



# Cycling Safety Action Plan 2014–2016

May 2014



Transport  
for NSW

# CONTENTS

<b>1. OVERVIEW OF CYCLING ROAD TRAUMA IN NSW</b>	<b>3</b>
LOCATION	3
SERIOUS INJURIES	4
WHEN	4
TYPES OF CRASHES	4
WHO	5
HELMET USAGE	5
SUMMARY OF NSW CYCLING ROAD TRAUMA	5
<b>2. BACKGROUND TO THE CYCLING SAFETY ACTION PLAN</b>	<b>6</b>
WHO IS CYCLING?	6
WHAT THE RESEARCH IS TELLING US?	6
SUMMARY OF THE RESEARCH	7
<b>3. WHAT WE WILL DO TO INCREASE SAFETY FOR BICYCLE RIDERS</b>	<b>8</b>
SAFE SYSTEMS APPROACH	8
ENGAGING WITH STAKEHOLDERS	9
<b>4. ACTION PLAN</b>	<b>10</b>
SAFER PEOPLE	10
SAFER ROADS AND SPEEDS	11
SAFER VEHICLES	12
IMPLEMENTATION OF THE ACTION PLAN	12
<b>5. SUMMARY</b>	<b>13</b>

# INTRODUCTION

---

**THE NSW GOVERNMENT IS FOCUSSEING EFFORTS TO INCREASE CYCLING RATES AS A MODE OF TRANSPORT UNDER THE DIRECTION OF *NSW 2021*. RESEARCH HAS IDENTIFIED THAT SAFETY IS A MAJOR BARRIER TO PEOPLE CYCLING IN NSW.**

The NSW Road Safety Strategy for 2012-21 aims to reduce road trauma in NSW over the next decade. It sets out the strategic direction the NSW Government is taking to address this important issue, and aims to reduce fatalities and serious injuries by at least 30 per cent.

An increase in the number of people cycling brings with it the challenge of increasing safety to ensure lower levels of crash rates involving bicycle riders. Using the safe systems approach it is possible to reduce bicycle crash rates and the associated trauma. Improved infrastructure, safe and compliant behaviours and improved use of safety equipment and safer bicycles all have an impact on improving safety.

Cycling road trauma is relatively low, currently accounting for around four per cent of injuries and fatalities on NSW roads. The NSW Government is being proactive in making our roads the safest in Australia. The Government has already responded to an increase in fatalities involving bicycle riders during 2013, and the development of this action plan will further support this proactive approach.

This action plan has been developed in consultation with a range of stakeholders from the cycling and motoring community and infrastructure providers. It is an opportunity for the NSW Government and cycling stakeholders to work together to make real improvements to reduce road trauma to bicycle riders.

This three year action plan includes a range of interventions that aim to improve interactions between motorists and bicycle riders, undertaking research, improving communications, and promote cycling as an important safe form of transport – not just a leisure activity. It also supports the implementation of the Sydney's Cycling Future.

The NSW Government has developed Sydney's Cycling Future plan as part of the Long Term Transport Masterplan, with an aim to double the mode share of cycling for transport as identified in NSW 2021. A particular focus of this is Sydney and catchments of five and 10 kilometres to major transport hubs.

**The Hon. Duncan Gay MLC  
Minister for Roads and Freight**

Consultation was conducted to support the development of the Cycling Safety action plan which included the following stakeholders:

- Bicycle NSW
- Amy Gillett Foundation
- Cycling NSW
- NRMA Motoring and Services
- City of Sydney Council
- Parramatta City Council
- Local Government NSW
- Motor Accidents Authority
- Insurance Australia Group
- NSW Police Force
- Department of Education and Communities
- The George Institute of Global Health
- Transport and Road Safety Research Group, University of NSW

The Cycling Safety Action Plan represents the commitment of the NSW Government to ensure bicycle riding is a safe activity. The actions, in line with the Safe Systems approach detailed will be coordinated by the Centre for Road Safety and delivered in collaboration with stakeholders.

## BIKE USER GROUPS

Bicycle User Groups provide great opportunities to feed information out to the riding community. With Bicycle NSW and Cycling NSW representing a huge number of riders in NSW, there are benefits in working with these user groups to provide greater information to the cycling community.





