

Date: Nov. 8, 2024
To: Environmental Quality Commission
From: Leah Feldon, Director
Subject: Agenda item H, Informational item: Vehicle Inspection Program Overview
Nov. 21-22, 2024, EQC meeting

Why this is important The Oregon Department of Environmental Quality will provide an overview of the Vehicle Inspection Program including a review of the air quality benefits, history, inspection boundaries, program effectiveness, customer satisfaction, purpose and functions. Reducing pollution from vehicles helps keep people in Oregon healthy, especially children and people with respiratory problems. High concentrations of pollution from vehicles are associated with health problems including asthma attacks, increased risk of heart attacks and premature death.

Prior EQC involvement Oregon began implementing requirements of the Clean Air Act in the 1970s and 1980s. The Portland Vehicle Inspection Program began in 1975 following a voluntary program in 1974. VIP requires motorists to maintain and repair their vehicles' emission control systems before they can renew their vehicle registration. Vehicle inspection boundaries are based on previously established Portland vehicle inspection area boundary and Medford air quality maintenance areas, census data and commuter patterns. DEQ expanded the Portland area vehicle inspection boundary in 1994 to include areas within Washington, Clackamas, Columbia and Yamhill counties based on updated information found in the [Approval and Promulgation of State Implementation Plans](#) under section III. A. The Environmental Quality Commission adopted this expansion on Aug. 18, 1993. In 2019, VIP completed a cost effectiveness analysis and proposed a fee increase for the certificate it issues after a passing test, to take effect in 2020. The EQC approved the proposal which raised the fees from \$21 to \$25 in the Portland area. The rule also raised the fee in the Medford area beginning April 1, 2020, from \$10 to \$15 and finally from \$15 to \$20 effective July 1, 2021. The staff report for the fee change and accompanying cost effectiveness analysis are attached at the bottom of this report.

Background Section 110 of the Clean Air Act requires state and local air pollution control agencies to adopt control strategies to minimize air pollution and maintain pollution concentrations below the National Ambient Air Quality Standards. These strategies must be approved by the U.S. Environmental Protection Agency. The resulting body of regulations is known as the State Implementation Plan. VIP is a vehicle emissions inspection and maintenance program and is a significant pollution control strategy utilized in Oregon's EPA-approved SIP. Inspection and maintenance programs ensure that vehicles have properly maintained

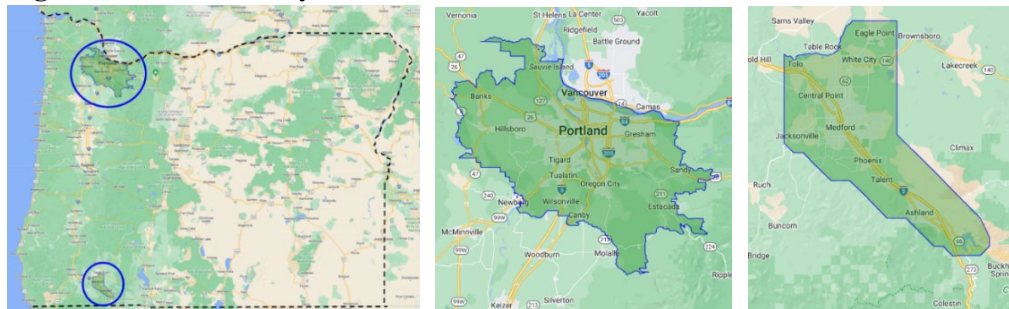
air pollution controls by identifying vehicles with high emissions and incentivizing vehicle owners to make repairs. In the Portland vehicle inspection area boundary, vehicles 1975 and newer are required to test their emissions systems to demonstrate proper function. Vehicles within the Medford Air Quality Maintenance Area must be tested if they are 20 years old or newer. New model year vehicles four years old and newer are exempt from testing in both boundary areas.

As a key tool of Oregon's SIP, VIP helps Oregon maintain compliance with NAAQS, which limit the concentrations of criteria pollutants (nitrogen oxides, sulfur dioxide, particulate matter, lead, ozone, and carbon monoxide) in ambient air. VIP also reduces the emissions of air toxic pollutants like benzene, ethylbenzene and acetaldehyde. In 2015, EPA lowered the ozone standard from 75 parts per billion to 70 ppb and considered values as low as 60 ppb. Vehicle miles traveled and population in Oregon are expected to increase over the next several years, both of which are likely to increase vehicle emissions. Expected hotter summer temperatures may cause ozone concentrations to approach or exceed the current standard. In order to mitigate these impacts and maintain attainment with the current EPA ozone standards, continued emissions testing is necessary.

Vehicle Inspection Program overview

DEQ implemented the VIP in the Portland metro area in 1975 and in the Medford metro area in 1986. VIP is a fee-funded program with fees coming primarily from the cost of Certificates of Compliance issued at Clean Air Stations, which conduct emissions testing. The current costs for Certificates of Compliance are \$25 in the Portland Vehicle Inspection Area and \$20 in the Medford-Ashland Air Quality Maintenance Area. VIP's Legislatively Approved Budget is \$30,249,997 for the 2023-2025 Biennium. VIP has 101 full-time equivalent employees assigned through its budget. The program currently operates seven Clean Air Stations: one in Medford-Ashland AQMA and six in the Portland Vehicle Inspection Area. VIP also has staff assigned to a technical center in Portland who work as administrative support, IT, maintenance, business operations, and program management.

