



**Environmental
Protection
Agency**

Ohio E-Check Biennial Report

2021-2022

This document is the 2021-2022 Biennial Report for the United States Environmental Protection Agency (U.S. EPA) on the Ohio Enhanced Inspection and Maintenance Program (I/M Program) known as E-Check. This report covers 2021- 2022.

**Ohio Vehicle
Inspection and
Maintenance
Program**

BIENNIAL REPORT
OHIO VEHICLE EMISSIONS TESTING PROGRAM
INSPECTION AND MAINTENANCE PROGRAM
2021 – 2022

I. Introduction

This report has been prepared for the U.S. Environmental Protection Agency (U.S. EPA) in compliance with the requirements of 40 CFR 51.366. This report serves as a supplement to the Ohio EPA 2020 E-Check Annual Report, which contains the history of the E-Check program, and annual statistics regarding the operation of the program.

As required by 40 CFR 51.366, this report includes the following information for the reporting period of 2021-2022:

- A. Any changes made in program design, funding, personnel levels, procedures, regulations, and legal authority, with detailed discussion and evaluation of the impact on the program of all such changes; and
- B. Any weaknesses or problems identified in the program within the two-year reporting period, what steps have already been taken to correct those problems, the results of those steps, and any future efforts planned.

II. Program Changes Implemented in 2021 and 2022

A. Program Design:

The E-Check program is currently a hybrid Inspection/Maintenance testing program with 23 full-service test stations, 44 repair shop test stations, 18 self-serve kiosks and a small amount of clean screen testing. The test program covers the following seven counties in the Cleveland area: Cuyahoga, Geauga, Lake, Lorain, Medina, Portage, and Summit counties.

Ohio's vehicle test program requires emission testing for vehicles from 4 through 25 years old. In 2022, the vehicles from model year 1998 through 2018 were tested. Vehicles manufactured in 1996 and later are required to be equipped with a standardized OBDII system for emissions testing purposes. 40 Code of Federal Regulations Subpart S – Inspection/Maintenance Program Requirements Section 51.357(a)(12) specifies that beginning January 1, 2002, OBD inspections must begin on model year 1996 and newer light-duty vehicles and light-duty trucks. Ohio EPA began transitioning to OBD only in 2010 with tail pipe testing ending on December 31, 2019, and all vehicles being OBD only tested beginning January 2, 2020. These changes were according to federal requirements and did not impact the program's effectiveness.

In 2022, there were 44 OBDII-only inspection stations (or independent repair shops) and 23 full-service test stations for a total of 67 stations and 118 lanes that conducted emissions tests. Also, in July 2012, self-serve testing kiosks were installed at 16 of the existing testing locations operated by Envirotest Systems. In 2022, 2 more kiosks were installed at the full services test stations so that all the kiosks accounted for 96,281 or 11.6% OBD II tests successfully conducted using the self-serve kiosks.

The 44 OBDII-only inspection stations are operated by a variety of independent businesses while the 23 existing E-Check stations and 18 self-serve kiosks continue to be operated by Envirotest Systems.

B. Program Funding

Ohio Funding for mandatory vehicle emissions tests came from the general revenue fund (GRF) for the Auto Emissions E-Check Program and from a fee-based fund (5BYO) for Scrap Tire Recycling.

C. Personnel Levels

There were no changes to Ohio EPA personnel levels in 2021 and 2022. The program staffing consists of one manager, one supervisor, one environmental specialist 3, three environmental specialist 2's, and two customer service assistants.

D. Testing Procedures

The Ohio I/M Program discontinued the tail-pipe test December 31, 2019 and currently utilizes four different types of emissions tests. Each type of test is described below. With the exception of clean screen and kiosks, all vehicles are also visually inspected to confirm that a catalytic converter is present. If a vehicle fails the visual tampering inspection or for the gas cap, it fails the overall test. Fails for vehicles not having a catalytic converter do not receive an emissions test but do receive the gas cap test. Certain percentages calculated below uses and is compared to the unique number of vehicles of 796,866 that were tested in 2022.

1. Gas cap tests (for vehicles that have gas caps) gasoline and diesel vehicle's gas caps are pressure tested to ensure the cap seals tightly and does not allow fuel vapors to evaporate into the air. If the vehicle fails the gas cap test, it fails the overall emissions test, even if the vehicle passed the emissions portion of the test. These are tested in the full-service and repair shop test lanes. The OBDII self-serve kiosks do not test the gas caps. Gas cap failures can also be detected from the OBD test.

2. On-Board Diagnostic tests: On-board diagnostics (OBD II) is a vehicle computer system installed in 1996 and newer vehicles and light trucks and 1997 and newer diesel vehicles. The computer continuously tracks and stores information about a vehicle's performance. The on-board computer

turns on the “check engine” light if it finds a problem with a vehicle’s emission control system. On January 5, 2004, Ohio began testing vehicles equipped with the OBD II systems. OBDII tests are conducted in the full-service test stations, 44 repairs shops and by 18 self-serve kiosks that are available 24/7 365 days a year.

There were 827,443 initial pass/fail tests or 99.2% OBD tests.

3. Tailpipe tests were discontinued on December 31, 2019.

4. The Clean Screen or “Rapid Screen”: This test process started in July 2012 and can remotely test vehicles as they operate under normal driving conditions. These tests are used for a small percentage of gasoline-fueled vehicles that operate with exceptionally low emissions. This test measures emissions while the vehicle is operating normally on a public roadway. Clean Screen testing typically takes place at highway on-ramp locations in order to obtain emissions readings as vehicles are accelerating through the test equipment. To ensure accurate and uncontaminated readings, the emissions limits for this type of test are stricter than those of a standard tailpipe emissions test. Also, a vehicle must record two acceptable Clean Screen readings within a nine-month window in order to be documented as passing the E-Check requirements. In 2022, 6,201 or 0.78 percent of emissions tests were completed using the Clean Screen test.

5. Opacity tests use opacity meters to determine the “density” of the exhaust emitted from the diesel vehicle’s tailpipe. Only diesel vehicles receive an opacity test. In 2022, 92 or 0.01 percent of emissions tests were completed using the opacity test.

E. Regulations

Regulatory Changes Due to Covid-19: As a result of two legislative bills signed by Governor DeWine, vehicle owners with vehicle registrations which expired between March 9, 2020, and April 1, 2021 were provided an extension to obtain their registration and vehicle emission test until December 31, 2021.

Impact on this change on the program: Fewer vehicles were tested in 2020 as a result of this change. However, these vehicles were still required to be tested before July 1, 2021.

III. Any Weaknesses or Problems

No significant weaknesses or problems were identified in 2021-2022. Ohio EPA and Envirotest Systems work together on an ongoing basis to address and resolve any issues that arise during the operation of the vehicle inspection and maintenance program. The continuing communication between the parties results in no long-term issues needing enforcement actions to be brought against Envirotest Systems.

IV. Program Emission Reduction Evaluation

Ohio EPA used the MOVES3 version of the Motor Vehicle Emission Simulator (MOVES) model to determine the 2022 calendar year reductions for the Cleveland/Akron E-Check testing program. Those reductions are:

- A. 316 tons per year (tpy) of nitrogen oxides (NO_x),
- B. 205 tpy of volatile organic compounds (VOCs), and
- C. 10,350 tpy of carbon monoxide (CO).