# 1. OVERVIEW OF CYCLING ROAD TRAUMA IN NSW

In 1955 there were 45 bicycle riders killed on NSW roads and since then, fatalities involving these vulnerable road users have generally been decreasing. Over the last decade, NSW has had an average of 11 bicycle riders killed per annum. Since 2009, fatalities in NSW have decreased, whereas the trend across the rest of Australia has increased.

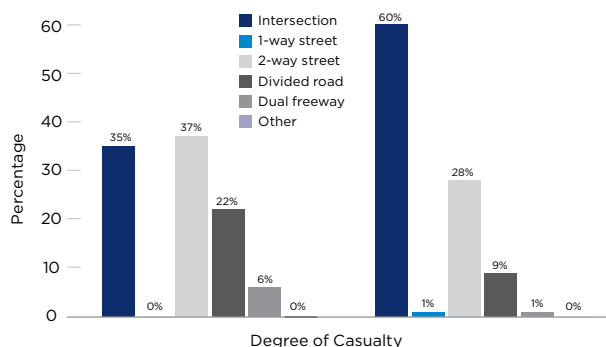
In 2012, bicycle riders accounted for around two per cent of all fatalities in NSW, with seven killed and 1,025 injured. Unfortunately during 2013, 14 bicycle riders were killed, double that of 2012. It is acknowledged that many bicycle riders who are injured do not report their crash to the police. The Centre for Road Safety will review, through a data linkage project with NSW Health, serious injury data to establish a more accurate assessment of the road trauma experienced by people cycling.

## LOCATION

Between 2008 and 2012 in NSW, almost two-thirds of bicycle fatalities occurred in metropolitan areas – specifically the greater Sydney, Newcastle and Wollongong areas. Injuries were also more prevalent in these areas.

The majority of fatalities occurred at mid block locations on two-way undivided roads, whereas 60 per cent of injuries occurred at intersections.

## Pedal Cycle Casualties, 2008 to 2012p, Degree of Casualty, Location Type



Almost half of all fatalities occurred on roads with a posted speed limit of 60km/h or greater. One third of these occurred on motorways or state highways.

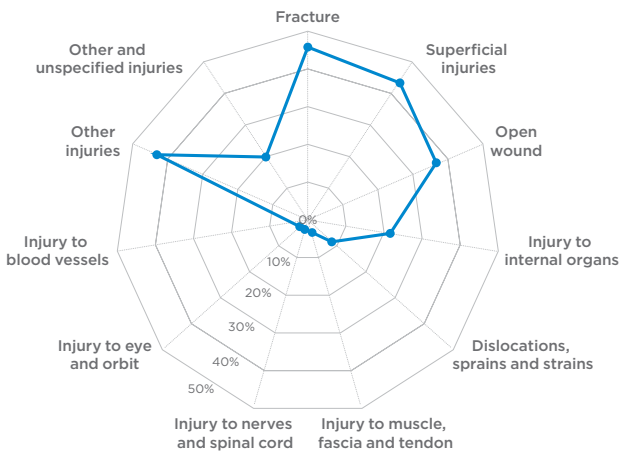
Injuries were most prevalent on unclassified local roads with a posted speed limit of 50km/h or less.

## SERIOUS INJURIES

On average the NSW crash data shows around 300 bicycle riders being seriously injured each year. It is known there is under reporting of serious injuries sustained by bicycle riders.

Injuries to the head and limbs (elbows and forearm) are the most common sustained, resulting in an average hospital stay of four days.

**Proportion of injury diagnoses for the first 20 injury diagnosis for pedal cyclists with serious injuries in NSW by nature of injury, CrashLink-APDC, 2001-2011<sup>1-3</sup>**



<sup>1</sup> Includes multiple injuries per person.

<sup>2</sup> Other injuries includes: injury to nerves and spinal cord, injury of eye and orbit, injury to blood vessels, injury to muscle, fascia and tendons, crushing injury, traumatic amputation, burns and complications of trauma.

<sup>3</sup> Other and unspecified injuries includes: other and unspecified injuries of head, thorax, shoulder and upper arm, forearm, wrist and hand, hip and thigh, lower leg, ankle and foot, multiple body regions not elsewhere classified, unspecified multiple injuries, other injuries of spine and truck level unspecified, other injuries of upper and lower limbs level unspecified, other injuries or unspecified body region and injury unspecified.

