Enabling Cycling Strategy

City of Sydney
Final Report

23 November 2010
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Executive Summary

Introduction
To progress its vision for a green, global, connected city by 2030, the City of Sydney has commenced construction of a network of cycle routes with the target of achieving 10% of trips by inner Sydney residents by bicycle by 2016.

This strategy complements the infrastructure investment with a suite of interventions designed to address the social barriers which limit cycling participation for inner Sydney residents and visitors.

In particular this strategy aims to:
- maximise the uptake of the cycling network by inner Sydney residents; and
- enable cyclists, pedestrians and motorists to interact more considerately and safely.

The strategy is summarised by Figure 1 on page 2.

The approach

The approach adopted here aims to mobilise positive influencers (or “enabling factors”) which affect people’s behavioural choices. An extensive literature review was carried out. Social research and field research followed to fill gaps in knowledge. An expert working party then refined the behavioural models and prioritised a limited set of enabling factors for investment. These enabling factors became a framework of objectives through which the plan of action was developed. The final plan consists of twelve programs of action which are set out in briefs at the end of this report.

To realise the enabling objectives, the following programs of action are recommended:

**To commence immediately**

1) Coexistence campaign
This multi-faceted campaign ensures that users of shared paths:
- know it’s a shared path; and
- know the rules for considerate, safe co-existence.

And as a subsidiary aim, to pilot and evaluate a campaign focused on advising drivers on practical tips to how to share the road safely with cyclists.

2) Friends of Sustainable Sydney
The aim is to ensure that opinion leaders are accurately informed of the city’s plans, the rational for them, and what to expect.

3) Shared path audit
An “experiential audit” process to reduce the potential for conflict related to path design.

4) Employer program
This program aims to increase the number of city businesses that actively promote and support cycling by employees; including provision of safe parking facilities, showers and lockers; and positive encouragement of staff to cycle, including managers acting as role models.

5) Advocacy to RTA
To continue to lobby the Roads and Traffic Authority (RTA) to invest in road safety advertising to improve driver skills to ensure the safety of cyclists.

6) Explore your city program
A monthly explore your city by bike program, promoting group and independent cycle exploration of the city, village by village. Riders visit participating shops and collect stamps to be in the running for attractive cycling prizes.

**To commence before June 2011**

7) Event promotion program
This aim to increase the audience reach of promotional events for cycling and cycling-friendly events in inner Sydney such as Sydney Spring Cycle, National Ride to Work Day and Gear up Girl. Currently, these events are produced by independent groups and organisations. The City will use its communication resources to increase the reach of promotion of these events, so that more people hear about them and more people attend.
The program will also place “come by bike” advertising for mainstream community festivals and events.

8) Artistic bike racks competition
Quirky and buzz-worthy bicycle racks at prominent locations aim to:
  - create positive conversations that legitimise cycling in Sydney; and
  - change the streetscape to announce that Sydney is a city that accepts cycling.

9) Big Picture campaign
The aim is to ensure that debate on cycleways and cycling in Sydney is informed by widespread public understanding of the larger issues that are driving the investment: road congestion, liveability, health and well-being, economic competitiveness and Greenhouse gas reduction. The more people understand this perspective, the more balanced will be the resulting debate.

To commence after June 2011

10) Village Roadshows
A mobile roadshow that sets up on weekends in residential parts of the city and at festivals and fairs to provides an enjoyable program of:
  - Escorted group rides on nearby cycle routes;
  - Free bicycle maintenance;
  - ‘Get on a bike’ classes for novices and people out of practice;
  - Maintenance workshops;
  - Personal route planning;
  - A BBQ with social interaction and introductions between residents; and
  - Provision of route maps and other information.

The aim is to allow residents to experiencing cycling in a safe environment and discover local cycle routes in group rides, contributing to their cycling confidence.

11) Sydney Loop Ride
A signposted scenic loop ride, including the foreshore, provides a reassuring ‘soft entry’ for those unfamiliar with cycling in inner Sydney.

12) Community Leadership Program
A series of workshops for a small number of highly motivated social entrepreneurs in the cycling community. The professionally facilitated workshops will lead them through the process of developing new community-based cycling initiatives.

Initiatives may include sociable community events, employee programs, cycling promotion initiatives, advocacy initiatives, and media initiatives.

Supported by a new category of “community cycling projects” (value $50,000) to be added to the Local Area Action Plan Matching Grants.
1. Introduction

Introduction
The City of Sydney’s Sustainable Sydney 2030 vision for a green, global, connected city includes a safe and attractive walking and cycling network to reduce traffic congestion, improve health and wellbeing and reduce greenhouse gas emissions.

The City has commenced construction of this cycling network with the aim of increasing cycle trips by residents from 2% of all trips in 2004 to 10% of all trips by 2016. The network comprises both on-road and off-road (i.e. shared paths in both city parks and on existing footpaths) facilities designed to achieve connectivity between Sydney’s villages and provide residents and visitors with a viable and sustainable alternative to car-based travel.

The City of Sydney recognise that infrastructure alone will not achieve these goals but rather a more holistic approach is required which also addresses the many social barriers which limit cycling participation for Sydney residents and visitors.

The strategy
This Cycling Behavioural Change Strategy (The Strategy) complements the infrastructure investment with a series of social initiatives designed to:

- Increase the number of people who take up regular cycling both for commuting trips and all other journey purposes; and
- Enable cyclists, pedestrians and motorists to interact more considerately and safely.

The Strategy consists of:

- Analysis of motivators and enabling factors for the desired behaviours, which include:
  - Cycling more regularly;
  - Considerate and legal cycling;
  - Considerate and safe pedestrian behaviour on shared paths; and
  - Considerate and safe driving around cyclists.
- Design principles to guide implementation; and
- Initiative briefs for a range of programs, campaigns and initiatives to address the social barriers to cycling participation in the City of Sydney.

Figure 1 overleaf, presents an overview of the strategy.

The behavioural outcomes
The Strategy aims to contribute to the following outcomes:

- An increase in the number of trips by residents by bicycle from 2% in 2004 to 5% by 2011, and to 10% by 2016;
- An increase in the number of bicycle trips between 2 and 20 km made in the City of Sydney, as a percentage of total trips, to 20% by 2016;
- To create and maintain a cycling friendly environment in Sydney and to improve the safety of cycling;
- To develop a culture of cycling as a normal transport choice, equal with walking and public transport and a preferred mode to motorised travel;
- To increase the proportion of Sydney cyclists who feel comfortable and confident when they are cycling in the City and to ensure that it is 80% or higher by 2016; and,
- To reduce the number of collisions and injuries involving bicycles and achieve a reduction in the number of reported incidents.
Figure 1: Summary of the strategy
Four specific behavioural outcomes are targeted, as shown in Table 1 below.

**Table 1: Targeted behavioural outcomes**

<table>
<thead>
<tr>
<th>Behavioural Outcome</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Behavioural outcome 1</td>
<td>Inner Sydney residents cycling more often, to be achieved by infrequent cyclists cycling more often and people interested in cycling taking up cycling.</td>
</tr>
<tr>
<td>Behavioural outcome 2</td>
<td>Cyclists: considerate and legal cycling on shared paths and roads.</td>
</tr>
<tr>
<td>Behavioural outcome 3</td>
<td>Pedestrians: considerate, safe pedestrian behaviour on shared paths.</td>
</tr>
<tr>
<td>Behavioural outcome 4</td>
<td>Motorists: considerate, safe driving around cyclists.</td>
</tr>
</tbody>
</table>

**Format of this document**

The strategy document is presented in eight further chapters following this introduction, as follows:

- Chapter 2 outlines the methodology used in the development of the strategy.
- Chapters 3 to 6 present the behavioural outcome goals of the strategy – as shown in Table 2 above.
- Chapter 7 presents the design principles which were used to guide the design of the recommended behaviour change initiatives.
- Chapter 8 presents the 12 key recommendations for behaviour change initiatives.
- Chapter 9 provides an outline of the monitoring and evaluation framework.

The full monitoring and evaluation plan, along with the social research report is presented in the Appendices. The best practice review of cycling behavioural change programs and initiatives is presented in a separate report.
2. The Approach of this Strategy

Overview
This strategy adopts a behavioural model consisting of motivating factors and enabling factors. For a group of actors to adopt a particular behaviour both factors need to be active in their lives.

Motivating factors are understood to be intrinsic desires, connected to peoples’ identities that attract them to certain behaviours. Motivations for cycling include being fit and looking good and the pleasure of cycling. Because motivating factors are intrinsic to peoples’ identities they are generally not within the power of agencies to influence. Hence when motivations are weak it’s necessary to rely primarily on infrastructure measures.

Enabling factors are changes to:
- Peoples’ environments; and
- Their self-efficacy that lowers the perceived risks of acting.

In the case of cycling these include the existence of safe, efficient cycle routes, the personal confidence to cycle safely, knowledge of suitable routes, and bicycle facilities at destinations. In principle, enabling factors are within the power of agencies to influence, so they are the primary focus of this behaviour change strategy.

The methodology
With this model in mind four logic models were developed (these are shown for each behavioural outcome contained in Chapters 3 to 6). The development of these models involved:
- A review of existing social research and commissioning new social research; and
- Input from an expert working group that helped to refine the logic models and prioritise the enabling factors.

The working group included a diverse mix of cycling planners, researchers/academics, advocates and stakeholders (see Appendix A for full list of members). The process of prioritising enabling factors involved members of the working group making assessments of:
- Each factor’s likely impact on the desired behaviour; and
- Its achievability given the likely resources available to the City of Sydney.

After prioritising, eleven enabling factors remained. These became the enabling objectives shown in Figure 1 (pg 4).

In addition, a number of Design Principles were identified to inform the design of the individual initiatives – presented in Chapter 7.

The importance of social influences on cycling
The decision to cycle is rarely made in private without outside influence. It usually depends on an interaction between individual desires and abilities, social influences and the physical environment. Much attention has been given to getting the cycling infrastructure right. However as a result, social influences are often neglected.

Well-established principles in the ‘Diffusion of Innovations’ and more recent social network studies have shown that, to a great extent, new behaviours travel contagiously through social networks.

Diffusion of Innovations is a theory of how, why, and at what rate new ideas and technology spread through cultures. The concept was first studied by the French sociologist Gabriel Tarde (1890) and by German and Austrian anthropologists such as Friedrich Ratzel and Leo Frobenius. Its basic
epidemiological or internal-influence form was formulated by H. Earl Pemberton, who provided examples of institutional diffusion such as postage stamps and compulsory school laws. The publication of a study of Ryan and Gross on the diffusion of hybrid corn in Iowa was the first sustainably visible contribution in a broader interest in innovations which was especially popularized by the textbook by Everett Rogers (1962), Diffusion of Innovations (Rogers 1962). He defines diffusion as “the process by which an innovation is communicated through certain channels over time among the members of a social system.”

In the social research undertaken for this study (see Appendix B), seven of fifteen cyclists were triggered to start cycling largely through the influence of their partners and friends (i.e. people they respect and trust). The role of social influences on physical activity is being increasingly recognised.

“Social factors are critical influences upon our choices to adopt or maintain physical activity pursuits. …our physical activity choices are influenced by messages we receive from others about physical activity, our desire to initiate a positive image to others and adhere to social norms, our desire to feel that our actions and attitudes are congruent with one another, and our desire to feel social connection with others in our daily pursuits. Ultimately, to influence people to become more physically active, messages from experts and public service announcements won’t have much impact if the social influences affecting the target populations don’t support changes in physical activity.”

Lutz et al 2004

Bowles et al (2006) surveyed 5058 participants in the 2006 Sydney Spring Cycle and found that novices and first-time participants rode significantly more in the month after the event. Half those who rated their cycling ability as ‘low’, rated it as ‘high’ a month after the event. The sociable nature of such events is liable to be a factor influencing these behaviours.

As a result, many of the cycling initiatives recommended in this strategy seek to mobilise social influence by, wherever possible, bringing peers together face-to-face, mixing novices with skilled cyclists, and preferring sociable events rather than media-based communications.

1 Bowles et al (2006)
3. Behavioural Outcome 1: More cycling, more often

Overview

The aim of this behavioural outcome is to increase the number of cycling trips for all journey purposes across Sydney.

The desired behaviours

- Infrequent cyclists cycle more frequently; and
- Those interested in cycling (or predisposed to cycling) take it up.

The intended actors

The intended actors are adults of all ages and both sexes living in Inner Sydney\(^2\) who either own a bike and cycle infrequently or don’t own a bike but are interested in cycling. In Inner Sydney, this is about 62% of adults.\(^3\)

The target

The Cycle Strategy and Action Plan 2007-2017 aims to increase the number of cycle trips by residents from 2% in 2004 to 10% by 2016, with longer trips (2-20 km) being at least 20% of all trips.

Who cycles in Sydney?

In 2009 Taverner Research surveyed 1224 Inner Sydney residents and found around 16% cycled recreationally and 5.6% cycled to work.\(^4\) Significantly, an additional 62% reported either owning a bike or being interested in cycling.

The research characterised Inner Sydney residents’ participation in cycling into the following segments, as shown in Table 2.

<table>
<thead>
<tr>
<th>Classification of Inner Sydney Residents</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-cyclist</td>
<td>21%</td>
</tr>
<tr>
<td>Potential cyclist (interested in cycling, don’t own a bike)</td>
<td>41%</td>
</tr>
<tr>
<td>Infrequent cyclist (own bike, use &lt; once per month)</td>
<td>21%</td>
</tr>
<tr>
<td>Cyclist (own bike, cycles at least once per month)</td>
<td>16%(^6)</td>
</tr>
</tbody>
</table>

Rapidly increasing rates of bicycle ownership\(^7\) and bike counts on Sydney roads suggest we are potentially at the start of a new culture of cycling in the city.

The potential market for cycling includes all ages and both sexes. However there is a reduction in the number of infrequent and potential cyclists over the age of 34, as shown in the Table 3 (overleaf).\(^8\)

Other interesting data

The 2007 Household Travel Survey found that Inner Sydney residents owned 79,000 bicycles (0.56 per household) and made 14,752 trips per day.\(^9\)

\(^2\) In this strategy ‘inner Sydney’ means living within 10km of the CBD.

\(^3\) Taverner Research (2009) p7

\(^4\) Taverner Research (2009) p7 and p13

\(^5\) Taverner Research (2009) p7

\(^6\) The 16% of regular cyclists averaged 3.5 trips per week; 35% bicycle to work’ averaging 15 trips per month. (16% x 35% = 5.6% of adults commuting to work). Interesting 64% of the 16% have started in last 5 years pointing to a surprisingly high churn rate.

\(^7\) Australian sales totalled 1.2 million in 2008, up from 775,000 in 2001 (ABS figures).

\(^8\) AMR Interactive (2009) p44 confirms this trend.

Analysis of Census data showed that Inner Sydney residents cycling to work increased from 5313 in 2001 to 6211 in 2006, an increase of 17 per cent (See Figure 2 overleaf). This represented a cumulative increase of 93% from the 1996 Census when just 3205 people cycled to work from inner Sydney.\textsuperscript{10}

\begin{table}[h]
\centering
\begin{tabular}{|c|c|}
\hline
Age Groups & Infrequent (cycle <once per month) plus potential cyclists (no bicycle but interested in cycling) \\
\hline
18 to 24 & 69\% \\
25 to 24 & 69\% \\
34 to 44 & 53\% \\
45 to 55 & 50\% \\
\hline
\end{tabular}
\caption{Inner Sydney residents as infrequent and potential bike riders}
\end{table}

\textit{Source: Taverner Research (2009) p8}

\textbf{Motivations to cycle}

For most adults the strongest motive for cycling is health and fitness, in other words, feeling great and looking good. The 2009 Taverner Research findings, shown in Figure 3 (overleaf), are typical.

The health and fitness benefits include relaxation and stress relief. One regular rider commented "It is my little bit of time alone."\textsuperscript{11}

The pleasure of cycling is a motivator in its own right. Cycling revives fond childhood memories mixing freedom and pleasure.

"This is great, having the wind on your face, being out in the fresh air. Why don’t I do this more often?"\textsuperscript{12}

Focus group research with inner Sydney residents found that: "Riding bicycles prompted very positive childhood memories for all participants and was seen as an opportunity to re-embrace youthfulness, freedom, fun and excitement."\textsuperscript{13}

Another motive to cycle, more often held by regular cyclists than non-cyclists, is that cycling can be a satisfyingly, efficient mode of travel compared to both driving and using public transport.

"Riding past all the cars in queued up traffic. I get a very positive feeling", said a regular inner Sydney cyclist.\textsuperscript{14}

\textbf{Enablers to cycle}

\textbf{Perceived safety}

Cycling is widely perceived to carry a number of risks (as shown in Figure 4, pg 9), as identified by the research participants.

The foremost perceived concern was physical safety. However, embarrassment is also a consideration e.g. arriving sweaty at work or feeling silly wearing cycling gear.\textsuperscript{15} Personal security and fear of bicycle theft are also important perceived issues.

\begin{itemize}
\item \textsuperscript{10} Rissel and New (2008)
\item \textsuperscript{11} Daley et al (2007) p46
\item \textsuperscript{12} Ethnographic research participant, AMR Interactive (2009) p21
\item \textsuperscript{13} Daley et al (2007) p45
\item \textsuperscript{14} Daley et al (2007) p46
\item \textsuperscript{15} AMR Interactive (2009) p13
\end{itemize}
Figure 2: The growth in cycling participation in Sydney between 2002 and 2007

Figure 3: The perceived benefits of cycling amongst inner Sydney residents

Cycling on roads is widely perceived to be very unsafe. Rissel (2002) randomly selected motorists and found they grossly overestimated the risks of cycling. Most greatly overestimated the number of cyclists killed each year; 25% thought it extremely likely, 20% very likely and 31% quite likely that they would be hit by a motorist if they cycled on a main road.

“I don’t feel safe at the moment, I know a few people, parents or whatever who have been hit by or killed by car in bike accidents, and it’s the mindset of riding a motor bike, or riding a bike, and you are not protected like you are in a car – I don’t think Sydney motorists especially take much notice.”

“Car drivers see us as too slow and pedestrians see us as dangerous and too fast, so we can’t win.”

The City has responded by commencing construction of a network of cycleways and shared paths. The social research confirms that this is the single most important precondition for significant increases in the number of people cycling.

“If there were designated bicycle tracks, then I think you would find a lot more people would get out there if they knew they could get from A to B without necessarily having to get on the road.”

Daley et al (2007) found that

“All riders agreed that improved cycling infrastructure would be a significant enabler, and many believed it was the necessary foundation for increasing community participation in cycling.”

“Green cycling paths in particular were strongly approved of – not only because they provided visibility of cycle paths, but because they sent a strong message that cyclists have their own, sanctioned space.”

16 AMR Interactive (2009) p14
18 Focus group participant, AMR Interactive (2009) p14
20 AMR Interactive (2009) p23
However, cyclists readily criticise paths that don’t join up. Connection matters. Paths need to lead to desired destinations and interconnect as whole routes, not just pieces of a jigsaw.

**Legitimacy**

In addition to safe routes, potential cyclists need to sense that cycling is a legitimate, socially sanctioned activity.

“I am sick to death of being (treated as) a second class citizen because I don’t drive a vehicle that kills and pollutes.”

“Commuter cycling, in particular, was not perceived as a legitimate or sanctioned form of transport and commuter cyclists (particularly in metropolitan areas) were maligned as law-breakers who had no place either on roads or footpaths.”

Typically, motorists see cyclists as obstructions who behave with little regard for the rules that drivers obey. Research for the NSW BikePlan (2010) found that motorist’s disrespect for cyclists was strong and often stridently expressed.

“I don’t like cyclists. They’re an absolute pain in the arse on the road.”

Tackling these attitudes and perceptions requires a complex response. At root they are likely to be driven by drivers’ negative experiences of interacting with cyclists in crowded and frustrating road environments. Motorists’ having a better understanding of how to share the road with cyclists is one solution. Separated cycleways is another (discussed above), as is normalisation.

When friends, workmates and families have positive conversations about cycling, it becomes more normalised in their social networks. Those conversations in turn depend on people having positive experiences related to cycling or at least vicarious positive experiences through the media. Large scale cultural events, sanctioned by authorities and supported by respected voices – music, fashion, film events, ride to work days, cycling festivals with street closures – are efficient ways to generate positive experiences. When people talk positively about these events, their conversations normalise cycling as part the culture of the city. Effectively, they allow “cycling” and “Sydney” to comfortably coexist in the collective mind. This has been the experience in other cities which have developed (or rediscovered) a strong cycling culture, as evidenced by this quotation from the Danish Embassy for Cycling.

“For more than half a century, bicycles had steered their way into the core of Danish self-perception through the visual arts, poetry and music.”

The Danish Cycling Embassy

**The confidence to cycle**

Oddly, self-efficacy – the confidence in one’s own capacity to successfully execute a task – has not been the subject of social research in the context of cycling. However it has been widely studied in other contexts and most psychologists believe it’s a fundamental enabler of personal action.

Self-efficacy is learnt by hands-on familiarity or by observing the behaviours of respected others (modelling). Any initiative that gives people a chance to experience unfamiliar activities in a safe environment or that exposes

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22 AMR Research (2009) p10
23 BikePlan NSW (2010) p11
24 For a summary of ideas and research around of Self-efficacy, see http://en.wikipedia.org/wiki/Self-efficacy
them to the positive example of their peers can be expected to build self-efficacy.

Examples in the cycling context include:

- Bicycle skills training;
- Bike buses and Group rides; and
- Ride to work days.

**Route knowledge**

Novice cyclists often incorrectly assume they must cycle on main roads to reach their destinations:

“I am petrified to cycle from Enmore into the city because you’d have to go along King Street, which is always a traffic nightmare.”

Knowledge of safe and pleasant routes is a key enabler. Currently this knowledge often tends to be local lore passed through local social networks. If you’re not in the right network, it can be hard to find out the best routes. Increasing access to this knowledge is vital.

Current and planned work by the City of Sydney to address this barrier includes:

- The development of a directional signage strategy;
- Promoting the Journey Planner currently being developed by Transport NSW and the RTA; and
- Continue distribution of the current LIVEGREEN Sydney Cycle Map.

**Employer support in the workplace**

For commuter cycling, the provision of end-of-trip facilities (i.e. showers, lockers, towel services and secure bike parking) is well recognised as an important enabler of the trip to work.

The active encouragement of employers is equally significant. A recent survey of 888 workers in inner-west Sydney found that those in workplaces that encouraged active travel were significantly less likely to drive to work (49%) than those without this encouragement (73%).

