

Brake lights & turn signals

How to set the brake light and turn signal properties on vehicles, frame by frame, including what to do when the lights are hidden, blurred or out of view.

ALWAYS

Before you start

Four rules that apply to both properties on every vehicle.

1

Set it frame by frame

Brake light and turn signal change during a scene. Update them on every frame where the state changes.

2

Check all cameras

Look at every 2D camera before you decide. A light hidden in one view is often clear in another.

3

Start at the first visible frame

Begin from the first frame where the object appears and work forward.

!

Get it right the first time

Changing one frame mid-scene changes **all the frames after it** too. If that happens, go back through every following frame and re-select the correct value.

Brake light

Check the images from all 2D cameras, then pick one of three values.

● On

SET WHEN

- The stop lights are lit red because the car is braking.
- Usually visible only from the back. On some vehicle types and models you can also see them from the side.

● Off

SET WHEN

- You see the car from the back or side and the stop lights are not lit.

⌛ Unknown

SET WHEN

- You see the car from the front or side and cannot see the brake lights at all.
- You see the car from behind but the lights are occluded.

Tail light is not a brake light

They are two different rear lighting systems.

Tail lights help other drivers see the car in low light. **Brake lights** show that the car is slowing down or stopping. Tail lights being on does not mean the brake light is On.

Not sure which one you are looking at?
Check with your QM or LQM.

TRAFFIC CLUES: BRAKE LIGHTS ARE LIKELY ON WHEN THE CAR IS

Approaching an intersection

About to turn

Stopping before a crosswalk

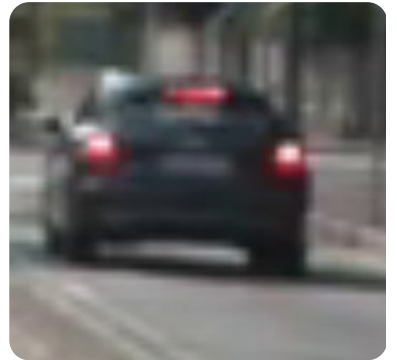
Driving over a speed bump

Moving in traffic congestion

● On

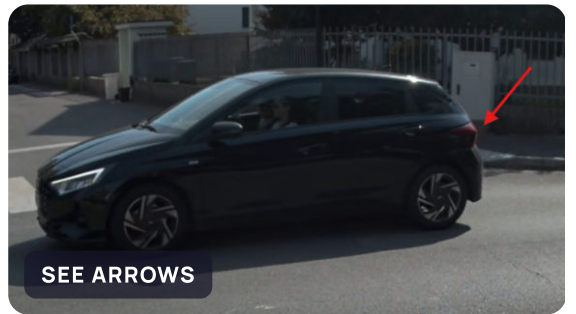
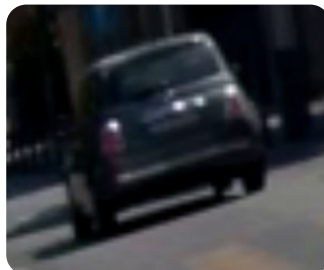
Examples 10 images





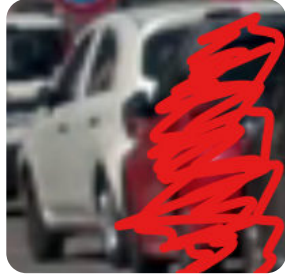
● Off

Examples 6 images



Unknown

Examples 7 images



The car is seen from behind, but partly hidden

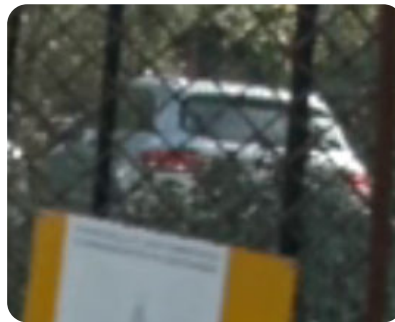
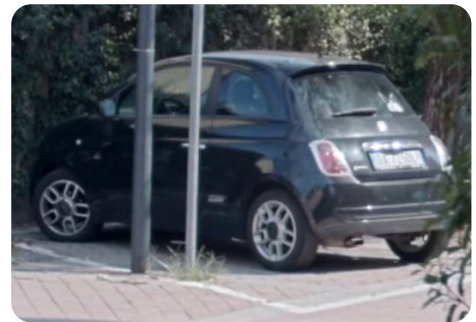
Occluded, truncated or in shadow? Look at the rear and ask one question: how many brake lights can I actually see?