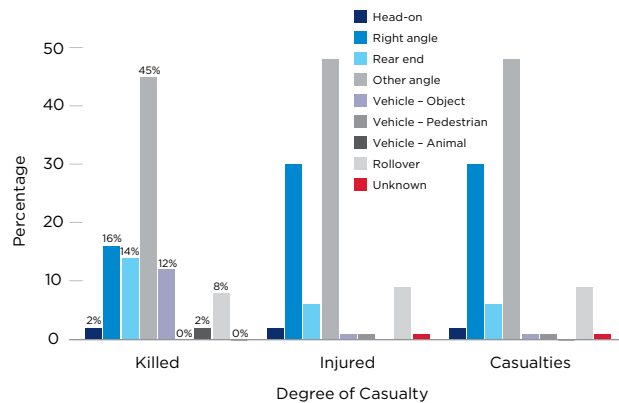
## WHEN

Fatalities and injuries are more prevalent during two key time periods, 6-10am and 2-6pm. Three quarters of fatalities and injuries occur during daylight and fine weather conditions.

## TYPES OF CRASHES

Almost half of all bicycle fatalities and injuries involve another vehicle turning across the path of the bicycle rider. This is followed by a mix of crashes where the vehicle driver or bicycle rider has not given way at an intersection.

**Pedal Cycle Casualties, 2008 to 2012p, Degree of Casualty, First Impact**



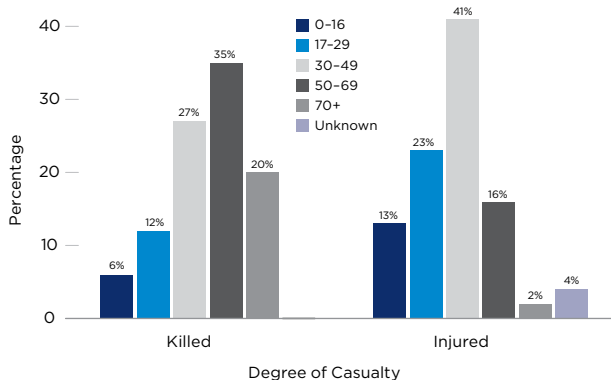
## WHO

Males account for 90 per cent of fatalities and 84 per cent of injuries.

Adults aged 50 to 69 account for the highest proportion of fatalities (35 per cent), and those aged 30 to 49 account for 41 per cent of all injuries.

The graph below further details this breakdown.

### Pedal Cyclist Casualties, 2008 to 2012p, Degree of Casualty, Age Group



## HELMET USAGE

In around 30 per cent of fatalities and 15 per cent of injuries the rider was not wearing a helmet. Of these, 50 per cent killed were aged 17 to 29. Young people aged under 17 have the highest rate of non helmet usage among injuries.

## SUMMARY OF NSW CYCLING ROAD TRAUMA

- Male representation in casualties
- Fatalities at mid block locations
- Fatalities on roads with a speed limit above 60km/h
- Injuries at intersections and on lower speed roads
- Non-helmet wearing



# 2. BACKGROUND TO THE CYCLING SAFETY ACTION PLAN

---

## WHO IS CYCLING?

The 2013 National Cycling Participation Survey was undertaken by the Australian Bicycle Council as part of the National Cycling Strategy 2011-2016. In NSW, the survey sample consisted of 4,388 households containing 11,753 individuals.

The NSW respondents to this survey found that:

- 16 per cent of residents ride a bicycle in a typical week, equating to around 1.09 million residents riding a bicycle in a typical week.
- Rates of people cycling in Sydney have significantly increased since 2011 whereas cycling rates in regional NSW have decreased.
- More males ride (20 per cent) than females (12 per cent), and
- A higher proportion of children ride than adults.

More people are cycling across NSW, including a significant increase in popularity as a commuting mode. In metropolitan Sydney since 2006, there has been a 50 per cent rise in the number of people riding to work. More people are choosing to ride for trips less than 10 kilometres, with the mode share growing from 1.9 per cent to 2.5 per cent since 2010.

### AMY GILLETT FOUNDATION

The Amy Gillett Foundation has been established to reduce the incidence of deaths and injuries of bike riders. The foundation is an advocate for its community in a push for safer cycling across Australia with a focus on good infrastructure, promotion and education, planning, traffic calming, vehicle design and technology.

## WHAT THE RESEARCH IS TELLING US?

Research has found 'visibility' as a major contributor to bicycle rider crashes – either bicycle riders not being seen by the driver at all or in time, or vice versa, drivers not being seen by the bicycle rider at all or in time.

