

What to do about traffic signals that ignore motorcycles

You wait. You wait. The light won't turn green.

Traffic signal sensors that don't detect motorcycles are one of the minor hassles of riding that most people in cars never become aware of. But here are a couple of tips for dealing with the problem, both immediately and in the long term.

Traffic sensors and how they work

I'm amazed at how many people driving cars are utterly oblivious to the way most traffic signals work in the United States. I just shake my head when I see an impatient car driver inching forward at a red light until he's so far forward he is no longer atop the sensor embedded in the pavement. His impatience costs him. Instead of getting a green left-turn arrow, the signal doesn't know he's there and he has to wait for oncoming traffic to pass.

These markings are not urban crop circles left by aliens to show us the way. Photo by Lance Oliver.

Since you ride, and you're more exposed to the world around you, you probably know what I'm talking about. Those rectangular or round markings you see in the pavement at stop lights are actually sensors that let the signals know when someone is waiting. In some cases, they are only placed in left-turn lanes. If someone is waiting to turn left, the signal gives a left-turn arrow. Otherwise, it's just a plain green light. In other cases, such as intersections that aren't very busy, through lanes have sensors and the side street light will remain red indefinitely, if no one is waiting to cross the busier main street.

That can be a problem for us, and it's because of how the sensors work. This document from the Federal Highway Administration does a good job of explaining how they work and it describes experiments done with a bicycle and motorcycle to determine the sensitivity settings needed to detect those smaller vehicles. The short version of the explanation is that those lines you see are where wires are buried two to four inches deep in the pavement. A current flows through the wires and changes in the electromagnetic field of the loop are caused when a vehicle passes over it or stops above it.

No problem with cars and trucks, but with motorcycles, which have less conductive material (and bicycles are worse yet), the signal may not detect the motorcycle if the sensitivity, which is adjustable, is set too low.

When that happens, you're stuck at a red light that may never change.  
So what can you do?

Place your motorcycle atop or near the sensor loop in the pavement at a red light to trigger the sensor. Photo by Lance Oliver.

First of all, stop your motorcycle with the wheels lined up with one of the cuts in the pavement. This puts the maximum possible amount of conductive material above the wire loop. If you stop in the center of the square, you're making the sensor's job more difficult.

If that doesn't work, it's time for additional measures. Many times, when I've been stuck at a light, if there's a car behind me I edge as far forward as possible and wave to the driver to move

forward so the car's wheels are inside the sensor loop. Usually, the driver is clueless about what I'm doing, but some pointing at the pavement and the light sometimes cuts through the fog.

Some states have passed laws that allow a motorcyclist to pass through a red light in a safe manner if it fails to recognize your presence. You can check your state's laws with this chart maintained by the American Motorcyclist Association.

As a longer term solution, if there's a light on your daily route that refuses to recognize your presence, do yourself and fellow riders a favor and try to get it adjusted. You may have to make a few calls. Depending on where you live and whether it's a city street or a state highway, it could fall under the jurisdiction of either a local or state government. The Federal Highway Administration document linked above offers suggestions on which sensitivity levels should be used to detect motorcycles. You could also volunteer to meet the engineer at the site with your motorcycle for some real-world testing to make sure the sensor is set properly. Can we buy our way out of this problem?

After all, isn't that the American way? There's a product for everything, right?

You can buy magnets that you attach to the bottom of a motorcycle that will supposedly trip the sensor, when your motorcycle alone is not enough. These are sometimes packaged with far fancier descriptions, but basically they're magnets.

Do they work? Years ago, I worked at a motorcycle magazine and we got one of these magnets as a sample. At the time, I often commuted on a small dual-sport that was skimpy in conductive material. Certain lights never deigned to acknowledge my existence. So I was assigned the task of testing the magnet. It didn't make any difference on that bike and at those lights. That ended my testing and I'm not claiming to draw any conclusions beyond that.

The magnets are not to be confused with the gray-market infrared emitters you may have heard of that promise to pave your way with a sea of green lights spreading before you. These devices, which mimic ones used by emergency vehicles, emit infrared signals to traffic lights so they change to green. If you're thinking of buying one, you should know two things: they're illegal, and only a tiny fraction of traffic lights are equipped to respond to those emitters, anyway. It's not all bad

Is there an upside to this? Of course. I can always find an upside to riding a motorcycle. Because we are aware of our surroundings, unlike many drivers who don't know sensors exist and think stop lights work by magic, we can use this knowledge to our advantage. This balances out the occasional inconvenience of a sensor that refuses to recognize us. Let me give you an example.

Near my home, on a busy, four-lane city street, there's a left-turn lane with a sensor set back where the second car in line would be waiting to turn left. I get no green arrow unless I trip that signal, and most of the day, heavy traffic makes a left turn difficult. So I just stop on top of the sensor, 15 feet back from the intersection, and get my own personal green arrow.

Sometimes people look at me strange for stopping back there. But then they already probably think I'm strange. After all, I'm on a motorcycle. Just the way I like it.