
SAFECYCLE
A school based curriculum initiative by
Melba Copland Secondary School
through support from
The NRMA Road Safety Trust ACT
Melba Copland Secondary School
NRMA - ACT ROAD SAFETY TRUST

Introduction

For a child a bike is many things, a toy, a recreational tool, a serious piece of sporting equipment. For many students pushing boundaries of independence, a bike is also a tool for freedom. Prior to getting their car license, a bike provides access to transport independent of parents or buses.

Cycling is the forth most popular physical activity behind walking, aerobics and swimming. There has been 34% increase in cycling participations since 2001.[1] In the ACT 63.3% of children under 15 cycle.[2] The ACT's Sustainable Transport Plan has articulated many good reasons for promoting cycling. On-road cycle lanes and the development at Stromlo Forest Park are two high profile initiatives that support Canberra as a cycle friendly place. Canberra as a community is supporting and making it easier for people choosing to cycle. The number of students choosing to cycle to school is expected to continue to rise.

On Australian roads cyclists involved in land transport accidents account for around 2% of deaths, about 11% of serious injury and 17.8% of hospitalisation.[3][4] Cyclists only account for about 1.5% of land transport.[5] In each of the 5-year periods since 1990 males accounted for over 80% of cyclist deaths in road crashes. Males in the 10-19 and 70+ year age groups accounted for the highest percentages of cyclist deaths in these periods.[6] Most of these were due to the cyclist not obeying the road rules and/or failing to give way.[6] Education programs promoting cycling safety and protective behaviour have the potential to dramatically improve safety for young cyclists.

Safe Cycle is a school based curriculum initiative that was developed due to a recognised need to educate students in safe cycling techniques and defensive riding. Development of the Safe Cycle program was made possible through support from the NRMA ACT Road Safety Trust, ACT ETD and ACT Health. Safe Cycle has been developed to:

- suit resources commonly found in ACT schools,
- be taught through existing course frameworks and to include cross curriculum links to the National Curriculum,
- comply with ACT ETD mandatory procedures and risk management policies, and
- support teachers by providing ready to use teaching resources.

Safe cycle has been endorsed by Office of Regulatory Services, Justice and Community Safety Directorate as compliant with Australian and ACT road rules.
The program's goals are to:

- promote a culture of: risk awareness and protective behaviour for self and others,
- equip school students with skills to safely use; multi-user paths, on-road cycle ways and roads, and
- improve bike handling skills for identified high risk areas, intersections and entering traffic.

Safe Cycle program developer
Terry Eveston

[1] Department of Health and Ageing and Australian Sports Commission (2008): Participation in Exercise, Recreation and Sport, Annual Report 2008

[2] Australian Bureau of Statistics. (2009). Children's participation in cultural and leisure activities: April 2009. Australian Government, Canberra.

[3] Australian Transport Safety Bureau - Road Safety Report July 2006.

[4] Henley, G. & Harrison, J.E. (2009). Serious injury due to land transport accidents, Australia, 2006-2007. Injury Research and Statistics Series #53, Australian Institute of Health and Welfare, Canberra.

[5] Australian Bureau of Statistics ABS (2009): Environmental issues: Waste Management and Transport Use, Cat. no. 4602.0.55.002

[6] Australian Transport Safety Bureau. (2006). Deaths of cyclists due to road crashes

Sequence of Activities

Students from Melba-Copland Secondary School participating in trial practical riding skills session. Front left to right, program developer Terry Eveston, Head of PE MCSS Andrew Hiscocks and Raynie McNee from Cycle Education.

Activity 1, Introduction to Program and Quiz, Theory 1 hour

Focus:

- Class discussion about cycling
- Introduction to Safe Cycle program
- Introductory quiz
- Bike safety check (ABC TIGHT) and mandatory gear (preparation for Activity 2)

Required resource, found in the Activity 1 folder:

- Safe Cycle introductory quiz
- Safe Cycle introductory letter for parents

Task 1 Teacher Directed Class discussion ~5 minutes

Introduction notes:

Begin with a teacher directed discussion, who rides a bike and what type of riding do they do. (ABS data suggests 2/3 of all 7-15 year olds regularly ride a bike. You should get a mix of responses from students making up a class.

Ask the students:

1. Where do they ride
2. Who has been taught road rules
3. Who has successfully already completed a cycling education program
4. Who has had an accident or a near miss, ask student to recount story.
   (Recounting near-miss stories proved very popular, though cut it short in this activity and let the students know they will get a chance in a later part of the Safe Cycle program to tell more stories, Activity 7, Students' Stories and Local Hazards)

Safe Cycle overview, explain the program to the class~5-minutes.

Safe Cycle is a cyclist safety education program. The program aims to promote defensive riding skills, awareness to hazards high school age students are likely to be exposed to when cycling on cycle paths, multi-user paths, on road cycle ways and roads; and to develop skills to assist students to manage potential risks.

Task 2 Quiz ~30 minutes

Use the Introductory Quiz Safe Cycle in the Activity 1 folder.

Swap the quiz with a random student in the room and mark it as a group.

Teacher Directed Class Discussion, answer the quiz ~20 minutes

As each question is answered, give an explanation to the answer, refer to teacher copy of test with answers.

Some additional information to develop discussion when answering the quiz questions.

1997-2004 87% of road related cycling fatalities were caused by a collision between a bike and motor vehicle. 97.5% of drivers were totally uninjured in these accidents, with 0% fatality of driver.

The cyclist was at fault in over 2/3 of road related cycling fatalities in 5-17 year olds. Most of these were due to the cyclist not obeying the road rules and/or failing to give way.

The majority of bike and car collision were due to the driver simply not seeing the cyclist. It is important to do what you can to be seen. Don't ever assume because you can see a car the driver can see you. (Activity 5 Be Seen, Be Safe, has more detail about this.)

Helmets are a compulsory item during practical skill sessions.

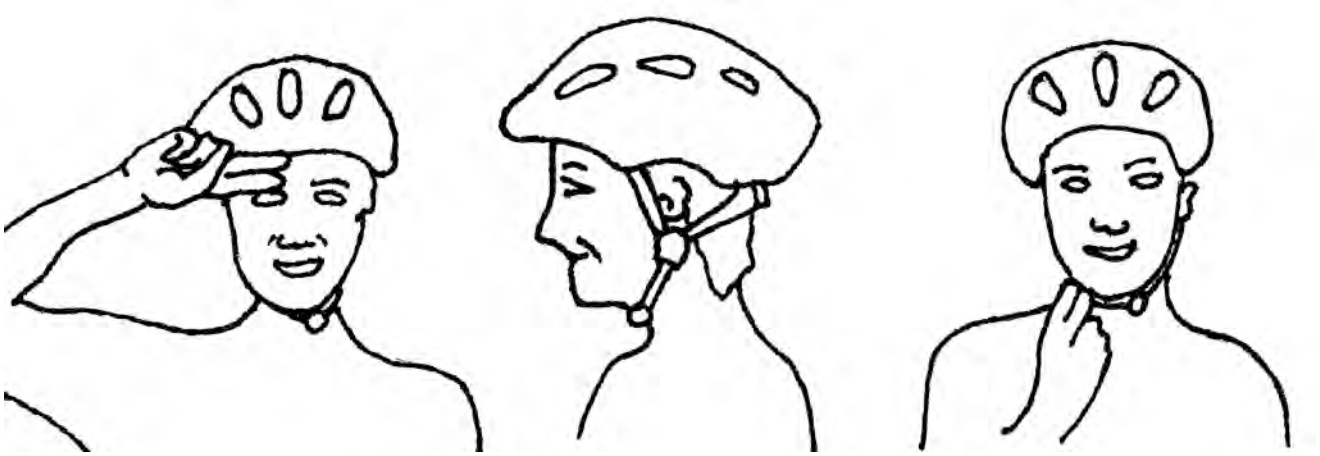
It is a requirement in the ACT that when you are riding a bike you wear a cycling helmet. All students participating in the practical cycling sessions are required to wear cycling helmets with the Australian Standards logo sticker inside the helmet (AS/NZS 2063).

Even falling off a stationary bike your head will accelerate towards the ground at 9.80665 m/s^2 or 35.30394 (km/h)/s, which is fast enough to attain a serious head injury.

Australian Curriculum, Science year 7 Physical Sciences Earth's gravity pulls objects towards the centre of the earth (ACSSU 118). When falling from the same height will a falling object move towards the ground as quickly as the same object moving fast? Resource, MythBusters bullet fired versus dropped video.

You-tube is full of informative and gruesome 'why you should wear a helmet' videos. Two amusing helmet awareness videos are in the teaching resources 'Helmet' folder.

How to fit a helmet



- A helmet needs to be secure, but not uncomfortable.
- Push a helmet gently with the palm of your hand side-to-side and back to front, if it rocks easily it is likely too big.
- The rim should sit about two finger widths above your eyebrow.
- Helmet sits flat on head, not tilted back.
- The straps should not be twisted and should form a V just under the ears
- The strap should fasten securely under the chin and not hang loose, snugly fit two fingers under strap.

Safe Cycle Introductory Quiz

	Your name _____
1	In the ACT when are you allowed to ride a bike on a footpath? A. up until you are 5 years old B. up until you are 12 years of age C. up until you are 18 (no longer a minor) D. At any age
2	In the ACT when riding a bike you are required by law to wear a helmet when you are riding on A. a footpath or cycle way B. an on road cycle lane C. a road D. all of the above
3	True or false: When riding a bike on the road you are expected to obey all the road rules. True False
4	If you are riding between sunset and sunrise your bike must have which of the following, *circle as many as you think are required by law in the ACT:* A. Front light showing an unbroken or flashing white beam that is clearly visible from 200 metres B. Rear light showing an unbroken or flashing red beam that is clearly visible from 200 metres C. Red reflector visible from the rear of the bike D. Yellow reflectors fitted to both sides of each pedals
5	True or false: In the majority of collisions between a bike and car, the car runs up the back of the bike because the driver simply didn't see the bike. True False
6	True or false: All paths (including cycle paths) in Canberra are considered shared paths and can be used by a variety of users including cyclists and pedestrians. True False
7	True or false: In the ACT when riding a bike you are required by law to dismount your bike and to walk across a children's school crossing and pedestrian crossing True False

8	True or false: If you are in the left lane, including a bicycle lane, give way to all buses that are indicating and trying to rejoin the traffic stream. True False
9	True or false: When riding on the road as a road user, cyclists must obey traffic lights and other road signs. True False
10	True or false: In the ACT a bike must be fitted with a sound warning device such as a bell or horn. True False
11	From 1997-2004, which percentage of road related cycling fatalities was caused by a collision between a bike and motor vehicle? A. 87% B. 72% C. 54% D. 30% (97.5% of drivers involved in these collisions were not even slightly injured)
12	True or false: More than two-thirds of the deaths of cyclists aged 5–17 years were the result of the cyclist failing to give way to oncoming traffic and about half of these cases occurred at intersections. True False
13	True or false: The majority of collisions between bikes and motor vehicles occur in urban areas, during weekdays between the hours of 3 and 6pm. True False
14	True or false In the ACT it is against the law to carry more passengers than the bike is designed to carry (giving someone a dink). True False
15	True or false In the ACT by law you may only cross at an intersection with traffic lights when you have a green light. True False
16	True or false From 1997 to 2004, cyclists were responsible for 60% of collisions between bikes and cars resulting in the death of a cyclist (themselves). True False

Teacher's Copy Safe Cycle Introductory Quiz

1	In the ACT when are you allowed to ride a bike on a footpath? A. up until you are 5 years old B. up until you are 12 years of age C. up until you are 18 (no longer a minor) D. At any age In the ACT most footpaths and cycle ways are designated multi-user paths.
2	In the ACT when riding a bike you are required by law to wear a helmet when you are riding on A. a footpath or cycle way B. an on road cycle lane C. a road D. all of the above Whilst the benefits of wearing a helmet in a collision that results in death or severe brain injury are debatable, the clear benefits of wearing a helmet in a minor collision is in reducing severity of head injury and speeding up recovery time. Head impact of 10km/hour can result in death.
3	True or false: When riding a bike on the road you are expected to obey all the road rules? True False
4	If you are riding between sunset and sunrise your bike must have which of the following, *circle as many as you think are required by law in the ACT:* A. Front light showing an unbroken or flashing white beam that is clearly visible from 200 metres B. Rear light showing an unbroken or flashing red beam that is clearly visible from 200 metres C. Red reflector visible from the rear of the bike D. Yellow reflectors fitted to both sides of each pedal and orange reflectors on wheels *D. Whilst not compulsory is highly recommended when riding in low light conditions.*
5	True or false: In the majority of collisions between a bike and car the car runs up the back of the bike because the driver simply didn't see the bike. True False
6	True or false: All paths (including cycle paths) in Canberra are considered shared paths and can be used by a variety of users including cyclists and pedestrians. True False
7	True or false: In the ACT when riding a bike you are required by law to dismount your bike and to walk across a children's school crossing and pedestrian crossing True False When riding at speed across a crossing a driver will have a much lower chance of seeing a cyclist and stopping. At the very least stop your bike and wait for traffic to stop also before crossing.
8	True or false: If you are in the left lane, including a bicycle lane, give way to all buses that are indicating and trying to rejoin the traffic stream. True False

9	True or false: When riding on the road as a road user, cyclists must obey traffic lights and other road signs. True False
10	True or false: In the ACT a bike must be fitted with a sound warning device such as a bell or horn. True False
11	From 1997-2004, which percentage of road related cycling fatalities was caused by a collision between a bike and motor vehicle? E. 87% F. 72% G. 54% H. 30% (97.5% of drivers involved in these collisions were not even slightly injured, even if the cyclist is in the right, they will most likely come off second best in a collision with a car.)
12	True or false: More than two-thirds of the deaths of cyclists aged 5–17 years were the result of the cyclist failing to give way to oncoming traffic and about half of these cases occurred at intersections. True False *The three most common collisions 1; hit from rear whilst riding on the road in same direction as traffic, 2; whilst passing through an intersection, 3; leaving a path and entering or crossing a road.*
13	True or false: The majority of collisions between bikes and motor vehicles occur in urban areas, during weekdays between the hours of 3 and 6pm. True False This is the time whilst a student is riding home from school or after school activity.
14	True or false In the ACT it is against the law to carry more passengers than the bike is designed to carry (giving someone a dink). True False
15	True or false In the ACT by law you may only cross at an intersection with traffic lights when you have a green light. True False
16	True or false From 1997 to 2004, cyclists were responsible for 60% of collisions between bikes and cars resulting in the death of a cyclist (themselves). True False *(Australian Transport Safety Bureau-Road Safety Report July 2006).*

Much of the information for this test was attained from the Department of Territory and Municipal Services. The following web site may provide additional information:

http://www.tams.act.gov.au/move/cycling

Extension Activity, Literacy

GLOSSARY:

Key words and concepts

In the left hand column is a list of words or terms used by the Safe Cycle program. In the next column write in a definition of what you think that word means. Now check your definition with a dictionary and write the correct meaning in the last column. You could paste this into your workbooks for your reference.

Word	My definition	Dictionary definition
Hazard		
Risk		
Cycling helmet		
Cycle path		
Multi-user path		
On road cycle way		
Looked but didn't see		
Risk management		
Protective behaviour		

Teacher's table with definitions included

Word	My definition	Dictionary definition
Hazard		The source of harm *Activity 3, Hazard Awareness and Risk Management*
Risk		The potential for harm *Activity 3, Hazard Awareness and Risk Management*
Cycling helmet		A head protective device designed specifically for use whilst cycling. Meets the Australian Standards for cycling helmets (AS/NZS 2063). *PP 5, fitting a helmet*
Cycle path		A pathway specifically designated for cycling, usually black bitumen with a dotted white line down the centre. In the ACT most paths are multi-user and can be used by other than cyclists
Multi-user path		The various pedestrian paths in the ACT, usually white concrete. In the ACT most paths are multi-user and can be used by cyclists of any age. There are some sign posted designated areas where cycling is prohibited.
On road cycle way		A lane on road ways that is designated for cyclists.
Looked but didn't see		The act of looking at something but not registering its presence. *Activity 4, Be Safe Be Seen*
Risk management		The ability to recognise hazards and through actions minimise the impact upon self and others. *Activity 3, Hazard Awareness and Risk Management*
Protective behaviour		Behaviour which considers and responds to risk so as not to increase the potential for harm to self or others. *Activity 7, Student Stories and Local Hazards*

Activity 2 Riding Skills Part 1, Practical 1 hour

Focus:

- Risk management bike safety check and rider evaluation*. If you are intending to complete an observed ride beyond the school use the riding skills sessions to identify un-roadworthy bikes or students at risk.*
- Basic skills for riding on the road

Required resource:

- ABC TIGHT bike safety check list
- Bitumen/concrete area (basketball/netball courts)
- Witches' hats or marker cones (about 50)
- Chalk for drawing on bitumen
- Older peer mentors to help check bikes and lead groups through the skill sessions.