Both brake lights

→ Judge normally: ☒ On or ☐ Off

With both lights in view you can easily tell the state.

EXAMPLES: OFF



EXAMPLES: ON

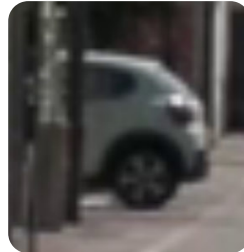
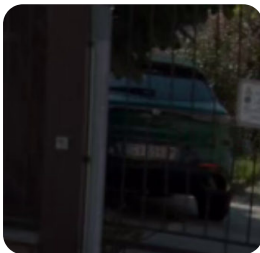


Only one brake light

→ Still judge it: ☒ On or ☐ Off

One light is enough to tell the state.

EXAMPLES: OFF

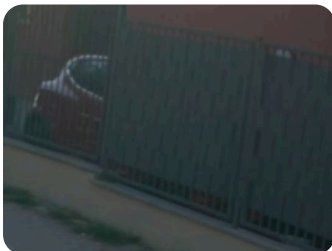


None visible

→ Set ☐ Unknown

If you cannot see either light, do not guess.

EXAMPLES



One scene, several answers

Judge each vehicle on its own. In this frame the front car's light is visible and off; the cars behind it are hidden, so they are Unknown.



Turn signal

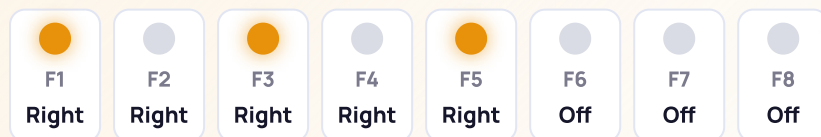
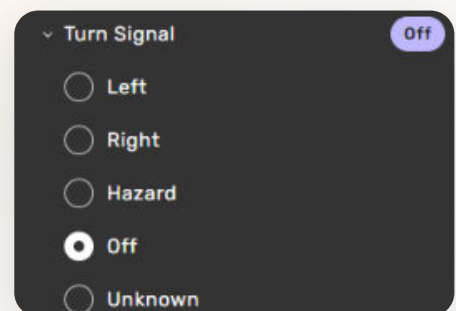
Based on the 2D cameras. Check all of them: indicators can be seen from any side of the car.

VALUE	WHEN TO USE IT
☒ Left / Right	The car is signalling on that side. Keep the value on every frame while it signals , including frames where the lamp looks dark because it is blinking.
☒ Hazard	Both indicators are flashing. To tell a hazard light from a brake light, check the frames around it : hazard lights flash, which you can see across a wider range of frames.
☐ Off	The indicators are visible and the car is not signalling at all.
☒ Unknown	The indicators are occluded, too far away or too pixelated to see. Also Unknown : you can see one light that is off while the other is occluded. You cannot be sure the hidden one is off too.

A blinking indicator is still signalling

A blinker is dark for half of each cycle. Do not switch to Off on the dark frames. Keep **Right** (or Left) until the car stops signalling.

The same applies to **Hazard**: keep Hazard on every frame while the hazard lights are flashing, including the dark frames.



The Turn Signal property in the tool

See the difference

Which rear lights are lit in each situation: tail lights only, braking, reversing, turning left or right, and hazard warning.



Headlights On



Headlights On
Braking



Headlights On
Reversing



Headlights On
Turning Left



Headlights On
Turning Right



Headlights On
Hazard Warning

Still unsure?

Check every camera and the frames around it first. If you still cannot tell, ask your QM or LQM before you set the value.