An Australian study reported notable differences in how bicycle riders and car drivers view the problem of visibility and the responsibility of visibility. Drivers were more likely to believe that bicycle riders are difficult to see on the road and that they should wear reflective or bright coloured clothing so that they are more visible. Whereas, bicycle riders were more likely than drivers to believe that drivers do not look out for them on the road.

It also identified that the differences in attitudes and perceptions between bicycle riders and drivers offer some insights into the potential influencers on both bicycle rider and driver behaviour. When bicycle riders and drivers 'collide', last minute reactions and frustration by drivers could be interpreted by the bicycle rider as unwarranted aggression and dangerous driving as the bicycle rider is unlikely to believe that the driver didn't see them earlier. In contrast, drivers may react aggressively because they believe that the bicycle rider was deliberately taking a risk, assuming they have been seen.



Additionally, a study to further explore perceptions of drivers and bicycle riders suggests, that “cyclist safety interventions should focus on building awareness among cyclists about the challenges faced by drivers, e.g. cyclist visibility”. This includes issues such as the distance at which bicycle riders are visible to drivers, riding in ‘blind-spots’ and not adhering to road (vehicle) traffic laws.

A NSW study with 770 bicycle riders identified a number of road rules which bicycle riders break and insights into why. These included riding on footpaths and intersection related issues such as running a red light or breaking early. Motivations behind these actions suggest maintaining safety is a factor, including the speed differential between vehicles and bicycle riders, behaviours of other road users and distance and visibility to other vehicles.

Further research undertaken by Transport for NSW in 2013 confirmed that safety is a major barrier to people cycling. The research found that around 45 per cent of the surveyed group are less confident riding in the road environment, but would be more likely to consider riding if they were more confident and gained increased riding skills. Issues identified for consideration include safe connectivity to infrastructure, the behaviour of other road users and a lack of understanding of the Road Rules.

Investigation of 6,745 bicycle rider casualties (fatalities and injuries) resulting from a crash with a vehicle in NSW over the period 2001 – 2009 found that bicycle riders not wearing a helmet were almost four times more likely to sustain a severe head injury. The study indicates that helmet usage was associated with reduced risk of head injury in bicycle collisions with motor vehicles by up to 74 per cent.

## SUMMARY OF THE RESEARCH

The research suggests that to improve the safety of people cycling, measures should include:

- Increased awareness and visibility of cyclists to drivers
- Greater road rules knowledge and compliance
- Improve on road interactions between drivers, cyclists and pedestrians.
- Infrastructure improvements
- Increased bicycle rider skills and confidence.

## SKILLS TRAINING

There are a range of cycling courses available for new or inexperienced riders to increase their confidence and riding safety. The City of Sydney Council offers courses for riders free of charge. Additionally, Austcycle has a range of programs available for the community at different experience levels, including children, with a range of providers available across NSW.

# 3. WHAT WE WILL DO TO INCREASE SAFETY FOR BICYCLE RIDERS

As indicated earlier, the number of people cycling over recent years has increased, particularly in Sydney with the development of major infrastructure improvements to allow for safer cycling across the city.

A key focus will include improved knowledge and compliance with road rules by bicycle riders such as not running red lights and wearing helmets. While the focus for motorists will be on passing bicycle riders safely through education and compliance. In 2013, the Amy Gillett Foundation in partnership with Transport for NSW commenced a safety awareness campaign in NSW focussed on the importance of drivers providing at least a metre space when passing a bicycle rider and for riders to stop on red.

A key safety message is to raise awareness of the need to leave appropriate space around bicycle riders on the road.

**A Metre Matters** - Transport for NSW will continue to promote the key message that drivers need to provide bicycle riders with a minimum of one metre space when overtaking or travelling near a bicycle rider.

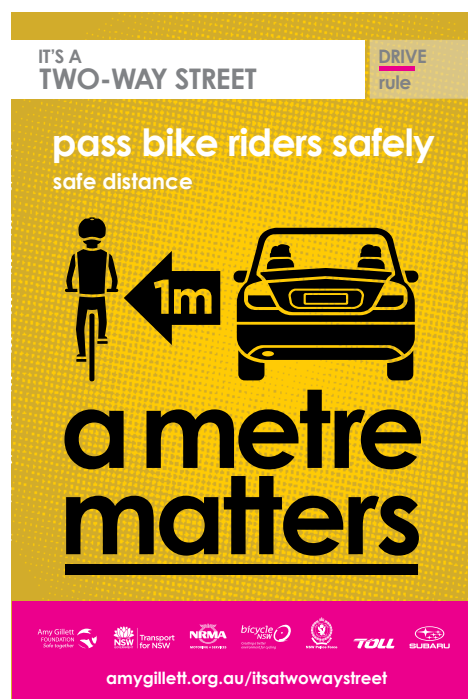
## SAFE SYSTEMS APPROACH

The NSW Government has adopted the internationally recognised and endorsed Safe Systems approach to road safety. This approach underpins the NSW Road Safety Strategy and the Cycling Safety Action Plan.

