

Cycling Scotland

CYCLING SCOTLAND SCOTTISH CHARITY NO.SCO29760

Essential cycling skills

QUICK GUIDE

Supports Level 3 Bikeability Scotland



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Essential cycling skills

QUICK GUIDE

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Introduction

More people than ever are now choosing to travel to work, school and campus by bike.

Have a read through the next few pages to increase your confidence on your bike and start enjoying the benefits cycling offers... freedom to explore, affordable travel and the chance to meet friends. Cycling is also better for our environment and can improve your health and wellbeing.

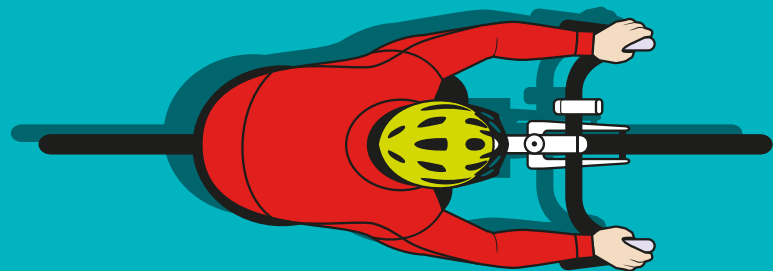
You can download our Essential Cycling Skills app to your Apple or Android device via the App Store and Google Play – absolutely free.

You can find out more about our practical training sessions at cycling.scot

Enjoy the ride!



BICYCLES & KIT



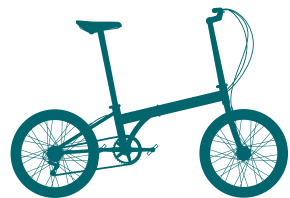
Choosing a bike

When buying a bicycle, think about how you will be using it and how much you can afford to pay.

- ▶ What sort of journeys will you be making?
- ▶ How long are those journeys?
- ▶ What type of surfaces will you be riding on?
- ▶ Will you need to carry things?
- ▶ Will you be using other forms of transport for part of your journey?

A bike shop will be able to advise on choosing the right bike for you. If you buy a bike privately, consider having a mechanic check it over to make sure it is roadworthy.

Bike options



Folding

- ▶ Easy storage
- ▶ Great for mixed mode journeys, using trains or buses
- ▶ Best for shorter, mostly flat, city commutes



Road

- ▶ Built for speed and performance
- ▶ Range of gears for hilly routes



Hybrid/Commuter

- ▶ Versatile and comfortable
- ▶ Best for everyday journeys



City/Dutch

- ▶ Relaxed, comfortable design
- ▶ Strong and low maintenance



Electric Assist

Ebikes and Pedelects can transform your cycling experience, extending your range and flattening hills. In the UK anyone over the age of 14 can ride an ebike, providing power assistance up to 15mph. There are lots of ebikes on the market, and in many cases you can also retro-fit power-assist to your existing bike.



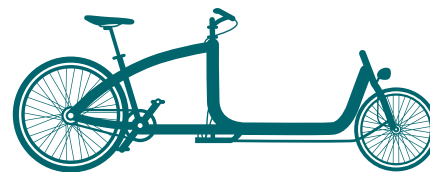
Single gear

- ▶ Simple design
- ▶ Low maintenance
- ▶ Most suited for shorter, mostly flat journeys



Mountain (mtb)

- ▶ Strong and robust
- ▶ Best for off road use



Cargo-bike

- ▶ Ideal for transporting goods or people
- ▶ Can come in 2 or 3 wheel options
- ▶ Electric assist option useful in hilly areas



Tricycle

- ▶ Easy to balance
- ▶ Good on smooth surfaces

Fitting a helmet

When you shake your head from side to side, a correctly fitted helmet will stay in place

- 1 Place level just above the eyebrows
- 2 Side straps meet below the ear to form a Y shape
- 3 Less than two fingers space between your chin and strap



TOP TIP

UK law does not require you to wear a helmet whilst cycling. It remains a matter of personal choice, although wearing a helmet may provide some extra protection in the event of an accident.

Clothing and cycling at night

You do not need special clothing to ride a bicycle. However, you may consider wearing brighter clothing to help other road users see you.

Night Bright or reflective clothing

Rain Rain jacket and visible colours

Cold Layers, gloves and under helmet cap

Protect your clothes

Keep them away from a greasy chain by rolling up your trouser leg, using a leg band or tucking them into your socks

Cycling at night

Always use a white headlight at the front and a red rear light with reflector at the back (as a minimum). Pedal reflectors are also required.



Bike check

As simple as ABC. This Quick Check will ensure your bike is in good working order and help you ride more safely

A - Air If your tyres give a bit when you press with your thumb, they need some air. Riding with too little or too much air in your tyres will affect how your bike handles. Some air pumps are fitted with a pressure gauge to help you. Also check the surface of your tyres for heavily worn tread or damage.

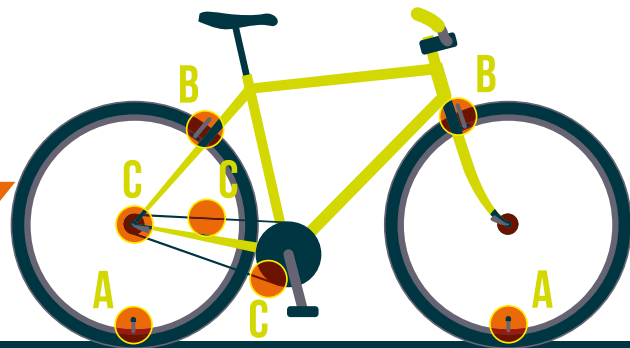
B - Brakes It is safer to test your brakes by pulling the levers whilst walking alongside the bike. Brake cables and blocks need adjusted and replaced over time. If your brakes seem weak, ask a bike shop or mechanic for advice.

Some three-wheel bikes have a handbrake.

C - Chain Make sure your chain is running smoothly - lightly oiled and free of rust and dirt - by spinning it backwards for a few revolutions. **You may already be familiar with the M-Check - another simple pre-ride bike check. See the M-Check video at bikeability.scot**



If you have an ebike check your battery is well charged.



TOP TIP

As you start to ride, listen for any rubbing, grinding or clicking noises that might mean that something is not working properly.

Locking your bike

It certainly pays to invest in the best quality lock you can afford

A poor quality, cheap lock could be easily sawn off or bolt cut in seconds.

