

Cycle Strategy and Action Plan

2007 – 2017



city of villages

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Executive Summary

Background

The *City of Sydney Cycle Strategy and Action Plan 2007-2017* (the Strategy) is Council's commitment to making cycling an equal first choice transport mode with along with walking and using public transport.

The Strategy will provide the infrastructure to ensure a safer and more comfortable cycling environment and the social initiatives to encourage more people to cycle as a means of ordinary transport.

The Strategy is based on a comprehensive analysis of cycling issues by consultants for the City. Significant input was received from the cycling community during its preparation. Significant changes were made in response to the submissions received during the public exhibition period and the findings of the social research to ensure that the greatest numbers of potential cyclists are encouraged onto the network.

Aims and Benefits

The City aims to making cycling an equal transport choice for residents, workers and visitors by 2017.

Specific aims of the Strategy are:

- Creating and maintaining a comfortable and bicycle friendly environment in Sydney to encourage more residents, visitors and workers onto bicycles;
- Improving cycling safety.
- Promoting the benefits of cycling; and
- Increasing the number of trips made by bicycle in Sydney;

Specific targets include:

- Increase the number of bicycle trips made in the City of Sydney, as a percentage of total trips, from less than 2% in 2006 to 5% by 2011, and to 10% by 2016;
- Increase 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;
- Achieve a minimum 80% good level of confidence and comfort for cyclists that ride in the City of Sydney by 2016; and
- Measure and monitor the number of collisions and injuries involving bicycles and achieve a reduction in the number of incidents.

Key benefits provided through this Plan are:

- reduced road costs;
- reduced overcrowding on public transport;
- lower greenhouse gas emissions;
- lower air pollution;
- reduced accidents; and,
- Reduced health costs from increasing physical activity.

Initiatives

The Strategy defines infrastructure and social initiatives that will be undertaken by the City over the period 2007-2017.

1 Infrastructure and facilities

The Strategy defines a coordinated trunk network of cycling routes to interconnect the City's villages. The aim of the network is to provide major routes at the spacing required to achieve the City's goals for sustainable transport.

In addition to these routes, the City will ensure that local bicycle access is achieved to encourage residents and visitors onto bicycles as a sustainable transport option.

The City will develop separated bicycle roads within the existing road kerbs to provide safe cycling facilities for all cyclists. These facilities will have little or no effect on resident parking; and a positive effect on pedestrian amenity and public transport operations.

2 Social

The Strategy defines a series of social initiatives required to encourage the behavioural change required to ensure that cycling becomes a regular and normal mode choice. The social initiatives aim to promote wider community awareness of the individual and community benefits of cycling, and to support increased community participation in cycling.

The City's investment

Consistent investment over several years is needed to deliver Council's cycling vision. The Strategy outlines how the City will deliver this key sustainable transport network. Council's 2006/07 capital works budget assigns \$1.25 m to implementation of the Strategy together with forward estimates of \$750,000 for each of the following three years. This will be reviewed annually by Council in setting its annual budget. These funds are in addition to bicycle facilities delivered through the City's street improvement and maintenance programs.

Full implementation of the works envisaged by the Strategy will be completed regardless of the NSW Government's commitment to deliver the key regional routes as identified in the Roads and Traffic Authority publication *Action for Bikes 2010* according to the funding model outlined in the *NSW Bicycle Guidelines version 1.2*.

The City will seek also funding from the Roads and Traffic Authority and other NSW Government agencies to ensure that the network is delivered in a timely manner.

Acknowledgements

The City gratefully acknowledges the significant input of the City of Sydney Cycle Strategy Steering Committee, and in particular the non-City members including Alex Unwin, CEO of Bicycle NSW; Adrian Boss, representing BIKEast; Andrew Dodds representing BikeSYDNEY; and Brad Donaldson representing the NSW Roads and Traffic Authority, in the development of this *Cycle Strategy and Action Plan 2007-2017*.

This *Cycle Strategy and Action Plan 2007-2017* is built upon work by Arup, acting as consultants to the City of Sydney. This work was undertaken in 2005 and 2006 in three stages.

The work of the former South Sydney City Council, former City of Sydney Council and Leichhardt Municipal Council in the development of their respective bike plans is also acknowledged. Significant parts of these plans were incorporated in this *Cycle Strategy and Action Plan 2007-2017*.

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1 Background

The City of Sydney (the City) is a City of villages and cycling is an active part of the City's goal to develop a sustainable transport system.

The City of Sydney Corporate Plan recognises cycling as a key activity helping to achieving an interconnected system of sustainable neighbourhoods connected by sustainable transport. As well as achieving these goals, cycling is an important social and recreational activity.

Research indicates a significant switch from cars to bicycles as a mode of transport can be achieved through the provision of appropriate bicycle facilities and programs. New bike planning in cities across North America is delivering significant gains in cycling participation. Davis, California, with a young population increased cycling as a mode of transport to 10% of total trips. European models including Deft in Holland or Copenhagen in Denmark have demonstrated that with the highest levels of commitment, very significant shifts towards cycling of up to 30% can be achieved.

Surveys undertaken in Sydney in 1990 show that regular cycle trips could increase by 20% if the road system was made safer and more convenient.

The City's social research has shown that most semi-regular (twice a week or less) and potential cyclists desire to use their bicycle to make local, socially based trips – eg riding a bicycle to visit friends.

The Australian National Cycling Strategy also notes the multitude of transport, health, and environmental challenges currently facing Australia and the need to increase the use of 'active transport' – such as cycling - to address those challenges.

Cycling has many benefits, it:

- Is an essential element of a sustainable transport systems in the world's most liveable cities;
- Can improve access and sociability within communities;
- Can contribute to reduced traffic congestion, overcrowding on public transport, and noise and air pollution caused by cars; and
- Can improve the health of individuals.

By making it safer for anybody to cycle and increasing the general visibility of cycling throughout the City will help to change attitudes to cycling in the general community by normalising cycling as a regular transport mode. This will help the City achieve its sustainable transport goals.

The Strategy establishes a long-term vision for cycling, identifies a range of network and infrastructure priorities and social initiatives, and provides action plans to deliver on that vision. To achieve this, the Strategy sets the policy framework to achieve a greatly improved cycling environment in the City over the next 10 years.

The Strategy is with a key component of the City's Corporate Plan objectives, especially in the key focus area of *transport and accessibility*.

The Strategy builds upon the former City of Sydney, South Sydney City Council, and Leichhardt Bike Plans. It also incorporates the views of community as identified through the submissions received on the draft placed on public exhibition in 2006 and social research undertaken in 2006 and 2007.

The Strategy identifies a range of network and infrastructure priorities and social initiatives and action plans to deliver these initiatives.

1.1 Scope and Purpose

The City of Sydney *Cycle Strategy and Action Plan 2007-2017* (the Strategy) will provide a framework for the coordination of cycling programs throughout the City local government area. The purpose of the Strategy is to:

- Establish a long-term vision for cycling in the City;
- Provide direction and actions to achieve a greater level of cycling participation;
- Define the cycling network and infrastructure that will be delivered by Council;
- Define the social initiatives to be undertaken to support the provision of cycling infrastructure; and
- Identify specific, practical, and achievable actions to be implemented and delivered by the City.

The City is currently developing an Integrated Transport Strategy to deliver a fully sustainable transport network for 2030 and beyond. The Integrated Transport Strategy links the City's transport planning strategies and action plans to deliver seamless transport connections and integrated public spaces.

The Strategy is based on a comprehensive analysis of cycling issues undertaken by Arup and City staff. Significant input into the draft was received from the cycling community.

This strategy has been revised following a public exhibition period and social research into the behavioural change required to increase the number of people using bicycles as a regular transport choice.

1.2 Strategic Directions

Vision

The City's vision for cycling is:

Sydney will be a bicycle-friendly environment where people of all ages can use bicycles for enjoyment and as an equal transport choice.

The City and its villages will be interconnected by high quality cycling network that cyclists from children to the elderly feel safe and comfortable on.

Our community will recognise the important role of cycling in improving the quality of City life and community health; better environmental sustainability and reduced traffic pollution.

Cycling and walking will be the natural first choices for medium and short trips and local activities in our City villages.

Aims

The aims of this Plan are to:

- increase the number of trips by residents by bicycle from 2% in 2004 to 5% by 2011, and to 10% by 2016;
- To increase 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;
- Create and maintain a cycling friendly environment in Sydney and to improve the safety of cycling;
- Develop a culture of cycling as a normal transport choice, equal with walking and public transport and a preferred to private travel;
- Increase the proportion of Sydney cyclists who feel comfortable and confident when they are cycling in the City and ensure that it is 80% or higher by 2016; and,
- Reduce the number of collisions and injuries involving bicycles and achieve a reduction in the number of reported incidents.

Strategic directions

The City's strategic directions for cycling in the City are to:

- Fully interconnect the City's villages with a high-quality cycleway network that is within a five minute bicycle ride from all residents.
- Provide a bicycle network that is safe enough for parents to take children on most routes.
- Support cycling as a legitimate use in all local streets, parks, squares, plazas, and other public places, while recognising that pedestrians have priority over cyclists.
- Provide a physical cycling environment in which cyclists feel confident to ride the City's streets in safety and comfort.
- Provide a culture where cycling is included as an equal consideration in the design and maintenance of roads, footpaths, parks, and developments.
- Provide access for cyclists to high quality and secure bicycle parking and end of trip facilities at workplaces and other major cycling destinations to support cycling becoming a part of everyday life.
- Ensure ongoing participation of community members and stakeholders in the City's cycling initiatives and in the implementation of this *Cycle Strategy and Action Plan 2007-2017*.
- Promote an environment of mutual awareness and respect between cyclists, pedestrians, and other road users.

2 Setting the Scene

2.1 The City of Sydney

Cyclists have a unique position in the road environment. When cycling at low speeds and in a cautious manner, they can easily and safely interact with pedestrians even on narrow shared footpaths. When cycling on the road, cyclists can often travel at speeds of up to 40-50 km/h and are subject to many of the same constraints as other vehicles.

The City has a partially formed cycling network developed by the former Cities of Sydney and South Sydney and Leichhardt Council. This network was designed on the basis of providing safe facilities for those who wished to ride bicycles without the large scale shift to sustainable transport envisaged by the Strategy.

The existing network will be maintained and protected as part of the City's commitment to cycling.

The existing network, including bus lanes that bicycles may use is shown in Figure 1.

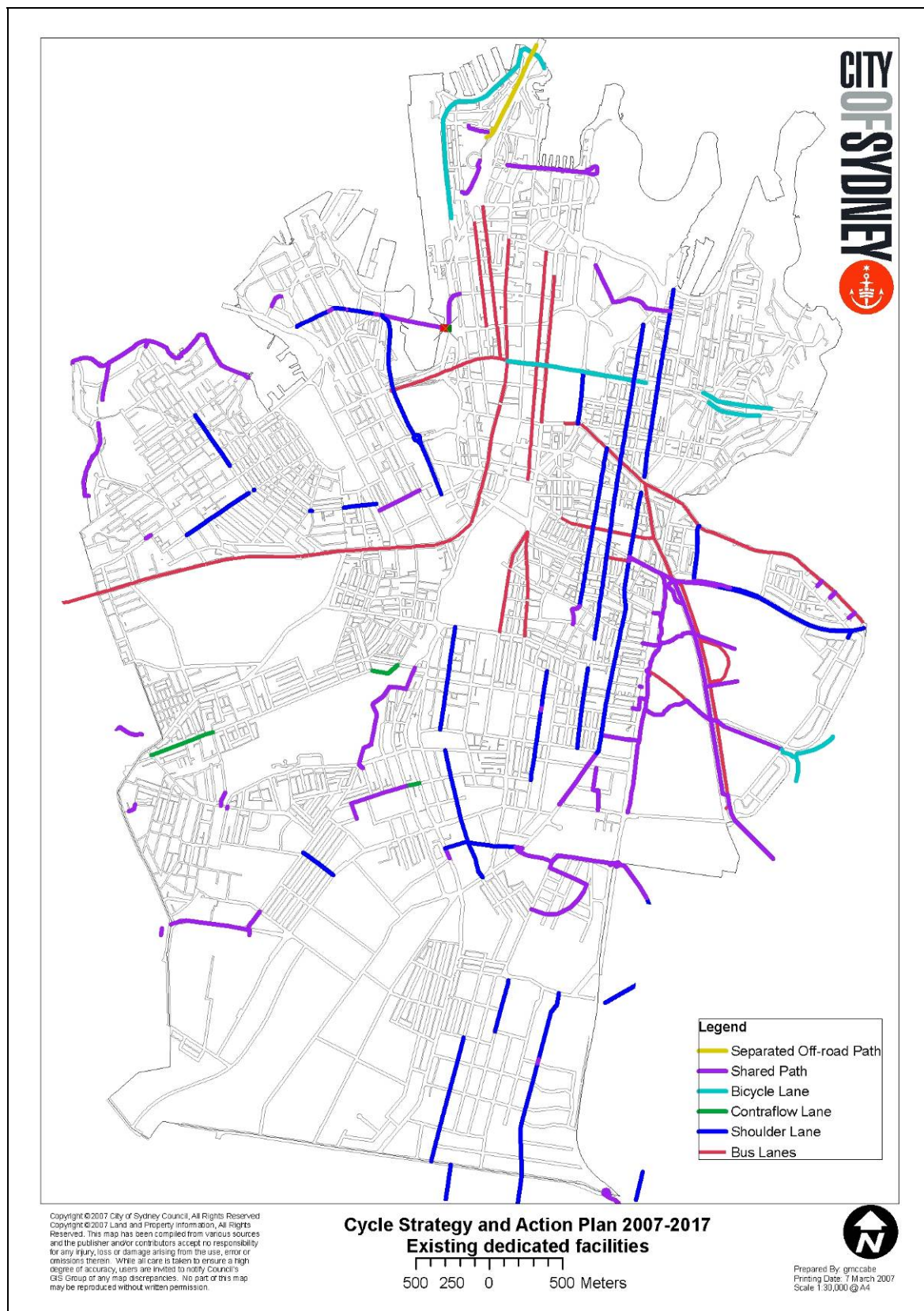


Figure 1 Existing cycling network

2.2 Key Relationships

The City of Sydney recognises that it needs to integrate with the surrounding Local Government Areas and the lands within the boundaries of the City of Sydney are not under the City's control.

The Key relationships that must be considered in the development and implementation of the Strategy are:

- NSW Department of Planning;
- Sydney Harbour Foreshore Authority;
- Royal Botanic Gardens and Domain Trust;
- Centennial Park and Moore Park Trust;
- Roads and Traffic Authority of NSW;
- NSW Ministry of Transport
- RailCorp;
- Sydney University; and,
- University of Technology.

The City is also coordinating with the surrounding local councils to develop an integrated bicycle network for the inner areas of Sydney. These councils are:

- City of Botany Bay.
- City of Randwick;
- Marrickville Municipal Council;
- Leichhardt Municipal Council; and,
- Woollahra Municipal Council.

The localities under the control of these authorities are shown in Figure 2.

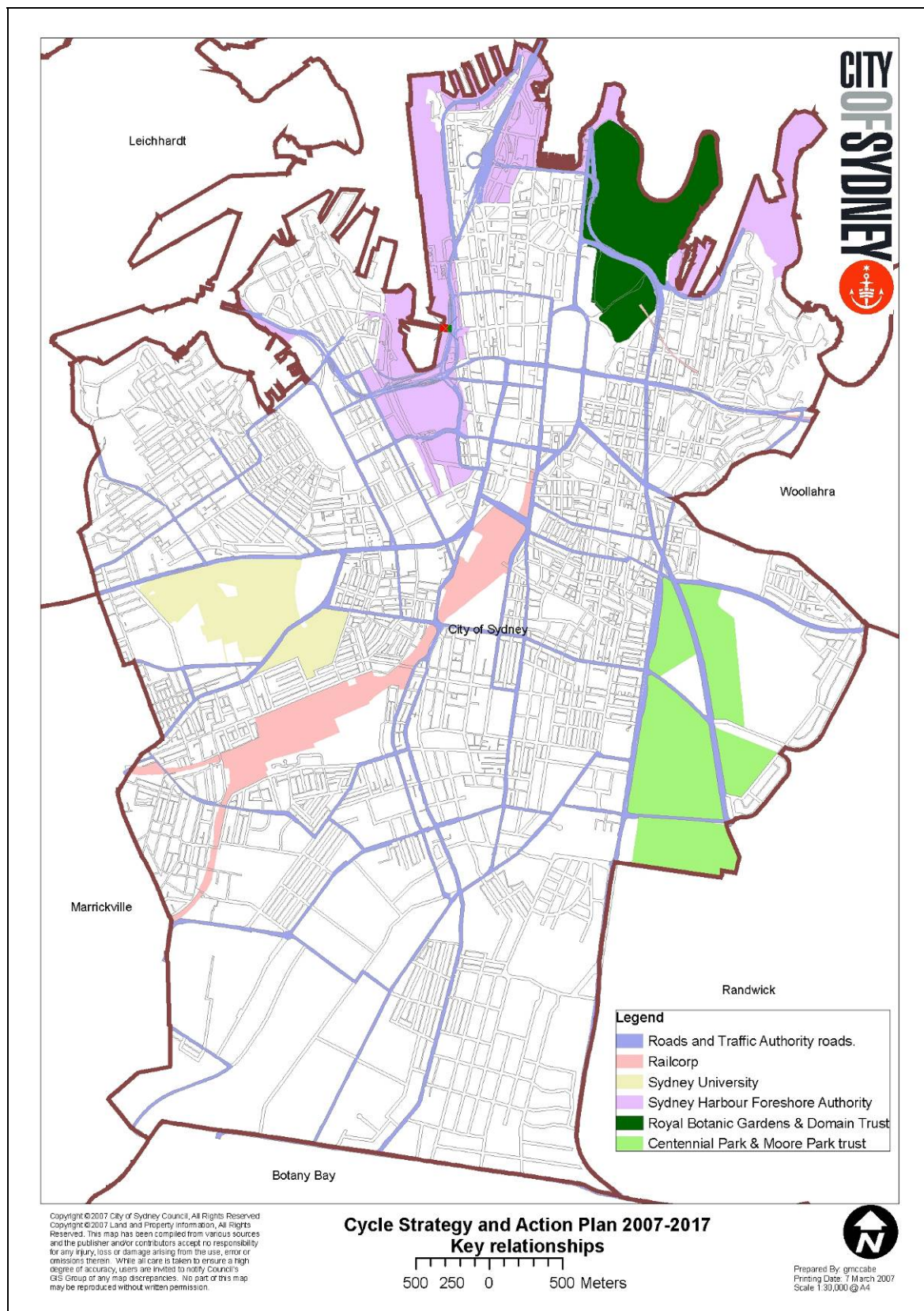


Figure 2 Key Relationships

2.3 National context

The *Australian National Cycling Strategy* notes a multitude of transport and health challenges currently facing Australia and the need to increase the use of 'active transport' - including cycling - to address those challenges. The Strategy notes the recent changes highlighting an increased need for bicycle facilities and cycle planning including:

- An increased awareness of the importance of an active lifestyle and of the role of active transport in increasing physical activity;
- Significant increases in support for cycling, and funding for cycling by governments;
- Recognition of the widespread benefits of cycling;
- A significant expansion of bicycle networks and are continuing to grow;
- An increased participation in cycling; including off-road cycling;
- An active increase in the promotion of cycling nationwide by all tiers of government, the bicycle industry and community groups, resulting in greater acceptance of cycling in the community;
- An increased focus on cycling education and training in many states and territories; and,
- A consistent set of road rules for cyclists across Australia following the introduction of the Australian Road Rules in 1999.

2.4 NSW Context

The NSW government has set itself multiple objectives for increases in cycling. These have been identified in the *NSW State Plan* and the NSW Department of Planning *Metropolitan Strategy*.