An older peer mentor is highly recommended, in the trial program we found having 1 mentor to no more than 8 students was a big help

Task 1 ABC TIGHT Bike Safety Check ~10 minutes

Arrange students in a semi-circle in front of instructor for the ABC Tight check.

A: Air in tyres, tyres are in good condition.

B: Brakes Bikes are required to have at least a working rear brake or they are not road worthy. It is better to have front and back brakes.

C: Chain is oiled, check the drive train, including derailleur if applicable.

TIGHT; Check handlebars, headset are tight and handlebars are straight. Check wheels and cranks do not move from side to side.

If a student's bike doesn't pass the safety check or they don't have a helmet don't let them ride. Students can share a bike and helmet and take it in turn completing each practical activity.

Mandatory Equipment

☐ 1: An Australian approved cycling helmet

Australian standard (AS/NZS 2063) sticker should be on the inside of the helmet.

☐ 2: Bike that passes the ABC Tight test

☐ 3: Fully covered footwear (no thongs, sandals).

If a student does not have access to the mandatory equipment they cannot ride. The same mandatory equipment may be shared, though this is not recommended.

Recommended but not mandatory

Drink bottle or access to water
Sun screen
Cycling gloves
Sun glasses

Hint: Arrange students in a semicircle in front of instructor as this checklist is completed. Watch the students and bikes for any problems. Ask the students if they notice anything wrong with their bike. Use the peer mentors to help ensure the safety check is being completed by each student. In addition to being part of the instructors risk management (to ensure all bikes are road-worthy), this check is also to help students get to know their bikes and basic maintenance.

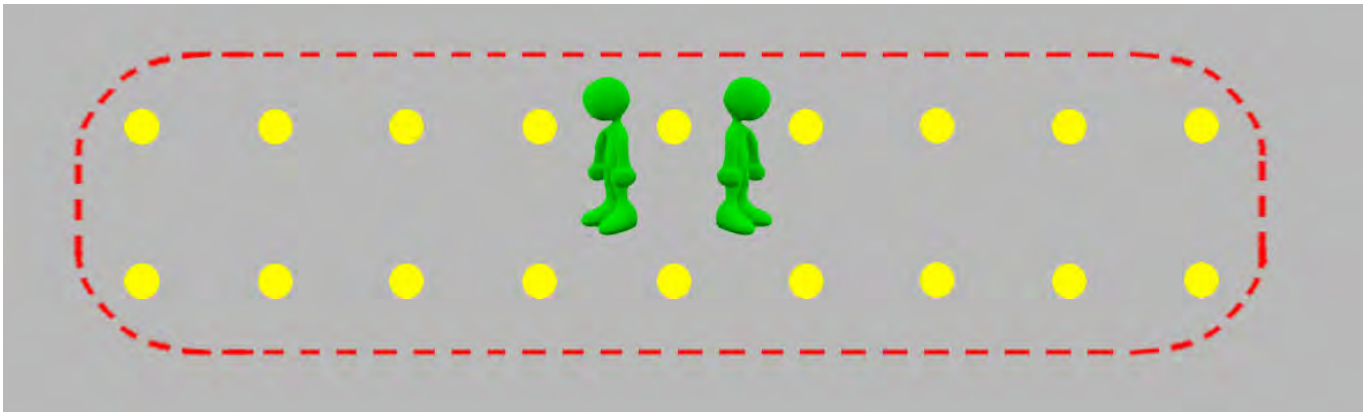
This check list can be extended to include basic bike maintenance. How to:

1. *re-engage a chain that has come off;*
2. *change a worn tyre;*
3. *change a flat tube;*
4. *repair a flat tube with a puncture kit;*
5. *lube a dry chain.*

More advanced bike maintenance (brake and gear adjustment etc) is at your discretion though perhaps better left to a bike shop and qualified bike mechanic.

Skills Session 1 Looking Back ~10 minutes

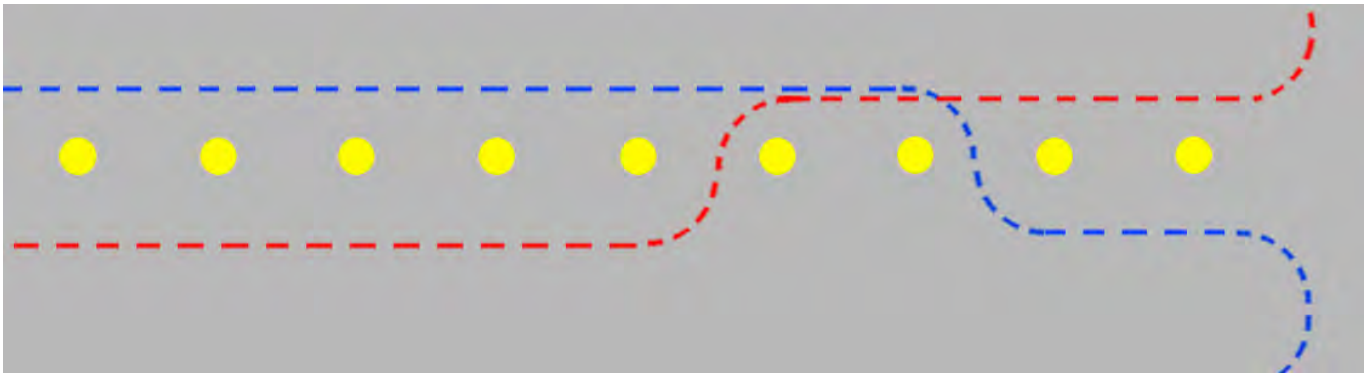
Focus: to build students' confidence in looking back to check for danger whilst riding forward.
Set up witches' hats in a rectangle of 20m long by 1m wide. Instructor or peer mentor to stand in middle of rectangle.



Students are to slowly circle the rectangle after they pass (2-5m) the instructor/peer mentor in the middle they are to look back and make eye contact.
After 4 loops switch direction so students have to look back over the other shoulder.
At end of activity talk about looking back before changing lanes (on a road or over taking on a cycle-path), turning right from an on-road bike lane and leaving a path to enter a road.

Skill Session 2 Rear Head Check and Lane Change ~10 minutes

Focus: to build students' confidence in riding and performing hand signals.
Set up 9 witches' hats in a single line about 2m apart.

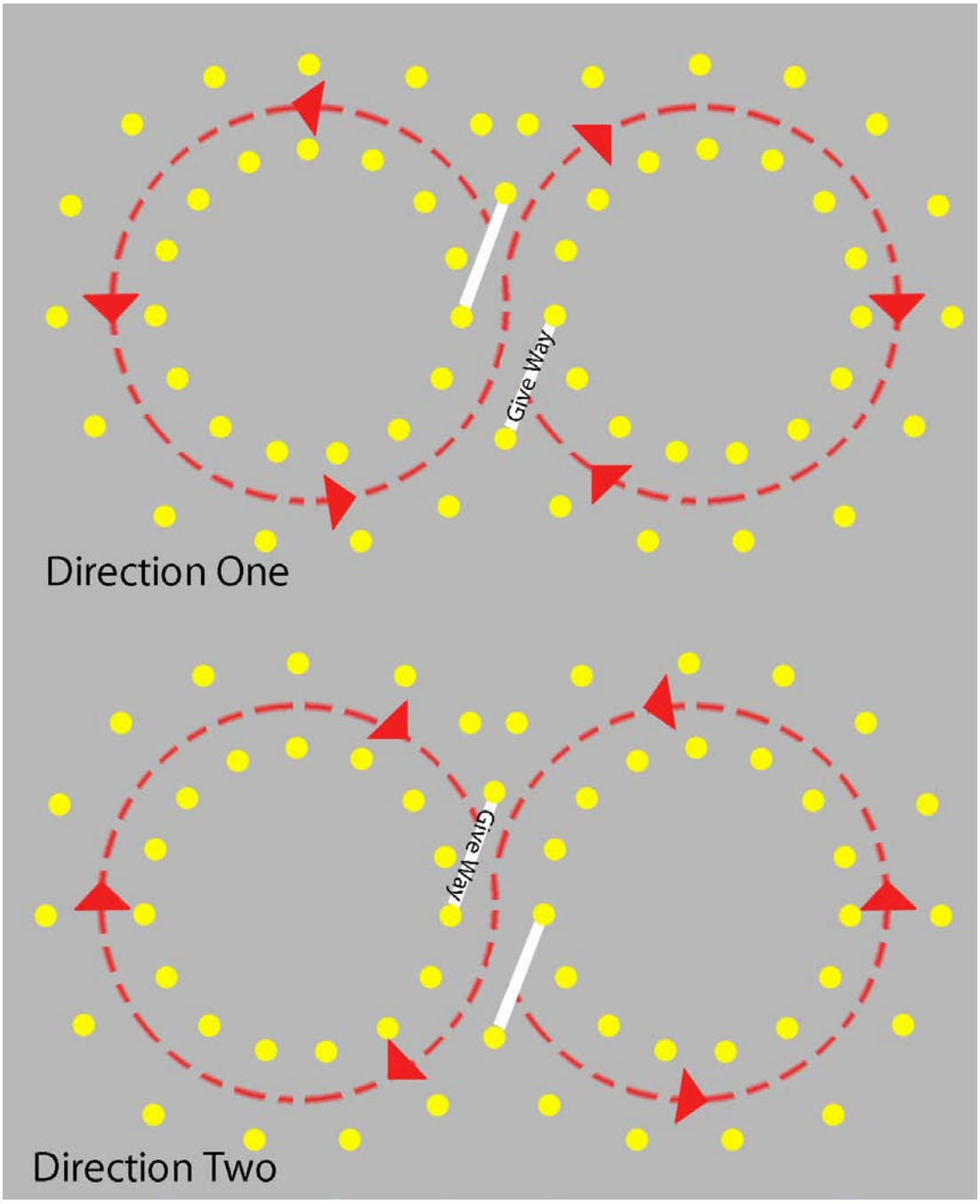


Students to ride up one side of the witches' hats, at some point before they reach the end, perform a rear head check by looking back, when safe hand signal and change lanes. Upon reaching the end of the line riders do to the left hand signal and peel left, right hand side riders hand signal right and peel right, both repeat loop.

At end of activity introduce students to stop hand signal.

Skills Session 3 Spatial Awareness ~10 minutes

Focus: to build students' skills in being spatially aware whilst riding and practice giving way to traffic with right of way.
Set up witches' hats in a large figure eight.



Students are to ride around the figure eight in a continuous line and to give way to other riders when they come to the intersection in middle. Use chalk to draw a line across the lane which is to give way. Students are to loop around in one direction several times, then change direction. You may introduce the 'stop' hand signal during this activity.

Activity End
Teacher directed discussion:
Why do we need to perform hand signals?
Why do we need to be able to look back whilst riding forward?
Why do we need to be spatially aware when riding?

Encourage students to continue practicing these skills whenever they are riding.

A B C TIGHT Bike Safety Check List

Complete this checklist prior to any practical riding session.

- ☐ **A**: Air in tyres, tyres are in good condition
- ☐ **B**: Brakes, Bikes are required to have at least a working rear brake or they are not road worthy. It is better to have front and back brakes.
- ☐ **C**: Chain is oiled, drive train spins freely and derailleur if applicable.
- ☐ **TIGHT**: Check handlebars: headset are tight and handlebars are straight. Check wheels and cranks do not move from side to side.

If a bike does not pass this checklist it is unsafe to ride. Bikes can be hired through the service providers. Bikes may be used by more than 1 rider, though this is not recommended as it reduces the number of active students.

Mandatory Equipment

- ☐ 1: An Australian approved cycling helmet (Australian standard sticker should be on the inside of the helmet.)
- ☐ 2: Bike that passes the ABC TIGHT test
- ☐ 3: Fully covered footwear (no thongs, sandals.)

If a student does not have access to the mandatory equipment they cannot ride. The same mandatory equipment may be shared, though this is not recommended.

Recommended but not mandatory

Dependent on location and duration of activity and weather

Drink bottle or access to water

Sun screen

Cycling gloves

Sunglasses

Activity 3 Hazard Awareness Risk Management, Theory 1 hour

Focus:

- Hazard awareness
- Risk management
- Safety for self and others decision making
- Identify times when students have been at risk whilst riding or in a car
- Identify risk taking behaviour, minimise danger to self and others

Required resources:

- Projector/computer
- Risk Awareness PowerPoint in the teaching resources folder 'Activity 3 Risk Management' folder

Task 1: Teacher Directed 30-40 minutes

Introduce students to the key terms and concepts, see PowerPoint 'Risk Awareness' (Key terms and concepts are from the Outdoor Education curriculum).

Use the hazard examples in this PowerPoint to Identify hazards, who is at risk- self,/other or both and strategies for risk management. Promote a class discussion for students to identify the hazard and offer strategies prior to showing them the answer slide.

Task 2: Teacher led class discussion 20 minutes

Promote a class discussion: who has had a near miss or an experience with a hazard while riding their bike? Discuss what contributed to the situation being dangerous and how they could have done things differently to reduce the risk.

Telling stories about near misses proved very popular and it was hard to stop students at the end of the lesson. Students will get another opportunity to tell their war stories in Activity 7, Student Stories and Local Hazards.

Melba Copland Secondary School, practical skill session

Risk Awareness PowerPoint

Risk Awareness

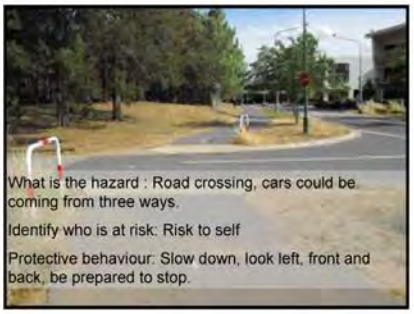
1. **Hazard** = the source of harm
2. **Risk** = the potential for harm
3. **Protective behaviour** = actions you can take to reduce the risk to you and or other

1. Identify the hazard:
2. Identify who is at risk: to self or to other
3. Identify protective behaviour


What is the hazard :
Who is at risk:
Protective behaviour:


What is the hazard : Pedestrians blocking cycle path.
Who is at risk: Risk to self and other
Protective behaviour: Slow down, ring bell, let them know you are passing


What is the hazard :
Identify who is at risk:
Protective behaviour:


What is the hazard : Road crossing, cars could be coming from three ways.
Identify who is at risk: Risk to self
Protective behaviour: Slow down, look left, front and back, be prepared to stop.


What is the hazard:
Who is at risk:
Protective behaviour:


What is the hazard: blind corner
Who is at risk: Risk to self and other
Protective behaviour: Slow down/keep left


What is the hazard :
Who is at risk:
Protective behaviour:


What is the hazard : Obscured entry to cycle path
Who is at risk: Risk to self and other
Protective behaviour: Slow down/keep left


What is the hazard :
Who is at risk:
Protective behaviour:


What is the hazard : Obscured entry to cycle path
Who is at risk: Risk to self or other
Protective behaviour: Slow down/keep left


What is the hazard
Who is at risk:
Protective behaviour:


What is the hazard : Parked car, driver in car, may pull out or open door
Who is at risk: Risk to self
Protective behaviour: Be alert, be prepared to stop, check for traffic coming up behind


What is the hazard:
Who is at risk:
Protective behaviour:


What is the hazard: No cycle path, footpath obstructed by construction fence, riding on road
Who is at risk: Risk to self
Protective behaviour: be aware of traffic, don't drift too far right. Wait for light to turn green


What is the hazard:
Who is at risk:
Protective behaviour:


What is the hazard: Cars parked left of cycle lane, watch for cars entering or leaving parking spaces.
Who is at risk: Risk to self
Protective behaviour: Be alert, be prepared to stop. Check for traffic coming up behind.


