



# ROAD AND BICYCLE INFRASTRUCTURE, CROSSINGS AND JUNCTIONS

## TRAFFIC LIGHTS AND OTHER CROSSINGS

Traffic lights and other forms of crossing points help to regulate traffic flow and to create a safe environment for road users.

### Traffic Lights

- A **green** signal means **go**, if it is safe.
- An **amber** signal precedes a red signal and means that road users should **slow down and stop**, unless too close to the junction to stop safely.
- A **red** signal means **stop** before the lights and/or the stop line – if there is an **Advanced Stop Line** for cyclists, other road users must stop before this.

### Traffic Lights

**Watch out for drivers who break red lights – pedestrians and cyclists should be sure traffic has fully stopped before proceeding at any crossing**



## AIMS & OUTCOMES

The meaning of various road signs, crossings and traffic lights, as well as bike facilities and how a cyclist should use them. Passing parked and slow moving vehicles, and moving through different types of junction safely.

This session covers:

- Traffic light sequences and the meaning of each colour in the sequence for all road users.
- Junction types, including roundabouts, and which traffic stream has right of way for them.
- Riding position on the road.
- Road Signs and Road Crossings.
- Road Markings.
- Cycling infrastructure.
- Vehicle blind zones.
- Parked and slow-moving vehicles.

### Signal-Controlled Junctions and Crossings (On Approach)

- **On green, turning right, give way to oncoming vehicles** coming straight through or turning left.
- On green, turning left or right, a cyclist should **give way to pedestrians** already crossing the road they are turning into.
- A **green arrow filter light** means go in the direction shown if it is safe to do so.
- Road users should only use a **filter lane** if travelling in the direction controlled by the filter light.
- At a **pedestrian crossing, a flashing amber** signal means the red light is about to turn to green – if no-one is crossing or appears about to start crossing, a cyclist may move carefully ahead.
- A **flashing amber arrow pointing left** means give way to traffic coming from the right.
- A **flashing amber light at a pelican crossing** means give way to pedestrians crossing.



## Crossings (Use of)

### • Toucan Crossing

- A Toucan crossing is a signal-controlled crossing for cyclists, usually seen alongside signal-controlled pedestrian crossings – cyclists may stay on their bike at a Toucan crossing.

### • Pedestrian Light Crossing

- Get off the bike and cross with care with the Green Man.
- If the Green Man light is flashing, continue to cross but don't start to cross.
- With a Red Man, do not cross.

### • Pelican Crossing

- The Wait display means do not cross, equivalent to a Red Man.
- The Cross Now display means cross with care, equivalent to the Green Man.

### • Zebra Crossing

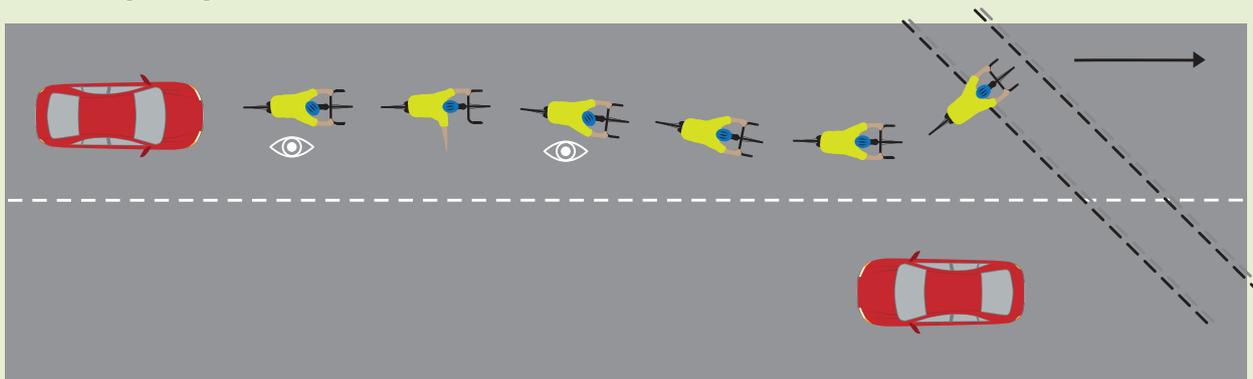
- Be certain that all traffic has stopped before crossing.
- Watch out for pedestrians crossing suddenly.