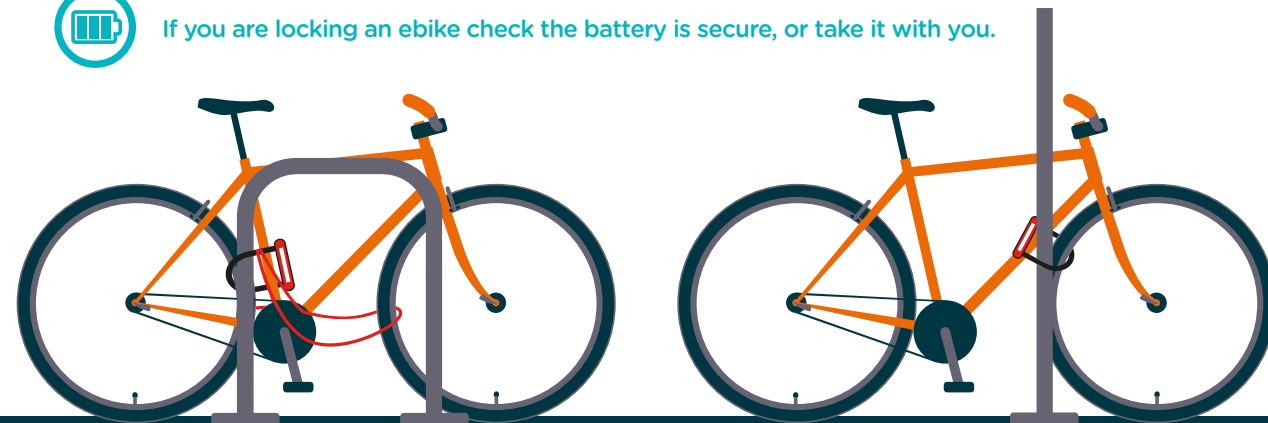
A good quality D-lock will provide much better protection.

Always lock your bike to something that can't be moved - look for a cycle stand, or an object fastened to the ground that cannot be broken (e.g. chain link fence) or that the bike cannot be lifted clear of (e.g. signpost).

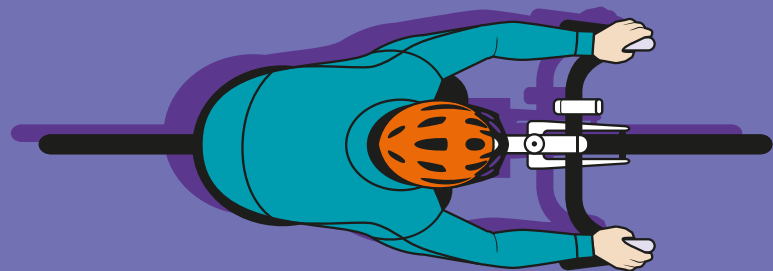
For maximum protection, more than one lock can be used to secure the wheels and frame of the bicycle.



If you are locking an ebike check the battery is secure, or take it with you.



CYCLING SKILLS



Balance and control

Steering and Cornering

- ▶ Adjust your speed to suit the conditions and look in the direction you want to travel
- ▶ As you gather speed, only minor adjustments to your handlebars will be required
- ▶ Good control in leaning the bike will help you corner smoothly
- ▶ Raise the pedal on the inside of the corner to avoid clipping the ground
- ▶ If riding a bike with more than two wheels, lean into turns to reduce chances of tipping over
- ▶ On cargo, and other long bikes, beware of steering wobble when setting off and looking behind

Braking

- ▶ Get to know the feel of your brakes
- ▶ Most of the braking power comes from the front brake
- ▶ Practice using both brakes together, applying pressure gently as you build confidence
- ▶ When braking, keep your arms firm and your weight towards the back of the bike
- ▶ Reduce your speed before you enter a corner
- ▶ Heavier bikes such as trikes or cargo bikes may require greater braking distance

On an ebike, if you are using the e-assist to accelerate, be aware of any surge in power that may occur. Avoid acceleration when signalling or performing manoeuvres.



TOP TIP

Signalling and observation

The conditions around you can change quickly. When coming to a stop, move to an easier gear to help you restart. When stationary you should clearly indicate your intentions to other road users.

It is useful to have a simple step-by-step routine when making manoeuvres, our routine is illustrated below.



Look

Look all around to check for traffic or hazards



Signal

If it's safe, make a clear signal with your palm facing forwards and your fingers together



Bars

Return both hands back to the handlebars



Lifesaver

Make a final observation, looking over the same shoulder as the direction your are turning

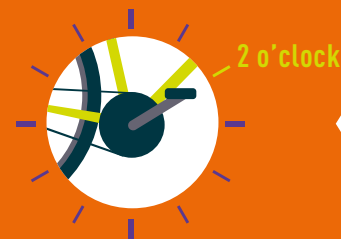


Manoeuvre

Complete the manoeuvre

TOP TIP

When coming to a stop, consider changing down some gears to make it easier to set off again. This will also save the battery on your ebike. When stationary, have your pedals set to the 2 o'clock position - which will help you move off smoothly.



Road Position

Choosing the best position on the road is very important for safety and helps traffic flow freely

Your position on the road will depend on the width of the road, the speed of traffic and any obstructions ahead.

You want to be in a position which:

- ▶ Helps you see and be seen easily
- ▶ Helps you manage risks and react to hazards
- ▶ Avoid broken road, drain covers, debris and obstructions

On each section of your route, you should make an assessment and decide how to best position yourself. Your road position will change depending on conditions you encounter.

Riding in the gutter is never a preferred option. Riding too close to a parked vehicle will restrict your view of the road ahead and could be dangerous if the car door were to open onto your path.

There are two standard road positions to be aware of and these are illustrated in the following pages.

Road position

Primary Position

This is your normal riding position when riding in quiet urban streets, narrow roads, at traffic island and pinch points or at junctions.

You should aim to be in the centre of the lane. This will demonstrate confidence and will discourage motorists overtaking where an overtake would be dangerous.

Secondary Position

On busier roads and when traffic is moving faster than you can travel, the secondary position is considered to be more appropriate.

Your decision to move into the secondary position should not compromise your safety; but allow faster traffic to pass on clear sections of road. You should NEVER ride less than 50cm from the edge of the road.

