



Safe Cycling Guide











Safety can't take a back seat when you're riding.

A Sports Safe Singapore

The Singapore Sports Council (SSC) recognises that safety must be a fundamental component of a sporting culture and a prerequisite for every healthy lifestyle. Therefore, SSC has set a corporate goal of zero injuries, in the belief that all accidents are preventable. Emphasising the need for personal accountability, SSC also urges people to be responsible for the safety of others. SSC’s first Sports Safety Division was formed in 2006 directly under the purview of the CEO’s office. It is tasked to promote safety throughout Singapore’s sporting community and to inculcate a safety-first mentality in the minds of every stakeholder. For more information, please visit www.sportssafety.ssc.gov.sg

Acknowledgement

The Singapore Sports Council (SSC) would like to thank and acknowledge the various organisations and individuals who participated in the consultation process to produce the first version of the Safe Cycling Guide. The feedback and suggestions greatly informed and improved the final delivery of this publication.

 <div>Government of Western Australia – Department for Planning and Infrastructure http://wa.gov.au</div>	 <div>Singapore Mass Rapid Transit http://www.smrt.com.sg</div>
 <div>Singapore Police Force – Traffic Police http://www.spf.gov.sg</div>	 <div>Singapore Amateur Cycling Association http://www.cycling.org.sg</div>
 <div>Health Promotion Board of Singapore http://www.hpb.gov.sg</div>	 <div>Australia and New Zealand Association Cycling http://www.anzacycling.com</div>
 <div>Land Transport Authority http://www.lta.gov.sg</div>	 <div>Triathlon Association of Singapore http://www.triathlonsingapore.org</div>
 <div>National Parks Board http://www.anparks.gov.sg</div>	<div>Safe Cycling Task Force http://safecycling.org</div>
 <div>National Safety Council of Singapore http://nscs.org.sg</div>	

Think Safe. Play Safe. Stay Safe.

Another initiative by the Sports Safety Division, Singapore Sports Council

CONTENTS

Acknowledgements.....1

Introduction.....3

Essentials Of Safe Cycling.....4

Cycling Safely At Night.....6

Basic Safety Tips.....7

Challenges On The Road.....8

Safety Guidelines For Young Children.....10

Choosing A Bike.....15

Choosing Accessories.....17

Basic Bicycle Maintenance.....20

Cycling For Health & Fitness.....23

Are You Ready To Cycle?.....25

Cycling And The Law.....27

Shared Paths & Cycling Tracks.....31

Foldable Bicycles On Buses And Trains...33

Disclaimers
The information contained in this publication is not intended to be professional advice. SSC, the content contributors and the distributors of this publication will not bear any responsibility for any action taken or any reliance placed as a result of reading any part or all of the information provided in this publication, or for any error, flaw or deficiency in or any omission from the information provided. SSC and its partners make no warranty of non-infringement, reliability or fitness for any particular purpose, or warranty of any kind, express or implied, in relation to the information provided in this publication. Readers shall use it with discretion, and shall exercise care and diligence for their own and/or their charges’ personal safety. The booklet is only a guide to the road rules in Singapore and not meant to be used in place of the Road Traffic Act.

Copyright
SSC owns the rights to, or is permitted to reproduce, the information and materials provided in this publication. No part of this publication may be reproduced or copied for any commercial purposes without the prior written consent of SSC.

INTRODUCTION

The way to safe cycling is to remember

S

Standardisation

A

Alert

F

Fitting Helmet
and Safety Gear

E

Etiquette



- Set the standards for safe cycling and cycle defensively.
- Always stay visible, never assume that a motorist has seen you.
- Always stay alert and predictable, follow the highway code.
- Wear protective and safety gear to reduce the risk of injury and harm.
- Always look out for other road users or hazards.
- Make sure that they are aware of your presence.
- Be courteous to other road and path-users.
- Treat them with the same consideration as you would expect of them.

ESSENTIALS FOR SAFE CYCLING

Here is a list of essential items that could enhance your safety on the bike:

- continuous white light on the front of the bike
- bright clothing
- flickering red light at the rear of the bike
- fitting helmet
- good working brakes
- bell
- mirrors

Helmet

Never compromise when choosing a helmet. Fit, comfort and protection level should always be given more importance than price.

Fit

A snug fit is essential when buying a helmet. Choose one with an internal shape that closely matches the shape and size of your head. Don't rely on size pads to 'take up the slack'. Try the helmet first without the pads. Next, use your index finger to check the space between your head and the inner polystyrene. If your finger slides in easily, the space is probably too big. If the space varies from front to side, there is probably a mismatch between the helmet and the shape of your head.

Visibility

Choose a bright or fluorescent coloured helmet to remain visible. Refrain from black or other dark coloured helmets as they are harder to be seen.

Air Vents

They allow air circulation so that you stay cool. While comfort matters, choosing a helmet with many or excessively large vents will offer less protection.

Once the sizing pads are in, the helmet must not wobble in any direction before the straps are fastened. The helmet should not tilt back. Instead, it must remain level on your head.



CYCLING SAFELY AT NIGHT

Helmet safety standards

There are a number of internationally recognised safety standards for bicycle helmets. Inside every helmet, there should be stickers that spell out the safety specifications.

Here is a list of some helmet safety specifications to look out for:

- Snell Memorial Foundation • CPSC • EN1078 • American National Standard Institute
- ANSA Z-90.4 • ASTM (Do note that shatter-tests do not extend to visors.)

