2008 Gas Cap Testing and Replacement Program Summary Report

Introduction

Toledo Metropolitan Area Council of Governments (TMACOG) teamed up with the City of Toledo Division of Environmental Services to continue the Gas Cap Testing and Replacement Program for the eighth consecutive year in 2008. This program served to educate the general public on the importance of a functioning gas cap and its impact on ground level ozone pollution, commonly referred to as "smog." Residents of Northwest Ohio, including the cities of Toledo, Bowling Green, Oregon, Rossford, Perrysburg, and Northwood were invited to participate in the program by having their gas caps tested for leaks at local gas stations and community events. This year's program tested 761 different gas caps. Along with the physical testing of gas caps, the program provided motorists with information on the importance of replacing faulty gas caps and what they can do reduce air pollution.

Throughout summer of 2008, program representatives successfully tested 761 gas caps at 28 testing sites. A total of 80 faulty or missing gas caps were replaced over the course of this year's program. This translates to the prevention of approximately 15,920 pounds of evaporative emissions from entering the air. In total, motorists who had faulty gas caps will save approximately 160 tanks of gas per year simply through the use of a properly functioning gas cap.

Background

Gas cap testing and replacement programs were first implemented in areas of the country where ozone levels were not in compliance with the Environmental Protection Agency's (EPA) standards. Within these regions, gas cap testing is included as one part of a series of tests known as emissions testing. Emissions testing, commonly known as the E-Check, consists of a series of tests that vehicles must pass in order to help reduce emissions from vehicle exhaust. These programs focus particularly on those emissions that contribute to ozone pollution. The overall goal of emissions testing is to improve the air quality of that particular region. In northwest Ohio and southeast Michigan, motorists do not have to undergo mandatory E-Checks.

These materials were then distributed to the public:

At testing sites, the Gas Cap Testing and Replacement Program:

- Informs the participants of the negative impact that ground-level ozone pollution and high emission levels have on our health and the environment.
- Reduces the total amount of pollution emitted into our air by motorists through the replacement of faulty or missing gas caps.
- Educates the public on steps that can be taken to prevent air pollution, such as using public transit, carpooling, trip chaining, and proper vehicle maintenance.

Sponsors

The 2008 sponsors played a huge role in the success of the Gas Cap Testing and Replacement Program. Without the support of each sponsor, it would be impossible to effectively run the program. Each sponsor is to be commended for assisting the efforts to help reduce air pollution in our region. This year, the program had financial, site, and gas cap sponsors all working together to help reduce ozone emissions.

Financial Sponsors: Financial sponsors for the 2008 testing season were BP Oil Refinery, Sunoco and Barney's Convenience Mart. Each company was listed on all promotional advertisements. This was done to show appreciation for their efforts and dedication to our program.

Site Sponsors: Throughout the summer, gas caps were tested at various locations in Wood and Lucas counties in Ohio. There were two companies that allowed the program to conduct testing at their various locations. These include BP, Barney's Convenience Mart and Sunoco gas stations. At these sites, the interns were able to post signs, disseminate informational materials, and discuss the importance of clean air with the public.

Gas Cap Sponsor: The Gas Cap Testing and Replacement Program once again teamed up with AutoZone to assist in the replacement of faulty gas caps. There are dozens of types of gas caps; each designed to fit different makes, models, and years of vehicles. Interns carried with them the six most common types of gas caps. In the event that a cap failed, it would be replaced on-site to reduce pollution while not inconveniencing the motorists. If a gas cap was faulty and there were no matching caps in our inventory, the motorist was presented with a voucher redeemable at any AutoZone location to replace the motorist's gas cap. At the season's end, AutoZone invoices TMACOG for each voucher redeemed. This season, two vouchers were distributed to two area motorists.

Marketing

In order to effectively communicate to the public about the 2008 Gas Cap Testing and Replacement Program, the Division of Environmental Services and TMACOG employed a combination of various marketing tools. These tools enabled communication with the public while promoting the testing events. Program participants were able to learn about the program through various mediums, including news broadcasts, radio programs, and print media. The Gas Cap Testing and Replacement Program was also effectively advertised on the TMACOG website and the City of Toledo Division of Environmental Services website, where we posted a list of testing events and information about the importance of this program and the Ozone Advisory Program.

Radio: Like previous years, radio was used to interest citizens of Northwest Ohio and attract motorists to the designated testing events. The Gas Cap Testing and Replacement Program teamed with WKKO K100 to hold a live remote radio broadcast at two different testing sites. By attending these events, participants were able to register to win a Sea

Doo Wave Runner, get their gas cap tested, and learn about the program and its impact on air quality.

