

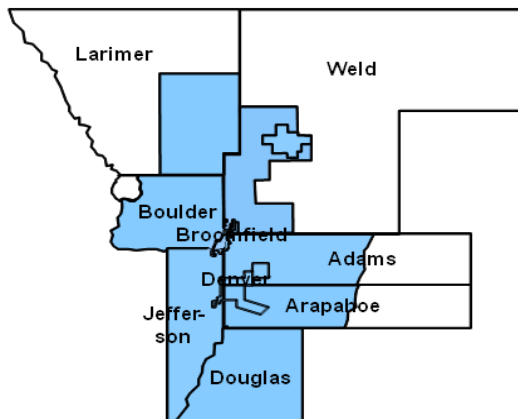


# COLORADO

## Air Pollution Control Division

Department of Public Health & Environment

### *Automobile Inspection and Readjustment (AIR) Program Annual Report Calendar Year 2016*



**July 1, 2017**



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# Executive Summary

The purpose of the Automobile Inspection and Readjustment Program is to improve air quality through the detection and repair of excessively emitting gasoline-powered vehicles. Mobile source emissions constitute one of the larger categories of controllable emissions that contribute to summertime ozone concentrations. Lowering vehicle emissions by repairing high emitting vehicles contributes to a cleaner motor vehicle fleet and improves the air quality throughout Colorado's Front Range.

The State of Colorado operates a registration denial based motor vehicle emissions inspection program in the nine-county Front Range area. This includes all, or portions of Adams, Arapahoe, Boulder, Broomfield, Denver, Douglas, Jefferson, Larimer, and Weld counties.

Vehicles are exempt from inspection for the first seven model years. Newer model year vehicles that undergo ownership change during this period are also exempt from inspection if they have at least 12 months remaining in their seven-year exemption period.

The Inspection and Maintenance (I/M) network consists of 18 Air Care Colorado emissions inspection stations with 97 inspection lanes located throughout the nine-county program area. These centralized inspection stations inspect gasoline-powered vehicles regardless of age. Air Care Colorado also operates the RapidScreen program, which on average consists of 14 on-road Remote Sensing Device (RSD) units per day deployed across the program area. There are also two independent test-only stations that may only inspect 1981 and older gasoline-powered vehicles. Additionally, there are 19 licensed vehicle fleet owners who may self-inspect their own qualifying commercial and government vehicles.

The Colorado Automobile Inspection and Readjustment (AIR) Program includes four primary inspections types, which are administered depending on the vehicle model year, weight, and dynamometer compatibility. The inspection types are:

- On-Board Diagnostic (OBD) - electronic query of the vehicle's OBD system for vehicles that are 11 years old and newer.
- I/M 240 – dynamometer based inspection for light duty gasoline powered vehicles that are model years 1982 through 12 years old.
- Two-Speed Idle inspection (TSI) – measures vehicle emissions at idle and raised idle. TSI inspections are administered to light duty vehicles that are 1981 and older and all model year heavy-duty gasoline-powered vehicles.
- RapidScreen™ - measures tailpipe emissions while a vehicle drives past an on-road RSD unit. Vehicles that meet the RapidScreen standards can forgo the traditional OBD or I/M240 dynamometer inspection performed at the Air Care Colorado testing facilities.

The AIR Program also includes a visual inspection to check for required emissions control equipment on vehicles that are model year 1995 and older. Additionally,

vehicles receive a gas cap test (light-duty only) along with an inspection for visible smoke.

In calendar year 2016, there were 279,986 initial OBD inspections, 556,308 initial I/M240 inspections and 45,702 Two-Speed Idle (TSI) inspections conducted throughout the I/M network. The OBD failure rate was 7.04%, the I/M240 failure rate was 9.34%, and the TSI inspection failure rate was 8.58%. Remote sensing devices observed 267,020 unique vehicles that met clean screen program requirements. Of these, 183,753 vehicles participated in the program.

The State estimates that the net cost of the total AIR program during 2016 was approximately \$50.6 million. Net cost is a combination of vehicle inspection costs, repair costs, vehicle registration fees, and estimated fuel savings. For ozone precursors, the State estimates the cost-effectiveness of the inspection program to be \$5,347 per ton removed.

## Introduction

The State of Colorado has maintained an automotive emissions inspection program since 1981. The purpose of this program is to identify and repair high-emitting vehicles. Repair of these vehicles results in lower mobile source emissions and contributes to improvement in the program area's air quality. Mobile sources remain a significant source of controllable emissions that contribute to Front Range summertime ozone levels.

The current Automobile Inspection and Readjustment (AIR) program was authorized by HB93-1340, and began operations on January 1, 1995. It consists of an Inspection and Maintenance (I/M) Program that uses an electronic query of the On-Board Diagnostic system for light-duty gasoline-powered vehicles that are 11 years old and newer. A dynamometer-based I/M240 inspection is used for model year 1982 through 12 years old light-duty gasoline powered vehicles. It includes a Two-Speed Idle (TSI) inspection for 1981 and older light-duty and all model year heavy-duty gasoline powered vehicles. A visual emissions control system inspection is conducted on all 1975 through 1995 model year vehicles. A gas cap test (light-duty only) and a visual opacity (smoke) inspection is performed on all vehicles.

The enhanced AIR Program is comprised of the nine-county Front Range area, including all or portions of Adams, Arapahoe, Boulder, Broomfield, Denver, Douglas, Jefferson, Larimer, and Weld counties. Vehicles registered in the latter two North Front Range counties began to be inspected on November 1, 2010.

The inspection frequency is contingent on the vehicle model year. Model year 1982 and newer vehicles are inspected biennially (every two years), while 1981 and older model year vehicles are inspected annually. The inspection cycle for new vehicles begins after a seven model year exemption period. This allows the newest and cleanest model year vehicles to forgo periodic I/M inspection. Vehicles sold during their exemption period are also exempt from inspection as long as there are at least 12 months remaining in the exemption period. To further improve motorist convenience, the AIR program includes a remote-sensing based clean screen program called "RapidScreen." RapidScreen monitors vehicle emissions while simultaneously photographing the license plate as a vehicle passes through infrared and ultraviolet beams of light. Vehicle owners are notified by their local County Clerk via registration renewal card if their vehicle has met the RapidScreen criteria. Vehicles that pass the RapidScreen inspection process are not required to be inspected at a traditional inspection facility and can continue through the vehicle registration process.

The State contractor for the program is Envirotest Systems Corp. (Envirotest is a subsidiary of Opus Inspection Incorporated). They operate and maintain all of the Air Care Colorado vehicle emissions inspection stations, the RapidScreen program and manage all related data and communication services. The Mobile Sources Program in the Air Pollution Control Division at the Colorado Department of Public Health and Environment (CDPHE) designs, administers, and evaluates the program. The Emissions section in the Division of Motor Vehicles at the Colorado Department of Revenue (DOR)

regulates the emissions inspection facilities and inspectors working in the emissions program areas. The AIR Program is enforced through the denial of vehicle registration by the County Clerks. Proof of a passing emissions inspection is a prerequisite to renewing a vehicle's registration.

## **Inspection and Maintenance (I/M) Program**

### ***I/M Network***

The I/M network consists of 18 Air Care Colorado emissions inspection stations with a total of 97 inspection lanes, two independent test-only stations that inspect model year 1981 and older gasoline-powered vehicles, and 19 fleet stations that inspect qualifying commercial and governmental fleet vehicles. Fleet inspection stations are licensed to only test qualifying commercial and governmental fleet vehicles that they own.

The RapidScreen roadside inspection program consists of, on average, 14 Remote Sensing Device (RSD) units deployed daily within the program area. Units are rotated among 124 locations throughout the program area, with the primary locations being highway on ramps.

The State staffs six Emissions Technical Centers (ETCs) throughout the AIR program area to help both the motoring public and the repair industry. These centers provide technical support for the Mobile Sources program, including technical support of vehicle inspection program, and the motor vehicle clean fuels program.

### ***New Program Developments***

On May 4, 2016, EPA published a final rule that reclassified Colorado's ozone nonattainment status from Marginal to Moderate. The Denver Metropolitan/Front Range (DM/NFR) nonattainment area failed to comply with the 2008 8-Hour ground-level ozone National Ambient Air Quality Standards (NAAQS) of 75 parts per billion (ppb). If the DM/NFR fails to meet the 2008 8-hour attainment requirements by July 20, 2018, based on 2015-2017 ozone season data, the nonattainment status may be reclassified as Serious.

Due to the reclassification to Moderate, additional requirements were triggered to remain in compliance with the federal Clean Air Act (CAA). This included the mandate of a required vehicle inspection and maintenance program and the

necessity to submit revisions to the State Implementation Plan (SIP) demonstrating future compliance strategies.

## **On-Board Diagnostic Inspection Program**

In 2016, vehicles model year 2006 through 2009 were required to receive an On-Board Diagnostic (OBD) inspection. Additionally, vehicles model year 1996 through 2005 received an Alternate OBD inspection if the vehicle was incompatible with the I/M240 dynamometer, allowing OBD fail rates to be measured for these vehicles, as explained in the I/M240 section.

The OBD inspection involves a visual assessment of the Malfunction Indicator Light (MIL), also known as a check engine light, and an electronic query of the computer control system to determine if there are emissions problems. A vehicle's OBD system will command the Malfunction Indicator Light (MIL) on if the emissions output could be or is elevated 1.5 times the Environmental Protection Agency (EPA) certification levels.

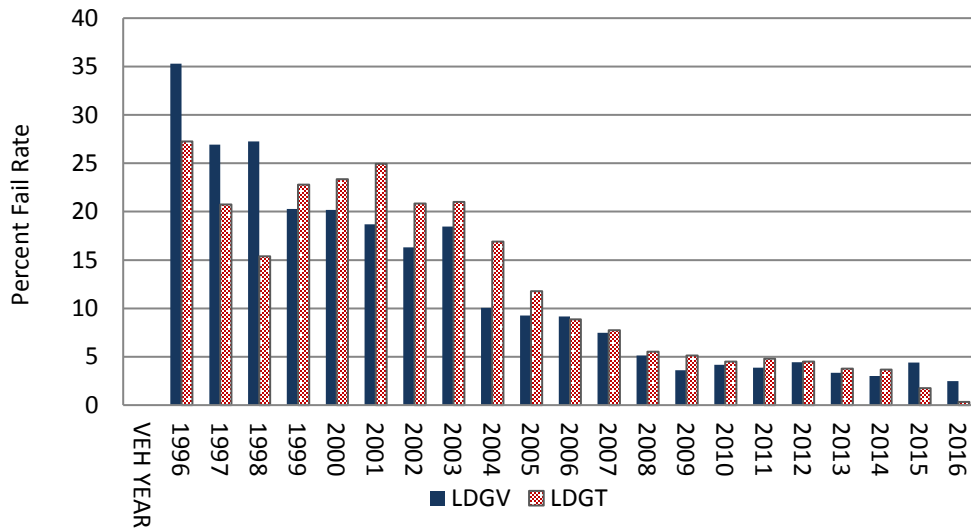
Because of the way the OBD inspection interprets vehicle's sensors and computer control systems, an emissions related issue may be identified more readily than with the traditional dynamometer based IM/240 inspection that directly measures a vehicle's emissions.

The OBD inspection process also includes a functional inspection of the gas cap and a visual inspection of the exhaust for opacity (smoke).

### ***OBD – Initial Inspection Results***

There were a total of 279,986 initial OBD inspections conducted in 2016. A vehicle will fail the OBD inspection if the MIL is illuminated or not functioning (Visual Fail) and/or the MIL is commanded on by the OBD system. Furthermore, a failing test may occur if the vehicle is emitting visual opacity (smoke), or has a faulty or missing gas cap. In 2016, there were 19,718 vehicles that failed their initial OBD inspection resulting in an OBD initial failure rate of 7.04%. Vehicles that fail their initial inspection must undergo repairs and then return to an emissions station for a post-repair emissions inspection. Figure 1 shows the overall OBD initial failure rates by model year and vehicle type. Additional information regarding initial OBD failures is available in the "Initial OBD Inspection Report" within Appendix A2.

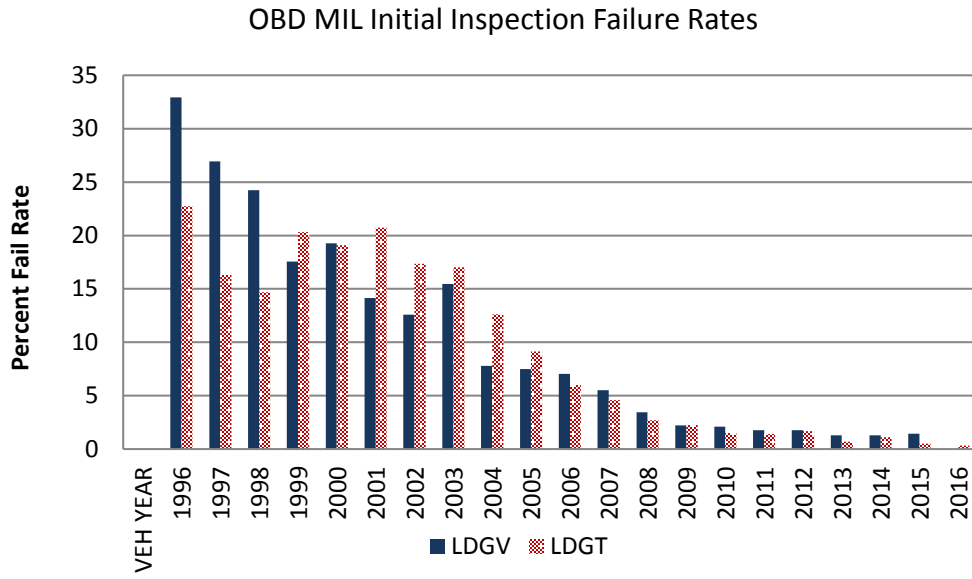
### OBD Initial Inspection Fail Rates



**Figure 1 – OBD Initial Inspection Fail Rates by Model Year and Vehicle Type (LDGV= Cars; LDGT = Trucks)**

Figure 1 demonstrates that the lowest failure rates are associated with the newest model year vehicles. This has prompted the State to exempt all new vehicles from periodic emissions inspections for the first seven model years. Some motorists do, however, have their vehicles inspected even in the model year exemption period. This permits failure rates to be measured for 2010 and newer model year vehicles as shown in Figure 1.

In 2016, 12,772 vehicles failed their initial OBD MIL inspection resulting in an OBD MIL initial failure rate of 4.42%. Figure 2 shows the MIL failure rates by model year and vehicle type. These MIL failures include vehicles that failed for the MIL being commanded on and/or the visual MIL inspection, which is explained in the OBD visual inspection results section. Vehicles that failed for MIL and Gas Cap, as explained in OBD Initial Inspection Failure Report (Appendix A3), are also included.



**Figure 2 – OBD MIL Fail Rates by Model Year and Vehicle Type (LDGV= Cars; LDGT = Trucks)**

Additional information on MIL inspection activity is available in the “Initial OBD Inspection Failure Report” in Appendix A3.

A vehicle’s OBD system may not communicate with the inspection equipment. If the MIL passes the visual inspection but the OBD system does not communicate the vehicle is given an Alternate I/M 240 inspection. In 2016, 3,625 vehicles did not communicate and received an Alternate I/M240 inspection. The pass/fail results and emissions rates for these vehicles are included in the I/M240 section of this report. The purpose of Alternate I/M240 inspection is to maximize customer convenience, as it reduces the number of required trips to the inspection station.

In order for a vehicle’s emissions system to be properly evaluated, certain vehicle equipment parameters must met before the diagnostic process can begin. These parameters are evaluated by the OBD system and will report the status of supported emissions systems through various “readiness monitors”. A vehicle will receive an OBD inspection if the supported readiness monitors are set to “Ready”. If the MIL passes the visual inspection but the required readiness monitors are not set to “Ready”, the vehicle is given an Alternate I/M 240 inspection. The readiness monitor standard varies by model year grouping so some vehicles may receive an OBD inspection with one or two readiness monitors set to “Not Ready”. In 2016, 16,011 vehicles were “Not Ready” to receive an OBD inspection and received an Alternate I/M240 inspection instead. The pass/fail results and emissions rates for these vehicles are included in the I/M240 section of this report.

In 2016, 260,268 vehicles passed their initial OBD inspection (92.96%), with 17,620 (6.77%) of those passing with at least one readiness monitor set to “Not Ready”. Additionally, there were 19,718 (7.04%) vehicles that failed the OBD inspection with 4,433 (34.71%) of those failing with at least one readiness monitor set to “Not Ready”. Supplementary information on OBD readiness status is available in the “Initial OBD Fail Readiness Monitor Summary Report” and “Initial OBD Pass Readiness Monitor Summary Report” in Appendices A5 and A8.

Some vehicles are not compatible with the Alternate I/M240 inspection due to the vehicle’s configuration, such as hybrids or all-wheel drive trucks with a wheel base that exceeds the limitations of the dynamometer. If the MIL passes the visual inspection, but the OBD system is “Not Ready” or a problem exists with the vehicle’s OBD system and the vehicle is not compatible with the dynamometer, then the vehicle receives an incomplete inspection. Vehicles that receive an incomplete inspection must have the OBD systems communication issue resolved or have the readiness monitors meet the “Ready” criteria. There were 8,443 (2.93%) initial incomplete inspections in 2016. Additional information regarding incomplete OBD inspections is available in the Initial OBD Incomplete Inspection Report within Appendix A10.

A vehicle’s OBD system stores Diagnostic Trouble Codes (DTCs) when it detects emissions problems. The presence of stored DTCs normally correlates with the MIL being commanded on. In 2016, of the 19,718 vehicles that failed the OBD inspection 11,785 (or 92.27%) had at least one DTC stored and 486 (3.81%) had no corresponding DTC(s). Sometimes a vehicle’s MIL may not be commanded on, yet there are stored DTCs. Most commonly, this situation is presented when the passing criteria for the DTC has been met, however; the DTC remains stored until a given number of drive cycles are completed. A drive cycle is a predetermined set of vehicle operating conditions, which need to be completed to allow the vehicle’s OBD system to interrogate the readiness monitors under real world driving situations. In 2016, of the 260,268 vehicles that passed the OBD inspection, 14,627 (5.62%) had at least one stored DTC. Additional information on DTC status is available in the “Initial OBD Fail DTC Report” and “Initial OBD Pass DTC Report” in Appendices A4 and A7.

In addition to the mandatory OBD inspection performed on model year vehicles 2006 through 2009, an advisory only OBD inspection was completed on all 1996 through 2005 vehicles subject to the I/M240 inspection. The advisory OBD inspection included a visual MIL examination and a check of the MIL command status. These OBD inspection statistics are available in the “OBD Initial Inspection Emissions Report” in Appendix A9.



## ***OBD – Gas Cap Inspection Results***

Another element of the OBD Program inspection is a visual and functional inspection of gas caps. Inspectors verify that a gas cap is present, and then connect each gas cap to a device that pressurizes the cap and measures the decay of that pressure over time, which indicates a fuel vapor leak. If the gas cap is missing or if the pressure decay exceeds the standard, then the gas cap fails the inspection and the motorist is required to install a functional gas cap.

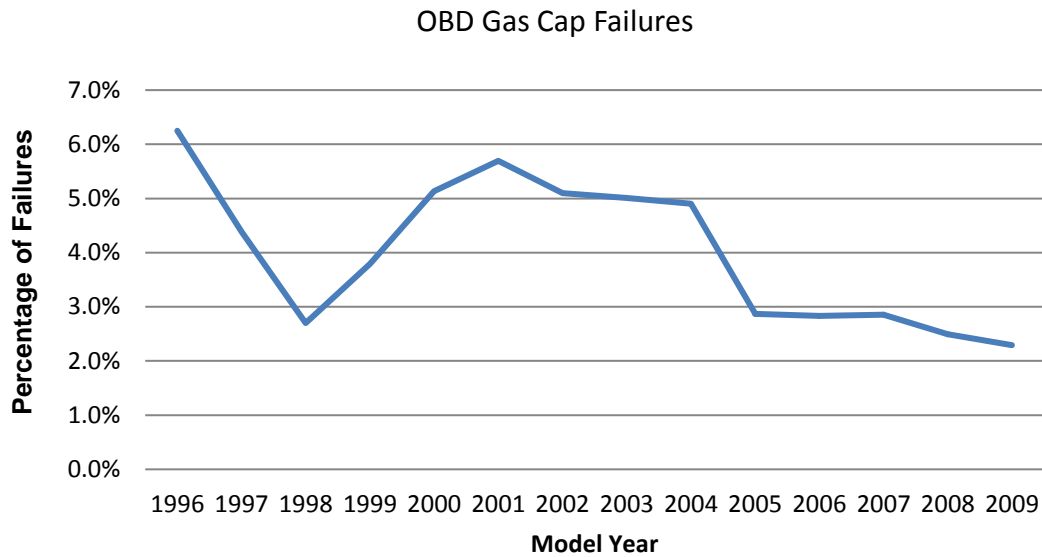
The benefit of this inspection is the reduction of gasoline vapors venting to the atmosphere, which is a major factor in ground-level ozone formation. EPA's emissions model, MOVES, estimates that a functional gas cap program removes approximately one ton of hydrocarbons per day in Colorado.

The relative percent contribution of mobile source ozone precursors released through gas cap or fuel system failures is expected to increase in the future, as tailpipe emissions continue to be reduced through fleet turnover and the introduction of advanced tailpipe emissions control technologies.

For vehicles receiving an OBD inspection, there were 7,532 gas cap failures (2.69%) in 2016.

Additional information on Gas Cap inspection activity is available in the "Initial OBD Inspection Failure Report" in Appendix A3.

Figure 3 shows the percentage of gas cap failures by model year.



*Figure 3 – OBD Gas Cap Failure Percentage by Model Year (1996-2009)*

This chart only accounts for the gas cap failures associated with the OBD inspection.

### ***OBD – Visual Inspection Results***

Vehicles receiving an OBD inspection can fail for a visual inspection of its Malfunction Indicator Light. If the MIL bulb does not illuminate with the key on and engine off, or if it does not turn off after the engine is started, then the visual MIL inspection fails. Visual MIL failures can be in addition to the MIL commanded on failures. In 2016, 10,945 vehicles (3.91%) failed the visual MIL inspection. These vehicles are included in the overall OBD initial failure section. Additional information on visual MIL inspection activity is available in the “Initial OBD Inspection Failure Report” in Appendix A3.

### ***OBD – Multiple Retests***

Failing vehicles are required to undergo retesting after repairs are made. Some of the vehicles that fail their initial OBD inspection may continue to fail after their initial repair attempt. In 2016, 17,767 vehicles were given an OBD post-repair retest. Of these vehicles, 2,327 failed a second time, resulting in a 13.10 % OBD initial retest failure rate. Additional information

on retest activity is available in the “OBD Retest Frequency Report” in Appendix A6.

As previously noted, a vehicle’s OBD system must have the required readiness monitors set to “Ready” in order to get an OBD inspection. The program found 8,913 vehicles (28.36 % of all initial OBD retest inspections) were “Not Ready” or had OBD communication issues during their initial post-repair inspection and received an incomplete retest. When a vehicle has its battery disconnected or has its Diagnostic Trouble Codes (DTCs) manually cleared, the readiness monitors will remain in a “Not Ready” status until a manufacturer specific drive cycle is completed.

### ***OBD – Post-Repair Inspection Results***

Vehicles that fail their OBD emissions inspection have potentially higher emissions than vehicles that pass OBD inspection. The improved emissions from repairing these vehicles generate the OBD program’s air quality benefit. Additional information on retest activity is available in the “OBD Retest Frequency Report” in Appendix A6.

## **I/M240 Program Results**

The I/M240 element of the program uses a 240-second loaded-mode transient dynamometer inspection cycle to measure exhaust emissions. This emissions inspection cycle is a derivative of the Federal Test Procedure (FTP) that is used to certify new vehicles for emissions. The I/M240 inspection also includes a visual inspection of emissions control equipment for 1995 and older model year vehicles, a visual and pressure test of the gas cap and a visual inspection of the exhaust for opacity (smoke). An advisory visual inspection of the OBD MIL is performed on 1996 and newer model year vehicles receiving an I/M240 inspection.

### ***I/M240 – Initial Inspection Results***

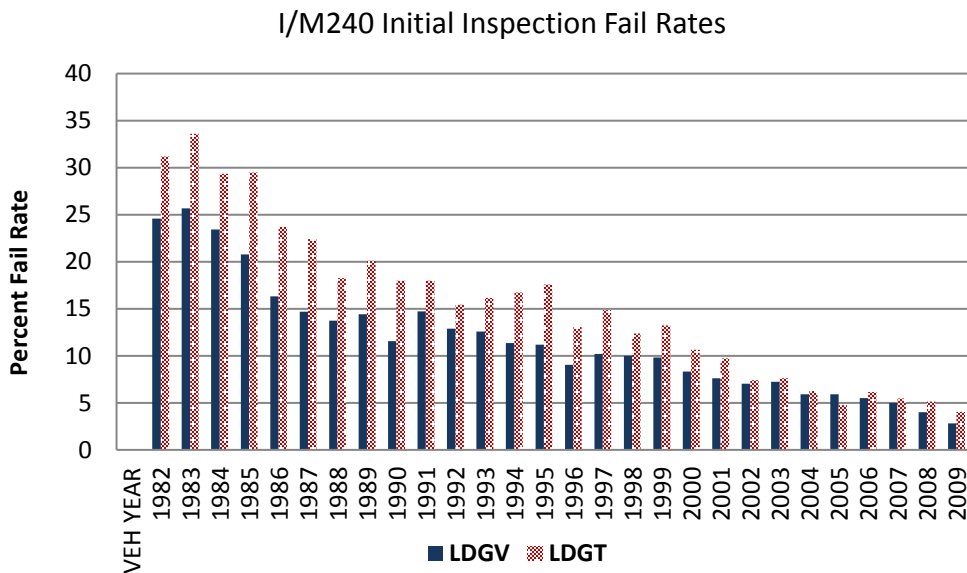
In 2016, there were a total of 556,308 initial I/M240 inspections conducted. The large majority of vehicles pass this initial I/M inspection. Vehicles that fail their initial inspection must undergo repairs and then return to an emissions inspection station for additional testing.

Vehicles can fail for a number of reasons, including missing or broken emission control equipment (1995 and older model year vehicles), excess exhaust emissions, visual opacity (smoke), or faulty or missing gas caps. In 2016, 51,978 vehicles failed their initial I/M240 inspections, resulting in an initial failure rate of

9.34 %. Of these, 26,794 vehicles failed for excess exhaust emissions, or an exhaust emissions failure rate of 4.82 %.

There were a small number of vehicles that were tested within their exemption period that are not included in Figures 4, 5, 6, 7, and 8. There were not enough vehicles for model years 2010 and newer to accurately represent average emissions rates.

Figure 4 shows the overall I/M240 initial failure rates by model year and vehicle type. Overall failures consist of vehicles with excessive exhaust emissions, gas cap pressure failures, opacity and/or visual equipment test failures.