Cyclists should ensure that:

- they wear helmets that meet approved standards.
- the helmet is worn at all times on roads and paths that are accessible to the public.
- the retention straps on the helmet are correctly fastened at all times.
- children in child-carriers also wear fitting helmets that comply with the approved standards.
- the shelf-life of the helmet has not been exceeded. If unsure, change your helmet every 2 to 3 years even if it appears to be in good condition.
- they replace their helmet immediately after a collision or if it has been hit against objects on the road.

Bell

A bell helps you to warn pedestrians of your presence. When approaching pedestrians or slow-moving cyclists from the rear, always ring your bell. Sound the bell when you are about 30 metres from them. This is to prevent them from making sudden moves when you are near them.

Mirrors

These help you see what is happening around you. The most popular mirrors are small, circular and come on stems that clip onto the handlebars. Small mirrors that attach to helmets are also available.

Clothing

Wear bright or fluorescent colours such as orange and yellow to ensure you remain visible. While not essential for safety, Lycra knicks and gloves can improve your riding comfort. Do not wear bell-bottom or baggy trousers as they might entangle with the bicycle gear. Open flip-flaps provide minimal grip and tend to slip off. Avoid them when cycling. Instead, wear shoes or closed and strapped sandals.

Lights

In times of low visibility, it is mandatory to have a white light at the front of the bike and a red reflector at the rear*. Both must be visible from a reasonable distance. Bicycles in Singapore are prohibited from having a red light at the front. For the rear, only red reflectors or lights are permitted.

Riding at night can be as enjoyable as day cycling. You just need to exercise more caution. Recognise the dangers and dress accordingly. Remember that it is vital for all riders to remain visible at all times.

If you ride after dark, the law mandates that your bicycle has a continuous white light in front and a red light at the rear. While prices vary drastically, do not make your decision based on price alone. For front lights, choose a bright quartz halogen lamp that produces an unbroken white beam.

For the rear, flashing red Light Emitting Diodes are acceptable but steer away from cheaper versions as they tend to be unreliable.

Highly visible clothing

Light coloured clothes are necessary to help you remain visible in the dark. The best garments are those with reflective panels.

Reflective anklets, cloth or plastic reflective tape and stickers are highly recommended. Available in red or white, these are cheap and can be attached to bikes, helmets and riders.

Being alert

The number one rule of cycling is to ride defensively. Watch out for joggers, pedestrians and other vehicles. Make sure they are aware of your presence.

At night, the headlights of approaching vehicles may dazzle so be prepared.

When a vehicle is approaching you from the rear, your shadow should move to the left. If it doesn't, you should steer your bicycle to the left.

Tip for night riding: angle your front light at the eye-level of cars to increase your chances of being seen. When you are not cycling around moving vehicles, tilt the front lamp lower so as to light up the path in front of you.



*Source: Road Traffic Act (CHAPTER 278, SECTION 140) as of 15 Apr 09

BASIC SAFETY TIPS



Handlebars that are too high or low and too close or far apart may cause aches in the neck, shoulder, back and hands. The wrong angle of the handlebar may also lead to numbness in the palms.



Choosing the right bicycle frame will ensure that you can mount and dismount safely. When straddling a normal bike, the distance between your crotch and the top tube of the main bike frame should be at least 3cm. For mountain bikes, the distance is about 8cm.

Seat height

Adjust the height of the seat by placing your heel on the pedal at its lowest point – while ensuring that your leg is straight at full stretch.

Your knees should be slightly bent when you're in the proper pedalling position – with the balls of your feet on the pedal. If your hips/pelvis sways from side-to-side the seat is too high.

Seat position

Adjust it so that your feet are placed naturally above the pedals. Some riders may prefer a seat that is tilted slightly to the front or to the back. However, seats tilting excessively upwards may lead to pressure points. Injuries may occur when seats tilt excessively downwards.

Handlebar angle

Buying a bicycle frame that is too small for you could lead to an excessively low handlebar. Handlebars are available in different widths and the sizes vary according to the type of bike.

For racing or touring bikes, they should be about the same width as your shoulders.

Handlebars that are too close/far may result in you experiencing pain in the neck, shoulder, back and hands. Riding with the wrong handlebar angle can also lead to numbness in the palms of your hands. Mountain bikes can have handlebars that are a little wider.

Handlebar height

For a more upright position, set the handlebars higher than the seat. Setting the handlebar at the same height as the seat will give a slightly forward riding position.

CHALLENGES ON THE ROAD

To be able to exercise the necessary safety precautions, you must first be aware of the hazards of cycling. You will also need to be conscious of your surroundings. Dismount from your bicycle if conditions become dangerous.

Surface hazards

You must watch out for:

- **Irregular surfaces like holes, raised and depressed surfaces**

You may ride slowly over these obstacles or cycle slowly around them. Always keep a lookout for litter, drains, drainage gratings and other roadside hazards when riding close to the kerb.

- **Slippery and/or loose surfaces like sand, gravel and puddles**

Ride over them slowly and corner without tilting the bike excessively. Try to avoid cycling over oil patches, which are easily spotted by their rainbow-like sheen. If you must ride over oil patches, take the shortest route. Keep the bicycle as upright as you can and be prepared to put one foot down to stay balanced. Avoid applying the brakes suddenly when riding over slippery and loose ground.

- **Sharp objects**

Avoid glass, sharp metal bits and other pointed objects. If your tyre goes flat, carefully reduce your speed to a complete stop. Then dismount and push your bicycle.