Print: In order to expand the reach of the program's message, TMACOG sent press releases to different weekly and daily print and radio outlets. These releases contained information about the importance of gas cap testing, a schedule of testing sites, and information about the program, including contact information.

Local Events: This year, the Gas Cap Testing and Replacement Program became a prime attraction at the first annual Frogtown Fair hosted by the City of Toledo. The Gas Cap Testing and Replacement Program had its own area designated for easy entrance and egress.

Television: This year, perhaps due to the soaring cost of gas, the local news stations took a high interest in the Gas Cap Program. Two local news stations, WTOL Channel 11 and WTVG Channel 13 conducted interviews and had the Gas Cap Program featured on the nightly news.

Testing Information

The purpose of the Gas Cap Testing and Replacement Program is to reduce evaporative emissions from light-duty, gasoline-powered vehicles. This year, the program helped to prevent approximately 15,920 pounds of pollution from entering the atmosphere by replacing 80 missing or faulty gas caps. With 761 tests conducted, program representatives worked to educate the region's residents on the dangers of ground level ozone.

At various local sites, 28 testing events were held for the public to have their gas caps tested. At each event, the general public is invited to have a test done on their gas cap to ensure that it is sealing properly. Along with the test, they are given educational pamphlets to help answer their questions regarding ground level ozone. Program representatives also helped educate the public by simply discussing the reasons for the testing and the importance of clean air.

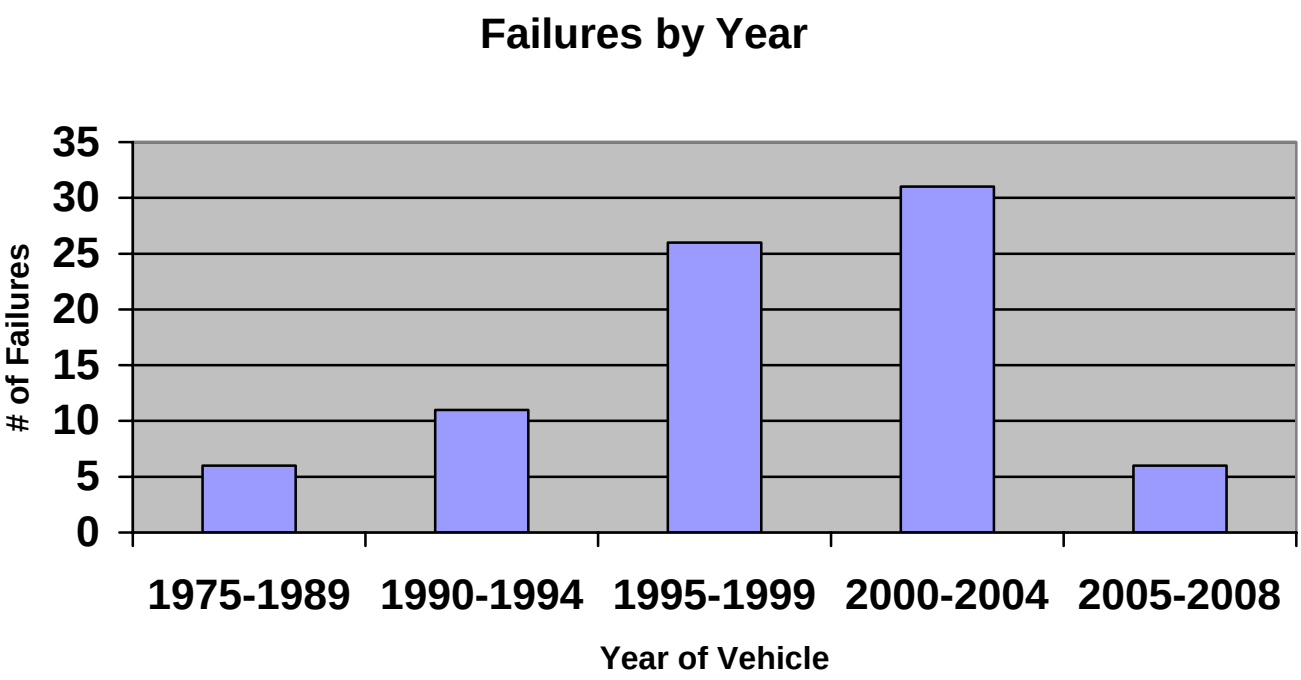
Test Results

At each testing event, a program representative records the year, make, and model of each vehicle being tested. This information is compiled according to date of testing and the location of the testing site. At the end of the season, this data is analyzed and many inferences are drawn from it. For 2007, the average failure rate for each testing site was approximately 4.58%, compared to this year's average of 12.0%. This escalation in failure rate could be due in part to the targeting of areas in which older model cars would be more prevalent, as well as the public's knowledge of the events. This was the seventh year for the Gas Cap Testing and Replacement Program, and as each year passes, public awareness and participation increases. We were able to test 761 cars over the course of the summer.