2.5 NSW State Plan

The NSW State Plan identifies key areas where the NSW Government has identified the need to improve transport services, traffic management and recreation.

These areas are priorities *S6: Increasing share of peak hour journeys on a safe reliable public transport system, S7: Safer Roads, E5: Jobs Closer to home, E7: Improve the efficiency of the road network and E8: More people using parks, sporting and recreational facilities and participating in the arts and cultural activities.*

Priority S6: Increasing share of peak hour journeys on a safe reliable public transport system sets a target to reduce car dependence and increase the number of peak hour trips made by public transport. The City supports a reduction in car dependence and trips made by cycling can achieve this. By providing high quality bicycle network and introducing localised priority measures that aide bicycles and buses can help achieve this. Funding will be sought from the Roads and Traffic Authority of NSW and NSW Ministry of Transport to implement these works.

Priority S7: Safer roads set the goal of reducing crash fatalities to 0.7 per 100 million vehicle kilometres travelled. The City advocates reductions in speed limits in high pedestrian activity areas. The City will also seek funding from the Roads and Traffic Authority for projects that improve the

road environment and promote road safety. All such projects will be considered for the inclusion of bicycle facilities.

In *Priority E5: Jobs closer to home*, the NSW Government sets the goal of lowering congestion and pollution by providing more jobs in areas of high residential populations. As part of the *Metropolitan Strategy* the City has been identified as requiring an additional 55,000 dwellings by 2031, with Green Square, in the City's south be the location for the majority of these Dwellings. The City will seek funding from the Roads and Traffic Authority, Ministry of Transport and Department of Planning to improve access for walking and cycling especially in the Green Square area.

Priority E7: Improving the efficiency of the road network identifies that the NSW State Government will implement the *Metropolitan Strategy* and complete the Strategic Bus Corridors. The City will seek funding from Roads and Traffic Authority to help take through-routed traffic off local streets through the Local Area Traffic Management process. This will increase the amenity of local cycling and make cycling safer.

Priority E8: More people using parks, sporting and recreational facilities and participating in the arts and cultural activities sets a goal of increasing the number of people undertaking physical exercise by 10% by 2016. Cycling is an important recreational activity and the City will seek funding from the NSW Government for the completion of its recreational cycleways. An example of this is the funding provided by the NSW Department of Planning for the Glebe Foreshore upgrade under the Sharing Sydney Harbour program (\$135,000 in 2005).

2.6 NSW Department of Planning Metropolitan Strategy

The NSW Department of Planning *Metropolitan Strategy* sets a vision for transport:

"where Sydney's neighbourhoods will have improved local transport with walking and cycling facilities and bus services to major centres. People will be able to carry out more of their trips closer to home, reducing the time taken and cost of longer trips".

In the *Metropolitan Strategy*, the NSW Government identifies trips less than 5 km as ideally targeted for walking and cycling and that the CBD-Airport corridor as having a high level of growth in trips. Many of these trips are personal commuting, social, recreational and business trips and cycling can play an important role in reducing car dependence and overcrowding on public transport. On this basis, the City will seek enhanced funding from the Roads and Traffic Authority to deliver the City's cycleway network in a timely manner.

2.7 Benefits of cycling

There are many important transport, health, and environmental benefits that support increased cycling as a means of transport and recreation can have for the City. These are:

Table 1 Benefits of cycling

More liveable cities	<p>Cycling is an essential element of a sustainable transport system in one of the world's most liveable cities.</p> <p>Bicycles cause insignificant levels of road trauma compared to motor vehicles.</p> <p>Cycling can improve access and sociability within communities.</p> <p>The City's 2006 Household Survey rated cycling within the top four physical fitness recreational activities undertaken outside the home by the Sydney residents.</p>
Health	<p>Cycling increases physical activity, improving individual health and has shown to reduce the risk of cardiovascular disease, high blood pressure, type-2 diabetes, excess weight, obesity and several cancers.</p> <p>Physical activity can also help to improve mental health by reducing anxiety and depression through physical activity and social interaction.</p> <p>Improved individual health through cycling reduces costs to the health system.</p> <p>Cycling can be an important form of transport that maintains mobility for seniors.</p>
Transport	<p>Bicycles take up less road space than cars and can help reduce traffic congestion (with benefits in lower vehicle kilometres travelled).</p> <p>Cycling can result in real travel-time savings. Several studies show bicycles are often quicker than cars over distances up to 5km. When the time required for parking is also considered the travel-time savings can be even higher.</p> <p>In the City of Sydney in 2004, 21% of all trips less than 5 km were by car, while in the local government areas surrounding the City, 52% of trips less than 5 km were made by car.</p> <p>Cycling can extend the catchments of existing public transport services. This is because up to 10 times more households are within easy cycling distance of public transport than are within walking distance.</p>
Economy	<p>Using a bike for short trips (when combined with car-share schemes) may eliminate the need for a car for residents of the City.</p> <p>Many residents already use their cars rarely or at weekends and using a combination of car-share and bicycles may eliminate the need to own a car all together.</p> <p>In NSW, the NRMA has recently estimated the cost of running a car for most people can range from \$108.70 to \$313.74 per week.</p> <p>Bicycle parking is usually free, and often more accessible and convenient than car parking.</p> <p>Cycling just 10 km each way to work instead of driving can save about \$770 p.a. in transport costs (including all running costs and depreciation).</p>

Table 2 Benefits of cycling

Environment	<p>Cycling is non-polluting and quiet means of transport.</p> <p>Bicycles require significantly less space for parking - up to ten bikes can be stored in the space needed for one car.</p> <p>Bicycles use less road width than cars when travelling in bicycle lanes. Using a bicycle for transport eliminates trip based greenhouse gas emissions and saves fuel.</p> <p>Cycling just 10 kilometres each way to work instead of driving can save about 1.3 tonnes of greenhouse gas emissions each year.</p>
Social equity	<p>Cycling is provides a socially equitable, low-cost and healthy form of transport.</p> <p>Cycling provides low-cost transport access for young people, older people, and for those without a driving license or access to a car.</p> <p>Cycling complements the public transport system, providing multi-modal journey options for longer trips at reduced costs.</p> <p>Bicycle and shared paths can be easily used by disabled persons and mobility impaired persons improving access.</p>

2.8 Current Bicycle Usage

In the City of Sydney, the volume of trips fewer than 2 kilometres undertaken by walking or cycling is 92%. The volume of trips between 2 and 5 kilometres is 26%.¹ The number of trips made by cycling in the City and surrounding Councils was 0.4% in 2004.

While bicycle sales have outstripped car sales in recent years² and there has been a doubling in the number of journey to work trips being undertaken by bicycle from 1% to 2%, cycling is still not seen by the general community as a viable transport choice.

Social research undertaken by the City in 2006 and 2007 has indicated that many potential cyclists are discouraged from cycling due to the necessity to cycle on the road near parked cars.

The social research undertaken by the City has also indicated that the greatest barriers to cycling within the City is lack of safe, off road bicycle facilities connecting to local parks, shops and entertainment facilities. Potential cyclists are daunted by the potential for riding a bicycle near parked cars or moving traffic. This Strategy seeks to address these concerns.

¹ Source Transfigures – Information for Subregional Planning NSW Department of Planning's Transport and Population Data Centre 2006.

² AAP 4 January 2007

2.9 Cycling and road safety

The City is developing a 5 year *Road Safety Strategy* and has annual *Road Safety Action Plans* to help transform the streets and footpaths of the City into a safe, courteous, tolerant and place where all road users are encouraged to share the public space with each other.

2.10 Cycling accidents

Cyclists are more exposed to injury when riding compared with the occupants of motor vehicles. Even collisions with cars at low speeds can be dangerous to cyclists. Children, teenagers and seniors are particularly vulnerable to injury. Experience in York and London UK suggests that a combination of improved facilities and increased numbers of cyclists on the roads can lead to an overall reduction in incidents and injuries.

It is up to all cyclists to ride defensively and obey the road rules and for drivers to respect cyclists and acknowledge their legitimate right to use the road.

As a part of the City's aims to transform cycling into an equal transport mode, the City has identified the nature and type of accidents involving cyclists.

There were 553 collisions involving cyclists in the period 2001-2001. This number only represents collisions that were reported to the NSW Police. It is acknowledged around the world that there is a high level under-reporting of incidents involving cyclists.

The figure below shows the number and severity of the collisions involving cyclists across the City.

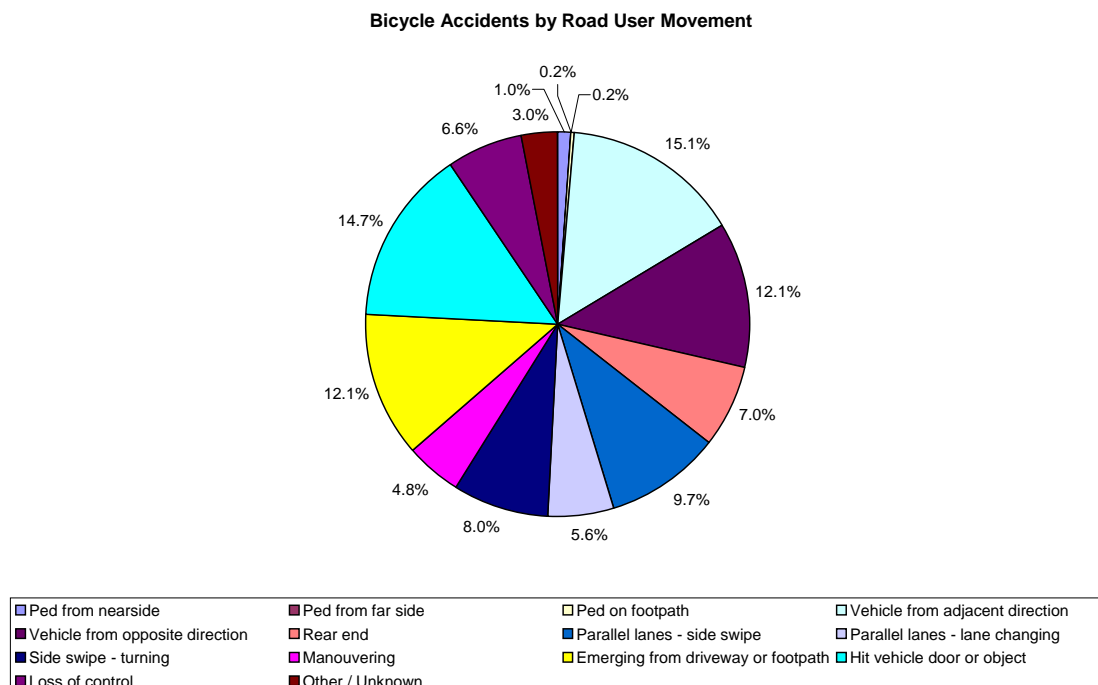


Figure 3 Cycling Accidents

2.11 Road Safety Marketing and Education

Even though cycling promotes good health and longer life, cycling in the City is anecdotally perceived as 'too dangerous' by many in the community. This is especially the case for women, a group under-represented among regular cyclists. This perception is a barrier to increased cycling in the City.

It is widely accepted that the health benefits of cycling due to increased physical activity outweigh the injury risks when considered across the whole community.

The City runs numerous programs to ensure the safety of everyone using its roads: pedestrians, cyclists, and motorists alike. The attitude and behaviour of drivers of motor vehicles towards on-road cyclists is a crucial factor in public perceptions of the danger of cycling. The attitude and behaviour of some cyclists to car drivers and sharing the road space can also lead to resentment of cyclists.

The most successful way to influence the behaviour of motorists is to increase the number of cyclists on the roads so that drivers become more experienced in dealing with bicycle riders.

The City must also encourage cyclists to appreciate that as legitimate road users they must obey the road rules that apply to all vehicles.

Where the City increases the amount of shared footpath, it will undertake localised promotion and encouragement to ensure that all path users share the facility in an equitable, considerate and rational way.

2.12 Traffic speed and cycling

Traffic speed is a crucial factor in road safety. Many collisions could be avoided if drivers kept to a speed that was safe for the environment they were driving in. In highly urbanised environments like the City of Sydney, the introduction of the general 50km/h limit in 2004 provided for a safer environment for pedestrians and cyclists.

The City is also introducing 10 km/h shared zones in laneways and high activity local roads.

The City also supports the RTA's *40 km/h in High Pedestrian Areas* program. The City is strongly advocating with the RTA for the implementation of 40km/h speed limits in key areas throughout the City where there is a mix of high pedestrian, cyclist, and high vehicular activity.

However many RTA controlled streets in residential and retail areas still have a 60 km/h speed limit. The City will continue to work with the RTA to reduce the speed limit on all City streets to a maximum of 50 km/h.

Figure 4 shows the roads within the City that currently have a set speed limit of 40 km/h or lower.

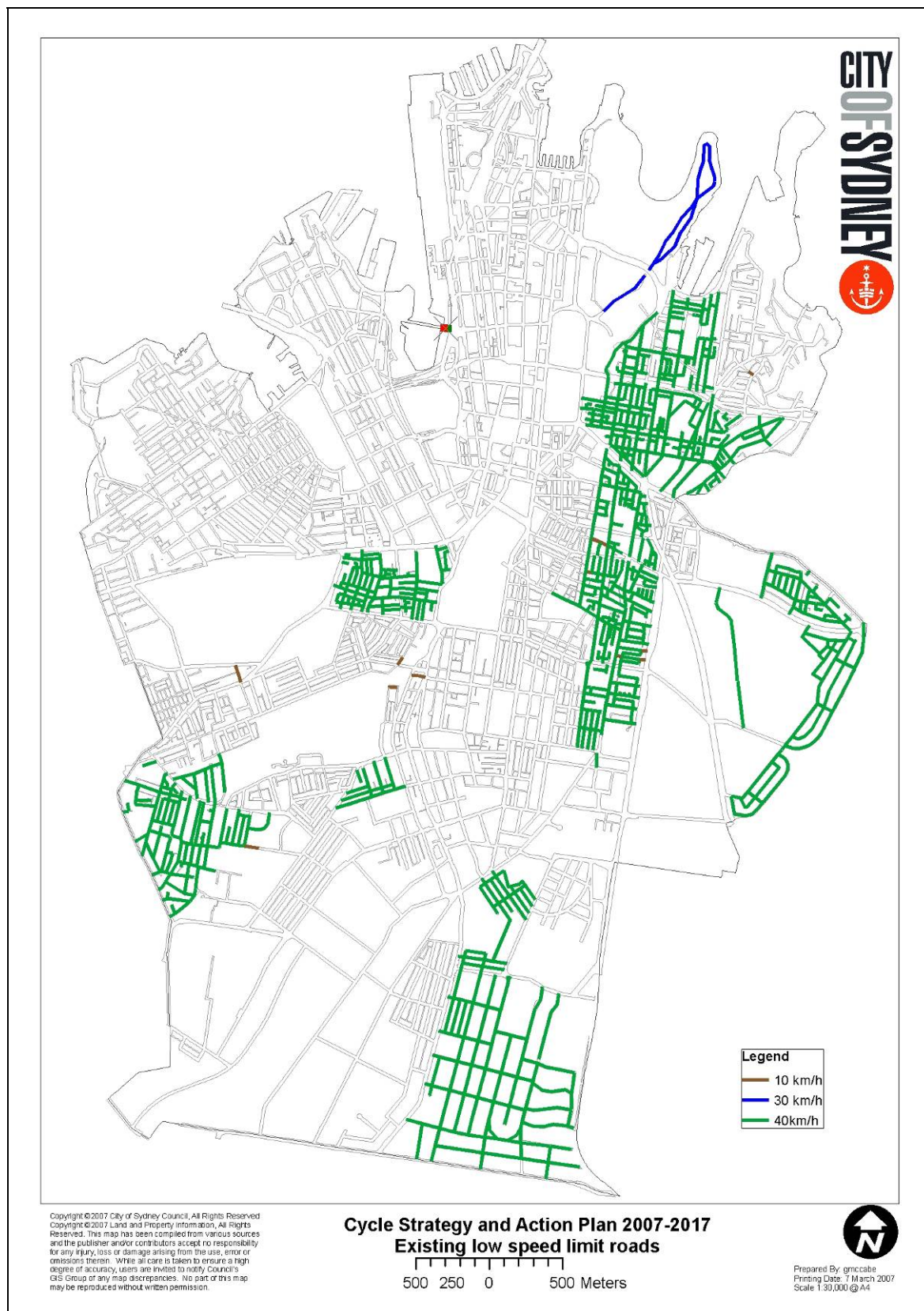


Figure 4 Existing roads with sign-posted speed limits 40 km/h or lower

2.13 Cyclist and Pedestrian interaction

The City aims to integrate land use and transport planning. This results in an order of priority where walking, cycling, public transport, and sharing vehicles are the preferred modes of travel over private car use. Accordingly, pedestrians and cyclists are priority transport users for the City.

There are sometimes tensions between pedestrians and cyclists sharing the same pathways. While improved infrastructure (such as better and wider pathways) will assist in many instances, cyclists must always recognise the need to share the off-road space with pedestrians and must give way to pedestrians at all times while riding on shared pathways.

Pedestrians must also show greater respect for cyclists. Pedestrians can also modify their behaviour to better accommodate cyclists and must recognise that cyclists are legitimate users of shared pathways and use the pedestrian sections of separated paths.

All pathway users need to respect the rights of others to use the path and, where possible keep to the left; keep control of dogs; and warn other users if they are passing or overtaking. It is similarly the responsibility of all pathway users to behave in a safe and sensible manner that does not endanger or diminish the safety and enjoyment of others.

The City is proposing a significant increase in the amount of shared footpath. This is one of the key drivers in encouraging novice and cautious cyclists onto the bicycle network. Shared paths provide a safe environment for all cyclists to travel and for new cyclists to gain confidence.

The change from a footpath for pedestrians only to a shared footpath for pedestrians and low speed cycling is not a threat to pedestrians when managed appropriately. Cyclists who obey the law and ride sensibly on a shared footpath are no less threat to pedestrians than a car that runs a red light or does not give way to pedestrians.

The management of shared paths and promotion of low speed safe cycling on these paths will be undertaken through the *Cycling Infrastructure*, *Cycling Safety* and *Cycling Promotion* Action Plans

3 Cycling Network and Infrastructure

3.1 Guidelines

The *Austroads Guide to Traffic Engineering Practice Part 14 – Bicycles* is the strategic and detailed manual for the development of bicycle facilities. It sets the guiding principles and requirements for:

- Development of infrastructure, its location and engineering requirements.
- Bicycle facility location, quality and type.

The NSW Government's *Planning Guidelines for Walking and Cycling* gives key guidance on the development of urban cycling routes including:

- model cycling catchments of around 1.5 km, being the distance of an easy five minute bike ride without any delays at intersections;
- the importance of regional cycling networks for transportation and recreation in linking centres;
- The development of a local network grid of the highest quality treatments with links to regional cycleways as well as to centres and other major trip generators. These local network grids should be aligned with the routes in adjacent local government areas to provide connectivity; and
- The importance of ensuring that all streets are in good condition for walking and cycling.

The RTA *NSW Bicycle Guidelines* (section 3.1) state five key principles in the provision of an efficient and useable bicycle network:

- Coherence - bicycle network infrastructure should form a coherent unit by linking popular destinations with local residential streets via regional routes and local routes.
- Directness - network infrastructure should be as direct as safely practicable and long detours avoided.
- Safety - well designed bicycle network infrastructure improves and enhances the road safety of riders, pedestrians and motorists.
- Attractiveness – bicycle network infrastructure should be fitted into the surrounding environment so that the enjoyment of the experience is enhanced.
- Comfort - the bicycle network has to be easy to use for all types of riders.