**Workplace Travel Planning**

Workplace Travel Planning is an approach to encourage sustainable staff commuting patterns including cycling participation. The process involves identifying physical, operational, and social barriers to sustainable travel and developing a range of initiatives and measures to provide access through sustainable travel choices (i.e. walking, cycling, public transport, carpooling and work practices such as teleworking). While it is possible for workplaces to engage in travel planning proactively, small to medium and large enterprises will lack the expertise to develop and implement initiatives.

**The enabling objectives**

A model of enabling factors was prepared based on research and input from the working group. The working group prioritised investment in the following factors (as shown in yellow in Figure 5 overleaf).

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25 Novice riders can also gain confidence through cycling in numbers which increases ones perception of safety

26 AMR Research (2009) p10


28 AMR Interactive (2009) p17, p19, p24

29 Tin Tin et al (2009)

30 Wen et al (2009)
Figure 5: Enabling factors to increase regular cycling

- **Confidence in own skills to cycle safely**
- **Getting that old bike tuned up**
- **A chance to trial without buying a bike**
- **Legitimisation of bicycling in city culture**
  - Having cycling gear
  - Know how to ride comfortably

- **Safe, efficient, pleasurable routes to desired destinations (a coherent network)**
  - Connectivity to other modes; interchange parking

- **Employer encouragement**
  - (Wen, Kite, Rissel 2010)
  - Doing it with others (Bovles, Ricci, Bauman 2006)
  - Bike-friendly public transport (Tin Tin et al 2010)

- **Knowing the best route for your trip**
  - Know cycleways and shared paths are rule-based environments
  - Visible enforcement
  - Minimum interaction with cars
  - Acceptance by drivers

- **Perceived safety (reduced stress)**

- **Individual enablers**

- **Trip enablers**
  - If feasible
  - If present

- **Destination enablers**
  - If present

- **Cycling more regularly**
  - Parking
  - Showers, lockers (and towels) (Tin Tin et al 2010)

- **Engagement and concrete social change**
  - (Nadel et al 2011)
Safe, efficient, pleasurable routes to desired destinations

Being able to get to your destination efficiently and pleasurably, with minimum interaction with motor traffic is the single most effective enabler of cycling.

Legitimisation of cycling in the city

A higher profile for cycling in Sydney, both through direct experience, and through the media, increases the perceived legitimacy of cycling as a normal and expected transport mode.

Understanding the ‘big picture’ vision for cycling in Sydney

It is vital that public debate on the City’s cycleway plans includes the issues that are driving the investment – social, environmental and economic (e.g. road congestion, health and well-being, economic competitiveness and air pollution). The more people understand this perspective, the more balanced the resulting debate will be.

Confidence in own skills to cycle safely

Cyclists who are out of practice or unfamiliar with commuting need opportunities to practice in a safe and reassuring environment. Social initiatives that bring people together are important ways to lower the perceived risks of cycling. This can be achieved through initiatives which involve opportunities for people to cycle in numbers, particularly with more experienced cyclists from whom they can develop self-efficacy.

Note on current cycle training courses

The Strategy design team propose that the City of Sydney continues support for its current cycle training courses. There is strong evidence they have been successful in attracting interest from the public as they are often over subscribed. These courses have also proven effective in increasing peoples’ confidence to cycle.\(^{31}\)

However, there is a need to ensure this program provides value for money in the context of other initiatives that may need funding. We suggest the program be redesigned with a focus on increasing the numbers doing these courses and reducing the costs. Current promotion efforts should be reviewed and strengthened. We strongly suggest that a small fee be charged for the training (say $15) to reduce the drop-out rate and partly subsidise the City’s investment.

Also, if feasible, the training should go ‘on the road’ as part of the Village cycling roadshow (see section 8.7), increasing its profile.

Knowing the best routes for your trip

Cyclists can easily locate safe, pleasant routes to their destinations.

Employers encouraging their staff to cycle and provide the right end of trip facilities

Businesses are encouraged and given direct support to initiate workplace cycling initiatives, including through Workplace Travel Plans.

Recommended initiatives

To realise these objectives, the following programs of action are recommended.

Program 1: Event promotion program

Purpose: Increase the audience reach of cycling-related promotional events in inner Sydney such as ‘Sydney Spring Cycle’, ‘National Ride to Work Day’ and ‘Gear up Girl’. Currently, these events are produced by independent groups and organisations. The City will use its communication resources to increase the reach of promotion of these events, so that more people hear about them and more people attend / participate.

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\(^{31}\) Tefler et al (2005)
Program 2: Artistic bike racks competition
Purpose: Quirky and ‘buzz-worthy’ bicycle racks at prominent locations in the city (e.g. at iconic locations like the Opera House or Hyde Park) aim to create positive conversation that legitimises cycling in Sydney and changes the streetscape to announce that Sydney’s cycling culture.

Program 3: Big picture campaign
Purpose: Ensure that debate on cycleways and cycling in Sydney is informed by widespread public understanding of the larger issues at stake.

Program 4: Friends of sustainable Sydney
Purpose: Ensure that opinion leaders, stakeholders and supporters are accurately informed of the city’s plans, the rational for them, and what to expect.

Program 6: Cycling roadshows in the villages
Purpose: Changed behaviour often depends on personal interaction with enthusiastic, trusted individuals who can pass on skills and confidence. The road shows aim to be buzz-worthy neighbourhood-level events that bring residents interested in cycling together with people who can provide the right advice, support, and resources to help them lower the perceived risks of change. Experiencing cycling in a safe environment and experiencing cycle routes in group rides will contribute greatly to personal confidence.

Program 7: Employee program
Purpose: To increase the number of city businesses that actively promote and support cycling by their employees; including provision of safe parking facilities, showers and lockers; and positive encouragement of staff to cycle, including (senior) managers or CEOs acting as role models.

Program 8: Sydney loop ride
Purpose: A sign-posted scenic loop ride, including the foreshore to provide a reassuring ‘soft entry’ for those unfamiliar with cycling in Sydney, including tourists and visitors.

Program 9: Community leadership program
Purpose: Stimulate the creation of new community-based cycling initiatives in inner Sydney through capacity building in the community.

Program 10: Explore your city program
Purpose: The aim is to get large numbers of people experiencing the city’s villages together through cycling; increase the profile of cycling; increasing the confidence of cyclists; increasing route knowledge; and raise profile of participating businesses.

Briefs for each initiative are presented in Chapter 8.
4. Behavioural Outcome 2: Considerate, legal cycling

Overview
The goal of this behavioural outcome is to reduce inconsiderate and illegal cycling, on and off the road.

The desired behaviours

Cyclists on shared paths:
- Using bells while overtaking shared path users, including people walking, joggers, runners, dog walkers;
- Giving way to pedestrians at all times; and
- Maintaining a 1-metre distance when overtaking.

Cyclists on roads:
- Obeying the rules of the road;
- Not running red lights and stop signs;
- Not using pedestrian crossings; and
- Cycling on the correct side of the road.

The intended actors
There is no available research to characterise the kinds of cyclists responsible for inconsiderate or rule-breaking behaviour. However the social research undertaken for this Strategy suggests virtually all cyclists commit these behaviours from time to time.\(^{32}\) Inevitably, however, a small proportion is likely to be responsible for more frequent inconsiderate/rule breaking acts. For example, a UK study found that speeding cyclists tended to be male (71%) and younger, with an average age 25 years.\(^ {33}\) Data from Toronto, Canada showed that 77% of bicycle-motor vehicle collisions involved male cyclists with an average age 29.6 years.\(^ {34}\)

Other UK research has indicated that those who cycle in groups and who cycle for exercise may be more often responsible for conflict with pedestrians.\(^ {35}\)

The targets
- 80% of pedestrians feel very safe or extremely safe when sharing paths with cyclists by 2016. (As a comparison, the average ‘very safe’ and ‘extremely safe’ for five shared paths studied in 2009 was 53%. The safest were Hyde Park at 70% and Glebe Foreshore at 61%.\(^ {36}\))

Motivations to cycle considerably and legally
Interactions with pedestrians can sometimes create anxieties and frustrations for cyclists, such as the fear of colliding with a pedestrian or coming off one’s bike and being injured. Another is the fear of being berated for doing the wrong thing (e.g. using a bell when approaching pedestrians). Uncertainty about rules itself is a source of anxiety. For most cyclists these factors provide motivations for adopting new forms of etiquette on shared paths.

Another motivation for good etiquette is fitting in, that is, the tendency to follow observed social norms. As the density of cyclists increases, provided the majority follow etiquette, the more the etiquette tends to becomes irresistible. However the density of cyclists in Sydney is still relatively low and it may be too early to expect social norms to exercise a strong influence. However it is important to generate a clear notion of good etiquette now, so that as the number of people

\(^ {32}\) Refer to Social Research Report in Appendix B
\(^ {33}\) Davies et al (2003) p8
\(^ {34}\) Tomlinson, D. (undated)
\(^ {36}\) GA Research (2009) p15
cycling increases, they have a common standard to follow.

Improving cyclist behaviour on roads, by comparison, represents a more difficult behavioural challenge. The reason is that self-preservation and getting to destinations quickly (or convenience) are strong motivations for many illegal behaviours. There appear to be few strong motivators available to counter the influence of these motives.

Two available motives may be fear of enforcement and compliance with social norms. Enforcement depends on police policy and resources. Social norms only tend to operate in places where there are plenty of people cycling. As the number of people cycling increases this motivator will become more important. Again, generating a clear understanding that road rules apply to cyclists lays the foundation for social norms to become more effective in future.

Because motivation for legal cycling on roads is problematic it is more likely that infrastructure measures, such as separation, will be more effective in influencing the behaviour of cyclists on roads.

**Enablers to cycle considerably and legally**

**Cyclist behaviour on shared paths**

Shared paths, by definition, accommodate a great diversity of users and purposes. People are travelling to destinations, wandering, standing around, socialising, strolling for health or exercising. And they are doing so by fundamentally different technologies: legs, bicycles, prams, skateboards, in-line skaters etc. This diversity of purposes and technologies creates the potential for conflict.

Despite this diversity, serious pedestrian-cyclist accidents on shared paths are rare. There were six reported bicycle-pedestrian collisions in 2008 in the City of Sydney.\(^37\)

Participant observational surveys commissioned as part of the ethnographic research for this Strategy show that pedestrians and cyclists generally mingle peacefully. During over 10 hours of observational surveys, including morning peak hour on Pyrmont Bridge and a full Saturday on Glebe Foreshore, no instances of conflict (with impact or near misses) were noted.\(^38\)

However that is not the whole story. Although the real risk of physical injury on shared paths is low, the apprehension of danger may be relatively high, and many people have had experiences that confirm their fears. In research along the Glebe foreshore for instance, 8% of pedestrians reported having been knocked over by a cyclist and 33% reported being frightened by a cyclist travelling too fast.\(^39\) Every cyclist who participated in the focus groups commissioned for this study reported witnessing or being involved in near misses with pedestrians and a majority of cyclists had come off their bikes at some time in order to avoid a collision with a pedestrian.\(^40\)

However, the incidence of these events was relatively low.

The main behaviours that cause the apprehension of danger are:

- on the part of cyclists: riding at high speed, overtaking too close, and failure to signal before overtaking, and
- on the part of pedestrians: blocking the path, unpredictable movements, and crossing the path without looking.\(^41\)

It is significant that every participant in the focus groups, whether pedestrian or cyclist, admitted to inconsiderate or rule-breaking behaviour at some time.

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37 Roads and Traffic Authority data based on police accident reports.

38 GHD (2010c)

39 GA Research (2009) p20

40 GHD (2010b) 5.2.3

All participants in both focus groups identified themselves as breaking the rules of shared paths at some point in time. Cycling participants claimed that in most cases their rule breaking was unintentional and justified by the need to avoid collisions or accidents with pedestrians. On the other hand, members of the pedestrian group commented that in their mind, convenience takes precedence over following shared path rules and they are more likely to break the rules if part of a large group, commuting to work, are in a rush or listening to music.

Comments from cyclists and pedestrians in the focus groups revealed diverse interpretations of the rules, if any, that applied to shared paths (see below). This is especially true of the use of bells, where there was a stark difference between the expectations of cyclists and those of pedestrians.

How cyclists and pedestrians understand shared path rules

**Cyclists on the rules:**
- “Stay on your side of the line.”
- “Pedestrians have priority.”
- “I often scare the crap out of pedestrians but I don’t break the rules.”
- “There’s no rules. If there was a rule I’d follow it.”
- “The faster one [shared path user] gives way.”
- “The main rule is to avoid a collision.”
- “Just stay aware of what’s going on.”
- “On Pyrmont Bridge I regularly exceed the 10km speed limit.”
- “If you’re in a hurry you’ll often overtake at an unsafe distance.”

**Pedestrians on the rules:**
- “Keep left, don’t take up the whole path.”
- “Pedestrians have right of way.”
- “If I’m in a group, it’s not convenient to walk behind your friends.”
- “Keep left and keep your eyes open.”
- “Groups of cyclists are more likely to break the rules.”
- “I tried the RTA website to find out rules about footpaths and shared paths and I couldn’t find anything.”
- “You’re more likely to break the rules with friends.”

In the focus groups commissioned for this study 8/8 pedestrians were in favour of belling, but only 3/8 cyclists had bells fitted to their bicycles and those cyclists gave reasons why they preferred not to use them (see below).

The available evidence suggests that the majority of pedestrians would welcome considerate bell use and appreciate the warning that a cyclist is about to pass. Unadvertised passing, especially at high speed, is the most frequent complaint by pedestrians.

Considerate bell use per se, simply as a form of communication, may in itself lower conflict.

**Differing perceptions of belling**

**Cyclists on belling:**
- Only 3 out of 8 cyclists had bells, but they used them rarely. All said they’d rather call out than use a bell.
- “Whenever I use the bell people just freeze and flap around. I tend to avoid using the bell because people take it as aggression.”
- “I have one but rarely use it. When I do I feel rude.”
- “I’ve been berated a couple of times [by pedestrians] but I don’t have one.”
- “I call out ‘behind you there’ and they don’t get alarmed.”
- “I say ‘on your right’ though that got me bad looks. It makes them freeze while they think.”

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42 GHD (2010b) 5.2.5
43 GA Research (2009) p20
“I call out ‘excuse me’ then ‘thank you’ when I pass. It’s a horrible sound. I don’t like being belled at.”

“I’ve been abused by an older person for not using a bell. I always say thank you after people move. It’s mainly a matter of courtesy.”

**Pedestrians on belling:**

- Should cyclists use bells? All eight participants said “yes”.
- “Bikes are quiet and come up quickly, [a bell] is a definite sign it’s a bicyclist.”
- “Bad belling is frequent, non-stop. One-two dings is enough.”

User expectations matter greatly in the perception of risk. Unclear, contradictory expectations set the scene for conflict. Clearly communicating common rules for shared paths and establishing a widely understood etiquette will therefore be important in reducing the potential for conflict.\(^{45}\)

The Roads and Traffic Authority (RTA) has developed an advisory signage system to communicate the rules for shared paths.

Davies (2000) evaluated the effectiveness of shared path rules signs in Brisbane and found that signs can make a difference in path sharing behaviour and to help increase people’s knowledge about how to share paths.

Advisory signs are vital to explain to the law-abiding majority what the rules are and prevent a given space degenerating into anarchy. Such signs need not be numerous and are best placed at entry points.

Signs by themselves, however, are a limited behavioural tool. They easily become an invisible part of the background. Even when a particular rule is known people look to the behaviour of other users to determine whether the rule should be followed, an example of social norms at work.

In the short term, therefore, as social norms are being formed, a campaign of attention-grabbing measures will be recommended to draw the rules to people’s attention and ensure that the great majority are aware they are entering a rule-based environment.

Conflict, however, involves more than unclear rules. Research into shared path use commissioned by the UK Countryside Agency\(^ {46}\) concluded that conflict tended to be more common in crowded situations, where users were part of groups, and where the path was being used for exercise. The social research for this study also confirmed that conflict was more common when either pedestrians or cyclists were groups.

“If I walk I’m gonna just do what’s convenient. If I’m in a group it’s not convenient to walk behind your friends.”\(^ {47}\) (Pedestrian)

“2-3 people running together – that’s the worst.”\(^ {48}\) (Cyclist)

Significantly, the UK study also found a correlation between perceived conflict and the state of the path itself - poor lighting, poor visibility, poor maintenance and unkempt verges. In the focus groups, the anxiety level of both cyclists and pedestrians was correlated with similar conditions (see Table 4 overleaf)\(^ {49}\).

In City of Sydney research pedestrians on the

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\(^{45}\) Interestingly, one the UK Countryside Agency study’s conclusions are that the perception of conflict was increased by lack of communication between cyclists and pedestrians.


\(^{47}\) Participant in GHD focus group - 17 June 2010

\(^{48}\) Cyclist in GHD focus group. Notes taken by Les Robinson 17 June 2010

\(^{49}\) Focus group participants identified these anxiety points: “Alison Road, near UNSW - The shared path is very narrow and a blind spot. A stressful bit of path at night and poles in the road”; the little chicane on Anzac Bridge - You’d get impaled on a fence if you got it wrong”; “Coming off at Channel 10 is hairy! - Where pedestrians and cars and cyclists all come together and a driveway coming from units.”
narrow path in Edmund Resch Reserve felt the least safe of any in the study, yet did not report worse cyclist behaviour.\(^\text{50}\) It’s therefore likely that design of the path itself may be a significant player in perceived conflict.

**Table 4: Situations that cause anxiety for pedestrians and cyclists**

<table>
<thead>
<tr>
<th>Pedestrians feel anxiety when walking on paths that are</th>
<th>Cyclists feel anxiety when riding on paths that</th>
</tr>
</thead>
<tbody>
<tr>
<td>Poorly lit</td>
<td>Are narrow with poles, and blind spots</td>
</tr>
<tr>
<td>Narrow</td>
<td>Have chicanes and speed bumps</td>
</tr>
<tr>
<td>On hills where cyclists travel down at high speed</td>
<td>Have junctions where pedestrians and cyclists turn in front of one other</td>
</tr>
<tr>
<td>Poorly maintained</td>
<td></td>
</tr>
<tr>
<td>In close proximity to motor vehicles</td>
<td></td>
</tr>
<tr>
<td>Crowded with both cyclists and pedestrians</td>
<td></td>
</tr>
<tr>
<td>On corners and contain blind spots</td>
<td></td>
</tr>
<tr>
<td>Source: GHD (2010b) Table 3.</td>
<td></td>
</tr>
</tbody>
</table>

In summary, although conflict may sometimes be due to chronically inconsiderate individuals, conflict is also situational. It occurs most commonly where lack of clear rules meets poor path design, meets people in groups.

In 2006 Queensland Transport published a contemporary guide to reducing conflict between cyclists and pedestrians that focused strongly on infrastructure solutions to conflict including:

- Widening paths at points of conflict, for instance, at blind corners;
- Separating cycle and pedestrian paths at points with limited visibility;
- Ensuring that positioning of trees, poles, park furniture allows for emergency escape;
- Strategies for slowing bikes when approaching points of conflict;
- Installing best lighting for the environment;
- Ensuring key signs are lit at night;
- Consistent path layouts;
- Use of surface treatments or restricted curves approaching potential points of conflict;
- Providing physical separation where the volume of bicycle/pedestrian traffic exceed 300 bikes per hour; and
- Adequate maintenance.\(^\text{51}\)

**Cyclist behaviour on shared roads**

In 2008 there were 102 reported collisions between cyclists and motor vehicles in the City of Sydney.\(^\text{52}\) It is likely that cyclists were injured in most of these cases. Over the past 10 years, three cyclists have been killed in collisions in the City of Sydney.

There is no available analysis of the attributed causes of these collisions. However, comparable San Francisco data may provide a guide. The data characterises cyclist fault in the most common kinds of bicycle-motor vehicle collisions (see Table 5 overleaf).

Five most common cyclist faults in bicycle-motor vehicle collisions: percentage of all reported collisions 2008-2009.\(^\text{53}\).

Although cyclists are at fault in only a minority of cyclist-motor vehicle collisions, many

\(^{50}\) GA Research (2009) p10


\(^{52}\) Roads and Traffic Authority figures based on police accident reports. The total reported cyclist injuries in 2008 in the City of Sydney was 131.

\(^{53}\) San Francisco Municipal Transportation Agency (2009) p5–6
motorists maintain very negative views of cyclists on roads:

### Table 5: Reported cyclist faults in road collisions

<table>
<thead>
<tr>
<th>Reasons for collisions attributed to cyclists</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unsafe speed</td>
<td>11%</td>
</tr>
<tr>
<td>Failure to stop at red light</td>
<td>9%</td>
</tr>
<tr>
<td>Wrong side of roadway</td>
<td>6%</td>
</tr>
<tr>
<td>Yield to approaching traffic</td>
<td>6%</td>
</tr>
<tr>
<td>Failure to stop at stop sign limit line</td>
<td>5%</td>
</tr>
</tbody>
</table>

“They don’t obey road rules, they run red lights, they do all sorts of things, they don’t use helmets, they break so many laws and yet they’re not accountable for those actions under any rules. They don’t have to pay registration; they don’t have to do anything. They can do whatever they feel like. They’re absolutely atrocious.”

These views are reflected in media stories. Approximately 33% of cycling-related articles in metropolitan newspapers in 2008 framed cyclists as “irresponsible lawbreakers”, “pariahs”, “dangers to others”, “extremists” and “inconvenient”.

Cyclists hold similar views about motorists. A Google search for “cyclists”, “hate” and “drivers” found 104,000,000 pages.

It’s important to avoid taking sides in this vexed and polarised debate. Instead it needs to be recognised that competition for space on inner Sydney’s congested road system sets the scene for frustration, anxiety and conflict between cyclists and motorists.

It is possible that much seemingly aggressive behaviour of cyclists may be a normal response to the conditions that they face:

“Since the city denies cyclists the barest minimum of space or respect, cyclists must carve out their own safe and efficient path as best they can.” – Transportation Alternatives 1993

“You’re marginalised on the road and it breeds aggressiveness. I tend to behave myself on shared pathways. But I ride aggressively on roads to prove I have a right to be there. You learn to throw your weight around.”

An observational study of New Zealand cyclists found that 10% of cyclists on a given road tended to ride in the motor vehicle traffic space even when adequate cycle space was available. When faced with obstacles the number of cyclists moving into traffic lanes increased:

“As the available cycle space decreased, the likelihood of cyclists riding in the motor vehicle traffic space increased. When confronted with a discontinuation of their path, cyclists moved purposefully into the traffic stream, typically without turning to look behind for motor vehicles.”

“Cyclists manage hazards they encounter by ‘occupying the space’, even when this is in conflict with other vehicles. A roadside hazard such as a raised utility cover will, when combined with a cyclist, become a problem to be managed by motorists. Cyclists have a tendency to move out into the vehicle lane (and rarely look back) and rely on the motorists to respond…Every road user is affected by and manages a roadside hazard.”