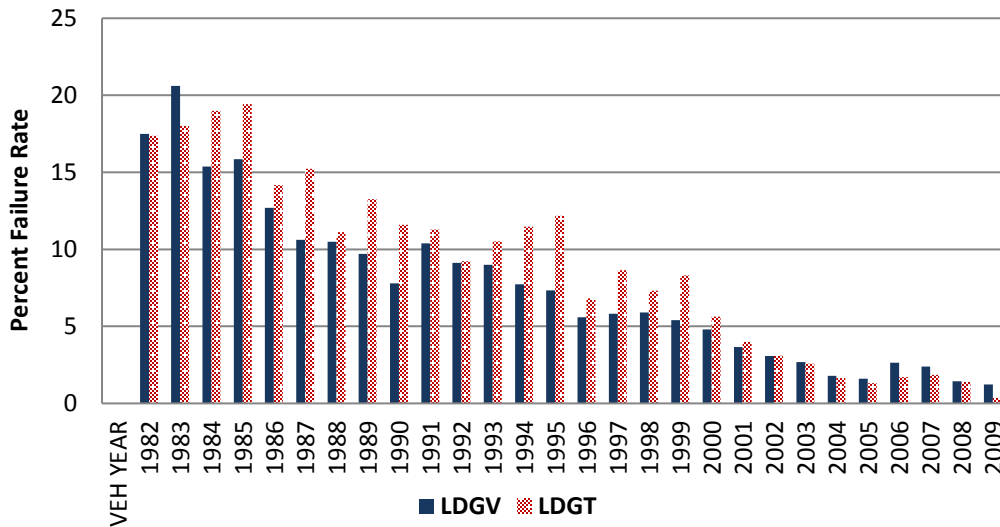


*Figure 4– I/M240 Initial Inspection Fail Rates by Model Year and Vehicle Type (1982-2009) (LDGV= Cars; LDGT = Trucks)*

In 2016, model year 2005 and older vehicles were required to receive an I/M240 inspection. However, model year 2006 and newer vehicles may have received an Alternate I/M240 inspection if the vehicle’s OBD system was “Not Ready” or did not communicate and therefore allowing I/M240 exhaust fail rates to be measured for these vehicles.

Figure 5 shows rates of vehicles that fail for excessive exhaust emissions, sorted by model year and vehicle type.

### I/M240 Exhaust Fail Rates



**Figure 5 – I/M240 Exhaust Fail Rates by Model Year and Vehicle Type (1982-2009)**  
 (LDGV= Cars; LDGT = Trucks)

In 2016, model year 2006 and newer vehicles should receive an OBD inspection. However, if the OBD system was “Not Ready” or did not communicate, the vehicle was given an I/M240 inspection.

Figures 6, 7, and 8 show the initial exhaust emission results for hydrocarbons (HC), carbon monoxide (CO), and nitrogen oxides (NO<sub>x</sub>), respectively.

I/M240 Average HC by Model Year

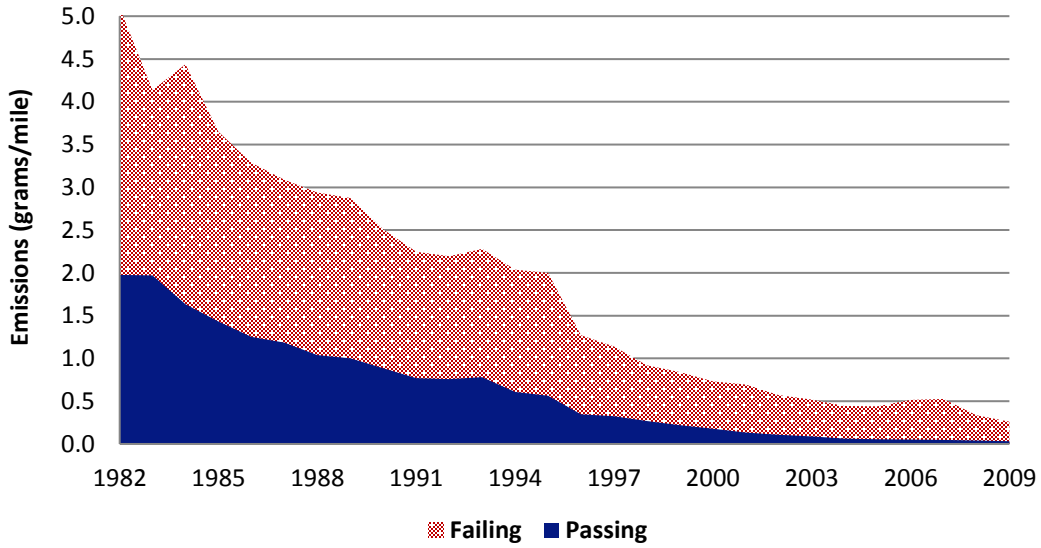


Figure 6 – I/M240 Average Hydrocarbon (HC) Emissions by Model Year (1982-2009)

I/M 240 Average CO by Model Year

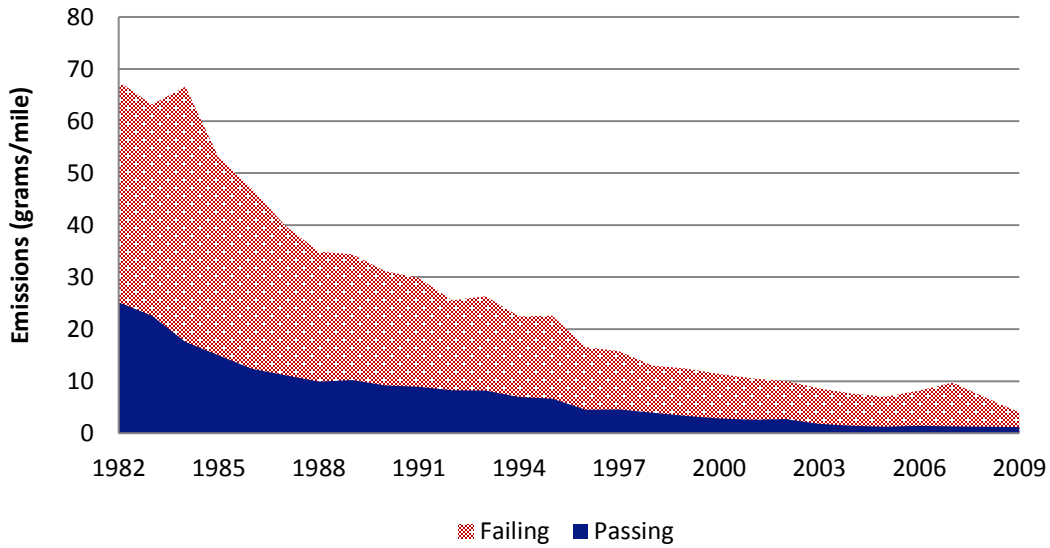
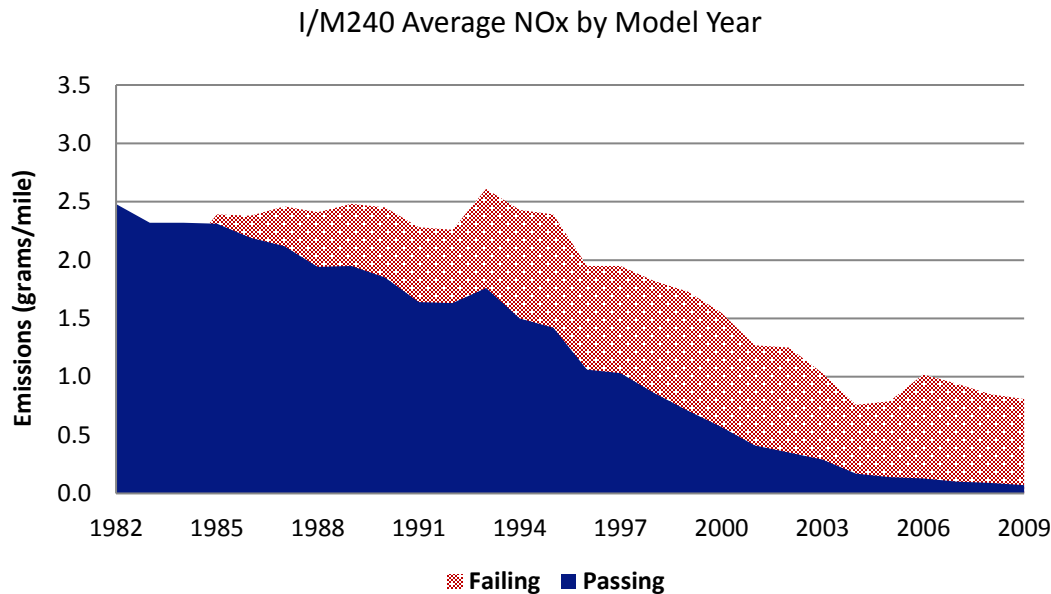


Figure 7 – I/M240 Average Carbon Monoxide (CO) Emissions by Model Year (1982-2009)



*Figure 8 – I/M240 Average Nitrogen Oxides (NOx) Emissions by Model Year (1982-2009)*

Vehicles that fail for excessive exhaust emissions could fail for one or any combination of these criteria pollutants. Emission standards that are used to fail a vehicle are set accordingly for individual model years and vehicle types. All standards are set so that well-maintained vehicles will likely pass, with an adequate buffer to prevent marginal vehicles from falsely failing the inspection.

As these figures show, HC, CO, and NOx emissions are highest for the oldest vehicles. As expected, average exhaust emissions drop significantly for newer vehicles (in terms of both passing and failing emissions).

## ***I/M240 – Gas Cap Pressure Inspection Results***

The inspection program includes a visual and functional test of each vehicle’s gas cap. Inspectors install each gas cap on a pressurizing device that measures pressure decay over time. If the pressure decay exceeds the standard, then the cap fails and the motorist is required to install a functional cap.

The benefit of this test is a reduction of gasoline vapors venting to the atmosphere, a significant factor in ground-level ozone formation. EPA’s emissions model, MOVES, estimates that a functional gas cap testing program removes approximately one ton of hydrocarbons each day in Colorado. The relative contribution of mobile-source ozone precursors released through gas cap

or fuel system failures is expected to increase in the future as tailpipe emissions continue to be reduced through fleet turnover and the proliferation of advanced emissions control technologies.

There were 26,238 vehicles subjected to the I/M240 inspection that failed the gas cap test in 2016; resulting in a failure rate of 4.76 %. Figure 9 shows the number of gas cap pressure failures by model year.

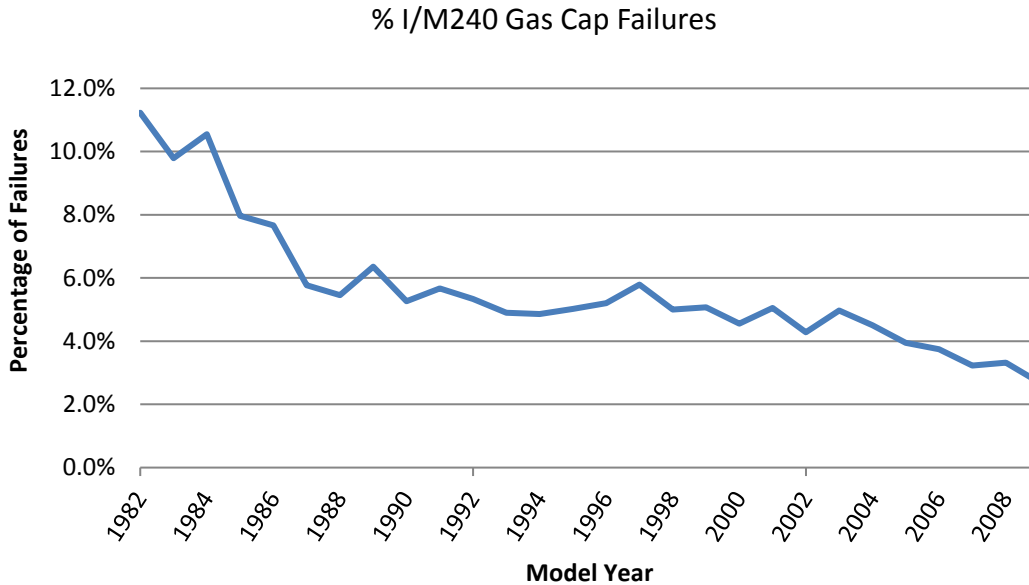


Figure 9 – I/M240 Gas Cap Failure Percentage by Model Year (1982-2009)

This chart only accounts for the gas cap failures associated with the I/M240 inspection.

## ***I/M240 – Visual Inspection Results***

All model year 1982 through 1995 vehicles are subjected to a visual inspection of their secondary air injection system, catalytic converter(s), and/or oxygen sensor(s).

In 2016, 425 vehicles failed for missing or improperly installed catalytic converter(s), 496 vehicles failed for a missing or tampered air injection system and 187 vehicles failed for a missing or tampered oxygen sensor(s).



## ***I/M240 – Multiple Retests***

Failing vehicles are required to undergo retesting after repairs are made. Some vehicles that fail their initial I/M240 inspection may continue to fail even after initial repairs.

In 2016, 48,018 vehicles received an initial post-repair I/M240 retest. Of these, 12,089 failed again, thus resulting in a 25.18 % I/M240 initial retest failure rate. Additional information on retest activity is available in the “I/M240 Retest Frequency Report” in Appendix B6.

## ***I/M240 – Post-Repair Inspection Results***

Vehicles that fail their emissions inspection generally have much higher emissions than vehicles that pass. The improved emissions from repairing these vehicles generate the program’s air quality benefit.

Table 1 shows the average emissions from all vehicles that failed their initial I/M240 inspections and received a subsequent retest, average emissions from vehicles that passed a subsequent retest, and the percent reduction by pollutant and vehicle type in grams per mile (GPM).

***Table 1.***

***I/M240 Passed Retest Inspection Results (2016)***

<b>Vehicle Type</b>	<b>Failed Initial Inspection</b>			<b>Passed Retest</b>			<b>Percent Reduction</b>		
	<b>HC gpm</b>	<b>CO gpm</b>	<b>NOx gpm</b>	<b>HC gpm</b>	<b>CO gpm</b>	<b>NOx gpm</b>	<b>%HC</b>	<b>%CO</b>	<b>%NOx</b>
Cars	1.26	16.39	1.52	0.30	3.91	0.70	65.59	67.68	41.94
Trucks	1.55	21.32	2.18	0.47	5.94	1.13	56.23	60.86	35.94
<b>TOTAL</b>	<b>1.43</b>	<b>19.29</b>	<b>1.91</b>	<b>0.40</b>	<b>5.09</b>	<b>0.95</b>	<b>59.64</b>	<b>63.34</b>	<b>37.93</b>

## **Two-Speed Idle Inspection Results**

The I/M Program requires non-exempt\* model year 1981 and older gasoline-powered vehicles to undergo annual Two-Speed Idle (TSI) inspection. Fleet vehicles model year 1995 and older are TSI inspected annually. Fleet vehicles model year 1996 and newer

\*Exempt vehicles include vehicles registered as collector series, street rods, farm vehicles, or horseless carriage.

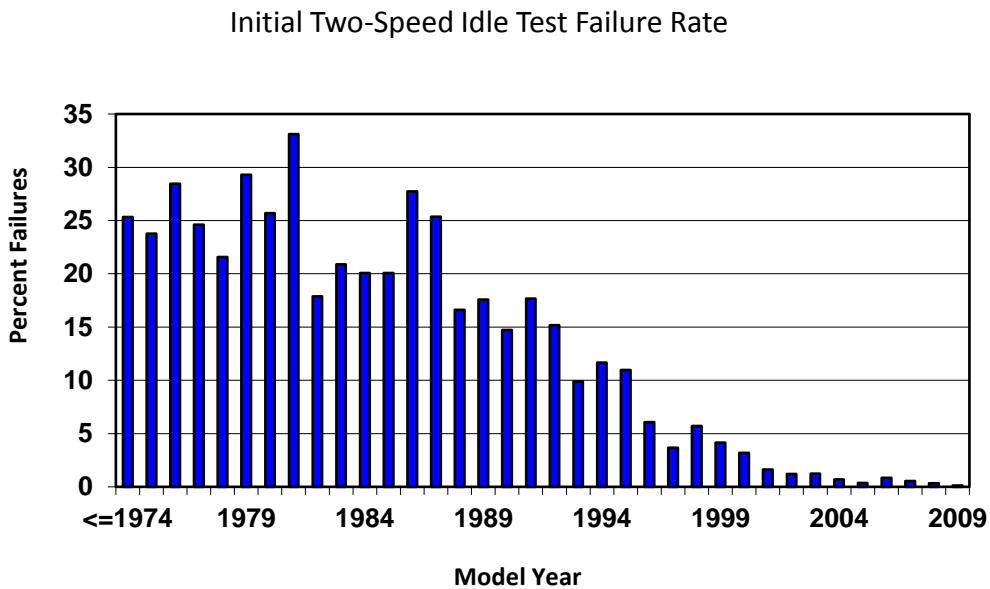
are OBD inspected annually (these vehicles are included in the OBD section). Heavy-duty gasoline-powered vehicles newer than model year 1981 undergo a TSI inspection, but on a biennial (every two years) basis.

The TSI inspection measures vehicle emissions at idle and raised (2500 rpm) idle. Only hydrocarbon (HC) and carbon monoxide (CO) emissions are measured, with no engine load placed on the vehicle. These inspections measure vehicle exhaust pollutant concentration levels only, not actual mass of emissions. The Two-Speed Idle inspection also includes a visual inspection of emissions control equipment (for 1975 through 1995 newer model year vehicles), a visual and pressure test of the gas cap (light duty only) and a visual inspection of the exhaust for opacity (smoke).

### ***Two-Speed Idle – Initial Inspection Results***

In 2016, 45,702 vehicles underwent a TSI inspection within the program area. Of these vehicles, 3,919 (or 8.58 %) failed their initial inspection, with 3,343 (7.31%) failing the exhaust portion of the inspection.

Figures 10, 11, and 12 show failure rates by model year, along with the average emissions of passing and failing vehicles by pollutant. Model year 1974 in these figures include all failing vehicles of model year 1974 and earlier. There were a small group of vehicles that were tested within their exemption period that are not included in Figures 10, 11, and 12. There were not enough vehicles for model years 2010 and newer to accurately represent average emissions rates.



*Figure 10 – Two-Speed Idle Inspection Initial Inspection Fail Rate by Model Year*

### Two-Speed Idle Test - Hydrocarbons

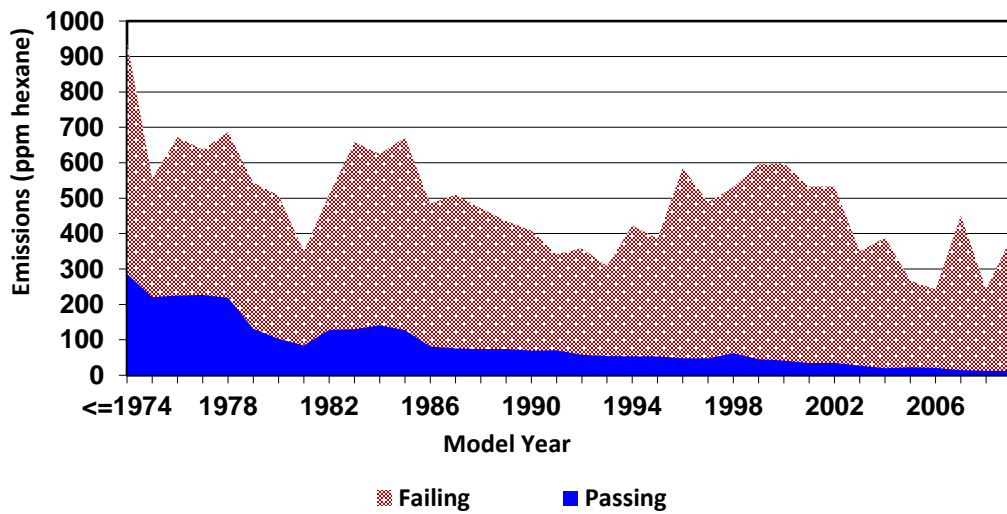


Figure 11 – Two-Speed Idle Inspection Average HC by Model Year

### Two-Speed Idle Test - Carbon Monoxide

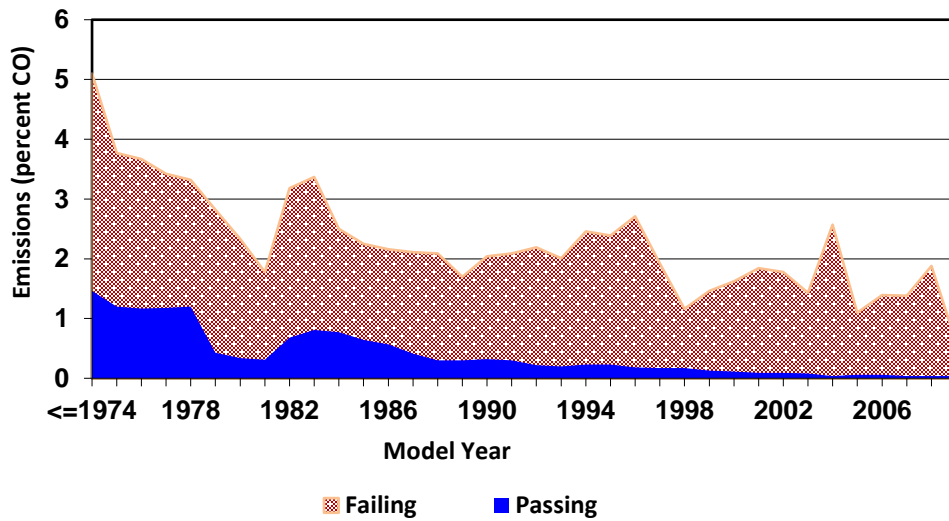


Figure 12 – Two-Speed Idle Inspection Average CO by Model Year

NOx emissions are not measured as part of the two-speed idle inspection protocol because NOx is not produced in significant amounts at idle and no load.

## ***Two-Speed Idle – Gas Cap Inspection Results***

One function of the gas cap is to prevent harmful fuel vapors from escaping into the atmosphere. A gas cap pressure inspection is performed to test the gas cap's ability to hold pressurized vapors inside the fuel tank. Two-Speed Idle tested light-duty vehicles (model year 1975 and newer) must undergo a gas cap pressure inspection. Inspectors install a vehicle's gas cap on a device that pressurizes the cap and measures the decay of that pressure over time. If the pressure decay exceeds the standard, then the vehicle fails the inspection and motorists are required to install a functional cap. There were 452 gas cap failures during two-speed idle inspections in 2016. This is a failure rate of 9.69% of vehicles subjected to gas cap inspection.

## ***Two-Speed Idle – Visual Inspection Results***

Two-Speed Idle inspected vehicles undergo a visual inspection of the secondary air injection system, catalytic converter, and oxygen sensor. There were 3,919 vehicles that failed the Two-Speed Idle inspection in 2016. Of these, 206 vehicles failed for missing or improperly installed catalytic converter(s), 311 failed for a missing or tampered air injection system, and 37 failed for missing oxygen sensor(s).

## ***Two-Speed Idle – Multiple Retests***

Failing vehicles are required to undergo retesting after repairs are made. Some vehicles that failed their initial TSI inspection may continue to fail after their initial repair. There were 3,412 vehicles were given an initial post repair retest in 2016. Of these vehicles, 1,253 failed again, resulting in a 36.72 % initial Idle retest failure rate. Additional information on retest activity is available in the “Idle Retest Frequency Report” in Appendix C6.

## ***Two-Speed Idle – Post-Repair Inspection Results***

Vehicles that fail their initial TSI exhaust emissions inspection generally have much higher emissions than vehicles that pass the inspection initially. After failing their emissions inspections, vehicles must undergo repairs until they pass the inspection.

Table 2 shows the average emissions at idle and raised idle (2500 rpm) from all vehicles that failed their initial TSI inspection and received a subsequent retest,

average emissions from vehicles that passed a subsequent retest and the percent reduction by pollutant.

**Table 2.**

*Two-Speed Idle Passed Retest Inspection Results (2016)*

Vehicle Type	Failed Initial Idle (ppm)		Failed Initial 2500 (ppm)		Passed Retest Idle (ppm)		Passed Retest 2500 (ppm)		% Reduction Idle (ppm)		% Reduction 2500 (ppm)	
	HC	CO	HC	CO	HC	CO	HC	CO	HC	CO	HC	CO
Car	589.30	3.02	419.74	2.91	158.52	0.57	164.09	1.40	67.25	78.66	53.93	44.90
Truck	655.96	2.98	402.72	2.35	162.17	0.73	145.03	1.15	72.19	72.52	59.98	43.86
<b>Total</b>	<b>639.98</b>	<b>2.99</b>	<b>406.80</b>	<b>2.49</b>	<b>161.35</b>	<b>0.70</b>	<b>149.33</b>	<b>1.21</b>	<b>71.22</b>	<b>73.91</b>	<b>58.63</b>	<b>44.14</b>

## Unresolved Vehicles

A concern for any inspection program is “unresolved vehicles” which fail an initial inspection, never receive a passing inspection, and disappear from the registered fleet. Approximately 16.9 % of vehicles that failed their initial inspection in 2016 did not receive a passing retest by March 2017. Out of the 77,615 initial failures, there were 17,108 vehicles that were unresolved as of March 2017. The vast majority of these vehicles are successfully repaired outside of the analysis period (calendar year 2016), move out of the program area, or are retired.

## Smoking Vehicles

Smoking vehicles tend to be excessive emitters. They are of concern to the State for overall air quality reasons, and to the nearby motorists exposed to emissions from these vehicles.

CDPHE operates a Smoking Vehicle Hotline for motorists to report any excessively smoking vehicles they observe. Once reported, CDPHE provides registered owners of these vehicles with a brochure informing them that if their vehicle emits any visible smoke during their next regular emissions inspection, it will fail.

The brochure is designed to educate owners on the causes of visible smoke, its health effects, and potential danger, not only to other motorists but also to those in the smoking vehicle. The brochure also provides information regarding where a motorist may receive diagnostic help in determining and repairing their vehicle’s problem. Although the smoking vehicle program is voluntary, the State encourages smoking vehicle owners to

take advantage of diagnostic services available at State-operated Emission Technical Centers.

Vehicle information reported on the hotline is also transferred to Envirotec's lane inspectors, alerting them that the vehicle they are inspecting has been reported as a smoking vehicle. If the vehicle is smoking at the time of the inspection, then it fails the emissions inspection. In 2016, 714 vehicles failed the visible smoke portion of the emissions inspection (138 OBD inspections, 502 I/M240 inspections and 74 Two-Speed Idle inspections).

## Waivers

A Certificate of Emissions Waiver (or "waiver") is an emissions control document that satisfies the emissions inspection requirement for a vehicle for one inspection cycle, even though the vehicle was unable to meet emissions standards.

There are three types of waivers:

- A Repair Cost Waiver may be issued for a vehicle which fails an emissions inspection, receives emissions-related repairs that meet the minimum repair cost limit (\$715 for model year 1968 and newer vehicles, and \$75 for 1967 and older vehicles), and then fails a subsequent emissions inspection. In order to qualify for a repair cost waiver, repair expenses must pertain to the specific causes of the emissions failure. Documentation of this fact is required. This type of waiver is referenced in C.R.S. 42-4-306(7)(a)(II)(A) and AQCC Regulation No. 11. In 2016, there were 431 Repair Waivers issued by Department of Revenue (DOR).
- An Economic Hardship Waiver may be issued once in each vehicle's lifetime if the vehicle owner has no other means of transportation and is receiving a recognized form of economic assistance. This type of waiver is referenced in C.R.S. 42-4-306(7)(a)(II)(C) and AQCC Regulation No. 11. In 2016, there were 286 Economic Hardship Waivers issued by DOR.
- A Diagnostic Waiver may be issued for a vehicle that fails a retest, has not met the repair cost limit, and a complete and documented physical and functional diagnosis of the vehicle (performed at one of the program's Emissions Technical Centers) concludes that no additional emissions-related repairs would be effective or needed. This type of waiver is referenced in C.R.S. 42-4-310(1)(d)(IX). In 2016, there were 20 Diagnostic Waivers issued by CDPHE Technical Center staff.

Waivers are not issued for vehicles that have been tampered with (i.e. missing emissions control equipment), and/or are visibly smoking. Vehicles that fail the gas cap inspection are also not eligible to receive a waiver.

A vehicle owner can request a waiver by calling the Division of Motor Vehicles at the Department of Revenue. As part of the waiver process, a State Emissions Technical Center technician may evaluate the vehicle to both verify the aforementioned criteria and make useful repair recommendations to the vehicle owner.

Additional information on waivers is available in the Department of Revenue's section of this report.

## **Remote Sensing Program Results**

The State also operates a remote-sensing based roadside emissions inspection program called RapidScreen or Clean Screen. This program permits vehicles that are seen two or more times in a year and meet certain rigorous emissions standards to pass a remote sensing emissions inspection as an alternative to the standard inspection at an emissions inspection station.