Hot weather

Singapore is generally hot and humid with the exception of occasional rain. It is important to check the weather before embarking on a cycling trip so you can prepare yourself accordingly.

- When it gets bright and glaring, wear protective clothing like caps and sunglasses to help make it easier to keep your eyes on the road.
- Plan your route so that it includes paths with lots of shade.
- Water-bottle cages are designed so you can reach for your bottle with ease. Choose bottles with push-pull caps. These let you drink without having to unscrew the cap, so you can keep one hand on the handlebar.

Constantly hydrate yourself by keeping water easily accessible without having to open your backpack.

Your braking distance is increased on wet roads. Cycle slowly as it allows you to apply your brakes gently.

SAFETY GUIDELINES FOR YOUNG CHILDREN

Wet weather

Roads become slippery when they get wet. Always exercise caution when it rains.

Visibility

Visibility is reduced in wet weather. Wear bright clothing, and if necessary use your lights so other motorists are aware of your presence. Avoid cycling in the rain where possible.

Braking

To get used to braking on wet surfaces, practise on streets with no traffic.

Cornering

Turn around corners slowly while keeping your bicycle as upright as possible

Puddles

When possible, avoid puddles. They provide less traction and may conceal potholes, sharp objects and other hazards.

Slopes and hills

If you often cycle up and down slopes, try to get a bicycle with gears. It is also important to master gear changing. The following tips have been provided as a quick guide to gear changing.

- Always pedal forward and pedal with less force when changing gears.
- Changing to a low gear before you stop makes it easier for you to resume cycling.
- On level terrain, change to a gear you're comfortable with. Low gears make for easy pedalling. However, they could also make you bounce on the seat, since you tend to pedal too quickly. High gears require you to push harder, and may cause knee injuries.
- When going uphill, switch to a lower gear. To maintain your momentum, you should change gears before you reach the hill.

Learning to ride a bike is a rewarding experience for all children. It gives a great sense of achievement, helps develop balance and coordination and encourages social contact.

What to buy

The best bike for your child is one that is easy to handle and has a frame suitable for your child's body shape.

When buying a bike for a child, it is important to consider:

- Handlebars (BMX or flat style is better)
- Wheels (size and type)
- Brakes
- Bottom bracket

Here's a simple checklist to go through to ensure the bicycle is the right size for your child:

- ☐ Is there at least a 3cm height clearance between the main top tube of the bicycle frame and the lowest point of your child's body when they are standing with their feet flat on the ground?
- ☐ If the bike is a BMX or mountain bike, is there a clearance of 10cm?
- ☐ Are the handlebars and handbrakes within reach? When your child is seated, their arms should be slightly bent when holding the handle grips and their knees should not hit the handlebar.
- ☐ Is the seat level when your child is seated?

Remember:
children under 12
have difficulties
concentrating for
prolonged periods,
gauging distances
and judging speed.

**Make sure your
children know
where they can
go for help and
what to do when
danger arises.**



Helping young children learn to ride safely

It is important to let children learn at their own pace. Training wheels are an effective way to help your son or daughter gain confidence and stability. When your child starts riding without training wheels, support the bike at the back of the saddle and run behind as they learn to balance. Once your child is more confident, teach them to ride unsupported on a grass park or tennis court.

The next stage should be in light traffic and, later, on the road with a parent. In this latter stage, a parent can teach road rules and how to exercise necessary care. Here are a few tips to get young children started on cycling:

Cycle with other people

Children under 12 are still developing their peripheral vision and hearing and should therefore be supervised when cycling on the road.

Get to know your local area

Help your child map out a safe route. It is usually the one with the least amount of traffic and fewest roads to cross.

Equipment

Ensure your child is wearing a helmet, has a water bottle and wears highly visible clothing and shoes. Make sure their bikes are maintained, their helmets fit properly and the straps are always done up.

Weather

Avoid cycling in extreme weather. Encourage your child to wear a hat, slap on some sun screen lotion and wrap on sunglasses, even on cloudy days.



Helmets

Head injuries are caused by riders hitting nearby objects or failing to break their fall.

Make sure your child wears a lightweight helmet that fits the head while providing sufficient ventilation. The helmet should also be of a colour that is easily seen on the road.

Child helmets are designed for those aged between five and six. Children above seven years old should wear adult helmets.

Checking the helmet fit

- Place the helmet on your child's head checking that it fits snugly.
- Adjust the straps and do up the buckle.
- Place your palm under the front of the helmet and push up and back. It shouldn't move.
- Place your palm on the top of the helmet and try to move it side to side. It shouldn't move.

For maximum protection the helmet must fit well

If a helmet is loose it will not give your child maximum protection.

Road safety

Teach your children to ride safely and properly. Do this by letting them practise their skills in a quiet park with cycling paths.

Starting off	<ol style="list-style-type: none">1. Look behind you and to both sides before moving off.
Controlling road position	<ol style="list-style-type: none">1. Keep left unless turning right and ride in a straight line with the traffic flow.2. Ride at least one metre away from parked cars. Someone could open their door unexpectedly!3. Keep a safe distance away from the kerb.4. Don't follow cars or other vehicles too closely.5. Always check for traffic behind you. It helps to listen for approaching cars too.6. Keep control of your bike. Ride safely to control your speed and braking.7. Don't swerve or make sudden turns as drivers may not be able to react fast enough to avoid colliding with you.8. Watch out for potential hazards - potholes, gravel and drainage holes.9. Look out for vehicles coming in and out of driveways. Be particularly alert near driveways, gateways and intersections.
Braking smoothly	<ol style="list-style-type: none">1. Use your front and back brakes.2. Stop in a straight line with complete control over your bike.
Crossing and signalling	<ol style="list-style-type: none">1. Teach your child simple road rules such as stopping at the kerb, looking right, left, then right again, listening for approaching cars and thinking before crossing.2. Give hand signals clearly and in good time.