The best way to influence behaviours that are caused by infrastructure is through infrastructure interventions. It is therefore considered unlikely that interventions such as signage or social marketing are likely to have a sustained effect on the behaviours of cyclists in traffic.

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54 AMR Research (2009) p11
55 Rissel et al (2010c)
56 Cyclist, GHD (2010b)
57 Walton and Thomas (2007) abstract
58 Walton et al (2005) p9
The City of Sydney’s proposed system of cycle paths, ranging from bicycle lanes on minor roads, to fully separated cycleways on major routes, is therefore a logical way to proceed.

Provision (and better sharing) of route information that allows cyclists to avoid heavily trafficked roads is another logical initiative.

**The role of enforcement**

Enforcement was also an approach proposed by the working group, albeit cautiously.

The visible presence of rangers and police on bicycles may contribute to a feeling of reassurance to both shared path users and motorists. Enforcement by issuing fines is, however, a two-edged sword. Some authorities warn against the danger of heavy-handed enforcement on shared paths because it reduces the attraction of the experience for all users. Where enforcement becomes a significant behavioural tool (as in mandatory seat belt laws) a permanent, significant investment in enforcement is likely to be required. Regulation is most effective when it sets behavioural norms that can be self-enforced by users (as in littering behaviour) or becomes a fashionable norm.

For the Strategy, some enforcement of cyclist behaviour is likely to be inevitable if only because the City has little influence over the policies followed by local Police commands. Ideally, this enforcement should be as light-handed as possible. Light-handed intervention by rangers may also be useful in the case of behavioural hotspots where conflict is high.

**The enabling objectives**

A model of enabling factors was prepared based on research and input from the working group. The working group prioritised investment in the following factors (as shown in yellow in Figure 6 overleaf). An additional enabling factor, reducing anxiety hotspots, was later added based on a review of existing research.

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59 Moore (1994) p35
Figure 6: Enabling factors to cycle considerately and legally

- Normalisation of bell use
  - People know the right way to respond to a bell
  - All know that bells and belling are expected
- Expectation of enforcement
- Legible, known rules (esp. on shared paths)
- Safer road environment
- More cyclists on the road
- Greater sense of community amongst cyclists
- Considerate, legal cycling
- All bikes sold with bells
5. Behavioural Outcome 3: Considerate, safe pedestrian behaviour on shared paths

Overview
The goal of this behavioural outcome is to encourage behaviour among people when they are walking which reduces anxiety for other users of shared paths.

The desired behaviours
- Keep left;
- Stay alert for cyclists;
- Respond appropriately to bells – act rationally and keep to the left;
- Monitor children and pets; and
- Avoid blocking paths.

The intended actors
All pedestrians using shared paths, including joggers, runners and dog walkers.

The target
80% of pedestrians on shared paths can identify a shared path and know the basic rules of considerate coexistence, by 2016.

Motivators for considerate, safe pedestrian behaviour
Safety and reducing anxiety are motivating factors for improved behaviour by pedestrians on shared paths. However these are not strong motivators, as only a minority of pedestrians actually feel unsafe on shared paths. A confounding factor is obliviousness. While cyclists intently survey the path ahead, pedestrians can’t be expected to survey the path behind and are often distracted by friends, phone calls, iPods, children, dogs etc. For both these reasons infrastructure design is more likely to consistently influence pedestrian behaviour than “soft” measures.

Enablers for considerate, safe pedestrian behaviour
Cyclists raise a number of concerns about pedestrian behaviour. The most frequent pedestrian behaviours that cause conflict with cyclists include:
- Blocking the path;
- Crossing the path without checking for cyclists;
- Unpredictable movement when they hear a bicycle bell being used;
- Failure to control children or pets; and
- Failure to keep to the left.

GHD focus groups revealed some of the points of conflict between pedestrians and cyclists.

Cyclists on pedestrians:
- “Cars are more predictable than pedestrians.”
- “There’s no rules for pedestrians.”
- “2-3 people running together – that’s the worst.”
- “An old couple… I yelled… one jumped in each direction. I came off. If they’d stayed where they were I’d be fine.”
- “Pedestrians change direction quickly or walk across the road. You can’t predict what they’re gonna do.”
- “I wonder how many pedestrians know it’s a shared path – the signs are little and high.”

Pedestrians on cyclists:
- “I get a fright when someone blazes in front of me.”

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60 GA Research (2009) p15
61 For a list of pedestrian behaviours that lead to conflict see Queensland Transport (2006) p7
“Groups of cyclists are more likely to break the rules.”
“Any cyclist at that speed shouldn’t be on a shared pathway.”

It is probable that pedestrian behaviour is most dangerous when pedestrians are not aware they are on a shared path. For instance, in a study of five shared paths in inner Sydney, pedestrian behaviour was least safe at Belmore Park, where only half of pedestrians realised it was a shared path.\(^{62}\)

Pedestrians in groups are a particular problem, both because they can block the path and because they are distracted by their own company.

Note that pedestrians are more likely to notice stencils than signs: “As a pedestrian you don’t go looking for signs. The road painted signs are better.”\(^{63}\)

**The enabling objectives**

A model of enabling factors was prepared based on research and input from the working group. The working group prioritised investment in the following factors (as shown in yellow in Figure 7 overleaf)

**Normalisation of belling**

Considerate bell-ringing should become a normal and expected behaviour for cyclists on shared paths, as it is in many other cities.

**Legible shared paths**

Shared path users know they are in a shared environment and understand the basic rules of considerate co-existence.

**Recommended initiatives**

To realise these objectives, the following initiative is recommended.

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\(^{62}\) GA Research (2009) p7

\(^{63}\) Participant in GHD focus group. Notes taken by Les Robinson 17 June 2010.
Figure 7: Enabling factors for considerate, safe pedestrian behaviour

- Legible shared paths
- Legible, known rules
- Normalisation of bell use
- Pedestrians know that bells are expected
  - All bikes sold with bells
- Pedestrians know the right way to respond to a bell

Considerate, safe pedestrian behaviour
6. Behavioural Outcome 4: Considerate, safe driving around cyclists

**Overview**

The goal of this behavioural outcome is to encourage considerate, safe driving behaviours in order to increase the real and perceived safety of cyclists.

The desired behaviours

- Overtake cyclists at safe distances (minimum 1-metre);
- Do not cut off cyclists especially at left hand turns; and
- Check all mirrors and over shoulder before opening car doors.

**The intended actors**

All motorists.

**The target**

80% of cyclists feel comfortable when cycling in the city by 2016.

**Motivators for considerate, safe driving around cyclists**

Driving in Sydney’s stop-start traffic conditions is often stressful. Motorists tend to consider cyclists on the road as obstacles to their progress, and they are uncertain about how to negotiate them safely. Many drivers feel intense frustration and anxiety when sharing the road with cyclists, and other road users such as motorbike riders.

“In the city on the street, I find that a negative thing, holding up the traffic, an obstruction. Everyone hates those cyclists in the city…Yes, they drive you insane. You feel like running them over.”

Behind these attitudes there is not just frustration, but also reasonable fears:

“Sometimes it’s scary when there are cyclists on the side of the road and you are driving. You just don’t know what they are going to do. You stay behind and wait until it’s really safe to go past, and that really worries me a bit.”

Frustration and anxiety predispose people to taking actions to reduce those feelings. These emotionally charged statements therefore suggest that drivers have plentiful motivation to drive more safely around cyclists, provided, of course, that the methods of doing so are convenient and clearly communicated.

**Enablers for considerate, safe driving around cyclists**

The most common kind of cyclist-motor vehicle collision is vehicle doors being opened into the path of cyclists (156 reports in 1999-2008, see Table 6 overleaf). This is an accident that tends to cause serious injuries to cyclists.

Taken together, left and right side swipes are the second most numerous kinds of collision (150). Presumably these cases are mostly caused by drivers failing to observe bicyclists in their side and rear-view mirrors.

Collisions at intersections are also common (130). It is likely that cyclists would be at fault in a proportion of these cases. The other most common cases are vehicles turning right (118) and side swipe in a lane (98).

64 AMR Research (2009) p11

65 Tomlinson (undated)
### Table 6: Reported collisions involving cyclists 1999-2008, City of Sydney LGA

<table>
<thead>
<tr>
<th>Cause of accident</th>
<th>Number</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vehicle door opened in path</td>
<td>156</td>
<td>13.40</td>
</tr>
<tr>
<td>Intersection collision (either cyclist or motorist at fault)</td>
<td>130</td>
<td>11.17</td>
</tr>
<tr>
<td>Vehicle turning right</td>
<td>118</td>
<td>10.14</td>
</tr>
<tr>
<td>Side swipe within a lane</td>
<td>98</td>
<td>8.42</td>
</tr>
<tr>
<td>Cyclist travels from footpath onto road</td>
<td>91</td>
<td>7.82</td>
</tr>
<tr>
<td>Rear end</td>
<td>71</td>
<td>6.10</td>
</tr>
<tr>
<td>Bicycle hits pedestrian stepping into path (not involving parked cars)</td>
<td>70</td>
<td>6.01</td>
</tr>
<tr>
<td>Bicycle loss of control (no other vehicle involved)</td>
<td>56</td>
<td>4.81</td>
</tr>
<tr>
<td>Left turn side swipe (i.e. driver cuts in front of cyclist)</td>
<td>52</td>
<td>4.47</td>
</tr>
<tr>
<td>Lane change left (motor vehicle changes lane, colliding with cyclist)</td>
<td>35</td>
<td>3.01</td>
</tr>
<tr>
<td>Motor vehicle emerging from driveway</td>
<td>32</td>
<td>2.75</td>
</tr>
<tr>
<td>Lane change right (motor vehicle changes lane, colliding with cyclist)</td>
<td>25</td>
<td>2.15</td>
</tr>
<tr>
<td>Vehicle U-turn</td>
<td>22</td>
<td>1.89</td>
</tr>
<tr>
<td>Right turn side swipe</td>
<td>18</td>
<td>1.55</td>
</tr>
<tr>
<td>Other manoeuvre</td>
<td>15</td>
<td>1.29</td>
</tr>
<tr>
<td>Pedestrian on footpath</td>
<td>14</td>
<td>1.20</td>
</tr>
</tbody>
</table>

*Source: RTA Traffic Accident Data System based on police accident scene reports. Note that ‘vehicle’ refers to both bicycles and motor vehicles.*

The RTA data does not analyse driver fault, however data from San Francisco may provide a guide. This data characterises driver fault in the five most common kinds of bicycle-motor vehicle collisions (See Table 7).

Although it is difficult to say so with certainty, it may be that the most common driver failure that lies behind these statistics is a failure to imagine that cyclists may be present.

As is the case with pedestrians, driver obliviousness can be inherently difficult to address. No amount of advertising is likely to have an effect, simply because drivers will not be thinking about it as they open their doors or change lanes. The “soft” measures that are most likely to be successful will be signs and stencils in the driver’s immediate vicinity. One method to consider might be the distribution of bumper stickers with a message such as “I look behind for” and an image of a bicycle. If enough are distributed, there is a chance more drivers will be reminded to check for cyclists as they change lanes or open doors.

### Table 7: Five most common motorist faults in Motorist-cyclist collisions in San Francisco 2008-2009

<table>
<thead>
<tr>
<th>Reason for collision attributed to motorists</th>
<th>Percentage of all collisions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unsafe speed</td>
<td>11%</td>
</tr>
<tr>
<td>Failure to stop at a red light</td>
<td>9%</td>
</tr>
<tr>
<td>Opening car door when unsafe</td>
<td>9%</td>
</tr>
<tr>
<td>Field to yield when turning left</td>
<td>8%</td>
</tr>
<tr>
<td>Unsafe turning and/or without signalling</td>
<td>7%</td>
</tr>
</tbody>
</table>

*Source: San Francisco Municipal Transportation Agency 2009 p5-4*
Driver education may also have a role. One factor in conflict is driver’s knowledge of the road rules. Rissel et al (2002) surveyed 105 Sydney drivers and found that lower levels of road rule knowledge were associated with poorer attitudes towards cyclists. They also found that knowledge of rules relating to cyclists was surprisingly low. Only 19% knew that cyclists were legally entitled to ride two abreast, only 31% knew that cyclists were allowed to overtake to the left and only 44% knew cyclists were allowed to ride in a clearway at peak hour.

Many motorists believe that cyclist behaviour is unpredictable. In fact, seemingly unpredictable cyclist behaviour may be predicted in advance. For example, Walton et al (2005) commented that:

“Education is needed so that motorists …can scan the road ahead from a cyclist’s perspective to identify cycle obstacles that will force the cyclist into their path. This is particularly important near intersections, or at pedestrian crossing facilities, where road managers often constrict the space available to cyclists.”

A campaign of simple ‘how-to’ advice for driving in the vicinity of cyclists may therefore give drivers more confidence in dealing with the perceived uncertainties.

**The enabling objectives**

A model of enabling factors was prepared based on research and input from the working group. The working group prioritised investment in the following factors (as shown in yellow in Figure 8 overleaf).

**Legitimisation of cycling in the city**

A higher profile for cycling in Sydney, both through direct experience, and through the media, increases the perceived legitimacy of cycling as a normal and expected transport mode.

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**Understanding the ‘big picture’ vision for cycling in Sydney**

It’s vital that public debate on the City’s cycleway plans includes the issues that are driving the investment: road congestion, health and well-being, economic competitiveness and Greenhouse gas reduction. The more people understand this perspective, the more balanced will be the resulting debate.

**Drivers know road rules and understand how to share the road with cyclists**

Motorists need better understanding of cyclists’ rights to the road, better knowledge of how to drive safely around cyclists, and better ability to predict cyclist behaviours.

**Recommended initiatives**

To realise these objectives, the following initiatives are recommended.

**Program 1: Event promotion program**

Purpose: Increase the audience reach of promotional events for cycling-related events in inner Sydney such as Sydney Spring Cycle, National Ride to Work Day and Gear up Girl. Currently, these events are produced by independent groups and organisations. The City will use its communication resources to increase the reach of promotion of these events so that more people hear about them and more people attend.

**Program 3: Big picture campaign**

Purpose: Ensure that debate on cycleways and cycling in Sydney is informed by widespread public understanding of the larger issues at stake.

**Program 5: Coexistence campaign**

As part of this campaign, a pilot campaign targeted at drivers with the theme: Look behind you before open doors and changing lanes.

**Program 12: Advocacy to the RTA**

Purpose: To lobby the RTA to invest in road safety advertising to improve driver skills to ensure the safety of cyclists.

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67 Walton et al (2005) p10
Figure 8: Enabling factors for considerate, safe driving around cyclists

DRIVER BELIEFS, SKILLS and EXPECTATIONS:

- Legitimisation of bicycling in city culture
- Understand the 'big picture' vision for cycling for Sydney
- More drivers know HOW to drive safely around cyclists
- Better knowledge of road rules (better able to predict cyclist behaviour)
- Cyclists rights are better known
- Myths about cyclists dispelled

DRIVING ENVIRONMENT:

- Conspicuous, dedicated cycling infrastructure
- Fewer cyclists disobeying road rules
- More cyclists on the road
- Cyclists promote friendly encounters “wave and smile”
7. Design Principles

Introduction
A review of global best practice undertaken as part of this study points to the need for two kinds of initiatives:

- Infrastructure and signage that are highly visible, authoritative, consistent, predictable and to a high standard. This is already being developed in a range of City of Sydney initiatives; and

- “Soft” measures that are noticeable and newsworthy, delightful, sociable, participatory and inclusive.

Design principles for soft measures

Noticeable and newsworthy
A preference for initiatives that are noticeable and newsworthy. For cycling to become a legitimate part of the culture of the city it needs to be visible in the landscape, frequently encountered in the media and experienced through cultural events. Methods include artistic bike racks, pavement art, village cycling roadshows, media promotion of cycling events and cycle friendly initiatives at public events.

Figure 9: Car free events – noticeable and newsworthy

Delightful
A preference for initiatives that generate pleasure and positive word-of-mouth by surprising viewers, breaking stereotypes and using humorous, whimsical, unpredictable and quirky images and events.

Methods include pavement art, performance art, culture-jamming signs, pavement stencils (see Figure 10 overleaf), and posters.
As Figure 10 illustrates, infrastructure can be both delightful and more noticeable.

**Sociable**

A preference for events where people meet people in a welcoming atmosphere. At events, where possible, people should be introduced to each other, given name tags and matched with buddies.

Methods include the village roadshows, initiatives developed via the Community Leadership Program and independently managed cycling events that the City promotes such as Ride to Work days and Gear Up Girl.

**Participatory**

A preference for opportunities to experience cycling in a safe environment. The experience of cycling sells itself but novices need to have their fears managed by taking their first steps in environments that are sociable, friendly, off-road and well managed. Methods include the Village roadshows, bicycle training, and cycling events.
Inclusive

Cycling should be depicted as a slower, more graceful activity, a normal way for everyone to go about their day. This involves a shift away from the sporty image of “cyclists” towards a diversity of “people who cycle”, including:

- a) Everyday folks and families;
- b) Older people;
- d) People of different ethnicity; and
- c) Chic, fashionable urban commuters.

**Figure 12: Family cycling - inclusive**

For example:

- With NGOs in delivering initiatives, e.g. Bicycle NSW, Bicycle Sydney and the Amy Gillett Foundation;
- With peer leaders in designing and delivering local initiatives and events; and
- With stakeholders and experts on on-going planning and monitoring through an expanded working group / brains trust.

Diverse imagery creates role models for those less likely to cycle, including young women, mothers, seniors and people from different cultural backgrounds. 68

**A collaborative approach**

To be successful and credible with the public, initiatives where possible must be based on partnerships with non-government agencies and organisations, including local businesses and community groups.

68 For some inspiring case studies of programs for people less likely to cycle: www.dft.gov.uk/cyclingengland/site/wp-content/uploads/2008/12/sm13_reaching_types_of_people_who_are_less_likely_.pdf
8. Program Briefs

**Introduction**

To realise the enabling objectives, the following programs of activity are recommended:

<table>
<thead>
<tr>
<th>To commence immediately</th>
<th>To commence before June 2011</th>
<th>To commence after June 2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Coexistence campaign</td>
<td></td>
<td></td>
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<tr>
<td>2. Friends of Sustainable Sydney</td>
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<td></td>
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<td>3. Shared path audit</td>
<td></td>
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<td>4. Employer program</td>
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<td>5. Advocacy to RTA</td>
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<tr>
<td>6. Explore your city program</td>
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<tr>
<td>7. Event promotion program</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Artistic bike racks competition</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. Big Picture campaign</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. Village Roadshows</td>
<td></td>
<td></td>
</tr>
<tr>
<td>11. Sydney Loop Ride</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12. Community Leadership Program</td>
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</tr>
</tbody>
</table>

*Figure 13: Recommended programs*

These programs are detailed in the following briefs.
Program 1: Coexistence campaign

**Purpose**
To ensure that users of shared paths:

- Know it's a shared path; and
- Know the rules for considerate, safe co-existence.

As a subsidiary purpose, to pilot and evaluate a campaign focused on advising drivers on practical tips to how to share the road safely with cyclists.

The desired behaviours are:

- Cyclists on shared paths: bell before overtaking; cycle at safe speed; overtake at safe distance
- Cyclists on roads: stop at red lights.
- Pedestrians on shared paths: don't block the path; keep left; look both ways before crossing path.
- Drivers: look behind before open doors or changing lanes; expect cyclists to 'take the road' then they are blocked by an obstacle or hazard; overtake a minimum of one metre distance from cyclist.

**Objectives**
This program aims to increase considerate and safe behaviour on shared paths by contributing to the following objectives.

*Legible shared paths with legible rules*
Shared path users know they are in a shared environment, and understand the basic rules of considerate co-existence.

*Normalisation of belling*
Considerate bell-ringing should become a normal and expected behaviour for cyclists on shared paths, as it is in many other cities. Pedestrians should understand how to respond to bells.

And as a secondary objective:

*Drivers know road rules and understand how to share the road with cyclists*
Motorists need a better understanding of cyclist rights to the road, better knowledge of how to drive safely around cyclists, and better ability to predict cyclist behaviours. This is a secondary objective.

**Partners**
A bicycle user group (BUG). Ideally the partner should be intimately involved in all aspects of planning and roll-out. Elements of implementation should be outsourced to that group. All materials should be co-branded.

**Audiences**
- All users of shared paths; and
- City drivers - for the pilot motorist campaign.

**Activities**
This is a light-hearted awareness campaign to be staged over three years, with memorable slogans and light, humorous, attention-getting measures such as performance artists, bell give-aways, aural gimmicks, posters, pavement art, giveaways of fluoro vests and helmet covers and humorous temporary stencils.

It should be rolled out in association with blue lines and formal advisory signage that clearly states the rules for shared paths.

- Year 1 should focus on a campaign to normalise bell use - a nice model is British Waterways' "Two Tings Safety Campaign", as shown in Figure 17 overleaf.
- Year 2 should add speeding and safe overtaking as additional themes.
- Year 3 should add friendly acknowledgements between cyclists and pedestrians.

In addition, a pilot campaign targeted at drivers is recommended, with the theme: Look behind you before opening car doors or changing lanes.
Guidance notes

- Activities should be genuinely surprising, unpredictable and whimsical. Sparking conversations between path users is an important outcome, and unexpected delight is the best way to achieve this outcome.
- Personal activities (e.g., interactions with performance artists) should take priority over impersonal tools like posters, signs and ads.
- This is a norming campaign. The theme should therefore be that the desired behaviours are socially normal and expected by the majority of people, rather than because they are “the rules”.
- There should be no pressure to comply. Communications should take the form of friendly invitations to use bells, slow down and overtake at a safe distance etc, rather than directions. The appropriate communication is not “council wants you to use your bell” or “belling is mandatory”, but that “belling is what other people expect”.
- Wherever possible, people doing the right thing should be congratulated.
- When a reason is given for the changes, the reason should be “it’s safer for you and reduces hassles with other people” rather than “it’s the rules”.
- Achieving an unambiguous initial impact, followed by a sustained presence is important. The pacing should involve intensive efforts (e.g., every day, becoming every other day) over several weeks on selected routes into the city, with sustained efforts continuing at a lower level (e.g., one day per week) over the following 6 months or so for each major route.

Targets

- By 30 June 2013: 70% of pedestrians feel very safe or extremely safe when sharing
paths with cyclists (80% by 2016). (As a guide to the baseline, the average of five sites studied in 2009 was 53% feeling very safe or extremely safe.\textsuperscript{69})

- By 30 June 2013: 70% of pedestrians of shared paths can identify a shared path and understand basic rules of considerate coexistence (80% by 2016).