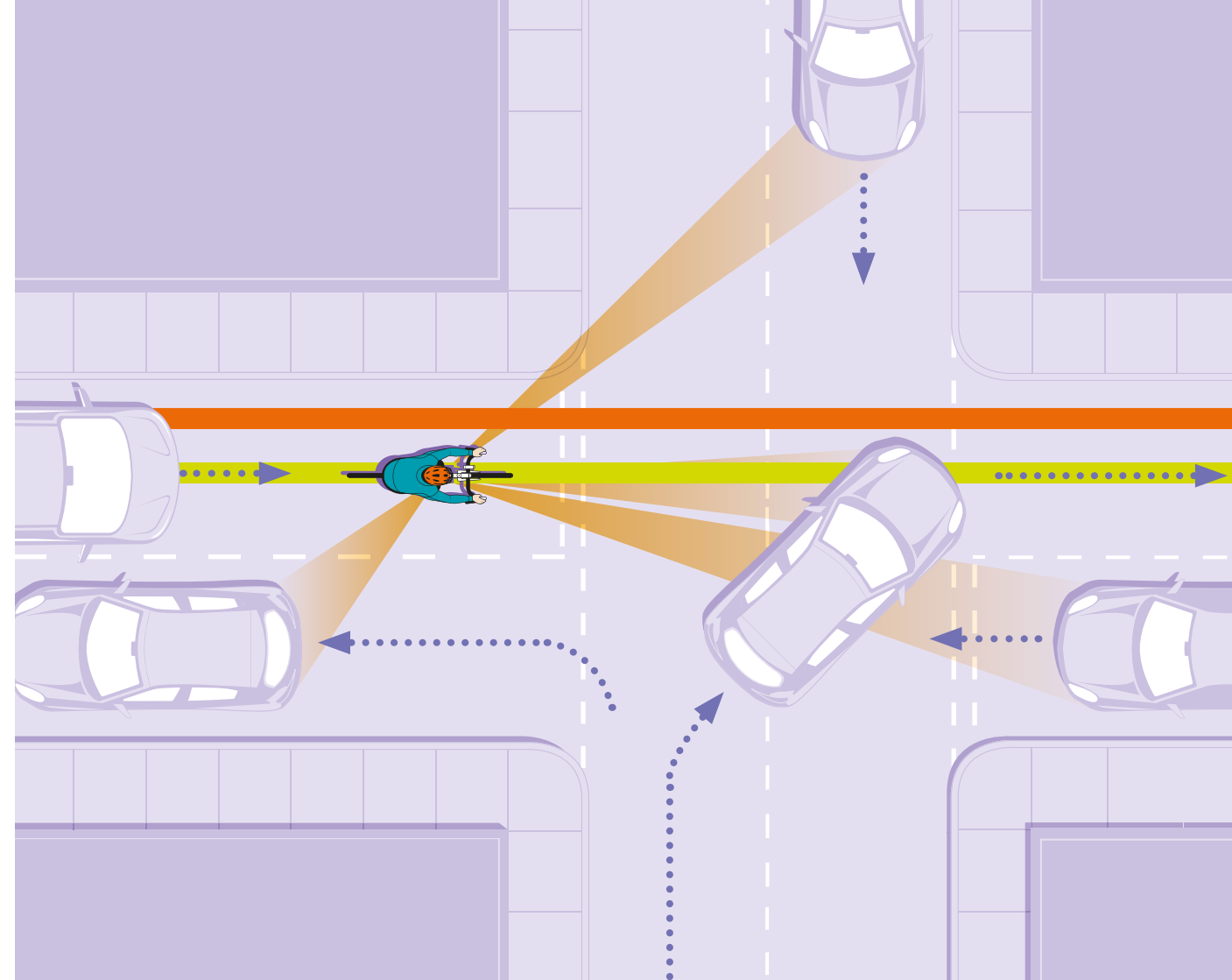
A 3-wheel bike is wider so your road position may be between an obvious primary and secondary one.

Scanning

Before changing road position, lanes or turning, always look over your shoulder and up ahead (scan). Then signal your turn and make your move.

The Door Zone

Do not cycle close to vehicles where you can be hit by an opening door; ride a car door length away from parked cars.



Controlled junctions

Traffic on minor roads must give way to traffic travelling on major roads

The junction joining a minor to a major road will often be controlled by “Stop” signs, “Give Way” signs, traffic lights, police or traffic wardens.

Unmarked junctions will not have any give way or stop sign and will have no junction lines. They can sometimes be found in quieter areas, such as residential streets or country lanes.

There is no recognised priority at these junctions and good judgement is needed. If you approach the junction at the same time as another vehicle, it is often best to wait and let them go first.

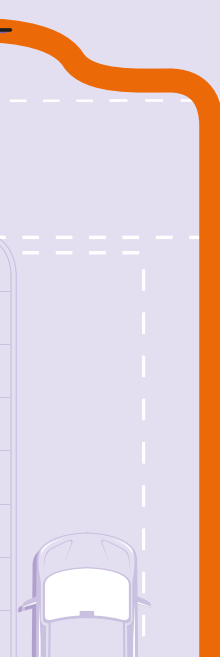
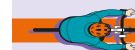
Heavier cargo bikes/trikes may need more space to pull away, ensure you leave a big enough gap.

TOP TIP

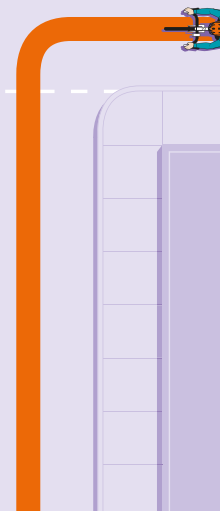
Traffic joining from a minor road must give way to traffic on the major road, which has priority.



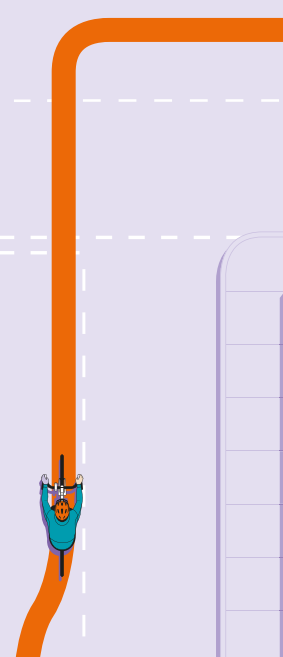
Turning right
Major road
to minor road



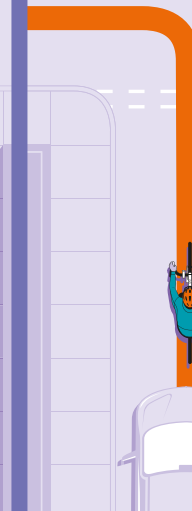
Turning left
Major road
to minor road



Turning right
Minor road
to major road






Turning left
Minor road
to major road

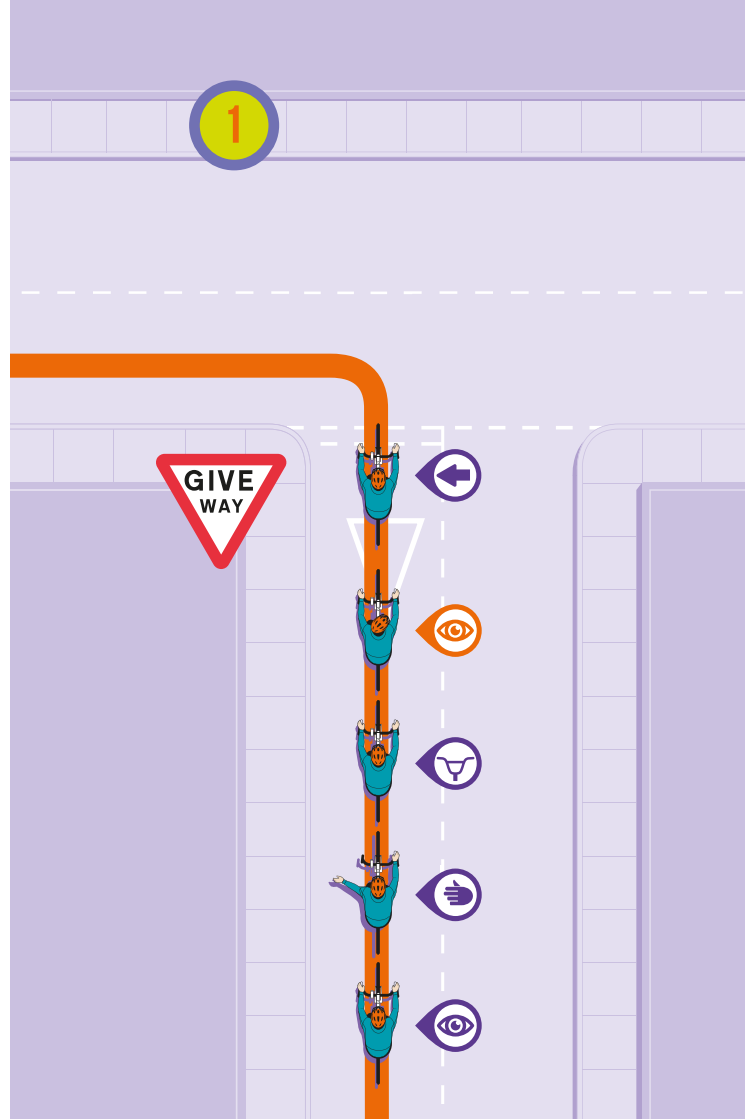


Manoeuvres






Let's look at how our observation, signalling and road positioning strategy can be applied to the following manoeuvres.