The State's emissions inspection contractor, on average, deploys 14 RSD units daily in the nine-county program area. These units operated a total of 27,091 hours in 2016, collecting approximately 5.9 million emissions records.

To comply with the modeled AIR program vehicle emissions reductions set forth in Colorado's State Implementation Plan, no more than 50% of the testable fleet may be exempted from conventional emission testing through the use of the Clean Screen Program.

In 2016, the overall RSD-observed fraction of testable vehicles was 34.48% (based on 774,449 total I/M eligible vehicles in the fleet, with 267,020 unique eligible vehicles observed by RSD). The number of unique eligible vehicles observed includes both vehicles that did and did not meet clean screen requirements.

Of the 267,020 vehicles observed by RSD, 224,136 (83.94%) were identified as being clean and issued a clean screen notice. Of those clean screen notices, 183,753 or 81.98% were redeemed. The redeemed numbers are calculated from each individual vehicle that met clean screen requirements whose owner chose to use the passing clean screen result to register their vehicle in lieu of getting a traditional emissions inspection.

## ***Remote Sensing Average Vehicle Emissions Results***

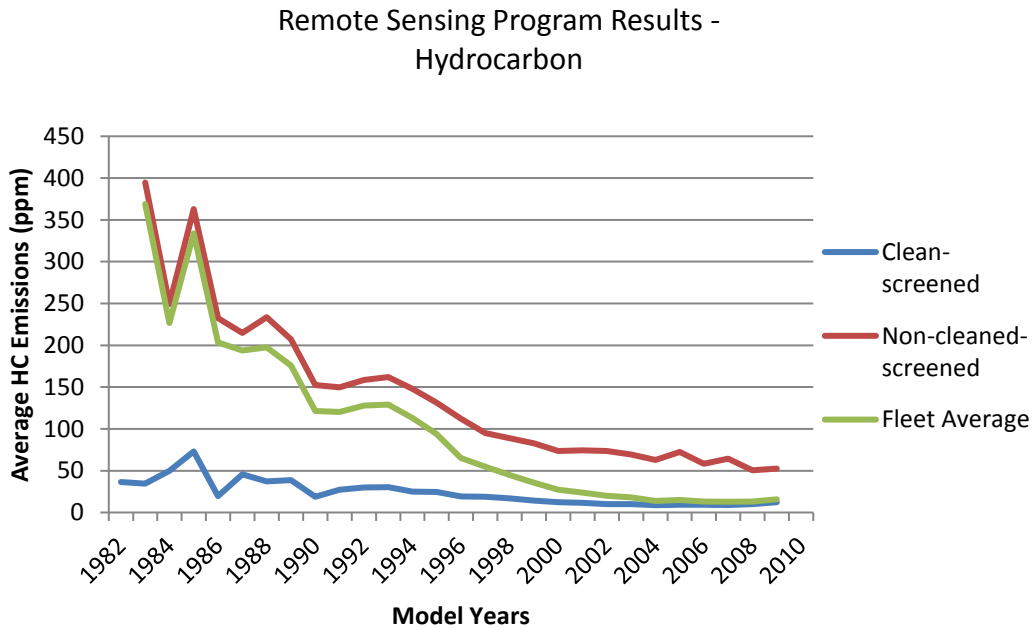
The remote sensing program measures vehicle emissions under actual operating conditions. While there is variability to these measurements, when aggregated as a group, vehicle emissions trends may be observed. The following three graphs (Figures 13,14, and 15) detail the emissions results of remote sensing monitoring

for each of the three pollutants measured (HC, CO, and NO<sub>x</sub>), grouped by vehicle model year.

The fleet average emissions are shown by the middle green line in each of the charts. It represents the average emissions for the entire fleet of post model year 1981 vehicle fleet that is observed through remote sensing. As defined on the charts, average fleet emissions for all three pollutants (HC, CO, and NO<sub>x</sub>) show a pronounced downward trend to the newest vehicles that are the cleanest portion of the fleet.

The bottom blue line indicates the average emissions by model year for vehicles that meet all the requirements for clean-screened vehicles. It is noticeable that the average emission rates are much lower than the fleet as a whole, reflecting the tighter emissions standards these vehicles must meet.

These charts do not show how the percentage of the fleet meeting clean-screen requirements increases substantially as newer vehicles are added to it. Note how the overall average fleet emissions lines converge on the clean-screen line, and diverges from the non clean-screened line (red) as newer vehicles join the fleet.



**Figure 13 – Remote Sensing Program Results – Average HC Emissions by Model Year (1982-2010)**



### Remote Sensing Program Results - Carbon Monoxide

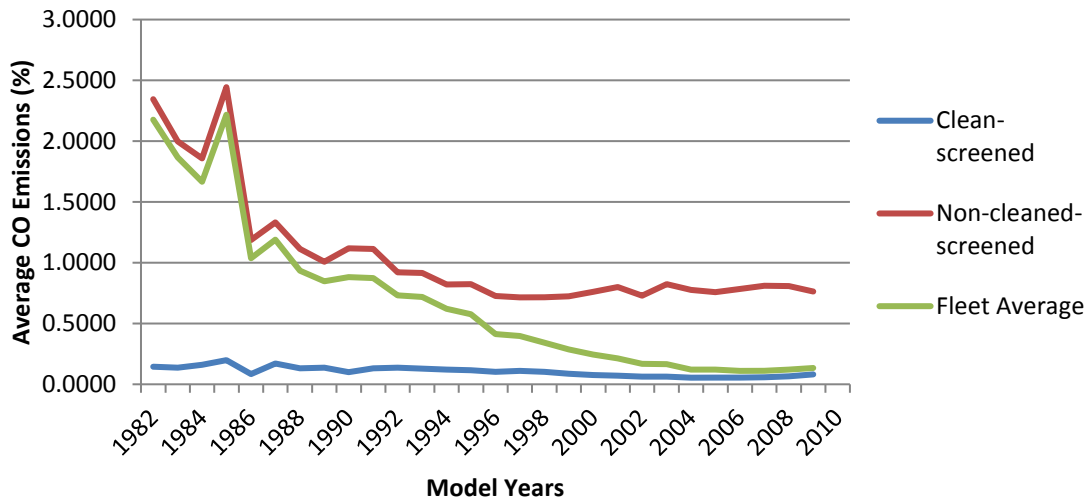


Figure 14 – Remote Sensing Program Results – Average CO Emissions by model year (1982-2010)

### Remote Sensing Program Results - Nitrogen Oxides

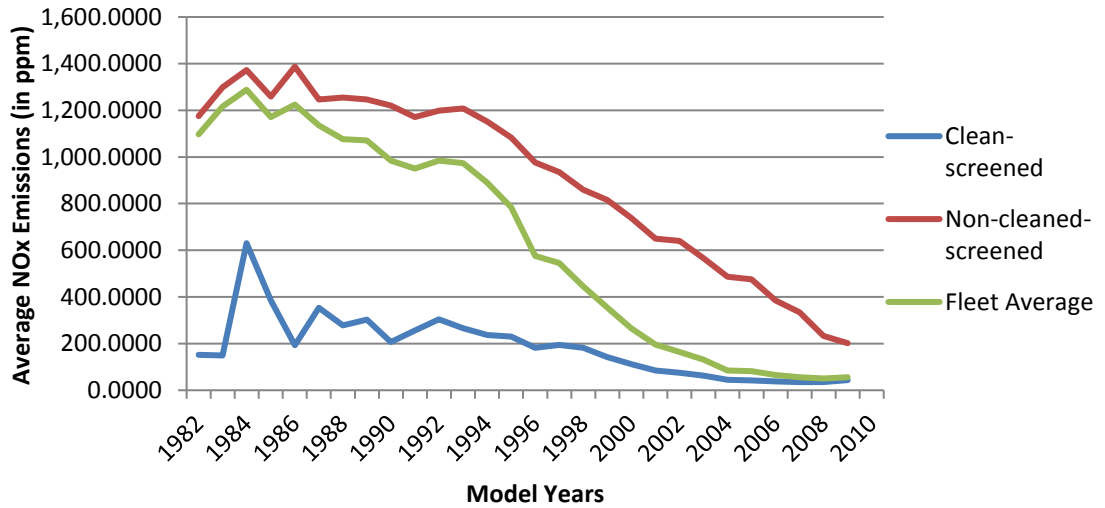


Figure 15 – Remote Sensing Program Results – Average NOx Emissions by model year (1982-2010)

## **Cost-Effectiveness of the I/M Program**

The purpose of the I/M Program is to improve air quality by reducing motor vehicle emissions. One way to evaluate this program's effectiveness is to analyze its cost-effectiveness. Such analyses depend on assumptions about the control strategy examined.

The State typically looks at the program's benefit as measured in tons per day of emissions reduced and the program cost per day to operate, using appropriate methodology typically used in State Implementation Plan development. A resulting cost per ton may then be obtained.

The State examined the cost of inspection, the number of vehicles inspected, registration fees connected to the operation of the I/M Program, the average cost of repairs for vehicles undergoing repair, and the fuel economy benefit obtained from repairing excessively emitting vehicles.

### ***Cost of Inspections***

The total cost of inspections is defined as the cost of inspecting an individual vehicle multiplied by the number of vehicles undergoing paid inspections. The cost of OBD, I/M240, and Two Speed Idle (TSI) emissions inspections for 1982 and newer vehicles is \$25.00 per inspection. Inspections for 1981 and older vehicles cost \$15.00 per inspection.

Failing vehicles are entitled to a free retest within ten (10) calendar days after the initial inspection. Subsequent inspections (third, fifth, etc.) are considered to be new inspections requiring additional payment. In addition, some motorist undergo inspection after the ten day period and must pay for a new inspection. This cost is included in the total program inspection costs.

Clean Screen inspections cost \$25.00 for eligible vehicles whose owners wish to participate in this program. This fee is then added to the vehicle's registration renewal.

In 2016 there were a total of 1,065,749 initial inspections (including redeemed clean screen) conducted. Of these inspections, 279,986 were initial OBD inspections, 556,308 were initial I/M240 inspections, 45,702 were initial TSI inspections, and 183,753 were for vehicles that went through the Clean Screen process.

The State estimates that the program's inspection costs amounted to \$27,408,090 in 2016.

Table 3 shows overall inspection costs per type of inspection.

**Table 3.**

**Overall Inspection Cost by Inspection Type (2016)**

<b>Inspection Type</b>	<b>Initial Inspections</b>	<b>Total Paid Inspections</b>	<b>Cost</b>
OBD	279,986	287,822	\$7,195,550
I/M240	556,308	580,215	\$14,505,375
Idle	45,702	48,194	\$1,113,340
Clean Screen	183,753	183,753	\$4,593,825
<b>TOTAL</b>	<b>1,065,749</b>	<b>1,099,984</b>	<b>\$27,408,090</b>

## **Registration Fees**

As part of the total vehicle registration cost, the State collects a \$2.20 vehicle emissions fee from gasoline motor vehicles registered in the I/M program area. This helps to fund AIR program operations, program administration, motorist and repair industry assistance, outreach activities, and county registration activities. This fee is shared between County Clerks that administer vehicle registration renewals, and with the Colorado Departments of Revenue and Public Health and Environment that design, administer, evaluate, and enforce the program.

There were an estimated 2,900,406 I/M fee-eligible gasoline-powered vehicles registered in the enhanced nine-county I/M Program area as of December 31, 2016. This equates to a total registration-fee cost of \$6,380,893 for the entire program.

## **Repair Costs**

Vehicles that failed their emissions inspection are required to undergo repair. Repair costs vary depending on the types of repairs and the shops performing them. To determine repair costs, the State collects data on the repair costs for failing vehicles.

In 2016, the average emissions repair cost for vehicles failing the OBD inspection was \$524.70 and for the I/M240 inspection was \$417.97. For vehicles receiving a TSI inspection, the average repair costs were \$308.46 for model year 1981 and older vehicles, and \$404.27 for model year 1982 and newer vehicles. For vehicles failing the gas portion of the I/M inspection, the assumed replacement gas cap cost is \$15.00 each.

For the OBD inspected vehicles, 19,718 failed their initial OBD inspections. Of these vehicles, 12,883 failed for the MIL being commanded on and/or visual MIL

inspection, and 7,532 of them failed the gas cap pressure inspection. Some vehicles failed for both OBD inspection and gas cap and are included in both the groups.

Of the I/M240 vehicles inspected, 51,978 vehicles failed their initial I/M240 inspections, with 26,794 of these vehicles failing for excess emissions only, or excess emissions in combination with failing visual inspection. For the gas cap portion of the test, there were 26,238 I/M240 vehicles that failed. A few vehicles, not noted in this report, failed for the visual and/or opacity only. Some vehicles failed for both excess emissions and gas cap and are included in both the excess emissions/visual failure group and gas cap failure group.

In the two-speed idle tested vehicle group, 3,919 vehicles failed their initial TSI inspection. Of these vehicles, 3,343 failed the exhaust only, or in combination of the exhaust and visual components of the inspection process. For the gas cap portion of the test, there were 452 vehicles that failed gas cap inspection. A few vehicles, not noted in this report, failed for the visual and/or opacity only. Some vehicles failed for both excess emissions and gas cap and are included in both the excess emissions/visual failure group and gas cap failure group.

Table 4 details the total repair costs by inspection type.

**Table 4.**

*Total Repair Costs by Inspection Type (2016)*

Inspection Type	Excess Emissions/Visual		Gas Cap		TOTAL
	Count	Cost	Count	Cost	
OBD	12,883	\$6,759,710	7,532	\$112,980	\$6,872,690
I/M240	26,794	\$11,198,670	26,238	\$393,570	\$11,592,240
Idle	3,343	\$1,185,244	452	\$6,780	\$1,192,024
TOTAL	43,020	\$19,142,575	34,222	\$513,330	\$19,656,955

## **Fuel Savings**

Vehicles that received emissions-related repairs achieve better fuel economy on average. The amount of the fuel economy improvement is highly dependent on the individual vehicle, the type of repair, and the effectiveness of that repair. When a vehicle receives an IM240 inspection, fuel economy is measured. Based on Colorado’s IM240 testing, a fuel economy improvement of 6.5% was achieved for all vehicles failing their initial IM240 test and passing their final retest.

Using the estimated fuel savings, and assuming that these repairs prevent excessive emissions for the entire two-year emissions testing cycle, fixing exhaust and gas cap failures result in an estimated savings of 1,331,100 gallons of gasoline. Using a 2016 average cost of \$2.14 per gallon (Colorado annual average from the U.S. Energy Information Administration), vehicles undergoing emission repairs saved an estimated \$2,848,554 on gasoline as a result of reduced fuel usage.

## **Overall Program Costs**

Overall program costs include inspection fees, vehicle registration fees, repair costs, and fuel economy savings. Table 5 details these costs, and the overall cost of the program.

**Table 5.**

**Overall Program Cost (2016)**

<b>Annual I/M Program Cost (dollars)</b>	
Inspection Fees	\$27,408,090
Registration Fees	\$6,380,893
Repair Costs	\$19,656,955
Fuel Economy Savings	-\$2,848,554
<b>Total</b>	<b>\$50,597,384</b>

## **Emission Benefits**

Based on the U.S. EPA's MOVES model, Colorado's current AIR Program reduces total gaseous hydrocarbon (TGH) emissions by 11.5 tons per day (tpd), carbon monoxide (CO) emissions by 131.1 tpd, and nitrogen oxide (NOx) emissions by 12.4 tpd. Table 6 details the overall emissions program benefit by pollutant developed by the EPA's MOVES model.

**Table 6.**

**Modeled Program Benefit (2016)**

<b>MOVES Emission Inventories and Program Benefit (tons/day)</b>				
	TGH	CO	NOx	TGH + (1/60)CO + NOx
No IM	76.4	790.4	119.3	208.9
Current IM	64.9	659.3	107.1	183.0
TPD Benefit	11.5	131.1	12.2	25.9
% Benefit	15.1%	16.6%	10.2%	12.4%

Both total gaseous hydrocarbon and nitrogen oxide emissions can be ozone precursors. Carbon monoxide can be a weak ozone precursor. The combined TGH + (1/60) CO + NOx ozone precursor reduction would be equal to 25.9 tons per day. The generalized TGH + (1/60) CO + NOx formula has been used for California and other states to quantify ozone precursor emissions from motor vehicles. For this analysis, projections assume the use of 7.8 lb. Reid Vapor Pressure (RVP) gasoline with a 100% market share for ethanol-blended gasoline.

## **Cost-Effectiveness**

The AIR program's cost-effectiveness is the ratio of the program's cost to its benefits. As stated, the State calculates the entire program cost to be approximately \$50.6 million in 2016. This cost includes inspection costs, repair costs, and registration renewal fees used to fund administrative costs.

The State estimates the cost-effectiveness of the inspection program at \$5,347 per ton of ozone precursors removed from the I/M program area. Table 7 gives the specific breakdown of cost per ton removed by pollutant.

**Table 7.**

**AIR Program Cost Effectiveness in Dollars per Ton (2016)**

<b>Cost Benefit Results</b>	
Emission	Cost/Benefit (\$/ton)
HC	12,054
CO	1,057
NOx	11,326
TGH + (1/60) CO + NOx	5,347

# 2016 Annual Report From The Colorado Department Of Revenue

The Colorado Department of Revenue (DOR), in conjunction with the Colorado Department of Public Health and Environment, continues to operate the enhanced Colorado Vehicle Emissions Inspection and Maintenance (I/M) Program, which has been in place since 1995. During 2016, DOR maintained quality assurance, auditing, licensing, and enforcement activities consistent with Colorado Revised Statutes (C.R.S.) and the Code of Colorado Regulations (C.C.R.).

## 2016 Audit Results

Pursuant to C.R.S. 42-5-305(6)(a), DOR oversees an ongoing quality assurance program. The objective of this program is to discover, correct, and prevent fraud, as well as to ensure proper calibration of emissions test equipment and adherence to proper testing procedures.

### ***Record Audits***

DOR performed 215 record audits on all contractor-operated inspection centers and inspection-only facilities. Record audits were used to identify and correct anomalies in the vehicle inspection database, as well as to prompt for additional risk-based equipment audits. The record audit process also includes an ongoing evaluation of approximately 5.7 million vehicles currently registered statewide; this ensures that county clerks maintain a reasonable level of record accuracy.

### ***Performance Audits***

DOR executed overt performance audits pursuant to C.R.S. 42-4-305(6)(b)(I). Performance audits were conducted contemporaneously with equipment audits at enhanced inspection centers, resulting in 555 performance audits completed. Forty four overt performance audits were completed at independent inspection-only facilities and fleet testing facilities.

## **Equipment Audits**

DOR executed overt performance audits twice per year for each testing lane pursuant to C.R.S. 42-4-305(6)(e)(I).

During 2016, 206 initial lane equipment audits were performed on 97 contractor-operated enhanced inspection lanes, 4 initial equipment audits performed at 2 independent inspection-only stations, and 40 initial equipment audits performed at 20 operational fleet inspection stations. There were three occasions where a fleet testing facility was placed on administrative hold as a result of non-payment of outstanding invoices and two occasions where a fleet testing facility was placed on administrative hold as a result of equipment failure; therefore, an equipment audit was unable to be conducted, but was soon completed following repairs.

There were 83 initial audit deficiencies, four of which resulted in the suspension of a testing lane. Upon verification of repair and a passing audit, failing lanes were released within two days of being suspended. The remaining initial audit deficiencies were corrected at the time of the audit and returned to service the same day. Table 8 categorizes the initial audit failures by equipment category.

**Table 8.**

*Audit Failures by Equipment Category (2016)*

<b>2016 Initial Equipment Audit Failures</b>	
Emissions Analyzer	63
Dynamometer	20
Gas Cap Analyzer	0

## **Covert Audits**

Pursuant to C.R.S. 42-4-305(6)(c)(I), all enhanced inspection centers were subject to covert audits, using an unmarked motor vehicle, at least once per year per number of inspectors at each inspection-only facility and enhanced inspection center. All covert vehicles used in the audit process were tampered to fail the visual emission component inspection. Possible tampers included (but were not limited to) removed or tampered catalytic converters, air injection systems, oxygen sensors, and Check Engine lights.

Throughout 2016, 258 covert inspections were conducted at enhanced inspection centers, resulting in 213 tests conducted properly and 45 tests conducted improperly. There were multiple tests in which more than one emissions control component was



not correctly identified; this resulted in 47 emission control component violations. Table 9 categorizes these violations and the number of times components were incorrectly identified. In 21 of the 45 improper tests, the failing vehicles received passing results.

**Table 9.**

*Emission components incorrectly identified as a result of covert vehicles (2016)*

<b>Emission Component Tampered</b>	<b>Number of Times Incorrectly Identified</b>
Oxygen Sensor	20
Catalytic Converter	21
Air Injection System	3
Check Engine Light	3

Note: Covert inspection results may have had multiple components incorrectly identified.

## **Risk-Based Audits**

Risk-based audits were prompted by suspicious emissions testing activity, data analysis, or consumer complaints.

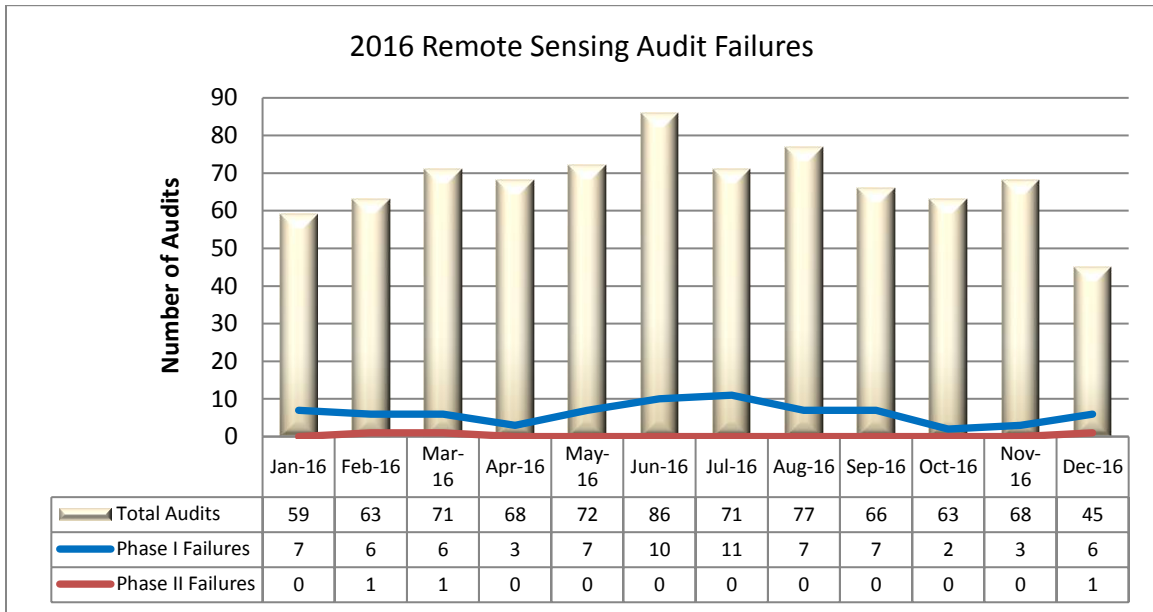
As a result of the above-named methods of detection, DOR conducted 376 risk-based equipment audits, resulting in 53 initial failures, 2 resulting in the suspension of a testing lane. A risk-based equipment audit only involves auditing specific pieces of what would, in its entirety, be included in a scheduled equipment audit. Eight risk-based covert audits were conducted, resulting in no violations.

## **Remote Sensing Audits**

Remote Sensing (i.e., Clean Screen, RapidScreen, or RSD) mobile emissions testing equipment audits were also performed by DOR for quality assurance purposes. A Phase I audit includes nine gas readings from three different known gas blends. In the event that a gas reading is outside the allowable tolerance, a Phase II audit was initiated. A Phase II audit includes six additional gas readings from the gas blend that was outside the allowable tolerance.

DOR performed 809 audits in 2016, resulting in 74 Phase I failures, or a 9.15% initial failure rate. All but three of the Phase I failures were immediately returned to service after passing a Phase II audit. Figure 16 shows the monthly number of audits

completed in relation to Phase I and Phase II remote sensing device audit failures. The overall audit result is not a failure unless a secondary audit (Phase II) also fails.



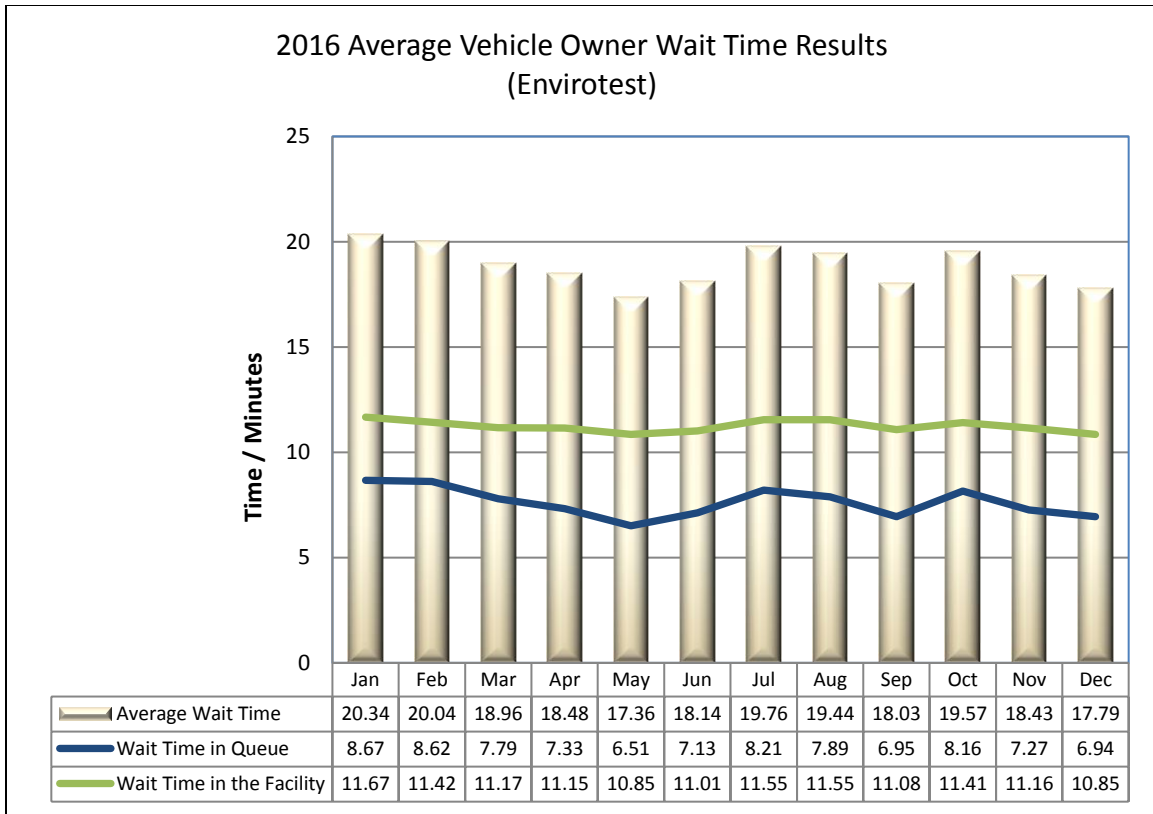
*Figure 16 – Remote Sensing Audit Failures by Audit Phase (2016)*

## 2016 Enforcement Results

### Hearings & Fines

In 2016, 92 hearings were conducted as a result of improper vehicle emission inspections. Hearing proceedings resulted in 40 inspectors placed on probation, and no inspector licenses revoked. Fines totaling \$68,525 were collected as a result of improper vehicle inspections.

Additionally, \$321,050 was collected as a result of wait-time violations. These violations occurred when motorist wait times at contractor inspection centers exceeded 15 minutes when averaged over a two-hour period. The wait-time calculation includes time spent in the queue and test time, whichever is greater. The fines assessed were consistent with C.R.S. and the terms of the contract held with Envirotest. The total of all fines collected in 2016 was \$389,575. Figure 17 shows the average motorist wait time in relation to the amount of time spent in the queue and within the facility.