Turning left	<ol style="list-style-type: none">1. Always check behind you and look for approaching vehicles from the right.2. Signal clearly if you intend to stop, give way or turn into a new road.3. Turn at a speed that allows you to keep full control over the bike.
Turning right	<ol style="list-style-type: none">1. Check behind you before signalling and only move to the right when the road is clear.2. Move as close as possible to the left of the centre of the road.3. Signal to stop if the intersection isn't clear or signal to turn if the intersection is clear.4. Keep both hands on the handlebars while you are turning.5. Move through the intersection and ride to the left of the new road.
Keeping control on hills	<ol style="list-style-type: none">1. When riding uphill, keep a straight line without wobbling or swerving.2. When riding downhill, keep a constant road position.3. Always keep your bike under control with front and back brakes.4. Make sure you have both hands on the handlebars except when signalling.

CHOOSING A BIKE

It is very important that you buy a bicycle that fits your needs and plans. Determine what you want to use your bike for. Is it for racing, commuting, off-road exploration, long-distance touring or some other purpose? There are varying frame sizes to suit your body shape, accessories to tailor the bike to your specific needs, and differing levels of quality that, in general, match the cost of the bike.



There are many types of bikes, each with their own characteristics and uses. Here is quick summary:

Mountain bikes

Popular both on and off the bitumen. They have wide, knobby tyres, flat handlebars and between 15 and 27 derailleur gears. Bikes fitted with standard tyres perform better off-road than on bitumen. However, special slick tyres can be fitted to make road cycling easier.

Hybrid bikes

Sometimes called "cross" or "city" bikes, these look like slim-framed mountain bikes with narrower tyres and slightly raised handlebars. Despite their appearance, they perform better on bitumen than off. Gearing varies from 15 to 24 speed, with 21 gears being the most common. They are good for commuting or short leisure trips.

Touring bikes

As the name implies, these are long-distance bikes capable of carrying cargo. They are strong with a big frame triangle, drop handlebars and 14 to 27 gears.

Road racing bikes

Despite a finer frame, a shorter wheelbase and drop handlebars, they have the same appearance as quality touring bikes. Built for speed, these bikes are light and therefore not as structurally strong as other bikes.

Foldable bikes

There are a number of bikes on the market that can be reduced in size to allow easier carriage and storage. They usually involve a folding sequence with the wheels, handlebars and frame hinged together into a tight package. When fully folded, they take up less than half the space of a standard bicycle. However, compromises have to be made in the process. Often the wheels are smaller than other bikes and not suited for long distance riding.

Foldable bikes are permitted on public buses and Mass Rapid Transit (MRT) trains in Singapore. Before taking a foldable bike onto public transport, make sure you comply with all the regulations. More information is available on Page 33.

CHOOSING ACCESSORIES



Child carriers

This is a great way to introduce your child to cycling. Some models of child carriers attach:

- to the rear of a bike.
- on top of a carrier.
- to the centre of the bicycle frame and in front of the rider.

Always ensure your child is securely fastened in and wearing a protective helmet before you start cycling. It also helps to educate your child about safety and proper conduct when sitting in the child carrier.

These seats must be:

- securely attached to the frame.
- attached in a position that is not in front of or on the handlebars.
- fitted with a footrest to prevent the child's feet from dangling.
- fitted with a restraining device that cannot be accidentally released.

Load carriers

Avoid carrying heavy or bulky items in front load baskets. This can affect the ease with which you can turn your bicycle handle, making steering more difficult. It is easier to let the bike, rather than the rider carry the load, so use a rear rack where possible.

It is important to note that when attaching racks, baskets or bags to your bike, they do not put pressure on brake cables, or obstruct the reflector, lights or your pedals and feet. Each bicycle should not carry a load that weighs more than 18kg in total. The load cannot overhang the body fitted thereto nor shall its height be more than one metre from the ground*.

♦Source: Road Traffic Act (CHAPTER 276, SECTION 140) as of 15th April 2009

1. Rear racks

These create a flat carrying surface over the rear wheel. They also act as a base for the attachment of panniers and baskets. Note that some racks have a strong spring-loaded gripping mechanism that may damage soft or fragile goods.

2. Baskets

It is usually more efficient to place a larger basket on the back of the bicycle than in the front. Only place lighter items in a front basket. Rear baskets can usually accommodate more weight (up to 10 kg).

3. Panniers

Like saddlebags, they hang down on either side of the bike. Most are waterproof but if not, you can buy waterproof covers. They have the benefit of a low centre of gravity and are therefore very stable. When packing a pannier, try to avoid placing pointed items directly against the sides as they may tear the lining. Try to distribute the load evenly on both sides of the bike and if you have front and rear sets, arrange items so that 60% of the weight is in the back pair and 40% in the front pair.

Bike carriers

The two common ways to transport bikes on vehicles are with a roof rack or a tow bar carrier. Both designs make it easier to transport your bike. When making a decision on which suits you, consider both safety and security factors.