**Evaluation methods**

Evaluation methods should include, but are not limited to:

- count of face-to-face interactions with shared path users;
- count of bells handed out;
- observational surveys measuring increases in number of bells fitted and ‘tings per minute’ at selected locations;
- intercept surveys measuring perception of normalcy of bell use: change in % who ‘agree’ or ‘strongly agree’ with the proposition: “It’s normal to use bells to signal when overtaking on shared paths.”

**Theory of change**

The theory of change is based on the assumption that the lack of norms around bell use creates uncertainties and anxious situations for cyclists that can be resolved by clear, unambiguous communications that bell use is expected by other shared path users. These uncertainties and anxious moments create a psychological pressure for a new norm that should normalise bell use fairly rapidly (over, say, 12 months). Once the norm is perceived by a critical mass (say, 30% of cyclists) the norm should spread rapidly with only intermittent reinforcement.

The theory of change therefore is that “if cyclists believe that bell use is expected by other users, and then bell use will increase.”

\textsuperscript{69} GA Research (2009) p15
Program 2: Friends of ‘Sustainable Sydney 2030’

**Purpose**
To ensure that opinion leaders are accurately informed of the city’s plans, the rational for them, and what to expect.

**Objectives**
This program aims to increase the frequency of cycling in inner Sydney by contributing to the following objectives.

*Understanding the ‘big picture’ vision for cycling in Sydney*
It’s vital that public debate on the City’s cycleway plans includes the issues that are driving the investment: road congestion, health and well-being, economic competitiveness and Greenhouse gas reduction. The more people understand this perspective, the more balanced will be the resulting debate.

**Partners**
N/A

**Audiences**
Opinion leaders interested in the City’s progress towards the Sustainable Sydney 2030 vision.

**Activities**
Establish a ‘Friends of Sustainable Sydney’ network. The network should not be a social network, but rather given valuable tasks to do in the form of advising on the roll-out of sustainable Sydney initiatives. It should receive detailed briefings in writing, and regular updates by email. Ideally it will include leaders in a range of professions. Membership should be both by selection. Ideally it will include influential individuals and stakeholders likely to speak out on the City’s plans.

**Guidance notes**
- Care should be taken to communicate objective information of genuine interest, including briefings on upcoming projects, invitations to launches, and opportunities to hear from independent authorities on sustainability and urban design.
- The Friends Network should not be allowed to become a marketing device. The experience with citizens’ panels is that such networks are liable to lose its credibility if they are perceived as simply marketing council policies.
- Communication materials should not be highly glossy or expensively produced. This may create the impression that the network is a marketing network and/or wasteful with money.
- Many of the members will be senior people in their fields. Structured opportunities for council to listen to their views will provide valuable guidance on plans and projects.
- Members need to feel part of a respected and trusted family. Care should be taken to ensure the language reflects that respect and equality.
- Communications should not lapse for more than 3 months otherwise members may conclude that the network is moribund or tokenistic.

**Targets**
200 members by 30 June 2011.

**Evaluation methods**
Evaluation methods should include, but are not limited to:
- count of members; and
- count of positive vs. negative statements from independent commentators and opinion-leaders in media.

**Theory of change**
The theory of change behind this program is that increasing the number of opinion leaders who understand the strategic logic behind the cycleway program will increase the number of people who support the cycleway program.
Program 3: Shared path audit

Purpose
To reduce the potential for conflict caused by poor path design.

Objectives
This program aims to increase considerate and safe behaviour on shared paths by contributing to the following objective.

Reduce anxiety hotspots
Poor path design can cause anxiety and anxiety can cause conflict. It follows that forensic attention to path designs and locations that cause cyclists and pedestrians to feel anxious is an important strategy to reduce conflict.

Partners
N/A

Audiences
City Projects

Activities
- Develop a simple audit methodology to identify locations on shared paths that cause most anxiety to cyclists.
- Recruit, train and pay a team of cyclists to carry out the audit.
- Use the results to map locations which contribute to conflict and poor safety, recommending measures to ameliorate the problem features.
- Extend the audits to cycleways.

For an example of an experiential audit methodology see Shankwiler (2006).

Figure 15: Potential anxiety hotspots
(Debris, narrow sections and overgrown vegetation can create anxiety for some shared path users)

Targets
All major shared paths and selected conflict hotspots, by 2013.
Program 4: Workplace cycling promotion program

**Purpose**
To increase the number of city businesses that actively promote and support cycling by employees; including provision of safe parking facilities, showers and lockers; and positive encouragement of staff to cycle, including managers acting as role models.

**Objectives**
This program aims to increase the frequency of cycling in inner Sydney by contributing to the following objective.

*Employers encourage their staff to cycle and provide the right end of trip facilities*

Businesses are encouraged and given direct support to initiate workplace cycling initiatives, including through Workplace Travel Plans.

**Partners**
Consider outsourcing whole or part of this program to an independent organisation.

**Audiences**
CEOs and senior managers of city businesses, especially those geographically positioned to take advantage of newly opened routes.

**Activities**
- Create an advocacy / how-to document directed at employers.
- Implement program internally within the City of Sydney as an example of best practice for employers.
- Employ an officer to Promote Workplace Travel Planning directly to major city businesses and assist businesses to implement plans. Duties include: executive presentations; direct assistance to businesses; facilitating intercompany competitions.
- An award for Cycling-Friendly Business of the Year.

**Guidance notes**
- Workplace cycling promotion is most effective when implemented as part of a wider sustainable transport strategy (Workplace Travel Plan).

*Figure 16: Workplace cycling*

(The quality of end-of-trip facilities plays a descisive role in encouraging staff to commute by bicycle)

- Senior management support is critical and must be engaged from the outset.
- Programs should target both facilities and supporting ‘soft’ measures such as incentives.
- The program should target clusters of workplaces, either through multiple tenants in a building or within a business district –
or as part of a Transportation Management Association (TMA)\textsuperscript{70}.

- Programs should encourage competition between workplaces using the ‘Workplace Cycle Challenge’ model from the UK. A Workplace Cycle Challenge pits organisations and individual departments within them against each other to see who can get the most staff to cycle for at least 10 minutes during a two or three week Challenge period. The organisations and departments that motivate the highest percentage of staff to cycle, in their size category, win a Participation Award. Spot prizes and other incentives are also used to encourage non-cyclists to get back on a bike and give cycling a go. To date almost 4000 people have taken part in a CTC workplace cycle challenge. Approximately 84% of non-cyclists intend to cycle more after taking part in the challenge. Half of the participants cycled to work, with many opting for the first time to take a short cycle ride instead of driving. In total 191,498 miles were cycled saving 25,955kg of CO\textsubscript{2} emissions.

**Targets**

- 20 new businesses per year meet criteria for cycle-friendly businesses.

\textsuperscript{70} TMAs are non-profit, member-controlled organisations established to promote and facilitate sustainable travel in a CBD, business district or business park. TMAs are generally public-private partnerships, consisting primarily of area businesses with local government support.
Program 5: Advocacy to the RTA

**Purpose**
To continue to lobby the RTA to invest in road safety advertising to improve driver skills to ensure the safety of cyclists.

**Objectives**
This program aims to increase safety of cyclists on roads by contributing to the following objectives.

- Drivers know road rules and understand how to share the road with cyclists; and
- Motorists have better understanding of cyclist’s rights to the road, better knowledge of how to drive safely around cyclists, and better ability to predict cyclist behaviours.

**Partners**
Bicycle User Groups, other Councils, business organisations.

**Audiences**
The RTA.

**Activities**
- Advocate to the RTA for a campaign of TV advertisements that explain to both cyclists and drivers how to behave in traffic; and
- Advocate to the RTA for a stronger focus on cycling rules in driving licence testing. This is also a recommendation in the NSW BikePlan.

**Guidance notes**
Note that the case for RTA advertising needs to be pitched pragmatically in terms of injury and accident statistics and economic costs.

**Targets**
None.
Program 6: Explore your city program

**Purpose**
The aim is to get large numbers of cyclists experiencing the city’s villages together, increasing the profile of cycling, increasing the confidence of cyclists, increasing route knowledge, and raising the profile of participating businesses.

**Objectives**
This program aims to increase the frequency of cycling in inner Sydney by contributing to the following objectives.

*Legitimisation of cycling in city culture*
A higher profile for cycling in Sydney, both through direct experience, and through the media, increases the perceived legitimacy of cycling as a normal and expected transport mode.

*Knowing the best routes for your trip*
Cyclists can easily locate safe, pleasant routes to their destinations.

*Confidence in own skills to cycle safely*
Cyclists who are out of practice or unfamiliar with commuting need opportunities to practice in a reassuring environment. Social initiatives that bring people together are important ways to lower the perceived risks.

This initiative also meets economic development objectives for the City.

**Partners**
This program may be outsourced to an independent organisation. Also, consider partnering with business chambers provided they contribute meaningfully to the promotion of the program.

**Audiences**
Inner Sydney residents who own bicycles.

**Activities**
A monthly explore your city by bike program, promoting group and independent cycle exploration of the city, village by village. Riders visit participating shops and collect stamps to be in the running for attractive cycling prizes.

The program was successfully run in Surry Hills by the Surry Hills Association in 2010. On each day of the event (run over three Saturdays) all 30 bikes were hired each day plus 345 brought their own bikes over the three days.

See also “Going Shopping with Bike Bells Ringing” campaign in the Netherlands, Case Study 56 in the Best Practice Review Paper.

*Figure 17: Explore your city by bicycle*

(Exploring the city by bicycle can be a fun way for people to experience cycling and the city)

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71 Contact Grace Bowe Inner East Business Precinct Co-ordinator, phone 02 9265 9306, mobile 0429 127 527, email gbowe@cityofsydney.nsw.gov.au.
Guidance notes

The program requires a purpose-built web site with downloadable maps and a ‘passport’ to collect different stamps along the way. The passport contains profiles of all the businesses to be visited, which are then stamped. Grace Bowe reported that “The novelty factor of these passports worked really well and was a great hit amongst participants.”

A valuable option is to provide bikes for hire, however this needs careful planning. Grace Bowe reported: “Storage/transportation of the bikes needs to be given careful consideration. As the shops which were the designated collection points were not very spacious bikes could only be dropped to these meeting points shortly before it started which made things a bit trickier from a logistical point of view. Transportation of the bikes/and storage of the bikes is something to give some careful thought to. Where would people be collecting the bikes from? How would the bikes be transported there?”

Insurance: Grace Bowe reports: “For the insurance I purchased specific insurance from Bicycle Cover and this came in at $856 which covered the event for 30 riders for the 3 Saturdays. When I rang and explained that there would be extra riders at each weekend tour, we paid a premium of $264 to cover these extra participants: $1,120 in total.”

Targets

One village per month i.e. 10 events per year.

Evaluation methods

The successful tenderer should report on:

- count of participants;
- interviews with 8 participants per event – what was great, what was enjoyable, what could be improved; and
- names and contact details for at least 10 participants per event who also estimate their current frequency of cycling, This will allow the City of Sydney to contact participants at 3 months to determine whether their frequency of cycling has changed.

Theory of change

The theory of change behind this program is that enjoyable and sociable cycling opportunities that involve exploration of local neighbourhoods will decrease the perceived risks of cycling for potential and irregular cyclists, hence increasing their frequency of cycling.
Program 7: Event promotion program

Purpose
To increase the audience reach of promotional events for cycling and cycling-friendly events in inner Sydney such as Sydney Spring Cycle, National Ride to Work Day and Gear up Girl. Currently, these events are produced by independent groups and organisations. The City will use its communication resources to increase the reach of promotion of these events, so that more people hear about them and more people attend. The program would also place “come by bike” advertising for mainstream community festivals and events.

Objectives
This program aims to increase the frequency of cycling in inner Sydney by contributing to the following objectives.

Legitimisation of cycling in city culture
A higher profile for cycling in Sydney, both through direct experience, and through the media, increases the perceived legitimacy of cycling as a normal and expected transport mode.

Increase peoples’ confidence in their own skills to cycle safely
Cyclists who are out of practice or unfamiliar with commuting need opportunities to practice in a reassuring and safe environment. Social initiatives that bring people together are important ways to lower the perceived risks.

Partners
N/A

Audiences
Regular cyclists and infrequent cyclists of all ages, sexes and backgrounds.

Activities
Recommended activities include, but are not limited to:

- A widely promoted calendar of cycling events;
- Street banners;
- Items in the City’s ‘What’s On’ newsletter;
- Bus shelter advertising; and
- Placing “Come by bike” ads in major media outlets for significant city events, informing the public that cycle valet parking is available and recommending routes.

Figure 18: Existing events in Sydney

(The Sydney Tweed Ride is just of a number of independent events in the city which strengthen the emerging culture of cycling)

Guidance notes
- A consistent graphic treatment and branding. The graphic treatment should reflect that of the City’s cycling website. The branding should incorporate either iconic cartoon characters or a positive image showing people on bicycles in day clothes.
- Communications should incorporate an element of theatrical whimsy but without compromising legibility.
Communications should focus on informing people of factors that have the effect of lowering the perceived risks of cycling, including: social cycling with others, relaxed cycling, secure valet parking, traffic free routes, links to website showing bicycle routes.

Targets
Double the audience reach of promotional efforts that would otherwise occur.

Evaluation methods
Evaluation methods should include, but are not limited to:

- counts of cyclists attending events, compared to past equivalent events; and

- insertion of a question in community surveys measuring altered perception of legitimacy of bicycling in inner Sydney: change in % who “agree” or “strongly agree” with the proposition: “Cycling is a normal and accepted way to travel around inner Sydney.”

Theory of change
The theory of change behind this program is that: If the number of media exposures per cyclist is increased, and if the communications emphasise the ease of cycling, the safety of cycling, the security of cycle parking and the cycle-friendly nature of the event, then more cyclists will attend events in Sydney, increasing the profile of cycling and in turn increasing the perceived safety and legitimacy of cycling.
Program 8: Artistic bike racks competition

Purpose
Quirky and buzz-worthy bicycle racks at prominent locations aim to:
- create positive conversations that legitimise cycling in Sydney; and
- change the streetscape to announce that Sydney is a city that accepts cycling.

Objectives
This program aims to increase the frequency of cycling in inner Sydney by contributing to the following objectives.

Legitimisation of cycling in city culture
A higher profile for cycling in Sydney, both through direct experience, and through the media, increases the perceived legitimacy of cycling as a normal and expected transport mode.

Partners
N/A

Audiences
City workers and visitors.

Activities
A public competition open to Sydney artists (professional, amateur and students) to design quirky bike racks at prominent iconic locations around the city, along the lines of David Byrne’s bike racks in New York City. See Case Study 65.

Figure 19: Examples of David Byrne designed bike racks in New York City

(Artistic bike racks change the physical appearance of the streetscape in a positive way which changes how people perceive cycling and people who cycle)
**Targets**

16 racks at different points in the city

**Evaluation methods**

Evaluation methods should include, but are not limited to:

- count of bike racks installed;
- count of mentions of these bike racks in media; and
- insertion of a question in community surveys measuring altered perception of legitimacy of bicycling in inner Sydney: change in % who ‘agree’ or ‘strongly agree’ to the proposition: “Cycling is a normal and accepted way to travel around inner Sydney.”

**Theory of change**

The theory of change behind this program is that prominent, whimsical bike racks installed at observable, iconic locations will:

- increase the perception that Sydney is a city that welcomes cyclists; and
- increase positive conversations about cycling in Sydney.
Program 9: Big picture campaign

Purpose
To ensure that debate on cycleways and cycling in Sydney is informed by widespread public understanding of the larger issues at stake.

Objectives
This program aims to increase the frequency of cycling in inner Sydney by contributing to the following objectives.

Understanding the ‘big picture’ vision for cycling in Sydney
It’s vital that public debate on the City’s cycleway plans includes the issues that are driving the investment: road congestion, liveability, health and well-being, economic competitiveness and Greenhouse gas reduction. The more people understand this perspective, the more balanced will be the resulting debate.

Audiences
All City of Sydney residents, workers and visitors.

Partners
N/A

Activities
A coherent ‘cycleways story’ should be created that explains the strategic logic behind the program in terms of the challenges facing the city and the positive impact of increased cycling on people’s everyday lives, including residents who don’t cycle, drivers and businesses. This story will then become the basis for communications under this program.

Communications should utilise billboards at railway stations, bus shelter ads, and bus interior advertising to explain the City’s vision, the rationale and what to expect. The text should consist of relatively detailed explanations in conversational language, together with images of what to expect. It should not attempt to ‘spin’ negative impacts and should aim to honestly explain the changes and the reasons for them.

A valuable secondary goal of this campaign will be to explain green lanes and what they mean.

Figure 20: Sustainable Sydney

(Cycling is a common theme through Sustainable Sydney 2030 – conversations around cycling need to take place at this level)

Additional tactics include:

- A website featuring thorough, detailed plans and associated documents related to the proposed cycleways and the City’s Cycling Strategy and Action Plan. A conspicuous link on the City’s home page.
- Continued letter boxing in vicinity of cycleway routes (this appears to have been a reasonably successful method of explaining the City’s plans to date, according to focus groups).
- A cycling eNewsletter to cyclists and supporters.

It’s recommended that the website to use video clips:
To envision Sydney's future with cycling so the public benefits are evident, building on the three minute video now in production; and

To envision individual routes so that debate is moderated by accurate views on what is proposed. For example Vancouver's use of Youtube to explain a new cycle route.  

Guidance notes

Because the intended audience is likely to be well educated and well informed the communications should not be "public relations" but rather reasoned discussions framed around matters that concern inner Sydney residents: traffic congestion; lifestyle; health; road safety. It should not be propaganda.

Communications should use quotes from real ordinary inner Sydney residents.

Where there are references to cities overseas, they should be to famously car-oriented cities like New York rather than European cities like Copenhagen which most people believe have very different cultures.

All communications should be pre-tested on representative members of the inner Sydney community.

Targets

Hits on dedicated website: 5,000 per month during ad campaigns.

Cycling eNewsletter: 5000 subscriptions by 30 June 2011

Evaluation methods

Evaluation methods should include, but are not limited to:

- hits on web site;
- count of eNewsletter subscriptions;
- count of positive vs. negative mentions in media (note baseline: 2007-2008: Daily Telegraph and Sydney Morning Herald: n = 79 (46.8%) positive; n = 51 (30.2% negative); and
- insertion of question in community surveys measuring approval of cycleways as a solution to inner Sydney's pollution and congestion problems: change in % who 'agree' or 'strongly agree' with the proposition: "Cycleways are an effective strategy to reduce pollution and congestion in inner Sydney."

Theory of change

The theory of change behind this program is that increasing the number of people who understand the strategic reasons behind the cycleway program will increase the number of positive statements made about cycling and cycleways, in turn increasing overall public support for the cycleway program.


73 Rissel et al 2010c
Program 10: Cycling roadshows in the villages

Purpose
Changed behaviour often depends on personal interaction with enthusiastic, trusted individuals who can pass on skills and confidence. The road shows aim to be buzz-worthy neighbourhood-level events that bring residents interested in cycling together with people who can provide just the right advice, support, and resources to help them lower the perceived risks of change. Experiencing cycling in a safe environment and experiencing cycle routes in group rides will contribute greatly to peoples’ cycling confidence.

Objectives
This program aims to increase the frequency of cycling in inner Sydney by contributing to the following objectives.

Confidence in own skills to cycle safely
Cyclists who are out of practice or unfamiliar with commuting need opportunities to practice in a reassuring and safe environment. Social initiatives that bring people together are important ways to lower the perceived risks.

Knowing the best routes for your trip
Cyclists can easily locate safe, pleasant routes to their destinations.

Legitimisation of cycling in city culture
A higher profile for cycling in Sydney, both through direct experience, and through the media, increases the perceived legitimacy of cycling as a normal and expected transport mode.

Normalisation of belling
Considerate bell-ringing should become a normal and expected behaviour for cyclists on shared paths, as it is in many other cities.

Partners
This program should be outsourced to an independent organisation.

Audiences
Residents in the 10 villages of the city. All ages, sexes and backgrounds.

Activities
A mobile roadshow that sets up on a weekend day in residential parts of the city (and, where appropriate, at festivals and fairs) and provides an enjoyable program of:

- Escorted group rides on nearby cycle routes;
- Free bicycle maintenance;
- ‘Get on a bike’ classes for novices and people out of practice;
- Maintenance workshops;
- Personal route planning;
- A BBQ with social interaction and introductions between residents; and
- Provision of route maps and other information.

An example of such a roadshow comes from Portland, Oregon in the U.S, as shown in Figure 18 overleaf.
Bring cycling to communities provides opportunities for people to experience cycling in safe and familiar surroundings and helps to build social capital.

**Guidance notes**

- Adequate warning, by letter-boxing, and posters in local shops, with at least 4 weeks notice.
- Permission should be sought in advance from affected landholders to minimise friction on the day.
- Sensitivity to needs of locals esp. over noise and parking interruptions need to be considered.
- Keep in mind that the overall goal is to create a safe, sociable, enjoyable opportunity for people to have hands-on experience of cycling under the guidance of enthusiastic experts. Chances to ask questions and discuss concerns will be important.
- The event should be sociable: in addition to meeting experts it should also be a chance for neighbours to meet neighbours and discuss their interest in cycling together. One member of the Road Show team should therefore be appointed as an “Introduction Agent” whose job is to introduce neighbours to each other by name.

**Targets**

- One village per month (10) plus at least 5 other set-ups each year:
  - Total set-ups = 15
- Total interactions with members of the public = 3000 per year.
- Participants in classes, workshops and group rides = 1000 per year
- Personal route plans = 1000 per year.

**Evaluation methods**

Evaluation methods should include, but are not limited to:
- count of face-to-face interactions with member of the public;
- count of participants in specific activities; and
- exit surveys assessing perceived changes in confidence.

**Theory of change**
The theory of change is that, if potential cyclists:

- have positive conversations about cycling with supportive peers and with enthusiastic, knowledgeable experts, where their questions are answered; and
- have personal hands-on experience of cycling, bike maintenance and local cycle routes; and
- then they will lower their perceived risks of cycling and be more likely to trial new cycling behaviours.
Program 11: Sydney loop ride

Purpose
A signposted scenic loop ride, including the foreshore, provides a reassuring ‘soft entry’ for those unfamiliar with cycling in inner Sydney.

Objectives
This program aims to increase the frequency of cycling in inner Sydney by contributing to the following objectives.

Confidence in own skills to cycle safely
Cyclists who are out of practice or unfamiliar with commuting need opportunities to practice in a reassuring environment. Social initiatives that bring people together are important ways to lower the perceived risks.

Knowing the best routes for your trip
Cyclists can easily locate safe, pleasant routes to their destinations.

This initiative also serves tourism and economic development objectives for the City.

Partners
N/A

Audiences
Inner Sydney residents, tourists.