The approach takes a holistic view of the road transport system and interaction around the key components of road safety - the road user, road and roadside engineering and vehicles and addresses important factors such as speed, drugs and alcohol, distraction, fatigue and road rules compliance.

It recognises that human error will occur and therefore in the event of a crash, the outcomes should not be life threatening. The above interactions all play a vital role in ensuring a safe road transport system.

**THE VISION IS:  
TO MAKE CYCLING A SAFE AND  
POSITIVE ACTIVITY IN NSW**



Over the next three years, Transport for NSW will implement the NSW Cycling Safety Action Plan to address cycling safety and ensure a safe transition to increased participation, including:

#### **Safer People**

- Riding safely on the road
- Safely sharing the roads with other users
- Increased understanding and compliance with the Road Rules
- Address safety on shared paths
- Road safety education and communications
- Riding at safer speeds

#### **Safer Roads**

- Safety at intersections and mid block locations
- Shared path design
- Increase visibility on roads with 60km/h or higher speed limits, including motorways
- Safer speeds for cyclists
- Separated cycle ways

#### **Safer Vehicles**

- Increase visibility through safety features
- Bicycle maintenance
- Use of safety equipment while cycling especially accredited helmets.
- Address any standards for bicycles that improve safety.

## **ENGAGING WITH STAKEHOLDERS**

The success of any strategy is dependent on support from stakeholders and the community. Transport for NSW will work with key stakeholders such as Bicycle NSW, the Amy Gillett Foundation, and Cycling NSW on the development of policies and programs that will be accepted within the cycling community. At the same time, Transport for NSW will work with other road user groups to ensure broader acceptance across the wider community. The NSW Government will work with Local Councils to ensure the road environment where cycling occurs is designed and managed using a safer systems approach.



# 4. ACTION PLAN

## SAFER PEOPLE

To foster safer riding behaviour, a range of actions will be delivered to improve rider road skills and awareness, as well as increasing understanding of and compliance with road rules.

Riding Safely	
Action	Description
1	Work with bicycle user organisations to develop information for bicycle riders to increase their safety on the road, including road positioning, increased visibility (including reflective clothing) and helmet wearing.
2	Work with bicycle user organisations and training providers to promote road safety within cycling skills and confidence training courses with a particular focus on helmet wearing and compliant and safe cycling for young people.
3	Work with bicycle user organisations to develop and incorporate road safety into membership materials and at bicycle events to promote safe cycling behaviour.
4	Provide information on cycling routes, safety messaging, skills and confidence training courses to the community through a dedicated website.
5	Develop resources and information packs for the corporate sector on safe bicycle riding as part of workplace culture.
Sharing the Roads	
Action	Description
6	Continue working with the Amy Gillett Foundation on the implementation of the NSW Safe Communities awareness campaign.
7	Develop the NSW Safe Communities 'drive rules' and 'ride rules'.
8	Implement a NSW road user interaction campaign with communications around sharing the road with bicycle riders.
9	Undertake attitudinal research with drivers and bicycle riders around safe cycling attitudes.
Understanding Road Rules and compliance	
Action	Description
10	Improve understanding and awareness of the Road Rules in partnership with road safety stakeholders.
11	Review and enhance the NSW driver knowledge test questions relating to cycling interactions with drivers.
12	Review Police enforcement regimes to improve safe interactions between bicycle riders and drivers
13	Increase bicycle rider compliance with Road Rules through Police enforcement measures targeting high risk behaviours such as red light running and helmet use. Further investigate with stakeholders strategies to increase compliance through deterrence - such as higher penalties/demerit points/identification.
14	Continue the NSW school education program in addressing bicycle safety for school students.