*Figure 17 – Average Vehicle Owner Wait Time Results (2016, Envirotest only)*

## **Complaints**

A total of 305 Vehicle Damage, Procedural and Statutory Non-Compliance complaints were opened against inspection stations operated by Envirotest. DOR involvement in the complaint mitigation process resulted in \$61,258.90 in refunds to consumers. DOR responded to 35 emissions-related complaints against auto dealerships. A total of \$17,140.69 was refunded to consumers from those proceedings. Table 10 categorizes the 340 total complaints by category. Vehicle damage may occur when a consumer's vehicle was damaged through the negligence or omission of the contractor's agents. A Procedural Claim may occur when a consumer's vehicle was not properly inspected as directed by statute or regulation. A Statutory Non-Compliance claim may occur when a consumer experienced a violation of Title 42 of the Colorado Revised Statutes as it pertains to purchasing a vehicle without a passing emissions test or emission equipment that is required, missing, or tampered.

**Table 10.**  
**Complaints Opened by Category (2016)**

2016 Complaints Opened	
Vehicle Damage	282
Procedural Claims	25
Statutory Non-Compliance	33

## **Waivers**

In 2016, 1,146 waiver applications were submitted to and processed by DOR. Of the 1,146 applications, 431 resulted in the issuance of Repair Waivers, and 286 resulted in Economic Hardship Waivers.

In 2016, the Colorado Department of Public Health and Environment, Colorado Department of Revenue, and Regional Air Quality Council (RAQC) continued to operate a Repair Assistance Program. This program provides emissions related repairs to gasoline-powered vehicles registered through counties in the Denver Metropolitan Area (Adams, Arapahoe, Boulder, Broomfield, Denver, Douglas, and Jefferson) that qualify for an Economic Hardship Waiver. As a result of this program, emissions related repairs were performed on 13 vehicles that otherwise would have been issued a hardship waiver.

Figure 18 shows the total amount of emission waivers requested and issued by waiver type over a five-year period.

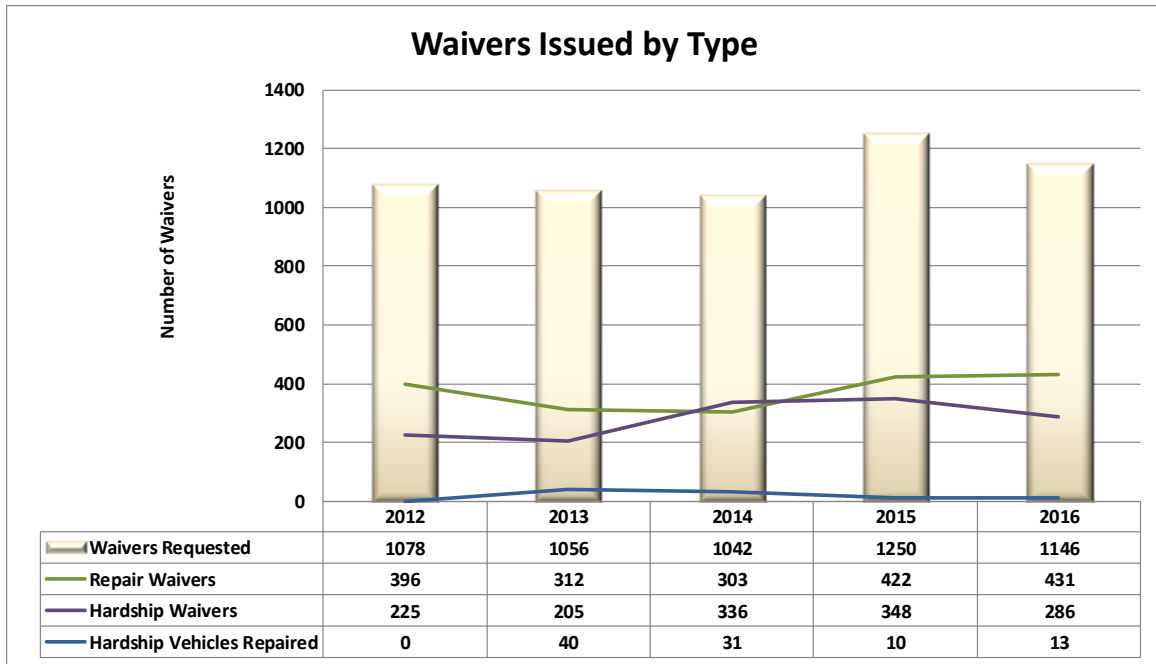


Figure 18 – Waivers Issued by Type (2012 – 2016)

The following program changes influenced the number of emissions waivers issued by DOR:

- January 2012: the allowable emission standards were lowered in Larimer and Weld counties to mirror the standards of the Denver Metro Area. The original standards were less restrictive in the implementation year of the Northern Front Range enhanced program.
- February 2013: the hardship repair program was initiated and has reduced the amount of vehicles that would otherwise receive a hardship waiver.
- January 2015: mandatory OBD testing was implemented, which impacted the vehicle failure rate.

The following were the most common reasons a waiver was *not* issued:

- **Waiver not pursued** - after completing the waiver application, the vehicle owner withdrew the request or did not respond to requests for information or availability.
- **Vehicle passed the inspection** - after requesting a waiver, additional repairs were made resulting in a passing emissions test. Vehicle owners are encouraged to use CDPHE’s Emissions Technical Centers for a free diagnosis of their vehicle. CDPHE technicians are often able to assist the owner and recommend minor repairs that allow the vehicle to pass the emissions inspection.

- **Improper repairs to the vehicle** – repairs were performed that did not address the cause of the emissions failure. C.R.S 42-4-306(7)(b)(I)
- **Vehicle was tampered or emitting smoke** - when presented for a waiver, the vehicle was not equipped with the manufacturer’s required emission control equipment, or was emitting visible smoke above 5% opacity. C.R.S 42-4-306(7)(b)(I)
- **Minimum waiver limits for dollars spent to repair the vehicle had not been met** - vehicle owner had not incurred the minimum \$715 in repair costs to bring the vehicle into compliance. C.R.S 42-4-310(1)(d)(VI)

## 2016 Licensing Results

Pursuant to C.R.S. 42-4-305, DOR is responsible for issuing biennial inspection licenses to independent, fleet, and contractor emissions inspection stations, as well as to inspectors who work in those stations. DOR also licenses RapidScreen remote sensing devices and the inspectors who operate them. All RapidScreen testing site licenses are issued annually in conjunction with the Colorado Department of Transportation (CDOT), as testing sites require frequent review due to road or traffic configuration changes. Table 11 shows the number of initial and renewed licenses by license type for 2016.

**Table 11.**

*Licenses Issued and Renewed, by Type (2016)*

License Type	Number of Initial Licenses	Number of Licenses Renewed
Fleet Inspector	15	19
Independent Inspector	0	1
Contractor Employed Inspectors	153	105
Independent Station	0	1
Fleet Station	0	5
RSD Site	2	166
<b>Total</b>	<b>170</b>	<b>297</b>

## Appendix – Additional Reports

In addition to this report, the following detailed data reports are available:

<b>Report</b>	<b>Content</b>
<b>A1 Initial Inspection Report All Test Type</b>	Initial inspection pass/fail statistics, by inspection type, model year and vehicle class with an overall summary by vehicle type.
<b>A2 Initial OBD Inspection Report</b>	Initial OBD inspection pass/fail statistics by model year and vehicle type.
<b>A3 Initial OBD Inspection Failure Report</b>	Initial OBD inspection failure statistics by failure type, model year and vehicle type.
<b>A4 Initial OBD Fail DTC Report</b>	Initial OBD failing statistics with DTCs present by model year and vehicle type.
<b>A5 Initial OBD Fail Readiness Monitor Summary Report</b>	Initial OBD failing statistics with unset readiness monitors by model year and vehicle type.
<b>A6 OBD Retest Frequency Report</b>	OBD retest inspection statistics including multiple retest frequency and readiness status at the time of retests by model year and vehicle class.
<b>A7 Initial OBD Pass DTC Report</b>	Initial OBD passing statistics with DTCs present by model year and vehicle type.
<b>A8 Initial OBD Pass Readiness Monitor Summary Report</b>	Initial OBD passing statistics with unset readiness monitors by model year and vehicle type.
<b>A9 OBD Initial Inspection Emissions Report (Vehicles that are dual tested)</b>	Initial OBD pass/fail statistics including average emissions results by model year and vehicle type.

<b>A10 Initial OBD Incomplete Inspection Report</b>	Initial OBD inspection incomplete test statistics by incomplete reason, model year and vehicle type.
<b>A11 OBD Retest Incomplete Inspection Report</b>	OBD retest inspection incomplete test statistics by incomplete reason, model year and vehicle type.
<b>B1 I/M240 Initial Inspection Report</b>	Initial inspection pass/fail statistics, including average emissions results for overall total, passing and failing inspections by model year and vehicle class.
<b>B2 I/M240 Initial Failure Report</b>	Initial inspection failure statistics, including average emissions results for inspections which failed for both exhaust and visual components, exhaust only, and visual only by model year and vehicle class.
<b>B3 I/M240 Initial Exhaust Failure Report</b>	Initial exhaust failure statistics by model year, vehicle class, and pollutant.
<b>B4 I/M240 Initial Failure for Other Report</b>	Initial visual mandatory failure and gas cap pressure failure statistics by model year, vehicle class, and emissions component.
<b>B5 I/M240 Retest Pass Reduction Report</b>	Passing retest inspection statistics by model year and vehicle class.
<b>B6 I/M240 Retest Frequency Report</b>	Retest inspection statistics.
<b>B7 I/M240 Fleet Characterization Summary Report – Initial Inspection Component</b>	Initial inspection pass/fail statistics from vehicles that passed or failed with a final result of pass or waiver, including average emissions results by model year and vehicle class.



<b>B8 I/M240 Fleet Characterization Summary Report – Final Inspection Component</b>	Final inspection statistics from vehicles that passed or failed with a final result of pass or waiver, including average emissions results by model year and vehicle class.
<b>B9 I/M240 Fleet Characterization Summary Report – Emissions Reduction Component</b>	Emissions reduction statistics from vehicles that passed or failed with a final result of pass or waiver by model year and vehicle class.
<b>C1 Idle Initial Inspection Report</b>	Initial idle inspection pass/fail statistics, including average emissions results for passing and failing inspections by model year.
<b>C2 Idle Initial Failure Report</b>	Initial idle inspection failure statistics, including average emissions results for inspections which failed for both exhaust and visual components, exhaust only, and visual only by model year.
<b>C3 Idle Initial Exhaust Failure Report</b>	Initial idle exhaust failure statistics by model year, vehicle class, and pollutant.
<b>C4 Idle Initial Failure for Other Report</b>	Idle initial mandatory visual failure and gas cap pressure failure statistics by model year, vehicle class, and emissions component.
<b>C5 Idle Retest Pass Reduction Report</b>	Passing idle retest inspection statistics by model year and vehicle class.
<b>C6 Idle Retest Frequency Report</b>	Retest idle inspection statistics.
<b>D1 I/M Eligible Vehicle Report, Evaluated Vehicles</b>	Clean Screen observations performed in 2016 by model year and vehicle type.



## **Appendix A1**

### Initial Inspection Report All Test Type



Date Range  
Between 1/1/2016 and 12/31/2016

## Initial Inspection Report All Test Types (V 1.02)

Model Year	Type	Overall Total	OBD						IM240						Two Speed Idle					
			Total	% of Overall Total	Pass	%	Fail	%	Total	% of Overall Total	Pass	%	Fail	%	Total	% of Overall Total	Pass	%	Fail	%
1974	HDGV	162	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	162	100.00	142	87.65	20	12.35
	LDGT1	399	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	399	100.00	293	73.43	106	26.57
	LDGT2	304	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	304	100.00	260	85.53	44	14.47
	LDGV	773	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	773	100.00	528	68.31	245	31.69
<b>1974 Total</b>		<b>1,638</b>	<b>0</b>	<b>0.00</b>	<b>0</b>	<b>0.00</b>	<b>0</b>	<b>0.00</b>	<b>0</b>	<b>0.00</b>	<b>0</b>	<b>0.00</b>	<b>0</b>	<b>0.00</b>	<b>1,638</b>	<b>100.00</b>	<b>1,223</b>	<b>74.66</b>	<b>415</b>	<b>25.34</b>
1975	HDGV	39	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	39	100.00	33	84.62	6	15.38
	LDGT1	17	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	17	100.00	7	41.18	10	58.82
	LDGT2	70	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	70	100.00	60	85.71	10	14.29
	LDGV	59	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	59	100.00	41	69.49	18	30.51
<b>1975 Total</b>		<b>185</b>	<b>0</b>	<b>0.00</b>	<b>0</b>	<b>0.00</b>	<b>0</b>	<b>0.00</b>	<b>0</b>	<b>0.00</b>	<b>0</b>	<b>0.00</b>	<b>0</b>	<b>0.00</b>	<b>185</b>	<b>100.00</b>	<b>141</b>	<b>76.22</b>	<b>44</b>	<b>23.78</b>
1976	HDGV	120	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	120	100.00	96	80.00	24	20.00
	LDGT1	142	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	142	100.00	85	59.86	57	40.14
	LDGT2	346	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	346	100.00	278	80.35	68	19.65
	LDGV	253	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	253	100.00	157	62.06	96	37.94
<b>1976 Total</b>		<b>861</b>	<b>0</b>	<b>0.00</b>	<b>0</b>	<b>0.00</b>	<b>0</b>	<b>0.00</b>	<b>0</b>	<b>0.00</b>	<b>0</b>	<b>0.00</b>	<b>0</b>	<b>0.00</b>	<b>861</b>	<b>100.00</b>	<b>616</b>	<b>71.54</b>	<b>245</b>	<b>28.46</b>
1977	HDGV	155	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	155	100.00	130	83.87	25	16.13
	LDGT1	127	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	127	100.00	74	58.27	53	41.73
	LDGT2	516	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	516	100.00	421	81.59	95	18.41
	LDGV	279	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	279	100.00	187	67.03	92	32.97
<b>1977 Total</b>		<b>1,077</b>	<b>0</b>	<b>0.00</b>	<b>0</b>	<b>0.00</b>	<b>0</b>	<b>0.00</b>	<b>0</b>	<b>0.00</b>	<b>0</b>	<b>0.00</b>	<b>0</b>	<b>0.00</b>	<b>1,077</b>	<b>100.00</b>	<b>812</b>	<b>75.39</b>	<b>265</b>	<b>24.61</b>
1978	HDGV	192	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	192	100.00	160	83.33	32	16.67
	LDGT1	168	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	168	100.00	104	61.90	64	38.10
	LDGT2	602	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	602	100.00	510	84.72	92	15.28
	LDGV	358	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	358	100.00	261	72.91	97	27.09
<b>1978 Total</b>		<b>1,320</b>	<b>0</b>	<b>0.00</b>	<b>0</b>	<b>0.00</b>	<b>0</b>	<b>0.00</b>	<b>0</b>	<b>0.00</b>	<b>0</b>	<b>0.00</b>	<b>0</b>	<b>0.00</b>	<b>1,320</b>	<b>100.00</b>	<b>1,035</b>	<b>78.41</b>	<b>285</b>	<b>21.59</b>
1979	HDGV	224	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	224	100.00	175	78.13	49	21.88
	LDGT1	204	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	204	100.00	151	74.02	53	25.98
	LDGT2	416	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	416	100.00	260	62.50	156	37.50
	LDGV	425	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	425	100.00	311	73.18	114	26.82
<b>1979 Total</b>		<b>1,269</b>	<b>0</b>	<b>0.00</b>	<b>0</b>	<b>0.00</b>	<b>0</b>	<b>0.00</b>	<b>0</b>	<b>0.00</b>	<b>0</b>	<b>0.00</b>	<b>0</b>	<b>0.00</b>	<b>1,269</b>	<b>100.00</b>	<b>897</b>	<b>70.69</b>	<b>372</b>	<b>29.31</b>
1980	HDGV	120	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	120	100.00	100	83.33	20	16.67
	LDGT1	196	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	196	100.00	139	70.92	57	29.08

Model Year	Type	Overall Total	OBD						IM240						Two Speed Idle					
			Total	% of Overall Total	Pass	%	Fail	%	Total	% of Overall Total	Pass	%	Fail	%	Total	% of Overall Total	Pass	%	Fail	%
	LDGT2	132	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	132	100.00	88	66.67	44	33.33
	LDGV	307	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	307	100.00	234	76.22	73	23.78
<b>1980 Total</b>		<b>755</b>	<b>0</b>	<b>0.00</b>	<b>0</b>	<b>0.00</b>	<b>0</b>	<b>0.00</b>	<b>0</b>	<b>0.00</b>	<b>0</b>	<b>0.00</b>	<b>0</b>	<b>0.00</b>	<b>755</b>	<b>100.00</b>	<b>561</b>	<b>74.30</b>	<b>194</b>	<b>25.70</b>
1981	HDGV	176	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	176	100.00	147	83.52	29	16.48
	LDGT1	222	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	222	100.00	130	58.56	92	41.44
	LDGT2	120	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	120	100.00	73	60.83	47	39.17
	LDGV	258	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	258	100.00	169	65.50	89	34.50
<b>1981 Total</b>		<b>776</b>	<b>0</b>	<b>0.00</b>	<b>0</b>	<b>0.00</b>	<b>0</b>	<b>0.00</b>	<b>0</b>	<b>0.00</b>	<b>0</b>	<b>0.00</b>	<b>0</b>	<b>0.00</b>	<b>776</b>	<b>100.00</b>	<b>519</b>	<b>66.88</b>	<b>257</b>	<b>33.12</b>
1982	HDGV	135	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	135	100.00	111	82.22	24	17.78
	LDGT1	261	0	0.00	0	0.00	0	0.00	257	98.47	184	71.60	73	28.40	4	1.53	3	75.00	1	25.00
	LDGT2	56	0	0.00	0	0.00	0	0.00	54	96.43	30	55.56	24	44.44	2	3.57	2	100.00	0	0.00
	LDGV	250	0	0.00	0	0.00	0	0.00	240	96.00	181	75.42	59	24.58	10	4.00	8	80.00	2	20.00
<b>1982 Total</b>		<b>702</b>	<b>0</b>	<b>0.00</b>	<b>0</b>	<b>0.00</b>	<b>0</b>	<b>0.00</b>	<b>551</b>	<b>78.49</b>	<b>395</b>	<b>71.69</b>	<b>156</b>	<b>28.31</b>	<b>151</b>	<b>21.51</b>	<b>124</b>	<b>82.12</b>	<b>27</b>	<b>17.88</b>
1983	HDGV	147	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	147	100.00	119	80.95	28	19.05
	LDGT1	281	0	0.00	0	0.00	0	0.00	278	98.93	188	67.63	90	32.37	3	1.07	2	66.67	1	33.33
	LDGT2	95	0	0.00	0	0.00	0	0.00	94	98.95	59	62.77	35	37.23	1	1.05	0	0.00	1	100.00
	LDGV	303	0	0.00	0	0.00	0	0.00	296	97.69	220	74.32	76	25.68	7	2.31	4	57.14	3	42.86
<b>1983 Total</b>		<b>826</b>	<b>0</b>	<b>0.00</b>	<b>0</b>	<b>0.00</b>	<b>0</b>	<b>0.00</b>	<b>668</b>	<b>80.87</b>	<b>467</b>	<b>69.91</b>	<b>201</b>	<b>30.09</b>	<b>158</b>	<b>19.13</b>	<b>125</b>	<b>79.11</b>	<b>33</b>	<b>20.89</b>
1984	HDGV	297	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	297	100.00	242	81.48	55	18.52
	LDGT1	586	0	0.00	0	0.00	0	0.00	581	99.15	433	74.53	148	25.47	5	0.85	3	60.00	2	40.00
	LDGT2	232	0	0.00	0	0.00	0	0.00	230	99.14	140	60.87	90	39.13	2	0.86	0	0.00	2	100.00
	LDGV	721	0	0.00	0	0.00	0	0.00	696	96.53	533	76.58	163	23.42	25	3.47	18	72.00	7	28.00
<b>1984 Total</b>		<b>1,836</b>	<b>0</b>	<b>0.00</b>	<b>0</b>	<b>0.00</b>	<b>0</b>	<b>0.00</b>	<b>1,507</b>	<b>82.08</b>	<b>1,106</b>	<b>73.39</b>	<b>401</b>	<b>26.61</b>	<b>329</b>	<b>17.92</b>	<b>263</b>	<b>79.94</b>	<b>66</b>	<b>20.06</b>
1985	HDGV	306	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	306	100.00	249	81.37	57	18.63
	LDGT1	660	0	0.00	0	0.00	0	0.00	653	98.94	482	73.81	171	26.19	7	1.06	4	57.14	3	42.86
	LDGT2	204	0	0.00	0	0.00	0	0.00	202	99.02	121	59.90	81	40.10	2	0.98	2	100.00	0	0.00
	LDGV	732	0	0.00	0	0.00	0	0.00	713	97.40	565	79.24	148	20.76	19	2.60	12	63.16	7	36.84
<b>1985 Total</b>		<b>1,902</b>	<b>0</b>	<b>0.00</b>	<b>0</b>	<b>0.00</b>	<b>0</b>	<b>0.00</b>	<b>1,568</b>	<b>82.44</b>	<b>1,168</b>	<b>74.49</b>	<b>400</b>	<b>25.51</b>	<b>334</b>	<b>17.56</b>	<b>267</b>	<b>79.94</b>	<b>67</b>	<b>20.06</b>
1986	HDGV	308	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	308	100.00	224	72.73	84	27.27
	LDGT1	1,189	0	0.00	0	0.00	0	0.00	1,183	99.50	941	79.54	242	20.46	6	0.50	2	33.33	4	66.67
	LDGT2	301	0	0.00	0	0.00	0	0.00	298	99.00	189	63.42	109	36.58	3	1.00	2	66.67	1	33.33
	LDGV	1,156	0	0.00	0	0.00	0	0.00	1,134	98.10	949	83.69	185	16.31	22	1.90	17	77.27	5	22.73
<b>1986 Total</b>		<b>2,954</b>	<b>0</b>	<b>0.00</b>	<b>0</b>	<b>0.00</b>	<b>0</b>	<b>0.00</b>	<b>2,615</b>	<b>88.52</b>	<b>2,079</b>	<b>79.50</b>	<b>536</b>	<b>20.50</b>	<b>339</b>	<b>11.48</b>	<b>245</b>	<b>72.27</b>	<b>94</b>	<b>27.73</b>
1987	HDGV	242	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	242	100.00	181	74.79	61	25.21
	LDGT1	1,037	0	0.00	0	0.00	0	0.00	1,021	98.46	819	80.22	202	19.78	16	1.54	10	62.50	6	37.50
	LDGT2	329	0	0.00	0	0.00	0	0.00	326	99.09	226	69.33	100	30.67	3	0.91	2	66.67	1	33.33

Model Year	Type	Overall Total	OBD						IM240						Two Speed Idle					
			Total	% of Overall Total	Pass	%	Fail	%	Total	% of Overall Total	Pass	%	Fail	%	Total	% of Overall Total	Pass	%	Fail	%
	LDGV	1,125	0	0.00	0	0.00	0	0.00	1,102	97.96	940	85.30	162	14.70	23	2.04	19	82.61	4	17.39
<b>1987 Total</b>		<b>2,733</b>	<b>0</b>	<b>0.00</b>	<b>0</b>	<b>0.00</b>	<b>0</b>	<b>0.00</b>	<b>2,449</b>	<b>89.61</b>	<b>1,985</b>	<b>81.05</b>	<b>464</b>	<b>18.95</b>	<b>284</b>	<b>10.39</b>	<b>212</b>	<b>74.65</b>	<b>72</b>	<b>25.35</b>
1988	HDGV	385	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	385	100.00	327	84.94	58	15.06
	LDGT1	1,649	0	0.00	0	0.00	0	0.00	1,627	98.67	1,343	82.54	284	17.46	22	1.33	18	81.82	4	18.18
	LDGT2	580	0	0.00	0	0.00	0	0.00	569	98.10	452	79.44	117	20.56	11	1.90	4	36.36	7	63.64
	LDGV	1,674	0	0.00	0	0.00	0	0.00	1,659	99.10	1,431	86.26	228	13.74	15	0.90	12	80.00	3	20.00
<b>1988 Total</b>		<b>4,288</b>	<b>0</b>	<b>0.00</b>	<b>0</b>	<b>0.00</b>	<b>0</b>	<b>0.00</b>	<b>3,855</b>	<b>89.90</b>	<b>3,226</b>	<b>83.68</b>	<b>629</b>	<b>16.32</b>	<b>433</b>	<b>10.10</b>	<b>361</b>	<b>83.37</b>	<b>72</b>	<b>16.63</b>
1989	HDGV	595	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	595	100.00	502	84.37	93	15.63
	LDGT1	1,736	0	0.00	0	0.00	0	0.00	1,697	97.75	1,366	80.49	331	19.51	39	2.25	23	58.97	16	41.03
	LDGT2	666	0	0.00	0	0.00	0	0.00	657	98.65	515	78.39	142	21.61	9	1.35	5	55.56	4	44.44
	LDGV	1,766	0	0.00	0	0.00	0	0.00	1,732	98.07	1,482	85.57	250	14.43	34	1.93	28	82.35	6	17.65
<b>1989 Total</b>		<b>4,763</b>	<b>0</b>	<b>0.00</b>	<b>0</b>	<b>0.00</b>	<b>0</b>	<b>0.00</b>	<b>4,086</b>	<b>85.79</b>	<b>3,363</b>	<b>82.31</b>	<b>723</b>	<b>17.69</b>	<b>677</b>	<b>14.21</b>	<b>558</b>	<b>82.42</b>	<b>119</b>	<b>17.58</b>
1990	HDGV	601	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	601	100.00	528	87.85	73	12.15
	LDGT1	2,162	0	0.00	0	0.00	0	0.00	2,118	97.96	1,742	82.25	376	17.75	44	2.04	27	61.36	17	38.64
	LDGT2	864	0	0.00	0	0.00	0	0.00	860	99.54	701	81.51	159	18.49	4	0.46	3	75.00	1	25.00
	LDGV	3,275	0	0.00	0	0.00	0	0.00	3,218	98.26	2,846	88.44	372	11.56	57	1.74	44	77.19	13	22.81
<b>1990 Total</b>		<b>6,902</b>	<b>0</b>	<b>0.00</b>	<b>0</b>	<b>0.00</b>	<b>0</b>	<b>0.00</b>	<b>6,196</b>	<b>89.77</b>	<b>5,289</b>	<b>85.36</b>	<b>907</b>	<b>14.64</b>	<b>706</b>	<b>10.23</b>	<b>602</b>	<b>85.27</b>	<b>104</b>	<b>14.73</b>
1991	HDGV	454	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	454	100.00	389	85.68	65	14.32
	LDGT1	2,415	0	0.00	0	0.00	0	0.00	2,373	98.26	1,993	83.99	380	16.01	42	1.74	33	78.57	9	21.43
	LDGT2	747	0	0.00	0	0.00	0	0.00	738	98.80	558	75.61	180	24.39	9	1.20	3	33.33	6	66.67
	LDGV	3,539	0	0.00	0	0.00	0	0.00	3,455	97.63	2,946	85.27	509	14.73	84	2.37	60	71.43	24	28.57
<b>1991 Total</b>		<b>7,155</b>	<b>0</b>	<b>0.00</b>	<b>0</b>	<b>0.00</b>	<b>0</b>	<b>0.00</b>	<b>6,566</b>	<b>91.77</b>	<b>5,497</b>	<b>83.72</b>	<b>1,069</b>	<b>16.28</b>	<b>589</b>	<b>8.23</b>	<b>485</b>	<b>82.34</b>	<b>104</b>	<b>17.66</b>
1992	HDGV	733	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	733	100.00	639	87.18	94	12.82
	LDGT1	2,910	0	0.00	0	0.00	0	0.00	2,873	98.73	2,488	86.60	385	13.40	37	1.27	28	75.68	9	24.32
	LDGT2	1,389	0	0.00	0	0.00	0	0.00	1,377	99.14	1,106	80.32	271	19.68	12	0.86	6	50.00	6	50.00
	LDGV	4,717	0	0.00	0	0.00	0	0.00	4,636	98.28	4,039	87.12	597	12.88	81	1.72	59	72.84	22	27.16
<b>1992 Total</b>		<b>9,749</b>	<b>0</b>	<b>0.00</b>	<b>0</b>	<b>0.00</b>	<b>0</b>	<b>0.00</b>	<b>8,886</b>	<b>91.15</b>	<b>7,633</b>	<b>85.90</b>	<b>1,253</b>	<b>14.10</b>	<b>863</b>	<b>8.85</b>	<b>732</b>	<b>84.82</b>	<b>131</b>	<b>15.18</b>
1993	HDGV	732	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	732	100.00	668	91.26	64	8.74
	LDGT1	3,641	0	0.00	0	0.00	0	0.00	3,611	99.18	3,098	85.79	513	14.21	30	0.82	24	80.00	6	20.00
	LDGT2	1,451	0	0.00	0	0.00	0	0.00	1,444	99.52	1,140	78.95	304	21.05	7	0.48	7	100.00	0	0.00
	LDGV	4,990	0	0.00	0	0.00	0	0.00	4,939	98.98	4,317	87.41	622	12.59	51	1.02	40	78.43	11	21.57
<b>1993 Total</b>		<b>10,814</b>	<b>0</b>	<b>0.00</b>	<b>0</b>	<b>0.00</b>	<b>0</b>	<b>0.00</b>	<b>9,994</b>	<b>92.42</b>	<b>8,555</b>	<b>85.60</b>	<b>1,439</b>	<b>14.40</b>	<b>820</b>	<b>7.58</b>	<b>739</b>	<b>90.12</b>	<b>81</b>	<b>9.88</b>
1994	HDGV	1,095	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	1,095	100.00	983	89.77	112	10.23
	LDGT1	5,458	0	0.00	0	0.00	0	0.00	5,421	99.32	4,675	86.24	746	13.76	37	0.68	30	81.08	7	18.92
	LDGT2	2,820	0	0.00	0	0.00	0	0.00	2,783	98.69	2,157	77.51	626	22.49	37	1.31	26	70.27	11	29.73
	LDGV	6,667	0	0.00	0	0.00	0	0.00	6,585	98.77	5,837	88.64	748	11.36	82	1.23	66	80.49	16	19.51