Activities
Identify, signpost, and promote the loop ride. The path should be field tested to ensure it is a safe, low anxiety experience (see Program Brief 10). Where necessary, infrastructure measures may be needed to ensure it is safe for novices.

Targets
Loop ride operational by 30 June 2013.
Program 12: Community leadership program

Purpose
To stimulate the creation of new community-based cycling initiatives in inner Sydney.

Objectives
By building community capacity it’s expected that projects will be created that contribute to the following objectives:

Legitimisation of cycling in city culture
A higher profile for cycling in Sydney, both through direct experience, and through the media, increases the perceived legitimacy of cycling as a normal and expected transport mode.

Confidence in own skills to cycle safely
Cyclists who are out of practice or unfamiliar with commuting need opportunities to practice in a reassuring environment. Social initiatives that bring people together are important ways to lower the perceived risks.

Partners
The program should be outsourced to an independent organisation.

Audiences
Keen cyclists with an idea and the desire to make a difference.

Activities
A series of workshops for a small number of highly motivated social entrepreneurs in the cycling community. The professionally facilitated workshops will lead them through the process of developing new community-based cycling initiatives.

Initiatives may include sociable community events, employee programs, cycling promotion initiatives, advocacy initiatives, and media initiatives.

The workshops should provide a mix of:
- presentations from inspiring cycling advocates and experts; and
- facilitation through the stages of envisaging, researching, scoping and planning community projects.

Graduates may use their completed project plans as the basis for applications for seed funding through the City of Sydney’s Local Area Action Plan Matching Grants. It enable this it’s recommended that a new category of “community cycling projects” (value $50,000) to be added to the Local Area Action Plan Matching Grants.

Figure 22: Community Leadership Program

(Building capacity in communities helps to turn great ideas into real programs)

Guidance notes
Leadership projects tend to be successful when the starting point is a simple, clearly envisaged, compact, realistic idea that already has two or more individuals actively involved in developing it.

- Preference should be given to projects that are collaboratively developed by two or more committed individuals as these are far more likely to be successfully implemented. In such cases two individuals should be accepted into the program.
Preference should be given to applicants who are members of community groups or organisations that have formally endorsed the project and intend to support it in kind.

Preference should be given to projects that intend to start small.

**Targets**
- 12 graduates per year.
- 8 community projects implemented as a result of each course.

**Evaluation methods**
Evaluation methods should include, but are not limited to:
- number of projects implemented;
- feedback from participants on the design of the leadership program; and
- follow-up interviews with graduates at six months to determine quantitative and qualitative impact of their projects on the inner Sydney community.

**Theory of change**
The theory of change behind this program is that:
- inspiring, collaborative, supportive, intellectually stimulating workshops;
- a structured project development process;
- the guidance of an expert facilitator;
- competitive seed funding; and
- will lead to successful implementation of community-based community development projects; provided

that the initial ideas are compact, realistic and backed by two or more committed individuals.

Overview

The primary aim of the monitoring and evaluation plan is to provide a template for the systematic collection and analysis of information in timeframes that allow for a responsive, adaptive management approach to achieving the strategy objectives. The plan will enable the team to assess the effectiveness, demonstrate the value, defend the investment and learn from the experience.

A participatory methodology was employed to clarify the logic informing the strategy and identify the evaluation questions crucial to assessing the progress of the strategy and its initiatives.

The plan will monitor and evaluate against five (5) key evaluation questions:

- To what extent and how were the behavioural programs effective in contributing to the strategy outcome of more people cycling for all reasons?
- To what extent and how were the behavioural programs effective in contributing to the strategy outcomes of better relationships between cyclists and other road and shared path users?
- What were the unexpected outcomes?
- How cost effective were the different options?
- How effective was the community engagement process that underpinned the roll out of the behaviour strategy?

These questions are in turn supported by detailed sub-evaluation questions.

Based on an assessment of what information are currently being collected and what gaps exist to address these questions a range of new monitoring and evaluation methods are identified and outlined. Innovative social inquiry techniques based on participant observation and story collection along with routine bicycle counts, stratified sampling of businesses using internet surveys and several other techniques are proposed. The high levels of social inquiry involved will make it vital to consider ethical methods for the collection, storage and reporting of data.

It is recognised that the Strategy has numerous reporting obligations. This makes it important that the monitoring and evaluation system supports a reporting structure that is versatile and meets the needs of multiple external stakeholders without losing the focus on continuous learning and improvement. To achieve this, a scaled system of project based reporting, drawing on an auditable mix of qualitative and quantitative data, complimented by annual reflection workshops is proposed.

Theory of Change

The program logic (See Figure 23 overleaf) puts all the pieces together, illustrating what outcomes we expect to be achieved and highlights the cause and effect linkages associated with the program outcomes, intermediate outcomes, and activities.
Key evaluation questions are carefully crafted and focused questions that help us to scope out what questions a monitoring and evaluation plan needs to address. Each evaluation question has a series of sub questions. The key evaluation questions to guide this monitoring and evaluation strategy are:

Central evaluation questions:

- How cost effective were the different options?
- How effective was the community engagement process that underpinned the behavioural strategy roll out?

The full Monitoring and Evaluation Plan is provided in Appendix C.
Appendix A

Working Group Members
<table>
<thead>
<tr>
<th>Name</th>
<th>Position / Role</th>
<th>Organisation</th>
</tr>
</thead>
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<tr>
<td>Bobby Bory</td>
<td>Green Champion</td>
<td>City of Sydney</td>
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<td>Ron Cuadra</td>
<td>Marketing Coordinator - Environment and Transport</td>
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<td>Fiona Campbell</td>
<td>Cycling Planning Officer &amp; Strategic Transport Planning</td>
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<td>Anthony Misfud</td>
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<td>Alan Saxby</td>
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<td>Cycling Communications</td>
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<td>Peter McCue</td>
<td>Manager</td>
<td>Premiers Council for Active Living</td>
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<tr>
<td>Prof. Chris Rissel</td>
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<td>University of Sydney</td>
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<tr>
<td>Matt Faber</td>
<td>Travel Behaviour Change</td>
<td>Roads and Traffic Authority</td>
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<tr>
<td>Lyndall Johnson</td>
<td>Road Safety</td>
<td>Roads and Traffic Authority</td>
</tr>
<tr>
<td>Joanne Jones</td>
<td>Cycling Training Provider</td>
<td>Bikewise</td>
</tr>
<tr>
<td>Caroline Scott</td>
<td></td>
<td>NSW Transport and Infrastructure</td>
</tr>
<tr>
<td>Eleana Gardner</td>
<td>President</td>
<td>BIKE悉尼</td>
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<td>Bicycle NSW</td>
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<td>Sustainability Officer</td>
<td>Department of Environment, Climate Change and Water (NSW)</td>
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<td>Jonathan Daly</td>
<td>Initiative Manager &amp; Travel Behaviour Change</td>
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<td>Rod Katz</td>
<td>Peer Review</td>
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<td></td>
<td>Board Member</td>
<td>Amy Gillet Foundation</td>
</tr>
<tr>
<td>Les Robinson</td>
<td>Facilitator &amp; Behaviour Change</td>
<td>Enabling Change</td>
</tr>
</tbody>
</table>
Appendix B

Social Research Report
City of Sydney
Enabling Cycling Strategy
Social Research Report

23 September 2010
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1. Background and Objectives

Background

GHD was commissioned to develop a cycling behaviour change strategy to complement the 2007-2017 Cycling Infrastructure Strategy and wider city development policies, particularly Sustainable Sydney 2030. To inform this strategy and build on previous social research, further research was undertaken on shared paths, comprising:

1. participant observational surveys on two key shared paths in the City of Sydney – Glebe Foreshore and Pyrmont Bridge; and
2. a series of focus groups were held with pedestrians and cyclists who use shared paths within the City of Sydney.

Research Objectives

The overarching aim of was to identify the perceptions, attitudes and behaviours of pedestrians and cyclists on shared paths, so as to enable the Project Team and City of Sydney to better understand the interactions between the two main user types on shared paths.

The specific objectives of the focus group sessions were to identify and explore:

- Perceptions that affect behaviour;
- Social norms that affect behaviour;
- Fears and concerns that affect risk perceptions;
- Environmental factors that affect mode choice and cycling behaviour;
- Personal factors that affect travel choice;
- Appropriate means of communication; and
- Strategies that may improve the behaviours of cyclists and pedestrians on shared paths.

Methodology

Participant observational surveys on shared paths

The fieldwork was undertaken over a period of five hours at each location. Fieldwork on the Glebe Foreshore was undertaken on a Saturday to capture peak activity in this location which is predominantly recreational. Similarly fieldwork on Pyrmont Bridge was undertaken on a weekday to capture peak activity which is mainly commuter traffic and tourists.

Three key tasks were undertaken at each location, including:

- Observing behaviours of and interactions between shared path users, when using the paths;
- An audit of the legibility of the shared path physical environment; and
- Conversations with shared path users.

Recruitment of participants

A variety of recruiting techniques were employed to ensure that a sufficient number of suitable participants could be recruited prior to the focus group sessions. Focus group recruitment took place in the first two weeks of June 2010 and included the following activities:

- **Face to face recruitment:** Project team members approached pedestrians and cyclists using the shared pathway along the Glebe Foreshore, providing them with an information flyer on the focus group sessions and details on how to register their interest.
- **Word of Mouth:** A copy of the information flyer was distributed to friends and family of Project Team members to pass on to work colleagues and to be distributed to a local school. It was ensured that no immediate family members of GHD staff took part in the
sessions in order to maintain the integrity of the study and prevent skewing of responses.

Advertisements along/near local shared paths: A4 copies of the information flyer were posted along or near shared paths and other areas often frequented by pedestrians and cyclists. Permission was obtained from relevant persons to erect these flyers, all of which contained contact information on how to register interest for the groups.

Once sufficient numbers of pedestrians and cyclists registered interest in attending the sessions, they were contacted to confirm their attendance.

A $50 incentive payment was offered in order to attract a larger and more diverse pool of potential participants.

Facilitation of focus groups

Two focus group was held on Thursday 10th of June (Cyclists) and Thursday 17th June (Pedestrians), commencing at 6 pm at the GHD Sydney office in Castlereagh Street, Sydney. Each group was facilitated over a 1.5 hour time period and consisted of eight participants. A minimum of three Project Team members were present at each session to facilitate and document discussion and setup/ pack up equipment and the premises. Guidelines for participating in discussion were outlined prior to the sessions to ensure all present were given the opportunity to state their opinion, with participants required to sign a registration form to acknowledge receipt of payment.
2. Existing Social Research

Existing research

In late 2009, GA Research was commissioned by the City of Sydney to undertake quantitative research on pedestrian perceptions of shared paths within the City of Sydney. Over a three day period, 337 pedestrians at five different shared path locations within Sydney took part in short structured interviews on their perceptions of pedestrian and cyclist attitudes and behaviour on shared paths.

Topics and areas covered in the interview included:

- Path usage;
- Cyclist behaviour;
- Pedestrian behaviour; and
- Incidents with cyclists.

Key findings from this study included:

- Pedestrians’ awareness of cyclists is high with a minimum of 7 in 10 participants having seen a cyclist on the pathway at each location;
- Pedestrians’ awareness that the path they were using was a shared pathway varied across the locations;
- Some pedestrians expressing safety concerns about co-habiting paths also used by cyclists; and
- Pedestrian behaviour at Belmore Park was consistently reported as being the worst of the five locations.

Where relevant, this research will be used to provide context in which the focus group findings can be placed and further analysed.
3. Fieldwork Results

Glebe Foreshore

Introduction
The surveys on the Glebe Foreshore shared path were conducted on Saturday the 5th of June 2010, between 11.00 and 16.00. Conditions were sunny and pleasant although there was some light rain around 16.00.

Observational survey findings

General
- There were few cyclists compared to the number of pedestrians on the path.
- There were many dog walkers, joggers and families with kids along the path.
- Cyclists encompassed families, ‘fixies’, people on unusual bikes, mountain bikers, slow cyclists, shoppers and commuters.
- Pedestrians included families (including those with kids in prams), runners, joggers (including some with prams), dog walkers (on and off leash), slow walkers, commuters, shoppers, people in a hurry, and people accessing the water.
- Few conflicts of concern were observed.

Figure 1: Shared path users on Glebe Foreshore

Surfaces, Signage and Stencilling
- Small brown coloured signage used to remind cyclists to use their bells and for directions may be difficult to see due to colour and size – shared path users were asked about their awareness of this signage and many didn’t realise it was there or
cyclists complained that it was too small to read when passing on a bike.

- The text used on the signs for belling is particularly small and difficult to read while cycling due to the size of text used.

- The images used on the signs may also be confusing. The image is of a standard bell rather than a bike bell and this was also confirmed when speaking to cyclists on the path.

**Figure 2: Glebe Foreshore signage**

- There are inconsistencies in the use of directional signage on the path. There is one section which is closed to cyclists and a detour is in place but signage is only present on one side of this section.

- Some sections of the path have different surface markings and materials, some for practical purposes like tactile paving and some for urban design appear to confuse users as they are not legible.
Information panels providing the rules of shared paths was only present at one location along the path. It was also observed that the signage placed more of an emphasis on a slogan than the rules.

Path markings were present at various locations along the path, mainly at points where other routes connected into the path. The stencilling was generally well maintained but in some cases was badly worn away and/or obstructed with loose gravel.
**Cyclist behaviour**

- A couple of cyclists were observed using phone when cycling – mainly recreational cyclists.

- More experienced cyclists, particularly males, appear to ride faster on the paths although not excessively. These cyclists also seem to have the skills to slow down and control bike when required. The higher skill level appears to instil confidence and potentially over confidence.

- Some parents cycling with children were observed use bells but only when space was limited e.g. when path narrowed, and not when approaching pedestrians from behind.

- Only some kid’s bikes had bells.

- Most parents do not instruct their kids in safe riding on the paths.

- Cyclists appeared to behave well, always giving way. However, they did not always use bells.

- One cyclist appeared to travel too fast, weaving in and out of pedestrians along the path.

- A father and daughter were observed practicing cycling on the path, which was confirmed through conversation.

**Pedestrian behaviour**

- There were a lot of dog walkers on the paths and many dogs were not leashed but this did not seem to cause any conflict or problems.
Pedestrians generally kept to the left and rarely stopped in the middle of the path.

Pedestrians often had earphones in and used mobiles when walking along the path.

Path design

Figure 5 overleaf, presents a section of the path which is demarcated along the edges with a red brick. The central area is surfaced with a rough stone block formation. Almost all users, cyclists and pedestrians, were observed to intuitively stay to the left. Despite the considerable width of the path no excessive speeding was observed from cyclists.

When cyclists use bells, pedestrians did not overreact but appeared to respond with calm and considered movements.

It was concluded that this section of path work intuitively because it looks like a street layout with users drawn to the edges by the red brick. The rougher central area also seems to discourage fast cycling. Faster walking and cycling users also have adequate space to overtake if required.

Figure 5: Demarcated section of path

This design, why intentional or not, may provide a template for future designs, or at least warrants further consideration.

Lighting is located at regular intervals along the entire path and although the survey was undertaken in daylight hours it is not to be a cause of many problems.

Path width varies in sections with some pinch points along the way. Clearly a balance needs to be struck between providing adequate width for all users and reducing the potential for speeding cyclists.

The line of sight was good in parts but was limited on narrow sections and was
obscured in some cases by overgrown vegetation. In this case the shared space users include motorised traffic.

Figure 6, overleaf, shows a similar design used for shared streets in the city of Urbino in Italy. In

**Figure 6: Shared streets from the city of Urbino in Italy**

*Path maintenance*

- The path was generally very clean with virtually no litter or broken class.
- Some loose debris was found on sections of path, in some cases obscuring stencils on the ground.
Surface water was present on a corner section of the path and could present a danger to cyclists and pedestrians if cyclists swerved to avoid the surface water.

**Feedback from shared path users**

The following comments were made by a variety of shared path users during the fieldwork.

**Young couple**

“Most people in this area are quite considerate and we’ve never had a problem with cyclists”

**Older male cycling**

“People who live in cities are always going to get angry at something, and shared pathways is just another thing they can complain to councils about – it’s a psychological thing”

**Older couple walking**

“We think cyclists are a bit of a problem on shared pathways, they go so fast and don’t consider pedestrians”

**Older female cycling**

“I think shared pathways should be for cyclists who know how to cycle slowly and are happy to do so. If you want to cycle fast, if you think that’s your right and you want to act like a car – then use the road or other pathways like Anzac Bridge”

**Middle aged man with young daughter on tricycle**

“Get rid of cyclists on these paths all together – I can’t keep an eye on my daughter every second and where else can we get out and teach her how to ride a bike? I think cyclists should be on the roads where they belong”

**Email feedback regarding shared pathways from a male cyclist**

The idea that shared pathways between bicycle riders and pedestrian be considered is full of problems. From a cyclists perspective, pedestrians are erratic and do not have any “rules of thumb” to follow, let alone letters of law, with regards to where and how they walk. Rightfully, the footpath is their own domain - and that extends in their mindset (and in practice
due to the lower speed and in general higher volumes) that the shared pathways are theirs first and cyclists as a second class on them.

International experience has led to many of the European examples of high bicycle use cities separating cyclists from not only pedestrians but traffic too.

The Pedestrian Council of Australia backs this view.

Finally, the shared pathway has to date had a different requirement and view of cycling - that of a leisure sport to be enjoyed as a family outing from the car, on gently curving paths that do not provide efficient transportation corridors

**Pyrmont Bridge**

**Introduction**

The fieldwork on the Pyrmont Bridge was undertaken on Tuesday the 22nd of June 2010, between the hours of 07.00 and 11.00. The conditions on the day were cloudy but dry.

**Observational survey findings**

**General**

- Both cyclists and pedestrians were observed using the path.
- Initially light conditions were quite poor and most cyclists were observed to carrying lights.
- Observations suggested that cyclists and pedestrians did not formally keep to the left or right but traffic from the north (city end) tended to stay on the east side of the bridge deck while the predominant south origin traffic headed down the central areas and western side of the bridge. Many joggers favoured the east side as well possibly as this was the shortest loop for a jog around Darling Harbour.
- Rangers appeared shortly after 07.00.
- During the morning peak no children were seen on the path with the exception of one toddler in a bike seat.
- Major squeeze points were observed at city end of the bridge especially at:
  - Escalator outlets on bridge deck,
  - Kiosk, and
  - Turn onto King Street access path.
- By 8.30 am a torrent of people were seen and fewer riders were in the mix.
- By 9.00 am the crowd thinned dramatically and the first obvious tourists were seen at 9.15 am.
- By 10.00 am, there was much less purposeful walking and riding observed. Many more tourists were however observed even though the Kiosk owner suggested that this (winter) was normally a quiet period.
- A range of bikes were used by riders and included many hybrids, racers and tourers, some single speeds / fixies, a couple of electric bikes, some Dutch style bikes and one wheel chair user was observed.
Cyclists Behaviours

- Cyclists in the peak period tend to arrive from the west. Traffic signals at Pyrmont Bridge Road entry to the bridge area create cohorts of cyclists.
- A number of people rode in pairs at the early stages of the observation period before pedestrian congestion made this difficult.
- During peak congestion often one cyclist led off from the traffic signals and selected a way through the pedestrians and then others followed single file. Some passing was observed with potential for but no observed conflict.
- Other equipment included scooters (one with basket), motorised scooters (at least 5) and skateboards, which are all clearly being used for transport.
- A number of cyclists were seen to use the upward escalator to access the ramp to Market Street. It is noted that the ‘Blind side’ of the escalator outlets was used by some in a hurry.
- Helmet wearing was almost universal.
- During the most crowded period (07.30 – 08.40) some hard banking and manoeuvring by male and female riders and joggers was observed.
- Only one bell ringing was heard on the path.
- Only three bikes were seen being walked, 2 with flat tyres and one with a walking companion.
- All users during peak times appear purposeful and virtually no idlers. Some cyclists are clearly conscious of the need to travel at not much more than walking speed while others possibly did not see the 10 km/h signs as applying to them.
- Many pedestrians and riders were seen wearing earphones and some pedestrians
were walking and reading at the same time indicating confidence in their security.

Figure 9: Various issues on Pyrmont Bridge

- Only one dog walker was observed, the dog was on a leash and well behaved.
- Many pedestrians and riders were seen wearing earphones and some pedestrians were walking and reading at the same time.
- There was no observed concern among the pedestrians about cyclists passing distances. Pedestrians appear to have an expectation that their right of way will be respected.

Pedestrian Behaviours

- The bridge deck track was approximately 13m wide and 370 in length.
- Line of sight varied by location.

Path maintenance

- Cleanliness appeared to be good.
- No glass or loose debris was observed along the path.
- Minimal surface water, despite recent rain, was observed.

Path design

- Extensive signage was observed with new signs on Monorail pylons reinforcing the pavement markings.
- Path markings on approach were not observed.
- Lighting was observed.

- Street furniture included benches aligned with lights and bins, Monorail pylons that were unpadded and a kiosk towards the north end of the path.
- Land uses in the area included use as a recreational space at Darling Harbour and historic features with an unused central pivoting section to allow entrance of boats at
Darling Harbour. There is a major tourist presence around the path.

**Feedback from shared path users**

- A discussion with a ranger suggested that he did not have a great impact on behaviour (although many cyclists offered him a greeting). The ranger had seen Russel Crowe riding an “amazing silver with red and green bike” on the path. The ranger also felt that cyclists were a problem “because they don’t care … “one of [them] hit someone and broke their arm” … it was a lawyer and since then we’ve been out here”.

- A conversation with the kiosk owner (of Spanish origin) revealed the following:
  - He has operated the kiosk operated 7 days a week for 6 years.
  - The kiosk owner felt their may be more bikes now due to “petrol prices and stuff”.
  - He felt that “bikes are a problem. A person is hit every three weeks maybe … one of my clients was hit and off work for two weeks … she worked for a law firm and got workers comp … knew it was one of my customers because the ranger saw she had one of my coffee cups… the bikes go too fast and can’t be identified on the CCTV… there should be a separate section for the bikes … they don’t realise they have to respect the privilege of being on the bridge… they say they can’t put a separate path because of the tourists going from one side to the other…”
4. Focus Group Findings

Participant Profile

In total, 16 individuals (9 male, 7 female) took part in the two focus groups. Table 1 provides details of the demographics of those in attendance at each session.