Pumps

Traditional models have a cloth covered extension tube that screws into the pump at one end and the tyre valve at the other. Increasingly popular are high pressure pumps that fit directly to the valve without an extension tube. Besides floor pumps, there are also those that are found in petrol stations. Whatever type of pump you use, be sure not to over-inflate the tyres. You will generally find bikes fitted with one of two types of valve - Presta (racing bikes) or Schraeder (similar to a car valve). The two are not interchangeable, so you must ensure your pump fittings match the valve. Valve adaptors are small and easily available from most bike shops and may come packaged together with some bicycle pumps. It is good to always have an adaptor handy to facilitate pumping, especially if the air pumps at most petrol stations do not fit your bike's tyre valve.

Water bottle cages

The need for cyclists to stay hydrated makes a water carrier an important accessory for your bicycle.

A water carrier is an important bicycle accessory. It helps you stay hydrated.

BASIC BICYCLE MAINTENANCE



Tool bags

Available in leather or plastic, tool kits usually do not come with the bicycle and have to be purchased separately.

Computer

Cycle computers provide information on speed, total time and trip distance. They are a great way to encourage regular cycling, or to set a training regime.

Overall roadworthiness

A bicycle must be properly maintained so that it does not present a danger to road users.

A bicycle is not roadworthy if the:

- chain is too loose (more than 25mm of play);
- wheel nuts or wheel bearings are loose;
- tyres are in poor condition;
- wheel rims are buckled or spokes are missing;
- brake callipers are misaligned or brake shoes are excessively worn;
- steering assembly is loose; or
- seat is not securely fitted.



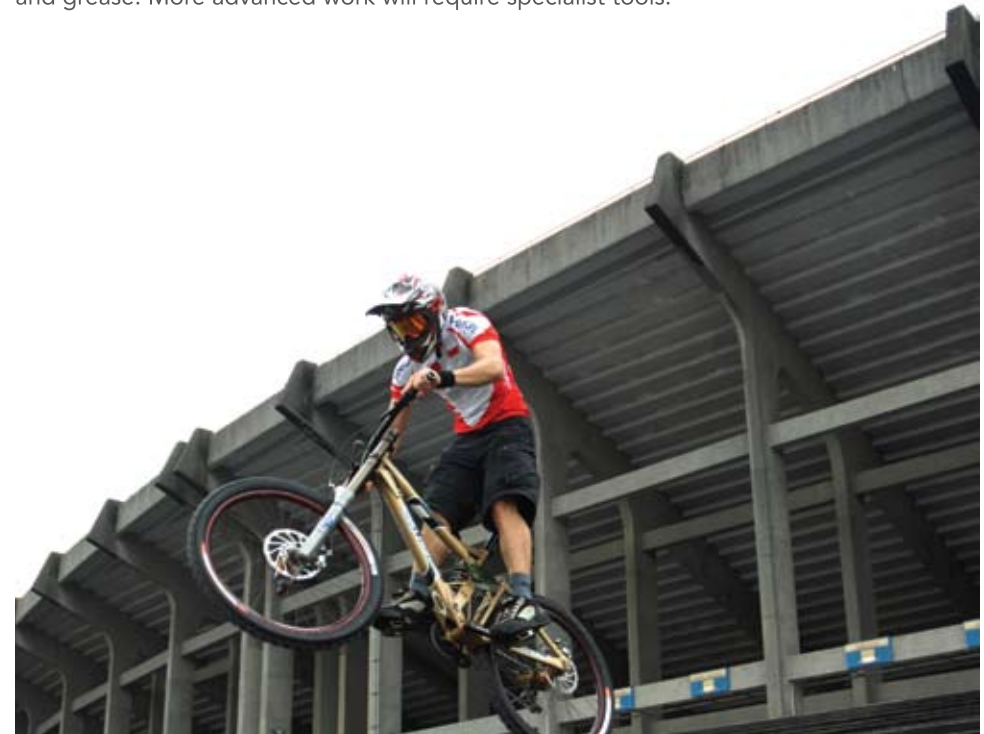
How often you need to do maintenance on your bike will depend on how regularly you cycle. However, no matter how often you ride, a healthy bike works better, is safer and more fun to ride than one that has been neglected by its owner. Servicing and repairing a bike is inexpensive compared to a car. Depending on how often you ride, you should maintain your bike on a daily, weekly or monthly basis. No matter how expensive or new the bike, it must be serviced at least once a year by an experienced and knowledgeable bicycle mechanic.

Doing it yourself

The beauty of a bike is its simplicity. You can carry out many repair and maintenance jobs yourself. To make this task easier, have the right tools, allow yourself plenty of time and do the job methodically. The reward for your effort is the satisfaction of doing the job yourself (and perhaps saving a few dollars) while learning new skills and gaining the confidence to carry out more difficult repair tasks.

Tool bags

The basics are a puncture repair kit, tyre levers, screwdriver, set of allen keys, set of spanners or a small shifting spanner, cleaning rags, an old toothbrush and lubricants such as light oil and grease. More advanced work will require specialist tools.





Daily maintenance

Before riding, give your bike a quick but thorough lookover. Check the brakes and tyre pressure. Properly inflated tyres are easier to ride on, prevent damage to the wheel rims when hitting bumps, and reduce the chance of punctures.

Weekly maintenance

If necessary, lubricate exposed moving parts of the bike with a light oil, such as sewing machine oil. Do not get oil on the tyres or rims, and do not use penetrating spray oil on bearings.