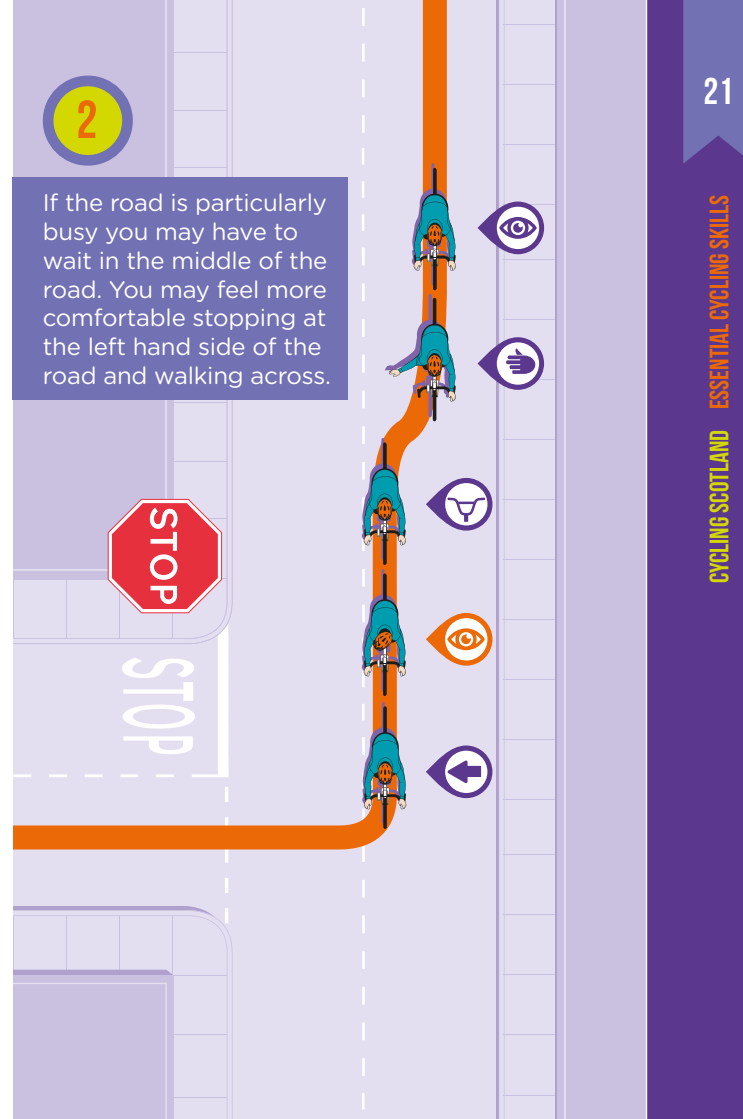
1 Turning left Minor road to major road

-  **Look** Check all around, looking back over your right shoulder to see if it's safe.
-  **Signal** If it's safe, give a clear signal with your left arm.
-  **Handlebars** As you get close to the junction, put your left hand back on the handlebars and squeeze both brake levers gently.
-  **Lifesaver** Take a final look back over the left shoulder, just to make sure it's safe. If the junction is not clear or the lights are red, bring your bike to a stop. Keep your left foot on the ground and the right pedal set at the 2 o'clock position.
-  **Manoeuvre** Obey the traffic lights and road signs. If you have stopped, remember to look all around and signal clearly if required before you move off safely.



2 Turning right Major road to minor road

-  **Look** Check all around, looking back over your right shoulder, to see if it's safe.
-  **Signal** If it's safe, give a clear signal with your right arm stretched out. Depending on how wide the road is, move gradually into either the primary position or a position about an arm's length to the left of the centre line, still signalling. Keep watching for traffic all around you.
-  **Handlebars** As you get close to the junction, put your right hand back on the handlebars and squeeze both brake levers gently. Look into the junction for vehicles which may pull out in front of you.
-  **Lifesaver** Look straight ahead for traffic coming towards you. Traffic coming towards you has right of way and you must wait until the major road is clear and it is safe to turn. Check that your way into the junction is clear. Before you turn, do a final look behind, over your right shoulder, to check if somebody is overtaking. If the major road is not clear, stop and repeat the starting-off procedure before moving off safely.
-  **Manoeuvre** If it is safe to turn, cycle into the minor road without cutting the corner. Look out for other road users (drivers, pedestrians and cyclists).



Filtering in traffic

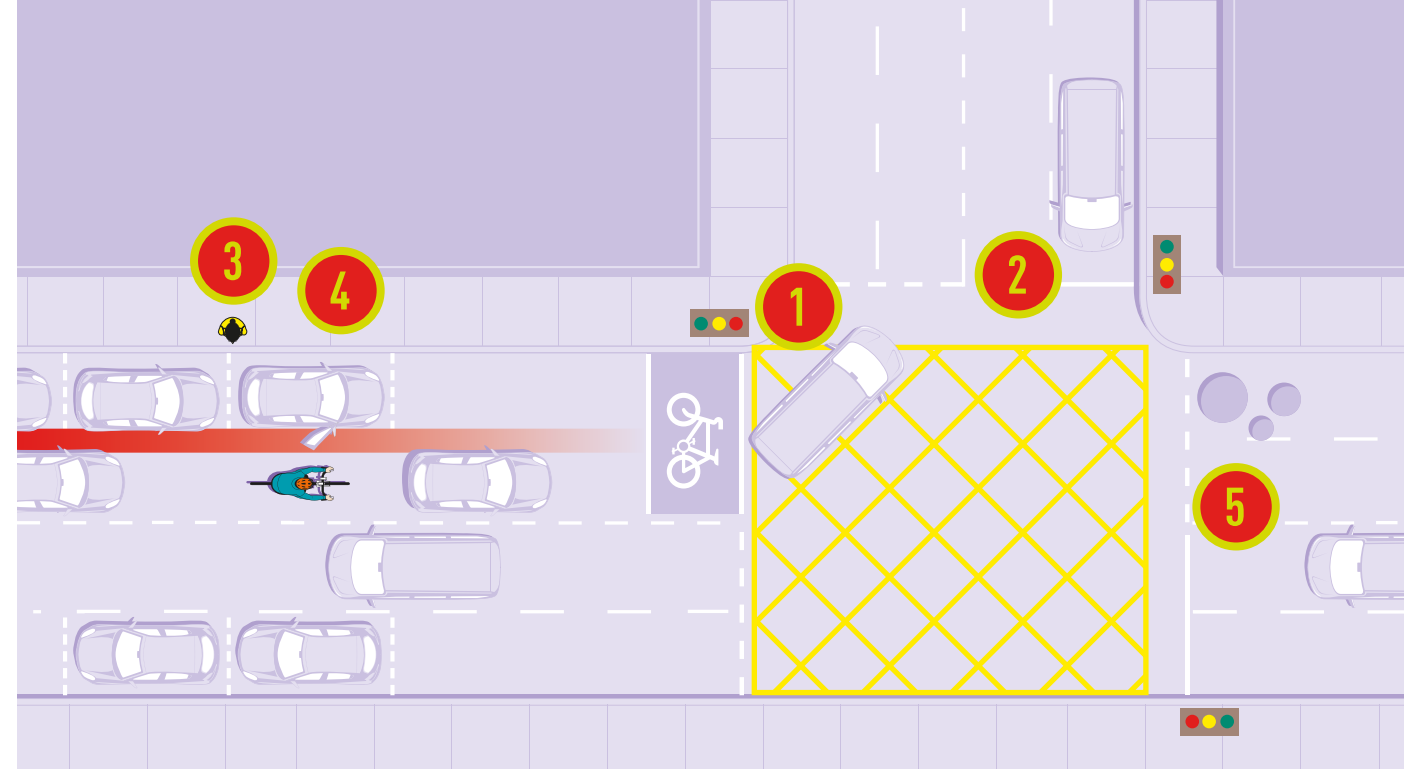
Some people on bikes take advantage of their small size to filter through stationary or slow moving cars. Although an accepted practice in the Highway Code, filtering can present certain risks which should be carefully managed.