### • Railway Level Crossing

- Gates: Always shut and fasten unmanned iron gates – failure to do so is a road traffic offence and is very dangerous.
- Half gates
- Barriers
- No barriers at all.
- Warning lights or bells – a cyclist should never cross when red lights flash or when warnings are sounding.
- If the lights continue to flash after a train has gone, another train is coming and a lighted sign may come on to say this – it is not safe to cross until the lights go out.
- If there are no flashing red lights, warning sounds or gates, a rider should still stop, look and listen to make sure it is safe to cross train tracks.
- When crossing the track, the rider needs to move straight over at a right angle or the wheel may catch in the track.
- If the tracks are at an angle to the road, take a full lane to cross safely by looking first and use hand signals to slow traffic behind, giving room to move out and cross.
- Go slowly and stand on the pedals when crossing over bumpy tracks.

**In bigger roads, there may be a second crossing in the middle of the road controlling traffic moving in the opposite direction, and this must be treated as a separate crossing action.**

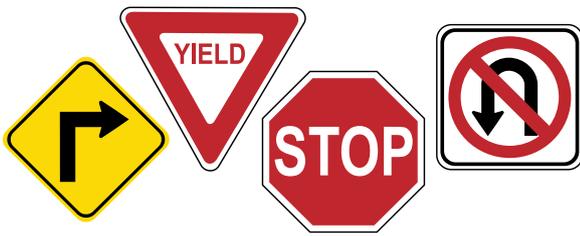
## Crossing Diagonal Rail Tracks





## SIGNS AND MARKINGS

Road signs and markings are the language of the road and help road users to get where they want to go as safely as possible



### Signs

- Inform by **shape, colour, symbol and word** – understanding them and acting appropriately is key to safety on the road.
- **Mandatory signs are red**, often warn of danger and must be obeyed e.g. Stop.
- **Advisory signs are yellow** and give information about the road and what to expect there e.g. junction signs, bump in the road etc.
- **Directional signs have green or black text on a white background** and show the way, direction and distance to a destination.
- **Information signs have white text on a brown background** and describe amenities of an area.
- **Motorway signs are generally blue** with white text.
- **Bike and bus lane signs, are generally blue** with white text.
- The difference between **STOP** and **YIELD** signs - for a young cyclist it is safest to stop completely for both.
- Signs are **read from bottom to top** – thicker lines represent bigger roads.

### Markings

- **Lines, lanes and areas are generally white, yellow or red.**
- **Advance stop boxes**, for cyclists at stops and traffic lights – other vehicles are not supposed to enter these areas.
- **Junction boxes** – to facilitate traffic flow, vehicles are not supposed to enter these unless their way out is clear, or they are taking position to turn right.
- **Parking bays** – designated parking areas, often linked to pay discs or payment machines.
- **Loading bays** – often time restricted for commercial vehicles only.
- **Bike lanes** – areas of the road marked for cyclists, advisory with broken border lines and mandatory bordered by solid lines.
- **Bike lanes** – if there is a diagram of a bike marked on the lane, it should appear right way up to the rider, if not the rider is travelling in the wrong direction for that bike lane.
- **Bus lanes** – areas of the road marked for buses, may include cyclists, bordered by solid lines.
- **Stop lines** – often denoting the end of a minor road on approach to a major road.
- **Lane markings** – denoting required vehicle positions on the road.
- **Arrow markings** – denoting directions for designated lanes.
- **Clearways** – denoting parking prohibited areas.
- **No traffic zones** – usually marked on roads to facilitate traffic flows and filtering.
- **Centre markings** – dividing traffic travelling in one direction from the other, may be broken, solid or combined depending on the overtaking status of the particular place on a road.
- **Side markings** – denoting the road edge and parking permissions for roads, can be broken or solid depending on whether or not parking is allowed.



## BIKE FACILITIES

Bike Facilities are areas of the transportation infrastructure marked especially for the use of cyclists and they facilitate the safer movement of bicycle riders in traffic.

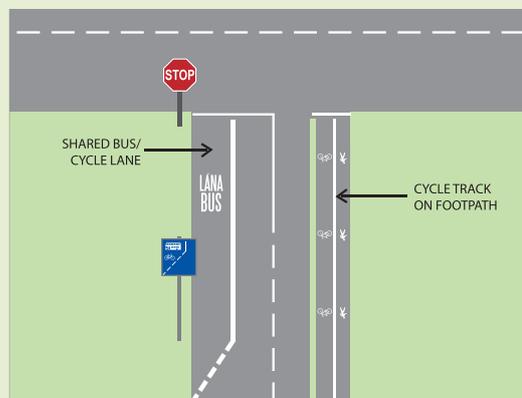
### On a shared Bike/Walking path

- Travel at **slow** speed.
- Keep to the **assigned side** of the dividing line if there is one.
- Use a **bell, horn or call out to signal to pedestrians** on approach from behind.
- Be ready to **give way and let pedestrians cross**.
- Be aware that a **motorist on a road has priority over a cyclist** joining or crossing that road from a bike path – check all round and give way where necessary before moving onto the road.
- Watch for cars going into or out of **driveways, entrances or lanes**.

