

ON-ROAD VEHICLE EMISSIONS MONITORING

The Virginia Department of Environmental Quality began the on-road emissions program in Northern Virginia in August 2006. The on-road monitoring measures pollutants in tailpipe exhaust while a vehicle is being driven. It is an enhancement to DEQ's Air Check Virginia, an automobile emissions inspection and maintenance program.

As part of the metropolitan Washington, D.C., area, 10 localities in Northern Virginia must reduce ozone, the main ingredient in smog, and particle pollution to meet federal air quality standards. Since vehicle emissions can contribute to air pollution, reducing pollutants from vehicle exhaust will result in better air quality.

Vehicle owners in parts of Northern Virginia are required to have an emissions inspection at an official inspection station every two years. Once an inspection has been completed, the Virginia Department of Motor Vehicles downloads the inspection report into its computer system. If the vehicle passes the inspection or receives a waiver, the owner is eligible to receive a state registration.

To address excess vehicle emissions caused by problems that occur before the required inspection, the Commonwealth has implemented the on-road emissions program. The program ensures that vehicles with excess emissions levels will be repaired on a timely basis rather than delayed until the next scheduled inspection. It also allows observation of a large number of vehicles without inconveniencing their drivers.

How it works

At roadside monitoring stations, a pollution sensor is placed on one side of the road and a reflector on the other. The pollution sensor sends invisible light through the exhaust of a vehicle while it is being driven. The changes in the intensity of the transmitted light indicate the concentrations of the exhaust gases. The monitoring equipment checks for excess levels of particles as well as smog-forming gases, such as carbon monoxide, hydrocarbons and nitrogen oxides. While exhaust measurements are taken, a camera takes a picture of the vehicle's license plate. This information is sent to a computer inside a van at the monitoring station and then transmitted to DEQ.



On-road vehicle emissions monitoring equipment is set up along a roadway in Northern Virginia.

Vehicles subject to on-road monitoring

Vehicles that are registered in Virginia and that are primarily operated within and throughout the Northern Virginia area, regardless of registration address or garage location, may be monitored by the on-road testing program. Most 1968 and newer model year gasoline-powered vehicles with a gross vehicle weight rating of 10,000 pounds or less qualify for the program. Some vehicles, such as motorcycles, antique vehicles, electric vehicles, some special fuel vehicles and some diesel-powered vehicles may be exempted. Other exceptions may be considered on an individual basis.

On-road monitoring results

DEQ uses information from the on-road monitoring to identify polluting vehicles. If tailpipe exhaust measurements indicate that a vehicle is emitting excessive levels of pollutants, a notice may be sent to the registered owner of that vehicle. The owner must then have an emissions inspection performed to confirm if repairs are needed. Vehicle owners have 30 days from the notice date to demonstrate that the vehicle is in compliance with program requirements. Financial assistance to low-income owners for repairs related to the on-road emissions program may be available to qualified applicants.

Information from this program may also be used to reward owners of exceptionally clean automobiles by allowing up to one additional year of registration without an emissions inspection.

More information is available on the Air Check Virginia website at www.deq.virginia.gov/mobile.