These guidelines describe a hierarchy for cycle networks consisting of:

- Regional routes - that provide the quickest and most direct means of travelling between regional centres (the road hierarchy equivalent is the state road). These routes offer the highest priority bicycle travel through an area with few delays and a high level of consistency and quality of construction.

- Local routes - that link the City's villages and the regional routes. These routes provide a collector and distributor function in the network. These routes also provide radial access to major sub-regional centres and parallel alternative access to regional routes.
- Mixed traffic streets - that provide street front access to cycling where people live. They are usually residential roads that have few cars and low speeds and where bicycles can operate within the traffic stream as an equal part of the traffic flow.

As well as the user categories (as outlined in Appendix 4) the type of bicycle trips that the facilities are being designed for is also an important factor. These user groups are broadly categorised as:

- Personal Trips - These trips are generally made by individuals, travelling along local routes; families with children and cyclists making short trips to facilities, shopping and entertainment. These trips require short term parking facilities as close as practicable to the entrance to the facility.
- Commuting Trips – These trips are generally higher speed trips for employees and students travelling to work or study. The trip desire line is along the most direct, safer route. These trips require high quality secure parking facilities, showers and change facilities.
- Recreational Trips – These trips are made by groups including families with young children. Directness of the route is not seen to be as important as the amenity and safety of the route. These trips require provision of short term parking at scenic locations, picnic areas and playgrounds. They may also seek drinking water fountains and taps.

These Guidelines and Principles are reflected in the development of the City's cycling network.

4 Cycle route planning framework

The City's bicycle planning framework outlines 5 types of facility that are to cater for cyclists.

- Recreational cycle facilities;
- Local roads;
- City local cycling network connecting the villages;
- Regional cycling network, including RTA and City regional routes; and
- High difficulty roads.

The above planning framework does not include motorways, freeways, transitways or any other controlled access road where bicycles are specifically prohibited by legislation.

4.1 Recreational cycle facilities

Recreational routes are an opportunity to promote cycling for recreation and tourism. These routes are also often used by commuting cyclists and always used by pedestrians.

There are two primary recreational routes within the City. These are the Sydney Harbour Cycleway and its associated links and the Alexandra Canal.

The Sydney Harbour Foreshore route is a long-term vision of the City to achieve a continuous pedestrian and cycling route along the waterfront of Sydney Harbour from Rozelle to Rushcutters Bay. This vision is supported by the NSW Government who has contributed to sections of the foreshore route including eastern Pyrmont. The facility will eventually reach Watsons Bay to the East and the Parramatta River Cycleway to the west. The City will work closely with State Government agencies that control much of the land along this route to advocate for its early delivery.

The Second primary route is along the Alexandra Canal. This route will allow connection from the recreational and commuting cycleways on the Cooks River and Botany Bay with the recreational facilities at Sydney Park, Moore Park and Centennial Park. The Cooks River route is one of Sydney's most significant recreational routes extending from the Olympic site, through Strathfield, to Sydney Airport and Botany Bay along the course of the Cooks River.

Recreational routes will typically consist of shared paths, complimented by very short sections of on-road separated road environment on quiet, low volume streets where off -road facilities cannot practically be provided.

The City will work with the NSW Department of Planning, Sydney Harbour Foreshore Authority, Royal Botanic Gardens & Domain Trust and the Centennial & Moore Park Trust to deliver these routes.

The Proposed recreational cycling paths within the City are shown in Figure 5.

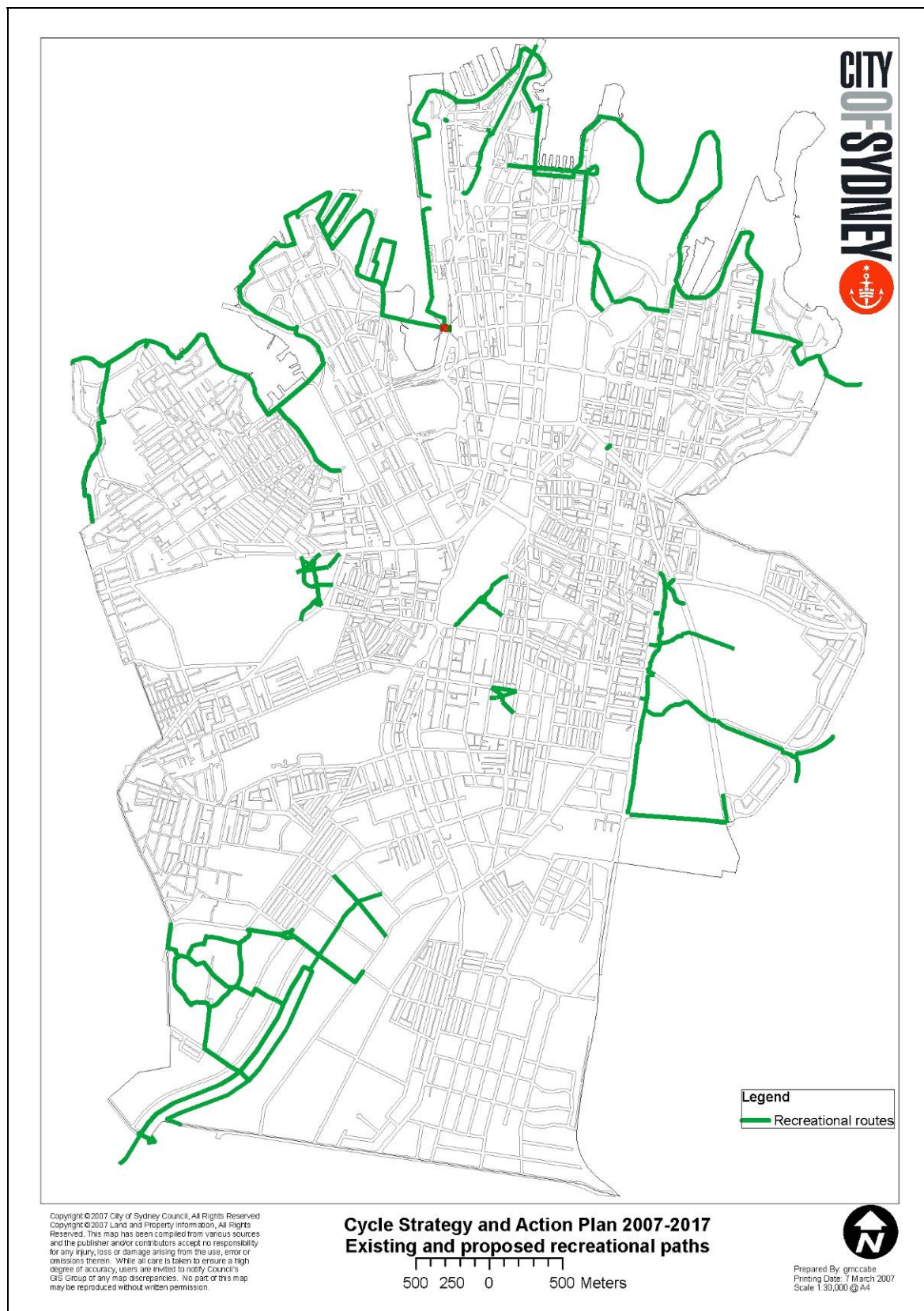


Figure 5 Proposed and existing recreational paths.

4.2 Local bicycle access via local streets

Local cycling on mixed traffic streets provides access for residents to local facilities such as shops, banks and medical facilities.

These links are not intended to be signposted and on-road or off-road facilities will only be added as either traffic calming or on an as-needs basis.

This local access makes up the skin of the City's cycling network providing connection to the City's local and regional cycling network and includes many of the existing marked cycling facilities.

Many local streets in Sydney are excellent for cycling due to lower traffic volumes, lower traffic speeds, and comparatively little through traffic. These streets form the City's mixed traffic routes and include many of the City's local streets and some streets in the CBD where traffic congestion and signalised intersections keep traffic speeds comparatively low during the daytime and evening.

Some local access will warrant some higher degree of bicycle facility (such as a bicycle lane or shoulder) based on the local traffic safety, amenity and traffic calming conditions.

The level of cycling facilities provided on these roads will be determined at a local level through the Local Area Traffic Management Planning process. This process is based on a local analysis of traffic conditions that considers all users, based on substantial local community input. The range of facilities provided may include:

- Generalised measures for an area such as speed limits, traffic management schemes, bus priority, and traffic calming schemes; and
- Bicycle facilities (such as line-marking and signage) that contribute to the overall safety and convenience of the transport network but do not increase clutter.



Figure 6 Existing and proposed local access bicycle facilities

4.3 City local cycling network routes

The City local cycling network establishes a coordinated network of cycling routes designed to connect between the City's villages and to enable connection to the regional network.

These routes will generally provide the most direct means of travelling between key destinations such as high density residential, retail, employment, education, health, recreational facilities, and local transport nodes. They will also provide connectivity across key cycling barriers including State roads; arterial roads; canals and around steeper hills.

The aim of the network is to provide routes at a spacing that will provide the necessary infrastructure for the City to achieve its targets for bicycle use and provide the types of infrastructure needed to encourage new cyclists onto the network.

The City Local cycling network also allows the City to more effectively negotiate cycling provision and priority with the Roads and Traffic Authority, State Transit Authority and others, by identifying and agreeing on the City's cycling infrastructure provision at an early stage.

The City local cycling network routes are:

1. Glebe to Newtown and Camperdown
2. Darlinghurst to Kings Cross and Sydney Harbour
3. Rosebery to Alexandra Canal
4. Glebe to Pyrmont
5. Darling Harbour to City
6. St Peters to Erskineville and Redfern
7. Leichhardt to Pyrmont
8. Pyrmont to City south
9. Rosebery to Zetland
10. Darlinghurst to Elizabeth Bay

These proposed routes are shown in Figure 7.

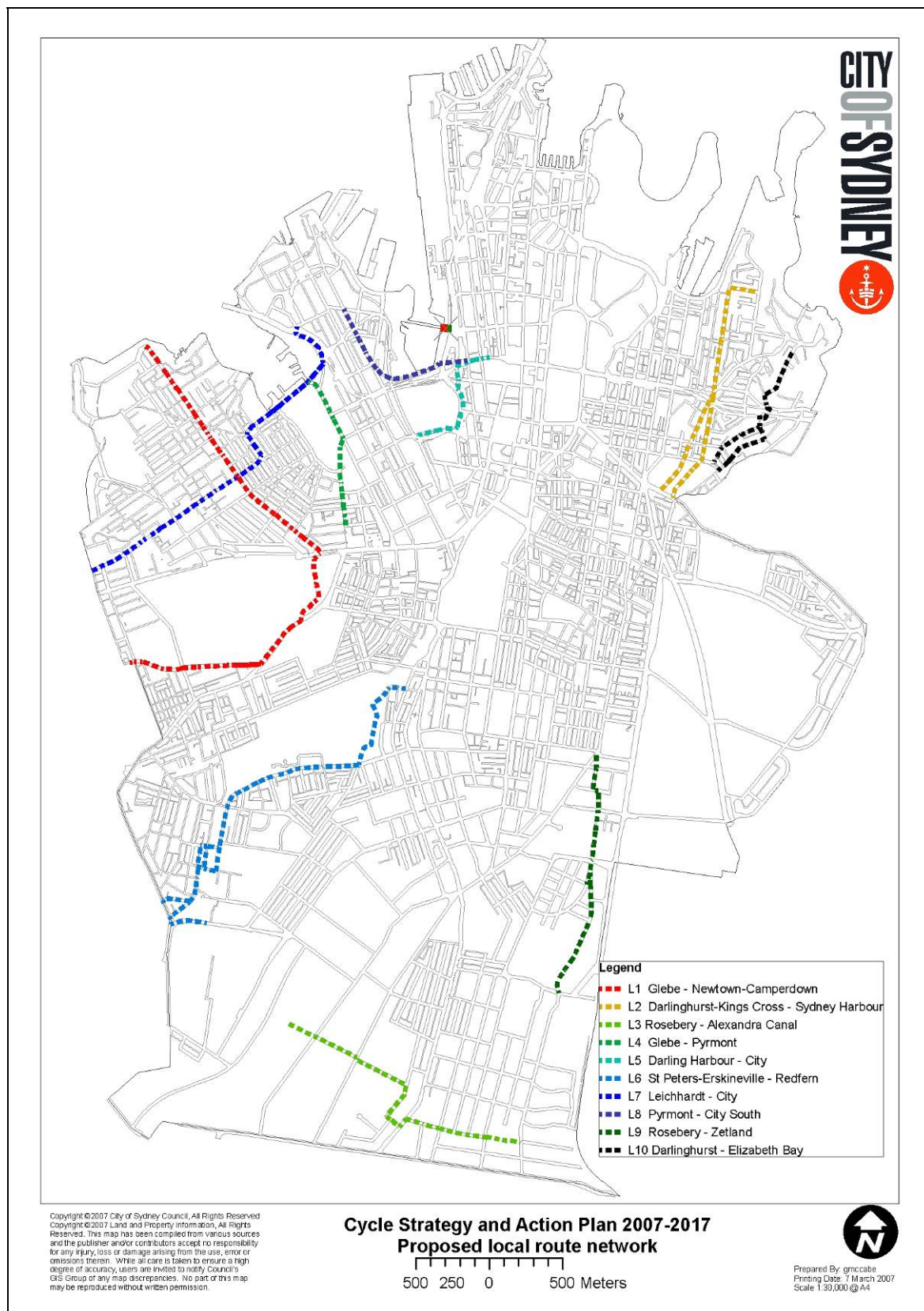


Figure 7 Proposed City local network routes

4.4 Regional Cycling Network

RTA Regional Network

The NSW Bicycle Guidelines published by the Roads and Traffic Authority (RTA) states that the RTA is fiscally responsible for fully funding and constructing its regional routes. It is the NSW Government's primary policy for the provision and promotion of facilities for cyclists. The NSW State Government's arterial cycleway network for Sydney is presented in *Action for Bikes - BikePlan 2010*.

The Strategy includes four routes that pass through the City, and provides a timetable for implementation. These routes are:

- RTA Route 17, Sydney Harbour Bridge to Woolloomooloo - 2005 (preliminary concept planning of the route is understood to have been completed).
- RTA Route 28, University of NSW to Sydney - 2006 (preliminary investigations completed).
- RTA Route 43 – Rail Trail, Penrith to CBD - 2010 (work on this route is yet to commence).
- RTA Route 44 – Mascot to Darlinghurst – 2002 (route completed. Minor modifications needed).

The RTA regional cycling network as proposed by *Action for Bikes 2010* is shown in Figure 8.

The proposed RTA regional cycling network as identified within the City of Sydney is shown in Figure 9.

Figure 8: RTA regional cycling network

This network has not been delivered by the RTA.

The City's integrated, sustainable transport objectives cannot wait for the Roads and Traffic Authority to deliver its promised network.

The RTA currently provides funding to local Councils for local cycleway works on a 50/50 basis and the City will seek funding from the RTA for the regional cycleway network.

The City will also seek enhanced funding from the RTA, Department of Planning, Ministry of Transport and NSW Treasury to deliver the objectives of the NSW State Plan as outlined in Section 2.4.



Figure 9 RTA Regional Routes in the City

City Regional Cycling Network Routes

The City regional cycling network is designed to enable residents, employees, visitors and those wishing to cycle through the City of Sydney a direct, connected set of routes enabling connection to key employment; education; health; entertainment and recreation facilities.

The key locations and facilities are:

- Global arc centres of Sydney and North Sydney CBD areas, Australia Technology Park, Green Square Sydney Airport and Port Botany;
- The health and education campuses at Randwick and Camperdown;
- The entertainment precincts of the Rocks, Kings Cross, Darling Harbour and Moore Park.
- The recreational facilities of Hyde Park, Cook and Phillip Parks, Sydney Park, Victoria Park, Prince Alfred Park, Glebe Foreshore, Ian Thorpe Aquatic Centre, the future Green Square recreation centre, Centennial Park, Moore Park, and the Royal Botanic Gardens and Domain.

The City Regional network also reflects the importance of the connection to the adjacent Local Government Areas of Botany, Leichhardt, Marrickville, North Sydney, Randwick, Waverly and Woollahra.

The City regional network routes are:

1. Sydney Harbour Bridge (North Sydney) to Edgecliff via Town Hall
2. Circular Quay to Mascot via Redfern
3. Alexandra Canal (Sydney Airport) to Centennial Park (Bondi Junction) via Zetland
4. Anzac Bridge (Rozelle) to Moore Park (Randwick Health and Education Campus) via City
5. Sydney Harbour Bridge via Surry Hills and East Sydney to Eastlakes
6. Leichhardt to Moore Park (Randwick Health and Education Campus) via Newtown and Alexandria
7. Sydney Harbour Bridge to Paddington (Bondi Junction) via Darlinghurst
8. Pyrmont to Moore Park
9. Sydney Park to Moore Park
10. Newtown to Paddington (Bondi Junction)
11. Leichhardt to City South
12. Glebe Point to Australia Technology Park

The City will encourage commuting cyclists and those wishing to travel longer distances onto this network to create a visible, confident cyclist presence.

The proposed regional network is shown in Figure 10.

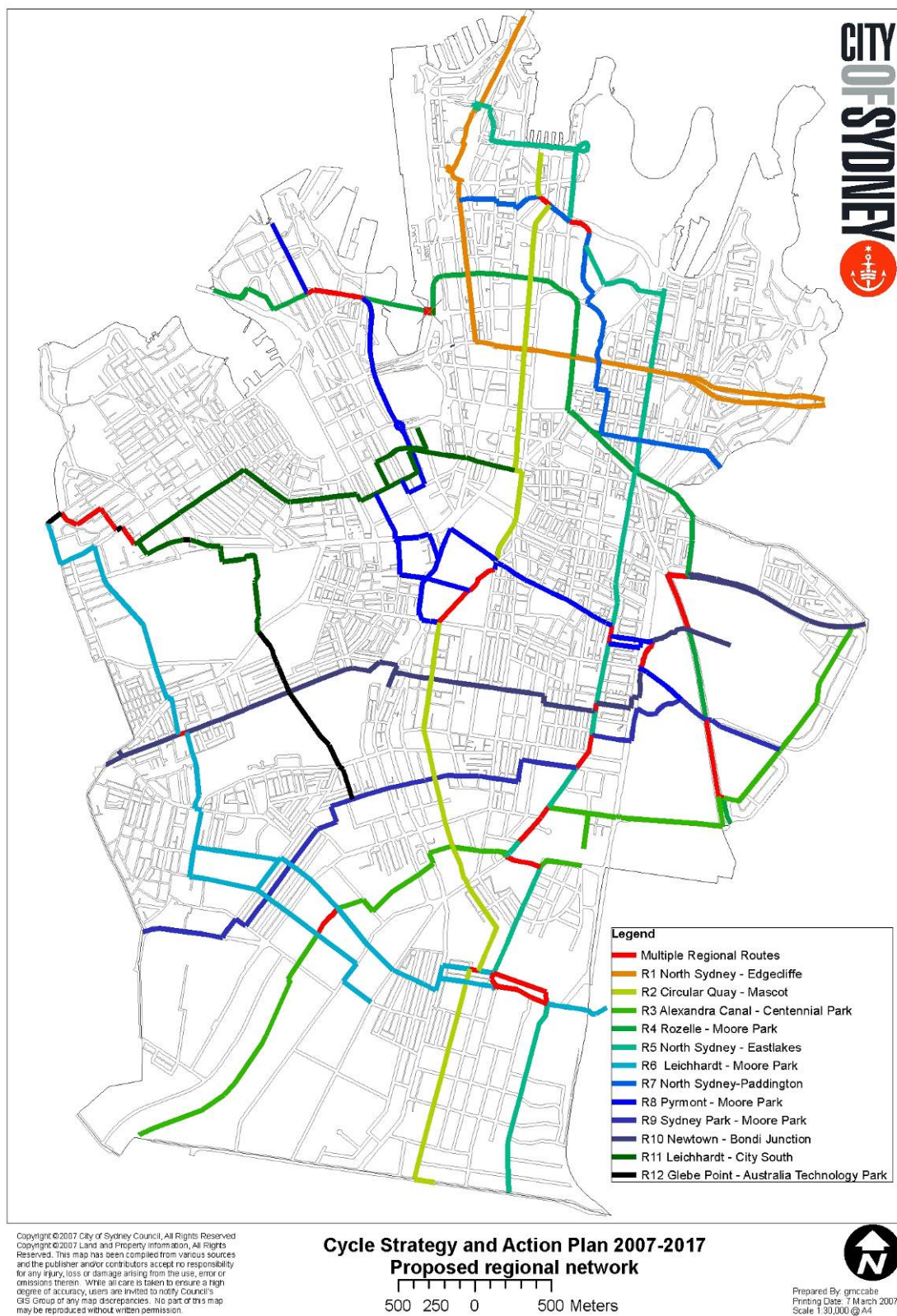


Figure 10 Proposed City regional network

4.5 High difficulty roads

Cyclists are legal road users entitled to use any public road except where prohibited by the regulation (some freeways and motorways). Cyclists have the same rights and responsibilities as other road users. The City and the RTA in developing traffic management solutions must always act to protect the rights of all legal road and footpath users, especially cyclists and pedestrians.