What is the Hazard:
Who is at risk:
Protective behaviour:


What is the Hazard: Road crossing and blind corner
Who is at risk: Self
Protective behaviour: Be alert, be prepared to stop. Check for traffic from the right, left and turning traffic from in front.


What is the hazard:
Who is at risk:
Protective behaviour:


What is the hazard: Left turn through cycle lane
Who is at risk: Risk to self
Protective behaviour: Be alert, be prepared for evasive action, check for traffic from the behind.


What is the hazard:
Who is at risk:
Protective behaviour:

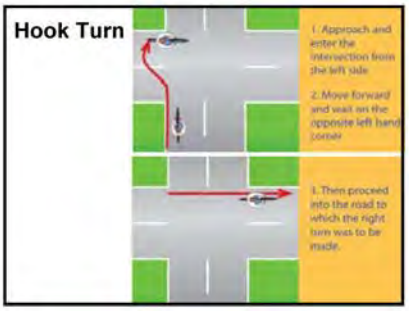

What is the hazard: Barrier on path
Who is at risk: Risk to self
Protective behaviour: Slow down, look for reasons why the barrier is there

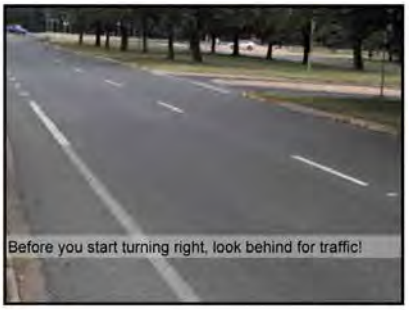

What is the hazard:
Who is at risk:
Protective behaviour:

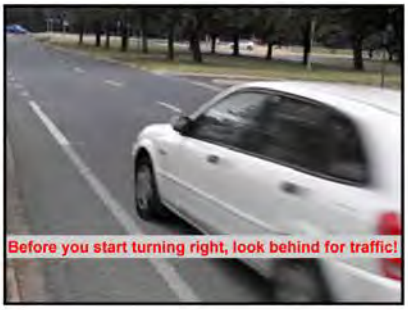

What is the hazard: Road crossing, cars coming from right obscured
Who is at risk: Self
Protective behaviour: Slow down, be prepared to stop, check for traffic, right and turning traffic from front and behind


Making a right turn at an intersection
What is the hazard:
Who is at risk:
Protective behaviour:


Making a right turn at an intersection
What is the hazard: Traffic
Who is at risk: Self
Protective behaviour: Hook turn







Risk Awareness

1. Always ride in control
2. Be aware of other path/road users
3. Also look behind for danger
4. Plan the safest way to get where you are going
5. Keep yourself and others safe

Extension Activity The Australian Curriculum English

Bundling (Insinc Booklet 4 Writing in Context)

ELA 1 The student uses a range of strategies to think and learn

ELA 10 The student writes effectively

WHY?	HOW?
• Assists students with paragraph construction • Encourages meaningful dialogue • Promotes co-operative learning • Develops sequencing skills • Consolidates understanding of topic sentences; sentence construction; connecting words	• Students work in groups of 3 or 4 • Give each student a small piece of paper – they do not show their work to each other at this stage • Student are to write one sentence on each sheet of paper on a given topic • The sentences do not have to flow • Students then spread out their sheets on the table and link or 'bundle' similar ideas • They then work out a topic sentence and use the ideas to write a paragraph.

Vocabulary

Hazards:	the source of harm
Risk:	the potential for harm
Protective behaviour	Behaviour that considers and responds to risk so as not to increase the potential for harm to self or others.

Topic

Life is full of hazards, some of which are very minor and others which could have very serious consequences. Why is it important to be aware of hazards when you are riding your bike?

Activity 4 Be Safe Be Seen and Basic Road Rules, Theory 1 hour

This activity could be separated into two activities to allow more in-depth discussions.

Focus:

- Cyclist safety whilst riding on the road.
- How and why to make yourself seen by drivers and behave as expected.

The two most frequent types of collisions between a vehicle and cyclist causing the death of the cyclist are:

1: 2/3 of all crashes caused by the cyclist not obeying the road rules:

2: 1/3 of all crashes, cyclist struck from behind, vehicle and bike travelling in the same lane in the same direction, driver failed to see the cyclist.

Background information to assist delivery of lesson.

Statistics from ATSB ROAD SAFETY REPORT July 2006 Deaths of cyclists due to road crashes.

- The majority of bike and car collision were due to the driver simply not seeing the cyclist. It is important to do what you can to be seen. Don't ever assume because you can see a car the driver can see you. (Lesson 3 Be Seen, Be Safe, has more detail about this.)
- The cyclist was at fault in over 2/3 of road related cycling fatalities in 5-17 year olds. Most of these were due to the cyclist not obeying the road rules and failing to give way. Mostly at intersections, or the cyclist entering a road from a path.
- In the ACT from 2001-06 there has been a 40% increase in serious injuries to cyclists due to road accidents.

Required resources:

- Computer and projector to display perception videos:
- Perception PowerPoint in the teaching resources folder 'Activity 4 Be Safe Be Seen' folder:
- Intersection Game PowerPoint in the teaching resources folder 'Activity 4 Be Safe Be Seen' folder. At the time of writing this PowerPoint was being developed as a free down-load I-pad app. Search for it on the Australian I-pad app store under Safe Cycle Intersection Game.

Task 1 Teacher Directed Class discussion with PowerPoint, 20~40minutes

The objective is to demonstrate how easy it is to not see things. Class discussion on why you can't expect a driver to see you and keep you safe whilst riding on a road (this also includes on-road cycle lanes). Present the 'Perception' PowerPoint. This PowerPoint has optical illusions and perception games.

Extension to this activity: there are more illusions and videos in the resource folder

Task 2 Teacher Directed Class discussion with PowerPoint, 20~40minutes

Intersection Game PowerPoint in Activity 4 Be Safe Be Seen Folder.

The objective is to develop the students' understanding of traffic flow and how to ride in a manner to best be seen and safe. PowerPoint presents basic road rules and different scenarios to negotiate traffic.

Points to discuss with students:

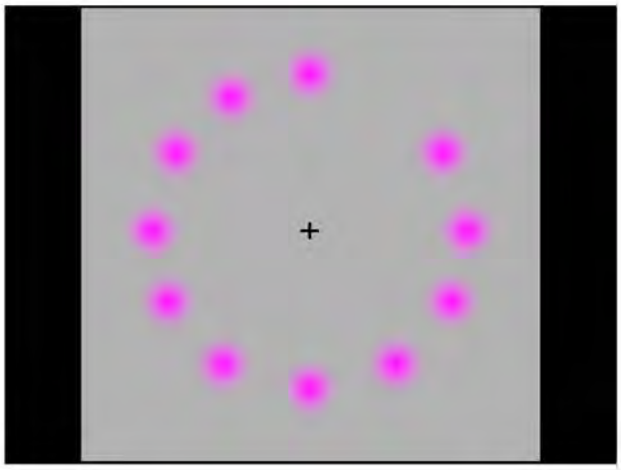
1. There is too much happening around us to see and be aware of everything. Our eyes and brain filter out what it thinks is not important.
2. Drivers are conditioned by the way our roads are designed to expect dangers to come from the right. Most cyclists are to the left of cars.
3. Cyclists have a better chance of being seen if they are obeying the road rules and riding in a manner that is expected by drivers.
4. Never assume that if you can see a car the car's driver can see you.

Extension to this activity: print the blank intersections from Intersection Game folder and use toy cars to role play different traffic conditions

In this optical illusion, if you follow the movement of the rotating pink dot with your eyes, the dots will remain only one colour, pink.

However, if you stare at the black + in the center, the moving dot will turn green.

Keep concentrating on the black + in the center of the picture. After a short period, all the pink dots will slowly disappear and you will only see a single green dot moving in a circle



What's wrong with his face?

Are these the same photo?

Be Seen Be Safe

The majority of bike and car collisions were due to the driver simply not seeing the cyclist.

It is important to do what you can to be seen.

Don't ever assume because you can see a car the driver can see you.

Busy streets, you might not be seen in the crowd

Drivers can be distracted by street signs

On a bike you can be hard to see

On a bike you can be hard to see

Wear high visibility clothing at night

You Can't Trust Your Eyes

Do the Test video in Activity 4 Be Safe Be Seen - Perception Videos folder

'Conditioned Perception' Drivers are conditioned not to see cyclists

You can't be aware of everything in you see.
The brain prioritises what it thinks is important and ignores what it think is not important.

Looked, but didn't see. When you look at something but don't see it.

Danger awareness. Cyclist are very low down on driver's awareness.

Keep Yourself Safe

The cyclist was at fault in over 2/3 of road related cycling fatalities in 5-17 year olds.

Most of these were due to the cyclist not obeying the road rules and failing to give way. Mostly at intersections, or the cyclist entering a road from a path.

Don't ride in an unexpected way.

Obey the Road Rules and you will be safer

Intersection Game PowerPoint

Who has right of way?

In the following examples consider who needs to go first before the next person can continue. Select in order first to last when you think each person should go.

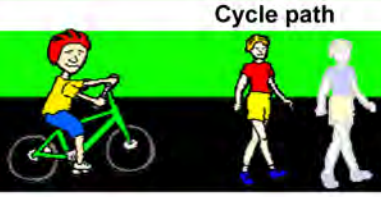
Click on the person, bike or car.

If you are wrong you will crash and need to try the level again.

Cycle path

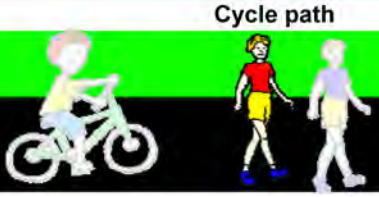
Everyone is going in the same direction, cyclist wants to pass the pedestrians. Who needs to move first before the bike can pass?

Cycle path



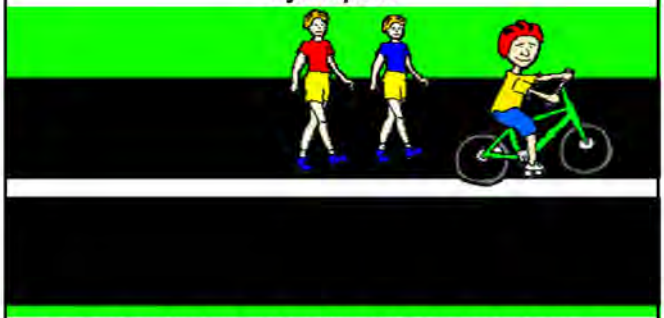
Correct, now who is next?

Cycle path



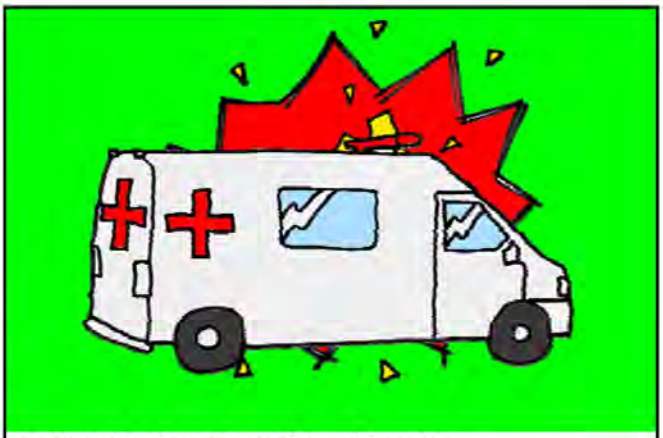
Correct, now who is next?

Cycle path



Correct, ring your bell and wait until the path is clear before passing pedestrians. Keep left unless passing. Watch for on-coming traffic before passing. APR 250(2)

Level passed - Next



You crashed, that person doesn't go yet, try again!

Cycle path

Cyclist on in the blue top wants to pass the pedestrian. Who needs to move first to allow the cyclist in blue to pass the pedestrian?

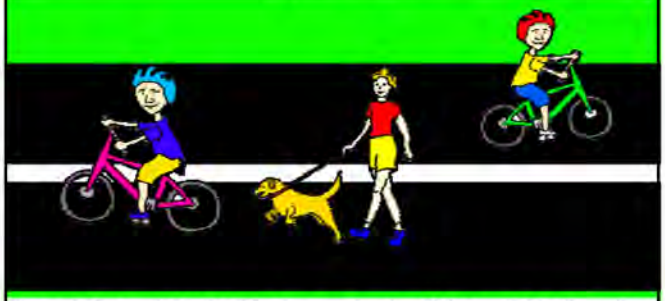
Cycle path

Correct, who goes next?

Cycle path

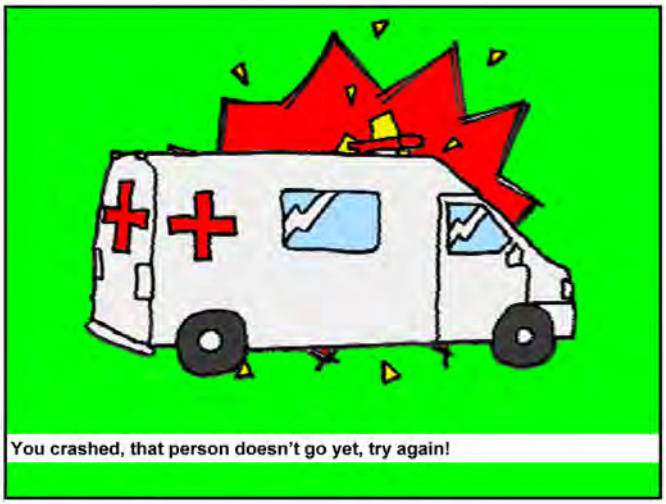
Correct, who goes next?

Cycle path

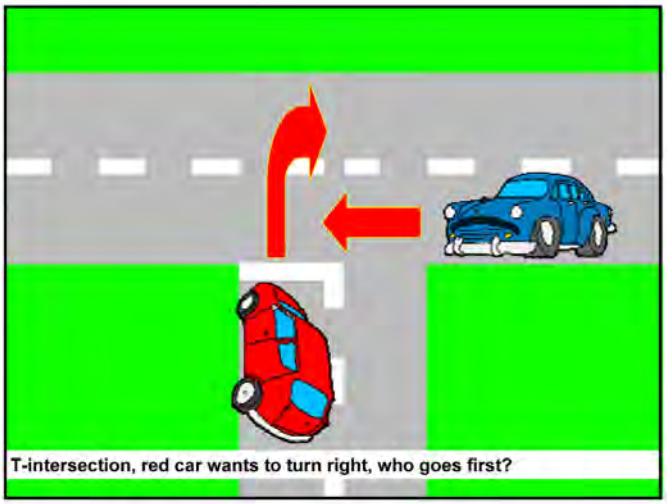


Correct, The cyclist in the blue top must wait until the cyclist in the yellow top has passed and the path is clear. Ring your bell before you pass pedestrian.

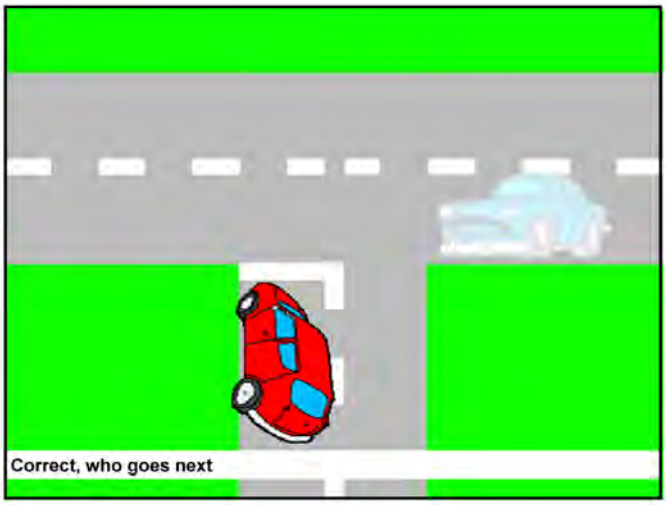
Level Passed - Next



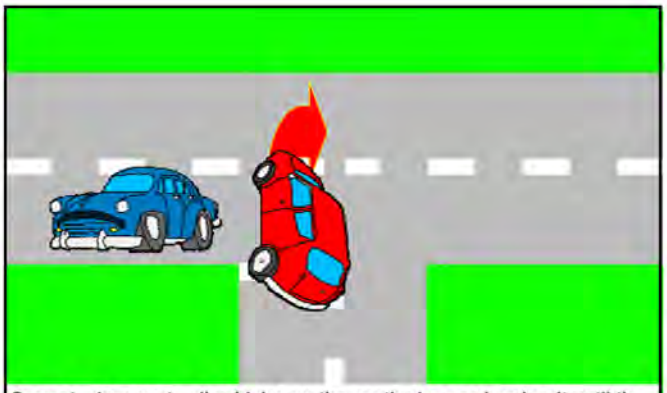
You crashed, that person doesn't go yet, try again!