Model Year	Type	Overall Total	OBD						IM240						Two Speed Idle					
			Total	% of Overall Total	Pass	%	Fail	%	Total	% of Overall Total	Pass	%	Fail	%	Total	% of Overall Total	Pass	%	Fail	%
<b>1994 Total</b>		16,040	0	0.00	0	0.00	0	0.00	14,789	92.20	12,669	85.67	2,120	14.33	1,251	7.80	1,105	88.33	146	11.67
1995	HDGV	1,273	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	1,273	100.00	1,153	90.57	120	9.43
	LDGT1	5,607	0	0.00	0	0.00	0	0.00	5,577	99.46	4,767	85.48	810	14.52	30	0.54	26	86.67	4	13.33
	LDGT2	3,310	0	0.00	0	0.00	0	0.00	3,275	98.94	2,529	77.22	746	22.78	35	1.06	25	71.43	10	28.57
	LDGV	8,484	0	0.00	0	0.00	0	0.00	8,363	98.57	7,429	88.83	934	11.17	121	1.43	95	78.51	26	21.49
<b>1995 Total</b>		18,674	0	0.00	0	0.00	0	0.00	17,215	92.19	14,725	85.54	2,490	14.46	1,459	7.81	1,299	89.03	160	10.97
1996	HDGV	1,496	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	1,496	100.00	1,407	94.05	89	5.95
	LDGT1	7,176	43	0.60	35	81.40	8	18.60	7,131	99.37	6,230	87.37	901	12.63	2	0.03	2	100.00	0	0.00
	LDGT2	3,484	23	0.66	13	56.52	10	43.48	3,460	99.31	2,979	86.10	481	13.90	1	0.03	1	100.00	0	0.00
	LDGV	10,958	85	0.78	55	64.71	30	35.29	10,858	99.09	9,876	90.96	982	9.04	15	0.14	12	80.00	3	20.00
<b>1996 Total</b>		23,114	151	0.65	103	68.21	48	31.79	21,449	92.80	19,085	88.98	2,364	11.02	1,514	6.55	1,422	93.92	92	6.08
1997	HDGV	1,608	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	1,608	100.00	1,552	96.52	56	3.48
	LDGT1	10,014	103	1.03	85	82.52	18	17.48	9,905	98.91	8,507	85.89	1,398	14.11	6	0.06	6	100.00	0	0.00
	LDGT2	4,065	32	0.79	22	68.75	10	31.25	4,025	99.02	3,351	83.25	674	16.75	8	0.20	7	87.50	1	12.50
	LDGV	12,736	104	0.82	76	73.08	28	26.92	12,618	99.07	11,330	89.79	1,288	10.21	14	0.11	11	78.57	3	21.43
<b>1997 Total</b>		28,423	239	0.84	183	76.57	56	23.43	26,548	93.40	23,188	87.34	3,360	12.66	1,636	5.76	1,576	96.33	60	3.67
1998	HDGV	1,330	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	1,330	100.00	1,255	94.36	75	5.64
	LDGT1	14,377	122	0.85	105	86.07	17	13.93	14,248	99.10	12,598	88.42	1,650	11.58	7	0.05	6	85.71	1	14.29
	LDGT2	5,415	21	0.39	16	76.19	5	23.81	5,390	99.54	4,609	85.51	781	14.49	4	0.07	4	100.00	0	0.00
	LDGV	16,826	99	0.59	72	72.73	27	27.27	16,716	99.35	15,048	90.02	1,668	9.98	11	0.07	10	90.91	1	9.09
<b>1998 Total</b>		37,948	242	0.64	193	79.75	49	20.25	36,354	95.80	32,255	88.72	4,099	11.28	1,352	3.56	1,275	94.30	77	5.70
1999	HDGV	2,198	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	2,198	100.00	2,108	95.91	90	4.09
	LDGT1	13,469	159	1.18	133	83.65	26	16.35	13,301	98.75	11,755	88.38	1,546	11.62	9	0.07	9	100.00	0	0.00
	LDGT2	7,465	727	9.74	551	75.79	176	24.21	6,735	90.22	5,635	83.67	1,100	16.33	3	0.04	3	100.00	0	0.00
	LDGV	17,782	148	0.83	118	79.73	30	20.27	17,626	99.12	15,894	90.17	1,732	9.83	8	0.04	6	75.00	2	25.00
<b>1999 Total</b>		40,914	1,034	2.53	802	77.56	232	22.44	37,662	92.05	33,284	88.38	4,378	11.62	2,218	5.42	2,126	95.85	92	4.15
2000	HDGV	2,717	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	2,717	100.00	2,629	96.76	88	3.24
	LDGT1	18,666	467	2.50	381	81.58	86	18.42	18,186	97.43	16,288	89.56	1,898	10.44	13	0.07	13	100.00	0	0.00
	LDGT2	9,139	1,640	17.95	1,234	75.24	406	24.76	7,494	82.00	6,656	88.82	838	11.18	5	0.05	5	100.00	0	0.00
	LDGV	25,164	218	0.87	174	79.82	44	20.18	24,935	99.09	22,862	91.69	2,073	8.31	11	0.04	11	100.00	0	0.00
<b>2000 Total</b>		55,686	2,325	4.18	1,789	76.95	536	23.05	50,615	90.89	45,806	90.50	4,809	9.50	2,746	4.93	2,658	96.80	88	3.20
2001	HDGV	2,307	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	2,307	100.00	2,269	98.35	38	1.65
	LDGT1	16,713	525	3.14	428	81.52	97	18.48	16,184	96.83	14,660	90.58	1,524	9.42	4	0.02	4	100.00	0	0.00
	LDGT2	8,570	1,567	18.28	1,142	72.88	425	27.12	6,999	81.67	6,270	89.58	729	10.42	4	0.05	4	100.00	0	0.00
	LDGV	23,015	332	1.44	270	81.33	62	18.67	22,679	98.54	20,955	92.40	1,724	7.60	4	0.02	4	100.00	0	0.00
<b>2001 Total</b>		50,605	2,424	4.79	1,840	75.91	584	24.09	45,862	90.63	41,885	91.33	3,977	8.67	2,319	4.58	2,281	98.36	38	1.64



Model Year	Type	Overall Total	OBD						IM240						Two Speed Idle					
			Total	% of Overall Total	Pass	%	Fail	%	Total	% of Overall Total	Pass	%	Fail	%	Total	% of Overall Total	Pass	%	Fail	%
2002	HDGV	2,394	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	2,394	100.00	2,367	98.87	27	1.13
	LDGT1	23,247	286	1.23	219	76.57	67	23.43	22,951	98.73	21,386	93.18	1,565	6.82	10	0.04	9	90.00	1	10.00
	LDGT2	10,140	2,579	25.43	2,049	79.45	530	20.55	7,556	74.52	6,861	90.80	695	9.20	5	0.05	4	80.00	1	20.00
	LDGV	29,591	405	1.37	339	83.70	66	16.30	29,176	98.60	27,121	92.96	2,055	7.04	10	0.03	10	100.00	0	0.00
<b>2002 Total</b>		<b>65,372</b>	<b>3,270</b>	<b>5.00</b>	<b>2,607</b>	<b>79.72</b>	<b>663</b>	<b>20.28</b>	<b>59,683</b>	<b>91.30</b>	<b>55,368</b>	<b>92.77</b>	<b>4,315</b>	<b>7.23</b>	<b>2,419</b>	<b>3.70</b>	<b>2,390</b>	<b>98.80</b>	<b>29</b>	<b>1.20</b>
2003	HDGV	2,093	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	2,093	100.00	2,067	98.76	26	1.24
	LDGT1	17,504	97	0.55	85	87.63	12	12.37	17,397	99.39	16,116	92.64	1,281	7.36	10	0.06	10	100.00	0	0.00
	LDGT2	9,265	1,930	20.83	1,516	78.55	414	21.45	7,328	79.09	6,725	91.77	603	8.23	7	0.08	7	100.00	0	0.00
	LDGV	24,738	601	2.43	490	81.53	111	18.47	24,125	97.52	22,384	92.78	1,741	7.22	12	0.05	12	100.00	0	0.00
<b>2003 Total</b>		<b>53,600</b>	<b>2,628</b>	<b>4.90</b>	<b>2,091</b>	<b>79.57</b>	<b>537</b>	<b>20.43</b>	<b>48,850</b>	<b>91.14</b>	<b>45,225</b>	<b>92.58</b>	<b>3,625</b>	<b>7.42</b>	<b>2,122</b>	<b>3.96</b>	<b>2,096</b>	<b>98.77</b>	<b>26</b>	<b>1.23</b>
2004	HDGV	2,418	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	2,418	100.00	2,401	99.30	17	0.70
	LDGT1	25,937	119	0.46	108	90.76	11	9.24	25,807	99.50	24,277	94.07	1,530	5.93	11	0.04	11	100.00	0	0.00
	LDGT2	12,984	2,450	18.87	2,027	82.73	423	17.27	10,533	81.12	9,791	92.96	742	7.04	1	0.01	1	100.00	0	0.00
	LDGV	29,143	756	2.59	680	89.95	76	10.05	28,374	97.36	26,696	94.09	1,678	5.91	13	0.04	13	100.00	0	0.00
<b>2004 Total</b>		<b>70,482</b>	<b>3,325</b>	<b>4.72</b>	<b>2,815</b>	<b>84.66</b>	<b>510</b>	<b>15.34</b>	<b>64,714</b>	<b>91.82</b>	<b>60,764</b>	<b>93.90</b>	<b>3,950</b>	<b>6.10</b>	<b>2,443</b>	<b>3.47</b>	<b>2,426</b>	<b>99.30</b>	<b>17</b>	<b>0.70</b>
2005	HDGV	1,618	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	1,618	100.00	1,612	99.63	6	0.37
	LDGT1	21,240	176	0.83	157	89.20	19	10.80	21,054	99.12	20,140	95.66	914	4.34	10	0.05	10	100.00	0	0.00
	LDGT2	8,648	1,751	20.25	1,543	88.12	208	11.88	6,895	79.73	6,475	93.91	420	6.09	2	0.02	2	100.00	0	0.00
	LDGV	25,187	1,146	4.55	1,040	90.75	106	9.25	24,034	95.42	22,614	94.09	1,420	5.91	7	0.03	7	100.00	0	0.00
<b>2005 Total</b>		<b>56,693</b>	<b>3,073</b>	<b>5.42</b>	<b>2,740</b>	<b>89.16</b>	<b>333</b>	<b>10.84</b>	<b>51,983</b>	<b>91.69</b>	<b>49,229</b>	<b>94.70</b>	<b>2,754</b>	<b>5.30</b>	<b>1,637</b>	<b>2.89</b>	<b>1,631</b>	<b>99.63</b>	<b>6</b>	<b>0.37</b>
2006	HDGV	2,250	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	2,250	100.00	2,232	99.20	18	0.80
	LDGT1	24,138	20,469	84.80	18,724	91.47	1,745	8.53	3,663	15.18	3,436	93.80	227	6.20	6	0.02	6	100.00	0	0.00
	LDGT2	10,651	9,261	86.95	8,367	90.35	894	9.65	1,388	13.03	1,304	93.95	84	6.05	2	0.02	2	100.00	0	0.00
	LDGV	31,378	26,748	85.24	24,297	90.84	2,451	9.16	4,626	14.74	4,372	94.51	254	5.49	4	0.01	3	75.00	1	25.00
<b>2006 Total</b>		<b>68,417</b>	<b>56,478</b>	<b>82.55</b>	<b>51,388</b>	<b>90.99</b>	<b>5,090</b>	<b>9.01</b>	<b>9,677</b>	<b>14.14</b>	<b>9,112</b>	<b>94.16</b>	<b>565</b>	<b>5.84</b>	<b>2,262</b>	<b>3.31</b>	<b>2,243</b>	<b>99.16</b>	<b>19</b>	<b>0.84</b>
2007	HDGV	1,438	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	1,438	100.00	1,431	99.51	7	0.49
	LDGT1	19,186	16,962	88.41	15,655	92.29	1,307	7.71	2,218	11.56	2,105	94.91	113	5.09	6	0.03	5	83.33	1	16.67
	LDGT2	10,820	9,682	89.48	8,930	92.23	752	7.77	1,137	10.51	1,066	93.76	71	6.24	1	0.01	1	100.00	0	0.00
	LDGV	25,608	22,425	87.57	20,745	92.51	1,680	7.49	3,179	12.41	3,020	95.00	159	5.00	4	0.02	4	100.00	0	0.00
<b>2007 Total</b>		<b>57,052</b>	<b>49,069</b>	<b>86.01</b>	<b>45,330</b>	<b>92.38</b>	<b>3,739</b>	<b>7.62</b>	<b>6,534</b>	<b>11.45</b>	<b>6,191</b>	<b>94.75</b>	<b>343</b>	<b>5.25</b>	<b>1,449</b>	<b>2.54</b>	<b>1,441</b>	<b>99.45</b>	<b>8</b>	<b>0.55</b>
2008	HDGV	2,536	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	2,536	100.00	2,527	99.65	9	0.35
	LDGT1	27,222	24,534	90.13	23,350	95.17	1,184	4.83	2,679	9.84	2,563	95.67	116	4.33	9	0.03	9	100.00	0	0.00
	LDGT2	13,487	12,276	91.02	11,424	93.06	852	6.94	1,209	8.96	1,125	93.05	84	6.95	2	0.01	2	100.00	0	0.00
	LDGV	31,608	28,236	89.33	26,789	94.88	1,447	5.12	3,362	10.64	3,228	96.01	134	3.99	10	0.03	10	100.00	0	0.00
<b>2008 Total</b>		<b>74,853</b>	<b>65,046</b>	<b>86.90</b>	<b>61,563</b>	<b>94.65</b>	<b>3,483</b>	<b>5.35</b>	<b>7,250</b>	<b>9.69</b>	<b>6,916</b>	<b>95.39</b>	<b>334</b>	<b>4.61</b>	<b>2,557</b>	<b>3.42</b>	<b>2,548</b>	<b>99.65</b>	<b>9</b>	<b>0.35</b>
2009	HDGV	1,386	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	1,386	100.00	1,385	99.93	1	0.07

Model Year	Type	Overall Total	OBD						IM240						Two Speed Idle					
			Total	% of Overall Total	Pass	%	Fail	%	Total	% of Overall Total	Pass	%	Fail	%	Total	% of Overall Total	Pass	%	Fail	%
	LDGT1	21,236	19,506	91.85	18,598	95.35	908	4.65	1,729	8.14	1,673	96.76	56	3.24	1	0.00	1	100.00	0	0.00
	LDGT2	9,641	8,788	91.15	8,246	93.83	542	6.17	847	8.79	799	94.33	48	5.67	6	0.06	5	83.33	1	16.67
	LDGV	33,168	30,217	91.10	29,127	96.39	1,090	3.61	2,950	8.89	2,867	97.19	83	2.81	1	0.00	1	100.00	0	0.00
<b>2009 Total</b>		<b>65,431</b>	<b>58,511</b>	<b>89.42</b>	<b>55,971</b>	<b>95.66</b>	<b>2,540</b>	<b>4.34</b>	<b>5,526</b>	<b>8.45</b>	<b>5,339</b>	<b>96.62</b>	<b>187</b>	<b>3.38</b>	<b>1,394</b>	<b>2.13</b>	<b>1,392</b>	<b>99.86</b>	<b>2</b>	<b>0.14</b>
2010	HDGV	308	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	308	100.00	307	99.68	1	0.32
	LDGT1	4,570	4,194	91.77	4,030	96.09	164	3.91	375	8.21	355	94.67	20	5.33	1	0.02	1	100.00	0	0.00
	LDGT2	2,736	2,496	91.23	2,360	94.55	136	5.45	240	8.77	218	90.83	22	9.17	0	0.00	0	0.00	0	0.00
	LDGV	6,523	5,977	91.63	5,727	95.82	250	4.18	546	8.37	516	94.51	30	5.49	0	0.00	0	0.00	0	0.00
<b>2010 Total</b>		<b>14,137</b>	<b>12,667</b>	<b>89.60</b>	<b>12,117</b>	<b>95.66</b>	<b>550</b>	<b>4.34</b>	<b>1,161</b>	<b>8.21</b>	<b>1,089</b>	<b>93.80</b>	<b>72</b>	<b>6.20</b>	<b>309</b>	<b>2.19</b>	<b>308</b>	<b>99.68</b>	<b>1</b>	<b>0.32</b>
2011	HDGV	396	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	396	100.00	394	99.49	2	0.51
	LDGT1	2,401	2,214	92.21	2,128	96.12	86	3.88	187	7.79	182	97.33	5	2.67	0	0.00	0	0.00	0	0.00
	LDGT2	1,451	1,331	91.73	1,247	93.69	84	6.31	119	8.20	117	98.32	2	1.68	1	0.07	1	100.00	0	0.00
	LDGV	2,910	2,599	89.31	2,498	96.11	101	3.89	311	10.69	292	93.89	19	6.11	0	0.00	0	0.00	0	0.00
<b>2011 Total</b>		<b>7,158</b>	<b>6,144</b>	<b>85.83</b>	<b>5,873</b>	<b>95.59</b>	<b>271</b>	<b>4.41</b>	<b>617</b>	<b>8.62</b>	<b>591</b>	<b>95.79</b>	<b>26</b>	<b>4.21</b>	<b>397</b>	<b>5.55</b>	<b>395</b>	<b>99.50</b>	<b>2</b>	<b>0.50</b>
2012	HDGV	305	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	305	100.00	305	100.00	0	0.00
	LDGT1	1,580	1,482	93.80	1,430	96.49	52	3.51	98	6.20	96	97.96	2	2.04	0	0.00	0	0.00	0	0.00
	LDGT2	976	898	92.01	843	93.88	55	6.12	78	7.99	74	94.87	4	5.13	0	0.00	0	0.00	0	0.00
	LDGV	2,986	2,721	91.13	2,600	95.55	121	4.45	265	8.87	253	95.47	12	4.53	0	0.00	0	0.00	0	0.00
<b>2012 Total</b>		<b>5,847</b>	<b>5,101</b>	<b>87.24</b>	<b>4,873</b>	<b>95.53</b>	<b>228</b>	<b>4.47</b>	<b>441</b>	<b>7.54</b>	<b>423</b>	<b>95.92</b>	<b>18</b>	<b>4.08</b>	<b>305</b>	<b>5.22</b>	<b>305</b>	<b>100.00</b>	<b>0</b>	<b>0.00</b>
2013	HDGV	119	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	119	100.00	119	100.00	0	0.00
	LDGT1	1,288	1,247	96.82	1,214	97.35	33	2.65	41	3.18	41	100.00	0	0.00	0	0.00	0	0.00	0	0.00
	LDGT2	667	640	95.95	602	94.06	38	5.94	27	4.05	27	100.00	0	0.00	0	0.00	0	0.00	0	0.00
	LDGV	2,122	1,942	91.52	1,877	96.65	65	3.35	180	8.48	174	96.67	6	3.33	0	0.00	0	0.00	0	0.00
<b>2013 Total</b>		<b>4,196</b>	<b>3,829</b>	<b>91.25</b>	<b>3,693</b>	<b>96.45</b>	<b>136</b>	<b>3.55</b>	<b>248</b>	<b>5.91</b>	<b>242</b>	<b>97.58</b>	<b>6</b>	<b>2.42</b>	<b>119</b>	<b>2.84</b>	<b>119</b>	<b>100.00</b>	<b>0</b>	<b>0.00</b>
2014	HDGV	86	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	86	100.00	86	100.00	0	0.00
	LDGT1	823	801	97.33	782	97.63	19	2.37	22	2.67	22	100.00	0	0.00	0	0.00	0	0.00	0	0.00
	LDGT2	489	477	97.55	449	94.13	28	5.87	12	2.45	12	100.00	0	0.00	0	0.00	0	0.00	0	0.00
	LDGV	1,183	1,096	92.65	1,063	96.99	33	3.01	87	7.35	80	91.95	7	8.05	0	0.00	0	0.00	0	0.00
<b>2014 Total</b>		<b>2,581</b>	<b>2,374</b>	<b>91.98</b>	<b>2,294</b>	<b>96.63</b>	<b>80</b>	<b>3.37</b>	<b>121</b>	<b>4.69</b>	<b>114</b>	<b>94.21</b>	<b>7</b>	<b>5.79</b>	<b>86</b>	<b>3.33</b>	<b>86</b>	<b>100.00</b>	<b>0</b>	<b>0.00</b>
2015	HDGV	95	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	95	100.00	95	100.00	0	0.00
	LDGT1	595	583	97.98	578	99.14	5	0.86	12	2.02	12	100.00	0	0.00	0	0.00	0	0.00	0	0.00
	LDGT2	219	214	97.72	205	95.79	9	4.21	5	2.28	5	100.00	0	0.00	0	0.00	0	0.00	0	0.00
	LDGV	800	772	96.50	738	95.60	34	4.40	28	3.50	27	96.43	1	3.57	0	0.00	0	0.00	0	0.00
<b>2015 Total</b>		<b>1,709</b>	<b>1,569</b>	<b>91.81</b>	<b>1,521</b>	<b>96.94</b>	<b>48</b>	<b>3.06</b>	<b>45</b>	<b>2.63</b>	<b>44</b>	<b>97.78</b>	<b>1</b>	<b>2.22</b>	<b>95</b>	<b>5.56</b>	<b>95</b>	<b>100.00</b>	<b>0</b>	<b>0.00</b>
2016	HDGV	42	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	42	100.00	42	100.00	0	0.00
	LDGT1	245	238	97.14	237	99.58	1	0.42	7	2.86	7	100.00	0	0.00	0	0.00	0	0.00	0	0.00

Model Year	Type	Overall Total	OBD						IM240						Two Speed Idle					
			Total	% of Overall Total	Pass	%	Fail	%	Total	% of Overall Total	Pass	%	Fail	%	Total	% of Overall Total	Pass	%	Fail	%
	LDGT2	73	67	91.78	67	100.00	0	0.00	6	8.22	6	100.00	0	0.00	0	0.00	0	0.00	0	0.00
	LDGV	169	161	95.27	157	97.52	4	2.48	8	4.73	8	100.00	0	0.00	0	0.00	0	0.00	0	0.00
<b>2016 Total</b>		<b>529</b>	<b>466</b>	<b>88.09</b>	<b>461</b>	<b>98.93</b>	<b>5</b>	<b>1.07</b>	<b>21</b>	<b>3.97</b>	<b>21</b>	<b>100.00</b>	<b>0</b>	<b>0.00</b>	<b>42</b>	<b>7.94</b>	<b>42</b>	<b>100.00</b>	<b>0</b>	<b>0.00</b>
2017	HDGV	7	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	7	100.00	7	100.00	0	0.00
	LDGT1	9	8	88.89	8	100.00	0	0.00	1	11.11	1	100.00	0	0.00	0	0.00	0	0.00	0	0.00
	LDGT2	1	0	0.00	0	0.00	0	0.00	1	100.00	1	100.00	0	0.00	0	0.00	0	0.00	0	0.00
	LDGV	13	13	100.00	13	100.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
<b>2017 Total</b>		<b>30</b>	<b>21</b>	<b>70.00</b>	<b>21</b>	<b>100.00</b>	<b>0</b>	<b>0.00</b>	<b>2</b>	<b>6.67</b>	<b>2</b>	<b>100.00</b>	<b>0</b>	<b>0.00</b>	<b>7</b>	<b>23.33</b>	<b>7</b>	<b>100.00</b>	<b>0</b>	<b>0.00</b>
<b>Grand Total</b>		<b>881,996</b>	<b>279,986</b>	<b>31.74</b>	<b>260,268</b>	<b>92.96</b>	<b>19,718</b>	<b>7.04</b>	<b>556,308</b>	<b>63.07</b>	<b>504,330</b>	<b>90.66</b>	<b>51,978</b>	<b>9.34</b>	<b>45,702</b>	<b>5.18</b>	<b>41,783</b>	<b>91.42</b>	<b>3,919</b>	<b>8.58</b>

**Initial Inspection Report All Test Types - Summary by Veh (V 1.02)**

Type	Overall Total	OBD						IM240						Two Speed Idle						
		Total	% of Overall Total	Pass	%	Fail	%	Total	% of Overall Total	Pass	%	Fail	%	Total	% of Overall Total	Pass	%	Fail	%	
HDGV	37,638	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	37,638	100.00	35,895	95.37	1,743	4.63	
LDGT1	302,703	94,335	31.16	88,470	93.78	5,865	6.22	206,466	68.21	186,969	90.56	19,497	9.44	1,902	0.63	1,318	69.30	584	30.70	
LDGT2	145,936	58,850	40.33	52,853	89.81	5,997	10.19	84,391	57.83	74,029	87.72	10,362	12.28	2,695	1.85	2,086	77.40	609	22.60	
LDGV	395,719	126,801	32.04	118,945	93.80	7,856	6.20	265,451	67.08	243,332	91.67	22,119	8.33	3,467	0.88	2,484	71.65	983	28.35	
<b>Grand Total</b>		<b>881,996</b>	<b>279,986</b>	<b>31.74</b>	<b>260,268</b>	<b>92.96</b>	<b>19,718</b>	<b>7.04</b>	<b>556,308</b>	<b>63.07</b>	<b>504,330</b>	<b>90.66</b>	<b>51,978</b>	<b>9.34</b>	<b>45,702</b>	<b>5.18</b>	<b>41,783</b>	<b>91.42</b>	<b>3,919</b>	<b>8.58</b>