However, many roads within the City can be characterised as 'high difficulty' roads for cycling. These roads form a natural barrier that makes cycling across or along them difficult for a variety of reasons including:

- The speed of traffic;
- Very high traffic volume;
- High numbers of buses combined with insufficient road space to safely accommodate cycling; and,
- Traffic signal controlled intersections that do not provide for safe cycling movements.

Examples of high difficulty roads include Cleveland Street, Elizabeth Street and Botany Road.

Ideally traffic volumes, speeds, and other factors would be managed to allow easy cycling on these roads. However, these roads form the primary traffic network for freight, public transport and necessary private car movements.

The provision of on-road bicycle facilities on the primary traffic carrying network - the City's busiest streets is often not practical; is beyond the power of the City; or is prohibitively expensive. These roads are considered generally unsuitable for promotion of on-street cycling as a part of a bicycle network. While Riding a bicycle is legal and permitted on the high difficulty roads, the City will not encourage cycling on these roads and instead will promote a viable, safe, convenient and direct alternative route arrangement and promote cycling on the cycle network and where possible convert existing footpaths to shared footpaths to enable safe cycling along these routes.

The planning process for selection of these shared footpaths is based on a pedestrian volume, safety, amenity and access criteria.

In order to promote understanding and safe sharing of these new footpaths, the City will undertake consultation and promotional advertising.

The roads with bus lanes where cyclists can legally use the bus lane for cycling are shown in Figure 11.

Maps showing high difficulty roads and roads where cycling is prohibited is shown in Figure 12.

The RTA roads identified for the proposed increase in shared footpaths are shown in Figure 13.

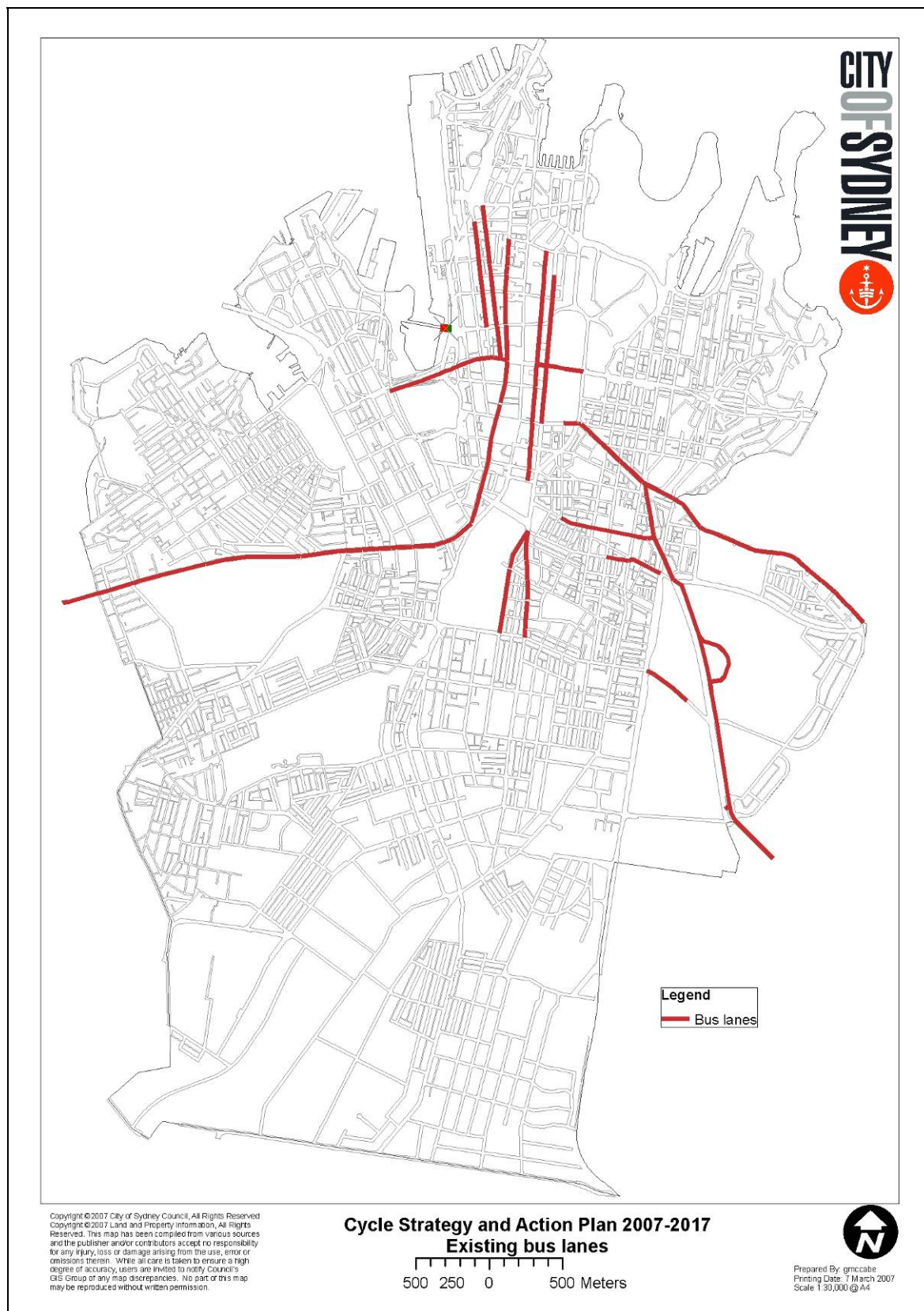


Figure 11 Bus lanes



Figure 12 Existing high difficulty roads or prohibited roads for cycling

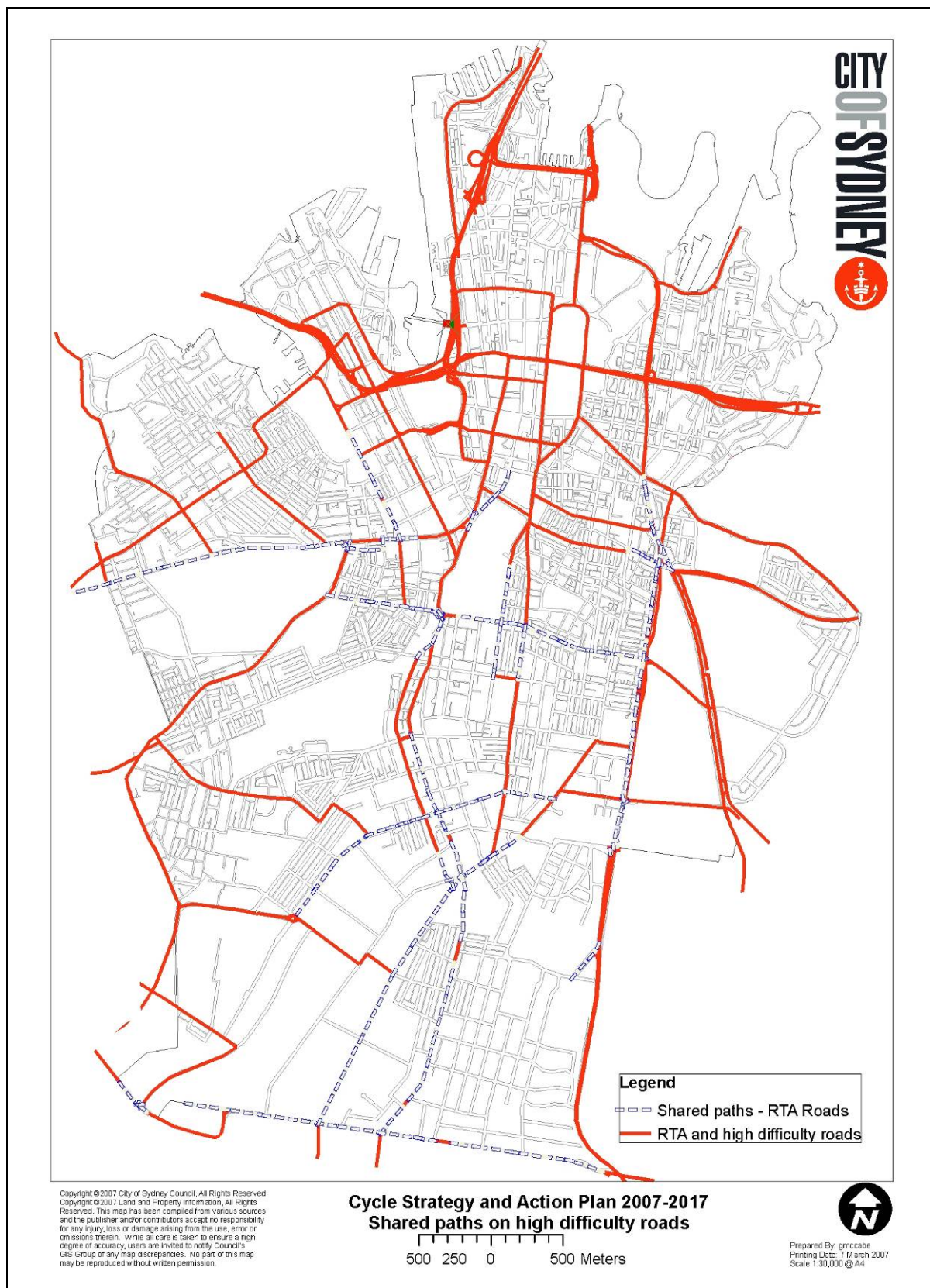


Figure 13 Shared path network

4.6 Network gaps

A key step to delivering connected networks is to identify the gaps and priority 1 along existing routes. These are typically difficult intersections, bridges or narrow roads (for example the western end of the Pyrmont Bridge). These existing gaps are shown in Figure 14.

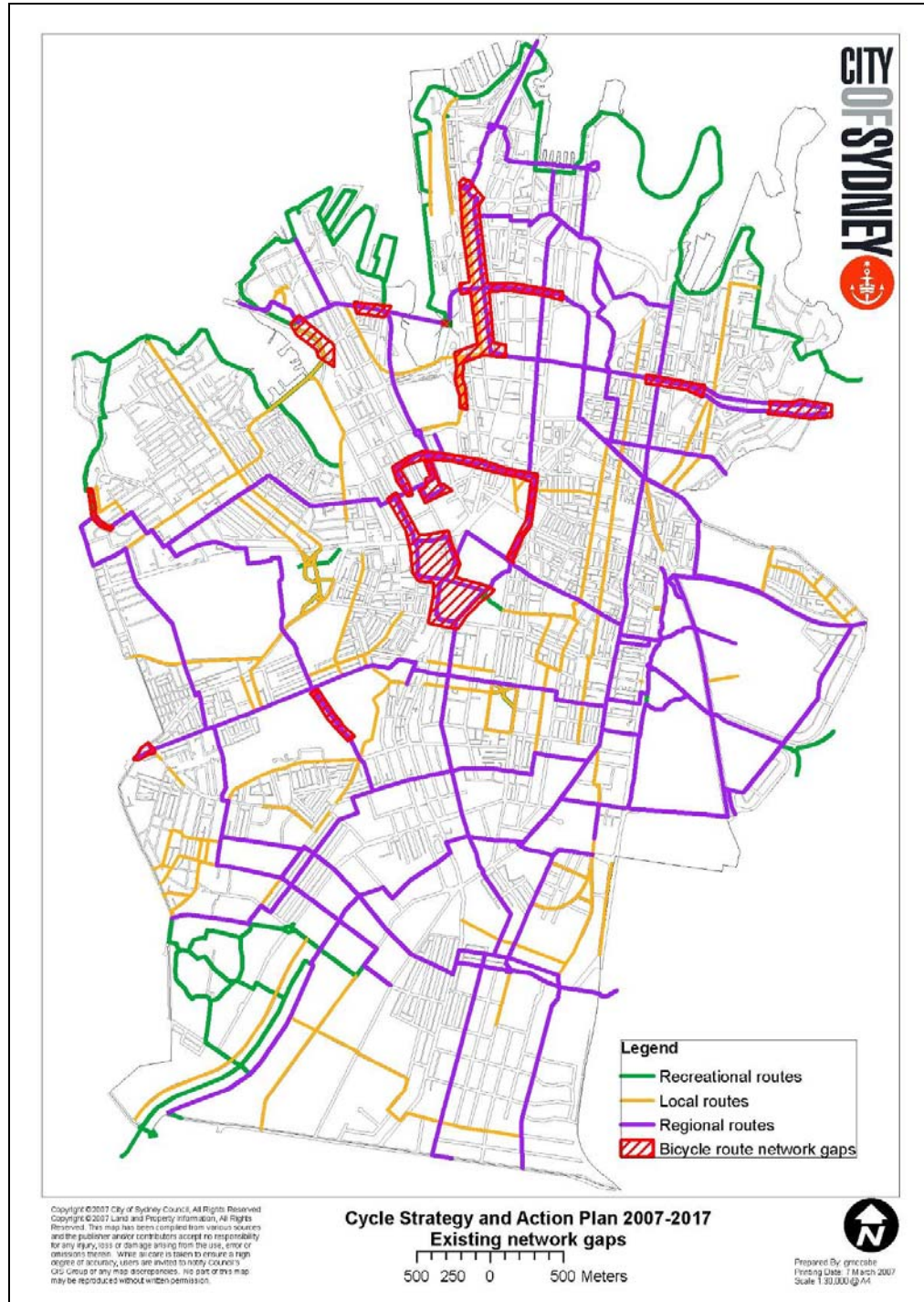


Figure 14 Network Gaps overlayed of the proposed network

4.7 Urban Renewal Areas

There are four key urban renewal areas being developed within the boundaries of the City. These areas are:

- Green Square;
- Ashmore Precinct (Erskineville);
- Carlton United Breweries site at Broadway (State Government controlled); and
- Barangaroo at East Darling Harbour (State Government controlled).

Each of these urban renewal areas, with its associated large increases in population and employment provides an opportunity to integrate cycling into the fabric of the area.

In each of the urban renewal areas, pedestrians, cyclists and public transport will be used to create a permeable network that enables the movement of people, not cars.

Where achievable, localised pedestrian, bicycle and public transport only roads will be used to achieve a fully permeable, safe environment for the residents, workers and visitors to move safely.

Maps showing the City's preferred links through each of the development sites are shown in the following figures.

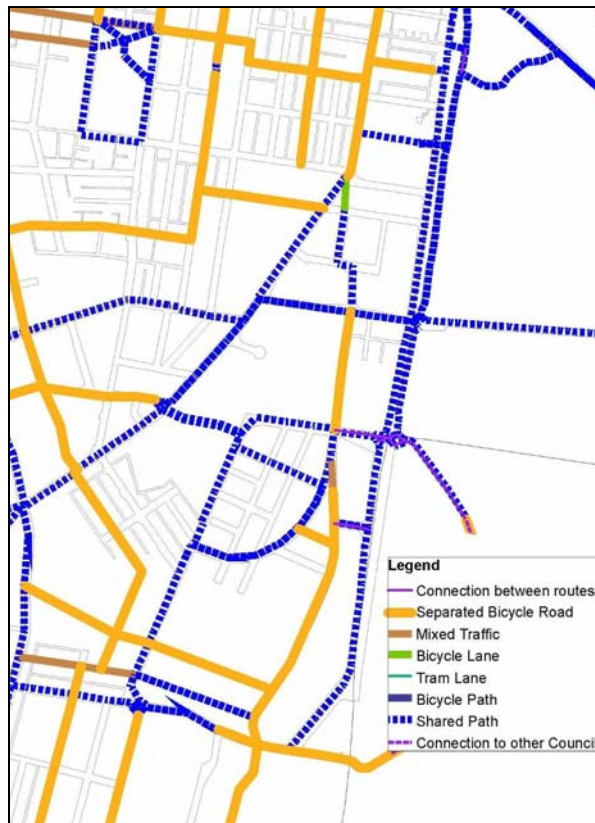


Figure 15 Green Square bicycle access



Figure 16 Ashmore Estate bicycle access

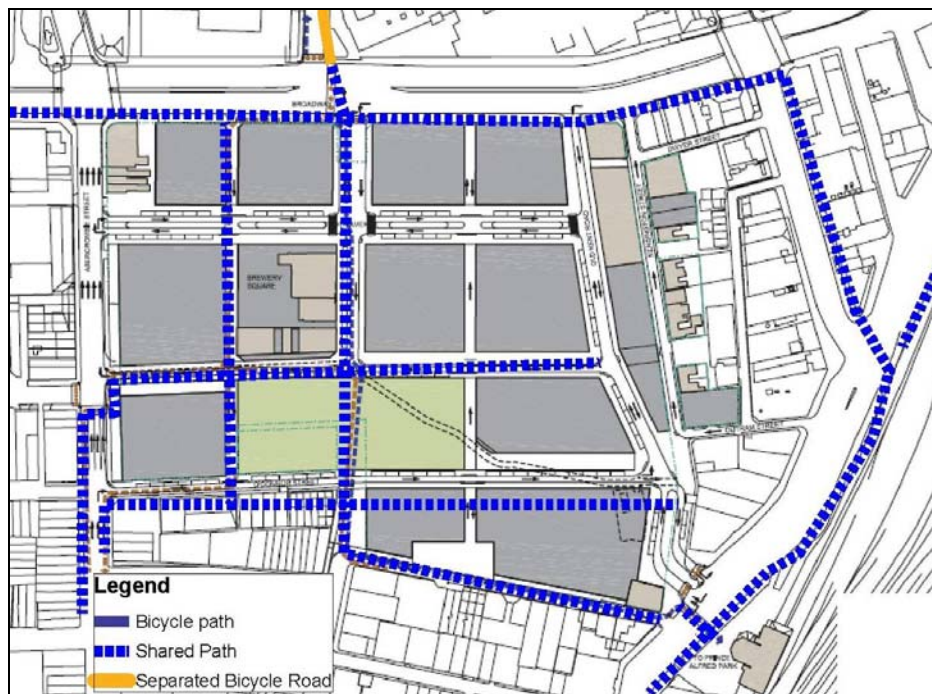


Figure 17 Carlton United Brewery Site bicycle access

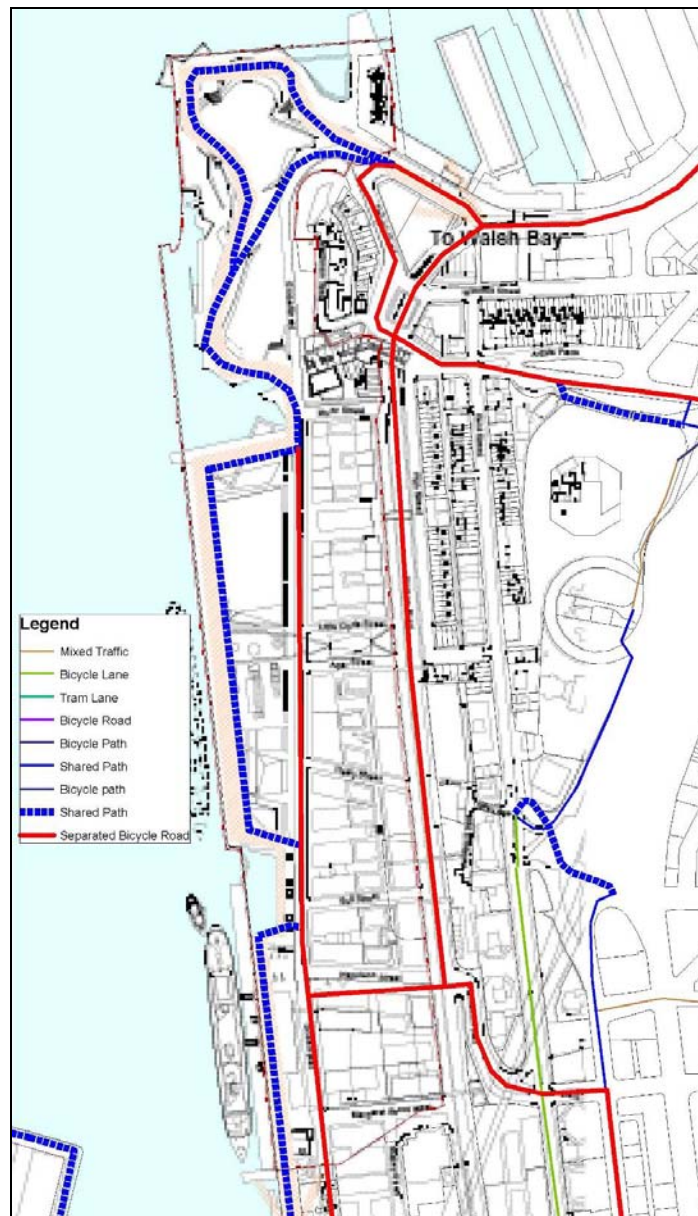


Figure 18 Barangaroo (East Darling Harbour) bicycle access

4.8 The full network

The full bicycle network developed as a part of this strategy will enable the City to achieve its sustainable transport and cycling goals. The full proposed network is shown Figure 19.