Oil the following areas:

- front and rear derailleur gears;
- front and rear brake pivots;
- brake and gear levers;
- and a small amount on each chain link.

Monthly maintenance

Check the following major items on your bike:

Wheels

- Check tyre pressure and condition. The tyres should be hard to squeeze. The valves should be upright and not leaking. Most tyres will have the recommended pressure stated on it, so one should check it and pump it to the recommended pressure.
- The wheels should be straight and true, without dents or other damage, and can spin freely.
- Replace broken spokes and tighten loose ones.
- Check axle nuts and cones. Tighten if necessary.
- If the wheels have quick release mechanisms (especially the front wheel), make sure they are securely fastened, otherwise the wheels could fall out, causing a crash and severe injury to the rider.



Brakes

- Check brake blocks for wear, and make sure they contact squarely with the rim, not the tyre.
- Replace worn or frayed brake cables.
- Adjust brakes so that, even when braking hard, there is still some clearance between the brake levers and handlebars.

Gears

- Check derailleur gear action and cables (derailleur repairs are best left to a mechanic).
- Clean chain with a rag soaked in degreaser and re-oil.
- Clean rear sprockets.

Steering

- Check for looseness in the handlebar and stem.
- Ensure the handgrips are secure.

Pedals

- The axle must spin freely.
- Check pedal axles and bottom bracket axles for excessive looseness.

Frame

- Inspect for damage.
- Ensure seat-post height is correct and that the seat-post bolt is tight.

Accessories

- Check to ensure the bell works.
- Ensure the bicycle has a rear reflector.
- Make sure the white headlight and red tail light work.

CYCLING FOR HEALTH & FITNESS



Before start of exercise

1. Get the all clear from your doctor before starting an exercise programme, especially if you are overweight, smoke, or have high blood pressure. Your doctor will advise you on your heartbeat rate and how high it can go safely when exercising.
2. Alternatively, you can run through the Physical Activity Readiness Questionnaire (PAR-Q) on the following page.

Cycling is a relatively inexpensive way to achieve better health and fitness. Because it's a low-impact activity, cycling places very little strain on the body. This is especially good for people who are starting to get into exercise, pregnant women and people recovering from injury. Cycling also gives a great cardiovascular workout because it uses the biggest muscles in the body.

Cycling can save you money, improve your health and help you enjoy the outdoors. Regular cycling will:

- make you feel more energetic.
- lessen the risk of many lifestyle diseases such as cardiovascular disease.
- help you sleep better.
- reduce stress.
- strengthen your heart.
- improve your blood pressure.
- help you manage your weight.
- aid the release of 'feel good' body chemicals called 'endorphins'.



Warming up

As with any exercise, it is important to warm up before cycling. Cycling gently for ten minutes will warm your body up and prepare your muscles for more intense exercise.

Increase your cycling speed and distance at a steady rate as you get fitter, remembering that you are exercising for good health and enjoyment. As a guide, a beginner with a moderate level of fitness should aim to cover 5 kilometres in 20 minutes.

Rest is also very important as it allows your body to recuperate. Cooling down after a ride is just as important as warming up beforehand. Ride at an easy pace for the last five minutes of your ride and you will finish refreshed and revitalised, rather than strained and tired.

Current recommendations for physical activity

The Health Promotion Board of Singapore recommends 30 minutes of exercise, 5 to 7 times a week*. If the thought of continuously exercising for 30 minutes is too daunting, you could break the 30 minutes into shorter periods. For example, you could exercise for 10 minutes, 3 times a day, or 15 minutes – twice a day – and still enjoy the same benefits.

To get the most out of cycling, try to go at a pace that makes you breathe a little faster, feel warmer and have a slightly raised heartbeat.

Remember: take it easy in the beginning. When you first start cycling you should aim to cover five kilometres in 20 minutes. As you become fitter and more comfortable on your bike, start to increase your speed and distance.



*Source: Health Promotion Board of Singapore as of 15 April 2009

ARE YOU READY TO CYCLE?

The Physical Activity Readiness Questionnaire (PAR-Q)

is designed to help you assess your level of readiness for physical activity. It is simple and it only takes a fraction of your time to complete.

Regular physical activity is fun and healthy. Increasingly more people are starting to become more active every day. Being more active is very safe for most people. However, some people should check with their doctors before they start becoming more physically active.

If you are planning to become more physically active than you are now, start by answering the seven questions in the box below. If you are between the ages of 15 and 69, the PAR-Q will tell you if you should check with your doctor before you start. If you are above 69 years of age, and you are not used to being very active, check with your doctor.

Common sense is your best guide when you answer these questions. Please read the questions carefully and answer each one honestly: **check YES or NO.**

- | YES | NO |
|--|--------------------------|
| <input type="checkbox"/> | <input type="checkbox"/> |
| Has your doctor ever said that you have a heart condition and that you should only do physical activity recommended by a doctor? | |
| <input type="checkbox"/> | <input type="checkbox"/> |
| Do you feel pain in your chest when you do physical activity? | |
| <input type="checkbox"/> | <input type="checkbox"/> |
| Do you have a bone or joint problem (for example, back, knee or hip) that could be made worse by a change in your physical activity? | |
| <input type="checkbox"/> | <input type="checkbox"/> |
| Do you lose your balance because of dizziness or do you ever lose consciousness? | |
| <input type="checkbox"/> | <input type="checkbox"/> |
| Do you know of any other reason why you should not do physical activity? | |
| <input type="checkbox"/> | <input type="checkbox"/> |
| Is your doctor currently prescribing drugs (for example, water pills) for your blood pressure or heart conditions? | |
| <input type="checkbox"/> | <input type="checkbox"/> |
| In the past month, have you had chest pain when you were not doing physical activity? | |

If you answered YES to one or more questions:

Consult your doctor by phone or in person BEFORE you start becoming much more physically active or BEFORE you have a fitness appraisal. Tell your doctor about the PAR-Q and which questions you answered YES.