T-intersection, red car wants to turn right, who goes first?

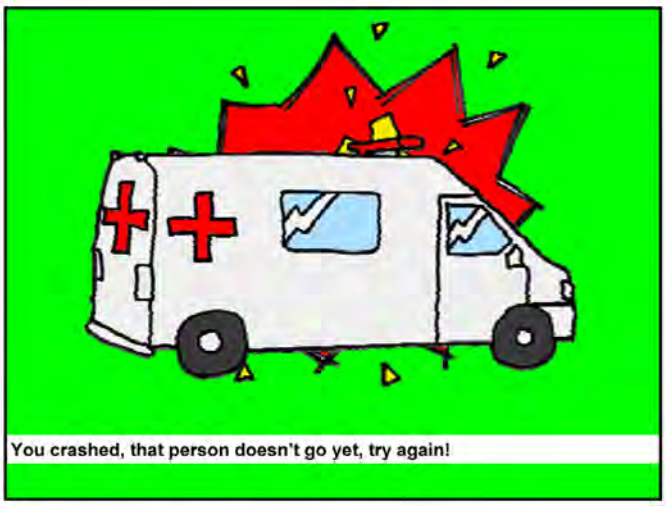


Correct, who goes next

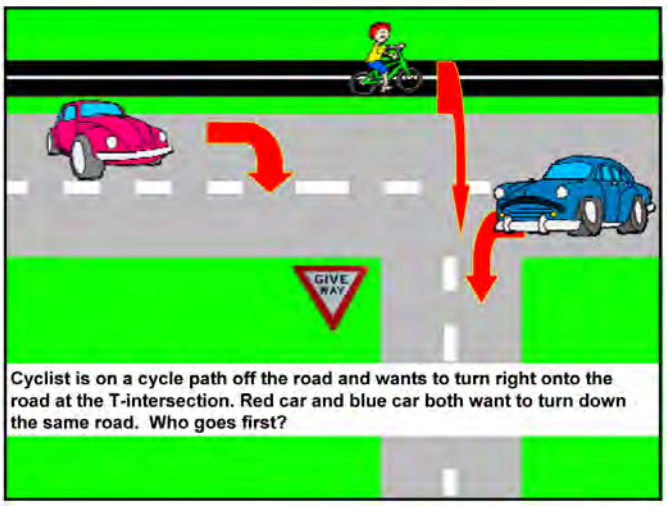


Correct, give way to all vehicles on the continuing road and wait until the road is clear. APR 73(2)

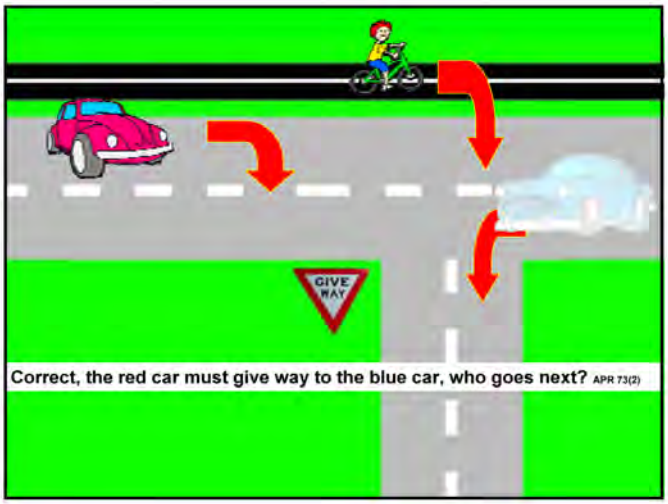
Level passed - Next



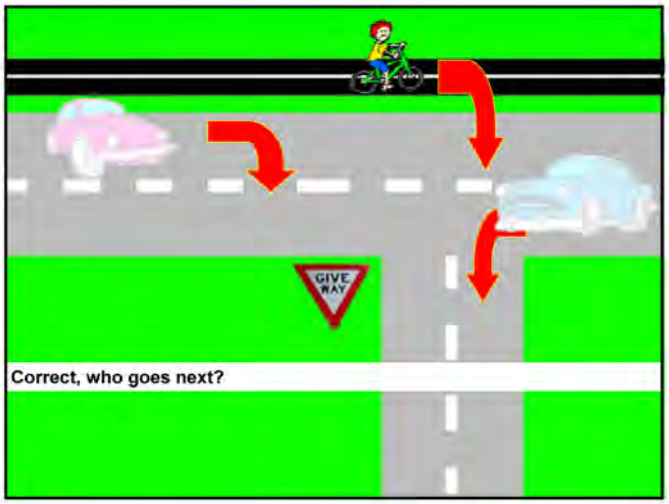
You crashed, that person doesn't go yet, try again!



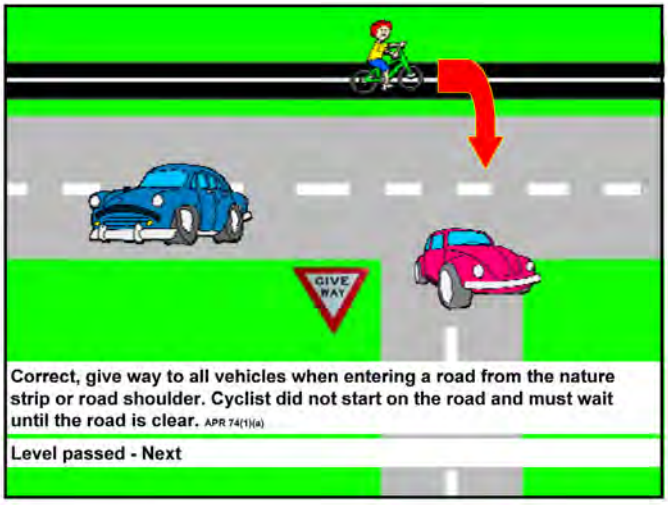
Cyclist is on a cycle path off the road and wants to turn right onto the road at the T-intersection. Red car and blue car both want to turn down the same road. Who goes first?



Correct, the red car must give way to the blue car, who goes next? APR 73(2)

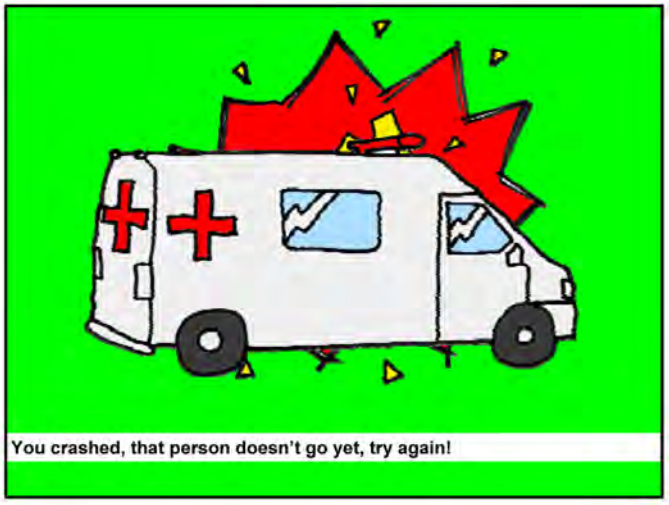


Correct, who goes next?

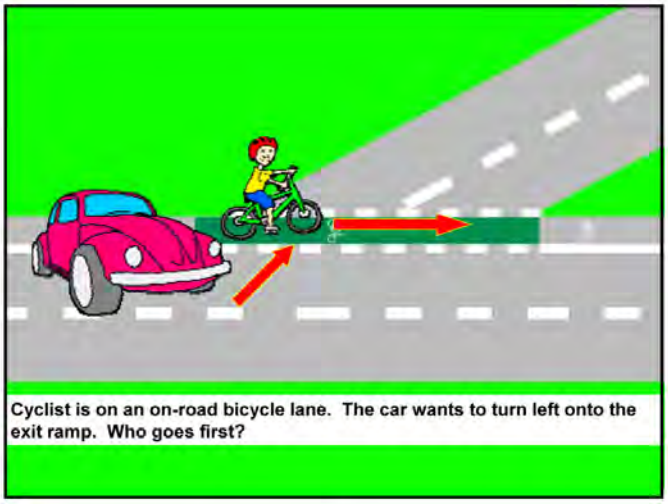


Correct, give way to all vehicles when entering a road from the nature strip or road shoulder. Cyclist did not start on the road and must wait until the road is clear. APR 74(1)(a)

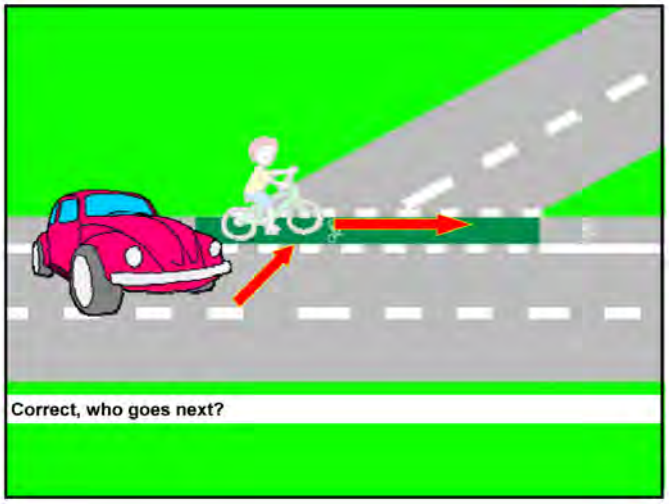
Level passed - Next



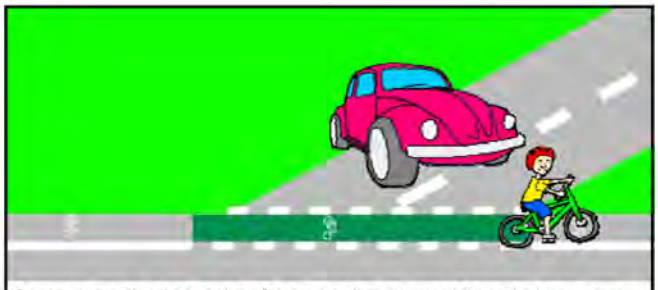
You crashed, that person doesn't go yet, try again!



Cyclist is on an on-road bicycle lane. The car wants to turn left onto the exit ramp. Who goes first?

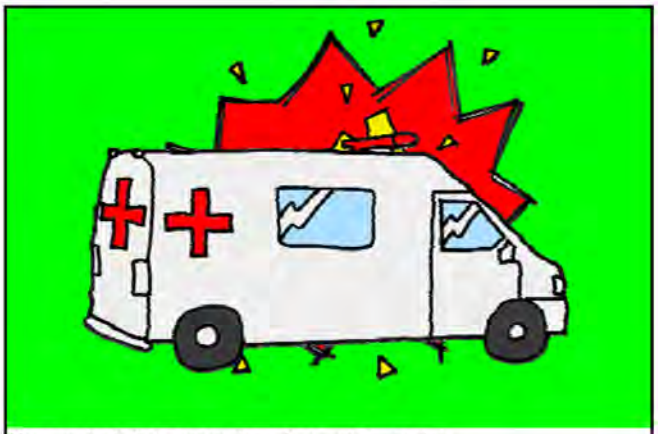


Correct, who goes next?



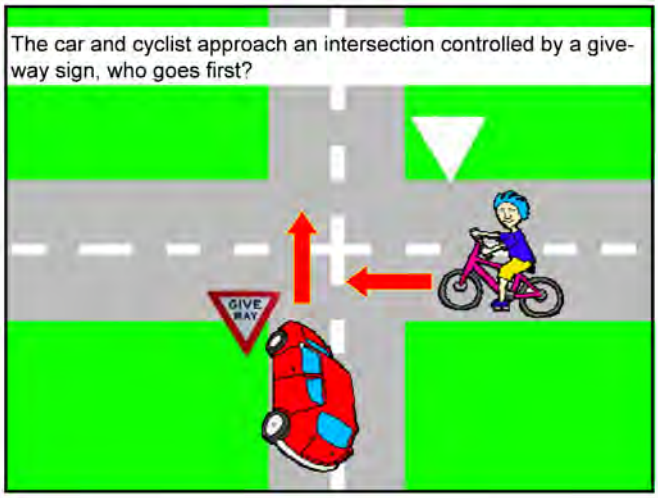
Correct, cyclist has right of way on the on-road bicycle lane, the car must wait until the cyclist has cleared the exit ramp. APR 148
Though be careful riding through the intersection. The driver of the car may not have seen you. Even if you have right of way, you can still be hurt. Ride defensively!

Level passed - Next

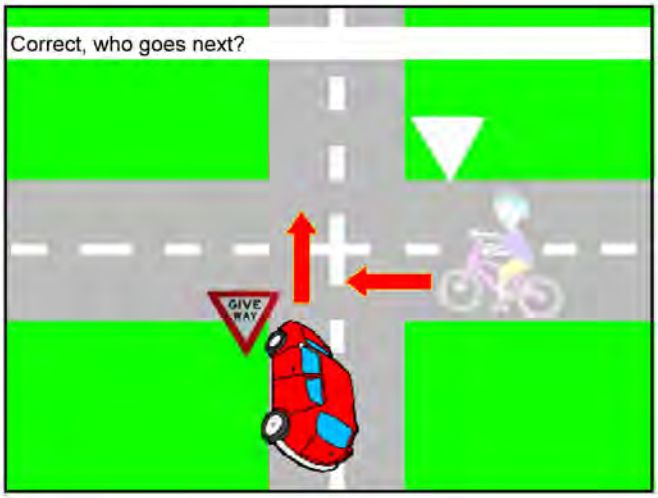


You crashed, that person doesn't go yet, try again!

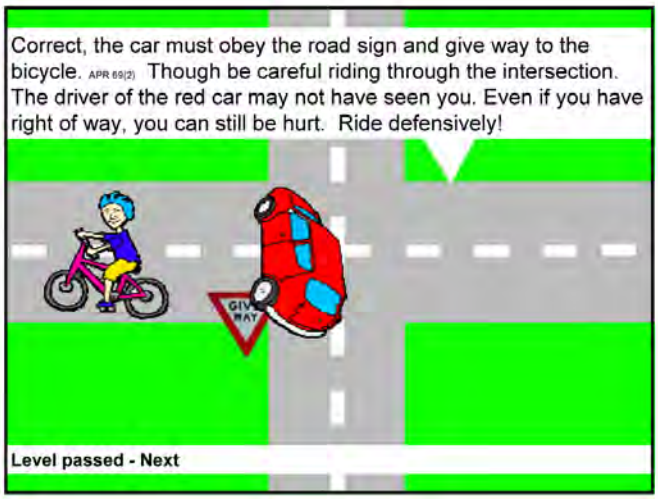
The car and cyclist approach an intersection controlled by a give-way sign, who goes first?



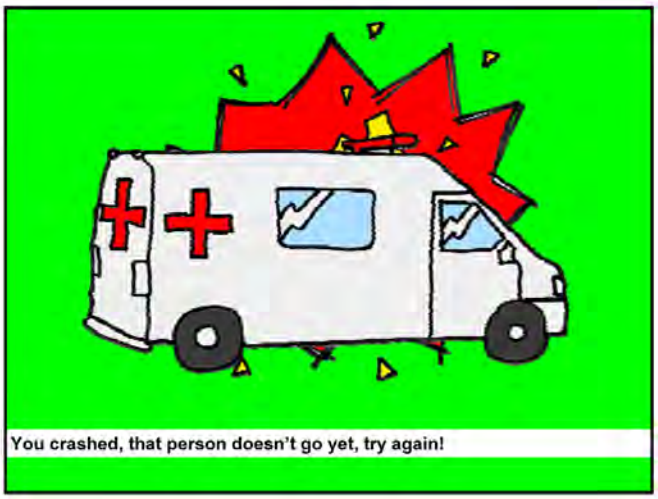
Correct, who goes next?