After analyzing all of the data collected, it was evident that one characteristic of a vehicle affected the possibility of it having a faulty gas cap. We found that the year of a car had an

impact on the condition of the gas cap, similar to the conclusions in previous years of the program. This year, we concluded that cars made in years 2000-2004 had a higher failure rate than those in other years.

The following graph depicts those conclusions and the relationship between the ages of the vehicles with failing gas caps:



Testing Figures
In 2008, the Gas Cap Testing and Replacement Program helped to educate the public on the importance of clean air care and its affect on ground level ozone pollution. By testing the gas caps of light-duty, gasoline-powered vehicles, we were able to reduce evaporative emissions in the Toledo metropolitan area. Following are detailed figures of all the results from the 2008-testing season.

2008 Gas Cap Replacement Program Testing Results

6/19/08 Division of Environmental Services Fleet – 348 S. Erie, Toledo
14 tested
2 failed
14.3% failure rate

6/24/08 Division of Environmental Services Employees – 348 S. Erie, Toledo
24 tested
2 failed
8.3% failure rate

7/1/08 Sunoco – 1855 Woodville Rd., Oregon
38 tested
3 failed
7.8% failure rate

7/8/08 BP/Barneys – 4128 Monroe, Toledo
18 tested
7 failed
38.9% failure rate

7/10/08 Sunoco – 541 N. Reynolds, Toledo
17 tested
2 failed
11.7% failure rate

7/15/08 Sunoco – 3503 Hill Ave & Byrne, Toledo
32 tested
6 failed
18.7% failure rate

7/16/08 Sunoco – 2205 N. Holland Sylvania, Toledo
18 tested
3 failed
16.7% failure rate

7/17/08 BP/Barneys – 6986 Airport Highway, Holland
13 tested
1 failed
7.6% failure rate

7/22/08 Sunoco – 1455 S. Byrne Rd., Toledo
18 tested
2 failed
11.1% failure rate
7/23/08 Sunoco – 2445 W. Alexis, Toledo
22 tested
2 failed
9.0% failure rate

7/24/08 BP/Barneys – 1565 E. Alexis, Toledo
19 tested
2 failed
10.5% failure rate

7/29/08 Sunoco – 1407 Manhatten Blvd., Toledo
11 tested
2 failed
18.1% failure rate

7/31/08 BP/Barneys – 103 Anthony Wayne Trail, Waterville
21 tested
0 failed
0.0% failure rate

8/2/08 Frogtown Fair – Nebraska/S. Erie Street, Toledo
111 tested
8 failed
7.2% failure rate

8/5/08 Sunoco – 4810 Suder Ave., Toledo
15 tested
0 failed
0.0% failure rate

8/6/08 BP/Barneys – 3211 Briarfield Blvd., Maumee
19 tested
2 failed
10.5% failure rate

8/6/08 DPU Sewer & Drainage – Toledo
27 tested
3 failed
11.1% failure rate

8/7/08 BP/Barneys – 2 N. Reynolds Rd., Toledo
7 tested
0 failed
0.0% failure rate

8/12/08 Sunoco – 3510 Moline-Martin Rd., Millbury
13 tested
1 failed
7.7% failure rate

8/13/08 BP/Barneys – 4306 Sylvania Ave., Toledo
30 tested
3 failed
10.0% failure rate

8/14/08 BP/Barneys – 1602 E. Wooster St., Bowling Green
41 tested
6 failed
14.6% failure rate

8/19/08 City of Bowling Green – City Garage, Bowling Green
72 tested
5 failed
7.0% failure rate

8/19/08 Wood County – Wood County Garage, Wood County
49 tested
4 failed
8.1% failure rate

8/21/08 DPU Engineering Services – Toledo
38 tested
2 failed
5.2% failure rate

8/21/08 DPS Signs & Transportation–Toledo
19 tested
5 failed
26.3% failure rate

8/26/08 Neighborhoods: Building Inspection- Toledo
11 tested
3 failed
27.2% failure rate

8/27/08 Toledo Edison Employees – 6099 Angola, Holland
35 tested
2 failed
5.7% failure rate

8/29/08 City of Toledo Fleet Operations- Toledo
9 tested
2 failed
22.2% failure rate