It is advisable that inexperienced bike users stay in lane and wait. If you choose to filter through traffic, you should:

- ▶ Pass to the right if there is room – you will be more visible and drivers expect to be passed on the right
- ▶ Check for a gap and re-join the stream of traffic so you pass through the junction in primary position
- ▶ Be prepared to stop quickly to avoid hazards, such as passenger doors opening, and vehicles from side roads pulling into your lane
- ▶ The best way to communicate in queuing traffic is with eye contact, to make sure you have been seen
- ▶ Heavier bikes, including electric bikes, may wobble more at slow speeds
- ▶ There is rarely space to filter on a cargo bike

TOP TIP

Avoid filtering on the left of traffic, alongside the pavement or parked vehicles. Never filter down the left of a large or long vehicle – as the blind spot will be greater. Avoid filtering at uncontrolled junctions. Drivers will be waiting for a chance to merge and may move off at any point. There is the risk that you will not be seen.



POTENTIAL HAZARDS WHEN RIDING IN TRAFFIC

- 1 Danger in filtering on the left, blind spots, traffic turning left across your path
- 2 Cross traffic – merging from road at ‘keep clear’ space / partially obscured
- 3 Pedestrians crossing the road, through stationary cars
- 4 Car door opening
- 5 Unavoidable potholes

Some weather conditions will have an effect on how your bike handles. When roads are wet they are usually more slippery, and you should adjust your speed and apply your brakes earlier to manage this. In icy weather, it can be a challenge to maintain good control of your bike. In icy or snowy conditions you can fit studded tyres. It may be best to consider alternative transport.

Hazardous road surfaces include slippery roads, potholes, wet road metal, uneven or poorly maintained surfaces, broken glass or other obstacles, level crossings and tramlines, and speed bumps.

When cycling over a hazardous surface, reduce your speed on approach, steer as straight as possible, lift your weight off the saddle and release the brakes. Approach level crossings and tramlines at right angles, and on slippery surfaces, avoid sudden braking and turning.



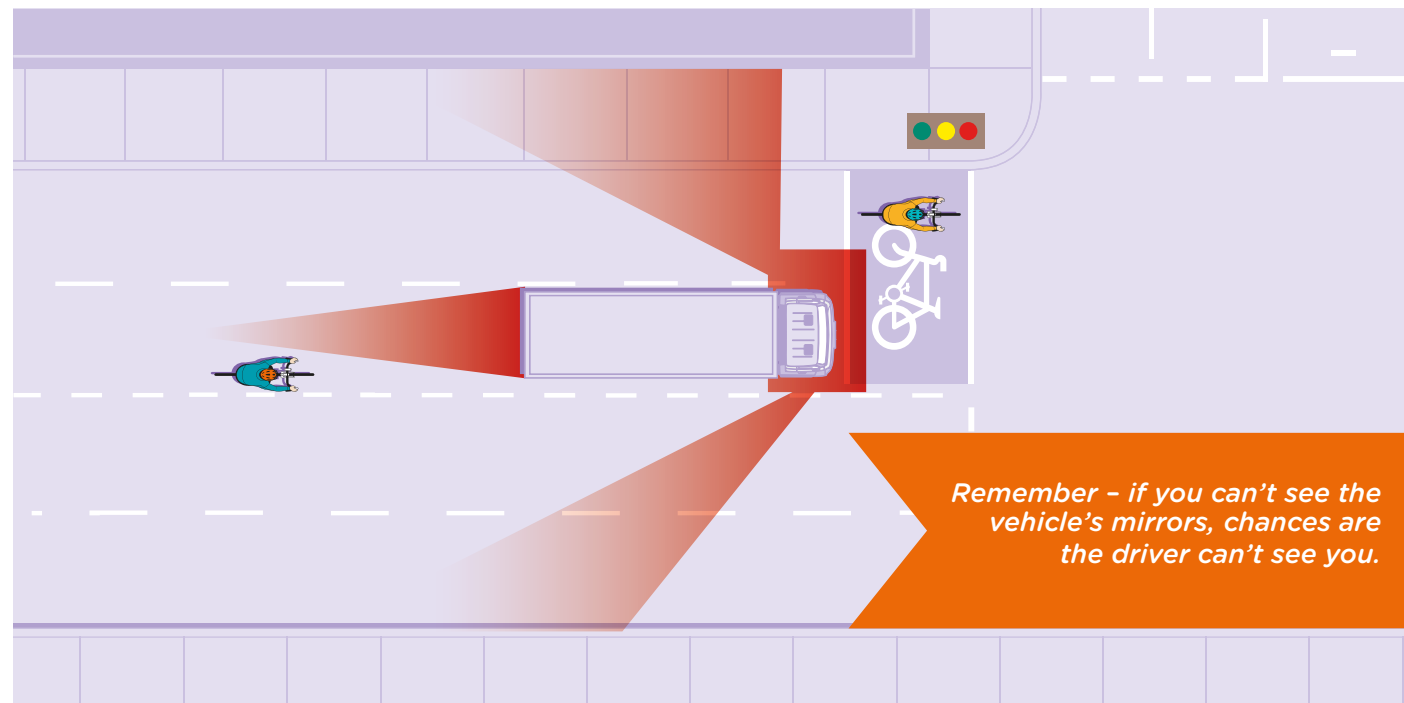
Potholes are all too common on our roads. It is best to look ahead and ride around them wherever possible. You may not always be able to do this safely when in traffic or riding in a group. The best way to ride over the pothole is to stand out of the saddle with your weight to the back of the bike and your knees bent slightly to absorb some of the impact.

If you can avoid them, don't ride through puddles on the road. They can be hiding large potholes!