Table 1: Participant demographics

<table>
<thead>
<tr>
<th>Focus Group</th>
<th>Home Suburbs</th>
<th>Age Range</th>
<th>Gender</th>
<th>Occupations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cyclists</td>
<td>Cremorne</td>
<td>Mid 20’s – Early 40’s</td>
<td>5 Male 3 Female</td>
<td>7 Professionals 1 Shift worker</td>
</tr>
<tr>
<td></td>
<td>Forest Lodge</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>Leichhardt</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Newtown</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Potts Point</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pedestrians</td>
<td>Annandale</td>
<td>Early 20’s – Mid 30’s</td>
<td>4 Male 4 Female</td>
<td>4 Students 4 Professionals</td>
</tr>
<tr>
<td></td>
<td>Glossodia</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Leichhardt</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>Stanmore</td>
<td></td>
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<tr>
<td></td>
<td>Rozelle</td>
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<td></td>
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<tr>
<td></td>
<td>Ultimo</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Woolloomooloo</td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>
Key Findings

Motivations for cycling

- Members from both groups identified a range of events that led to them taking up cycling or making it their primary mode of transport. Some participants could pinpoint a single event that influenced them to cycle more often. The influence of friends or a partner was the most common reason for participants to take up cycling on a regular basis.

Knowledge and awareness of shared paths

- Cyclists obtain their knowledge of planned and current Sydney cycle ways from a range of sources with the main ones being City of Sydney brochures and observation of construction activities.

Rules and safety on shared paths

- Pedestrians claim they intentionally break shared path rules when it is convenient for them, whereas cyclists describe their rule breaking as justified as necessary to avoid collisions or clashing with pedestrians.
- Cyclists and pedestrians agree that pedestrians should have priority on shared paths.
- Near misses or accidents are a common occurrence witnessed or experienced by all members of both groups. Common factors such as cyclist speed and pedestrian unawareness were identified as contributing to the majority of incidents.
Behaviours on shared paths

- Unpredictable movement and lack of awareness are the most common dangerous pedestrian behaviours identified by both groups.
- Excessive speed for the conditions and aggressive attitudes are the most common dangerous cyclist behaviours identified by both groups.

Shared Path Etiquette

- There was no common shared path etiquette recognised by pedestrians and cyclists, although they all agreed that there should be one.
- Pedestrians would prefer bells to be sounded than verbal notification as they perceive this as an accepted practice, whereas cyclists are hesitant to use bells as they feel as though they are perceived to be seen as angry or aggressive, much preferring to use their voice. Only three of eight had bells fitted to their bicycles.

Detailed Findings

Motivations for cycling

- Cyclists identified a range of events that led to them taking up cycling or making the change from being a recreational cyclist to a commuter cyclist. Some participants could pinpoint a single event that influenced them to cycle more often, while the influence of friends or a partner was the most common reason for participants to take up cycling on a regular basis. The following table outlines the specific reasons given by focus group participants for either taking up cycling or cycling on a more regular basis.

<table>
<thead>
<tr>
<th>Focus Group Participants Reasons for Cycling</th>
</tr>
</thead>
<tbody>
<tr>
<td>Being in a car accident</td>
</tr>
<tr>
<td>Being frustrated with the cost and quality and lack of public transport in Sydney</td>
</tr>
<tr>
<td>Moving to live in the city</td>
</tr>
<tr>
<td>Receiving a bike for free</td>
</tr>
<tr>
<td>It is cheaper to ride than pay for parking, petrol, car insurance and registration and public transport.</td>
</tr>
<tr>
<td>The benefit of not having to find a parking space</td>
</tr>
<tr>
<td>The belief that cycling is much faster than taking a bus</td>
</tr>
<tr>
<td>The health benefits obtained from cycling</td>
</tr>
<tr>
<td>It is a good start to the day - participants commented that they arrive at work feeling energised rather than flat, as they did on public transport</td>
</tr>
<tr>
<td>Participating in a race</td>
</tr>
<tr>
<td>Being influenced or encouraged by friends and peers</td>
</tr>
<tr>
<td>It is faster and more enjoyable than walking or running</td>
</tr>
<tr>
<td>Growing up using bikes as a child</td>
</tr>
</tbody>
</table>

- These results indicate that there is not a sole factor for motivating people to take up cycling, presenting planners with a number of diverse options to consider when developing future cycling strategies. It is worth noting that 6 of the 8 pedestrian focus group participants were also infrequent cyclists who took up cycling as a viable alternative to walking or public transport.

Further discussions with users such as these would provide even greater insight into the reasons that motivate or cause people to take up cycling.

- All participants from the cycling focus group have taken part in some form of cycling event. They all noted that their frequency of cycling increased after participation in these...
events. The focus group members found that training for a cycling event and then engaging in cycling activities with other bike riders motivated them to ride more frequently. A few described cycling as addictive and that once they started ‘everywhere only became a bike ride away’. If these beliefs are also held by recreational cyclists, the use of cycling events as a means to increase the rate of cycling participation could be expected to yield positive results.

- Participants remarked that more cyclists would commute via bicycle if there were adequate bike and changing facilities provided at their workplace. Five of the 8 cycling group participants currently commute to work. However, all focus group members said they would cycle if their workplace provided suitable facilities. Some participants mentioned that their workplaces were installing new facilities, while others were concerned about not even having somewhere to leave their bike at work. Based on these findings it could be expected that the number of cyclists choosing to commute would increase if shower and bicycle facilities were provided by their employers.

**Knowledge and awareness of shared paths**

- Cyclists obtain their knowledge of planned and current Sydney cycle ways and shared paths from a variety of sources. The main sources are City of Sydney brochures and cyclist observation of construction activities. Other sources of knowledge include newspapers, local media, online forums, word of mouth and plans and maps obtained from the Internet.

- In general, participants are aware of the meaning of shared paths. Only 1 of the 8 cycling group members were unaware of the correct meaning of ‘shared paths’ with all pedestrians showing awareness of what a shared path was. The awareness rate of focus group members (94%) is consistent with the higher range of awareness observed at some locations during the quantitative study, but significantly higher than the average awareness rate (70%) (see GA Research, 2009:14). A possible explanation for this is that those who attended the focus groups are regular users of shared paths, whereas participants in the quantitative survey were most likely a combination of frequent and infrequent users due to the sample size and reasons given for path usage.

**Rules and safety on shared paths**

- Cyclists and pedestrians perceive that pedestrians have right of way on shared pathways. The rule of thumb described by participants in the cycling group is that those travelling faster should give way to those travelling slower. Pedestrians were of the belief that they should have right of way as they are more vulnerable to injury than cyclists and because of the unpredictable behaviours and movements they display.

- Focus group participants appeared to know the basic rules for shared paths such as keeping to the left; however, pedestrians placed heavy emphasis on the importance of signs, symbols and line markings to bring attention to the rules. Symbols on the actual path were more preferable than posted signs and as a guide, the signs on Blackwattle Bay Path were perceived to be too small to be effective. Other rules mentioned by both groups include staying to one side if lines are marked, and adhering to speed limits on paths such as the Pyrmont Bridge.

- All but one of those in the pedestrian group were unaware that Council employs Rangers to monitor and enforce the speed of cyclists by issuing fines on shared paths such as the Pyrmont Bridge. All cyclists were aware of the presence of Rangers and perceived them as an unnecessary waste of money as most cyclists are unable to judge their speed to adhere to set limits in any case.
All participants in both focus groups identified themselves as breaking the rules of shared paths at some point in time. Cycling participants claimed that in most cases their rule breaking was justified by the need to avoid collisions or accidents with pedestrians. On the other hand, members of the pedestrian group commented that in their mind, convenience takes precedence over following shared path rules and they are more likely to break the rules if part of a large group, commuting to work, are in a rush or listening to music. It was noted that often there were times there was conflict between pedestrian and cyclist behaviour on shared paths which had led to frustration in both groups and the breaking of rules. The majority of participants claimed that if rules for shared paths were put in place they would adhere to them.

Participants from both groups identified a variety of different scenarios where they felt anxious when using a shared path, indicating that there was no consensus on a specific situation that causes anxiety amongst shared path users. The most common anxiety causing situation for both pedestrians and cyclists involved lack of space and being in close proximity to other pedestrians, cyclists or motor vehicles. The table below outlines other specific situations that cause anxiety for pedestrians and cyclists.

### Table 3: Situations that cause anxiety for shared path users

<table>
<thead>
<tr>
<th>Pedestrians</th>
<th>Cyclists</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Pedestrians feel anxiety when walking on paths that are:                                                                                                                                                    • Cyclists feel anxiety when riding on paths that:</td>
<td></td>
</tr>
<tr>
<td>• Poorly lit</td>
<td>• Are narrow with poles, and blind spots</td>
</tr>
<tr>
<td>• Narrow</td>
<td>• Have chicanes and speed bumps</td>
</tr>
<tr>
<td>• On hills where cyclists travel down at high speed                                                                                                                                                         • Have junctions where pedestrians and cyclists turn in front of one other</td>
<td></td>
</tr>
<tr>
<td>• Poorly maintained</td>
<td></td>
</tr>
<tr>
<td>• In close proximity to motor vehicles</td>
<td></td>
</tr>
<tr>
<td>• Crowded with both cyclists and pedestrians</td>
<td></td>
</tr>
<tr>
<td>• On corners and contain blind spots</td>
<td></td>
</tr>
</tbody>
</table>

All participants could recall witnessing or being involved in an accident or near miss. The main factors contributing to this were identified as the speed of the cyclist and the lack of awareness and unpredictable behaviour demonstrated by pedestrians. When compared with the results of the quantitative research, these results are surprising as only 30% of survey participants indicated that they had been involved in an accident or frightened due to near miss with a cyclist (see GA Research, 2009:20), compared to 100% of focus group participants. This trend could be explained by the fact that focus group participants are regular shared path users with more exposure to possible accidents than infrequent users. However, the observation that it is common for highly skilled and experienced cyclists to be involved in accidents due to their own complacency or pedestrian fault is worth noting. This finding is important as it provides evidence that accidents and near misses on shared paths are more common than previously reported. Group members gave specific examples involving themselves or others who had been in or witnessed accidents involving dogs off leashes running at cyclists, unaware pedestrians walking in front of
speeding cyclists (in particular tourists who may not be aware of shared path rules), pedestrians and cyclist colliding because of inadequate lighting along a path and cyclist attempting to pass pedestrians on a narrow path. The cycling group suggested that cyclists are ‘in tune’ with other cyclists and demonstrate a higher level of awareness than pedestrians, leading them to concede that they have a greater responsibility on paths than pedestrians. Not unexpectedly, it was noted that more conflicts or accidents occur along paths with no viable alternatives such as riding on the road.

- Participants gave a variety of suggestions on improvements that could be made to increase safety on shared paths, the majority of them relating to design elements that could be implemented. An interesting observation was that only after being prompted did participants consider measures to change behaviour or raise awareness. This suggests that users may be more inclined to rely on design measures to increase safety rather than awareness measures to elicit behavioural change. However, when prompted users did provide behaviour and awareness raising based suggestions, indicating that they were open to the idea although it was not their first choice. Table 4 below, lists specific design and awareness raising suggestions to come out of the focus groups sessions.

**Table 4: Design and awareness raising suggestions**

<table>
<thead>
<tr>
<th>Design based suggestions</th>
<th>Awareness raising based suggestions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical barriers to divide paths, cyclists and pedestrians</td>
<td>More signage to increase pedestrian awareness</td>
</tr>
<tr>
<td>Different coloured lanes or markings to designate space for cyclists and pedestrians</td>
<td>Campaigns or advertising to promote and increase knowledge of safe shared path practices, as well as drawing attention to bike safety including more respect and tolerance for cyclists</td>
</tr>
<tr>
<td>Increase width of paths so cyclists can pass pedestrians</td>
<td>Teaching people to use rules in conjunction with common sense rather than replacing the latter</td>
</tr>
<tr>
<td>Increase connectivity between paths</td>
<td>An advertising campaign involving posters</td>
</tr>
<tr>
<td>Make better maps or ways to plan routes readily available</td>
<td>Making information available on cycling rules at locations such as the RTA, local council and bike shops.</td>
</tr>
<tr>
<td>Balancing the lighting needs of a path with patronage</td>
<td>Implementing education programs at a school level</td>
</tr>
<tr>
<td>Improved path surfaces</td>
<td></td>
</tr>
<tr>
<td>Improved planning to ensure bike paths do not end at steps</td>
<td></td>
</tr>
<tr>
<td>Painting a green strip on the road/path to signify a bike lane rather than creating completely new paths</td>
<td></td>
</tr>
<tr>
<td>A rail for cyclists to hang on to at crossings</td>
<td></td>
</tr>
<tr>
<td>Appropriate sized signage indicating that a path is shared</td>
<td></td>
</tr>
<tr>
<td>The use of cyclist and pedestrian traffic signals</td>
<td></td>
</tr>
</tbody>
</table>

**Behaviours on shared paths**

- Both pedestrians and cyclists display behaviours that can be described as dangerous. Unpredictable reactions to noise and movement were the most common dangerous behaviour displayed by pedestrians, excessive speed for the conditions was the most common dangerous behaviour displayed by cyclists,
while cyclists listening to music whilst riding was perceived as the most dangerous behaviour overall. Members of the cycling group showed particular concern about other cyclists who ride while listening to music and were surprised that more accidents involving iPods or MP3 players had not occurred. The most common dangerous behaviours identified by the focus groups for both pedestrians and cyclists are listed below.

- Interestingly, both cyclists and pedestrians agreed they were more likely to engage in dangerous behaviour when in groups.

<table>
<thead>
<tr>
<th>Table 5: Dangerous behaviours on shared paths</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Pedestrian Dangerous Behaviours</strong></td>
</tr>
<tr>
<td>Walking dogs (both on and off leads)</td>
</tr>
<tr>
<td>Being distracted by music</td>
</tr>
<tr>
<td>Walking on the wrong side of the path</td>
</tr>
<tr>
<td>Travelling in large groups</td>
</tr>
<tr>
<td>Unpredictable movement such as sudden directional change or sudden stopping on the path</td>
</tr>
<tr>
<td>Using paths when under the effects of alcohol</td>
</tr>
<tr>
<td>Wearing dark clothing in poorly lit areas</td>
</tr>
<tr>
<td>Displaying a general lack of understanding of the concept of a shared path</td>
</tr>
<tr>
<td>The use of prams or trolleys on pathways</td>
</tr>
</tbody>
</table>

Many of the behaviours listed above reflect the findings observed in the quantitative research conducted in 2009. The earlier research identified a number of common dangerous pedestrian and cyclist behaviours including: speeding around pedestrians, failing to keep to the left of the path, failing to provide notification when approaching from behind, keeping pets under control, stopping on the path and failure to give way. As these behaviours were identified in both studies, it suggests that these behaviours are widespread and experienced by a wide range of shared path user groups. Subsequently, it is suggested that inclusion of these specific behaviours in the development of any behaviour change is integral to achieving outcomes such as safer shared paths.

- Pedestrians stated that they came across a variety of cyclist types on shared paths with commuters being the most common group encountered. Other types of cyclists encountered include those riding in a fast, serious manner and others riding for pleasure. The type of cyclist encountered varied with time of day and location of shared path. Members within the cyclist group explained that behaviours vary from group to group, with recreational cyclists displaying more passive behaviours than commuter cyclists who were often perceived as being aggressive. Reasons given for aggressive behaviour by commuter cyclists include taking ownership of routes they take every day and feeling as though they have as much right as any pedestrian or motor vehicle to these spaces. Participants agreed that cyclists need to be able to alter their riding style and behaviour to suit the conditions or situation. This attitude is encouraging as it indicates that cyclists have some sort of awareness of the behaviour they display when riding, suggesting they may be receptive to awareness raising or
behaviour changing activities implemented in the future.

**Shared path etiquette**

- Etiquette on shared paths was the subject area with the most conflicting findings between the two focus groups. Participants within the cycling group explained how they were more aware of etiquette on shared paths than their pedestrian counterparts due to their frequent use of shared paths. Members of the pedestrian group noted that cyclists were often rude when approaching or passing pedestrians on shared paths. However, this perceived rudeness may be interpreted as frustration by the cyclist as a result of inappropriate behaviours demonstrated by the pedestrian. The opinions of participants were very subjective, with observational surveys necessary to conclusively support the viewpoint of any specific party.

- Cyclists believe that sounding their bell rarely evoked the desired reaction from pedestrians. On some occasions they described being berated for using their bell, while at other times criticised for not using their bell. Members of this group agreed that using their bell contributed to the image of them being portrayed as rude or aggressive, much preferring to use a verbal notification of their approach. They perceived that a person’s voice had more range than a bell, allowing expression to be used and therefore not being seen to be aggressive. Conversely, there was consensus within the pedestrian group that cyclists should use their bells when approaching from the rear rather than a verbal notification; however, verbal notifications were still effective as long as they were heard. Whilst the bell was seen to be preferred by pedestrians, its overuse was frowned upon, with one or two rings perceived to be the ideal number. However, pedestrians prefer that each cyclist sound their bell when multiple cyclists are approaching to ensure that other users are aware of being passed by multiple riders. Pedestrians commented that they appreciated it when they were thanked by cyclists who they have moved to the side for.

- The 2009 study found that on average across the five locations, more than 1 in 3 pedestrians reported cyclists failing to broadcast their approach in any form (GA Research, 2009:19) This earlier finding is supported by the observation that within the cyclist focus group, only 3 of the 8 participants actually having bells on their bikes, with those same three commenting on how their bells were rarely used. It is suggested that a combination of inappropriate bell use by a small number of cyclists and conflicts with pedestrians has contributed to a larger proportion of shared path users perceiving bell use as inappropriate. Based on the responses given by participants in the cyclist group, they would be prepared to use a bell if it was widely accepted by pedestrians and they are made aware of its’ meaning.

- Participants from both groups believed that the safe distance for a cyclist to pass a pedestrian on a shared path varied depending on a number of factors including path width and availability of space. Responses given for a safe distance for cyclists to pass pedestrians varied with some participants giving a physical measurement such as one metre or a person width, while others declared it was dependent on the width of the path and that cyclists should get off their bike and walk it if space is severely limited. General agreement by both groups on this issue suggested that formal rules regarding passing or overtaking could be implemented. However, enforcing these rules may prove problematic.
5. Conclusions

Fieldwork
A range of observations have been made in relation to the legibility of shared paths and the behaviours of shared path users. Based on these observations the following key conclusions have been made:

- The perception of problems on shared paths is a long way from the reality. No incidents were observed during the surveys and users confirmed verbally that problems were isolated issues.
- Many types of user, including different types of cyclist and pedestrian, can and do coexist and share the use of the same space without incident or even the indication of concern.
- There is much variation in design even on a single stretch of shared path – various surface markings, colours and materials all reduce the legibility of shared path.
- Signage is not consistent spatially and often too small for cyclists to read and understand in time and space i.e. when they are passing even at very slow speeds.
- There are examples of sections of shared paths, particularly on the Glebe Foreshore, which work effectively in an intuitive manner, without signage or stencilling – and warrant further investigation.
- When the physical environment is not legible in an intuitive sense, then surface materials, colours and signage are needed to reduce conflict between users.
- A balance must be struck in the design of shared paths between providing a comfortable experience for cyclists and the speed at which cyclists travel – sometimes confusion helps to reduce speeds even if it doesn’t suit faster riders.
- Behaviour varies and is not always set by those who would be expected to lead by example e.g. parents.
- Often it is conflict between pedestrians which is most evident.

Focus Groups
The observations and findings obtained from these focus group sessions allow a number of conclusions to be drawn on the attitudes, behaviour, knowledge and perceptions of pedestrians and cyclists using shared paths.

The following conclusions have been developed in conjunction with the previous research.

Based on the results of the focus groups, the following conclusions have been drawn:

- There is a diverse range of factors that motivate people to cycle, the most common being participation by a partner or peers;
- Participating in cycling activities within a group environment encourages people to cycle more frequently;
- Pedestrians and cyclists break rules on shared paths, most often for different reasons. However, they would be more inclined to adhere to rules if adequate signage or markings were present;
- Contrary to previous research, accidents and near misses between cyclists and pedestrians are a common occurrence. Anecdotal evidence suggests that excessive speed and lack of awareness by users are the most common factors contributing to incidents of injury;
- Shared path users are reliant on design measures to improve safety. However, they are also open to the concept of awareness measures;
- Both pedestrians and cyclists demonstrate inappropriate and/or dangerous behaviours on shared paths, most of which are universal across different locations of the City of Sydney LGA; and
- Etiquette on shared paths is not clearly defined, with cyclists and pedestrians having differing perceptions of aspects such as bell use.
Appendix C

Monitoring & Evaluation Plan
City of Sydney Cycling Behaviour Change Strategy Monitoring and Evaluation Plan
Version 2.0

Final: September 17th 2010
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Executive summary

This document presents a plan to guide the monitoring and evaluation of the City of Sydney’s ten-year Cycling Behaviour Change Strategy. The primary aim of the monitoring and evaluation plan is to provide a template for the systematic collection and analysis of information in timeframes that allow for a responsive, adaptive management approach to achieving the strategy objectives. The plan will enable the team to assess the effectiveness, demonstrate the value, defend the investment and learn from the experience.

A participatory methodology was employed to clarify the logic informing the strategy and identify the evaluation questions crucial to assessing the progress of the strategy and its initiatives. The plan will monitor and evaluate against five (5) key evaluation questions:

1. To what extent and how were the behavioural programs effective in contributing to the strategy outcome of more people cycling for all reasons?
2. To what extent and how were the behavioural programs effective in contributing to the strategy outcomes of better relationships between cyclists and other road and shared path users?
3. What were the unexpected outcomes?
4. How cost effective were the different options?
5. How effective was the community engagement process that underpinned the roll out of the behaviour strategy?

These questions are in turn supported by detailed sub-evaluation questions.

Based on an assessment of what information is currently being collected and what gaps exist to address these questions a range of new monitoring and evaluation methods are identified and outlined. Innovative social inquiry techniques based on participant observation and story collection along with routine bicycle counts, stratified sampling of businesses using internet surveys and several other techniques are proposed. The high levels of social inquiry involved will make it vital to consider ethical methods for the collection, storage and reporting of data.

It is recognised that the Strategy has numerous reporting obligations. This makes it important that the monitoring and evaluation system supports a reporting structure that is versatile and meets the needs of multiple external stakeholders without losing the focus on continuous learning and improvement. To achieve this, a scaled system of project based reporting, drawing on an auditable mix of qualitative and quantitative data, complimented by annual reflection workshops is proposed.
Section 1: Introduction

1.1 Background to the City of Sydney Cycling Behaviour Change Strategy

Sustainable Sydney 2030 is a vision for the sustainable development of the City to 2030 and beyond and has a vision of a Green, Global, and Connected City. A key component of this vision is that Sydney will be easy to get around with a local network for walking and cycling, and transit routes connecting the City’s Villages, City Centre and the rest of Inner Sydney.

