



State of Oregon Department of Environmental Quality

What's the difference between Remote OBD and Remote Sensing?

The technical name for DEQ Too™ is “Remote OBD”. There’s also a testing option called “Remote Sensing” that other states have been using which is similar to Remote OBD. The similarity is in the “remote” nature of the test. They both serve the same purpose of testing vehicles where they are driven instead of requiring them to come into a facility for their test. Remote Sensing uses testing equipment strategically placed on freeway ramps or other areas. Some equipment utilizes infrared light beams and some use satellite technology. In either case, the “sensing” equipment actually measures pollution levels in the exhaust. Whereas the “OBD” test equipment reads how well the emission control components are working to keep pollution levels from exceeding standards. Either method gets to the same outcome of minimizing excessive pollution from cars.

The Environmental Protection Agency (EPA) allows several testing methods all of which are effective. However, their effectiveness can be ranked in the following order:

- 1) Onboard Diagnostics (OBD) testing is the most effective test; either in Clean Air Stations or Remote OBD.
- 2) The next most effective test is evaluating emissions while the vehicle is running on a dynamometer (think of a large treadmill for a car).
- 3) The tailpipe emissions test is the next most effective test.
- 4) Remote Sensing is the next most effective test.

Concerns with Remote Sensing

- Pictures of license plates and vehicles are critical. Unlike Remote OBD which pulls the electronic VIN to know exactly which vehicle is being tested, Remote Sensing equipment takes a picture of the license plate and vehicle to confirm the vehicle.
 - Each picture is viewed to ensure it matches the exact make and model registered with DMV (otherwise a license plate on a failing vehicle could briefly and fraudulently be switched to a clean vehicle to pass the test).
 - If a license plate is dirty or damaged, the car cannot be matched-up for DMV registration renewal.
 - If there’s not a match, then the motorist must go into a testing facility.
- The emissions test does not work well in the rain. In fact some jurisdictions won’t even deploy the testing equipment on a day its forecast to rain.
- The equipment can be hit and damaged by vehicles which then causes traffic delays and expensive repair or replacement and could bring harm to motorists.
- It takes permitting with transportation authorities to authorize the equipment to be on or near a public roadway.
- Equipment placement location is critical in order to test the highest volume of vehicles. Because it’s too expensive to have remote sensing equipment at every optimal location, the equipment is moved around a community on a regular basis.
 - Motorists are informed where the locations are moved to.
 - Each time the equipment is moved, traffic cones and signs are moved along with it.

- Due to the lack of effectiveness credit from EPA and for other reasons, States do not allow the Remote Sensing test method to be used by 100% of their vehicles. Typically they allow a maximum percentage (such as 30%) of their entire vehicle fleet to be tested using this method.
- States have a very difficult time even reaching that maximum percentage due to:
 - Not enough motorists drive past the limited number of test locations (locations can't catch all motorists' traffic patterns and the test locations are regularly moved).
 - When readings are made, they must be deemed valid.
 - When the readings are valid, the vehicle must receive a passing test. Sometimes more than once, depending on the jurisdiction's requirements.
 - When the vehicle passes the test, the test must be during the limited window of DMV renewal.

DEQ is not ruling out the possibility of using the Remote Sensing test method in Oregon, but due to these types of concerns we are not actively considering it. Also, providing the Remote Sensing test method in Oregon would require a contract bidding process to procure the testing/camera equipment and it all must interface with DMV's registration renewal computer system. The Oregon DMV computer system is extremely outdated and will be undergoing a multi-year major upgrade. (Oregon's OBD existing methods - at Clean Air Stations and through DEQ Too™ - already interface with DMV's current system). A Remote Sensing contract, if pursued, would best be done once DMV's upgrade is completed. Also, the Remote Sensing contract would not be the only cost to DEQ. There would be ongoing expenses to cover the regularly-required movement and setup of equipment around the community.

The bottom line is that Remote OBD meets the exact same objective of Remote Sensing; namely, motorists don't need to drive their vehicles to, and wait in line at, a facility for an emissions test. But Remote OBD meets the objective more effectively and conveniently. For example, Remote OBD does not have a maximum fleet percentage requirement like Remote Sensing. Also, with Remote Sensing, Oregon Auto Dealerships would need to inconveniently shuttle their multiple vehicles one-by-one to the nearest freeway ramp that has the test equipment setup on that particular, non-rainy day. And finally, Remote OBD does not need to collect, store or review pictures of license plates at various locations across the community.