Correct, the car must obey the road sign and give way to the bicycle. APR 69(2) Though be careful riding through the intersection. The driver of the red car may not have seen you. Even if you have right of way, you can still be hurt. Ride defensively!

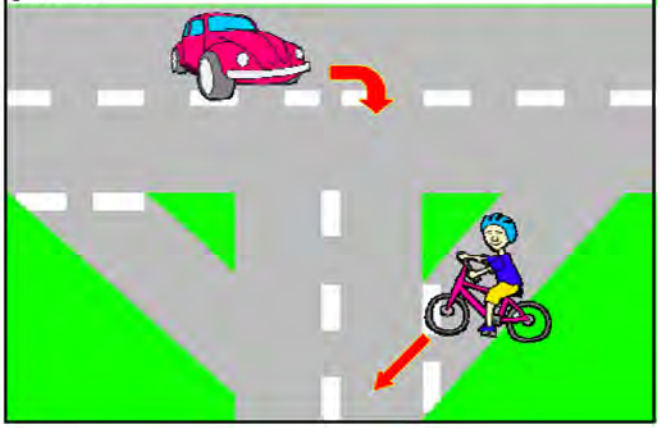


Level passed - Next



You crashed, that person doesn't go yet, try again!

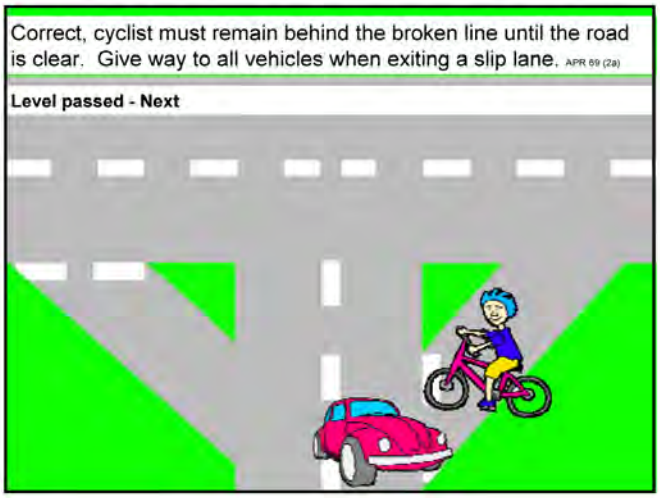
A car and a cyclist approach a T intersection with slip lanes, who goes first?

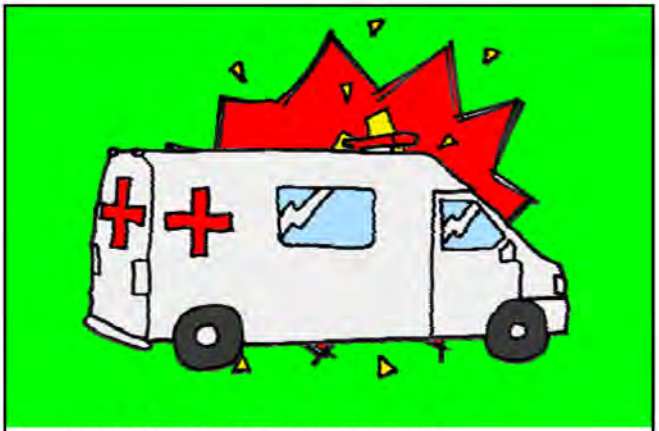


Correct, who goes next?

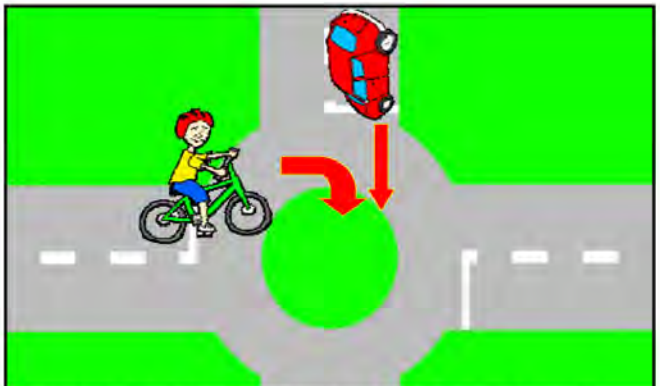
Correct, cyclist must remain behind the broken line until the road is clear. Give way to all vehicles when exiting a slip lane. APR 69 (2a)

Level passed - Next

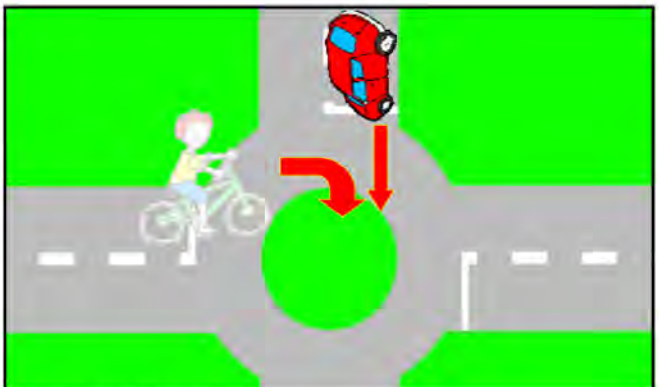




You crashed, that person doesn't go yet, try again!



Cyclist has entered a round-about and is turning right, the car approaches the round-about to go straight, who goes first?



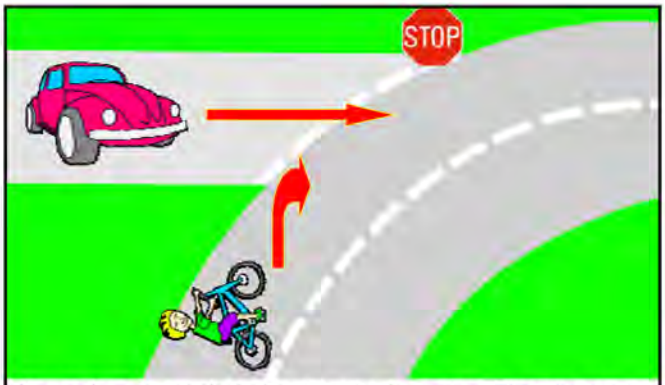
Correct, who goes next?

Correct, the cyclist had right of way. Give way to other road users already on the round-about. APR 114 (1)

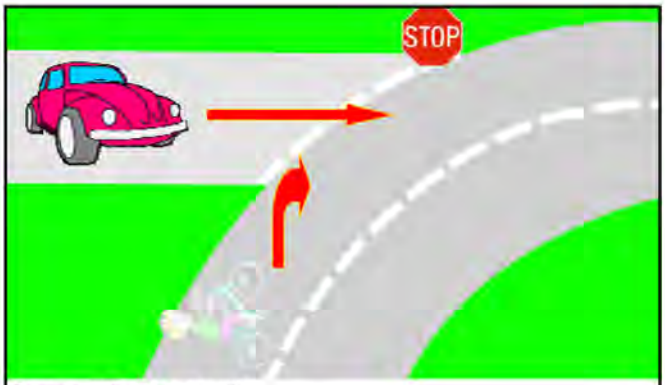
When riding through a round-about claim your lane, hand signal if you are turning and when you exit. Though be careful riding through the intersection. The driver of the red car may not have seen you. Even if you have right of way, you can still be hurt. Ride defensively!

Level passed - Next

You crashed, that person doesn't go yet, try again!



The car is going straight ahead, cyclist is turning right, who goes first?



Correct, who goes next?

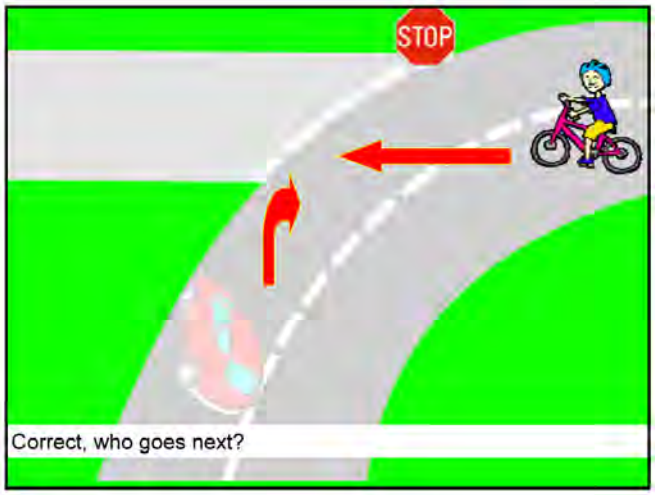
Correct, the cyclist had right of way. The car must obey the 'stop sign' and the cyclist was on a continuing road.

Though be careful riding through the intersection. The driver of the car may not have seen you. Even if you have right of way, you can still be hurt. Ride defensively!

Level passed - Next

You crashed, that person doesn't go yet, try again!

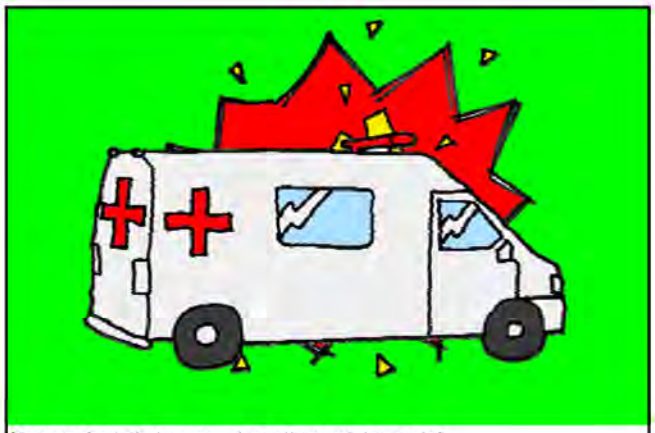
The car is continuing around to the right, cyclist is going straight onto the side ride, who goes first?



Correct, who goes next?

Correct, the red car had right of way. Don't break the flow of traffic, the cyclist must not cross the broken line until the road is clear. Though be careful waiting, a car may come up from behind and not see you. Even if you have are obeying the road rules, you can still be hurt. Ride defensively!

Level passed - Next



You crashed, that person doesn't go yet, try again!

Things to remember when riding your bike
1. Obey road signs
2. Obey road markings
3. Don't cross the lane of continuing traffic until it is clear
4. Don't do unexpected things
5. Ride defensively
6. Plan the safest way to get where you're going
Congratulations you have completed the game

Safety Message Presentation

Extension Activity The Australian Curriculum, cross-curriculum priorities in English

Interacting with others:
Students learn how individuals and groups use language patterns to express ideas and key concepts to develop and defend arguments. They learn how to promote a point of view by designing, rehearsing and delivering spoken and written presentations and by appropriately selecting and sequencing linguistic and multimodal elements.

Creating texts:
Students apply knowledge they have developed in other strands and sub-strands to create with clarity, authority and novelty a range of spoken, written and multimodal texts that entertain, inform and persuade audiences. They do so by strategically selecting key aspects of a topic as well as language, visual and audio features. They learn how to edit for enhanced meaning and effect by refining ideas, reordering sentences, adding or substituting words for clarity, and removing repetition. They develop and consolidate a handwriting style that is legible, fluent and automatic, and that supports sustained writing. They learn to use a range of software programs including word processing software, selecting purposefully from a range of functions to communicate and create clear, effective, informative and innovative texts.

Task

Based on previous activities from Safe Cycle create a presentation promoting a safety message. Some possible slogans or messages:

- Be safe be seen when riding your bike
- Obey road rules when riding your bike
- Consider other path users when riding your bike
- Look for hazards from all directions when riding

Presentation could be in many formats, ie: pamphlet, poster, digital… Consider where you will display your safety message and what format would be most suitable.

Presentations could be displayed in the classroom to reaffirm learning, displayed elsewhere in the school to spread the message (in the bike lock-up area) or even at the local shops.

Poster Example

Activity 5 Riding Skills Part 2, Practical 1 hour

Lesson focus:

- Risk management bike safety check and rider evaluation. *If you are intending to complete an observed ride beyond the school use the riding skills sessions to identify un-roadworthy bikes or at risk students.*
- Basic skills for riding on the road

Required resource:

- ABC TIGHT Bike safety check;
- Bitumen/concrete area (basketball/netball courts);
- Witches' hats or marker cones (about 50);
- Chalk for drawing on bitumen;
- Older peer mentors to help check bikes and lead groups through the skill sessions.

In the trial we found having 1 mentor to no more than 8 students was a big help

Task 1 ABC TIGHT Bike Safety Check ~10 minutes

Arrange students in a semi circle in front of instructor for the ABC Tight check.

A: Air in tyres, tyres are in good condition;

B: Brakes Bikes are required to have at least a working rear break or they are not road worthy. It is better to have front and back brakes;

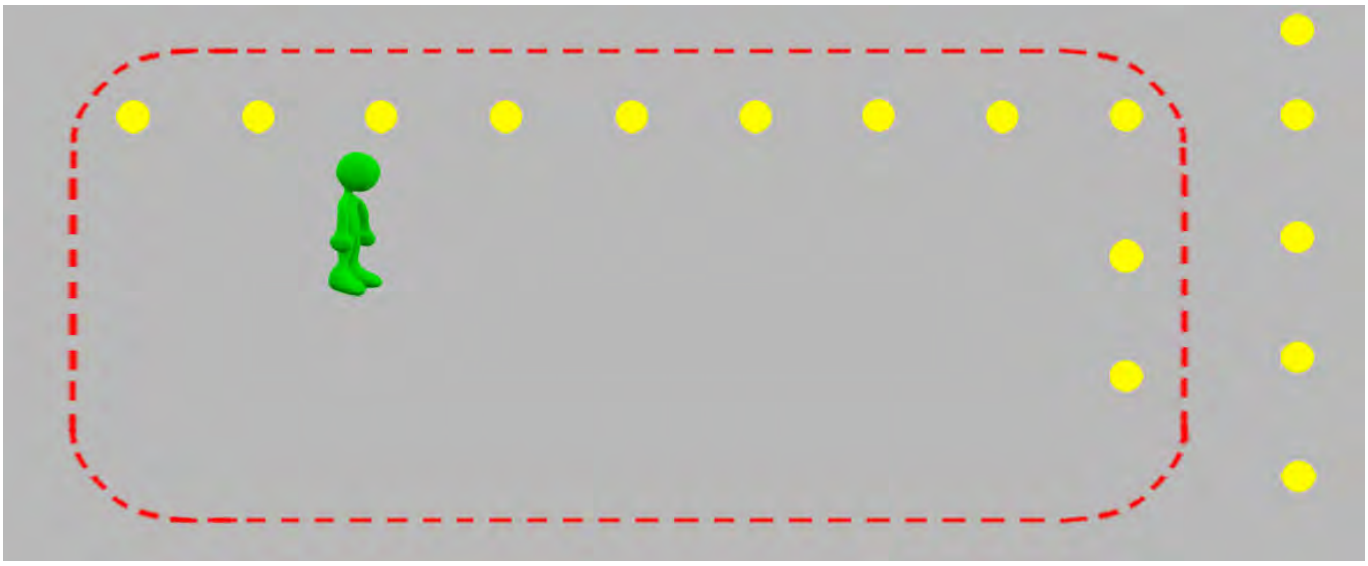
C: Chain is oiled, check the drive train, including derailleur if applicable;

Tight: Check handlebars, headset are tight and handlebars are straight. Check wheels and cranks do not move from side to side.

If a student's bike doesn't pass the safety check or they don't have a helmet don't let them ride. Students can share a bike and helmet and take it in turn completing each practical activity.