## **Appendix A2**

### **Initial OBD Inspection Report**



Date Range  
Between 1/1/2016 and 12/31/2016

## Initial OBD Inspection Report (V 1.03)

Model Year	Type	OBD Total All	OBD Total Pass/Fail	OBD Total Pass/Fail %	Pass		Fail	
					Count	%	Count	%
1996	LDGT1	81	43	53.09	35	81.40	8	18.60
	LDGT2	34	23	67.65	13	56.52	10	43.48
	LDGV	153	85	55.56	55	64.71	30	35.29
<b>1996 Total</b>		<b>268</b>	<b>151</b>	<b>56.34</b>	<b>103</b>	<b>68.21</b>	<b>48</b>	<b>31.79</b>
1997	LDGT1	159	103	64.78	85	82.52	18	17.48
	LDGT2	39	32	82.05	22	68.75	10	31.25
	LDGV	158	104	65.82	76	73.08	28	26.92
<b>1997 Total</b>		<b>356</b>	<b>239</b>	<b>67.13</b>	<b>183</b>	<b>76.57</b>	<b>56</b>	<b>23.43</b>
1998	LDGT1	205	122	59.51	105	86.07	17	13.93
	LDGT2	25	21	84.00	16	76.19	5	23.81
	LDGV	131	99	75.57	72	72.73	27	27.27
<b>1998 Total</b>		<b>361</b>	<b>242</b>	<b>67.04</b>	<b>193</b>	<b>79.75</b>	<b>49</b>	<b>20.25</b>
1999	LDGT1	252	159	63.10	133	83.65	26	16.35
	LDGT2	970	727	74.95	551	75.79	176	24.21
	LDGV	216	148	68.52	118	79.73	30	20.27
<b>1999 Total</b>		<b>1,438</b>	<b>1,034</b>	<b>71.91</b>	<b>802</b>	<b>77.56</b>	<b>232</b>	<b>22.44</b>
2000	LDGT1	661	467	70.65	381	81.58	86	18.42
	LDGT2	2,223	1,640	73.77	1,234	75.24	406	24.76
	LDGV	311	218	70.10	174	79.82	44	20.18
<b>2000 Total</b>		<b>3,195</b>	<b>2,325</b>	<b>72.77</b>	<b>1,789</b>	<b>76.95</b>	<b>536</b>	<b>23.05</b>
2001	LDGT1	651	525	80.65	428	81.52	97	18.48
	LDGT2	2,131	1,567	73.57	1,142	72.88	425	27.12
	LDGV	453	332	73.29	270	81.33	62	18.67
<b>2001 Total</b>		<b>3,235</b>	<b>2,424</b>	<b>74.95</b>	<b>1,840</b>	<b>75.91</b>	<b>584</b>	<b>24.09</b>
2002	LDGT1	350	286	81.71	219	76.57	67	23.43
	LDGT2	3,347	2,579	77.08	2,049	79.45	530	20.55
	LDGV	564	405	71.81	339	83.70	66	16.30
<b>2002 Total</b>		<b>4,261</b>	<b>3,270</b>	<b>76.76</b>	<b>2,607</b>	<b>79.72</b>	<b>663</b>	<b>20.28</b>
2003	LDGT1	121	97	80.17	85	87.63	12	12.37
	LDGT2	2,529	1,930	76.31	1,516	78.55	414	21.45
	LDGV	777	601	77.65	490	81.53	111	18.47
<b>2003 Total</b>		<b>3,427</b>	<b>2,628</b>	<b>76.75</b>	<b>2,091</b>	<b>79.57</b>	<b>537</b>	<b>20.43</b>
2004	LDGT1	143	119	83.22	108	90.76	11	9.24
	LDGT2	3,226	2,450	75.95	2,027	82.73	423	17.27
	LDGV	969	756	78.10	680	89.95	76	10.05
<b>2004 Total</b>		<b>4,338</b>	<b>3,325</b>	<b>76.67</b>	<b>2,815</b>	<b>84.66</b>	<b>510</b>	<b>15.34</b>
2005	LDGT1	235	176	74.89	157	89.20	19	10.80
	LDGT2	2,237	1,751	78.27	1,543	88.12	208	11.88
	LDGV	1,321	1,146	86.75	1,040	90.75	106	9.25
<b>2005 Total</b>		<b>3,793</b>	<b>3,073</b>	<b>81.02</b>	<b>2,740</b>	<b>89.16</b>	<b>333</b>	<b>10.84</b>
2006	LDGT1	20,563	20,469	99.56	18,724	91.47	1,745	8.53
	LDGT2	9,598	9,261	96.49	8,367	90.35	894	9.65

Model Year	Type	OBD Total All	OBD Total Pass/Fail	OBD Total Pass/Fail %	Pass		Fail	
					Count	%	Count	%
	LDGV	26,979	26,748	99.17	24,297	90.84	2,451	9.16
<b>2006 Total</b>		57,140	56,478	98.86	51,388	90.99	5,090	9.01
2007	LDGT1	17,091	16,962	99.27	15,655	92.29	1,307	7.71
	LDGT2	10,059	9,682	96.25	8,930	92.23	752	7.77
	LDGV	22,599	22,425	99.23	20,745	92.51	1,680	7.49
<b>2007 Total</b>		49,749	49,069	98.64	45,330	92.38	3,739	7.62
2008	LDGT1	24,592	24,534	99.76	23,350	95.17	1,184	4.83
	LDGT2	12,569	12,276	97.67	11,424	93.06	852	6.94
	LDGV	28,404	28,236	99.42	26,789	94.88	1,447	5.12
<b>2008 Total</b>		65,565	65,046	99.21	61,563	94.65	3,483	5.35
2009	LDGT1	19,554	19,506	99.75	18,598	95.35	908	4.65
	LDGT2	8,944	8,788	98.27	8,246	93.83	542	6.17
	LDGV	30,361	30,217	99.53	29,127	96.39	1,090	3.61
<b>2009 Total</b>		58,859	58,511	99.41	55,971	95.66	2,540	4.34
2010	LDGT1	4,201	4,194	99.83	4,030	96.09	164	3.91
	LDGT2	2,562	2,496	97.46	2,360	94.55	136	5.45
	LDGV	6,029	5,977	99.14	5,727	95.82	250	4.18
<b>2010 Total</b>		12,792	12,667	99.03	12,117	95.66	550	4.34
2011	LDGT1	2,217	2,214	99.86	2,128	96.12	86	3.88
	LDGT2	1,348	1,331	98.74	1,247	93.69	84	6.31
	LDGV	2,619	2,599	99.31	2,498	96.11	101	3.89
<b>2011 Total</b>		6,184	6,144	99.39	5,873	95.59	271	4.41
2012	LDGT1	1,485	1,482	99.80	1,430	96.49	52	3.51
	LDGT2	926	898	96.98	843	93.88	55	6.12
	LDGV	2,749	2,721	99.02	2,600	95.55	121	4.45
<b>2012 Total</b>		5,160	5,101	98.88	4,873	95.53	228	4.47
2013	LDGT1	1,250	1,247	99.76	1,214	97.35	33	2.65
	LDGT2	647	640	98.92	602	94.06	38	5.94
	LDGV	1,962	1,942	98.98	1,877	96.65	65	3.35
<b>2013 Total</b>		3,859	3,829	99.22	3,693	96.45	136	3.55
2014	LDGT1	804	801	99.63	782	97.63	19	2.37
	LDGT2	479	477	99.58	449	94.13	28	5.87
	LDGV	1,099	1,096	99.73	1,063	96.99	33	3.01
<b>2014 Total</b>		2,382	2,374	99.66	2,294	96.63	80	3.37
2015	LDGT1	585	583	99.83	578	99.14	5	0.86
	LDGT2	216	214	99.07	205	95.79	9	4.21
	LDGV	774	772	99.74	738	95.60	34	4.40
<b>2015 Total</b>		1,575	1,569	99.68	1,521	96.94	48	3.06
2016	LDGT1	240	238	100.00	237	99.58	1	0.42
	LDGT2	67	67	100.00	67	100.00	0	0.00
	LDGV	163	161	98.77	157	97.52	4	2.48
<b>2016 Total</b>		470	466	99.57	461	98.93	5	1.07
2017	LDGT1	8	8	100.00	8	100.00	0	0.00
	LDGV	14	13	92.86	13	100.00	0	0.00
<b>2017 Total</b>		22	21	95.45	21	100.00	0	0.00
<b>Grand Total</b>		<b>288,429</b>	<b>279,986</b>	<b>97.08</b>	<b>260,268</b>	<b>92.96</b>	<b>19,718</b>	<b>7.04</b>



Initial OBD Inspection Report - Summary by Veh (V 1.03)

Type	OBD Total All	OBD Total Pass/Fail	OBD Total Pass/Fail %	Pass		Fail	
				Count	%	Count	%
LDGT1	95,448	94,335	98.85	88,470	93.78	5,865	6.22
LDGT2	64,176	58,850	91.71	52,853	89.81	5,997	10.19
LDGV	128,805	126,801	98.46	118,945	93.80	7,856	6.20
<b>Grand Total</b>	<b>288,429</b>	<b>279,986</b>	<b>97.08</b>	<b>260,268</b>	<b>92.96</b>	<b>19,718</b>	<b>7.04</b>



## **Appendix A3**

### Initial OBD Inspection Failure Report



Date Range  
Between 1/1/2016 and 12/31/2016

## Initial OBD Inspection Failure Report (V 1.03)

Model Year	Type	Total Fail	Failed OBD Only						Failed Both OBD and Gas Cap						Failed Gas Cap Only		Failed Opacity	
			MIL Commanded on Count	MIL Commanded on %	Visual MIL Count	Visual MIL %	Both MIL Count	Both MIL %	Gas Cap and MIL on Count	Gas Cap and MIL on %	Gas Cap and Visual MIL Count	Gas Cap and Visual MIL %	Both MIL and Gas Cap Count	Both MIL and Gas Cap %	Count	%	Count	%
1996	LDGT1	8	2	25.00	0	0.00	5	62.50	0	0.00	0	0.00	0	0.00	1	12.50	0	0.00
	LDGT2	10	2	20.00	3	30.00	2	20.00	0	0.00	0	0.00	1	10.00	2	20.00	0	0.00
	LDGV	30	3	10.00	9	30.00	13	43.33	0	0.00	0	0.00	3	10.00	2	6.67	0	0.00
<b>1996 Total</b>		<b>48</b>	<b>7</b>	<b>14.58</b>	<b>12</b>	<b>25.00</b>	<b>20</b>	<b>41.67</b>	<b>0</b>	<b>0.00</b>	<b>0</b>	<b>0.00</b>	<b>4</b>	<b>8.33</b>	<b>5</b>	<b>10.42</b>	<b>0</b>	<b>0.00</b>
1997	LDGT1	18	2	11.11	0	0.00	8	44.44	0	0.00	0	0.00	2	11.11	6	33.33	0	0.00
	LDGT2	10	3	30.00	3	30.00	4	40.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
	LDGV	28	5	17.86	3	10.71	18	64.29	1	3.57	0	0.00	1	3.57	0	0.00	0	0.00
<b>1997 Total</b>		<b>56</b>	<b>10</b>	<b>17.86</b>	<b>6</b>	<b>10.71</b>	<b>30</b>	<b>53.57</b>	<b>1</b>	<b>1.79</b>	<b>0</b>	<b>0.00</b>	<b>3</b>	<b>5.36</b>	<b>6</b>	<b>10.71</b>	<b>0</b>	<b>0.00</b>
1998	LDGT1	17	5	29.41	2	11.76	9	52.94	0	0.00	0	0.00	0	0.00	1	5.88	0	0.00
	LDGT2	5	1	20.00	2	40.00	2	40.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
	LDGV	27	7	25.93	3	11.11	12	44.44	0	0.00	0	0.00	2	7.41	3	11.11	0	0.00
<b>1998 Total</b>		<b>49</b>	<b>13</b>	<b>26.53</b>	<b>7</b>	<b>14.29</b>	<b>23</b>	<b>46.94</b>	<b>0</b>	<b>0.00</b>	<b>0</b>	<b>0.00</b>	<b>2</b>	<b>4.08</b>	<b>4</b>	<b>8.16</b>	<b>0</b>	<b>0.00</b>
1999	LDGT1	26	1	3.85	6	23.08	11	42.31	0	0.00	1	3.85	2	7.69	5	19.23	0	0.00
	LDGT2	176	17	9.66	30	17.05	104	59.09	2	1.14	1	0.57	5	2.84	17	9.66	1	0.57
	LDGV	30	3	10.00	1	3.33	21	70.00	0	0.00	1	3.33	0	0.00	4	13.33	0	0.00
<b>1999 Total</b>		<b>232</b>	<b>21</b>	<b>9.05</b>	<b>37</b>	<b>15.95</b>	<b>136</b>	<b>58.62</b>	<b>2</b>	<b>0.86</b>	<b>3</b>	<b>1.29</b>	<b>7</b>	<b>3.02</b>	<b>26</b>	<b>11.21</b>	<b>1</b>	<b>0.43</b>
2000	LDGT1	86	7	8.14	5	5.81	32	37.21	3	3.49	0	0.00	2	2.33	35	40.70	4	4.65
	LDGT2	406	30	7.39	59	14.53	243	59.85	4	0.99	5	1.23	12	2.96	53	13.05	0	0.00
	LDGV	44	4	9.09	6	13.64	31	70.45	0	0.00	0	0.00	1	2.27	2	4.55	0	0.00
<b>2000 Total</b>		<b>536</b>	<b>41</b>	<b>7.65</b>	<b>70</b>	<b>13.06</b>	<b>306</b>	<b>57.09</b>	<b>7</b>	<b>1.31</b>	<b>5</b>	<b>0.93</b>	<b>15</b>	<b>2.80</b>	<b>90</b>	<b>16.79</b>	<b>4</b>	<b>0.75</b>
2001	LDGT1	97	21	21.65	1	1.03	46	47.42	1	1.03	1	1.03	2	2.06	24	24.74	2	2.06
	LDGT2	425	29	6.82	62	14.59	245	57.65	2	0.47	3	0.71	21	4.94	63	14.82	0	0.00
	LDGV	62	8	12.90	2	3.23	34	54.84	0	0.00	1	1.61	2	3.23	15	24.19	0	0.00
<b>2001 Total</b>		<b>584</b>	<b>58</b>	<b>9.93</b>	<b>65</b>	<b>11.13</b>	<b>325</b>	<b>55.65</b>	<b>3</b>	<b>0.51</b>	<b>5</b>	<b>0.86</b>	<b>25</b>	<b>4.28</b>	<b>102</b>	<b>17.47</b>	<b>2</b>	<b>0.34</b>
2002	LDGT1	67	10	14.93	1	1.49	39	58.21	0	0.00	0	0.00	6	8.96	11	16.42	1	1.49
	LDGT2	530	25	4.72	73	13.77	303	57.17	6	1.13	6	1.13	28	5.28	89	16.79	1	0.19
	LDGV	66	9	13.64	2	3.03	38	57.58	0	0.00	0	0.00	2	3.03	15	22.73	0	0.00
<b>2002 Total</b>		<b>663</b>	<b>44</b>	<b>6.64</b>	<b>76</b>	<b>11.46</b>	<b>380</b>	<b>57.32</b>	<b>6</b>	<b>0.90</b>	<b>6</b>	<b>0.90</b>	<b>36</b>	<b>5.43</b>	<b>115</b>	<b>17.35</b>	<b>2</b>	<b>0.30</b>
2003	LDGT1	12	1	8.33	0	0.00	5	41.67	0	0.00	0	0.00	0	0.00	6	50.00	0	0.00
	LDGT2	414	32	7.73	60	14.49	227	54.83	4	0.97	2	0.48	14	3.38	75	18.12	0	0.00
	LDGV	111	18	16.22	4	3.60	65	58.56	0	0.00	0	0.00	6	5.41	18	16.22	1	0.90
<b>2003 Total</b>		<b>537</b>	<b>51</b>	<b>9.50</b>	<b>64</b>	<b>11.92</b>	<b>297</b>	<b>55.31</b>	<b>4</b>	<b>0.74</b>	<b>2</b>	<b>0.37</b>	<b>20</b>	<b>3.72</b>	<b>99</b>	<b>18.44</b>	<b>1</b>	<b>0.19</b>
2004	LDGT1	11	0	0.00	0	0.00	6	54.55	0	0.00	0	0.00	1	9.09	3	27.27	1	9.09

Model Year	Type	Total Fail	Failed OBD Only						Failed Both OBD and Gas Cap						Failed Gas Cap Only		Failed Opacity	
			MIL Commanded on Count	MIL Commanded on %	Visual MIL Count	Visual MIL %	Both MIL Count	Both MIL %	Gas Cap and MIL on Count	Gas Cap and MIL on %	Gas Cap and Visual MIL Count	Gas Cap and Visual MIL %	Both MIL and Gas Cap Count	Both MIL and Gas Cap %	Count	%	Count	%
	LDGT2	423	26	6.15	62	14.66	200	47.28	3	0.71	8	1.89	18	4.26	103	24.35	5	1.18
	LDGV	76	9	11.84	3	3.95	42	55.26	1	1.32	0	0.00	4	5.26	16	21.05	1	1.32
<b>2004 Total</b>		510	35	6.86	65	12.75	248	48.63	4	0.78	8	1.57	23	4.51	122	23.92	7	1.37
2005	LDGT1	19	2	10.53	0	0.00	7	36.84	0	0.00	0	0.00	0	0.00	9	47.37	1	5.26
	LDGT2	208	15	7.21	34	16.35	109	52.40	0	0.00	3	1.44	6	2.88	40	19.23	1	0.48
	LDGV	106	8	7.55	4	3.77	68	64.15	1	0.94	0	0.00	5	4.72	20	18.87	0	0.00
<b>2005 Total</b>		333	25	7.51	38	11.41	184	55.26	1	0.30	3	0.90	11	3.30	69	20.72	2	0.60
2006	LDGT1	1,745	173	9.91	74	4.24	909	52.09	5	0.29	4	0.23	58	3.32	513	29.40	9	0.52
	LDGT2	894	86	9.62	59	6.60	372	41.61	4	0.45	5	0.56	28	3.13	331	37.02	12	1.34
	LDGV	2,451	276	11.26	143	5.83	1,384	56.47	11	0.45	9	0.37	58	2.37	555	22.64	16	0.65
<b>2006 Total</b>		5,090	535	10.51	276	5.42	2,665	52.36	20	0.39	18	0.35	144	2.83	1,399	27.49	37	0.73
2007	LDGT1	1,307	113	8.65	25	1.91	573	43.84	6	0.46	0	0.00	45	3.44	541	41.39	7	0.54
	LDGT2	752	57	7.58	39	5.19	346	46.01	2	0.27	2	0.27	17	2.26	286	38.03	4	0.53
	LDGV	1,680	172	10.24	72	4.29	948	56.43	2	0.12	3	0.18	37	2.20	442	26.31	6	0.36
<b>2007 Total</b>		3,739	342	9.15	136	3.64	1,867	49.93	10	0.27	5	0.13	99	2.65	1,269	33.94	17	0.45
2008	LDGT1	1,184	73	6.17	16	1.35	473	39.95	8	0.68	2	0.17	24	2.03	579	48.90	9	0.76
	LDGT2	852	45	5.28	17	2.00	306	35.92	5	0.59	1	0.12	17	2.00	456	53.52	5	0.59
	LDGV	1,447	138	9.54	56	3.87	732	50.59	3	0.21	2	0.14	41	2.83	462	31.93	16	1.11
<b>2008 Total</b>		3,483	256	7.35	89	2.56	1,511	43.38	16	0.46	5	0.14	82	2.35	1,497	42.98	30	0.86
2009	LDGT1	908	76	8.37	14	1.54	293	32.27	1	0.11	1	0.11	11	1.21	505	55.62	7	0.77
	LDGT2	542	36	6.64	7	1.29	175	32.29	4	0.74	0	0.00	15	2.77	298	54.98	9	1.66
	LDGV	1,090	101	9.27	31	2.84	513	47.06	1	0.09	1	0.09	24	2.20	412	37.80	9	0.83
<b>2009 Total</b>		2,540	213	8.39	52	2.05	981	38.62	6	0.24	2	0.08	50	1.97	1,215	47.83	25	0.98
2010	LDGT1	164	6	3.66	3	1.83	37	22.56	0	0.00	0	0.00	2	1.22	116	70.73	0	0.00
	LDGT2	136	15	11.03	1	0.74	29	21.32	1	0.74	0	0.00	7	5.15	83	61.03	1	0.74
	LDGV	250	23	9.20	8	3.20	88	35.20	0	0.00	0	0.00	6	2.40	123	49.20	2	0.80
<b>2010 Total</b>		550	44	8.00	12	2.18	154	28.00	1	0.18	0	0.00	15	2.73	322	58.55	3	0.55
2011	LDGT1	86	5	5.81	1	1.16	19	22.09	2	2.33	0	0.00	1	1.16	58	67.44	0	0.00
	LDGT2	84	3	3.57	0	0.00	17	20.24	0	0.00	0	0.00	2	2.38	60	71.43	2	2.38
	LDGV	101	5	4.95	1	0.99	39	38.61	0	0.00	0	0.00	1	0.99	53	52.48	2	1.98
<b>2011 Total</b>		271	13	4.80	2	0.74	75	27.68	2	0.74	0	0.00	4	1.48	171	63.10	4	1.48
2012	LDGT1	52	4	7.69	0	0.00	15	28.85	1	1.92	0	0.00	1	1.92	31	59.62	0	0.00
	LDGT2	55	4	7.27	0	0.00	14	25.45	0	0.00	0	0.00	1	1.82	36	65.45	0	0.00
	LDGV	121	13	10.74	1	0.83	31	25.62	0	0.00	0	0.00	3	2.48	73	60.33	0	0.00
<b>2012 Total</b>		228	21	9.21	1	0.44	60	26.32	1	0.44	0	0.00	5	2.19	140	61.40	0	0.00
2013	LDGT1	33	2	6.06	1	3.03	6	18.18	0	0.00	0	0.00	0	0.00	23	69.70	1	3.03
	LDGT2	38	0	0.00	0	0.00	4	10.53	0	0.00	0	0.00	0	0.00	34	89.47	0	0.00

Model Year	Type	Total Fail	Failed OBD Only						Failed Both OBD and Gas Cap						Failed Gas Cap Only		Failed Opacity	
			MIL Commanded on Count	MIL Commanded on %	Visual MIL Count	Visual MIL %	Both MIL Count	Both MIL %	Gas Cap and MIL on Count	Gas Cap and MIL on %	Gas Cap and Visual MIL Count	Gas Cap and Visual MIL %	Both MIL and Gas Cap Count	Both MIL and Gas Cap %	Count	%	Count	%
	LDGV	65	2	3.08	0	0.00	19	29.23	1	1.54	0	0.00	3	4.62	39	60.00	1	1.54
<b>2013 Total</b>		136	4	2.94	1	0.74	29	21.32	1	0.74	0	0.00	3	2.21	96	70.59	2	1.47
2014	LDGT1	19	0	0.00	1	5.26	6	31.58	0	0.00	0	0.00	0	0.00	12	63.16	0	0.00
	LDGT2	28	2	7.14	1	3.57	4	14.29	0	0.00	0	0.00	0	0.00	21	75.00	0	0.00
	LDGV	33	1	3.03	1	3.03	10	30.30	0	0.00	0	0.00	2	6.06	19	57.58	0	0.00
<b>2014 Total</b>		80	3	3.75	3	3.75	20	25.00	0	0.00	0	0.00	2	2.50	52	65.00	0	0.00
2015	LDGT1	5	3	60.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	2	40.00	0	0.00
	LDGT2	9	0	0.00	0	0.00	1	11.11	0	0.00	0	0.00	0	0.00	8	88.89	0	0.00
	LDGV	34	3	8.82	2	5.88	6	17.65	0	0.00	0	0.00	0	0.00	23	67.65	0	0.00
<b>2015 Total</b>		48	6	12.50	2	4.17	7	14.58	0	0.00	0	0.00	0	0.00	33	68.75	0	0.00
2016	LDGT1	1	0	0.00	1	100.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
	LDGV	4	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	3	75.00	1	25.00
<b>2016 Total</b>		5	0	0.00	1	20.00	0	0.00	0	0.00	0	0.00	0	0.00	3	60.00	1	20.00
<b>Grand Total</b>		<b>19,718</b>	<b>1,742</b>	<b>8.83</b>	<b>1,015</b>	<b>5.15</b>	<b>9,318</b>	<b>47.26</b>	<b>85</b>	<b>0.43</b>	<b>62</b>	<b>0.31</b>	<b>550</b>	<b>2.79</b>	<b>6,835</b>	<b>34.66</b>	<b>138</b>	<b>0.70</b>

Initial OBD Inspection Failure Report - Summary by Veh (V 1.03)

Type	Total Fail	Failed OBD Only						Failed Both OBD and Gas Cap						Failed Gas Cap Only		Failed Opacity	
		MIL Commanded on Count	MIL Commanded on %	Visual MIL Count	Visual MIL %	Both MIL Count	Both MIL %	Gas Cap and MIL on Count	Gas Cap and MIL on %	Gas Cap and Visual MIL Count	Gas Cap and Visual MIL %	Both MIL and Gas Cap Count	Both MIL and Gas Cap %	Count	%	Count	%
LDGT1	5,865	506	8.63	151	2.57	2,499	42.61	27	0.46	9	0.15	157	2.68	2,481	42.30	42	0.72
LDGT2	5,997	428	7.14	512	8.54	2,707	45.14	37	0.62	36	0.60	192	3.20	2,055	34.27	41	0.68
LDGV	7,856	808	10.29	352	4.48	4,112	52.34	21	0.27	17	0.22	201	2.56	2,299	29.26	55	0.70
<b>Grand Total</b>		<b>19,718</b>	<b>8.83</b>	<b>1,015</b>	<b>5.15</b>	<b>9,318</b>	<b>47.26</b>	<b>85</b>	<b>0.43</b>	<b>62</b>	<b>0.31</b>	<b>550</b>	<b>2.79</b>	<b>6,835</b>	<b>34.66</b>	<b>138</b>	<b>0.70</b>