Drivers of large vehicles may be unable to see you if you are positioned immediately in front, or close to the left, of the vehicle (e.g. riding up the inside of the vehicle). When waiting in queuing traffic, you must position yourself where you can see and be seen by the driver. Stay further back and slightly to the right in order to catch the driver's eye in their mirror.

Give large vehicles plenty of room, particularly when they are moving slowly, stationary at junctions, or manoeuvring.



Remember - if you can't see the vehicle's mirrors, chances are the driver can't see you.

Riding on the road

Key points to note

- ▶ Plan your route and understand how it might be affected by weather and rush hour traffic
- ▶ The best route to cycle may be different from the preferred route to drive
- ▶ Familiarise yourself with the Highway Code and the key road signs some of which can be found at the back of this guide
- ▶ Consider your road position – stay clear of the kerb and door zone
- ▶ Avoid riding up the inside of large vehicles, like lorries or buses, where you might not be seen
- ▶ Ride decisively – this will give other road users confidence around you
- ▶ Be consistent – look and signal to show other road users what you plan to do
- ▶ Make eye contact where possible so you know those around you have seen you
- ▶ Always use lights after dark – this is a legal requirement
- ▶ More time and space is needed to judge speed and distance when cycling on roads with a speed limit above 30mph
- ▶ When riding on rural roads, use passing places to allow faster vehicles behind to overtake and to allow vehicles coming towards you to keep moving



When travelling longer distances ensure your ebike is fully charged and consider carrying your charger.



Queuing at traffic lights

Using junctions controlled by traffic lights may involve queuing traffic. You may choose to wait in the queue or pass (ideally on the right) to get to the head of the queue. You must stop at red lights. Should the queuing traffic begin to move as you pass, communicate with drivers before returning to the primary position.



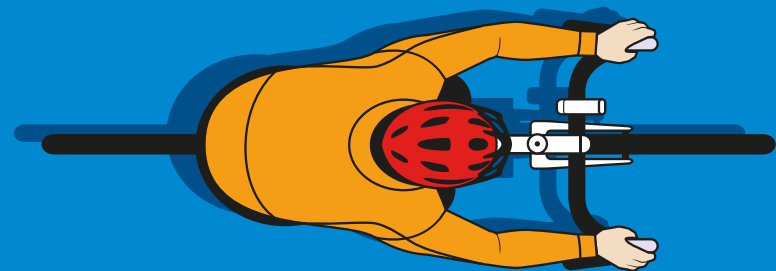
Multi-lane junctions

Using junctions with multi-lane roads requires the primary position and where possible matching the speed of the moving traffic or ensuring the driver waits behind, using eye contact. It may involve moving across lanes in order to select the most appropriate lane for continuing the journey.

Register your bicycle securely online
with your other valuable items on the
National Property Register
www.immobilise.com

TOP TIP

CYCLING ADVICE



Route planning

With some preparation, you'll enjoy your bike journey more.

Things to think about:

- ▶ The route you might have once taken by car may not be the best route for riding a bike. It is worth checking out the options
- ▶ With a bicycle, you can choose to ride some scenic, leisurely routes mixed with some more direct on road sections. Some roads will offer dedicated bike lanes or helpful features like 20mph speed limits
- ▶ Off-road paths and shared infrastructure may have narrow pinch points unsuitable for wider cargo bikes and trikes.
- ▶ Once you've planned your route, do a practice run when the roads are quieter so you will feel more confident during busier times
- ▶ Your workplace, university or college may have travel advisors, a travel plan, maps or information on routes which can help you decide what route is best for you

You may find some of these web based route planning tools helpful:

cycletreets.net

sustrans.org.uk

routes.bikehub.co.uk

maps.google.co.uk

Infrastructure

Roundabouts

Negotiating roundabouts by bike is straightforward if you ride assertively.
On approaching the roundabout:

- ▶ You need to take the centre of the traffic lane that goes in the direction you want to go in
- ▶ Look and then signal clearly
- ▶ As you get closer, ensure you're in a gear that will help move off quickly
- ▶ Give way to traffic on your right and only join when it's safe to do so
- ▶ Unless going straight on, signal left or right for the benefit of drivers behind you
- ▶ Signal left as you pass the exit before the one you want to take
- ▶ Check for traffic over your left shoulder before taking the exit
- ▶ Command your lane and be decisive – do not make any sudden change to your direction
- ▶ If the roundabout is small you might not be able to turn and signal. Try to make eye contact with drivers

TOP TIP

There may be some sections of your journey where the best approach will be to dismount and walk. This could be at a particularly busy junction or roundabout.



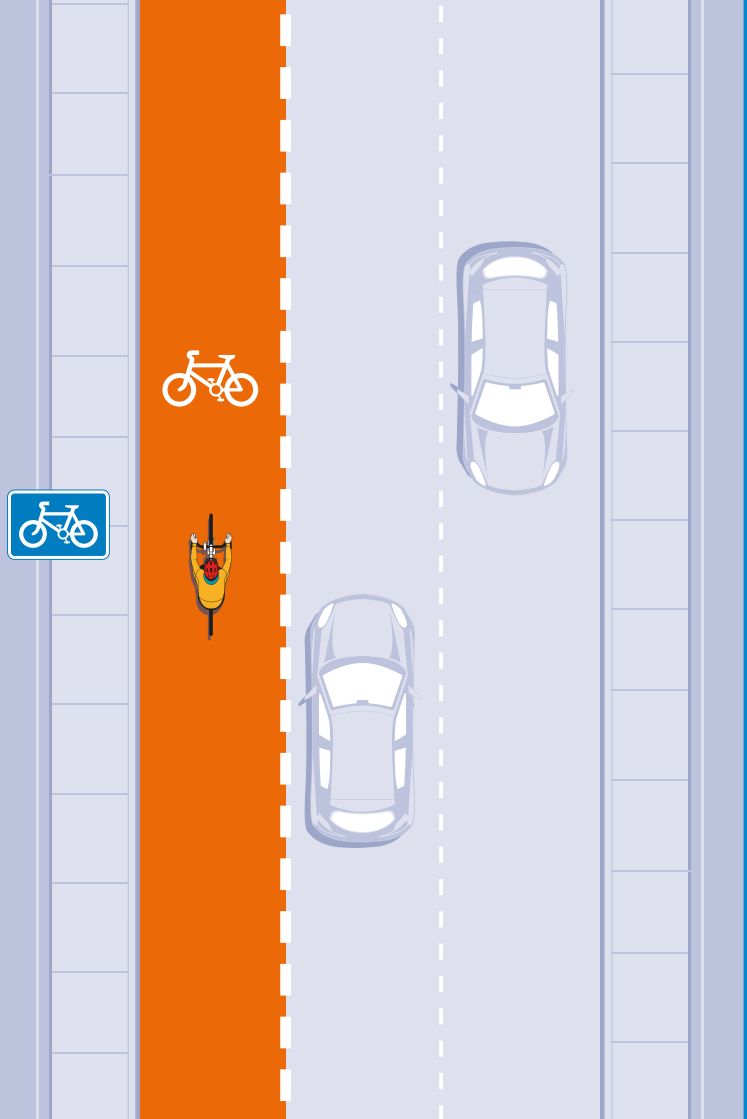
Cycle Lanes

Cycle lanes are designed with the intention of supporting those travelling by bicycle.