Driving this vision is the understanding that the Sydney City is at capacity with no extra room for more cars or buses, therefore removing vehicle traffic is seen as key to increasing mobility in the City Centre.

The two strategy goals are:

- 10% of all trips are on bike by 2016
- Better relationships between cyclists and other road and shared path users

The three strategy outcomes are:

- People cycle to work more often
- People cycle more often for all reasons
- Better relationship between cyclists and other road and shared path users

1.2 Background to the City of Sydney Cycling Behaviour Change Strategy monitoring and evaluation plan

This document sets out a monitoring and evaluation plan that will assist the team to address these requirements.

The document:

1. Provides an analysis of existing data
2. Provides a program logic for the evaluation
3. Sets out key evaluation questions
4. Provides a template for a possible final report format.

This monitoring and evaluation plan ensures that the proposed evaluation will provide the City of Sydney Cycling Strategy team with the information necessary to assess the value of the investment in the program and systematically collect the information needed to communicate the benefits of the program.

In particular, the plan focuses on the attitudes towards cyclist and cycling, the image that cycling has in the general population and the knowledge and information people have about cycling options in
the City. A key driver for this plan is the need for knowledge to ensure that the team has a large and robust pool of data to create an evidence-based narrative to communicate the big picture vision of cycling in Sydney. The plan is designed to generate useful information that will enable genuine adaptive management of the project, inform future policy and cycling infrastructure investment.

### 1.3 Approach taken to develop the monitoring and evaluation plan

The City of Sydney Cycling Behaviour Change Strategy is an exciting initiative that presents both challenges and opportunities in evaluation. As a result of the focus on addressing perceptions, understandings and behaviour and the desire to retain learning within the organisation it will be necessary to develop an innovative approach to evaluation, based on contemporary evaluation theory and practice.

The City of Sydney Cycling Behaviour Change Strategy monitoring evaluation plan was designed against the steps shown in Table 1. The plan was developed through a participatory workshop process in order to ensure its relevance and use amongst all evaluation audiences.

**Table 1: Steps used to design the monitoring and evaluation plan for the City of Sydney cycling strategy**

<table>
<thead>
<tr>
<th>Step</th>
<th>Scope</th>
<th>Clarifying Scope of the monitoring and evaluation plan:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Step 1</td>
<td>Scope</td>
<td>Overview of a learning-based approach to monitoring and evaluation</td>
</tr>
<tr>
<td></td>
<td>Scope: Who is it for, timeframe, what is included, who will use it, what is the purpose of the workshop, what are the reporting requirements</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Step 2</th>
<th>Theory of change</th>
<th>Clarify the theory of change</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Structure existing theories of change and desired outcomes into a coherent, program wide theory of change</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Step 3</th>
<th>Evaluation questions</th>
<th>What do we need to know about the strategy?</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Development of guiding questions for the M&amp;E plan</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Who needs to know what?</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Step 4</th>
<th>Analysis of existing data</th>
<th>What information is currently collected?</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Analysis of existing data, or data that will be collected as part of planned research</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Identification of gaps and new data needed</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Step 5</th>
<th>New methods</th>
<th>Data collections methods to be used</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Identify appropriate data collection methods</td>
<td></td>
</tr>
</tbody>
</table>
Section 2: Scope of the City of Sydney monitoring and evaluation plan

2.1 Purpose of the plan

The monitoring and evaluation plan will be an enabling tool for the program team. The purposes are to:

- assess the effectiveness of the program in timeframes that allow adaptation in the initiative.
- demonstrate the contribution of the behavioural program to the changes in cycling culture in Sydney in terms of promotion and engagement and infrastructure investment in an environment that has organic growth in cycling.
- demonstrate successful best practice cycling culture change.

In summary the plan will enable the team to assess the effectiveness, demonstrate value and learn from the experience.

2.2 Boundaries of the plan

The City of Sydney Cycling Strategy covers a ten year period between 2007 – 2017. It aims to achieve an increase in the number of total trips made by bicycle to 10% by 2016. This is would be building on an estimated 1 – 2% of journeys currently made on bicycle according to the latest census and household travel survey.

The evaluation plan applies to the entirety of the plan including infrastructure and all behaviour changes relating to cycling. This would include but not be limited to cyclist, pedestrian, driver groups. There are no limitations placed on the groups targeted for increased bicycle use, although it has been recognised that women in the younger age group as slightly more receptive.

2.3 Evaluation audience for this M&E plan

There are a number of primary audiences for this plan with very different information needs. There are four distinct primary users of the data generated internally at the City of Sydney.

- Fiona Campbell will use the data to inform how the program is managed and delivered
- the marketing team will use it to tell the story and run appropriate targeted events
- the communications team will use it to generate media stories and inform the public
- the public works group will use the information to inform the design of construction projects.

Reporting timelines are similarly diverse. The Lord Mayor and Councillors will be the main reporting audience. The Lord Mayor currently gets monthly briefing on issues relating to cycling. In addition there are monthly Council reports and weekly updates. An emphasis on storytelling in these reports is suggested. There is a quarterly stakeholder report to cycling groups, the Department of Transport and the Roads and Traffic Authority. These audiences will need hard benefit-cost analysis. Finally,
progress towards the overarching 2030 targets are reported against to the wider community annually. Ideally full reporting against the Cycling Strategy will be completed every two (2) years in a similar format to the Bicycle Account produced in Copenhagen. These regular milestones will also be overlaid with a constant flow of correspondence response.

2.4 What would success look like for this M&E plan?

If this M&E plan is successful, then we will see the key audience:

- better able to articulate a consistent and coherent narrative around the program
- easily able to construct an evidence based picture of progress
- easily able to collate case study evidence to show case the program
- able to easily access relevant and useful information to guide future work and meet reporting obligations.

The M&E plan document will:

- be not too long
- prepare the team for the on-going collection of data to produce reports that are in-line with the Sustainable Sydney 2030 document.

2.5 Clarifying the underlying theory of change of the Program

The theory of change for the City of Sydney Cycling Strategy is shown in Figure 1. Contemporary program evaluation literature stresses the importance of developing indicators and goals with reference to the ‘underlying theory of change’ of the program. There are several ingredients to a theory of change and these include:

- clarification of broader goals versus program outcomes: which aspects are we accountable for managing towards, and for which others is our contribution less direct?
- identification of the intermediate outcomes, e.g. the results that are likely to happen before the program outcomes are achieved
- clarification of the reach of the program - who are the people who will be impacted by the program, whose behaviour are we trying to change
- clarification of the key influencing activities we are intending to deploy to achieve the intermediate outcomes and influence the identified people
- clarification of the foundational activities that we intend to do in order to plan, create strategic partnerships and products that are the necessary building blocks for our influence activities.

Clarification of broader goals versus City of Sydney Cycling Strategy outcomes

Goals are often used to refer to the highest achievements of a program such as ‘Climate Change Mitigation’. In Figure 1, these goals are depicted in green boxes. The Goal level (green) is the ultimate rationale for the program. At this level of the model, many other initiatives and factors may contribute towards the achievement of these goals and determining the contribution of City of Sydney Cycling Strategy activities to the goals is difficult. Thus achievement of the higher goals may not be directly attributable to Strategy.
The program outcome level is depicted in orange and refers to those outcomes we expect the program to have considerable contribution towards. However, these are still ‘outcomes’ and by definition outcomes may be influenced by other factors. Nonetheless, if this program is successful, there should be ample evidence to show that it has contributed towards these outcomes.

**What are the intermediate outcomes?**

Working down from the program outcomes, it is possible to map a basic theory of change for the program. That is, how we expect the program outcomes to be achieved through a series of intermediate outcomes which in turn are the results of a series of activities. The intermediate outcomes are depicted in blue boxes, and often make useful topics for measurement.

**Putting together the full theory of change**

The program logic puts all the pieces together, illustrating what outcomes we expect to be achieved and highlights the cause and effect linkages associated with the program outcomes, intermediate outcomes, and activities.
Figure 1: Theory of Change

Broader Goals
- 5% less car trips
- 10% of all trips are on bike by 2016

Strategy Outcomes
- People cycle more often for all reasons eg: commuters, lapsed, social
- It's easier and more pleasant to cycle to work
- It's easier and more pleasant to cycle to your destination
- Normalisation of bicycling in city culture

Program Outcomes
- Employer encouragement
- Knowing the best route for your trip
- Safe, efficient, pleasurable routes to desired destinations (a coherent network)
- Cycling has a positive image

Program activities
- Maps, signage and sharing information
- Encourage others/friends to cycle
- Cycling events and events that encourage cycling

Intermediate Outcome
- Confidence in own cycling skills

Intermediate Change
- Elective education
- Maps, signage and sharing information
- Encourage others/friends to cycle
- Cycling events and events that encourage cycling

Better relationship between cyclists and other roads and shared path users
- Better behaviour by cyclists
- Safer pedestrian behaviour
- Drivers: courtesy around cyclists

Better knowledge of road rules (better able to predict cyclist behaviour)
- More drivers know HOW to drive safely around cyclists

Better behaviour by cyclists
- Normalisation of belling
- Expectation of enforcement
- Aware of legible known rules
- Pedestrians know the right way to respond to a bell
- Pedestrians and cyclists are aware of legible shared paths
- Legitimisation of bicycling in city culture
- Understand the big picture vision for cycling for Sydney

Safer pedestrian behaviour
- Normalisation of belling
- expectation of enforcement
- Aware of legible known rules
- Pedestrians know the right way to respond to a bell
- Pedestrians and cyclists are aware of legible shared paths
- Legitimisation of bicycling in city culture
- Understand the big picture vision for cycling for Sydney

Drivers: courtesy around cyclists
- Better knowledge of road rules (better able to predict cyclist behaviour)
- More drivers know HOW to drive safely around cyclists

Confidence in own cycling skills

Pedestrians
- Normalisation of belling
- Expectation of enforcement
- Aware of legible known rules
- More drivers know HOW to drive safely around cyclists

Drivers
- Better knowledge of road rules (better able to predict cyclist behaviour)
- More drivers know HOW to drive safely around cyclists

It's easier and more pleasant to cycle to work
- Normalisation of belling
- Expectation of enforcement
- Aware of legible known rules
- More drivers know HOW to drive safely around cyclists

It's easier and more pleasant to cycle to your destination
- Normalisation of belling
- Expectation of enforcement
- Aware of legible known rules
- More drivers know HOW to drive safely around cyclists

Normalisation of belling
- Expectation of enforcement
- Aware of legible known rules
- More drivers know HOW to drive safely around cyclists

Legitimisation of bicycling in city culture
- Understand the big picture vision for cycling for Sydney
- More drivers know HOW to drive safely around cyclists

Pedestrians and cyclists are aware of legible shared paths
- Pedestrians know the right way to respond to a bell
- More drivers know HOW to drive safely around cyclists

More drivers know HOW to drive safely around cyclists

Drivers
- Better knowledge of road rules (better able to predict cyclist behaviour)
- More drivers know HOW to drive safely around cyclists

Employer encouragement
- Normalisation of belling
- Expectation of enforcement
- Aware of legible known rules
- More drivers know HOW to drive safely around cyclists

Knowing the best route for your trip
- Normalisation of belling
- Expectation of enforcement
- Aware of legible known rules
- More drivers know HOW to drive safely around cyclists

Safe, efficient, pleasurable routes to desired destinations (a coherent network)
- Normalisation of belling
- Expectation of enforcement
- Aware of legible known rules
- More drivers know HOW to drive safely around cyclists

Cycling has a positive image
- Normalisation of belling
- Expectation of enforcement
- Aware of legible known rules
- More drivers know HOW to drive safely around cyclists
2.6 Key evaluation questions/ objectives for whole program

Key evaluation questions are carefully crafted and focused questions that help us to scope out what questions a monitoring and evaluation plan needs to address. Each evaluation question has a series of sub questions. The key evaluation questions to guide this monitoring and evaluation strategy are:

Central evaluation questions:

1. To what extent and how were the behavioural programs effective in contributing to the strategy outcome of more people cycling for all reasons?

2. To what extent and how were the behavioural programs effective in contributing to the strategy outcomes of better relationships between cyclists and other road and shared path users?

Additional evaluation questions:

3. What were the unexpected outcomes

4. How cost effective were the different options?

5. How effective was the community engagement process that underpinned the behavioural strategy roll out?
Section 3: Methods to address the key evaluation questions

3.1 Methods to address evaluation questions

There is no magic key to selecting the most appropriate method to answer the defined evaluation questions. There is no recipe or formula to follow. In fact most methods of data collection have some inherent bias or limitation. Therefore, in choosing methods, it is necessary to consider the various biases of the methods. To compensate for the bias/weakness of individual methods of evaluation a multi-method approach can be adopted. In particular, the concept of triangulation has been applied; that is, combining three different methods to gain more robust data.

The choice of methods was made in consideration of the following considerations:

- existing data availability
- existing tools in place
- the nature of the key questions
- the overall composition of the portfolio of methods
- the resources available.

Section 3.4 shows the relationship between the key evaluation questions and the methods that will be used to address them. A description of each method is included in Section 4.

3.2 Break down of the key evaluation questions

Table 2 lists the key evaluation questions, and shows the sub-questions for the main key evaluation questions which concern the extent to which the goals of the behavioural strategy were achieved. As these are such ‘big questions’ it is helpful to break them down into sub-questions before considering how they will be addressed.
Table 2: Key evaluation questions and sub-questions

<table>
<thead>
<tr>
<th>Main evaluation questions</th>
<th>Sub-evaluation questions</th>
</tr>
</thead>
<tbody>
<tr>
<td>To what extent and how were the behavioural programs effective in contributing to the</td>
<td>What proportions of all trips in City of Sydney are completed by bike?</td>
</tr>
<tr>
<td>strategy outcome of more people cycling for all reasons?</td>
<td>Who made more trips and for what purpose?</td>
</tr>
<tr>
<td></td>
<td>What where the triggers and motives for increased trips?</td>
</tr>
<tr>
<td></td>
<td>What was the change in community perception around how easy it is to cycle?</td>
</tr>
<tr>
<td></td>
<td>To what extent are key routes perceived to be safe?</td>
</tr>
<tr>
<td></td>
<td>To what extent are key routes perceived to be pleasurable?</td>
</tr>
<tr>
<td></td>
<td>To what extent did employers conduct actions to encourage cycling?</td>
</tr>
<tr>
<td></td>
<td>To what extent did awareness of key route information improve?</td>
</tr>
<tr>
<td></td>
<td>To what extent did the new/enhanced infrastructure impact on ease and pleasure of trips?</td>
</tr>
<tr>
<td></td>
<td>To what extent has cycling got a positive ‘everyday image”</td>
</tr>
<tr>
<td></td>
<td>To what extent did participants in programs feel more confident in their skills?</td>
</tr>
<tr>
<td></td>
<td>What were the outputs of projects?</td>
</tr>
<tr>
<td>To what extent and how were the behavioural programs effective in contributing to the</td>
<td>To what extent did conflict on shared pathways change?</td>
</tr>
<tr>
<td>strategy outcomes of better relationships between cyclists and other road and shared path</td>
<td>To what extent were there improved perceptions that there is more considerate behaviour</td>
</tr>
<tr>
<td>users?</td>
<td>by cyclists on shared pathways?</td>
</tr>
<tr>
<td></td>
<td>To what extent did cyclists comply with road rules more fully?</td>
</tr>
<tr>
<td></td>
<td>To what extent do cyclists “bell” more when approaching pedestrians?</td>
</tr>
<tr>
<td></td>
<td>To what extent was there an increased perception amongst cyclists that rules will be</td>
</tr>
<tr>
<td></td>
<td>enforced on them?</td>
</tr>
<tr>
<td></td>
<td>To what extent do people know they are on a shared path?</td>
</tr>
<tr>
<td></td>
<td>To what extent are pedestrians aware of safe pedestrian behaviour on shared paths?</td>
</tr>
<tr>
<td></td>
<td>To what extent is there an increased understanding of road rules for cyclists by</td>
</tr>
<tr>
<td></td>
<td>cyclists?</td>
</tr>
<tr>
<td></td>
<td>To what extent are people supportive of the big picture vision?</td>
</tr>
<tr>
<td></td>
<td>To what extent are people aware of the big picture vision?</td>
</tr>
<tr>
<td></td>
<td>To what extent do drivers have improved knowledge of how to drive safely around cyclists?</td>
</tr>
</tbody>
</table>

Additional evaluation questions:

- What were the unexpected outcomes
- How cost effective were different activities?
- How effective was the community engagement process that underpinned the roll out of the behaviour strategy?

3.3 How will the evaluation questions be addressed?

In this section the evaluation questions (both key questions, and the sub questions) are broken down against the logic model. This is useful as often a survey to one stakeholder group (eg cyclists) will cover of multiple questions. It will then be possible to list all the existing data that can be used to answer these questions, and determine what new data will be needed. This information is displayed below in Table 3.
### Table 3: How the main evaluation questions and sub-questions will be addressed

<table>
<thead>
<tr>
<th>Program Logic component 1</th>
<th>Sub evaluation questions</th>
<th>Existing data</th>
<th>Custodian of data</th>
<th>New method</th>
<th>Stakeholder</th>
<th>Who will collect</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>What proportions of all trips in City of Sydney are completed by bike?</td>
<td>Census data</td>
<td>•</td>
<td>•</td>
<td>• General population</td>
<td>•</td>
</tr>
<tr>
<td></td>
<td>Who made more trips and for what purpose?</td>
<td>Household travel survey</td>
<td>•</td>
<td>•</td>
<td>• General population</td>
<td>•</td>
</tr>
<tr>
<td></td>
<td>What where the triggers and motives for increased trips?</td>
<td>Social Research – conducted every 2 years/ sample of 1200</td>
<td>•</td>
<td>• Intercept surveys</td>
<td>• General population</td>
<td>•</td>
</tr>
<tr>
<td></td>
<td>What was the change in community perception around how easy it is to cycle?</td>
<td>Social Research – conducted every 2 years/ sample of 1200</td>
<td>•</td>
<td>• Intercept surveys</td>
<td>• General population</td>
<td>•</td>
</tr>
<tr>
<td></td>
<td>To what extent are key routes safe?</td>
<td>Social Research – conducted every 2 years/ sample of 1200</td>
<td>•</td>
<td>• participant observations</td>
<td>• cyclists</td>
<td>•</td>
</tr>
<tr>
<td></td>
<td>To what extent are key routes pleasurable?</td>
<td>Social Research – conducted every 2 years/ sample of 1200</td>
<td>•</td>
<td>• participant observations</td>
<td>• cyclists</td>
<td>•</td>
</tr>
<tr>
<td></td>
<td>To what extent did employers conduct actions to encourage cycles?</td>
<td>Event participation (ie ride to work day)</td>
<td>•</td>
<td>• Intercept surveys</td>
<td>• employers</td>
<td>•</td>
</tr>
<tr>
<td></td>
<td>To what extent did awareness of key route information improve?</td>
<td>Cycling maps distributed per year</td>
<td>•</td>
<td>• Intercept surveys</td>
<td>• cyclists</td>
<td>•</td>
</tr>
<tr>
<td></td>
<td>To what extent did the new/enhanced infrastructure impact on ease and pleasure of trips?</td>
<td>Infrastructure benefit costs analysis</td>
<td>•</td>
<td>• Intercept surveys</td>
<td>• cyclists</td>
<td>•</td>
</tr>
<tr>
<td></td>
<td>To what extent has cycling got a positive ‘everyday image’</td>
<td>Social Research conducted every 2 years/ sample of 1200</td>
<td>•</td>
<td>• Intercept surveys</td>
<td>• General population</td>
<td>•</td>
</tr>
<tr>
<td></td>
<td>To what extent did participants in programs feel more confident in their skills?</td>
<td>Cycling course participant numbers</td>
<td>•</td>
<td>•</td>
<td>• cyclists</td>
<td>•</td>
</tr>
<tr>
<td></td>
<td>What were the outputs of projects?</td>
<td>Bike counts</td>
<td>•</td>
<td>• As requested by projects</td>
<td>•</td>
<td>•</td>
</tr>
</tbody>
</table>
### Program Logic component 1

<table>
<thead>
<tr>
<th>Sub evaluation questions</th>
<th>Existing data</th>
<th>Custodian of data</th>
<th>New method</th>
<th>Stakeholder</th>
<th>Who will collect</th>
</tr>
</thead>
<tbody>
<tr>
<td>* Cycling maps distributed*</td>
<td></td>
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</tr>
</tbody>
</table>

### Table 4: How the main evaluation questions and sub-questions will be addressed

#### Program Logic component 2

<table>
<thead>
<tr>
<th>Sub evaluation questions</th>
<th>Existing data</th>
<th>Custodian of data</th>
<th>New method</th>
<th>Stakeholder inquiry</th>
<th>Who will collect</th>
</tr>
</thead>
<tbody>
<tr>
<td>To what extent did conflict on shared pathways change?</td>
<td>* Shared path research – conflict and perceptions 2009</td>
<td></td>
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<tr>
<td>To what extent were there improved perceptions that there is more considerate behaviour by cyclists on shared pathways?</td>
<td>* Shared path research – conflict and perceptions 2009</td>
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<td></td>
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<td></td>
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<tr>
<td>To what extent did cyclists comply with road rules more fully?</td>
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<td>*</td>
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<td></td>
<td></td>
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<td>*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>To what extent do cyclists “bell” more when approaching pedestrians?</td>
<td></td>
<td></td>
<td>*</td>
<td></td>
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<td></td>
<td></td>
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<tr>
<td>To what extent was there an increased perception amongst cyclists that rules will be enforced on them?</td>
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<td>*</td>
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<td></td>
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<td>*</td>
<td></td>
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</tr>
<tr>
<td>To what extent do people know they are on a shared path?</td>
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<td></td>
<td>*</td>
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<td></td>
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<tr>
<td>To what extent are pedestrians aware of safe behaviour on shared paths?</td>
<td>* Shared path research – conflict and perceptions 2009</td>
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<td>To what extent is there an increased understanding of road rules for cyclists by cyclists?</td>
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<td>To what extent are people supportive of the big picture vision?</td>
<td>* Marketing research (phone polling)</td>
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<tr>
<td>To what extent are people aware of the big picture vision?</td>
<td>* Marketing research (phone polling)</td>
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<td></td>
<td>* Media monitoring (mentions of key words ie cycle ways – negative/positive)</td>
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<td></td>
<td>* Social media – ie friends of Sydney cycle ways on facebook</td>
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### Program Logic component 2

#### Sub evaluation questions

<table>
<thead>
<tr>
<th>To what extent do drivers have improved knowledge of how to drive safely around cyclists?</th>
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<tbody>
<tr>
<td>Existing data</td>
</tr>
<tr>
<td>RTA community attitude survey (annual?)</td>
</tr>
<tr>
<td>RTA Bell diagram report 1996</td>
</tr>
<tr>
<td>Rissel research 2003 – driver attitude to cyclists and knowledge of roles</td>
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<tr>
<td>Custodian of data</td>
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<td>New method</td>
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<tr>
<td>Stakeholder inquiry</td>
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<tr>
<td>Who will collect</td>
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<tr>
<td>drivers</td>
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### Table 5: How the additional questions will be addressed

<table>
<thead>
<tr>
<th>Additional evaluation questions</th>
<th>Existing data that can be used to address this question</th>
<th>New data that will be needed</th>
</tr>
</thead>
<tbody>
<tr>
<td>What were the unexpected outcomes</td>
<td>•</td>
<td>• Most Significant Change technique: this is a narrative based approach, involving collecting stories of unexpected (positive and negative changes)</td>
</tr>
<tr>
<td>How cost effective were the different options?</td>
<td>•</td>
<td>• The could be done with cost benefit analysis, or social return on investment</td>
</tr>
<tr>
<td>How effective was the community engagement process that underpinned the behavioural strategy roll out?</td>
<td>•</td>
<td>• Engagement evaluation of key engagement projects against IAP2 scale promises</td>
</tr>
</tbody>
</table>
Section 4: Description of evaluation requirements for project level evaluation

At the project level it may be prudent to have a sliding scale of requirements to ensure that a project does not overinvest in evaluation and that the degree of evaluation activity is commensurate with the project size. The table below provides an example of how this might work. Depending on the size of the project, two or more project evaluation methods would be selected.

