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# Treasure Valley Vehicle Inspection and Maintenance Programs

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Annual Review



**State of Idaho  
Department of Environmental Quality  
1410 North Hilton  
Boise, ID 83706  
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## Background

In 2008, the Idaho Legislature enacted and the governor signed into law Idaho Code §39-116B, “Vehicle Inspection and Maintenance Program,” laying the groundwork for requiring vehicle emissions testing in areas of the state where air quality is compromised and motor vehicle emissions constitute one of the top two sources contributing to the pollution. Ada and Canyon Counties meet the criteria specified in the law, as data shows the design value for ozone exceeds 85% of the National Ambient Air Quality Standard (NAAQS) and vehicle emissions constitute one of the top two emissions sources contributing to ozone concentrations in the Treasure Valley.

Ada County has had a vehicle emissions testing program in operation since 1984; the program is managed by the Air Quality Board (AQB). In 2010, vehicle emissions testing became a requirement in Canyon County and the city of Kuna in Ada County. As of February 2015, the Idaho Department of Environmental Quality (DEQ) contracts with Applus Technologies Inc. to operate the program in Canyon County and the city of Kuna, per Idaho Code §39-116B(3).

Idaho Code §39-116B(5) directs that “The department shall annually review the results of the vehicle inspection and maintenance program. The review shall include, among other things, an estimate of the emission reduction obtained from the number of vehicles that initially fail the test and then pass after maintenance.” This report summarizes the effectiveness of programs for both Ada and Canyon Counties during calendar year 2015.

## Program Effectiveness

The effectiveness of an emissions testing program can be described in terms of its failure rates, compliance rates, and estimated emission reductions. Table 1 shows the failure, compliance, and waiver rates for calendar years 2013, 2014, and 2015, along with the total number of vehicles tested. These results are consistent with other inspection and maintenance (I/M) programs throughout the United States.

**Table 1. Failure, compliance, and waiver rates.**

	2013		2014		2015	
	Ada	Canyon	Ada	Canyon	Ada	Canyon
Vehicles tested	127,485	46,958	131,614	41,650	129,333	51,479
Failure rate	8.73%	10.87%	8.53%	10.27%	9.25%	8.6%
Compliance rate	96.10%	96.36%	97.01%	96.24%	96.84%	92.0%
Waiver rate	0.44%	0.29%	0.37%	0.22%	0.29%	0.5%

### *Failure Rate*

Failure rates reflect the percentage of tested vehicles that fail the initial test and are required to either obtain repairs and pass a retest or obtain a waiver due to financial hardship or repair costs.

### *Compliance Rate*

Compliance rates reflect the percentage of vehicles due for testing that have either passed an emissions test or received a waiver.

### *Waiver Rate*

The I/M programs in Ada and Canyon Counties offer two forms of waivers: repair waivers and financial hardship waivers. A repair waiver is available to individuals who spend a minimum amount on emission-related repairs for a vehicle that has failed an emission test. A hardship waiver is granted

to an individual who provides proof that a financial hardship would be endured to complete the necessary repairs to a vehicle that has failed an emissions test.

### *Emission Reductions*

When Idaho Code §39-116B was enacted in 2008, initial modeling was conducted to estimate the annual ozone precursor emission reductions that would be achieved by the two-county I/M programs. DEQ uses the latest approved model to evaluate emission reductions to assess the continued benefit of the I/M programs. The calendar year 2013, 2014, and 2015 vehicle emission reduction estimates are summarized in Table 2.

**Table 2. Ozone precursor modeled annual reductions.**

Ozone Precursor (tons/year)	2013 Emission Reductions		2014 Emission Reductions		2015 Emission Reductions	
	Ada	Canyon	Ada	Canyon	Ada	Canyon
Volatile organic compounds	306	169	319	212	318	209
Nitrogen oxides	282	147	283	146	265	139
<b>Total reductions</b>	<b>587</b>	<b>316</b>	<b>602</b>	<b>358</b>	<b>583</b>	<b>348</b>

### **Program Review**

The emission testing programs in Ada and Canyon counties continue to provide emission reductions greater than modeled at the inception of Idaho Code §39-116B. As the programs mature and the gross emitters and older vehicles are removed from the fleet, the reductions gained from the I/M programs are decreasing as expected.

Since the enactment of Idaho Code §39-116B, the US Environmental Protection Agency has lowered the health based National Ambient Air Quality Standard for ozone twice; from 80 to 75 ppb in 2008 and from 75 to 70 ppb in 2015. While monitoring data for the Treasure Valley has shown a downward trend in ozone levels, because the ozone standard has become increasingly more stringent, the margin between complying with the standard and violating the standard remains small. Ozone reductions in the valley can be attributed to the motor vehicle I/M program, more stringent motor vehicle emission standards for new vehicles, and efforts by industry and the public. By requiring properly maintained and repaired vehicles, an I/M program reduces ozone by reducing nitrogen oxides (NOx) and volatile organic compounds (VOCs), the primary pollutants that combine to form ozone. An I/M program also helps to reduce wintertime fine particulate matter (PM2.5) levels. During wintertime inversion conditions NOx combines with ammonia to form ammonium nitrate, a secondary aerosol. Secondary aerosols are the largest contributors to the Treasure Valley’s PM2.5 levels when inversion conditions exist.

As part of the ongoing air quality public awareness and outreach program, seasonal public service announcements (PSAs) continue to be broadcasted in the Treasure Valley. The PSAs developed by the AQB and DEQ provide the public with information on air quality issues and specific actions that can be taken to improve air quality.

### **Conclusion**

Results from the Ada and Canyon County programs indicate that both programs are continuing to obtain desirable results by significantly reducing harmful pollutants from motor vehicles. These results confirm that the two-county testing program is one of the most cost effective of all measures evaluated by the Treasure Valley Air Quality Council to reduce ozone precursors in the Treasure Valley and should be continued.