Figure 1: VIP Boundary Areas



Definitions for the Inspection Boundaries can be found in [OAR Chapter 340 Division 204](#) and in [ORS 468A.390](#).

VIP conducts two primary methods of emissions testing: on-board diagnostics and basic testing. OBD testing consists of connecting a testing device to the vehicle's OBD port and analyzing the data from vehicle's computer to verify that emissions and emissions related systems are functioning as intended by the manufacturer. If the Malfunction Indicator Lamp (check engine light) is commanded on by the vehicle computer, the vehicle will fail inspection, and repairs must be made in order to be certified.

Basic testing is primarily for older vehicles not equipped with an OBD system. For this type of testing, a probe is inserted into the vehicle's tailpipe and the actual emissions are analyzed to ensure they fall within approved parameters. Standards for both test methods are established in [OAR 340-256-0340](#) and [0355](#). Vehicles in the VIP testing area must obtain a Certificate of Compliance before they can obtain a registration from Division of Motor Vehicles.

Clean Air Partners

The DEQ Clean Air Partners Program, or CAPs, provides financial assistance to low-income residents in the Portland area for repairs needed in order to pass their emissions test and obtain a Certificate of Compliance. This program is funded through customer donations. In 2023, over \$13,000 were donated to the CAPs fund by motorist donations through the United Way and those donations were used to help 50 applicants of the CAPs program.

There are eligibility requirements for the CAPs program including:

- The vehicles must be equipped with OBD II and be model year 1996 or newer.
- The vehicles must have failed the OBD test near the time of registration renewal.
- The vehicle must be titled in Oregon.
- The registered owner qualifies as low-income.

DEQ Too

DEQ Too testing is a remote OBD testing method conducted through a telematics device either at a DEQ Too host location, or a participating vehicle dealership or fleet. The device transmits the vehicle's onboard diagnostics data to DEQ where it is evaluated to determine the results of the emissions test. Since its launch as a pilot in 2016, the DEQ Too Program has been operating under the broad authority of the current self-service testing rule.

VIP currently certifies approximately 76,000 vehicles in the Portland boundary area and 10,000 vehicles in the Medford-Ashland AQMA using the DEQ Too testing method. These tests result in about 13% of the Certificates of Compliance issued by the program each year.

Diesel Retrofit Compliance Program

The 2019 Oregon Legislature passed House Bill 2007 to assist in reducing diesel emissions across the state. This law requires regulated medium and heavy-duty trucks to have emissions retrofit equipment installed and verified by DEQ in order to be registered or titled by Oregon Department of Transportation's Department of Motor

Vehicles or Commerce and Compliance Division in Clackamas, Multnomah, or Washington Counties. Rules and statutes relating to this program can be found under [OAR Chapter 340 Division 256](#) and [ORS Chapter 803](#).

Wait Times and Customer Satisfaction

In 2023 the average time from motorists arriving at a Clean Air Station to completing the test was under 12 minutes. Customers visiting stations have a 96% favorable view of their experience during their emissions test.

Program Effectiveness and Benefits

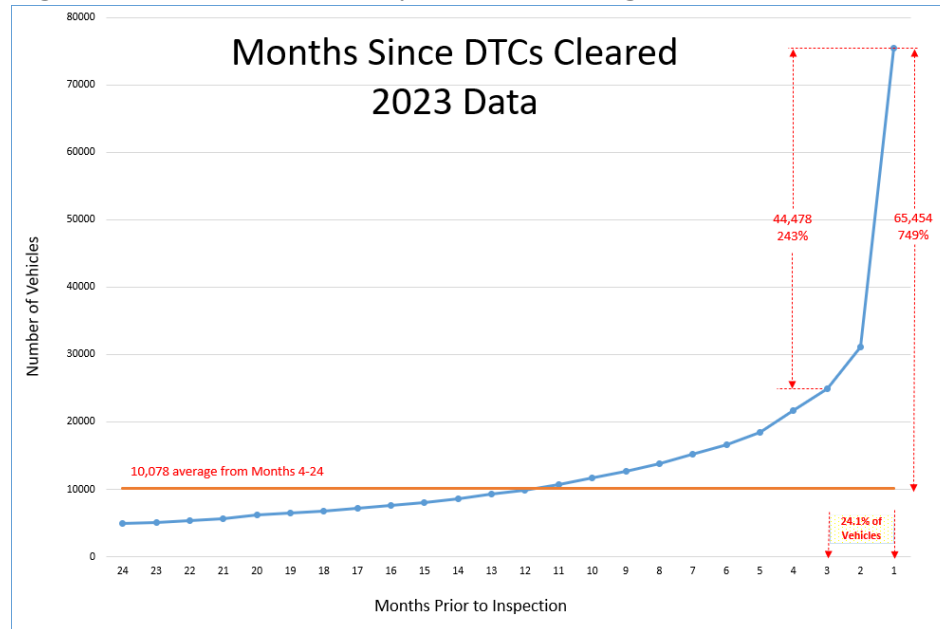
In addition to the high favorability ratings from customers, VIP monitors opportunities to modify its service delivery through ongoing communications with industry leaders, and assessments of performance of similar programs in other jurisdictions. In 2018, VIP conducted a survey of like programs through the national I/M Solutions Forum. The evaluation was performed through the lens of cost effectiveness, with adjusted biennial fee per test being the central unit of measurement. VIP considered three primary models used by agencies in delivering emissions testing services: a centralized-public model, a centralized-private model, and a decentralized, or fully private model.