### On designated Bike Facilities

- Generally, **use bike facilities** where provided – the exceptions are; where the area is blocked; the area is in poor repair; or where the rider is indicating and making a turn right or left.
- By law, use any bike lane provided as part of a **pedestrian street or area**.
- An **advisory bike lane** is bordered by a broken white line and allows other vehicles to drive, load and/or unload and park thirty minutes during their hours of operation.
- A **mandatory bike lane** is defined by a solid white line and motorists cannot drive or park in them during their hours of operation.
- A cyclist on a **bike lane** is part of the general traffic on that road, travels in the **same direction as the rest of the traffic on that side** and has the **same right of way as the other vehicles** there.
- Use **contra-flow bike lanes** found in some one-way streets – they allow cyclists to travel safely against the main traffic flow and shouldn't be used to travel in the same direction as the general traffic as this may interfere with cyclists travelling in the opposite direction.
- The **advanced stop box** is the area in front of the advanced stop line at a controlled junction. It is the area where cyclists should wait until it is safe to go – it often has a red surface and gives cyclists a safe head start across the junction when the lights change.
- In general, cyclists **can use bus lanes** (even where there is a parallel cycle track), but not contra-flow bus lanes unless a sign is present to say this is permitted.
- Take care when using bus lanes as **buses and taxis may stop** or move off into the lane ahead suddenly.
- Watch for **motorists who are unaware** of approaching riders on bike areas.
- Watch for motorists who are exiting or entering **driveways, entrances and side roads** across bike areas.
- Watch for **vehicles which drive or park on bike areas**.

#### Bike Facilities



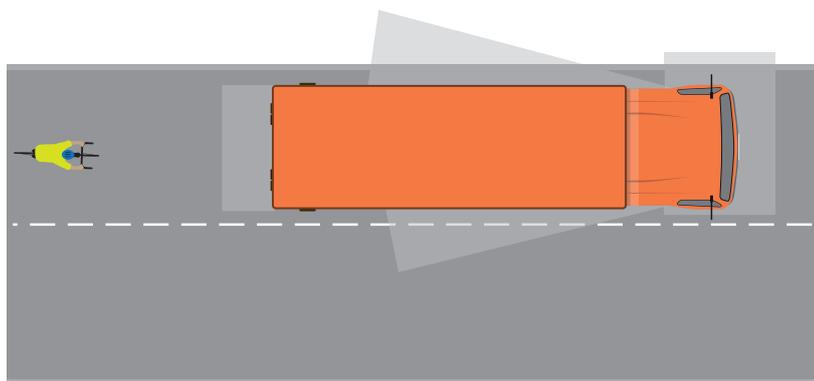


## LARGE VEHICLES

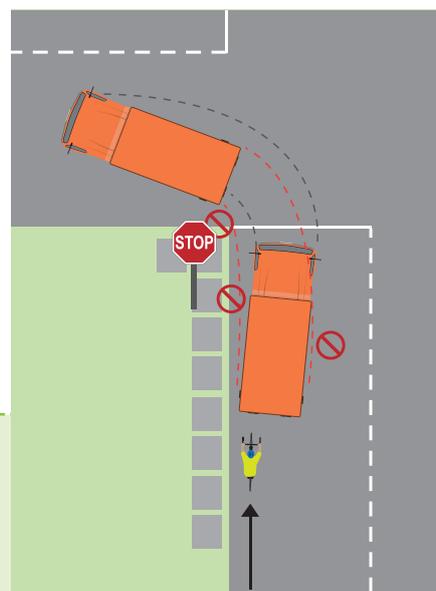


As large vehicles have issues particular to them (blind zones, turning lines etc.) cyclists need to be especially careful around them.