### Review Road Rules applicable to bicycle riders

Action	Description
--------	-------------

- |    |  |
|----|--|
| 15 | Review bicycle related Road Rules to provide a submission on proposed rule changes to the Australian Road Rules Maintenance group for consideration to improve rider safety. |
|----|--|

## SAFER ROADS AND SPEEDS

Greater attention to better road environment design will help address key risks for bicycle riders including crashes on high speed roads and along mid block locations, and lead to safer rides and interactions with other road users.

### Increase the visibility of bicycle riders on the road network at mid block and intersection locations

Action	Description
--------	-------------

- |    |   |
|----|---|
| 16 | Investigate the moving of bicycle logos from parking zones to reduce potential conflicts.   |
| 17 | Create cycling friendly neighbourhoods through the identification of corridors with dedicated treatments such as lower speed roads and other low cost traffic calming measures. |
| 18 | Investigate the implementation of bicycle boxes at high bicycle trafficked locations.   |
| 19 | Undertake data analysis to identify bicycle crash clusters applying a safe systems approach across the road network to reduce risks for bicycle riders.                         |
| 20 | Work with local governments to provide clearer information and resources on safe cycling treatments, including case studies.  |

### Shared Path Design

Action	Description
--------	-------------

- |    |   |
|----|---|
| 21 | Continue research on shared paths and advisory speed signage.   |
| 22 | Review and revise shared path policy and guidelines following the outcomes of the research.           |
| 23 | Investigate treatments to improve transition from shared paths and cycleways.                         |
| 24 | Improve bicycle rider awareness of the need to slow down and give way to pedestrians on shared paths. |

### Increase safety for bicycle riders on high speed roads

Action	Description
--------	-------------

- |    |   |
|----|---|
| 25 | Improve signage across popular cycling routes and high speed roads to alert drivers of the likely presence of bicycle riders.   |
| 26 | Investigate treatments for at risk locations around off ramps and crossing points on motorways.   |
| 27 | Promote to bicycle riders the use of off road facilities to reduce the risk of conflict with other vehicles on high speed roads.                                      |
| 28 | Review current maintenance programs of cycle lanes on major roads to reduce crash risks.  |
| 29 | Review safety risks when riding on high speed roads to provide guidance to motorists and bicycle riders.  |
| 30 | Explore and implement emerging road safety technologies to increase awareness to drivers of bicycle riders, such as vehicle activated signage at high risk locations. |

## SAFER VEHICLES

The use of visibility devices will improve safety for bicycle riders, alerting drivers to their presence on the road network.

### Increase the uptake of bicycle safety features

Action	Description
31	Promote the sale and use of high visibility and safety devices, such as lights, reflectors and bicycle helmets through partnerships with bicycle shops.
32	Undertake research to determine safer lighting options – for example flashing versus steady lights.
33	Continue work around safety standards for power assisted pedal cycles.

## IMPLEMENTATION OF THE ACTION PLAN

Stakeholder engagement is key to the success of any plan. Transport for NSW will continue working with stakeholders around the implementation of the actions in this plan.

### Stakeholder Engagement

Action	Description
34	Hold regional cycling forums with stakeholders to provide two-way communication with the Government and the cycling community.
35	Roads and Maritime Services to work with local governments to include bicycle safety projects within the Local Government Road Safety Program and other programs.
36	Transport for NSW to work with the Motor Accidents Authority and Ministry of Health to analyse data to better understand different levels of road trauma affecting bicycle riders, including the riders with serious injuries admitted to hospitals that are not reported to Police.
37	Establish a working group to oversee the implementation of the cycling safety action plan.

# 5. SUMMARY

---

The NSW Cycling Safety Action Plan recommends a range of actions to be addressed over the next three years to improve bicycle riding safety. The implementation and monitoring of these actions will be coordinated by Transport for NSW's Centre for Road Safety.

The performance will be monitored along with the evaluation of effectiveness against the following measures:

- Reduced bicycle rider fatalities.
- Reduced bicycle rider serious injuries.
- Effectiveness of communications in changes to attitudes and behaviours.
- Road engineering treatments providing positive crash reductions.

This information is intended as a guide only and is subject to change at any time without notice.  
Image on front cover courtesy of the City of Sydney.  
Internal images courtesy of the Amy Gillett Foundation.

**Transport for NSW**

© State of NSW through Transport for NSW, May 2014.  
[transport.nsw.gov.au](http://transport.nsw.gov.au)

May 2014  
TfNSW/Pub 13.009  
ISBN 978-1-922030-42-9