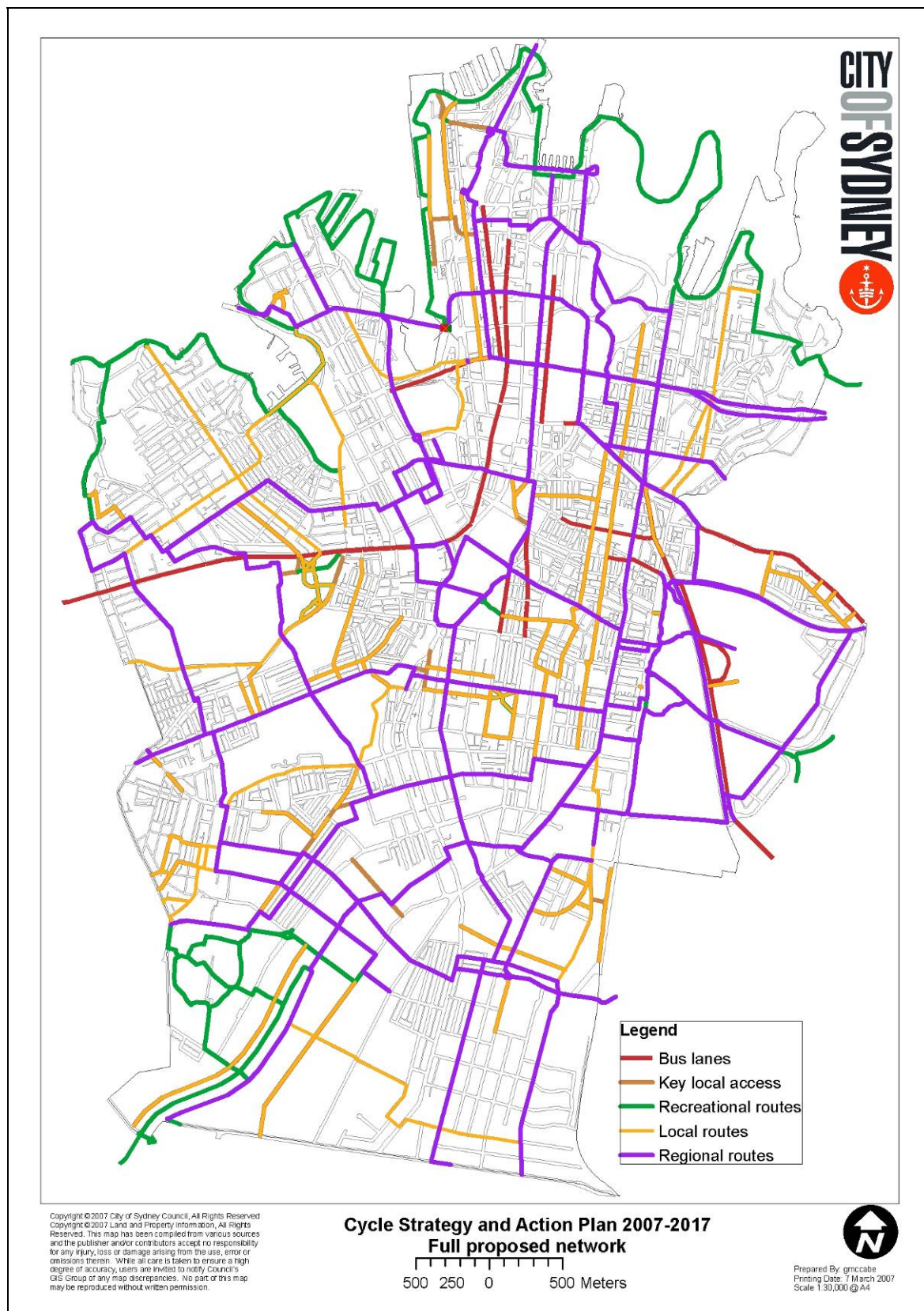


Figure 19 Full proposed bicycle network

4.9 Appropriate route treatments

The City has set itself a goal of achieving a fivefold increase in bicycle trip numbers in 10 years. In order to achieve this figure, a higher quality, safer level of provision is required than as outlined in the NSW Bicycle Guidelines. The model treatments are outlined in table 2. The provision of bicycle infrastructure in the City is constrained by the existing road network and densely built environment of the CBD and fringe suburbs. The level of provision for different route types will depend on local conditions, issues, constraints, and road practices. The selection of an appropriate treatment type for routes is a function of a number of parameters including:

- available space either within or outside the road reserve;
- motor vehicle traffic volume;
- motor vehicle 85th percentile speed;
- carriageway width;
- anticipated bicycle volumes, particularly child and inexperienced cyclists; and
- Local conditions, issues, constraints and practices.

Table 3 Model treatment types for different route categories

Treatment Type	Urban Renewal Areas	Recreational Cycleway	Local Access (Mixed Traffic)	Local Cycling Network	Regional Cycling Network	High Difficulty (RTA) Roads
Separated Bicycle path (off-road)	Only where easily achievable	Typical	Only where easily achievable	Not applicable	Only where easily achievable	Only where easily achievable
Shared path (off-road)	Typical		Linkage through road closures.	Linkage through road closures.	Only where separated facilities cannot be constructed.	Typical
Separated bicycle road (on-road)			Only where off-road facilities cannot be constructed.	Only where off-road facilities cannot be constructed.	Typical	Typical
Bicycle lanes including contra-flow (on-road)	Not applicable	Not applicable	Where traffic or safety grounds warrant,	Only where separated on- road facilities cannot be constructed.		Where traffic or safety grounds warrant.
Bicycle shoulder lane (on-road)						
Mixed traffic street (on-road)	Only where parking bays exist.		Typical	Not desirable	Not desirable	

Each of the typical infrastructure treatments is shown in the figures below.

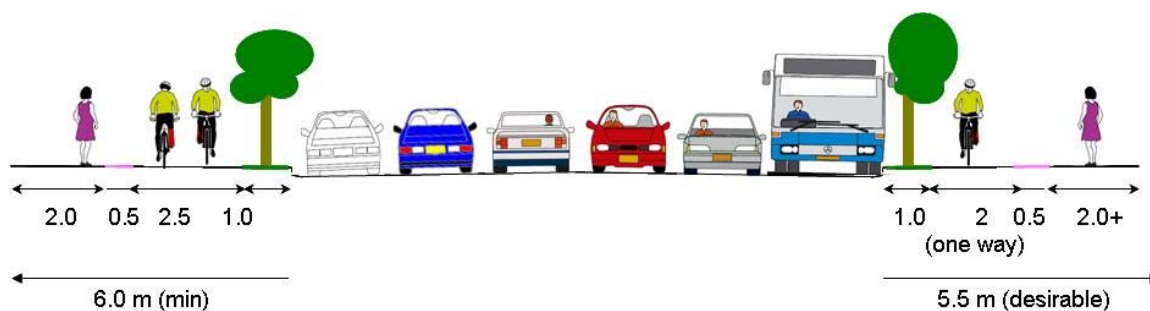


Figure 20 Separated off-road path

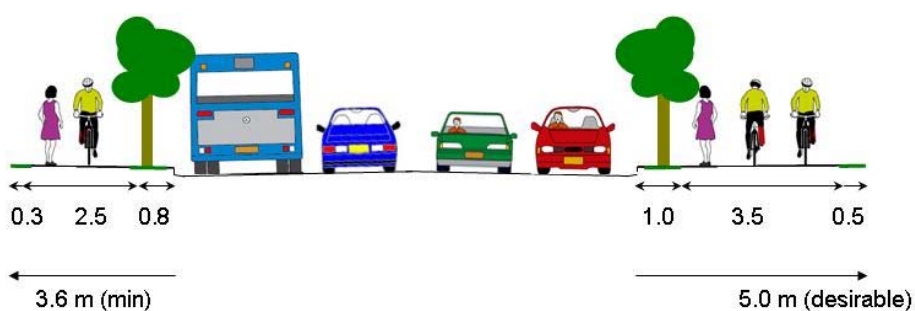


Figure 21 Shared off-road path

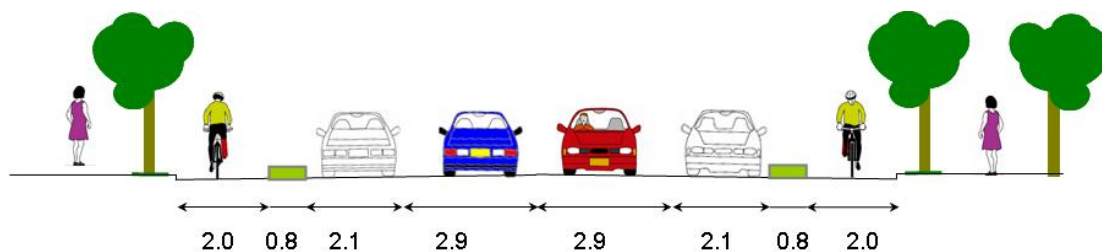


Figure 22 Fully separated bicycle road

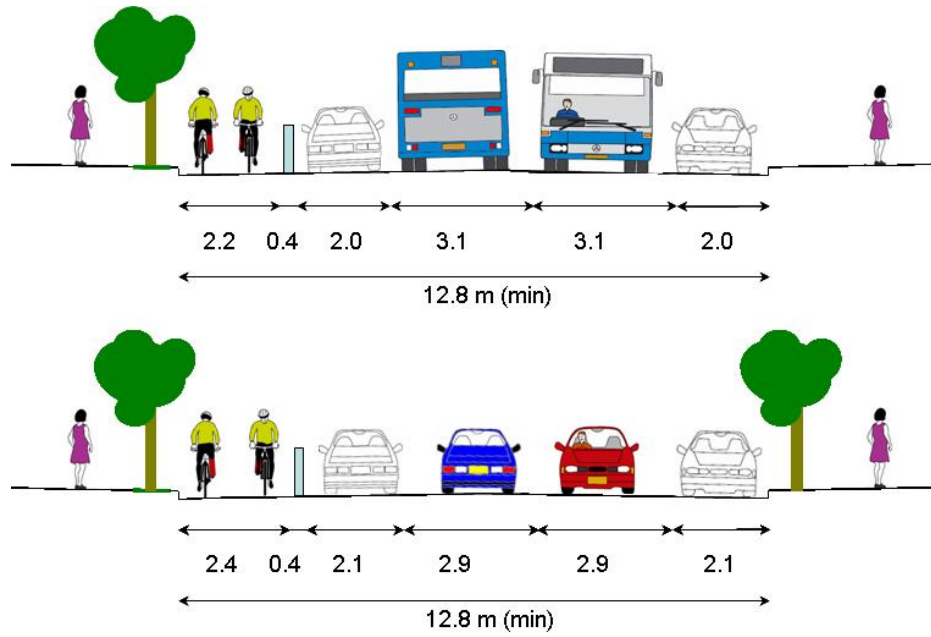


Figure 23 Bi-directional separated bicycle road

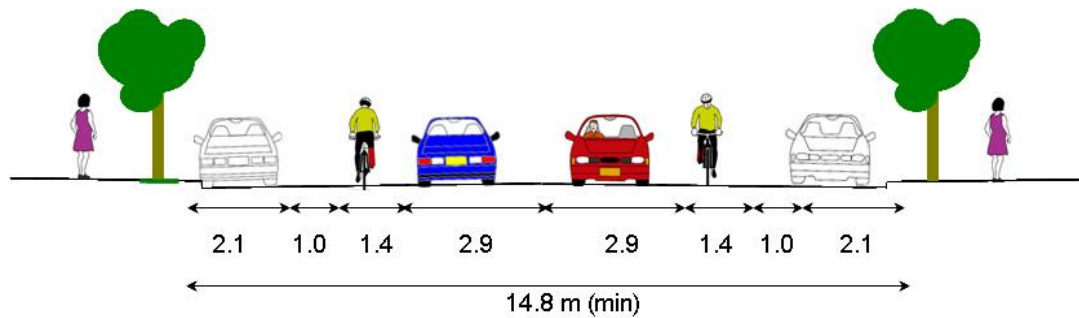


Figure 24 Bicycle Lane

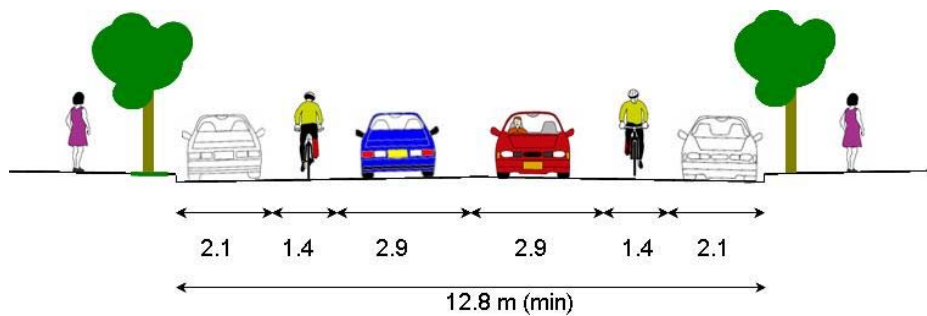


Figure 25 Bicycle Shoulder Lane

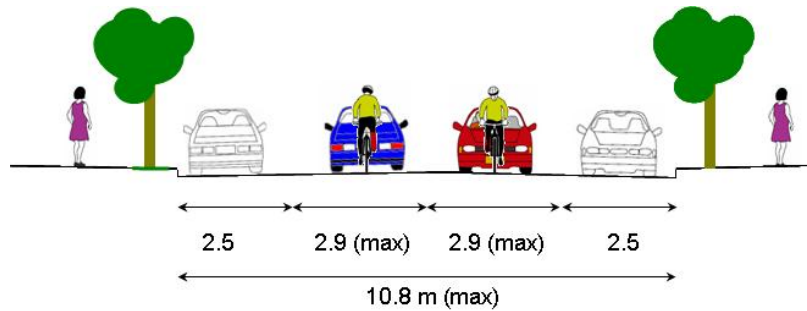


Figure 26 Mixed traffic Street

4.10 Separated Bicycle Roads

In order to provide the cycling facilities required to engage the community to participate in sustainable transport, especially cycling, the City has adopted the *Separated Bicycle Road* as shown in Figure 20 and Figure 23. All routes on local roads that have either bicycle shoulder lanes, bicycle lanes or are 12.8 metres or wider will be examined for implementation of this facility.

Where the roads identified for examination have regular passenger bus services, the City will work closely with the bus operator (State Transit) to ensure that there is no impact of the reliability of bus services.

A series of indicative designs for these bi-directional separated bicycle roads is included in These roads for examination are shown in Figure 27



Figure 27 Roads to be examined for Separated Bicycle Roads

4.11 Route Implementation.

The City has identified a 5 year program of works for completion of the network. The City Projects Division of Council will undertake the majority of works based on available budgets and proposed priority. An indicative timing for each project is shown in the following figure. This timing may change due to cost, coherence and delivery parameters.

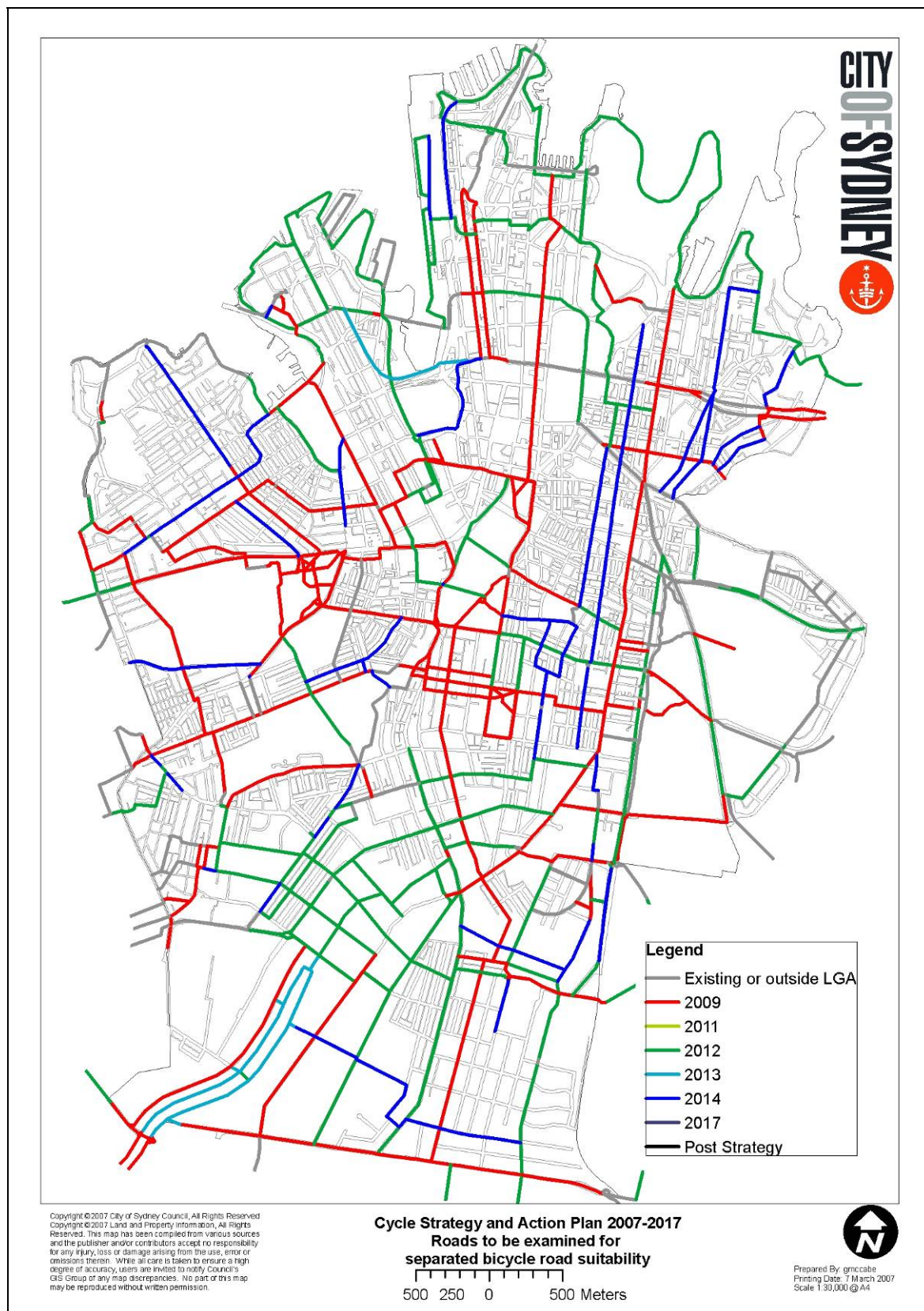


Figure 28 Route implementation priority

4.12 Signage and route marking

The City's bicycle route signage will be consistent with RTA and Austroads guidelines.