- You may be able to do any activity you want – as long as you start slowly and build up gradually. Or you may need to restrict your activities to those which are safe for you. Consult your doctor about the kinds of activities you wish to participate in and follow his/her advice.
- Find out which community programmes are safe and helpful for you.

Personal Safety

- Know your own body. Are you ready to cycle?
- Cycle within your limits.
- Have adequate rest and water before you cycle.
- Before you cycle, let someone know that you are going out.
- Warm up before cycling and cool down after the activity.
- Wear appropriate safety equipment at all times.



If you answered NO honestly to all PAR-Q questions, you can be reasonably sure to:

- Start becoming much more physically active. Starting slowly and building up gradually is the safest and easiest way to go.
- Take part in a fitness appraisal. This is excellent for determining your basic fitness so as to plan the best way to live actively. Evaluating your blood pressure is also strongly recommended. For readings above 144/94, consult your doctor before you become more physically active.

Delay becoming much more active:

- If you are not feeling well because of a temporary illness such as a cold or a fever – wait until you feel better, or
- If you are or may be pregnant – consult your doctor before you start becoming more active.

Please note:

If you answered Yes to any of the above questions, tell your fitness or health professional. Ask whether you should change your physical activity plan.

Download PAR-Q in Chinese, English, Malay or Tamil from www.sportsafety.ssc.gov.sg
For more information, please call 6500 5431.

Source: Canadian Society for Exercise Physiology

CYCLING AND THE LAW

This section covers the requirements and offences as laid down by the Singapore Traffic Police and the Road Traffic Act* so you know how to comply with all the rules and regulations. Users are also encouraged to cycle safely and conscientiously so as to not endanger anyone, including themselves.

The bicycle

Introduction

A bicycle is a legal road vehicle provided it is suitably constructed and equipped. In Singapore, conventional bicycles do not have to be formally registered by licensing authorities in order to be used on public roads.

Under the Road Traffic Act, a bicycle refers to a two-wheeled pedal cycle constructed or adapted for use as a means of conveyance.

The rider

Carrying or towing loads

Any load or attachment on a bicycle must not be likely to cause injury to the rider or any other person. Each bicycle should not carry a load that weighs more than 18kg in total and the load cannot overhang the body fitted thereto nor shall its height be more than one metre from the ground.

Cycling equipment

A bicycle must have the following:

- a bell (or other effective warning device) that functions correctly.
- effective hand operated wheel brakes.
- a red reflector fitted to the rear.

When riding during darkness (7pm-7am), a bicycle must also have:

- a front light showing an unbroken white beam that is clearly visible from 200 metres.
- a rear light showing an unbroken or flashing red beam that is clearly visible from 200 metres.
- a yellow side reflector (visible from both sides) on each wheel.
- yellow reflectors fitted to the edges of each pedal.

General Road Traffic (Bicycles) Rules

When using a public road, all bicycle riders must obey the same rules as other vehicles such as cars and trucks. A cyclist may be punished under the Penal Code/Road Traffic Act should he/she act rashly or negligently so as to endanger human life or the personal safety of others.

As a general rule, cyclists shall not unreasonably obstruct or prevent free passage of a vehicle or pedestrian upon a path or road. Similarly, vehicles and pedestrians shall not unreasonably obstruct cyclists.

1. **Bicycles are not permitted to be towed by any other vehicle when on any road.**
2. **Restriction on number of persons carried.**
 - All bicycles can only carry at one time, no more persons than the number for which it is designed for and no pillion passenger shall be carried on a bicycle unless it is designed for one.
 - This is with the exception of a child under 12 years of age who may be carried on a properly constructed child seat affixed firmly to the pedal bicycle.
3. **Travelling abreast is prohibited.**
 - Bicycles are not permitted to be ridden on the right of another vehicle proceeding in the same direction except when overtaking such other vehicle.
 - Bicycles shall not be ridden on the right of any two other pedal bicycles proceeding abreast in the same direction except when overtaking such other pedal bicycles or on parts of roads or paths set aside for the exclusive use of bicycles.
 - When a portion of a road or path has been set aside for the exclusive use of bicycles, bicycles cannot be ridden on any other part of the roadway.
4. **Bicycles are also not allowed to be ridden on any part of any expressway.**
5. **Slow down when approaching road openings, bends, junctions, bus stops and pedestrian crossings.**
6. **Do not cycle across pedestrian crossings. Instead, dismount and push your bicycle and practise proper kerb drills before crossing the road. Look right, left and right as if you are a pedestrian.**

*Source: Singapore Traffic Police & Road Traffic Act (Singapore) as of 15 April 2009



Common infringements by cyclists in Singapore include but are not limited to:

- failing to keep a proper lookout for others.
- changing lane without due care.
- failing to give way to traffic with right of way.
- riding on expressways.
- riding against the traffic flow.
- failing to conform to red light signal.
- riding on any other part of the roadway when a portion of a road or path has been set aside for the exclusive use of bicycles.
- riding on any part of any expressway.
- not slowing down when approaching road openings, bends, junctions, bus stops and pedestrian crossings.
- cycling across pedestrian crossings.