However, you don't have to use these lanes if there are safer options. Unless there is a solid line marking the cycle lane, cars can legally park in it.

If you find a situation with lots of parked cars it is likely you will be safer staying in the traffic lane rather than having to negotiate your way in and out at each parked car.

If the cycle lane is painted in the door danger zone beside parked cars, keep out of the cycle lane.



Cycle Paths

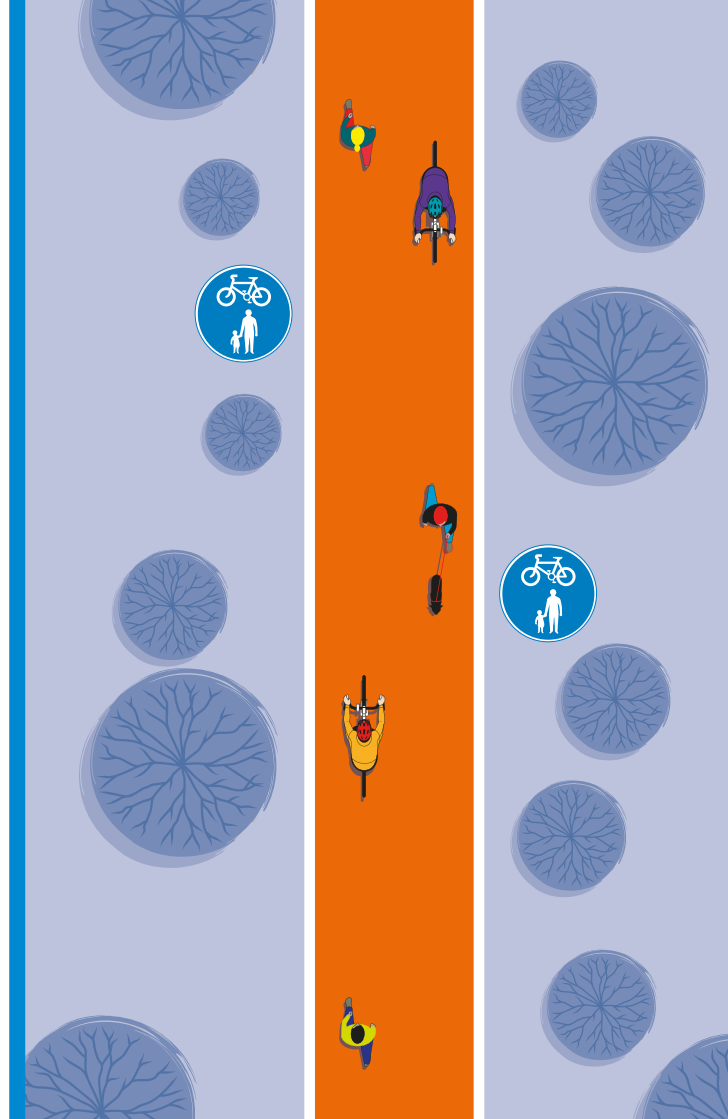
Many towns and cities have path networks that allow you to make cross-town journeys with minimal interaction with traffic. Ride on the left, wherever possible.

They are usually shared with pedestrians, dog walkers etc.



Watch out for other path users. Be courteous and lower your speed when required, especially on faster moving ebikes.

If it is not safe to pass other path users, you will need to wait until it is safe to do so.



Bus Lanes

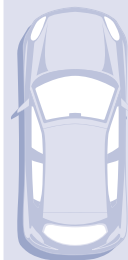
Often you can cycle in bus lanes. You should ride in the middle of the lane where you can be seen clearly.

Take care at junctions on the left for vehicles emerging and for following vehicles turning left. When following behind a bus, be ready for it to make stops along the route.

If there are people at the bus stops waiting, or you see passengers moving to get off, expect the bus to pull in. You may choose to wait behind the bus before it moves off again if you don't feel confident overtaking.



BUS
LANE



Road signs



Route recommended for cycles on main road



Route to be used by cycle only



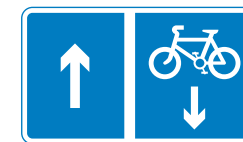
Shared pedestrian and cycle route



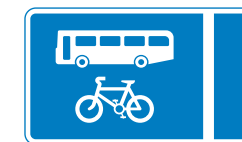
Segregated cycle and pedestrian route



With-flow cycle lane ahead
(a solid line prohibits all other vehicles)



Contra-flow cycle route



Cycle and bus route



Warning (for motorists) cycle route ahead



No entry



No cycling



No vehicles
(except bicycles being pushed)

General advice

Going the distance

Once you have chosen the most appropriate bike for you, a short journey of up to 5 miles is achievable for most people. It is surprising how quickly your fitness and technique will improve, making longer journeys easier to deal with. There is no need to overdo it. Plan your route, keep your bike in good order and allow yourself the time you need to enjoy your commute. As your confidence and fitness grows, you'll find that you'll arrive much sooner than you ever expected!

Check out the facilities

Workplaces, universities, colleges, public buildings and shopping centres will quite often have facilities available for those using a bike. Try and find out what is on offer before setting off. Is there bike parking, showers, lockers? Do you need to arrange access to any of these in advance? Is there a charge?

Speak to your colleagues and friends and – if at work – your HR advisor about what is available. There might be a cycling group you can join.

Cycling Scotland's 'Cycle Friendly' award offers support and recognition for employers, schools, communities, colleges and universities that encourage cycling. Go to cycling.scot to find out more.

TOP TIP

Think about leaving your smart shoes at work and save having to carry them each day on the bicycle.

Find a buddy

You may find that your friends, classmates or colleagues may be cycling and will be familiar with the route you'll be taking. There might be advice, tips and suggestions they can share with you – or they might join you on the ride itself! If there isn't a cycling group or forum, why not start one online with scotbug.com

Be prepared

You'll be more confident and relaxed if you know you have properly prepared for the journey. If you check your bike at the start and end of each journey, and remember to pack the things you need. You will find a checklist of suggested items on p40.

Bicycle and personal insurance

If you own a good bike then it is probably a good idea to insure it. There is usually the option to include your bicycle in home insurance. Specific insurance can be taken out for more expensive cycles, or for enhanced cover. There are a number of specialist insurers who can easily be found online. Although cycling is generally a very safe activity, you may wish to review personal insurance options to cover you as a rider. Both British Cycling and Cycling UK offer low cost personal insurance options.

Security Tagging

Data tagging is a popular way to deter thieves from targeting your bike and increases the likelihood of your bicycle being recovered, if stolen. Photograph your bike and record all of your bike's details and distinguishing features and keep in a safe place. Security mark your bike's frame with a UV pen or other method – the mark should include your home postcode and house number.

Carrying things

There are a few options to help you carry loads on a bicycle safely and comfortably

1 Backpack A backpack is ideal for carrying commuter-sized loads (like a laptop, lunch, a few tools and waterproof) on shorter trips. Rugged outdoor packs are usually water-resistant and ventilated, and keep things stable and protected. For longer trips and heavier loads, other options may be more comfortable. Look out for loose straps that could get caught in moving wheels.