The City is developing technical guidelines for the City's public domain signage. These guidelines will apply to cycling signage and will be used whenever street upgrades, re-sheeting, or other works occur to ensure a continuous roll out across the local government area.

There is a need to develop a supplementary signage system with bicycle route direction and destination information to improve the legibility of key routes by cyclists without cluttering streetscapes.

4.13 Parking and end of trip facilities

Cyclists should have access to high-quality and secure bicycle parking and end of trip facilities at their workplace and at other major cycling destinations. The City uses the development approval process to ensure all new developments include appropriate end of trip facilities for cyclists.

The City will also continue to work closely with the NSW Ministry of Transport and RailCorp to provide appropriate cycle parking at the City's major transport interchanges. Improved cycle parking at rail stations in the UK has led to up to 500% increase in cycle use at some sites. Almost all heavy rail stations within the City now have at least some cycle parking, and consultation with user groups is helping to identify the priority sites for improved provision such as cycle lockers and secure bicycle parking facilities.

Targets

The City aims to achieve the following targets relating to cycle parking:

- Secure cycle parking to be provided at major public transport interchanges;
- Cycle parking for visitors will be provided at all City facilities;
- Storage and change facilities for staff commuting by bicycle will be provided at City facilities;
- Secure resident and employee parking and high-quality of end of trip shower and change facilities to be provided in all relevant new development.
- Visitor bicycle parking to be provided as a part of all new developments.
- Existing developments will be encouraged to include high quality facilities.

The City will rollout bicycle parking across the City to provide secure parking at and around key locations including:

- Railway Stations and major bus stops servicing cross regional routes (eg Route 370 from Leichhardt to Coogee).
- Recreational, cultural and community facilities.
- Major and local shopping districts and centres.

- Tertiary education facilities.
- Dining and entertainment facilities.
- Around places of worship.

The City is also investigating the introduction of a Public Bicycle Scheme, such as that used in Lyon, France or Copenhagen, Denmark with secure bicycle stations located across the City.

4.14 Monitoring

Increased cycle use will be monitored through the collection of data as follows:

- Cyclists being included in all traffic counts being done as part of general traffic surveys;
- Including bicycles in the types of vehicles collected as a part of traffic surveys,
- Use of general traffic counting loops which have the ability to count cycles;
- Undertaking surveys as part of School and Employer Travel Plan initiatives.
- Undertaking annual intercept surveys to measure origin/destination of cyclists.
- Measuring use of bicycle parking provided by the City, the same as it undertakes regular on-street parking surveys.

4.15 Maintenance

This Plan will add a significant length of new bicycle pathways and facilities into the City's public domain. This new infrastructure must be maintained to a high level if the City's objectives of increased cycling and safer cycling are to be met. Accordingly, a cycling route maintenance program will be developed that is integrated with the normal road and footpath maintenance and improvement program.

The City's One-Stop-Shop is the reporting centre for all maintenance issues on the City's roads and footpaths. Informing cyclists of the need to pass maintenance information through this channel is a key task. It will also build on the current good-will with the broader cycling community by demonstrating the City's commitment to cycling.

5 Action Plans

5.1 Introduction

For bicycle infrastructure planning to be effective it must be accompanied by social initiatives that:

- Support people that currently cycle, including recreational cyclists, commuters, primary and secondary students, and visitors (0 provides an overview of bicycle user categories);
- Encourage potential cyclists;
- Inform bicycle users of routes, safety information and facilities.
- Educate drivers and other non-cycling road users all road users about respecting the rights of other road users.
- Educate cyclists about defensive riding practices, the road rules and respecting the rights of pedestrians on shared paths.

5.2 The Action Plans

The City has developed action plans to ensure delivery of this strategy. These action plans are:

- *Cycling City Action Plan* which outlines the requirements for the City to become a leading cycling organisation (Appendix A)
- *Cycling Equity Action Plan* which outlines the Advocacy actions that the City will undertake to promote cycling and make it a viable transport option (Appendix B).
- *Cycling Safety Action Plan* which outlines the road safety promotional and educational actions that will improve safety for cyclists and other road and path users (Appendix C)
- *Cycling Promotion Action Plan* which outlines the communications and marketing actions that will be undertaken to promote cycling as a transport choice and promote positive messages relating to cycling. (Appendix D)
- *Cycling Trip Facilities Action Plan* which outlines the facilities that the City will endeavour to build and to encourage others to build. (Appendix E)
- *Cycling Infrastructure Action Plan* which outlines the type and location of facilities and the implementation of those facilities. (Appendix F)

The network and infrastructure action plan and the social initiatives action plan combined will deliver key City-wide and village outcomes for a range of target groups.

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Appendix A Cycling City Action Plan

Objective

- To ensure that the City of Sydney becomes a leader in the integration and development of cycling as an equally considered mode of transport for all residents, businesses and visitors of the City of Sydney.

Barriers Identified

- Lack of information of current cycling infrastructure.
- Perceived risks and dangers of cycling.

Performance Indicators

- Increase cycling volume in the City.
- Current maps of bicycle facilities and routes available on the City's website.

No	ACTION	RESPONSIBILITY	TIME FRAME	PRIORITY RESOURCES
CA 1	Consider employing a Cycling Transport Officer	Chief Executive Officer	By 2007/08	High priority Staff time
CA 2	Develop the City's advocacy role	Transport Strategy	By 2008	High priority Staff time Some cost
CA 3	Investigate training for relevant council officers on a course for designing for pedestrians and cyclists	All relevant Units Human Resources	By 2009	High priority Training budget
CA 4	Implementation measurement and reporting of the <i>Cycle Strategy and Action Plan 2007-2017</i>	All relevant Units	Ongoing	High priority Staff time
CA 5	Annual Strategy Review	Transport Strategy	Ongoing	High priority Staff time
CA 6	Continuing the <i>Cycling in the City</i> program to encourage more workers within the local government area to cycle to work	Environmental Development	Ongoing (Commenced)	High priority Staff time Project cost
CA 7	Trial the use of bicycles for inspections by City Rangers	City Rangers	By 2007/08 (Commenced)	High Priority Staff time Project costs
CA 8	Investigate the use of bicycles for site inspections by City officers	Transport Strategy	By 2009	High Priority Staff time
CA 9	Internal promotion of cycling to City employees	Communications and Media	Ongoing	High priority Staff time

No	ACTION	RESPONSIBILITY	TIME FRAME	PRIORITY RESOURCES
CA 10	Investigate a defensive bicycle riding course	Transport Strategy	By 2009 (development) By 2009 (implementation)	High priority Staff time Training budget
CA 11	Investigate the feasibility of public bicycle hire scheme	Transport Strategy	By 2008	High priority Staff time
CA 12	Maps of bicycle facilities and routes within the City of Sydney updated annually	Communications and Media	Ongoing	High priority Staff time Printing and distribution
CA 13	Investigate the development of a bicycle trip planner to inform cyclists of safe cycling routes between key destinations	Communications and Media	By 2009	High priority Staff time Funding
CA 14	Promote Transport Access Guides and transport maps to inform residents, workers and visitors of how to travel to key destinations safely without the use of private cars	Transport Strategy Unit	By 2009	High priority Staff time Funding
CA 15	Create bicycle friendly parks by providing direct, convenient cycling access routes through parks, gardens, plazas and mall if safe	Parks, Trees and Aquatic Facilities	Ongoing	Medium priority Staff time Project costs
CA 16	Monitoring of cycling data to measure success of the implementation of the Strategy	Transport Strategy	Ongoing	High priority Staff time Data collection costs
CA 17	Collect cyclist volumes as part of traffic count activities	All relevant units	Ongoing	High Priority Staff Time Data collection costs

Appendix B Cycling Equity Action Plan

Objective

- The City to work in an advocacy role to bring about changes that promote sustainable transport.

Barriers Identified

- Current Federal and State legislation in some transport related areas.

Performance Indicators

- Changes to appropriate legislation through the City's lobbying, leadership and example.
- Improved concessions for users of sustainable transport (i.e. Fringe Benefit Tax changes).

No	ACTION	RESPONSIBILITY	TIME FRAME	PRIORITY RESOURCES
CE 1	Advocate changes to Fringe Benefits Tax to remove incentives to drive private cars	Transport Strategy	Ongoing	High priority Staff time
CE 2	Advocacy to NRMA and other Roadside Assistance groups to provide assistance to cyclists	Transport Strategy	Ongoing	High priority Staff time
CE 3	Promote increased NSW government funding for facilities on regional routes and at the City's boundaries	Transport Strategy	Ongoing	High priority Staff time
CE 4	Advocate to RailCorp for the free carriage of bicycles on trains Advocate with the NSW Ministry of Transport for the trialling and evaluation of bike racks on the front of buses	Transport Strategy	Ongoing	High priority Staff time
CE 5	Advocate with the Transport and Population Data Centre to increase the sample size for the City and surrounding Councils to improve the collection of cycling and walking trip data	Transport Strategy	Ongoing	High priority Staff time
CE 6	Advocate improved cycling access to parks and gardens within the City boundaries	Transport Strategy	Ongoing	High priority Staff time
CE 7	Advocate improved bicycle access on bridges (eg access ramps)	Transport Strategy	Ongoing	High priority Staff time

Appendix C Cycling Safety Action Plan

Objective

- To ensure that increases in cycling activity do not result in a disproportionate increase in accidents involving cyclists.

Barriers Identified

- Attitudes and behaviour of cyclists, drivers and pedestrians.

Performance Indicators

- Measured accident rates from crash data.
- Road safety promotional activity.

No	ACTION	RESPONSIBILITY	TIME FRAME	PRIORITY RESOURCES
CS 1	Develop road safety educational information resource packages for cyclists promoting legal compliance and low-risk riding	Communications and Media	Ongoing	High priority Staff time RTA and other agency grants.
CS 2	Investigate the value of providing adult bicycle training for individuals and businesses	Transport Strategy	By 2009	High Priority Staff time
CS 3	Operation of the CARES facility for cycle training for children through schools	Transport Strategy	Ongoing	High priority Staff Time Operational budget
CS 4	Support appropriate RTA bicycle safety programs	Transport Strategy	Ongoing (Commenced)	Medium priority Staff time Grant applications
CS 5	Stakeholder liaison to identify any special needs	Transport Strategy	Ongoing	High priority Staff time
CS 6	Develop road safety educational information resources targeting other road users that promotes awareness of bicycle safety and legal obligations	Transport Strategy	Ongoing (Commenced)	High priority Staff Time RTA and other agency grant applications
CS 7	Integrate bicycle safety promotion and awareness into other road safety programs where appropriate	Communications and Media	Ongoing (Commenced)	Medium priority Staff time

Appendix D Cycling Promotion Action Plan

Objective

- Improve the perception amongst Sydneysiders of cycling in Sydney and
- Encourage greater cycling participation of Sydneysiders.

Barriers Identified

- Perceived lack of cycling infrastructure and facilities
- Safety concerns
- Perceived inconvenience of cycling

Performance Indicators

- Improved understanding of cycling and its benefits to residents, visitors and employees.
- Improved understanding of the available information on cycling and cycling facilities.

No	ACTION	RESPONSIBILITY	TIME FRAME	PRIORITY RESOURCES
CP 1	Provide a cycling page on the City website	Transport Strategy Communications and Media	Ongoing (Commenced)	High priority Staff time Project costs
CP 2	Promotion of cycling at City organised events and use of promotional incentives to encourage cycling to events	Communications and Media	By 2009	High priority Staff time Project costs
CP 3	City of Sydney cycling events eg Bike Expo and support Bicycle Use Groups events	Communications and Media	Ongoing (Annually)	High priority Staff time Project costs
CP 4	Promote annual RTA Bike Week	Communications and Media Transport Strategy	Ongoing (Annually)	Medium priority Staff time Project costs RTA grant process
CP 5	Prepare a leisure ride leaflet identifying routes between City villages for use for recreational cyclists	Communications and Media	By 2009	Medium priority Staff time Material development and distribution
CP 6	Promotional materials showing the advantages of cycling as a transport choice	Communications and Media Transport Strategy	Ongoing	High priority Staff time Project costs
CP	Prepare social research to inform the direction of the Implementation of the Cycle Strategy	Communications and Media	Ongoing -every 2 years (commenced)	High priority Staff time Consultancy

No	ACTION	RESPONSIBILITY	TIME FRAME	PRIORITY RESOURCES
CP 7	Investigate a Council Ride to Work day	Communications and Media	By 2009 Annual event	Medium priority Staff time Project costs
CP 8	Investigate Sponsorship opportunities that promote cycling as sustainable transport mode and an important social and recreational activity	Communications and Media	Ongoing	Medium priority Staff time

Appendix E Cycling Trip Facilities Action Plan

Objective

- To ensure that cyclists can park their bicycles in safe, secure locations.
- To ensure that cyclists have access to the trip end facilities associated with cycling such as showers, change rooms etc.
- To provide bicycle parking and trip end facilities at City venues.

Barriers Identified

- Lack of bicycle parking and trip end facilities.
- Potential cyclists discouraged from cycling due to lack of facilities.
- Existing parking facilities located in isolated locations.
- Personal security at trip end facilities.
- Lack of bicycle parking at events.

Performance Indicators

- Delivery of enhanced bicycle parking by the City.
- Inclusion of bicycle parking at events.
- Increased commuter cycling parking at railway stations in the City.

No	ACTION	RESPONSIBILITY	TIME FRAME	PRIORITY RESOURCES
CTF 1	Investigate the potential for a CBD bicycle parking station located centrally	Transport Strategy Properties	By 2010	High priority Staff time Project costs
CTF 2	Develop a program to increase the amount of employee and visitor parking at Council facilities to Austroads GTEP Pt 14 levels	Properties	By 2012	High Priority Staff time Project costs
CTF 3	Develop a program to increase the amount of local bicycle parking for short term stay	City Projects	By 2009	High Priority Staff time Project costs
CTF 4	Investigate secure bicycle parking at bus stops light rail and railway stations	City Projects	By 2012	High priority Staff time Project costs
CTF 5	Enhance the quality of the bicycle parking at the City's parking stations	Parking Services	By 2007/08 (Commenced)	High priority Staff costs Project costs

No	ACTION	RESPONSIBILITY	TIME FRAME	PRIORITY RESOURCES
CTF 6	Enhance the location and quality of new bicycle parking facilities in City planning policy	City Plan Development	By 2009	High priority Staff costs
CTF 7	Encourage other organisations to provide enhanced bicycle parking facilities	Transport Strategy	By 2009	Medium Priority Staff Costs
CTF 8	Consider appropriate bicycle parking at City events	Events	Commenced	High Priority Staff time Site costs.
CTF 9	Consider appropriate bicycle parking at City sponsored events	Marketing	Commenced	High Priority Staff time Site costs.
CTF 10	Seek the appropriate bicycle parking at third party events	Events Marketing	Commenced	High Priority Staff time

Appendix F Cycling Infrastructure Action Plan

Objective

- To ensure that all new bicycle facilities and routes provide a network that enables City residents, visitors and workers to ride in a safe, convenient and comfortable environment.
- To develop a coherent bicycle network that is child friendly.
- To improve local accessibility for cyclists.
- To ensure that the safety of cyclists is continued through maintenance activities.

Barriers Identified

- Safety issues associated with cycling near parked cars.
- Lack of consistency in infrastructure treatments.
- Staff involved in civil and traffic infrastructure design; assessment of developments and urban design do not fully understand the requirements need to cater for cyclists.
- Lack of local connectivity for cyclists and pedestrians.

Performance Indicators

- Delivery of the bicycle network, including shared paths.
- A coherent bicycle network.
- All applicable staff to undertake necessary design and assessment training.

No	ACTION	RESPONSIBILITY	TIME FRAME	PRIORITY RESOURCES
CI 1	Ensure maximum connectivity for cyclists through implementation of the route network	City Projects	By 2012	High priority Staff time Project costs
CI 2	Ensure appropriate bicycle facilities are delivered to provide a network that is safe a cyclist of any age	City Projects Transport Strategy	By 2012	High Priority Staff time Project costs
CI 3	Implementation of separated bicycle roads	City Projects Transport Strategy	By 2017	High priority Project costs
CI 4	Investigating bicycle lanes and roads as Local Area Traffic Management Schemes	Transport Strategy City Infrastructure and Traffic Management	Ongoing	Medium priority Staff costs

No	ACTION	RESPONSIBILITY	TIME FRAME	PRIORITY RESOURCES
CI 5	Protection of shared paths when street furniture and other infrastructure is being designed	Transport Strategy City Infrastructure and Traffic Management	Ongoing	High priority
CI 6	Shared path development and implementation	City Projects	By 2009	High Priority Staff time
CI 7	Investigate pedestrian amenity improvements as part of cycle route implementation	City Projects Transport Strategy	By 2012	High Priority Staff time
CI 9	Develop a program to improve existing road infrastructure to make it more bicycle friendly	Transport Strategy City Infrastructure and Traffic Management	By 2012	Medium Priority Staff time Project costs
CI 10	Develop a program to improve existing road closures to provide enhanced cyclist amenity	City Projects Transport Strategy	By 2012	Medium Priority Staff time
CI 11	Develop route signposting and wayfinding signs that complies with the <i>NSW Bicycle Guidelines</i> and minimises street clutter	City Projects	2009	High Priority Staff time Project costs
CI 12	Replace drainage gates with bicycle friendly drainage gates	City Infrastructure and Traffic Management	Commenced Complete by 2012	Staff time Materials
CI 13	Monitor and address safety issues caused by trees	Parks, Trees and Aquatic Facilities	Ongoing	High Priority Staff time
CI 14	Program to relocate bollards and gates to minimise cyclist safety issues during routine maintenance	City Infrastructure and Traffic Management Transport Strategy	Ongoing	Medium Priority. Staff time. Materials & works
CI 15	Improve bicycle access on bridges (eg access ramps)	City Projects	By 2008	High priority Staff time Project costs

Appendix G Major projects completed or underway

The City of Sydney is currently planning a number of major programs that will include improved cycling provision. These include (according to current budget forecasts):

\$2.0 million allocated for bicycle implementation works over 5 years;

\$4.35 million to begin implementing Local Action Plans developed with local communities to make City neighbourhood more enjoyable to live in, work in and visit.

