley and Woollahra Councils, RTA, Westfield, State Rail and the BJCBD business community
  - High density secure bike parking
  - Bright lighting and green paint job
  - Security provided by passive surveillance – “hub” activity
  - Build upon facilities over time – coffee cart, shower module, bike repair shop, bike hire centre, etc

Priority Initiatives – Bondi Junction

Example “Penny Farthings” Bike Facilities

Priority Initiatives – Bondi Junction

- Ensure adequate road network accessibility in the vicinity of the centre – final 100m

Focus groups- what’s missing?
Focus groups: Prioritisation of initiatives

• Evaluation of priorities:

<table>
<thead>
<tr>
<th>Cost Estimate</th>
<th>Potential benefits</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;$20,000</td>
<td>Low</td>
</tr>
<tr>
<td>$20,000 - $100,000</td>
<td>Medium</td>
</tr>
<tr>
<td>&gt;$100,000</td>
<td>High</td>
</tr>
</tbody>
</table>

Focus groups: Prioritisation of initiatives

• Evaluation of actions/timing:

<table>
<thead>
<tr>
<th>Priority</th>
<th>Feasibility benefits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Priority 1</td>
<td>Short Term</td>
</tr>
<tr>
<td>Priority 2</td>
<td>Short Term, Medium</td>
</tr>
<tr>
<td>Priority 3</td>
<td>Medium, Long Term</td>
</tr>
</tbody>
</table>

Focus groups: Prioritisation of initiatives

• Identify key issues critical to the success of the priority initiatives
• Identify possible partnerships with agencies and organisations

Focus groups: Presentation of priorities

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

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

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

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

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

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

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

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

Get involved today!
For further information please contact:

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

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

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

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

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

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

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

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

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

Sign up to SMARTi today
This is an exciting opportunity to be part of the solution to traffic congestion and air pollution. Sign up to secure your position in SMARTi today.

Complete the below registration form and post back in the replied paid postage envelope enclosed or fax to 9364 0285.

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

How many employees are located at your Canning Bridge Precinct premises?
Melbourne
Greg Tucker & Associates Pty Ltd t/a GTA Consultants
ABN: 34 005 839 645
A 87 High Street South
PO Box 684
KEW VIC 3101
P +613 9851 9600
F +613 9851 9600
E melbourne@gta.com.au

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WEST CHATSWOOD NSW 2067
P +612 8448 1800
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E sydney@gta.com.au

Brisbane
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E brisbane@gta.com.au

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