2 Saddle bag These bags mount behind the saddle, often requiring saddle loops or a specific support. They're great for smaller loads, such as tools, don't require a pannier rack and they're also up out of the way of road grime and potential damage.

3 Panniers If you prefer to let the bike carry the weight, panniers are ideal. They're bags which mount on each side of a rack, which attaches to the rear of your bike. They keep the weight low to the ground and offer great capacity for all your daily goods. Check your bike, as not all can fit pannier racks.

4 Basket The basket is an excellent way of carrying your daily gear on a bike. You can just drop your normal bag inside it and go, with the added advantage of being able to keep your stuff in sight at all times. Just remember to make sure everything is protected if it looks like it might rain. Elastic luggage nets are great for stretching over the top of your basket, to stop stuff bouncing out if you go over any bumps. A loaded basket can make steering quite heavy.

5 Cargo Bikes Make sure the load is evenly distributed.



Never dangle carrier bags from your handlebars! You won't have full control of the bike.

Speak to your local bike shop for options on carrying people, including adapted bikes, child seats and tag-alongs

Bike kit checklist

Safety and Security

- ☐ Lights
- ☐ Reflectors
- ☐ Bike Lock
- ☐ Helmet
- ☐ Reflective / bright clothing
- ☐ Trouser clips

Roadside Kit

- ☐ Mobile phone
- ☐ Puncture repair kit
- ☐ Spare inner tube
- ☐ Map / GPS
- ☐ Multi-tool / basic tool
- ☐ Bicycle pump
- ☐ Chain lube

Comfort

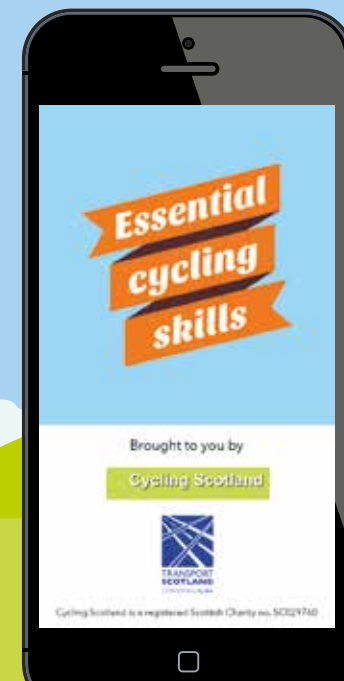
- ☐ Water bottle (and cage)
- ☐ Sunscreen
- ☐ Waterproofs
- ☐ Gloves

ebike

- ☐ charger

TOP TIP

You don't need everything on the list to enjoy cycling. The items highlighted can be very useful.



Refresh your cycling knowledge and pick up new skills.



Questions with interactive scenarios.



Top tips and knowledge to build confidence and get you back on your bike.

   [cycling.scot](https://www.cycling.scot)

Cycling Scotland

CYCLING SCOTLAND SCOTTISH CHARITY NO. SC029760

Essential cycling skills

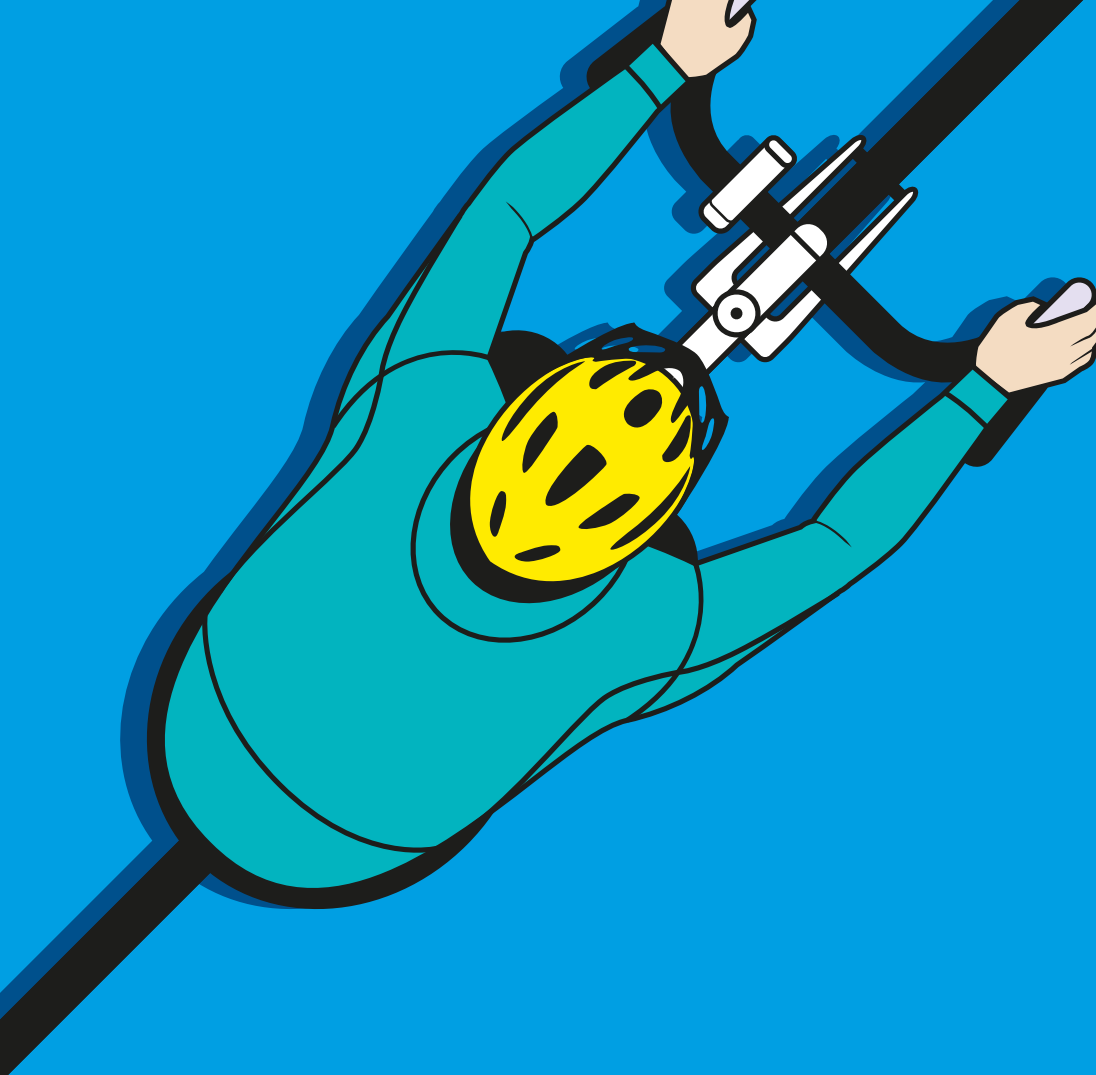
Download our Mobile app!

If it's been a while since you've been in the saddle or you're more used to weekend cycles in the countryside than negotiating rush hour commuter traffic, Cycling Scotland's new Essential Cycling Skills app will come in handy.

Download it now from the App Store or Google Play (free, of course!)



Notes



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QUICK GUIDE

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