Table 6: Summary of project level evaluation requirements

<table>
<thead>
<tr>
<th>Project Scale</th>
<th>Minimum requirements</th>
</tr>
</thead>
</table>
| Small Scale (up to $5,000 – 10,000) | - A narrative explanation of how activities in the project contribute to City of Sydney Cycling Strategy goals.  
- Expenditure tracking  
- Final report on project outputs  
- Media monitoring where appropriate |
| Medium Scale (between $50,000 and $80,000) or significant projects | - Program (project specific) logic showing a visual model of how project will lead City of Sydney Cycling Strategy goals.  
- Selection of relevant key evaluation questions  
- Expenditure tracking  
- Measurement of project outputs  
- Collection of data relevant to key evaluation questions in addition to project metrics  
- A final evaluation report of the extent to which the project contributed to City of Sydney Cycling Strategy goals.  
- Reporting of evaluation to include key achievements, unexpected outcomes, lessons learned and recommendations  
- Budget for evaluation component: (10% of project expenditure, to include creation of a project plan at start and data collection.) |
| Large Scale Projects (over $150,000) | - Own evaluation  
- Reporting every year  
- Program (project specific) logic showing a visual model of how project will lead to City of Sydney Cycling Strategy goals.  
- Selection of relevant key evaluation questions  
- A comprehensive project monitoring and evaluation plan  
- Expenditure tracking  
- Measurement of project outputs  
- Collection of data relevant to all relevant key evaluation questions in addition to project metrics  
- A final evaluation report of the extent to which the project contributed to City of Sydney Cycling Strategy goals.  
- Reporting of evaluation to include key achievements, unexpected outcomes, lessons learned and recommendations  
- Budget for evaluation component: (10% of project expenditure, to include creation of a project plan at start and data collection.) |
Section 5: Methods for project level evaluation

Evaluation methods in this section are to be conducted at the project level. Depending on the nature of the project and its size different combinations of these methods may be required. Guidance as to how many project methods should be used can be gained from the above table.

5.1 Existing methods

Data is currently being collected from a number of relevant stakeholder groups within the City of Sydney. Before considering what new methods of data collection to apply it is useful to consider the value of existing information and any possible modifications to existing data collection mechanisms that would add value for the purposes of this monitoring and evaluation plan.

Data currently collected from cyclists:
- Cycling course participant numbers and post completion survey
- Event participation (ie ride to work day)

Data currently collected from event organizers
- Events with bike stalls

Data currently collected around Program Outputs
- Parking racks (on streets)
- Length of cycle way
- Number of cycling maps distributed

Each of these methods is addressed in detail below:

Cycling course participant numbers and post completion survey

The Cycling in the City offers free courses in low risk and responsible riding and basic bike maintenance. The courses aim to boost the confidence of existing riders and equip each person with the skills and knowledge to have a well maintained bike so that they can cycle safely and reliably. Both courses include a course completion survey the results of which could provide valuable data for monitoring and evaluation purposes. It would be necessary to review the questions asked in the survey to ensure they address the relevant sub evaluation questions directly. This could be extended by conducting some follow up research.

Event participation (ie ride to work day)

A number of events currently take place that involve bicycling and several more are planned as part of the strategy role out. Numbers of attendees at these events will provide one measure for assessing the success of a given event initiative. They will also provide opportunities to apply other data collection techniques.
Events with bike stalls

The City of Sydney hosts a number of large scale public events annually. The number of events with cycle information available will provide an indication of the penetration of messages relating to the strategy and big picture vision.

Parking racks on streets

The City of Sydney currently tracks the numbers of purpose built bicycle parking facilities in their municipality. The locations of these parking stations are mapped and available for download.

Length of cycleway

A tangible result of the investment by the City of Sydney in its bicycle infrastructure will be the additional cycleways added to the network during the five (5) year period. This measure would be useful at an infrastructure project level but would need to be complemented with information relating to usage, experience and perceptions to provide a meaningful measure of success at the strategy level.

Cycling maps distributed

Cycling maps are produced and distributed by the City of Sydney both in hard copy and via digital download. Number of hits and maps distributed would provide an estimate of the levels of interest in cycleway information.

5.2 New methods

In addition to existing methods a number of new methods of data collection may need to be utilised at the project level. The choice of method would relate to the type of project being undertaken. New methods proposed for the project level include:

- Intercept surveys (project level)
- Record actions to encourage bikes at events
- Observation at hot spots
- Project metrics

Each will be described in turn.

1. Intercept surveys

The biggest challenge with this method is that people may refuse to participate (especially if they are commuting). The key to this would be to make the interview very succinct, as most potential respondents are time short, as they are on their way to a destination. It may also be worthwhile advertising in appropriate media and with relevant groups and offering incentives to participate, such as a sports drink or a free cycle map. Ample signage would need to be posted to ensure that cyclists who are travelling fast can read the notice in time to decide to stop.
Questions will depend on the nature of the survey. The number of intercept surveys done needs to be proportional to the budget for the project, as small projects may merit less investigation as this is a more costly process.

2) Record actions to encourage bikes at events

When the City of Sydney is hosting major events it is suggested that efforts be made to monitor what actions were taken to encourage bicycle travel to and from the event. This may include the presence of bicycle valet parking, provision of cycle information in events promotion or incentives to attendees.

3) Observations at hot spots

For selected routes (depending on the project) it is suggested that some empirical data be collected from cyclists and walkers before and after an intervention or at regular intervals.

At key points in the route, on set times and days of the week a researcher could count the number of users in one-hour blocks. After this period of counting, the same survey could intercept a set number of cyclists/walkers and ask them some brief questions. Counts to be made over a one hour period on a working day at two peak key commuting times and an off-peak time:

- counting period: one hour
- counts taken at 7.30 to 8.30, 1pm to 2pm and 5.00 to 6.00 pm
- taken on same day of week for three consecutive weeks to overcome issues such as weather
- not to be conducted on public holidays, school holidays, weekends or Fridays.

Counts should be done before the intervention and after. Literature suggests that the number of cyclists does not change quickly after the introduction of new infrastructure. If there are communications strategies associated with the opening of new infrastructure it may be worth while tracking usage immediate post opening to assist with evaluating the communication strategy.

Repeat surveys should be done in the same season of the year, to mitigate seasonal usage factors, and be at the same time of day, same location and same day of the week, and ideally at the same month of the year. Literature suggests that surveys are done on selected projects on a rolling 5 year cycle.¹

4) Project metrics

For each project, records will need to be conducted detailing related outputs. This will need to be specified on a project to project basis. This will then be aggregated up to report on outputs at the program level. Common metrics for infrastructure programs would include:

- KM of cycle ways upgraded or built
- Number of signs and bike parking racks installed
- Number of people participating in events
- Outputs as a result of planning regulations

Section 6: Methods to address questions at the whole of strategy level

Methods in this section would need to be conducted at a strategy wide basis. Results would feed directly into the strategy level evaluation, rather than the project level. This data will be important for the annual reflection (see Section 6.2).

In order to make an overall case for whether the program has contributed to longer term outcomes (such as an increase in the number of people cycling) it would be necessary to combine the project level data with the program level data and provide a ‘performance story report’. The following paragraphs in Section 6 list a series of methods that are best applied at the whole of program level.

6.1 Existing methods

Data is currently being collected from a number of relevant stakeholder groups within the City of Sydney that would be relevant to the monitoring and evaluation of the City of Sydney Cycling Strategy as a whole. These data sources include:

Data currently collected from cyclists:
- Bike counts

Data currently collected from the general population
- Marketing research (phone polling)
- Media monitoring (mentions of key words ie cycleways – negative/positive)
- Social media – ie friends of Sydney cycleways on Facebook
- Shared path research – conflict and perceptions 2009
- Public bike system market research 2006 – would you use it?/barriers to use

Data currently collected from Drivers
- RTA community attitude survey (annual?)

Census data

The Australian census takes place every 6 years and records information on transport modes for the journey to work.

Bike counts

Bike counts conducted on a regular or occasional basis allow those authorities providing for bike riding facilities to base their judgements on accurate, relevant and up to date information. The Super Tuesday project aims to establish a reliable annual benchmark for bicycle commuting to complement more regular monitoring. The City of Sydney participated in the Super Tuesday bike count for the first time in 2009.
Household Travel Survey

Each year over 5,000 households are randomly selected across Sydney, Newcastle, the Central Coast, Blue Mountains and Illawarra to be surveyed about their travel patterns. The survey is conducted by the Ministry of Transport and data collection is carried out by the Hunter Valley Research Foundation on behalf of the Ministry.

The survey collects information about people's day-to-day travel, such as where they go, when they travel, the purpose of the trip, the means of transport used and the costs associated with the trip.

The survey is the only source of information on the day-to-day travel of people living in the Greater Metropolitan Area and the data is essential to gain a complete picture of all trip making and how travel patterns change over time. This information is used in planning the future transport needs of the people in the area.

Social Research

Social Research is currently conducted every two (2) years with an approximate sample of 1200. This survey needs to be re-thought to ensure that it is meeting the team’s needs, it is particularly important that there is a narrative to interpret the results.

Infrastructure benefit costs analysis

This information will be vital to the public planning and works division in determining the values derived from a given investment.

Marketing research

Telephone polling

Media monitoring

Some basic media monitoring of references to key words such as “cycleways” and the negative or positive sentiments linked to the terms will provide information on the positions taken by opinion leaders in the wider community. It is suggested that the terms monitored by aligned to the key themes arising from program’s theory of change.

Social media

The presence of the City of Sydney’s cycling initiatives in various social media and networking sites are currently being tracked. This kind of information, for example the number of “Friends of Sydney Cycleways” on Facebook, provides an insight into magnitude of interest and engagement in cycling.

Shared path research

Research was conducted in 2009 into the conflict and perceptions of shared path users.
Public Bicycle System Market Research

In 2006 market research was conducted in the existing public cycle infrastructure. The research was focused around public perceptions of the useability of the network and the barriers to use.

RTA Community Attitude Survey

The Road User Behaviour Study was commissioned by the Chief Executive of the NSW Roads and Traffic Authority, to address Government concern at the high 2000–2001 Christmas–New Year holiday road toll in NSW. The study was conducted to drill down into the areas of crash data, public education strategies, deterrence strategies, and community attitudes and to identify countermeasures to address and reduce the rising road toll. The research study into road user behaviour consisted of five separate studies including a community attitude study conducted by the Road Transport Authority. This study involved a telephone survey of 1,000 drivers in NSW. This study is reported in the Road User Behaviour Study, Community Attitude Survey Report.

6.2 New methods

In addition to existing methods a number of new methods of data collection, these include:

New methods for inquiry with cyclists

- “Test squad” participant observations (strategy level)
- Most Significant change technique (MSC)

For inquiry with employers

- Stratified sample businesses – internet survey

General:

- Synthesis of existing data through data trawl
- Observations at hot spots
- Project success ranking
- Mid-term evaluation of possible conflict spots that looks at how to manage potential increases in conflict

Each of these will be described in turn.

“Test squad” participant observations

One way to collect data would be to conduct some participant observation. Volunteers could ride the pathway from one end to the other on specified occasions on specified routes. It is suggested that they:

- make a note of all barriers encountered
- rate the surface quality
- rate adequacy of track to deal with number of users, including any actual or near conflicts
- record any other observations
record the time taken to cycle from one end of the path to the other.

In order to keep cost down and in projects where capacity is not an issue, the same people conducting the intercept survey could also conduct a participant observation exercise of the track between recording periods. This could be done before and after any infrastructure upgrades. This could be done with volunteers.

**Most Significant Change (MSC) technique with businesses and neighbours of the paths**

MSC is a form of participatory monitoring and evaluation\(^2\). It is participatory because project stakeholders are involved both in deciding the sorts of change to be recorded and in analysing the data. It is a form of monitoring because it can occur throughout the program cycle and provides information to help people manage the program. It contributes to evaluation because it provides data on impact and outcomes that can be used to help assess the performance of the program as a whole. Whilst MSC is a very powerful tool, it is not used as a standalone tool for monitoring and evaluation for accountability purposes. It is best seen as a very powerful supplementary tool for accountability based systems. Unlike conventional approaches to monitoring, the MSC approach does not employ quantitative indicators, and, because of this, is sometimes referred to as 'monitoring without indicators'.

MSC has the following key steps:
- The selection of domains of change to be monitored
- The collection of stories of significant change
- The analysis of the stories
- Feedback

Firstly, the domains of change that people think need to be evaluated are determined. Then stories of significant change are collected from those most directly involved, such as cyclists and people living/running businesses adjacent to shared paths. The stories are collected with the help of a simple question – for example: ‘During the last year, in your opinion, what was the most significant change that occurred in relation to shared path use?’. Informants are encouraged to detail their answer to this by way of a *story* or example. In addition to this, respondents are encouraged to report why they consider a particular change to be the most significant one. The stories are often taped, and transcribed. These are analyzed by a simple process of a group (for example a steering committee) sitting together and reading all the stories and selecting one story from each domain of change to epitomize the most significant changes. They must also document their reasons for selecting one over the other.

At the end of each period, such as 2 years, a document can be produced with all the stories selected over that period. The stories are accompanied by the reasons the stories were selected. This document contains several chapters with the stories selected from each of the domains of change. The dialogue that forms a central part of the technique can help the cycling team deliberate about

\(^2\) For more information see [www.clearhorizon.com.au](http://www.clearhorizon.com.au) where a User guide on MSC can be downloaded
the unexpected outcomes of the program as well as the lived experience of people affected by it. The iterative nature of the technique provides information quickly to decision-makers, allowing them to respond to issues as they emerge. It also deals with attribution by retaining the description of why changes occurred (the story can document how these changes were the result of a whole series of complex influences).

As there is a large network of highly mobilised stakeholder groups interested in the cycling strategy. It is suggested that these groups be utilised to collect stories of change from their memberships to inform sub-evaluation questions relating to changes in behaviour and perception. Following the Most Significant Change methodology this will also enable the cycling community to reflect of the changes that they have valued, engage more deeply with the strategy and become a more informed partner in the improvement of the City of Sydney’s cycling culture.

**Stratified sample businesses – internet survey**

In order to address the questions around whether businesses took action to make it easier for people to cycle to work, it may be useful to conduct a survey of local businesses. It is suggested that this be conducted using a random sample of businesses within the city of Sydney. It may be best done using an internet survey. It could perhaps be combined with some advertising of green work schemes.

**Synthesis of existing data through a data trawl**

At the program level, it will be essential to collate and synthesise ‘not-necessarily attributable’ data concerning higher level outcomes. It is suggested that this data be plotted against the program logic model to form a ’results chart’.

**Project success ranking**

In order to address the question concerning which projects were the most effective it is suggested that the team conduct a project success ranking exercise. Annually each project would be subject to ranking against the extent to which they have or are likely to contribute to outcomes.

**Mid-term evaluation of possible conflict spots that looks at how to manage potential increases in conflict**

As conflict is likely to increase as the volume of cycling increases, it may be necessary to conduct some periodic evaluations of conflict hot spots. This would involve selecting hot spots and conducting observations and intercept surveys before and after any intervention.
Section 7: Strategies to ‘close the loop’ and turn lessons into practice

7.1 Synthesis of data

As there is considerable existing data it would be prudent to collate and analyse this to understand the overarching impact of the strategy. This is often the part of monitoring and evaluation that is neglected. It is recommended that annually all data is synthesised into a “results chart”. This would combine both project level and program level data.

7.2 Annual program reflection workshop

One of the key failings of many monitoring and evaluation systems is that data do not get used to inform decision making. To ensure that learnings from the monitoring and evaluation actually are reflected on and actioned, a reflection workshop is critical.

The key purposes of annual reflection is to enable a review of the Cycling Strategy’s performance and impact, and to identify key findings and learnings to inform ongoing or future work and ways of working. Annual reflection and reporting would be informed by the findings from monitoring and evaluation processes undertaken during the financial year. It is recommended that draft project ‘results charts’ be created before this workshop, as it is a key tool in synthesising the findings of the monitoring and evaluation system (see Section 8).

During this annual reflection workshop the extent to which goals have been met will be examined (and if not, why not), and the team will reflect on the appropriateness of the goals and the logic themselves. This will be done by examining the discrepancies between expectations and achievements, and the discrepancies between expectations and emergent outcomes (in the form of significant change stories). A set of key reflection questions may also be used to examine the achievements.
Section 8: Data management and storage

8.1 Data storage

To assist the collection of project data, a database could be set up. Failing this, all data can be stored on excel spread sheets. Templates for each project will need to be established.

8.2 Piloting tools

All the data collection tools will need to be piloted and refined before widespread use.

8.3 Data backup

Appropriate back up of all data will need to be considered.

8.4 Governance arrangements for implementation

It is suggested that a brief monitoring and evaluation plan be created for each project of a certain size. These plans will need to be signed off on by relevant groups.

8.5 Ethics and confidentiality of informants

All informants of the intercept survey will need to be informed of their rights in terms of privacy and confidentiality. They also need to be fully informed of the purpose of the evaluation. It is suggested that this is given to each informant for their future reference.

All data collected from intercept surveys and internet surveys must be stored in a way such that informants’ identities are not revealed.
Section 9: Reporting Arrangements

There will be requirements to report against the Cycle Strategy to a number of different stakeholders at regular intervals throughout the ten years. In addition to weekly and monthly internal briefing requirements, the major reporting milestones are summarised in the table below.

Table 7: Major reporting milestones

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<thead>
<tr>
<th>Quarterly</th>
<th>Annual</th>
<th>Bi-annual</th>
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<tbody>
<tr>
<td>A stakeholder report to cycling groups, the Department of Transport and the Road Transport Authority</td>
<td>Reporting against the overarching 2030 targets to the wider community</td>
<td>Full reporting against the Cycling Strategy every two (2) years</td>
</tr>
</tbody>
</table>

With this number of external reporting requirements it is vital for the program team to adopt a reporting system that is able to satisfy a number of these obligations simultaneously, and most importantly, still enable them to learn and adapt their activities throughout the life of the strategy.

The following system is recommended as a way of systematically capturing information relevant to a diverse range of stakeholders for each project. This information can then be naturally synthesised into a number of reporting formats and combined to produce annual and biannual strategy level reflections.

9.1 End of project reporting

Each project over $50,000 shall produce an end of project performance story report.

It will be a short report of approximately 10 pages including five sections:

- Section 1: Background and context
- Section 2: Results chart against program logic
- Section 3: Implications (key achievements, key issues, unexpected outcomes and recommendations)
- Section 4: stories
- Section 5: Evidence base

These reports will contain both qualitative and quantitative evidence.

9.2 End of program reporting

It may also be desirable to conduct an evaluation of the overarching strategy. In this case it is suggested that the findings of the methods conducted at the strategy level be combined with data collected at the project level to create a whole of strategy performance report. The project level performance reports would be included as an appendix in this report. This report could be structured against the following headings:

- Executive summary
- Background to the program
- Background to the evaluation
- Key findings against the program logic model
Recommended reports will need to combine quantitative and qualitative data (stories) in an engaging and visually appealing manner. An example of this type of report can be founds at: http://www.cvga.org.au/main/documents/C500eBook_Mar09.pdf. This format can be adapted to reflect the visual style of the existing Sydney 2030 document.
Appendix D

What triggered people to start cycling?
Responses from cyclists in two focus groups commissioned for this study

Social triggers (n = 7)
- I started when my boy friends and his friends started riding. It’s very cool in the inner west because everyone has one-speed bikes.
- I started because my boyfriend started.
- We cycle to Bondi with people who live near us, have coffee, then go to work. It’s just freedom for me.
- I saw an advert for an adventure race, orienteering. I called my friends and asked if they wanted to do it.
- A friend asked me to buy a bike, we biked together everywhere, it’s quicker than a bus.
- I live in the inner west. My boyfriend and his brother ride around the Bay a lot and I liked it. It’s more enjoyable than running. I’m actually buying a bike tomorrow.
- My friends ride. My work mate came in one day with a really cool bike.

Other triggers (n = 8)
- A terribly crowded train trip in summer to St Leonards.
- A small accident. My car got written off. It was more fun to cycle and I was too lazy to buy a car.
- I started when I moved to the city and got the use of my brother-in-law’s bike.
- As soon as I worked in the city I got a bike.
- I grew up on a bike in North Queensland. Commuting from Newtown to Rozelle, there’s no other way.
- I added up my bus and train tickets for three months and got annoyed.
- I rode for fun when I was young. Now I’m in the inner city and I’ve got showers and a bike cage at work. It’s very easy for me.
- Being Stuck on Anzac Bridge for half an hour, seeing cyclists rush past.
Appendix E

Full References used in Strategy
References


- Daley, M., Rissel, C. & Lloyd, B. (2007) All dressed up and nowhere to go - A qualitative research study of the barriers and enablers to cycling in inner Sydney, Road and Transport Research 16(4)


- GA Research (2009) Perceptions of Shared Paths Research Report, commissioned for the City of Sydney

- GHD (2010a) Cycling Behaviour Change Strategy - Policy, Promotion and Best Practice Review (appendix to this report)

- GHD (2010b) Cycling Behaviour Change Strategy - Social Research on Shared Path Users (appendix to this report)

- GHD (2010c) Cycling Behaviour Change Strategy - Shared Path Fieldwork Report (appendix to this report)


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