- \$180 million over four years for major streetscape upgrades, including:
 - \$15 million over two years to complete the Redfern/Regent Streets upgrade;
 - \$48 million over four years for streetscape upgrades in the CBD;
 - \$30 million for footway reconstruction over four years;
 - \$4.4 million for CBD laneways over four years;
 - \$12 million over two years for Glebe Point Road;
 - \$4 million over three years for Oxford Street, Paddington;
 - \$3 million over two years for Crown Street, Surry Hills; and
 - \$1 million over two years for O'Riordan Street, Alexandria.
- Integrated Transport Planning over four years:
 - \$13.5 million allocated for streetscape upgrades to assist CBD light rail;
 - \$8.5 million to prepare and implement the Pedestrian Strategy;

Key projects include:

Glebe Foreshore Redevelopment – the long term vision is to have a continuous foreshore cycleway between The Crescent and Pyrmont Bridge Road. Completed from Glebe Point Road to Ferry Rd.

Plan of Management for Prince Alfred Park – Design for a cycleway is underway.

Plan of Management for Sydney Park – the adopted plan features recreational cycleways with connections to the surrounding cycleway network.

Redfern Street Upgrade – the plan, which is currently at detailed design stage, includes improved bike facilities on Redfern Street. Construction currently underway.

Alexandra Canal project – a project to redevelop the land along the canal with the inclusion of an off-road cycleway. The cycleway would have the potential to connect to the airport and the existing Cooks River Cycleway.

Sydney Town Hall to Sydney Harbour Bridge route – A Kent Street or Clarence Street route is currently being investigated for implementation in 2007/2008.

King Street Sydney – A separated cycleway is currently being designed for implementation in 2007/2008.

Concept and detailed design for Priority one projects.

Bicycle parking - 340 parking rings installed on Smartpoles in the City of Sydney in 2005-6, plus parking for bicycles installed at the City's Goulburn Street and Domain parking stations.

Cycling in the City - a program promoting and supporting people cycling to work at major Sydney workplaces including Westpac, Lend Lease, Macquarie Bank, AMP and the City of Sydney.

Appendix H Bicycle User Categories

A key component in the development of a social initiatives program is identifying the categories of existing and potential cyclists in Sydney. These are the target audiences for implementation actions. Whilst the Strategy is broad in its scope, and identify a wide range of initiatives, implementation should be priorities to those audiences with the greatest potential to deliver the vision and the targets of the primary aims (the two wheels). The categories of existing and potential bicycle users in Sydney are described below.

Children

Children are a vulnerable cycling group, as they generally have low bicycle riding skill levels and limited on-road experience. The City's primary focus will be on providing dedicated learning facilities within parks throughout the City area, where children can focus on learning safer riding techniques that help to establish confidence in a safer environment. Encouraging safer routes to school will also be targeted in the later stages of implementation.

Footpath cycling is allowed for riders under 12 years of age (and anyone accompanying a cyclist under 12), or on a marked shared path. Encouraging cycling in adolescence creates some healthy lifelong habits. If a generation of children grow up without cycling, basic cycling attitudes, skills and interest are difficult to establish in later life.

Local cyclists

The majority of bicycle trips are short distance trips (between 2 and 10 km). Therefore, those trips usually made by the car to the local shops, library, sporting grounds and public transport nodes are ideal destinations that could be accessed by bicycle and this group has the highest potential for growth. Consideration of speed issues, road and intersection crossings, and signage can improve the environment for local cyclists.

Commuters

Commuter cycling has a high potential for growth, but is currently not seen as desirable. With a relatively young population who live and work within close proximity to each other, commuter cycling within and beyond Sydney local government area could be significantly more popular. Commuter cycling is usually best provided by utilising the existing road network in established urban areas, as these generally facilitate the most direct links to employment and education destinations. Improvements to the road network in conjunction with appropriate end of trip facilities such as showers, lockers and secure bicycle parking will best address the needs of commuters.

The provision of secure bicycle parking facilities at railway stations will encourage bicycle "park and ride" commuter trips.

Adult student cyclists

A significant number of car trips are undertaken within and beyond Sydney by tertiary students travelling to the University of Sydney, University of NSW, University of Technology Sydney and various TAFE and private educational institutions. Tertiary student cyclists are a largely untapped user group that could significantly reduce car trips by travelling by bicycle, provided the necessary

facilities and educations/encouragement programs are implemented. Cycling provides economic and environmental benefits to students and is therefore likely to be popular with this group.

Recreational cyclists

There are a number of open space/park areas within Sydney as well as significant recreational areas adjacent (i.e. Centennial Parklands/Moore Park, Botanical Gardens, Sydney Park) that are important destinations for recreational cyclists. Riding a bicycle for enjoyment purposes and/or exercise also represents an attractive option for recruiting non cyclists and lapsed cyclists. Once people begin cycling for recreational purposes it will be easier to encourage them to cycle for commuter and local trips.

Sport cyclists

Sports cyclists travel exclusively on roads and high speed separated paths. The City is catering for this type of cyclist through its general facilities.

Tourist cyclists

These cyclists have similar needs to recreational cyclists who desire a variety of high quality experiences and have a variable skill level. Well-signed networks with interesting routes and parking at locations of interest will assist this type of cyclist.

Bicycle couriers

Bicycle couriers are a prominent but small group of cyclists. These users are possibly the most skilled and intrepid of cyclists, and as a result commonly use all roads within the City centre. The proposed network will assist this type of cyclist.

The behaviour of Bike Couriers was a concern for some sectors of the community for many years. This resulted in a new code of behaviour negotiated some years ago. It appears that behaviour of bike couriers in complying with the road rules has improved substantially. Anecdotal evidence also suggests that the number of bicycle couriers operating in the City has declined by as much as 80% over the past 5 years. City records show that only one major incident and four minor incidents were reported in the year to June 2005. Accordingly no further strategies targeted for bicycle couriers are recommended.

Bicycle non-users

A key group which must be considered in the development of a comprehensive social initiatives program is non-cyclists. This is partly because some of non-cyclists may become cyclists with effective encouragement. However, there is still a need to target and cater for non-cycling users with little or no potential to become cyclists. This is because as key users of the roadway and the public domain, these other road users have a significant impact on the cycling environment in Sydney. The two primary bicycle non-user groups are pedestrians and drivers. The City must encourage an environment of mutual respect, support and recognition of all road users if the City's cycling vision is to become a reality.

Appendix I Bi-directional separated bicycle road indicative designs.

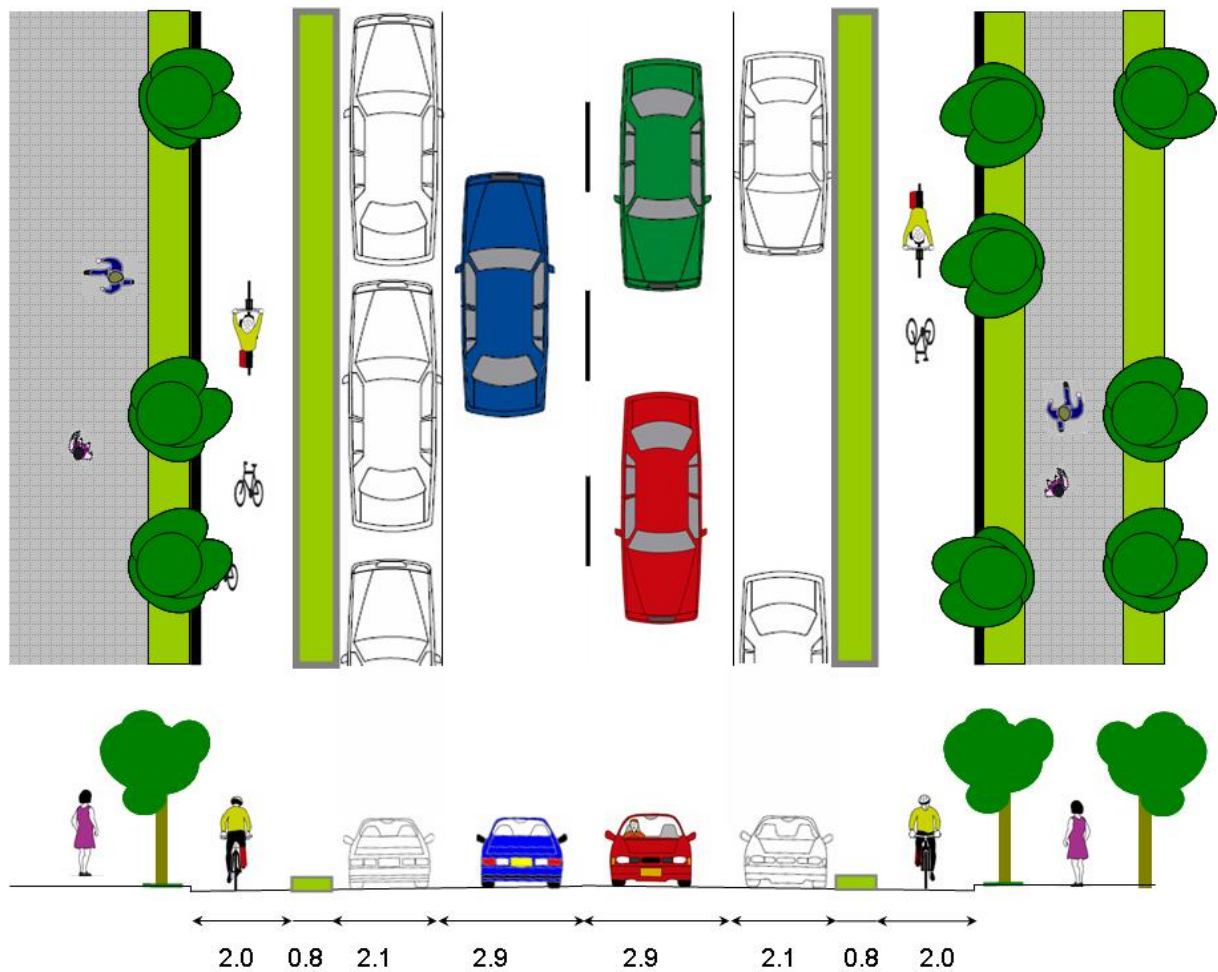


Figure 29 Fully Separated Bicycle road

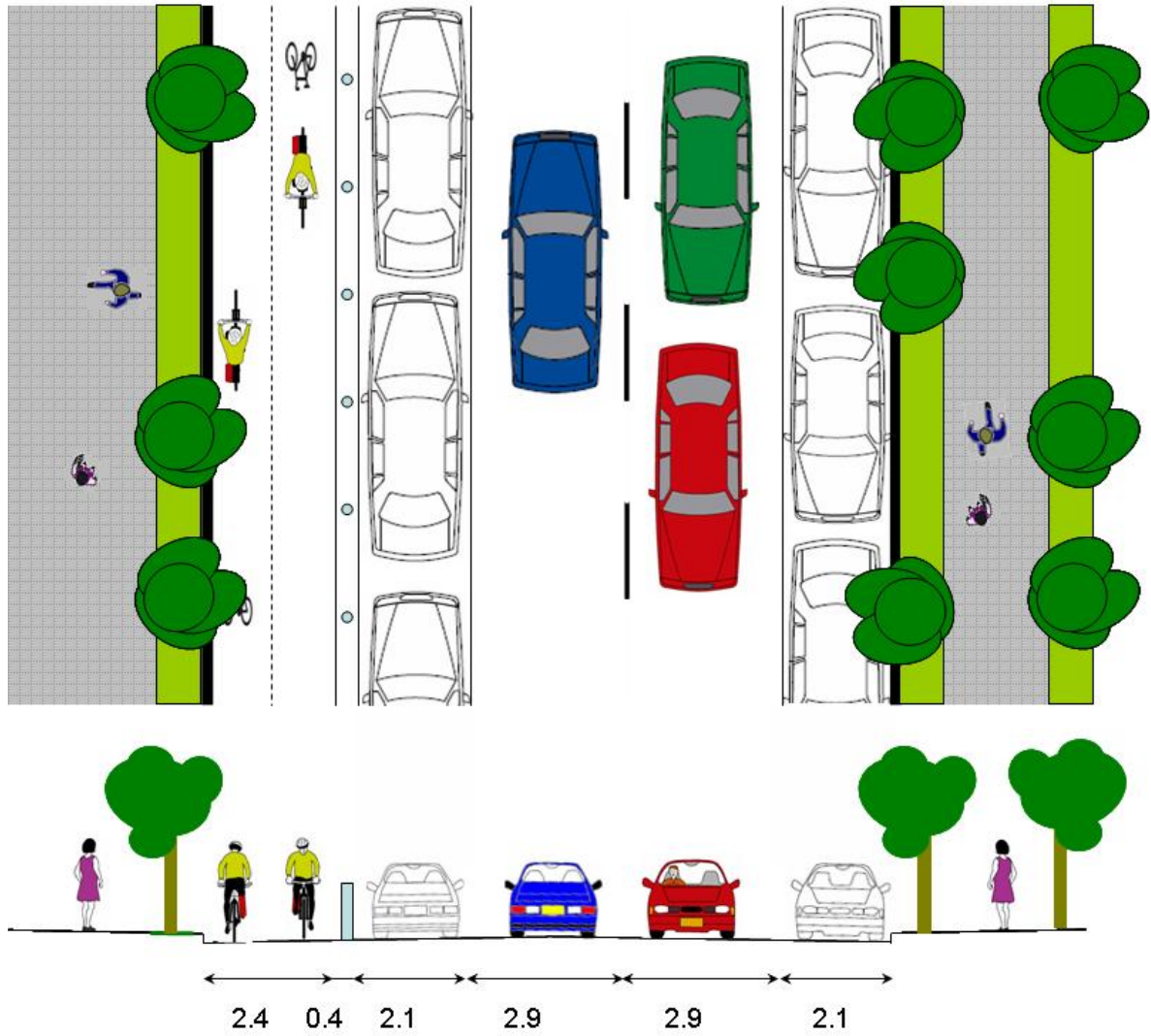


Figure 30 Bi-directional bicycle road- no bus route

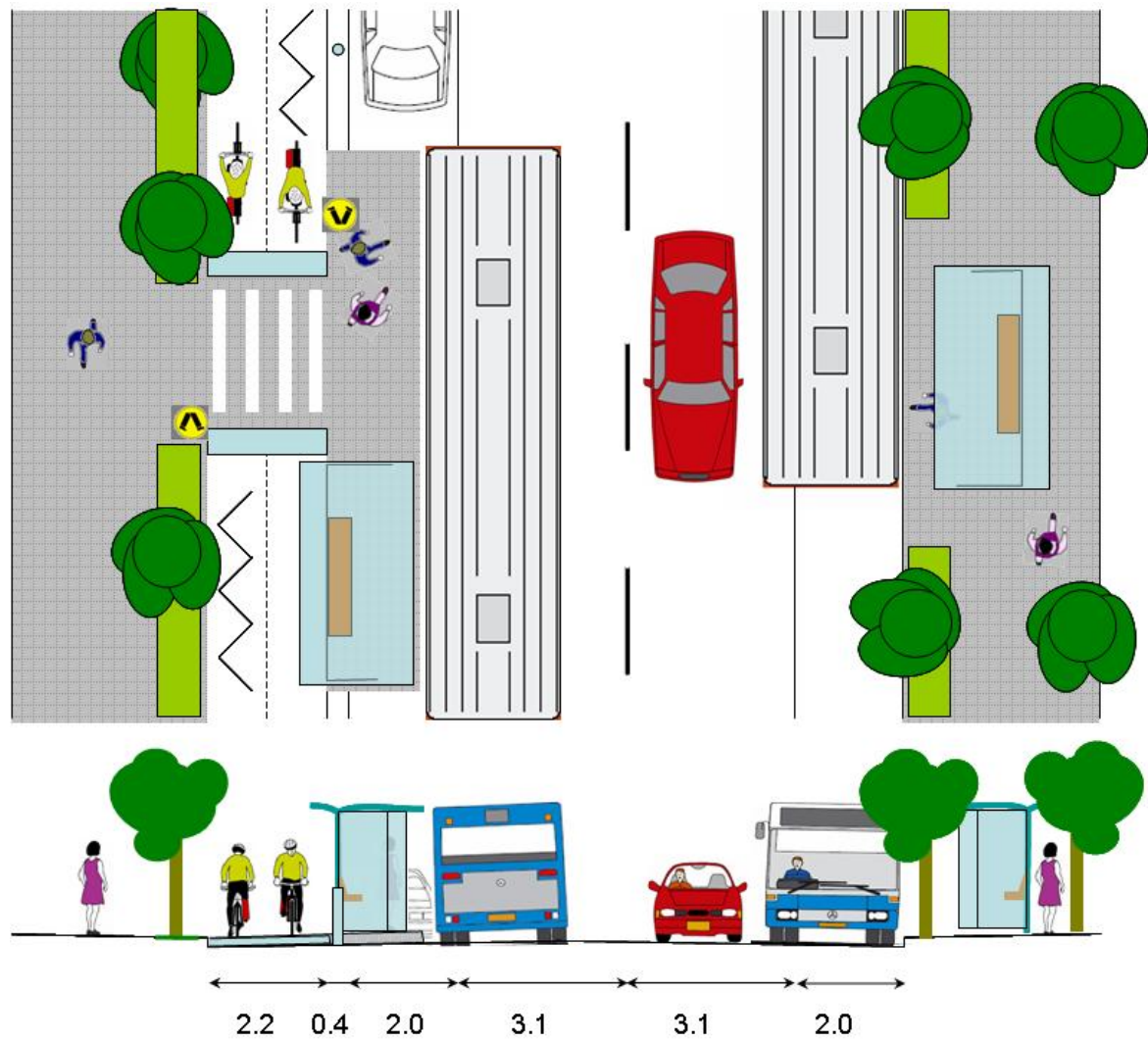


Figure 31 Bi-directional bicycle road – bus route

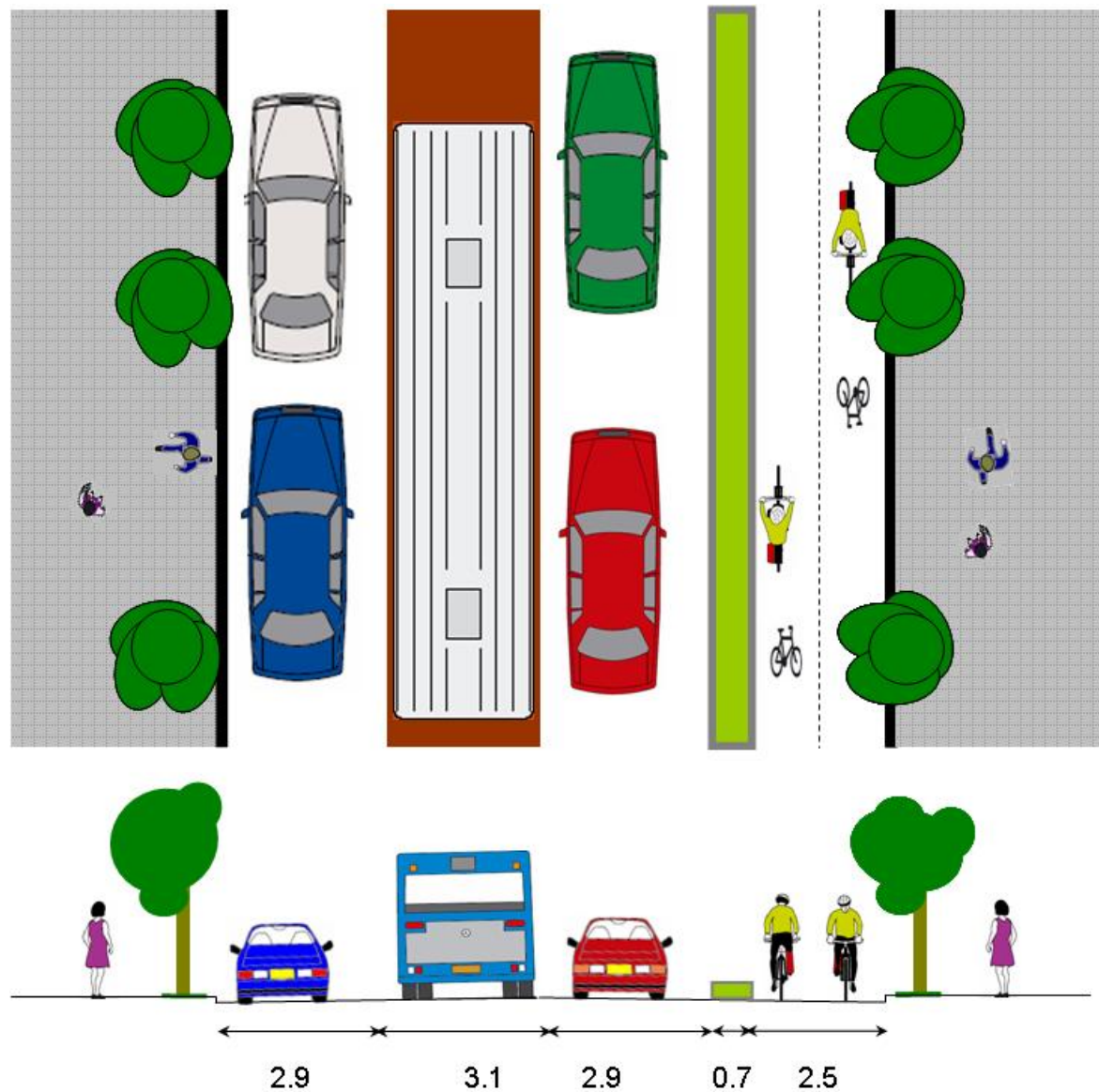


Figure 32 Bi-directional bicycle road – CBD Street with bus lane treatment (peak hour)