## **Appendix A4**

### Initial OBD Fail DTC Report



Date Range  
Between 1/1/2016 and 12/31/2016

## Initial OBD Fail DTC Report (V 1.03)

Model Year	Type	Total Fail	Count of Tests by Number of DTC Present												No DTCs Available	
			0 Count	0 %	1 Count	1 %	2 Count	2 %	3 Count	3 %	4 Count	4 %	>= 5 Count	>= 5 %	Count	%
1996	LDGT1	7	0	0.00	3	42.86	2	28.57	2	28.57	0	0.00	0	0.00	0	0.00
	LDGT2	8	1	12.50	1	12.50	2	25.00	0	0.00	0	0.00	2	25.00	2	25.00
	LDGV	28	3	10.71	7	25.00	3	10.71	4	14.29	1	3.57	5	17.86	5	17.86
<b>1996 Total</b>		<b>43</b>	<b>4</b>	<b>9.30</b>	<b>11</b>	<b>25.58</b>	<b>7</b>	<b>16.28</b>	<b>6</b>	<b>13.95</b>	<b>1</b>	<b>2.33</b>	<b>7</b>	<b>16.28</b>	<b>7</b>	<b>16.28</b>
1997	LDGT1	12	0	0.00	5	41.67	1	8.33	4	33.33	0	0.00	2	16.67	0	0.00
	LDGT2	10	2	20.00	3	30.00	3	30.00	1	10.00	0	0.00	0	0.00	1	10.00
	LDGV	28	2	7.14	10	35.71	6	21.43	3	10.71	2	7.14	4	14.29	1	3.57
<b>1997 Total</b>		<b>50</b>	<b>4</b>	<b>8.00</b>	<b>18</b>	<b>36.00</b>	<b>10</b>	<b>20.00</b>	<b>8</b>	<b>16.00</b>	<b>2</b>	<b>4.00</b>	<b>6</b>	<b>12.00</b>	<b>2</b>	<b>4.00</b>
1998	LDGT1	16	0	0.00	7	43.75	2	12.50	3	18.75	1	6.25	3	18.75	0	0.00
	LDGT2	5	2	40.00	1	20.00	0	0.00	0	0.00	0	0.00	2	40.00	0	0.00
	LDGV	24	0	0.00	9	37.50	4	16.67	3	12.50	0	0.00	5	20.83	3	12.50
<b>1998 Total</b>		<b>45</b>	<b>2</b>	<b>4.44</b>	<b>17</b>	<b>37.78</b>	<b>6</b>	<b>13.33</b>	<b>6</b>	<b>13.33</b>	<b>1</b>	<b>2.22</b>	<b>10</b>	<b>22.22</b>	<b>3</b>	<b>6.67</b>
1999	LDGT1	21	4	19.05	10	47.62	3	14.29	0	0.00	3	14.29	0	0.00	1	4.76
	LDGT2	159	12	7.55	57	35.85	27	16.98	21	13.21	12	7.55	17	10.69	13	8.18
	LDGV	26	1	3.85	8	30.77	9	34.62	3	11.54	3	11.54	1	3.85	1	3.85
<b>1999 Total</b>		<b>206</b>	<b>17</b>	<b>8.25</b>	<b>75</b>	<b>36.41</b>	<b>39</b>	<b>18.93</b>	<b>24</b>	<b>11.65</b>	<b>18</b>	<b>8.74</b>	<b>18</b>	<b>8.74</b>	<b>15</b>	<b>7.28</b>
2000	LDGT1	49	3	6.12	26	53.06	7	14.29	1	2.04	5	10.20	4	8.16	3	6.12
	LDGT2	353	22	6.23	127	35.98	84	23.80	38	10.76	23	6.52	23	6.52	36	10.20
	LDGV	42	3	7.14	17	40.48	7	16.67	3	7.14	4	9.52	5	11.90	3	7.14
<b>2000 Total</b>		<b>444</b>	<b>28</b>	<b>6.31</b>	<b>170</b>	<b>38.29</b>	<b>98</b>	<b>22.07</b>	<b>42</b>	<b>9.46</b>	<b>32</b>	<b>7.21</b>	<b>32</b>	<b>7.21</b>	<b>42</b>	<b>9.46</b>
2001	LDGT1	72	4	5.56	26	36.11	21	29.17	10	13.89	5	6.94	5	6.94	1	1.39
	LDGT2	362	20	5.52	130	35.91	90	24.86	34	9.39	26	7.18	21	5.80	41	11.33
	LDGV	47	1	2.13	22	46.81	10	21.28	2	4.26	3	6.38	8	17.02	1	2.13
<b>2001 Total</b>		<b>481</b>	<b>25</b>	<b>5.20</b>	<b>178</b>	<b>37.01</b>	<b>121</b>	<b>25.16</b>	<b>46</b>	<b>9.56</b>	<b>34</b>	<b>7.07</b>	<b>34</b>	<b>7.07</b>	<b>43</b>	<b>8.94</b>
2002	LDGT1	56	1	1.79	34	60.71	9	16.07	6	10.71	3	5.36	2	3.57	1	1.79
	LDGT2	441	30	6.80	180	40.82	90	20.41	49	11.11	27	6.12	20	4.54	45	10.20
	LDGV	51	1	1.96	25	49.02	10	19.61	8	15.69	3	5.88	3	5.88	1	1.96
<b>2002 Total</b>		<b>548</b>	<b>32</b>	<b>5.84</b>	<b>239</b>	<b>43.61</b>	<b>109</b>	<b>19.89</b>	<b>63</b>	<b>11.50</b>	<b>33</b>	<b>6.02</b>	<b>25</b>	<b>4.56</b>	<b>47</b>	<b>8.58</b>
2003	LDGT1	6	0	0.00	3	50.00	2	33.33	0	0.00	0	0.00	1	16.67	0	0.00
	LDGT2	339	14	4.13	119	35.10	71	20.94	41	12.09	26	7.67	27	7.96	41	12.09
	LDGV	93	1	1.08	30	32.26	29	31.18	14	15.05	6	6.45	11	11.83	2	2.15
<b>2003 Total</b>		<b>438</b>	<b>15</b>	<b>3.42</b>	<b>152</b>	<b>34.70</b>	<b>102</b>	<b>23.29</b>	<b>55</b>	<b>12.56</b>	<b>32</b>	<b>7.31</b>	<b>39</b>	<b>8.90</b>	<b>43</b>	<b>9.82</b>

			Count of Tests by Number of DTC Present												No DTCs Available	
Model Year	Type	Total Fail	0 Count	0 %	1 Count	1 %	2 Count	2 %	3 Count	3 %	4 Count	4 %	>= 5 Count	>= 5 %	Count	%
2004	LDGT1	7	0	0.00	4	57.14	1	14.29	1	14.29	1	14.29	0	0.00	0	0.00
	LDGT2	317	21	6.62	120	37.85	63	19.87	41	12.93	17	5.36	10	3.15	45	14.20
	LDGV	59	0	0.00	17	28.81	21	35.59	7	11.86	3	5.08	8	13.56	3	5.08
<b>2004 Total</b>		<b>383</b>	<b>21</b>	<b>5.48</b>	<b>141</b>	<b>36.81</b>	<b>85</b>	<b>22.19</b>	<b>49</b>	<b>12.79</b>	<b>21</b>	<b>5.48</b>	<b>18</b>	<b>4.70</b>	<b>48</b>	<b>12.53</b>
2005	LDGT1	9	1	11.11	3	33.33	2	22.22	1	11.11	1	11.11	1	11.11	0	0.00
	LDGT2	167	14	8.38	63	37.72	29	17.37	19	11.38	5	2.99	14	8.38	23	13.77
	LDGV	86	1	1.16	21	24.42	30	34.88	15	17.44	3	3.49	14	16.28	2	2.33
<b>2005 Total</b>		<b>262</b>	<b>16</b>	<b>6.11</b>	<b>87</b>	<b>33.21</b>	<b>61</b>	<b>23.28</b>	<b>35</b>	<b>13.36</b>	<b>9</b>	<b>3.44</b>	<b>29</b>	<b>11.07</b>	<b>25</b>	<b>9.54</b>
2006	LDGT1	1,223	38	3.11	580	47.42	314	25.67	132	10.79	63	5.15	58	4.74	38	3.11
	LDGT2	554	36	6.50	239	43.14	127	22.92	59	10.65	26	4.69	38	6.86	29	5.23
	LDGV	1,881	80	4.25	892	47.42	420	22.33	201	10.69	97	5.16	144	7.66	47	2.50
<b>2006 Total</b>		<b>3,658</b>	<b>154</b>	<b>4.21</b>	<b>1,711</b>	<b>46.77</b>	<b>861</b>	<b>23.54</b>	<b>392</b>	<b>10.72</b>	<b>186</b>	<b>5.08</b>	<b>240</b>	<b>6.56</b>	<b>114</b>	<b>3.12</b>
2007	LDGT1	762	18	2.36	385	50.52	170	22.31	76	9.97	55	7.22	52	6.82	6	0.79
	LDGT2	463	14	3.02	216	46.65	120	25.92	44	9.50	22	4.75	22	4.75	25	5.40
	LDGV	1,234	31	2.51	634	51.38	296	23.99	124	10.05	50	4.05	69	5.59	30	2.43
<b>2007 Total</b>		<b>2,459</b>	<b>63</b>	<b>2.56</b>	<b>1,235</b>	<b>50.22</b>	<b>586</b>	<b>23.83</b>	<b>244</b>	<b>9.92</b>	<b>127</b>	<b>5.16</b>	<b>143</b>	<b>5.82</b>	<b>61</b>	<b>2.48</b>
2008	LDGT1	596	11	1.85	326	54.70	116	19.46	68	11.41	34	5.70	33	5.54	8	1.34
	LDGT2	391	12	3.07	198	50.64	92	23.53	38	9.72	16	4.09	28	7.16	7	1.79
	LDGV	972	31	3.19	526	54.12	216	22.22	90	9.26	45	4.63	48	4.94	16	1.65
<b>2008 Total</b>		<b>1,959</b>	<b>54</b>	<b>2.76</b>	<b>1,050</b>	<b>53.60</b>	<b>424</b>	<b>21.64</b>	<b>196</b>	<b>10.01</b>	<b>95</b>	<b>4.85</b>	<b>109</b>	<b>5.56</b>	<b>31</b>	<b>1.58</b>
2009	LDGT1	396	9	2.27	213	53.79	86	21.72	51	12.88	17	4.29	16	4.04	4	1.01
	LDGT2	237	6	2.53	133	56.12	56	23.63	18	7.59	15	6.33	7	2.95	2	0.84
	LDGV	671	24	3.58	346	51.56	173	25.78	57	8.49	34	5.07	30	4.47	7	1.04
<b>2009 Total</b>		<b>1,304</b>	<b>39</b>	<b>2.99</b>	<b>692</b>	<b>53.07</b>	<b>315</b>	<b>24.16</b>	<b>126</b>	<b>9.66</b>	<b>66</b>	<b>5.06</b>	<b>53</b>	<b>4.06</b>	<b>13</b>	<b>1.00</b>
2010	LDGT1	48	0	0.00	31	64.58	8	16.67	4	8.33	1	2.08	1	2.08	3	6.25
	LDGT2	53	0	0.00	38	71.70	11	20.75	2	3.77	0	0.00	1	1.89	1	1.89
	LDGV	125	6	4.80	81	64.80	20	16.00	8	6.40	5	4.00	5	4.00	0	0.00
<b>2010 Total</b>		<b>226</b>	<b>6</b>	<b>2.65</b>	<b>150</b>	<b>66.37</b>	<b>39</b>	<b>17.26</b>	<b>14</b>	<b>6.19</b>	<b>6</b>	<b>2.65</b>	<b>7</b>	<b>3.10</b>	<b>4</b>	<b>1.77</b>
2011	LDGT1	28	1	3.57	22	78.57	4	14.29	1	3.57	0	0.00	0	0.00	0	0.00
	LDGT2	22	0	0.00	13	59.09	6	27.27	1	4.55	1	4.55	1	4.55	0	0.00
	LDGV	46	1	2.17	32	69.57	10	21.74	2	4.35	0	0.00	1	2.17	0	0.00
<b>2011 Total</b>		<b>96</b>	<b>2</b>	<b>2.08</b>	<b>67</b>	<b>69.79</b>	<b>20</b>	<b>20.83</b>	<b>4</b>	<b>4.17</b>	<b>1</b>	<b>1.04</b>	<b>2</b>	<b>2.08</b>	<b>0</b>	<b>0.00</b>
2012	LDGT1	21	0	0.00	12	57.14	6	28.57	2	9.52	1	4.76	0	0.00	0	0.00
	LDGT2	19	0	0.00	14	73.68	1	5.26	1	5.26	0	0.00	3	15.79	0	0.00
	LDGV	48	0	0.00	30	62.50	10	20.83	3	6.25	2	4.17	3	6.25	0	0.00
<b>2012 Total</b>		<b>88</b>	<b>0</b>	<b>0.00</b>	<b>56</b>	<b>63.64</b>	<b>17</b>	<b>19.32</b>	<b>6</b>	<b>6.82</b>	<b>3</b>	<b>3.41</b>	<b>6</b>	<b>6.82</b>	<b>0</b>	<b>0.00</b>

			Count of Tests by Number of DTC Present												No DTCs Available	
Model Year	Type	Total Fail	0 Count	0 %	1 Count	1 %	2 Count	2 %	3 Count	3 %	4 Count	4 %	>= 5 Count	>= 5 %	Count	%
2013	LDGT1	9	1	11.11	5	55.56	2	22.22	0	0.00	0	0.00	1	11.11	0	0.00
	LDGT2	4	0	0.00	4	100.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
	LDGV	25	1	4.00	13	52.00	5	20.00	3	12.00	1	4.00	2	8.00	0	0.00
<b>2013 Total</b>		<b>38</b>	<b>2</b>	<b>5.26</b>	<b>22</b>	<b>57.89</b>	<b>7</b>	<b>18.42</b>	<b>3</b>	<b>7.89</b>	<b>1</b>	<b>2.63</b>	<b>3</b>	<b>7.89</b>	<b>0</b>	<b>0.00</b>
2014	LDGT1	7	0	0.00	5	71.43	1	14.29	0	0.00	0	0.00	0	0.00	1	14.29
	LDGT2	7	0	0.00	4	57.14	2	28.57	0	0.00	0	0.00	1	14.29	0	0.00
	LDGV	14	0	0.00	9	64.29	2	14.29	2	14.29	0	0.00	0	0.00	1	7.14
<b>2014 Total</b>		<b>28</b>	<b>0</b>	<b>0.00</b>	<b>18</b>	<b>64.29</b>	<b>5</b>	<b>17.86</b>	<b>2</b>	<b>7.14</b>	<b>0</b>	<b>0.00</b>	<b>1</b>	<b>3.57</b>	<b>2</b>	<b>7.14</b>
2015	LDGT1	3	0	0.00	2	66.67	1	33.33	0	0.00	0	0.00	0	0.00	0	0.00
	LDGT2	1	0	0.00	1	100.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
	LDGV	11	1	9.09	7	63.64	2	18.18	0	0.00	0	0.00	0	0.00	1	9.09
<b>2015 Total</b>		<b>15</b>	<b>1</b>	<b>6.67</b>	<b>10</b>	<b>66.67</b>	<b>3</b>	<b>20.00</b>	<b>0</b>	<b>0.00</b>	<b>0</b>	<b>0.00</b>	<b>0</b>	<b>0.00</b>	<b>1</b>	<b>6.67</b>
2016	LDGT1	1	1	100.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
	LDGV	0	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
<b>2016 Total</b>		<b>1</b>	<b>1</b>	<b>100.00</b>	<b>0</b>	<b>0.00</b>	<b>0</b>	<b>0.00</b>	<b>0</b>	<b>0.00</b>	<b>0</b>	<b>0.00</b>	<b>0</b>	<b>0.00</b>	<b>0</b>	<b>0.00</b>
<b>Grand Total</b>		<b>12,772</b>	<b>486</b>	<b>3.81</b>	<b>6,099</b>	<b>47.75</b>	<b>2,915</b>	<b>22.82</b>	<b>1,321</b>	<b>10.34</b>	<b>668</b>	<b>5.23</b>	<b>782</b>	<b>6.12</b>	<b>501</b>	<b>3.92</b>

**Initial OBD Fail DTC Report - Summary by Veh (V 1.03)**

		Count of Tests by Number of DTC Present												No DTCs Available		
Type	Total Fail	0 Count	0 %	1 Count	1 %	2 Count	2 %	3 Count	3 %	4 Count	4 %	>= 5 Count	>= 5 %	Count	%	
LDGT1	3,349	92	2.75	1,702	50.82	758	22.63	362	10.81	190	5.67	179	5.34	66	1.97	
LDGT2	3,912	206	5.27	1,661	42.46	874	22.34	407	10.40	216	5.52	237	6.06	311	7.95	
LDGV	5,511	188	3.41	2,736	49.65	1,283	23.28	552	10.02	262	4.75	366	6.64	124	2.25	
<b>Grand Total</b>		<b>12,772</b>	<b>486</b>	<b>3.81</b>	<b>6,099</b>	<b>47.75</b>	<b>2,915</b>	<b>22.82</b>	<b>1,321</b>	<b>10.34</b>	<b>668</b>	<b>5.23</b>	<b>782</b>	<b>6.12</b>	<b>501</b>	<b>3.92</b>



## **Appendix A5**

### **Initial OBD Fail Readiness Monitor Summary Report**









## **Appendix A6**

### OBD Retest Frequency Report







OBD Retest Frequency Report - Summary by Veh (V 1.04)

Type	Total	Avg Retest #	Retest #1 Inspected				Retest #2 Inspected				Retest #3 Inspected				Retest #4 Inspected				Retest >=5 Inspected			
			Count	%	Pass	%	Count	%	Pass	%	Count	%	Pass	%	Count	%	Pass	%	Count	%	Pass	%
LDGT1	6,038	1.16	5,387	89.22	4,842	89.88	466	7.72	316	67.81	119	1.97	69	57.98	42	0.70	22	52.38	24	0.40	11	45.83
LDGT2	6,351	1.21	5,406	85.12	4,572	84.57	681	10.72	453	66.52	172	2.71	93	54.07	64	1.01	36	56.25	28	0.44	19	67.86
LDGV	8,044	1.20	6,974	86.70	6,026	86.41	760	9.45	499	65.66	188	2.34	101	53.72	67	0.83	29	43.28	55	0.68	15	27.27
<b>Overall Total</b>	<b>20,433</b>	<b>1.19</b>	<b>17,767</b>	<b>86.95</b>	<b>15,440</b>	<b>86.90</b>	<b>1,907</b>	<b>9.33</b>	<b>1,268</b>	<b>66.49</b>	<b>479</b>	<b>2.34</b>	<b>263</b>	<b>54.91</b>	<b>173</b>	<b>0.85</b>	<b>87</b>	<b>50.29</b>	<b>107</b>	<b>0.52</b>	<b>45</b>	<b>42.06</b>





## **Appendix A7**

### **Initial OBD Pass DTC Report**



Date Range  
Between 1/1/2016 and 12/31/2016

## Initial OBD Pass DTC Report (V 1.02)

			Count of Tests by Number of DTC Present											
Model Year	Type	Total Pass	0 Count	0 %	1 Count	1 %	2 Count	2 %	3 Count	3 %	4 Count	4 %	>= 5 Count	>= 5 %
1996	LDGT1	35	29	82.86	5	14.29	1	2.86	0	0.00	0	0.00	0	0.00
	LDGT2	13	12	92.31	0	0.00	1	7.69	0	0.00	0	0.00	0	0.00
	LDGV	55	50	90.91	3	5.45	2	3.64	0	0.00	0	0.00	0	0.00
<b>1996 Total</b>		103	91	88.35	8	7.77	4	3.88	0	0.00	0	0.00	0	0.00
1997	LDGT1	85	77	90.59	6	7.06	0	0.00	1	1.18	0	0.00	1	1.18
	LDGT2	22	19	86.36	2	9.09	1	4.55	0	0.00	0	0.00	0	0.00
	LDGV	76	67	88.16	7	9.21	0	0.00	1	1.32	0	0.00	1	1.32
<b>1997 Total</b>		183	163	89.07	15	8.20	1	0.55	2	1.09	0	0.00	2	1.09
1998	LDGT1	105	90	85.71	11	10.48	2	1.90	1	0.95	1	0.95	0	0.00
	LDGT2	16	15	93.75	0	0.00	0	0.00	1	6.25	0	0.00	0	0.00
	LDGV	72	63	87.50	7	9.72	0	0.00	2	2.78	0	0.00	0	0.00
<b>1998 Total</b>		193	168	87.05	18	9.33	2	1.04	4	2.07	1	0.52	0	0.00
1999	LDGT1	133	123	92.48	10	7.52	0	0.00	0	0.00	0	0.00	0	0.00
	LDGT2	551	471	85.48	31	5.63	31	5.63	13	2.36	1	0.18	4	0.73
	LDGV	118	108	91.53	8	6.78	1	0.85	0	0.00	0	0.00	1	0.85
<b>1999 Total</b>		802	702	87.53	49	6.11	32	3.99	13	1.62	1	0.12	5	0.62
2000	LDGT1	381	341	89.50	28	7.35	8	2.10	1	0.26	2	0.52	1	0.26
	LDGT2	1,234	1,073	86.95	87	7.05	43	3.48	23	1.86	7	0.57	1	0.08
	LDGV	174	154	88.51	16	9.20	3	1.72	0	0.00	0	0.00	1	0.57
<b>2000 Total</b>		1,789	1,568	87.65	131	7.32	54	3.02	24	1.34	9	0.50	3	0.17
2001	LDGT1	428	394	92.06	20	4.67	8	1.87	5	1.17	1	0.23	0	0.00
	LDGT2	1,142	981	85.90	82	7.18	42	3.68	27	2.36	4	0.35	6	0.53
	LDGV	270	241	89.26	23	8.52	5	1.85	1	0.37	0	0.00	0	0.00
<b>2001 Total</b>		1,840	1,616	87.83	125	6.79	55	2.99	33	1.79	5	0.27	6	0.33
2002	LDGT1	219	207	94.52	8	3.65	3	1.37	0	0.00	1	0.46	0	0.00
	LDGT2	2,049	1,833	89.46	119	5.81	59	2.88	26	1.27	9	0.44	3	0.15
	LDGV	339	294	86.73	35	10.32	9	2.65	0	0.00	0	0.00	1	0.29
<b>2002 Total</b>		2,607	2,334	89.53	162	6.21	71	2.72	26	1.00	10	0.38	4	0.15
2003	LDGT1	85	77	90.59	5	5.88	3	3.53	0	0.00	0	0.00	0	0.00
	LDGT2	1,516	1,286	84.83	142	9.37	46	3.03	22	1.45	16	1.06	4	0.26
	LDGV	490	434	88.57	45	9.18	9	1.84	1	0.20	0	0.00	1	0.20
<b>2003 Total</b>		2,091	1,797	85.94	192	9.18	58	2.77	23	1.10	16	0.77	5	0.24

			Count of Tests by Number of DTC Present											
Model Year	Type	Total Pass	0 Count	0 %	1 Count	1 %	2 Count	2 %	3 Count	3 %	4 Count	4 %	>= 5 Count	>= 5 %
2004	LDGT1	108	95	87.96	8	7.41	4	3.70	1	0.93	0	0.00	0	0.00
	LDGT2	2,027	1,840	90.77	93	4.59	44	2.17	32	1.58	13	0.64	5	0.25
	LDGV	680	631	92.79	37	5.44	9	1.32	2	0.29	0	0.00	1	0.15
<b>2004 Total</b>		2,815	2,566	91.15	138	4.90	57	2.02	35	1.24	13	0.46	6	0.21
2005	LDGT1	157	138	87.90	14	8.92	4	2.55	1	0.64	0	0.00	0	0.00
	LDGT2	1,543	1,389	90.02	84	5.44	35	2.27	26	1.69	5	0.32	4	0.26
	LDGV	1,040	945	90.87	66	6.35	20	1.92	5	0.48	2	0.19	2	0.19
<b>2005 Total</b>		2,740	2,472	90.22	164	5.99	59	2.15	32	1.17	7	0.26	6	0.22
2006	LDGT1	18,724	17,256	92.16	1,055	5.63	234	1.25	73	0.39	21	0.11	85	0.45
	LDGT2	8,367	7,608	90.93	494	5.90	145	1.73	72	0.86	16	0.19	32	0.38
	LDGV	24,297	22,354	92.00	1,469	6.05	319	1.31	98	0.40	22	0.09	35	0.14
<b>2006 Total</b>		51,388	47,218	91.89	3,018	5.87	698	1.36	243	0.47	59	0.11	152	0.30
2007	LDGT1	15,655	14,646	93.55	770	4.92	151	0.96	43	0.27	15	0.10	30	0.19
	LDGT2	8,930	8,316	93.12	416	4.66	144	1.61	33	0.37	11	0.12	10	0.11
	LDGV	20,745	19,351	93.28	1,031	4.97	241	1.16	63	0.30	32	0.15	27	0.13
<b>2007 Total</b>		45,330	42,313	93.34	2,217	4.89	536	1.18	139	0.31	58	0.13	67	0.15
2008	LDGT1	23,350	22,547	96.56	617	2.64	123	0.53	39	0.17	9	0.04	15	0.06
	LDGT2	11,424	10,836	94.85	400	3.50	129	1.13	32	0.28	14	0.12	13	0.11
	LDGV	26,789	25,472	95.08	1,008	3.76	233	0.87	46	0.17	17	0.06	13	0.05
<b>2008 Total</b>		61,563	58,855	95.60	2,025	3.29	485	0.79	117	0.19	40	0.06	41	0.07
2009	LDGT1	18,598	18,040	97.00	415	2.23	102	0.55	31	0.17	5	0.03	5	0.03
	LDGT2	8,246	7,755	94.05	347	4.21	101	1.22	28	0.34	10	0.12	5	0.06
	LDGV	29,127	28,123	96.55	788	2.71	168	0.58	34	0.12	10	0.03	4	0.01
<b>2009 Total</b>		55,971	53,918	96.33	1,550	2.77	371	0.66	93	0.17	25	0.04	14	0.03
2010	LDGT1	4,030	3,904	96.87	103	2.56	18	0.45	4	0.10	1	0.02	0	0.00
	LDGT2	2,360	2,223	94.19	87	3.69	39	1.65	7	0.30	3	0.13	1	0.04
	LDGV	5,727	5,535	96.65	155	2.71	27	0.47	8	0.14	1	0.02	1	0.02
<b>2010 Total</b>		12,117	11,662	96.24	345	2.85	84	0.69	19	0.16	5	0.04	2	0.02
2011	LDGT1	2,128	2,071	97.32	48	2.26	8	0.38	1	0.05	0	0.00	0	0.00
	LDGT2	1,247	1,193	95.67	41	3.29	10	0.80	1	0.08	2	0.16	0	0.00
	LDGV	2,498	2,399	96.04	84	3.36	12	0.48	3	0.12	0	0.00	0	0.00
<b>2011 Total</b>		5,873	5,663	96.42	173	2.95	30	0.51	5	0.09	2	0.03	0	0.00
2012	LDGT1	1,430	1,394	97.48	27	1.89	7	0.49	2	0.14	0	0.00	0	0.00
	LDGT2	843	815	96.68	23	2.73	3	0.36	1	0.12	1	0.12	0	0.00
	LDGV	2,600	2,511	96.58	69	2.65	18	0.69	0	0.00	1	0.04	1	0.04
<b>2012 Total</b>		4,873	4,720	96.86	119	2.44	28	0.57	3	0.06	2	0.04	1	0.02

			Count of Tests by Number of DTC Present											
Model Year	Type	Total Pass	0 Count	0 %	1 Count	1 %	2 Count	2 %	3 Count	3 %	4 Count	4 %	>= 5 Count	>= 5 %
2013	LDGT1	1,214	1,193	98.27	20	1.65	1	0.08	0	0.00	0	0.00	0	0.00
	LDGT2	602	580	96.35	14	2.33	7	1.16	1	0.17	0	0.00	0	0.00
	LDGV	1,877	1,819	96.91	51	2.72	5	0.27	2	0.11	0	0.00	0	0.00
<b>2013 Total</b>		<b>3,693</b>	<b>3,592</b>	<b>97.27</b>	<b>85</b>	<b>2.30</b>	<b>13</b>	<b>0.35</b>	<b>3</b>	<b>0.08</b>	<b>0</b>	<b>0.00</b>	<b>0</b>	<b>0.00</b>
2014	LDGT1	782	766	97.95	13	1.66	3	0.38	0	0.00	0	0.00	0	0.00
	LDGT2	449	439	97.77	8	1.78	2	0.45	0	0.00	0	0.00	0	0.00
	LDGV	1,063	1,033	97.18	23	2.16	6	0.56	0	0.00	0	0.00	1	0.09
<b>2014 Total</b>		<b>2,294</b>	<b>2,238</b>	<b>97.56</b>	<b>44</b>	<b>1.92</b>	<b>11</b>	<b>0.48</b>	<b>0</b>	<b>0.00</b>	<b>0</b>	<b>0.00</b>	<b>1</b>	<b>0.04</b>
2015	LDGT1	578	571	98.79	7	1.21	0	0.00	0	0.00	0	0.00	0	0.00
	LDGT2	205	205	100.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
	LDGV	738	728	98.64	9	1.22	1	0.14	0	0.00	0	0.00	0	0.00
<b>2015 Total</b>		<b>1,521</b>	<b>1,504</b>	<b>98.88</b>	<b>16</b>	<b>1.05</b>	<b>1</b>	<b>0.07</b>	<b>0</b>	<b>0.00</b>	<b>0</b>	<b>0.00</b>	<b>0</b>	<b>0.00</b>
2016	LDGT1	237	236	99.58	1	0.42	0	0.00	0	0.00	0	0.00	0	0.00
	LDGT2	67	67	100.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
	LDGV	157	157	100.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
<b>2016 Total</b>		<b>461</b>	<b>460</b>	<b>99.78</b>	<b>1</b>	<b>0.22</b>	<b>0</b>	<b>0.00</b>	<b>0</b>	<b>0.00</b>	<b>0</b>	<b>0.00</b>	<b>0</b>	<b>0.00</b>
2017	LDGT1	8	8	100.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
	LDGV	13	13	100.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
<b>2017 Total</b>		<b>21</b>	<b>21</b>	<b>100.00</b>	<b>0</b>	<b>0.00</b>	<b>0</b>	<b>0.00</b>	<b>0</b>	<b>0.00</b>	<b>0</b>	<b>0.00</b>	<b>0</b>	<b>0.00</b>
<b>Grand Total</b>		<b>260,268</b>	<b>245,641</b>	<b>94.38</b>	<b>10,595</b>	<b>4.07</b>	<b>2,650</b>	<b>1.02</b>	<b>814</b>	<b>0.31</b>	<b>253</b>	<b>0.10</b>	<b>315</b>	<b>0.12</b>