Dealing with traffic

On-road cyclists need to ride defensively at all times.

- Try not to ride along a road directly into the rising or setting sun. These light conditions make it harder for motorists to see you.
- Show caution when nearing a motorist who is intending to turn left across your path. Always assume the motorist has not seen you.
- Always use the correct hand signals to indicate when you want to turn left or right and to stop. Signal well ahead of your action so other road users have enough time to take the appropriate action.

Turning left	Fully extend your left arm horizontally with the palm of the hand to the front.
Turning right	Fully extend your right arm horizontally with the palm of the hand to the front.
Stopping	Fully extend your right arm horizontally with the forearm vertical and with the palm of the hand to the front.
U-turning	Same rules apply as for a right hand turn.

- When approaching parked cars, slow down and keep a safe distance from them.
- Avoid riding within two metres from the rear of a motor vehicle, for a distance of more than 200 metres.
- Never overtake on the left of a motor vehicle if it is moving and is indicating to turn left.

SHARED PATHS & CYCLING TRACKS

When approaching pedestrians from the rear, always sound your bell when you are about 30 metres from them. By making them aware of your presence, they are less likely to be startled and make sudden moves when you near them.



Currently, under Rule 28 of the Road Traffic Rules, cycling on footways is prohibited. Like any other vehicles, bicycles are to be ridden on the roads and cyclists are required to abide by all relevant traffic rules and regulations.

However, the feasibility of allowing cyclists to share pedestrian footways in selected towns, depending on local conditions is being explored. A Tripartite Committee comprising Land Transport Authority (LTA), the Traffic Police (TP) and Tampines grassroots organisations conducted a trial in Tampines Town to study the extent to which local residents are prepared to share a common footway with cyclists*.

Shared path courtesy*

- Always give way to pedestrians.
- Look out for pedestrians or other cyclists before moving off.
- When using a shared path, keep to the left at all times unless overtaking.
- Travel in a single file on shared paths unless overtaking.
- Do not speed and slow down especially when passing pedestrians - remember they are slower and can be unpredictable.
- Always be aware of the intentions of other footway users.
- Use hand signals to inform other footway users of your intentions.
- Prepare to slow down or stop if the human flow is heavy, especially in school zones. Dismount and push your bicycle if necessary.
- Slow down when approaching road openings, bends, junctions, bus stops and pedestrian crossings.

*Source: Land Transport Authority of Singapore as of 15 April 2009

*Singapore Police Force - Feedback on Cycling on Footways as of 15th April 2009

Be particularly careful where a shared path crosses a busy road. Look in all directions before proceeding across the road and onto the other side. Cyclists also need to show caution where a shared path crosses residential and commercial driveways. In some instances, a reversing driver cannot see a person using the path.

Cycling tracks on parks

Many Singapore parks offer lush greenery and cool, shaded areas. These parks form an effective shield against traffic noise and exhaust fumes. Such safe and relaxing locations are ideal for cycling and other recreational activities. However, as with shared paths, it is important for us to be mindful of other park-users.

Below are more tips to help you make cycling safer and more enjoyable.

- stay on track – stay within the cycling tracks where available and keep a lookout for pedestrians who may have strayed onto the wrong designated track.
- avoid speeding within parks.
- show consideration to others by not hogging the tracks when cycling in groups.
- ensure sufficient rest points for long-distance cycling and ensure adequate hydration.

STAY ON TRACK. Be Considerate, Be Courteous.

- keep to the LEFT and overtake on the RIGHT.
- give way to pedestrians.
- keep to designated tracks.
- slow down when approaching road openings, bends, junctions, bus stops and pedestrian crossings.
- be on the lookout for the action of the other road users.
- be in bright attire and use illuminating devices at night.
- be aware of your surroundings at all times.
- keep to the speed limit of 15km/h for cyclist and skaters.
- move off the track if you need to stop or wait for friends.
- wear proper safety attire.

FOLDABLE BICYCLES ON BUSES AND TRAINS

Commuters are permitted to travel with their foldable bikes on the Mass Rapid Transit (MRT) and Light Rail Transit (LRT) trains and buses with no additional charge during off-peak times, weekends and public holidays, subject to the following conditions*:

During weekday off-peak times (9.30am to 4.00pm and 8.00pm to end of revenue service) and Saturdays, Sundays and Public Holidays, you can take your foldable bike on trains and buses.

- Foldable bicycles should be folded at all times on the trains and at MRT/LRT stations.
- Foldable bicycles should not exceed 114 cm by 64 cm by 36 cm when folded.
- The wheels of the foldable bicycles should be wrapped up if they are dirty or wet.
- Protruding parts likely to cause injury to other commuters or soil and damage property should be covered up.
- Foldable bicycles should not block the aisles and doors at any time.
- Foldable bicycles should not be left unattended at any time.
- Foldable bicycles should be carried in an upright position.
- Cyclists should use the first or last car on trains, which tend to be less crowded.
- Cyclists should use the lifts and wide fare gates at MRT/LRT stations.
- Foldable bicycles are not allowed on the upper deck of a bus or on the staircase leading to the upper deck. Only one foldable bicycle is allowed on each bus at any time.

For more information, you may refer to the following website
http://www.smrt.com.sg/buses/documents/Bus_Poster.pdf

*Source: SMRT Corporation Ltd (SMRT) as of 15th April 2009