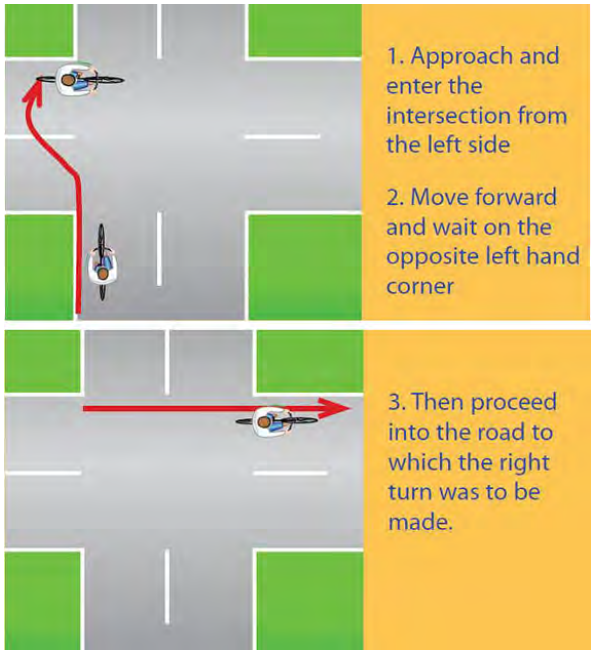
Skill Session 4 Right turns from bike lane/path ~10 minutes

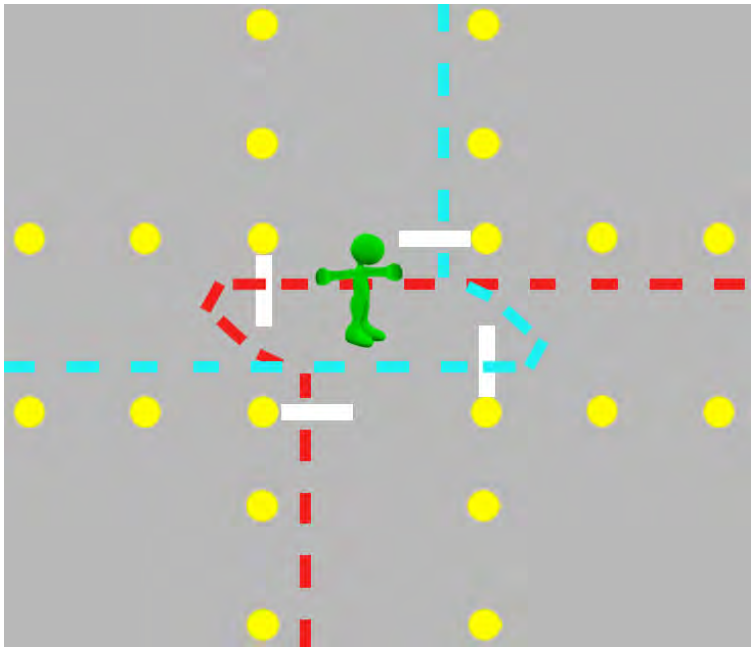
Focus: to build students' skills in making a right turn and identifying hazards from behind. Set up a line of witches'' hats with a designated section to turn right at. Instructor or peer mentor to stand 10 meters back from right turn area.



Students are to ride past the instructor or peer mentor, before they arrive at the turn right area they are to look back and confirm they are receiving an all clear signal. Instructor or peer mentor, arms in the air = unsafe to turn, arms down = safe to turn. Students are to proceed or to wait on signal from instructor, then circle around and repeat.

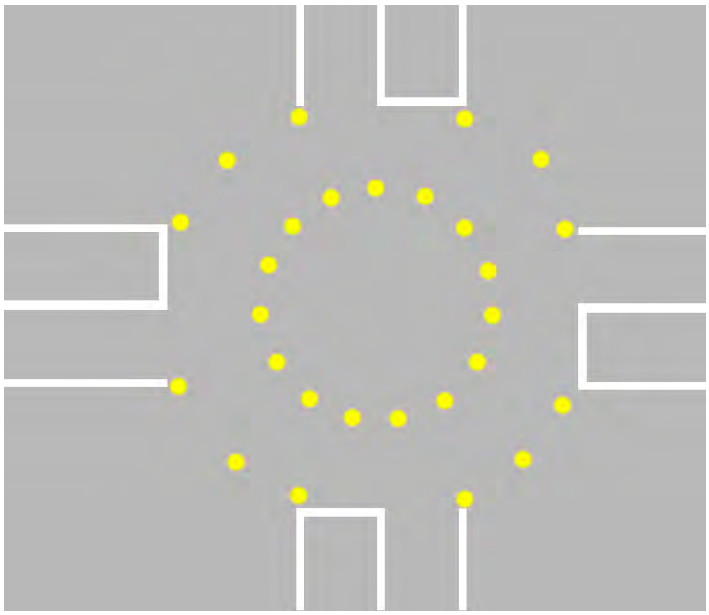
Skill Session 5 Hook Turns ~10 minutes
Focus: to introduce students to the hook turn, a safer way to turn right at a large intersection controlled with traffic lights. Set up a simulation of a four way intersection.





Instructor or mentor to act as traffic lights stopping or allowing traffic to proceed through the intersection. Students to turn right using the hook turn technique then circle around to another entry to the intersection and repeat.

Skill Session 6 Round-abouts ~10 minutes
Focus: to develop skills to negotiate round-abouts, how to position yourself for maximum visibility to traffic, to check for hazards from behind, to hand signal and make your intentions clear to other road users.
Set up a simulation of a round-about with witches' hats and chalk.



Students to approach the round-about, perform a rear head check, hand signal their turning directions (on and off the round-about if turning right), if turning right to claim the lane. *Claiming the lane is important to avoid a driver dangerously cutting you off as they exit the round-about across your direction of travel. Discuss with students the importance of hand signals and making eye contact with drivers. The hazards from round-abouts greatly increase with the road speed limit and the inclusion of multiple lanes. Refer back to the Road Rules PowerPoint from Activity 4.*
Students to continuously enter and exit and then circle around the outside to re-enter at a new entry point.

Activity 6 Riding Skills Part 3, Practical 1 hour

Lesson focus:

- Risk management bike safety check and rider evaluation. *If you are intending to complete an observed ride beyond the school use the riding skills sessions to identify un-roadworthy bikes or at risk students.*
- Basic skills for riding on the road

Required resource:

- ABC TIGHT Bike safety check;
- Bitumen/concrete area (basketball/netball courts)
- Witches' hats or marker cones (about 50)
- Chalk for drawing on bitumen
- Older peer mentors to help check bikes and lead groups through the skill sessions.
  In the trial we found having 1 mentor to no more than 8 students was a big help

Task 1 ABC TIGHT Bike Safety Check ~10 minutes

Arrange students in a semi circle in front of instructor for the ABC TIGHT check.

A: Air in tyres, tyres are in good condition.

B: Brakes Bikes are required to have at least a working rear brake or they are not road worthy. It is better to have front and back brakes,

C: Chain is oiled, check the drive train, including derailleur if applicable,

Tight; Check handlebars, headset are tight and handlebars are straight. Check wheels and cranks do not move from side to side.

If a student's bike doesn't pass the safety check or they don't have a helmet don't let them ride. Students can share a bike and helmet and take it in turn completing each practical activity.

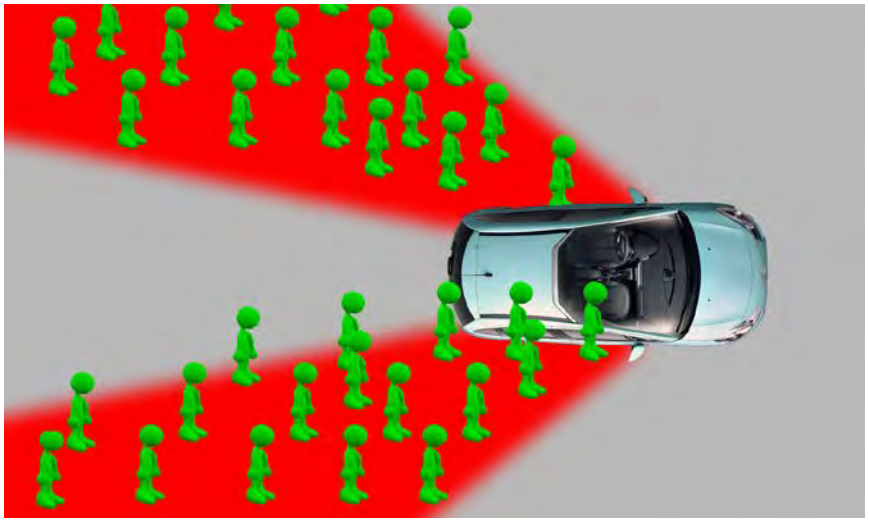
Skill Session 6, Passing cars parked parallel to curb ~15 minutes

Focus: to raise students' awareness to hazards when passing a parallel parked car. Driver's blind spots.

Step up, park a car to the side of your training area.

This task is to establish where a driver's blind sports are. Driver in car may only use their rear-vision mirrors. Move students around until they are within the drivers blind spots, how many students can you fit in the blind spots.

Discussion point: due to the higher speed traffic moves in comparison to cyclists, drivers are conditioned to look further away for approaching hazards. Drivers are conditioned not to be attentive to areas closer to the car where a cyclist would be in danger if the car was to pull out, or if a car door was to be opened.

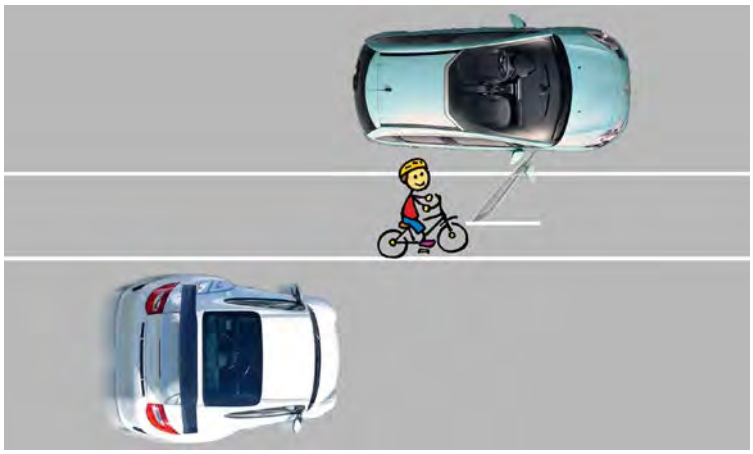


Skill Session 7 Passing cars parked parallel to curb ~30 minutes

Focus: to raise students' awareness to hazards when passing a parallel parked car. A parked car may pull out or the door may open as you pass.
Warning signs to look for:
1: Driver in car;
2: Engine/light/indicators on;
3: Car moving.

Step up, park a car to the side of your training area. Starting several meters back from the car and continuing several meters past it, mark a line parallel to the immediate right of the car (representing the left side of an on-road bicycle lane), mark a 2nd line parallel to the car 1.5 meter out from the first line (representing the right hand side of an on-road bicycle lane). *1.5 meters is the standard width for a bicycle lane going past car parking spaces.*
Open the car door and draw a mark how far out an open door reaches. If a door was to open look how much space is left to safely pass without riding into the lane of traffic.

Part 1: 10 minutes. Students ride towards the car, as students approach the car, instructor randomly calls out door open, students are to swerve around the open door mark without riding into the lane of traffic. Students circle around and repeat.



Extension to this activity have a driver randomly open the door. To reduce risk open car door slowly and only 75% open

Part 2: 10 minutes. Students ride towards the car, as students approach the car, slow down and perform a rear head check. Students are to make eye contact with driver in rear-view mirror. Student to wait until driver waves them on.

The Australian Curriculum, Mathematics, year 6 Solve problems involving the comparison of lengths and areas using appropriate units (ACMMG 137). Year 7 Describe translations, reflections in an axis, and rotation of multiples of 90 on the Cartesian plan using co-ordinates. Identify line and rotational symmetries (ACMMG181).

Skill Session 8 Emergency Braking ~10 minutes

Focus: to raise students' awareness to the dangers when braking suddenly and how to control a bike under emergency breaking conditions.

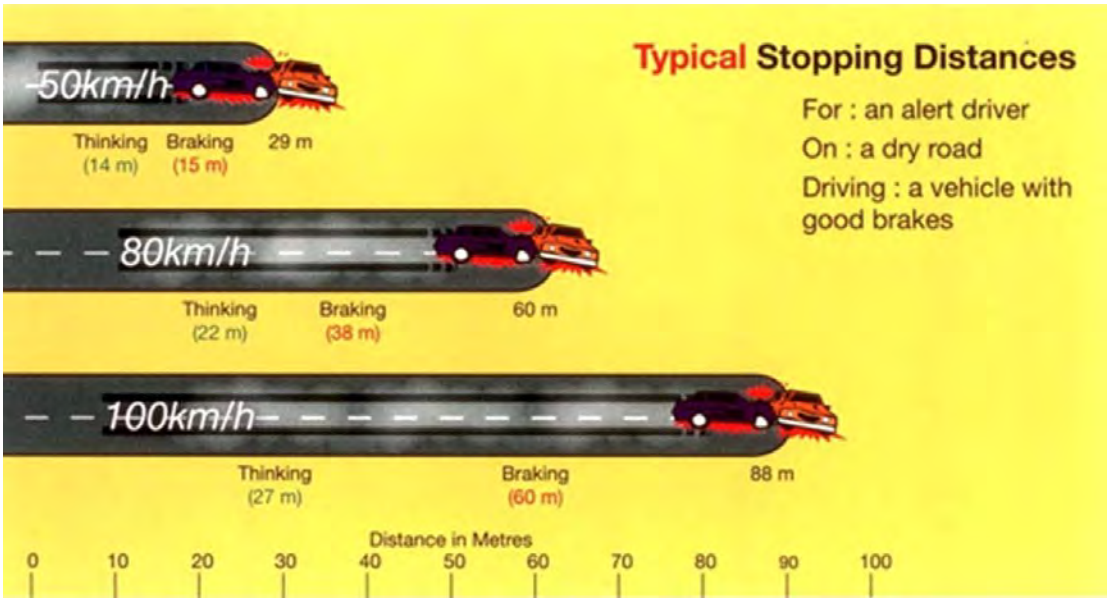
Set up: draw two parallel white lines 25m apart. Students are to start on one line and ride towards the second line, they are to stop themselves in as short a space as possible. Begin at a slow pace and with each turn gradually increase the pace. Let students see how the braking distance increases with speed.

Bikes with a front brake run the risk of sending the rider over the handlebars if they brake too quickly. To minimize the risk of going over the bars, demonstrate how to move your weight back over the rear wheel when braking heavily.

Rider's weight over the back of the seat

An alternate breaking technic often used by young riders on small bikes is a 'Power-slide'. This is when the rider is commonly using a back-pedal break bike. The rear brake is applied and the rider leans the bike over side-ways and slides the bike 90 degree to the direction of travel. This technic is better suited to smaller bikes only.

Discussion point; in addition to bike handling and rider safety changing as speed was increased ask students what they noticed about the distance it took to stop as they increased speed. Translate this experience on bikes to cars. Use the table from below to inform students about braking distances for cars.



Extension task mathematics; measurement and geometry, numeracy; estimation of distances. Ask students to estimate how long the above distances are. In a suitably open space mark the starting line and ask students to stand at 15m, 38m and 88m from the start line. Measure the distances and see how accurate the students were.

Activity 7 Student Stories and Local Hazards, Theory ~1 hour

Focus:

- Hazard awareness
- Risk management
- Safe for self and others decision making
- Identify times that students have been at risk whilst riding or in a car
- Identify risk taking behaviour, minimise danger to self and others

Required resources:

- Maps of your local area

Task 1, Student Group Work

Ask students who has had a near miss or experienced a hazard while riding their bike. Provide students with the map of the school and surrounding areas. Ask students in small groups to identify hazards in your area. When identifying a hazard use the scaffolding from the Risk Management lesson:

1. What is the hazard?
2. Who is at risk?
3. What protective behaviour could be applied?

Students report back to the class and mark hazards on the map, promote a class discussion.

Example from Melba Copland Secondary School

Discussion example: Kingsford Smith Drive. Fast (70km/h) multiple lane road without controlled crossing points.

1. Hazard; road type and car speed, create the possibility of being hit whilst crossing.
2. Cyclist is at risk
3. To minimise risk, use alternate route to use underpass or traffic lights. Select a section of road with least bend or obstacles obstructing cyclist/driver vision.
   Planning safer travelling routes when travelling between home and school links in with Pedal Power's 'Travel Planning' initiative. Refer to Pedal Power for more details, contact details in appendices in this document.

Extension Activity: The Australian Curriculum cross-curriculum English

Literacy task: writing a narrative or a recount.