The evaluation of fees charged by centralized vehicle testing programs versus the decentralized vehicle testing programs demonstrated that the centralized programs charge customers lower fees. In further comparing the fee charged by Oregon to fees charged by other programs, Oregon's fees remain among the lowest set within the centralized, lower fee tier.

In addition to having overall lower fees, the centralized model used by Oregon is more cost effective than the decentralized model. The analysis indicates that the decentralized model produces higher fees in the aggregate, without any identifiable benefits in the form of improved services or enhanced environmental protection.

The number one source of air pollution in Oregon remains emissions from cars and trucks. There are about 3.9 million passenger vehicles registered in Oregon throughout the state. VIP tests approximately 1.2 million vehicles in a two-year period. The fail rate for vehicles tested is approximately 3.5%. While vehicle manufacturers are building cleaner, more efficient vehicles, for these benefits to reach their full potential ongoing maintenance of engines and onboard emissions control systems are required, and mandatory VIP inspections provide a demonstrated incentive for motorists to obtain repairs when necessary. Data collected from vehicles by VIP demonstrates that 24.1% of vehicles receive repairs in the three months prior to testing.

Figure 2: Number of vehicles by month since Diagnostic Trouble Codes cleared



Without these repairs, these vehicles would likely fail their emissions test. The resulting reductions in emissions from these repairs benefit Oregon in many ways:

- As already mentioned earlier in this staff report, reducing pollution from vehicles helps keep people in Oregon healthy, especially children and people with respiratory problems. High concentrations of pollution from vehicles are associated with health problems including asthma attacks, increased risk of heart attacks and premature death.
- Reducing vehicle emissions is a core part of Oregon’s EPA-approved SIP. If Oregon had no inspection program, it would need to impose more stringent standards on other sources of pollution, such as industrial sources or private businesses.
- Reducing vehicle emissions ensures that Oregon remains in compliance with the NAAQS. Preventing violations of federal air quality standards is essential to maintaining the health and economic vitality of communities. Failure to meet the NAAQS triggers mandatory sanctions like more stringent permitting requirements and could result in the loss of federal highway funds.

Remote Sensing Device Study

During 2021, Opus Inspection was contracted by DEQ to complete a remote sensing emissions study. A summary of their findings (attached below) concluded there is “Definitive evidence of a well-functioning Oregon VIP with far lower overall emissions rates from Oregon VIP tested vehicles than Oregon untested vehicles; and Emissions reductions in Oregon VIP tested vehicles, as compared to similar-age untested vehicles, are far greater than EPA modeling credits to the VIP. The study found that vehicles registered in Oregon’s testing boundaries are 29%, 30%, and 29%

lower than carbon monoxide, hydrocarbons, and nitric oxide emissions, respectively, from vehicles registered outside of the boundary areas. EPA modeling predicted these reductions as 16% for carbon monoxide, 7 to 8% for hydrocarbons, and 8 to 13% for nitric oxides. The benefits of proper maintenance and repair were also evident in the many older model tested vehicles that exhibited low emissions; that is, emissions levels comparable to very new vehicle models.

Oregon VIP was found to be very effective at maintaining a low-emitting tested motor vehicle fleet. However, based on study estimates of vehicle miles traveled and emissions rates of vehicles operating inside the testing area boundaries, the study found vehicles operating inside the boundaries that are not subject to VIP (including inside-untested, outside-untested, and out-of-state) contributed over half of all light-duty vehicle emissions even though they collectively accounted for less than half of the vehicle miles traveled inside the boundaries.

Key issues DEQ is actively engaged in a rulemaking process impacting VIP. The rulemaking will: a) codify the Remote OBD test method in rule; b) update reciprocity provisions for vehicles that are temporally operating less than 150 miles outside of the Oregon border; c) codify the four-year exemption for new vehicles.

The rulemaking process is currently in a public comment period that will end on Nov. 7, 2024, at 4 p.m. and will include a public hearing that is scheduled for Oct. 28, 2024, at 5:30 p.m. DEQ plans to bring the proposed rules to EQC in January 2025 for commission action.

The rulemaking process has included input from 10 rulemaking advisory committee members from community groups, DEQ Too participants, telematic device providers, and other government agencies.

Supporting materials
A. November 2020 VIP Staff Report – Fee Increase
B. VIP Cost Effectiveness Analysis
C. VIP Remote Sensing Device Study

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Translation or other formats

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