### Large Vehicle Blind Zones



### Large Vehicle Turning Lines



- Always be sure to **indicate early** to a large vehicle behind **before stopping**, as large vehicles need a lot of space to stop.
- Leave **extra room** when stopped behind a truck to avoid a “roll-back” collision.
- Watch out for large vehicle **blind zones**:
  - **Stay far enough back** so that the driver can see a cyclist in the wing mirrors – the length of a truck affects the driver’s rear vision and this position will also help the cyclist see and be seen more by other traffic.
  - Remember a driver will not be able to see a cyclist **behind or directly in front of the cab** of the vehicle.
  - Remember that the further a cyclist is **along the sides** of a large vehicle, the more they are in the blind zones.
  - Beside **the passenger door**, a cyclist is often invisible because of the blind zones.
- Be aware that large vehicles tend to have **loud engines** – the driver will not hear a bell, horn or voice alert.
- Stop pedalling and concentrate on keeping the front wheel straight when a large vehicle is coming alongside, as a **powerful draft** capable of knocking a rider from a bike can be created.
- **Never pass a large vehicle on the left side** within the same traffic lane or near the top of a stopped line of traffic which may start moving unexpectedly – as a rule, cyclists in traffic are best advised to let large vehicles turn or drive away from them.
- **NEVER edge forward along either side** of a long vehicle at a junction or in a queue.
- Take care when leaving a road into which a **long vehicle is turning** in the opposite direction, in case it **swings over** to the cyclist’s side of the road.
- **Take care when a large vehicle is turning left** as the turning line will bring the middle of the vehicle further left than its ends, and the driver will need to steer well to the right to avoid hitting a cyclist at the path side.



## ROUNDBABOUTS

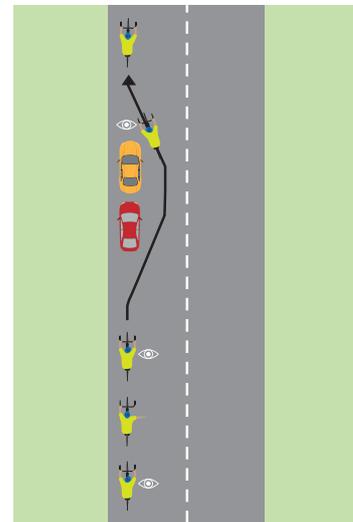
A roundabout is a road structure which operates as a form of junction where traffic is directed in a one-way system to other routes

- A **roundabout structure** features a number of roads meeting, with a physical round island in the middle – traffic is directed via a lane or lanes to other exits.
- All **traffic travels to the left** on a roundabout.
- All **traffic must give way to traffic coming from the right** on a roundabout.
- Some large roundabouts can have three or **more lanes** of traffic, with four or **more exits**.
- The best option at **large, fast-moving** roundabouts may be to **get off and walk** on the path, carefully crossing each road coming off it.

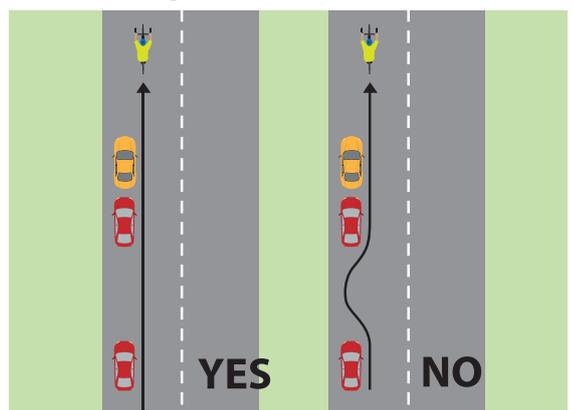
## OVERTAKING PARKED OR STOPPED CARS AND SLOW MOVING VEHICLES

- Watch out for all vehicles when pulling out to overtake
- Be aware of traffic overtaking or coming towards a rider
- **Watch out** for reversing lights and indicators
  - **Listen** for engine noise
  - **Check through the rear window** for a driver
  - Any of these may suggest a car is getting ready to drive off
- Watch out for a previously parked car which **starts to pull** out as you overtake.
- Check for **car doors opening** – aim to be car-door width from any vehicle being passed and be careful of traffic coming the other way when doing this.
- **Avoid moving in and out between parked vehicles** – weaving blocks the rider's view of the traffic and blocks drivers' view of the rider
- Check for **pedestrians** coming out from between parked vehicles
- **Look behind** to make sure it is safe to pull in – someone in the driver's seat could mean the vehicle is about to move
- Use this procedure **overtaking any obstruction** in the road (roadworks etc.)
- **Overtake to the right**
  - Moving to the left (passenger side) a cyclist might be **"doored"**
  - Or **squeezed** against the path
  - Or **knocked off** the bike at the edge

### Overtaking



### Overtaking Line





STAGE 1  
SESSION 2

## SESSION TWO SUPPORT RESOURCES



### Match up

Use the POSTER and DIAGRAM resources on the website [www.cycleryright.ie](http://www.cycleryright.ie) to test a child's knowledge on:

- Mandatory road signs
- Advisory road signs
- Traffic light sequences
- Overtaking parked cars
- Cycling Infrastructure
- Roundabouts