Language: Text structure and organisation
Students learn how texts are structured to achieve particular purposes; how language is used to create texts that are cohesive and coherent; how texts about more specialised topics contain more complex language patterns and features; and how the author guides the reader/viewer through the text through effective use of resources at the level of the whole text, the paragraph and the sentence.

Literacy: Creating texts
Students apply knowledge they have developed in other strands and sub-strands to create with clarity, authority and novelty a range of spoken, written and multimodal texts that entertain, inform and persuade audiences. They do so by strategically selecting key aspects of a topic as well as language, visual and audio features. They learn how to edit for enhanced meaning and effect by refining ideas, reordering sentences, adding or substituting words for clarity, and removing repetition. They develop and consolidate a handwriting style that is legible, fluent and automatic, and that supports sustained writing. They learn to use a range of software programs including word processing software, selecting purposefully from a range of functions to communicate and create clear, effective, informative and innovative texts.

NARRATIVE

Write a short story about an accident that happened to a student (or students) whilst riding to/from school.
Use the scaffold to help structure the story.

When do I use it?
To tell a story, to provide entertainment, or make an audience think about an issue, teach them a lesson or excite their emotions.

Novels, short stories, diaries, biographies, some songs, dramatic monologues, plays, narrative films, poems can all use this format.

SCAFFOLD

1. **Orientation**
   Tell the audience who is in the story, when is it happening, where it is happening and what is going on.

2. **Complication**
   This is the part of the story where something happens, usually a problem for the main character, which triggers a chain of events.

3. **Sequence of events**
   This tells how the characters react to the complication. It includes their feelings and what they do. The events can be told in chronological order (the order in which they happen) or with flashbacks.

4. **Resolution**
   Rising tension leading to a climax (high point/major drama).
   The complication or the problem is resolved.

5. **Coda**
   The narrator includes a coda (an additional section) if there is a moral or message to be learned from the story.
   • what is the lesson to be learnt from this story?

NARRATIVE TEMPLATE

Vocabulary: Hazard - The source of harm **Risk - The potential for harm**

Brainstorming

Title Name of the story	
Orientation Who or what is involved When and where the story is set • Who was involved in the accident? • Where is the hazard?	
Complication (problem) The usual life of characters is interrupted, which adds tension and makes the story interesting. • What was the hazard? • Who was at risk of being harmed?	
Series of events Events that occur because of the complication Rising tension leading to a climax (high point/ major drama • What happened to the characters when they encountered the hazard? • What where they doing which put the characters at risk?	
Resolution How is the problem is solved? • How did the characters respond to the hazard? • What could the characters have done to reduce the potential for harm?	

Recount

Write a recount of an accident or near miss you have experienced or seen when riding your bike.

Types of recounts:

A **personal recount** is where the author is recounting an experience they were involved in directly
A **factual recount** can be used to retell a particular incident or event, such as an accident or newspaper report.
An **imaginative recount** is the retell of an imaginary event through the eyes of a fiction character, such as, the day in the life of Shrek.

Setting

- Who?
- Where?
- When?
- Why?

Events in the Time order (first to last) – What happened….

- 1:
- 2:
- etc.

Concluding statement or ending

Recount Template

TOPIC: An accident or near miss you have experienced while riding your bike
SETTING: WHO? WHERE? WHEN? WHAT? WHY?
Who was involved? What was the hazard? Who was at risk of being harmed? What was the risk?
EVENTS IN TIME ORDER
Event : What were you doing leading up to the accident or near miss?
Event 2: What happened just before the accident or near miss?
Event 3: What happened during the accident or near miss?
Event 4: What happened after the accident or near miss?
CONCLUDING STATEMENT OR ENDING
What could you have done differently to reduce your potential for harm

Extension Activity The Australian Curriculum Mathematics

Year 6 *Data representation and interpretation*
Interpret and compare a range of data displays, including side-by-side column graphs for two categorical variables (ACMSP147)
Interpret secondary data presented in digital media and elsewhere (ACMSP148)

Year 7 *Data representation and interpretation*
Identify and investigate issues involving continuous or large count data collected from primary and secondary sources (ACMSP169)
Linear and non-linear relationships
Investigate, interpret and analyse graphs from authentic data (ACMNA180)

Year 8 *Data representation and interpretation*
Explore the practicalities and implications of obtaining representative data using a variety of investigative processes (ACMSP206)

Task: Review statistical information from an Australia study and the compare it with a statistical data from the class.

Analyse statistical data. Data presented is secondary sources.

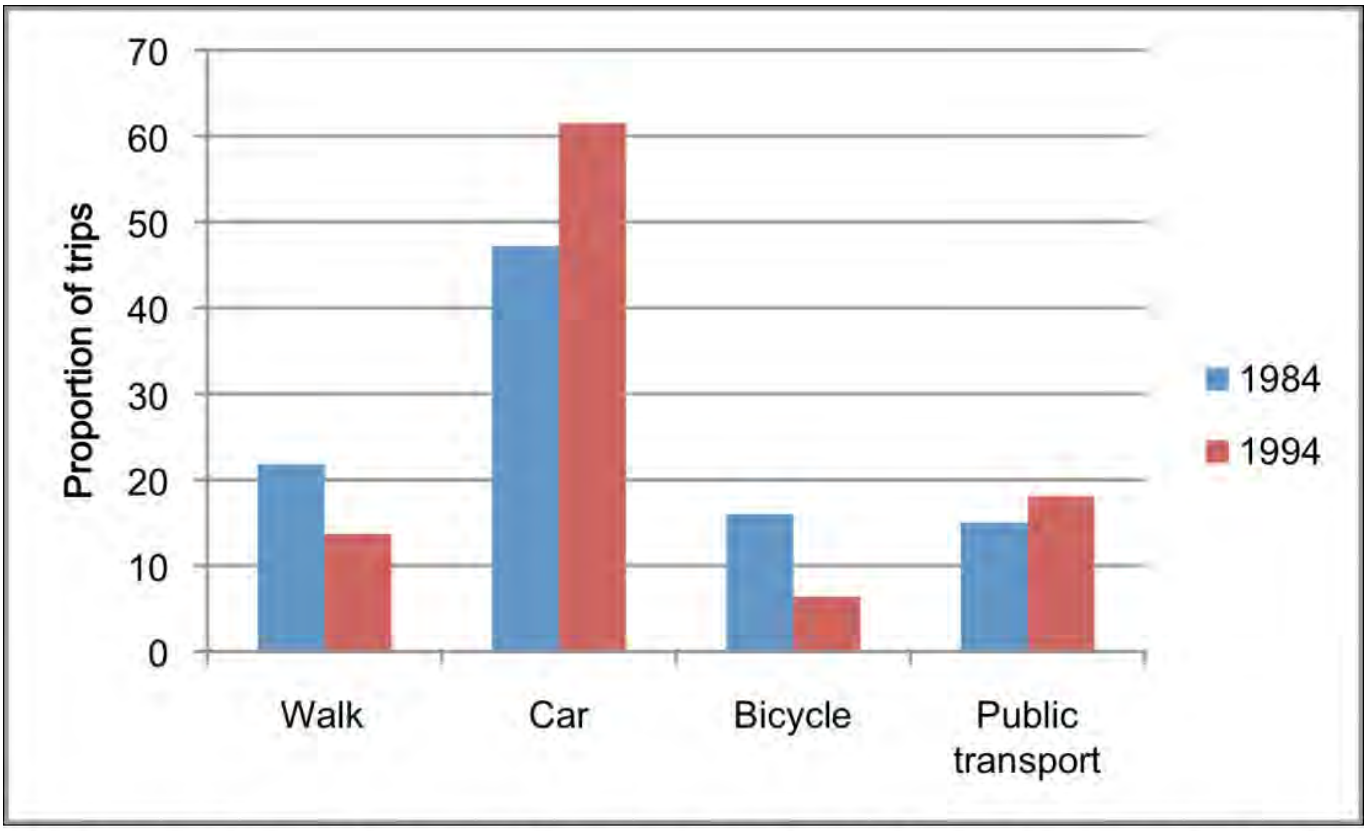


Figure 5: Mode of travel to school (1984) or education (1994) for trips between 1 kilometre and less than 5 km, respondents' usual mode of travel (%), Victoria (Source: Australian Bureau of Statistics 1995, Australian Bureau of Statistics 1985)

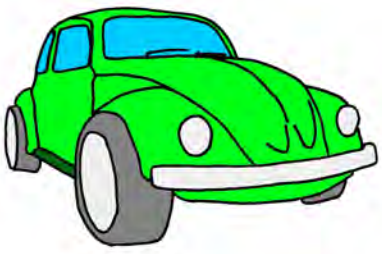
- What data is this graph representing?
- Is active travel increasing or decreasing?

Vocabulary: active travel = Transport where the participant engages in physical activity, such as walking, running, riding a bike

- What is the most used form of transport?

Primary source data collection and representation

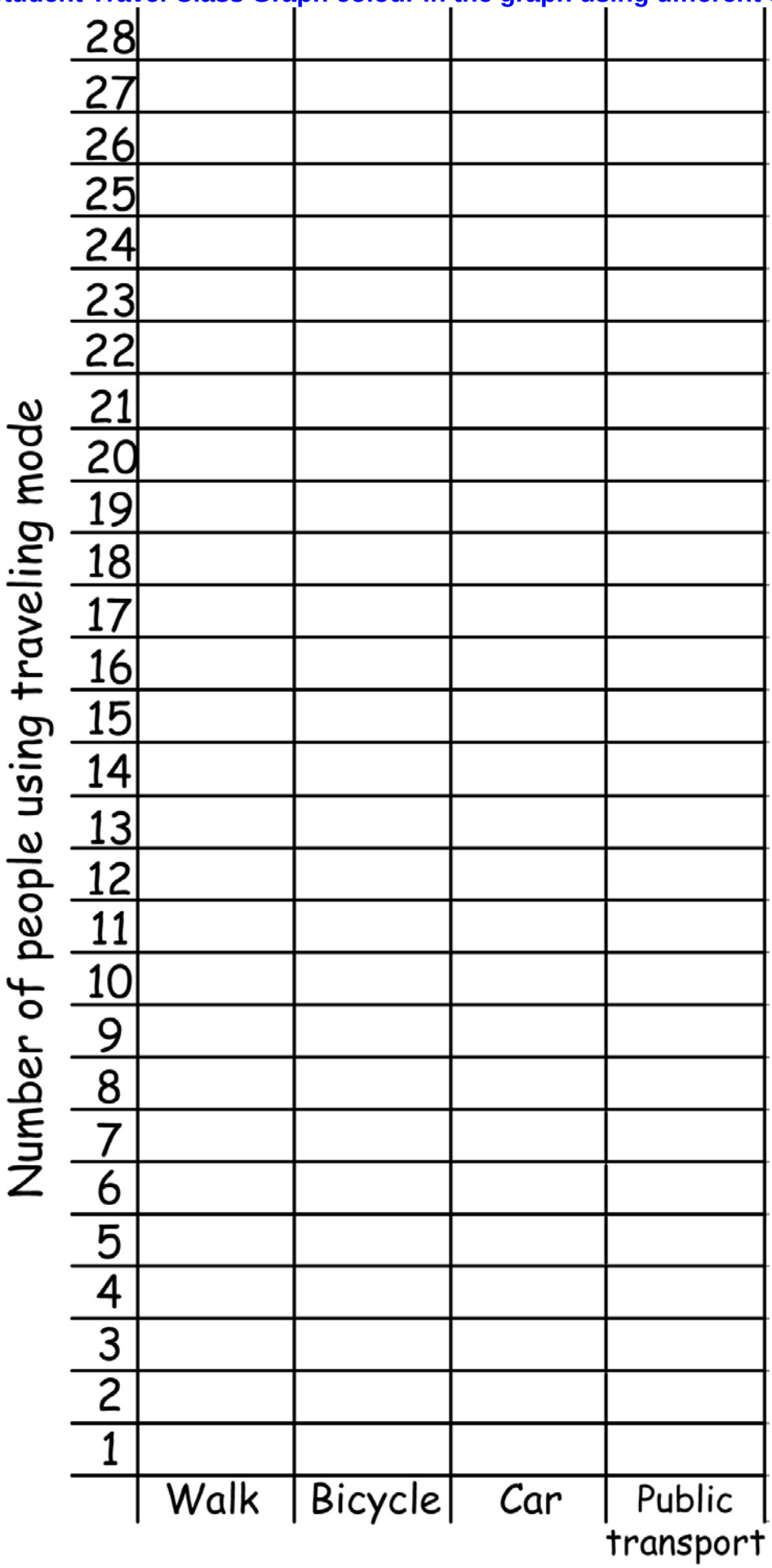
In class survey - student travel to and from school

Mode of Travel	Number of people
Active travel Walk Walk, run 	
Active travel Bicycle bike, scooter, skate, roller-blade 	
Public Transport Bus 	
Car 	
Total number of people	

Use this data to prepare a class graph.

How does the class graph compare to the provided graph in relation to the number of students engaged in active transport?

Student Travel Class Graph colour in the graph using different colours



Activity 8: Observed Ride Planning, Theory ~30 hour
Lesson focus: Practical application of riding defensively.
Previous lessons have been working up to this, this lesson is the opportunity for students to put into place skills they have learnt.

Plan your ride:
Plan the route to ride. Chosen route should consider rider safety and allow for areas with identifiable hazards or points of road awareness interests for discussion. ACT Department of Education guidelines consider cycling on local cycle or multi-user paths a low risk activity. Plan your route to avoid riding on roads or crossing at busy on controlled intersections.

If your route crosses roads, consider using intersections with pedestrian lights and marshals at other road crossings. If your route is along a road use a car escort at the rear of the group with cyclists ahead warning signs. Please consult guidelines for riding on the road and complete a risk assessment.
Prepare a map of your area clearly showing your route.
Prepare a risk assessment and an emergency response plan for your ride, see examples next pages.

Organise students into groups at a ratio of about 1 supervisor (teacher or delegated parent) and 1 peer mentor to 8 students. Use the peer mentor at the front to show the way and set the pace, while the supervisor is at the rear to observe the group.

Required resources:
Risk assessment and emergency response plan
Bike ABC-Tight check List
Bike in good working order
Helmet that meets the Australian standards
Map of route.
First aid kit (with Observed Ride supervisors or first aid available at checkpoint(s) on route.)

Recommended resources:
High visibility vests for front and rear riders
Sun screen
Drink bottle
Snacks
Cycling gloves
Sunglasses

Lesson start
- Equipment check
- Ride briefing prior to departure
  No one to go in front of designated front rider
  Obey rules (Cycle and multi-user paths; keep left unless over taking, give way as required and use hand signals.)
  Explain where the route goes (map shown previous lesson) and time frame for returning.
  Watch for dangers.

Task: Observed Ride
Follow the planned route.
Along the way observe students riding for safety and obeying rules.
Stop at predetermined areas that allow for discussion of hazards. *(Some local hazards were identified as part of Activity 7, Student Stories and Local Hazards.)*
Encourage students to identify hazards and recommend strategies to keep safe.
Supervisor to identify at risk behaviour and discuss potential consequences.

Risk Assessment and Management Planning
Bicycle Touring in suburban Canberra

As part of the (**insert activity name**) program in conjunction with (**associated entities**) ACT public schools are encouraged to participate in this low impact exercise while also providing students with the opportunity to explore our suburban environments.

This activity can be incorporated a part of elective or regular club activity provided it is conducted in accordance with the Directorate's ***Physical Education and Sport Policy*** with particular attention to:

- All activities and personnel being approved by the Principal.
- **A minimum of two adults is required for this activity in primary schools or 1 per class for high schools**.
- One adult present must have a current senior first aid certificate.
- Staff and Students participating must have reached the level of cycling competency appropriate to the demands of the activity
- The route to be taken must be within the capability of the weakest rider(s)

Further details are available at https://index.det.act.gov.au/information/pdf/PhysicalEducationandSportImplementation.pdf

- Use and completion of this Risk Assessment document should be done after reading through the appropriate Mandatory Procedures documentation relevant to the activity.
- All listed responsibilities within the Risk Assessment should be clearly annotated with either n/a or assigned a designated staff member's name, and date for completion of the task/responsibility.
- The Principal has final sign off and ultimate responsibility for all aspects of the excursion, please allow adequate time for applications to be assessed.