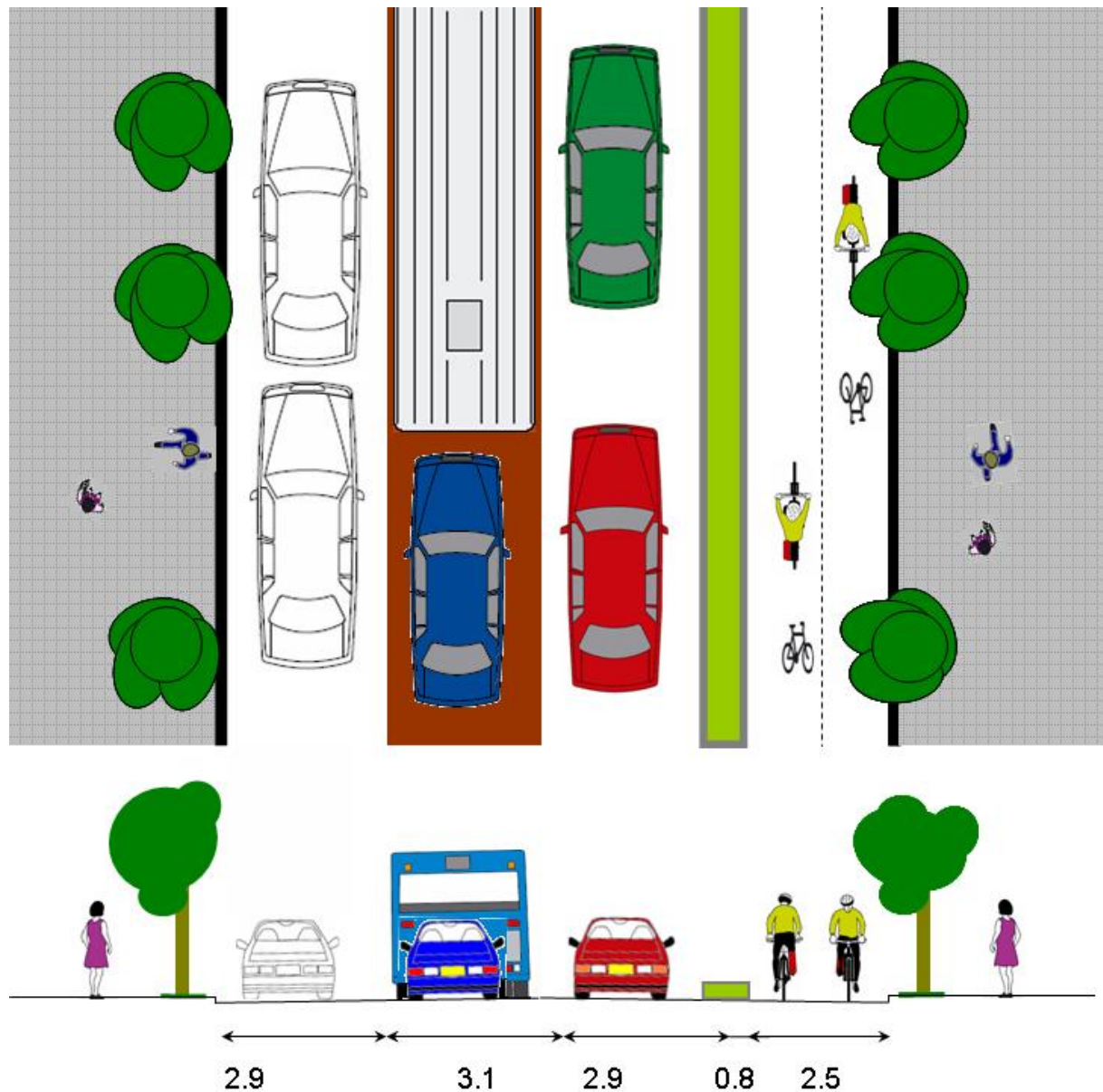


Figure 33 Bi-directional bicycle road – CBD Street with bus lane treatment (off peak hour)

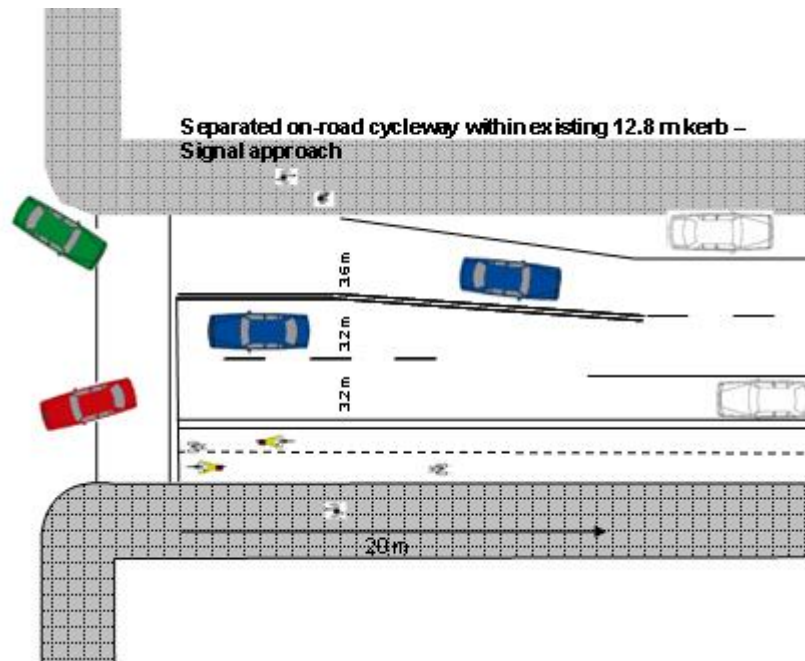


Figure 34 Bi-directional bicycle road – traffic signal treatment (approach)

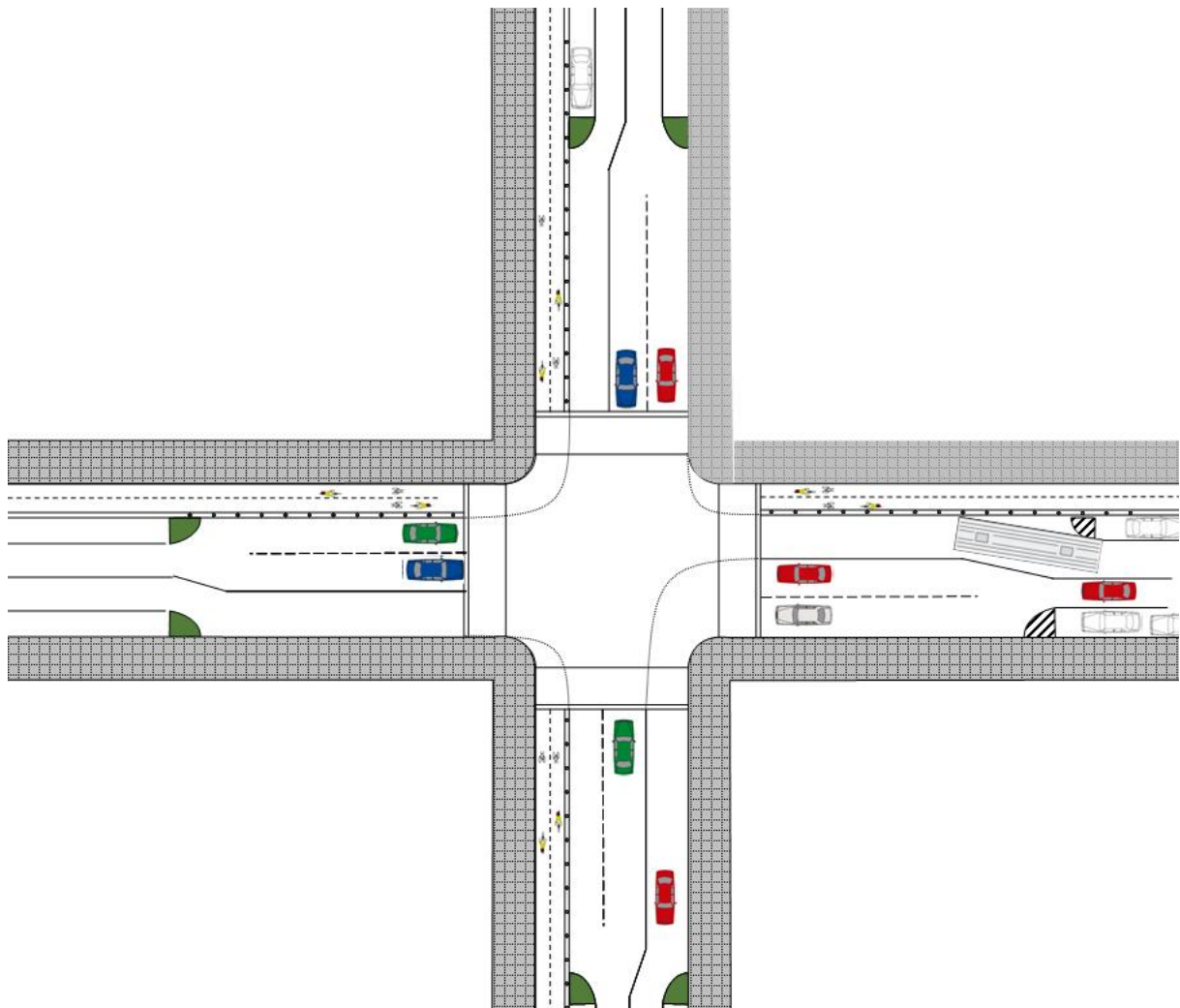


Figure 35 Bi-directional bicycle road – traffic signal treatment whole intersection

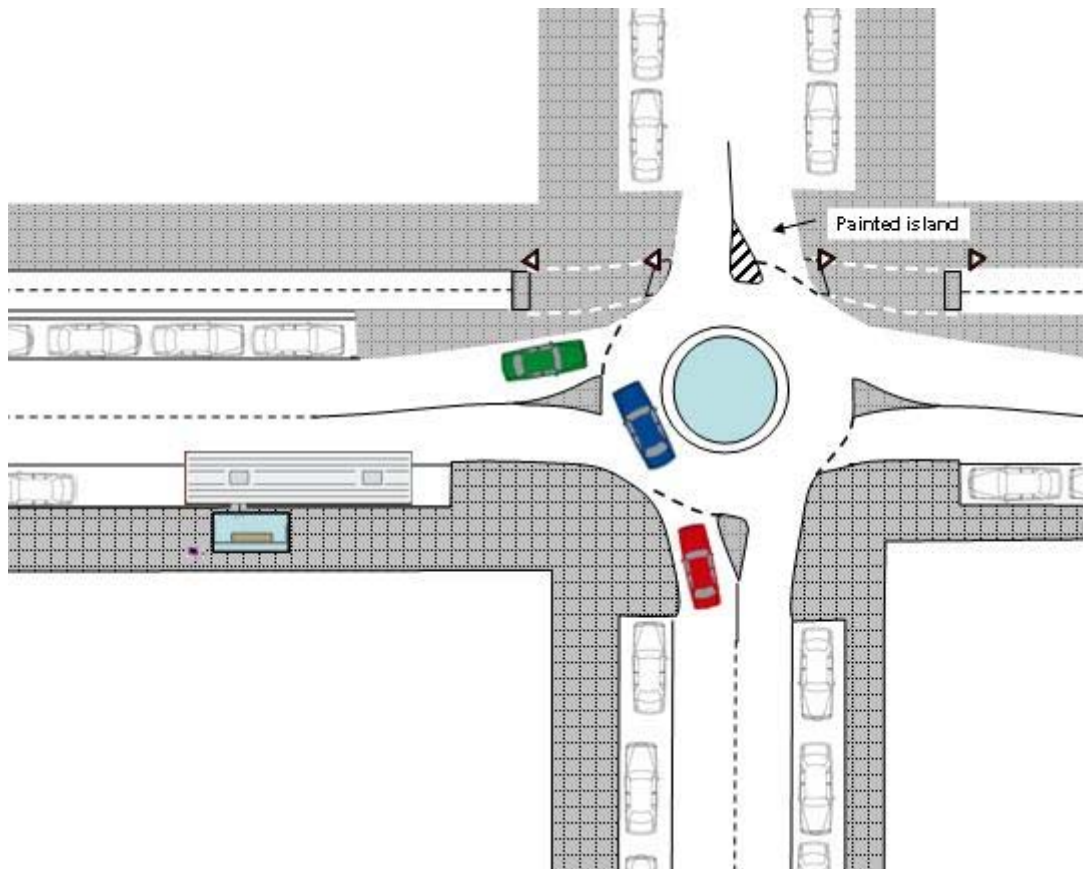


Figure 36 Bi-directional bicycle road – roundabout treatment

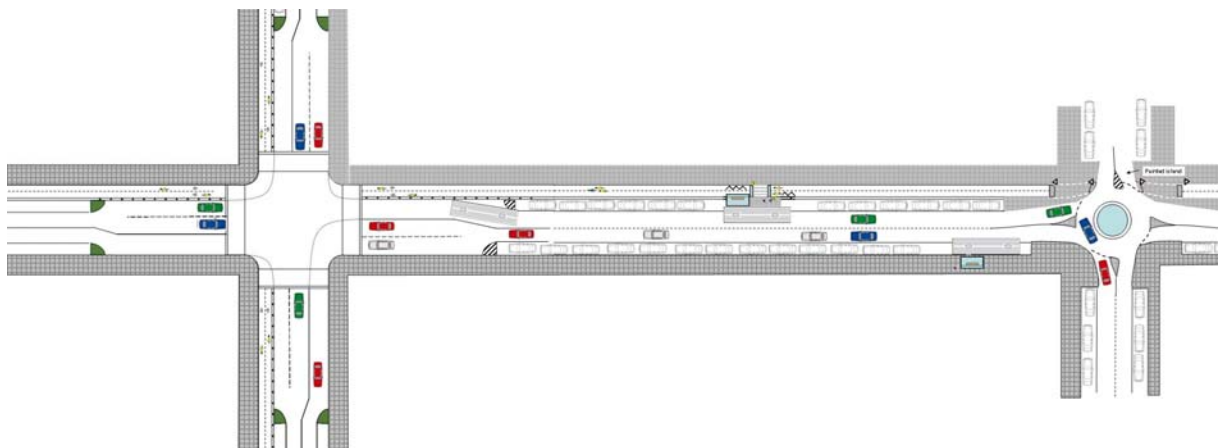


Figure 8 Bi-directional bicycle road – sample concept plan

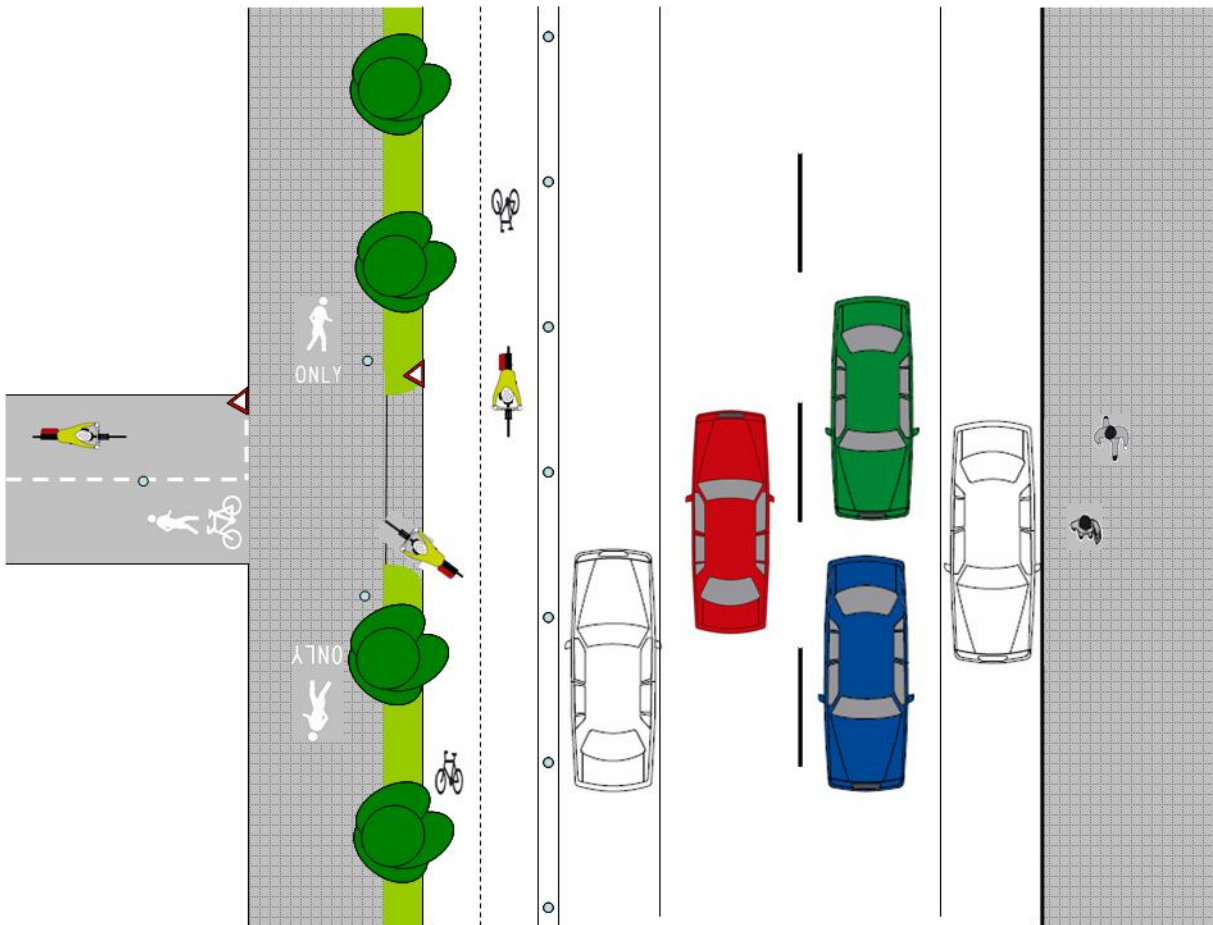


Figure 37 Terminal of a shared path at a bi-directional bicycle road