

Bicycle detection at traffic signals

Bicycles are detected at traffic signals using in-pavement inductive loops. Knowing how these loops work will assist you being detected.

What are in-pavement inductive loops?

Inductive loop detectors produce an electromagnetic field which in turn detects metallic objects.

When a metallic object passes over and remains on the detector, a demand is placed for your movement in the traffic signal cycle.

If the metallic object, eg bicycle or car, moves away from the detection zone, the demand is cancelled.



Where is the best place to stop so I am detected?

The detector loops are generally placed in the middle of the lane just behind the stop line, so this is the best place to position your bike to be detected.

When you stop, stay on the loop. If you roll off the loop and can no longer be detected, you may not get a turn when the lights change.



Tip...

Look out for diamond markings which are often used on bicycle paths to indicate the most sensitive detection spot.



What if I have a carbon fibre bike?

The more metal you have on your bike, the easier it is to be detected. However, carbon fibre bikes usually have some metal in the pedals or wheels.

The inductive loop detectors should be sensitive enough to detect even these small amounts of metal if your bike is positioned in the best place for detection.

What if I am not detected?

If you believe you have not been detected at a particular location, please let us know. Report the issue by calling 131 700 and a maintenance crew will investigate.



- ▶ Check out our bicycle loop detectors video at www.rms.nsw.gov.au/bicycles.



Why don't cycleways automatically get a green light when the lights change?

During each traffic signal cycle, all road users who have been detected will get a chance to go. Cycle lengths are kept as short as possible to minimise delays.

Where there are several different types of road user or lots of turning movements, each of these movements has to be given a phase in the cycle.

During the cycle, if a particular movement is not detected, the signals can skip this phase and may either shorten the cycle length or reallocate the time to other phases.

Because of the consistently high numbers of all road users in the Sydney CBD, bicycle and pedestrian phases are automatically introduced in each cycle during peak traffic times.



Can the traffic signals along cycleways be synchronised so riders can keep their momentum?

Traffic signal coordination is normally provided to modes of transport with the highest public benefit, ie peak traffic flow, public transport or heavy truck movements.

Coordination is also most effective where traffic flows are relatively high, traffic arrives in platoons and is travelling at known speeds, such as posted speed limits.

The differing speeds at which bicycle riders travel prevent effective traffic signal coordination along cycleways. Coordination is even more difficult where there are gradients because of the speed differential between riders going up hill versus those going down.

Traffic signal coordination on cycleways in heavily urbanised and congested areas such as the Sydney CBD is further complicated because of the demands placed on the system by many other road users. The system is continually adapting to these demands and signal phasing and cycle lengths are constantly changing according to the traffic conditions.

- ▶ The information in this factsheet helps to answer general questions about bicycle detection on NSW roads. If you have an enquiry or feedback about a specific location, please contact us at www.rms.nsw.gov.au.