If you are planning on Mountain biking activity you must follow the Directorate's Outdoor Adventure Activity policy.

Further details are available at https://index.det.act.gov.au/information/pdf/OutdoorActivitiesPolicyProcedures.pdf

If you require assistance completing this document contact: Martin Hine martin.hine@act.gov.au or by phone: 62054685.

RISK MANAGEMENT PLAN

School				
Activity				
Date				
Time				
Location				
Participant numbers	Students	Supervising Staff	Parents	Volunteers
Interested Parties				

Event Description:

PART A

SECTION 1:

	Risk **What can happen? How it can happen?** **What is the outcome if it happens?**	Likelihood	Consequence	Inherent Risk Rating (before controls)	Risk Treatment / Prevention measure **Description and Adequacy of Existing Controls** **(What are you going to do to prevent or reduce the risk)** **Risk Control Rating:** (G)ood, (A)dequate, (M)arginal	Likelihood	Consequence	Residual Risk Rating (After Controls)	Responsible Officer / Risk Owner	**Timetable** (by when)
1.	Medical emergency : Personal injury through non accident related incident (e.g. participant experiences severe chest pains, asthma attack, exhaustion or fatigue, dehydration etc)	3	3	Medium	a. Permission notes required from parents providing information on medical issues, such as allergies, ailments and /or medications (G) b. Accompanying staff asked if they have any medical issues (A) c. First aid kits to be carried by accompanying staff (A) d. Accompanying staff will carry mobile phones (A) e. Emergency Plan prepared and circulated to staff (A) f. Follow Directorate's Mandatory Procedures (G) g. Provide and recommend fluid and food intake levels (G)	2	2	Low		Prior to the trip
2.	Medical emergency: personal injury due to accident (trip, slip and fall, penetrating wounds, staff or student hit by vehicle)	3	3	Medium	a. First aid kits to be carried by accompanying staff (A) b. Medical facilities close to destinations (A) c. Accompanying staff will carry mobile phones (A) d. Emergency Plan prepared and circulated to staff (G) e. Follow Directorate's Mandatory Procedures (G)	2	3	Med		Prior to and during the trip
3.	Equipment Failure or inappropriate use resulting in malfunction	3	4	High	a. Follow Directorate's Mandatory Procedures (G) b. Group preparation briefing/classes (A) c. Staff qualifications and experience (G) d. Staff supervision and monitoring of activity (A) e. Inspect personal equipment and clothing for safety and suitability (A) f. Equipment used in accordance with manufacturer instructions (G)	1	4	Medium		Prior to use, during use and post activity

4.	Inappropriate student behaviour: Students not receiving instructions or students being non compliant with instructions. Compromised individual or group safety. Increased costs due to property damage or legal action. Damage to reputation.	3	3	Medium	a. Follow Directorate's Mandatory Procedures (G) b. Have a school student management policy and procedures in place if there is the need to remove a student whilst on program. (A) c. Communicate the behavioural expectation to students and parents and advise there is a procedure to remove students from the program.(A) d. Terminate activity (A)	1	3	Low		

	Risk **What can happen? How it can happen?** **What is the outcome if it happens?**	Likelihood	Consequence	Initial Risk Rating (before controls)	**Risk Treatment / Prevention measure** **Description and Adequacy of Existing Controls** **(What are you going to do to prevent or reduce the risk)** Risk Control Rating: (G)ood, (A)dequate, (M)arginal	Likelihood	Consequence	Residual Risk Rating (After Controls)	Responsible Officer / Risk Owner	Timetable (by when)
5.	Supervision inadequate: Increased likelihood of student accident / injury, misadventure, bullying harassment. Compromised ability of staff to maintain group control.	3	3	Medium	a. Staff supervision ratios must be met in accordance with the Directorate's Mandatory Procedures.(G) b. Increase supervision ratio may be required for specific locations (refer Section 3: Site Specific Risks) (A) b. Staff informed of roles and supervisory responsibilities during pre-departure briefings. (G)	1	2	low	Teacher in charge and principal [specific names to be listed against roles]	
6.	Separation from group: individuals wandering off from group, or entire group becoming "lost"	3	3	Medium	a. Follow Mandatory Procedures (G) including having necessary maps and equipment. Know the area you are in including completing a practice trip or recce of the area. b. Entire group is regularly checked and head counted. The campsite boundaries are explained the students and they are to remain within those boundaries unless TiC approval is given. (G) c. Establish a safety and emergency contingency plan prior to the trip (G)	1	3	Low		
7.					a.					
8.					a.					

High or Extreme Residual Risks must be reported to Senior Management and require further detailed treatment plans to reduce/modify the risk. Refer to worksheet Part B.

SECTION 2: ACTIVITY SPECIFIC RISKS – RECREATIONAL CYCLING **PART A**

	Risk **What can happen? How it can happen?** **What is the outcome if it happens?**	Likelihood	Consequence	Initial Risk Rating (before controls)	Risk Treatment / Prevention measure **Description and Adequacy of Existing Controls** **(What are you going to do to prevent or reduce the risk)** **Risk Control Rating:** (G)ood, (A)dequate, (M)arginal	Likelihood	Consequence	Residual Risk Rating (After Controls)	Responsible Officer / Risk Owner	**Timetable** (by when)
9.	**Equipment Failure** • Tyre puncture • brakes/gears not working properly (not able to continue ride) • Chain break (not able to continue ride) • Helmet not suitable for activity	4	3	High	a. Check list for equipment as required by mandatory procedures, road worthy bike, helmet (meeting Australian standard for cycling AS/NZS 2063 + vented for cooling is better), and enclosed footwear. (A) b. Basic day ride bike repair equipment, pump, tubes, bike multi-tool (A) c. Supervising staff have skills to respond to basic bike malfunctions, punctures, seat height, gear minor adjustment, broken spoke (S) d. Riders' compliance of mandatory equipment monitored during activity (A) e. Bikes are monitored during activity for roadworthiness (A) f. Riders or bikes which don't meet safety requirements are not allowed to participate (G)	2	1	Low	Supervising staff	Pre –event and during (ABC Tight bike safety check procedure)
10.	**Bicycle Safety** • Bicycle poorly maintained (loose nuts & bolts) • Worn or damaged tyres • Worn or damaged brakes • Damaged or corroded frame • Faulty components (forks, shocks, wheels, etc)	3	4	High	a. Check list for equipment as required by mandatory procedures. (A) b. Bicycles randomly inspected for apparent faults (A) c. Students instructed on principles of bicycle and equipment maintenance (A) d. Student with unsafe bicycles not allowed to participate (G)	1	2	Low		

	Risk **What can happen? How it can happen?** **What is the outcome if it happens?**	Likelihood	Consequence	Initial Risk Rating (before controls)	Risk Treatment / Prevention measure **Description and Adequacy of Existing Controls** **(What are you going to do to prevent or reduce the risk)** **Risk Control Rating:** (G)ood, (A)dequate, (M)arginal	Likelihood	Consequence	Residual Risk Rating (After Controls)	Responsible Officer / Risk Owner	**Timetable** (by when)
11.	**Rider Skill Evaluation/Assessment** • Course selection • Overestimation of student skill • Injury • Property damage • Changing conditions increase difficulty	4	4	High	a. Activity appropriate to students' skill level and fitness (G) b. Constantly evaluate activity difficulty level and adjust as necessary (A) c. Orientation to route (A) d. Assess students' skill level (G)	2	2	Med		
12.	**Collision** • Misjudgement • Loss of control • Equipment failure	3	4	High	a. Students instructed on riding skills and surface condition awareness (A) b. Students briefed on specific hazards (e.g. other groups of riders, event protocols, rider etiquette) (A) c. Check list for equipment as required by mandatory procedures, road worthy bike, helmet (meeting Australian standard for cycling AS/NZS 2063 + vented for cooling is better), and enclosed footwear. (A)	2	2	Med		
13.					a.					
14.					a.					
15.					a.					

SECTION 3: SITE SPECIFIC HAZARDS – RECREATIONAL CYCLING

	Location	Location Hazards
16.	Unsealed surfaces (gravel paths, grassed areas) *Note: If using bush or forest tracks or trails activity must be treated as an Outdoor Adventure Activity – Mountain Biking*	• Staff member should contact ACT parks and Conservation and conduct a site check prior to any student based activity.
17.		•

Treatment for high risks **Part B**

Correlating Ref from Part A	Treatment/Controls to be implemented	Likelihood	Consequence	Risk rating after treatment/ controls	Person responsible for implementing treatment/controls	Expected completion date	Actual completion date

Event Organiser / TiC: Signature:

Date:

Principal: Signature:

Date:

RISK ASSESSMENT MATRIX

RISK ASSESSMENT MATRIX		Consequence				
		Insignificant	Minor	Moderate	Major	Catastrophic
Likelihood		1	2	3	4	5
Almost certain	5	Medium	High	High	Extreme	Extreme
Likely	4	Medium	Medium	High	High	Extreme
Possible	3	Low	Medium	Medium	High	Extreme
Unlikely	2	Low	Medium	Medium	High	High
Remote	1	Low	Low	Medium	Medium	High

Risk Control Ratings

Good – Documented policy and procedures
Adequate – Established and proven practice
Marginal – Untested practice or subject of unsubstantiated assessment

Risk Likelihood

Rating	Scale	Criteria
1	Rare	• Remote chance of risk event and even then in highly exceptional circumstances, • 1 in 10,000
2	Unlikely	• Risk event unlikely to occur but change of circumstances or situation may create opportunity for risk to arise • 1 in 1,000
3	Possible	• Foreseeable that risk event may occur, but is not expected to occur • 1 in 500
4	Likely	• Risk event likely to occur at least once • 1 in 100
5	Almost Certain	• Expect frequent occurrences • 1 in 10

Risk Consequences

Rating	Description	Remarks
1	Insignificant	• No Injuries • Negligible community disruption • No disruption to excursion • No environmental or other damage. • Minimal financial risk or loss (1% of budget)
2	Minor	• Small number of injuries • Only first aid required • Limited disruption to excursion • Some environmental or other property damage • Some financial risk or loss (2.5% of budget)
3	Moderate	• Ambulance / Hospital Treatment required • Some community inconvenience • Some activities unable to proceed • Some environmental damage (minor long term effect) • Other property damage • Significant financial risk or loss (5% of budget)
4	Major	• Extensive injuries • Significant hospitalisation • Some community displacement • Extensive environmental damage (long term effect) • Other extensive property damage • Serious financial risk or loss (10 % of budget)
5	Catastrophic	• Fatalities • Injuries and extended hospitalisation periods • Widespread community displacement • Extensive and widespread property damage • Significant short or long term environmental damage • Extreme financial risk or loss (25% of budget)

Post Program Survey: Theory 30 minutes ~ 1 hour

Focus:

- Student Feedback
- Evaluation of program's success

Required resources:

- Survey

Task 1, Teacher Directed Class discussion

This discussion is to engage students in reviewing what they have learnt from this program and to attain feedback for improvements.

Discussion points:

1. Did you find the program engaging?
2. Did you find this program good or bad. Explain your answer?
3. What most stands out as a new thing you learnt from this program?
4. Do you feel you are safer cyclist since doing this program?

After discussion complete survey with students.

Safe Cycle Pilot Program

Post Program Student Survey

This survey is to help improve this program, thank you for your considered responses.

1. Did you find the program engaging and fun?

Circle one: Not at all It was ok Some parts where good Very engaging and fun

2. Did you find this program good or bad?

Circle one: Good Bad

Please give a reason or example of why you thought it was good or bad:

3. What most stands out as a new thing you learnt from this program?

4. Do you feel you are safer cyclist after doing this program?

Circle one: Yes No

Safe Cycle
Pilot Program 2010

Dear Parent/Guardian,
Safe Cycle is a school based curriculum initiative funded by the NRMA ACT Road Safety Trust. Safe Cycle is a road safety program aimed at young road users who have not yet attained their driver's license. Program goals are to promote a culture of: risk awareness and risk management, safety for self and others and to equip high school students with skills to safely use; multi-user paths, on-road cycle ways and roads.

The Safe Cycle pilot program will be running as part of your child's/ward's Physical Education class from 15th to 26th of November. Classes will include theory and practical lessons on site at MCSS (Junior Campus) and an observed ride along cycle paths in the Melba area. The cycle route for the observed ride will be entirely on cycle paths and will not include any on road or road crossings. Students' participation in the observed ride is considered an in-school excursion and meets departmental guidelines for such an activity.

Students participating are required to use a helmet that meets the Australian standards for cycling and bike in good working order with a functioning brake. (Cycling helmets sold in Australia should meet the standards (AS/NZS 2063) and include an ASC sticker on the inside of the helmet. Bikes will be checked for safety prior to practical lessons). Students are encouraged to use their own bike and helmet, though a limited number of bikes and helmets will be available for loan if required.

The grant from the NRMA Road Safety Trust ACT covers the cost of participation in this pilot program. MCSS is able to offer Safe Cycle as a free activity.

If you do not want your child/ward to participate in this program could you please bring this to the attention of Andrew Hiscocks (Head of PE 6205 6711), so alternate class arrangements may be made.

Child's/ward's name: _____

Parent/Guardian's name_____

The student named above has permission to participate in the Safe Cycle pilot program.

Is your child's/ward's medical information form up to date? ☐ Yes ☐ No

Please be advised media coverage of this program may occur. I allow my child's/ward's video, audio recordings, multimedia or film likeness to be used for any legitimate purpose promoting this program. Please tick one ☐ Yes ☐ No

Safe Cycle Pilot Program

Safe Cycle Parent Survey

Does your child/ward own a bike?	☐ yes	☐ no
Does your child/ward have access to a helmet when riding a bike?	☐ yes	☐ no
To your knowledge does your child/ward ride a bike on roads?	☐ yes	☐ no
To your knowledge does your child ride on roads where the speed limit is higher than 60km/hour?	☐ yes	☐ no
To your knowledge has your child/ward ever received formal instructions in road rules and safe road use?	☐ yes	☐ no
Does your family have a car (or other motor vehicle)?	☐ yes	☐ no
Do you view cyclists as legitimate road users?	☐ yes	☐ no
Does an adult in your household use a bicycle for regular transport?	☐ yes	☐ no
Does your child/ward engage in active travel (walk/ride/scooter) to get to/from school?	☐ yes	☐ no

The survey is anonymous. Information gathered from this survey is to assist program developers to improve the safe Cycle program and identify key areas for learning.

Thank you for your time in completing this survey.

Safe Cycle Assessment Table

Criteria	Undeveloped	Developing	Successful	Accomplished	Exemplary
Understanding of basic road rules					
Practical Riding Skills					
Perform a bike safety check					
Fit a helmet					
Considers other area users when cycling					
Safely control bike					
Maintains a safe distance to rider in front					
Hand signals as required					
Rear head check					
Looks in multiple directions before turning/ changing lane					
Spatial awareness, gives way appropriately					
Perform a hook turn					
Safely enter a round-about					
Safely exit a round-about					
Swerve around an obstacle without entering lane of traffic					
Brake safely at different speeds/conditions					
Pass another person safely					
Risk Awareness					
Identify potential hazards					
Identify strategies to reduce risk					
Identify car driver's blind spots					
Demonstrates safety conscious behaviour					

Comment:

Service Providers

The following businesses assisted in the development of Safe Cycle:

Assistance	Name	Contact Details
Bike Hire	Capital Bike Hire	Peter Dowse 0412 547 387 http://www.capitalbicyclehire.com.au/
Instructors	Capital Bike Hire	Peter Dowse 0412 547 387 http://www.capitalbicyclehire.com.au/
Instructor	Cycle Education	Raynie McNee 0410 623 957 http://www.cycleducation.com.au/

Local cycling organisations:

Canberra Off-road Cyclists	http://new.corc.asn.au/index.asp?IntCatId=14
Canberra Cycling Club	http://www.canberracyclingclub.org.au/index.asp?IntCatId=17
Pedal Power	http://www.pedalpower.org.au/

National cycling organisation

Australian Bicycle Council	http://www.austroads.com.au/abc/
Amy Gillett Foundation	http://www.amygillett.org.au/
Vic Roads Bike Ed	http://www.vicroads.vic.gov.au
Australian Bicycle Council Australia	http://www.austroads.com.au/abc/

Melba Copland Secondary School students participating in Riding Skills Sessions Part 2