Initial OBD Pass DTC Report - Summary by Veh (V 1.02)

			Count of Tests by Number of DTC Present											
Type	Total Pass	0 Count	0 %	1 Count	1 %	2 Count	2 %	3 Count	3 %	4 Count	4 %	>= 5 Count	>= 5 %	
LDGT1	88,470	84,203	95.18	3,191	3.61	680	0.77	203	0.23	56	0.06	137	0.15	
LDGT2	52,853	48,956	92.63	2,470	4.67	882	1.67	345	0.65	112	0.21	88	0.17	
LDGV	118,945	112,482	94.57	4,934	4.15	1,088	0.91	266	0.22	85	0.07	90	0.08	
<b>Grand Total</b>		<b>260,268</b>	<b>245,641</b>	<b>94.38</b>	<b>10,595</b>	<b>4.07</b>	<b>2,650</b>	<b>1.02</b>	<b>814</b>	<b>0.31</b>	<b>253</b>	<b>0.10</b>	<b>315</b>	<b>0.12</b>



## **Appendix A8**

### **Initial OBD Pass Readiness Monitor Summary Report**









## **Appendix A9**

### **OBD Initial Inspection Emissions Report**





			Passing Initial OBD Inspection												Failing Initial OBD Inspection											
Model Year	Type	Overall Total	Count	%	Pass IM240 Count	Pass IM240 %	Pass IM240 Avg HC (gpm)	Pass IM240 Avg CO (gpm)	Pass IM240 Avg Nox (gpm)	Fail IM240 Count	Fail IM240 %	Fail IM240 Avg HC (gpm)	Fail IM240 Avg CO (gpm)	Fail IM240 Avg Nox (gpm)	Count	%	Pass IM240 Count	Pass IM240 %	Pass IM240 Avg HC (gpm)	Pass IM240 Avg CO (gpm)	Pass IM240 Avg Nox (gpm)	Fail IM240 Count	Fail IM240 %	Fail IM240 Avg HC (gpm)	Fail IM240 Avg CO (gpm)	Fail IM240 Avg Nox (gpm)
	LDGV	860	801	93.14	797	99.50	0.03	0.88	0.06	4	0.50	0.13	6.73	1.49	59	6.86	57	96.61	0.05	2.10	0.15	2	3.39	4.71	104.93	0.85
<b>2007 Total</b>		<b>1,806</b>	<b>1,705</b>	<b>94.41</b>	<b>1,693</b>	<b>99.30</b>	<b>0.03</b>	<b>1.05</b>	<b>0.07</b>	<b>12</b>	<b>0.70</b>	<b>0.17</b>	<b>25.12</b>	<b>0.54</b>	<b>101</b>	<b>5.59</b>	<b>99</b>	<b>98.02</b>	<b>0.06</b>	<b>2.01</b>	<b>0.16</b>	<b>2</b>	<b>1.98</b>	<b>4.71</b>	<b>104.93</b>	<b>0.85</b>
2008	LDGT1	1,197	1,169	97.66	1,165	99.66	0.03	0.99	0.06	4	0.34	0.05	11.87	1.20	28	2.34	27	96.43	0.05	2.36	0.07	1	3.57	1.17	79.32	0.28
	LDGT2	402	392	97.51	388	98.98	0.05	1.89	0.07	4	1.02	0.26	19.45	0.35	10	2.49	8	80.00	0.11	3.78	0.16	2	20.00	0.09	24.09	0.89
	LDGV	1,293	1,253	96.91	1,251	99.84	0.03	0.92	0.06	2	0.16	1.11	19.13	2.78	40	3.09	38	95.00	0.07	1.91	0.13	2	5.00	0.33	29.85	1.75
<b>2008 Total</b>		<b>2,892</b>	<b>2,814</b>	<b>97.30</b>	<b>2,804</b>	<b>99.64</b>	<b>0.03</b>	<b>1.08</b>	<b>0.06</b>	<b>10</b>	<b>0.36</b>	<b>0.35</b>	<b>16.35</b>	<b>1.18</b>	<b>78</b>	<b>2.70</b>	<b>73</b>	<b>93.59</b>	<b>0.06</b>	<b>2.28</b>	<b>0.11</b>	<b>5</b>	<b>6.41</b>	<b>0.40</b>	<b>37.44</b>	<b>1.11</b>
2009	LDGT1	884	869	98.30	867	99.77	0.02	1.06	0.06	2	0.23	0.06	18.24	1.18	15	1.70	14	93.33	0.03	2.14	0.07	1	6.67	0.05	0.02	2.94
	LDGT2	310	300	96.77	300	100.00	0.03	1.43	0.06	0	0.00	0.00	0.00	0.00	10	3.23	10	100.00	0.05	2.44	0.12	0	0.00	0.00	0.00	0.00
	LDGV	1,333	1,314	98.57	1,310	99.70	0.02	0.84	0.05	4	0.30	0.22	2.19	3.29	19	1.43	18	94.74	0.05	1.93	0.08	1	5.26	0.00	0.06	3.61
<b>2009 Total</b>		<b>2,527</b>	<b>2,483</b>	<b>98.26</b>	<b>2,477</b>	<b>99.76</b>	<b>0.03</b>	<b>0.99</b>	<b>0.05</b>	<b>6</b>	<b>0.24</b>	<b>0.17</b>	<b>7.54</b>	<b>2.59</b>	<b>44</b>	<b>1.74</b>	<b>42</b>	<b>95.45</b>	<b>0.04</b>	<b>2.12</b>	<b>0.09</b>	<b>2</b>	<b>4.55</b>	<b>0.03</b>	<b>0.04</b>	<b>3.28</b>
2010	LDGT1	75	74	98.67	74	100.00	0.02	0.87	0.05	0	0.00	0.00	0.00	0.00	1	1.33	1	100.00	0.04	1.51	0.05	0	0.00	0.00	0.00	0.00
	LDGT2	28	28	100.00	28	100.00	0.03	1.43	0.04	0	0.00	0.00	0.00	0.00	0	0.00	0	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00
	LDGV	73	71	97.26	71	100.00	0.02	0.75	0.04	0	0.00	0.00	0.00	0.00	2	2.74	2	100.00	0.00	0.71	0.71	0	0.00	0.00	0.00	0.00
<b>2010 Total</b>		<b>176</b>	<b>173</b>	<b>98.30</b>	<b>173</b>	<b>100.00</b>	<b>0.02</b>	<b>0.91</b>	<b>0.04</b>	<b>0</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>3</b>	<b>1.70</b>	<b>3</b>	<b>100.00</b>	<b>0.02</b>	<b>0.98</b>	<b>0.49</b>	<b>0</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>
2011	LDGT1	5	5	100.00	5	100.00	0.03	1.42	0.04	0	0.00	0.00	0.00	0.00	0	0.00	0	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00
	LDGT2	1	1	100.00	1	100.00	0.05	1.34	0.03	0	0.00	0.00	0.00	0.00	0	0.00	0	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00
	LDGV	6	6	100.00	6	100.00	0.02	1.52	0.07	0	0.00	0.00	0.00	0.00	0	0.00	0	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00
<b>2011 Total</b>		<b>12</b>	<b>12</b>	<b>100.00</b>	<b>12</b>	<b>100.00</b>	<b>0.03</b>	<b>1.47</b>	<b>0.05</b>	<b>0</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0</b>	<b>0.00</b>	<b>0</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>
<b>Grand Total</b>		<b>354,159</b>	<b>289,566</b>	<b>81.76</b>	<b>286,035</b>	<b>98.78</b>	<b>0.12</b>	<b>2.19</b>	<b>0.38</b>	<b>3,531</b>	<b>1.22</b>	<b>0.99</b>	<b>15.42</b>	<b>2.27</b>	<b>64,593</b>	<b>18.24</b>	<b>56,799</b>	<b>87.93</b>	<b>0.20</b>	<b>3.57</b>	<b>0.65</b>	<b>7,794</b>	<b>12.07</b>	<b>1.56</b>	<b>23.58</b>	<b>2.37</b>

**OBD Initial Inspection Emissions Report - Summary by Veh (V 1.02)**

		Passing Initial OBD Inspection												Failing Initial OBD Inspection												
Type	Overall Total	Count	%	Pass IM240 Count	Pass IM240 %	Pass IM240 Avg HC (gpm)	Pass IM240 Avg CO (gpm)	Pass IM240 Avg Nox (gpm)	Fail IM240 Count	Fail IM240 %	Fail IM240 Avg HC (gpm)	Fail IM240 Avg CO (gpm)	Fail IM240 Avg Nox (gpm)	Count	%	Pass IM240 Count	Pass IM240 %	Pass IM240 Avg HC (gpm)	Pass IM240 Avg CO (gpm)	Pass IM240 Avg Nox (gpm)	Fail IM240 Count	Fail IM240 %	Fail IM240 Avg HC (gpm)	Fail IM240 Avg CO (gpm)	Fail IM240 Avg Nox (gpm)	
LDGT1	135,181	111,936	82.80	110,589	98.80	0.13	2.36	0.42	1,347	1.20	0.75	16.25	2.46	23,245	17.20	20,499	88.19	0.21	3.86	0.75	2,746	11.81	1.55	26.07	2.56	
LDGT2	50,674	40,636	80.19	39,928	98.26	0.16	2.35	0.52	708	1.74	1.04	14.68	2.75	10,038	19.81	8,467	84.35	0.29	4.09	0.90	1,571	15.65	2.04	25.25	2.83	
LDGV	168,304	136,994	81.40	135,518	98.92	0.11	2.00	0.31	1,476	1.08	1.19	15.01	1.86	31,310	18.60	27,833	88.89	0.18	3.20	0.50	3,477	11.11	1.34	20.85	2.01	
<b>Grand Total</b>		<b>354,159</b>	<b>289,566</b>	<b>81.76</b>	<b>286,035</b>	<b>98.78</b>	<b>0.12</b>	<b>2.19</b>	<b>0.38</b>	<b>3,531</b>	<b>1.22</b>	<b>0.99</b>	<b>15.42</b>	<b>2.27</b>	<b>64,593</b>	<b>18.24</b>	<b>56,799</b>	<b>87.93</b>	<b>0.20</b>	<b>3.57</b>	<b>0.65</b>	<b>7,794</b>	<b>12.07</b>	<b>1.56</b>	<b>23.58</b>	<b>2.37</b>

## **Appendix A10**

### **Initial OBD Incomplete Inspection Report**





Date Range  
Between 1/1/2016 and 12/31/2016

## Initial OBD Incomplete Inspection Report (V 1.00)

Model Year	Type	OBD Total All	Incomplete Total		Unable to Communicate - Communication Error		Unable to Communicate - Inaccessible		MIL Commanded Off and Not Ready		Potential Tampering Readiness Monitors	
			Count	%	Count	%	Count	%	Count	%	Count	%
1996	LDGT1	81	38	46.91	1	2.63	0	0.00	37	97.37	0	0.00
	LDGT2	34	11	32.35	0	0.00	0	0.00	11	100.00	0	0.00
	LDGV	153	68	44.44	7	10.29	2	2.94	59	86.76	0	0.00
<b>1996 Total</b>		<b>268</b>	<b>117</b>	<b>43.66</b>	<b>8</b>	<b>6.84</b>	<b>2</b>	<b>1.71</b>	<b>107</b>	<b>91.45</b>	<b>0</b>	<b>0.00</b>
1997	LDGT1	159	56	35.22	4	7.14	0	0.00	52	92.86	0	0.00
	LDGT2	39	7	17.95	0	0.00	0	0.00	7	100.00	0	0.00
	LDGV	158	54	34.18	5	9.26	0	0.00	49	90.74	0	0.00
<b>1997 Total</b>		<b>356</b>	<b>117</b>	<b>32.87</b>	<b>9</b>	<b>7.69</b>	<b>0</b>	<b>0.00</b>	<b>108</b>	<b>92.31</b>	<b>0</b>	<b>0.00</b>
1998	LDGT1	205	83	40.49	15	18.07	1	1.20	67	80.72	0	0.00
	LDGT2	25	4	16.00	1	25.00	0	0.00	3	75.00	0	0.00
	LDGV	131	32	24.43	4	12.50	0	0.00	28	87.50	0	0.00
<b>1998 Total</b>		<b>361</b>	<b>119</b>	<b>32.96</b>	<b>20</b>	<b>16.81</b>	<b>1</b>	<b>0.84</b>	<b>98</b>	<b>82.35</b>	<b>0</b>	<b>0.00</b>
1999	LDGT1	252	93	36.90	11	11.83	1	1.08	81	87.10	0	0.00
	LDGT2	970	243	25.05	43	17.70	0	0.00	200	82.30	0	0.00
	LDGV	216	68	31.48	4	5.88	0	0.00	64	94.12	0	0.00
<b>1999 Total</b>		<b>1,438</b>	<b>404</b>	<b>28.09</b>	<b>58</b>	<b>14.36</b>	<b>1</b>	<b>0.25</b>	<b>345</b>	<b>85.40</b>	<b>0</b>	<b>0.00</b>
2000	LDGT1	661	194	29.35	27	13.92	1	0.52	166	85.57	0	0.00
	LDGT2	2,223	583	26.23	106	18.18	1	0.17	476	81.65	0	0.00
	LDGV	311	93	29.90	14	15.05	0	0.00	79	84.95	0	0.00
<b>2000 Total</b>		<b>3,195</b>	<b>870</b>	<b>27.23</b>	<b>147</b>	<b>16.90</b>	<b>2</b>	<b>0.23</b>	<b>721</b>	<b>82.87</b>	<b>0</b>	<b>0.00</b>
2001	LDGT1	652	126	19.33	11	8.73	1	0.79	114	90.48	0	0.00
	LDGT2	2,131	564	26.47	140	24.82	0	0.00	423	75.00	1	0.18
	LDGV	453	121	26.71	14	11.57	0	0.00	107	88.43	0	0.00
<b>2001 Total</b>		<b>3,236</b>	<b>811</b>	<b>25.06</b>	<b>165</b>	<b>20.35</b>	<b>1</b>	<b>0.12</b>	<b>644</b>	<b>79.41</b>	<b>1</b>	<b>0.12</b>
2002	LDGT1	350	64	18.29	5	7.81	0	0.00	59	92.19	0	0.00
	LDGT2	3,347	768	22.95	231	30.08	2	0.26	534	69.53	1	0.13
	LDGV	564	159	28.19	17	10.69	0	0.00	142	89.31	0	0.00
<b>2002 Total</b>		<b>4,261</b>	<b>991</b>	<b>23.26</b>	<b>253</b>	<b>25.53</b>	<b>2</b>	<b>0.20</b>	<b>735</b>	<b>74.17</b>	<b>1</b>	<b>0.10</b>
2003	LDGT1	121	24	19.83	1	4.17	0	0.00	23	95.83	0	0.00
	LDGT2	2,529	599	23.69	198	33.06	0	0.00	401	66.94	0	0.00
	LDGV	777	176	22.65	21	11.93	0	0.00	152	86.36	3	1.70
<b>2003 Total</b>		<b>3,427</b>	<b>799</b>	<b>23.31</b>	<b>220</b>	<b>27.53</b>	<b>0</b>	<b>0.00</b>	<b>576</b>	<b>72.09</b>	<b>3</b>	<b>0.38</b>
2004	LDGT1	143	24	16.78	1	4.17	0	0.00	23	95.83	0	0.00
	LDGT2	3,226	776	24.05	318	40.98	2	0.26	456	58.76	0	0.00
	LDGV	969	213	21.98	28	13.15	1	0.47	183	85.92	1	0.47
<b>2004 Total</b>		<b>4,338</b>	<b>1,013</b>	<b>23.35</b>	<b>347</b>	<b>34.25</b>	<b>3</b>	<b>0.30</b>	<b>662</b>	<b>65.35</b>	<b>1</b>	<b>0.10</b>
2005	LDGT1	235	59	25.11	2	3.39	0	0.00	57	96.61	0	0.00
	LDGT2	2,237	486	21.73	231	47.53	0	0.00	255	52.47	0	0.00
	LDGV	1,321	175	13.25	17	9.71	2	1.14	156	89.14	0	0.00
<b>2005 Total</b>		<b>3,793</b>	<b>720</b>	<b>18.98</b>	<b>250</b>	<b>34.72</b>	<b>2</b>	<b>0.28</b>	<b>468</b>	<b>65.00</b>	<b>0</b>	<b>0.00</b>
2006	LDGT1	20,563	94	0.46	13	13.83	0	0.00	77	81.91	4	4.26

Model Year	Type	OBD Total All	Incomplete Total		Unable to Communicate - Communication Error		Unable to Communicate - Inaccessible		MIL Commanded Off and Not Ready		Potential Tampering Readiness Monitors	
			Count	%	Count	%	Count	%	Count	%	Count	%
	LDGT2	9,598	337	3.51	157	46.59	1	0.30	179	53.12	0	0.00
	LDGV	26,979	231	0.86	31	13.42	0	0.00	192	83.12	8	3.46
<b>2006 Total</b>		<b>57,140</b>	<b>662</b>	<b>1.16</b>	<b>201</b>	<b>30.36</b>	<b>1</b>	<b>0.15</b>	<b>448</b>	<b>67.67</b>	<b>12</b>	<b>1.81</b>
2007	LDGT1	17,091	129	0.75	9	6.98	1	0.78	115	89.15	4	3.10
	LDGT2	10,059	377	3.75	102	27.06	0	0.00	275	72.94	0	0.00
	LDGV	22,599	174	0.77	31	17.82	1	0.57	142	81.61	0	0.00
<b>2007 Total</b>		<b>49,749</b>	<b>680</b>	<b>1.37</b>	<b>142</b>	<b>20.88</b>	<b>2</b>	<b>0.29</b>	<b>532</b>	<b>78.24</b>	<b>4</b>	<b>0.59</b>
2008	LDGT1	24,592	58	0.24	13	22.41	0	0.00	45	77.59	0	0.00
	LDGT2	12,569	293	2.33	65	22.18	1	0.34	227	77.47	0	0.00
	LDGV	28,404	168	0.59	26	15.48	1	0.60	137	81.55	4	2.38
<b>2008 Total</b>		<b>65,565</b>	<b>519</b>	<b>0.79</b>	<b>104</b>	<b>20.04</b>	<b>2</b>	<b>0.39</b>	<b>409</b>	<b>78.81</b>	<b>4</b>	<b>0.77</b>
2009	LDGT1	19,554	48	0.25	13	27.08	1	2.08	34	70.83	0	0.00
	LDGT2	8,944	156	1.74	32	20.51	1	0.64	122	78.21	1	0.64
	LDGV	30,361	144	0.47	24	16.67	1	0.69	117	81.25	2	1.39
<b>2009 Total</b>		<b>58,859</b>	<b>348</b>	<b>0.59</b>	<b>69</b>	<b>19.83</b>	<b>3</b>	<b>0.86</b>	<b>273</b>	<b>78.45</b>	<b>3</b>	<b>0.86</b>
2010	LDGT1	4,201	7	0.17	3	42.86	0	0.00	4	57.14	0	0.00
	LDGT2	2,562	66	2.58	13	19.70	0	0.00	52	78.79	1	1.52
	LDGV	6,029	52	0.86	4	7.69	0	0.00	48	92.31	0	0.00
<b>2010 Total</b>		<b>12,792</b>	<b>125</b>	<b>0.98</b>	<b>20</b>	<b>16.00</b>	<b>0</b>	<b>0.00</b>	<b>104</b>	<b>83.20</b>	<b>1</b>	<b>0.80</b>
2011	LDGT1	2,217	3	0.14	1	33.33	0	0.00	2	66.67	0	0.00
	LDGT2	1,348	17	1.26	0	0.00	1	5.88	16	94.12	0	0.00
	LDGV	2,619	20	0.76	2	10.00	0	0.00	16	80.00	2	10.00
<b>2011 Total</b>		<b>6,184</b>	<b>40</b>	<b>0.65</b>	<b>3</b>	<b>7.50</b>	<b>1</b>	<b>2.50</b>	<b>34</b>	<b>85.00</b>	<b>2</b>	<b>5.00</b>
2012	LDGT1	1,485	3	0.20	0	0.00	1	33.33	2	66.67	0	0.00
	LDGT2	926	28	3.02	4	14.29	0	0.00	24	85.71	0	0.00
	LDGV	2,749	28	1.02	4	14.29	0	0.00	23	82.14	1	3.57
<b>2012 Total</b>		<b>5,160</b>	<b>59</b>	<b>1.14</b>	<b>8</b>	<b>13.56</b>	<b>1</b>	<b>1.69</b>	<b>49</b>	<b>83.05</b>	<b>1</b>	<b>1.69</b>
2013	LDGT1	1,250	3	0.24	0	0.00	0	0.00	3	100.00	0	0.00
	LDGT2	647	7	1.08	2	28.57	0	0.00	5	71.43	0	0.00
	LDGV	1,962	20	1.02	2	10.00	0	0.00	18	90.00	0	0.00
<b>2013 Total</b>		<b>3,859</b>	<b>30</b>	<b>0.78</b>	<b>4</b>	<b>13.33</b>	<b>0</b>	<b>0.00</b>	<b>26</b>	<b>86.67</b>	<b>0</b>	<b>0.00</b>
2014	LDGT1	804	3	0.37	1	33.33	1	33.33	1	33.33	0	0.00
	LDGT2	479	2	0.42	2	100.00	0	0.00	0	0.00	0	0.00
	LDGV	1,099	3	0.27	0	0.00	0	0.00	3	100.00	0	0.00
<b>2014 Total</b>		<b>2,382</b>	<b>8</b>	<b>0.34</b>	<b>3</b>	<b>37.50</b>	<b>1</b>	<b>12.50</b>	<b>4</b>	<b>50.00</b>	<b>0</b>	<b>0.00</b>
2015	LDGT1	585	2	0.34	1	50.00	0	0.00	0	0.00	1	50.00
	LDGT2	216	2	0.93	0	0.00	0	0.00	2	100.00	0	0.00
	LDGV	774	2	0.26	2	100.00	0	0.00	0	0.00	0	0.00
<b>2015 Total</b>		<b>1,575</b>	<b>6</b>	<b>0.38</b>	<b>3</b>	<b>50.00</b>	<b>0</b>	<b>0.00</b>	<b>2</b>	<b>33.33</b>	<b>1</b>	<b>16.67</b>
2016	LDGT1	240	2	0.83	0	0.00	0	0.00	0	0.00	2	100.00
	LDGT2	67	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
	LDGV	163	2	1.23	0	0.00	0	0.00	2	100.00	0	0.00
<b>2016 Total</b>		<b>470</b>	<b>4</b>	<b>0.85</b>	<b>0</b>	<b>0.00</b>	<b>0</b>	<b>0.00</b>	<b>2</b>	<b>50.00</b>	<b>2</b>	<b>50.00</b>
2017	LDGT1	8	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
	LDGV	14	1	7.14	0	0.00	0	0.00	1	100.00	0	0.00

			Incomplete Total		Unable to Communicate - Communication Error		Unable to Communicate - Inaccessible		MIL Commanded Off and Not Ready		Potential Tampering Readiness Monitors	
Model Year	Type	OBD Total All	Count	%	Count	%	Count	%	Count	%	Count	%
2017 Total		22	1	4.55	0	0.00	0	0.00	1	100.00	0	0.00
Grand Total		288,430	8,443	2.93	2,034	24.09	25	0.30	6,348	75.19	36	0.43

Initial OBD Incomplete Inspection Report - Summary by Veh (V 1.00)

		Incomplete Total		Unable to Communicate - Communication Error		Unable to Communicate - Inaccessible		MIL Commanded Off and Not Ready		Potential Tampering Readiness Monitors	
Type	OBD Total All	Count	%	Count	%	Count	%	Count	%	Count	%
LDGT1	95,449	1,113	1.17	132	11.86	8	0.72	962	86.43	11	0.99
LDGT2	64,176	5,326	8.30	1,645	30.89	9	0.17	3,668	68.87	4	0.08
LDGV	128,805	2,004	1.56	257	12.82	8	0.40	1,718	85.73	21	1.05
Grand Total	288,430	8,443	2.93	2,034	24.09	25	0.30	6,348	75.19	36	0.43



## **Appendix A11**

### **OBD Retest Incomplete Inspection Report**



Date Range  
Between 1/1/2016 and 12/31/2016

## OBD Retest Incomplete Inspection Report (V 1.00)

Model Year	Type	OBD Retest Total All	Incomplete Total		Unable to Communicate - Communication Error		Unable to Communicate - Inaccessible		MIL Commanded Off and Not Ready		Potential Tampering Readiness Monitors		Retest # 1	
			Count	%	Count	%	Count	%	Count	%	Count	%	Count	%
1996	LDGT1	11	6	54.55	0	0.00	0	0.00	6	100.00	0	0.00	6	100.00
	LDGT2	14	2	14.29	0	0.00	0	0.00	2	100.00	0	0.00	0	0.00
	LDGV	52	30	57.69	1	3.33	0	0.00	29	96.67	0	0.00	24	80.00
<b>1996 Total</b>		<b>77</b>	<b>38</b>	<b>49.35</b>	<b>1</b>	<b>2.63</b>	<b>0</b>	<b>0.00</b>	<b>37</b>	<b>97.37</b>	<b>0</b>	<b>0.00</b>	<b>30</b>	<b>78.95</b>
1997	LDGT1	24	11	45.83	0	0.00	0	0.00	11	100.00	0	0.00	6	54.55
	LDGT2	28	17	60.71	0	0.00	0	0.00	17	100.00	0	0.00	10	58.82
	LDGV	54	29	53.70	2	6.90	1	0.03	26	89.66	0	0.00	14	48.28
<b>1997 Total</b>		<b>106</b>	<b>57</b>	<b>53.77</b>	<b>2</b>	<b>3.51</b>	<b>1</b>	<b>0.02</b>	<b>54</b>	<b>94.74</b>	<b>0</b>	<b>0.00</b>	<b>30</b>	<b>52.63</b>
1998	LDGT1	32	14	43.75	1	7.14	0	0.00	13	92.86	0	0.00	10	71.43
	LDGT2	24	17	70.83	3	17.65	0	0.00	14	82.35	0	0.00	5	29.41
	LDGV	48	18	37.50	1	5.56	1	0.06	16	88.89	0	0.00	15	83.33
<b>1998 Total</b>		<b>104</b>	<b>49</b>	<b>47.12</b>	<b>5</b>	<b>10.20</b>	<b>1</b>	<b>0.02</b>	<b>43</b>	<b>87.76</b>	<b>0</b>	<b>0.00</b>	<b>30</b>	<b>61.22</b>
1999	LDGT1	57	25	43.86	0	0.00	0	0.00	25	100.00	0	0.00	19	76.00
	LDGT2	366	164	44.81	8	4.88	0	0.00	156	95.12	0	0.00	101	61.59
	LDGV	76	37	48.68	4	10.81	0	0.00	33	89.19	0	0.00	30	81.08
<b>1999 Total</b>		<b>499</b>	<b>226</b>	<b>45.29</b>	<b>12</b>	<b>5.31</b>	<b>0</b>	<b>0.00</b>	<b>214</b>	<b>94.69</b>	<b>0</b>	<b>0.00</b>	<b>150</b>	<b>66.37</b>
2000	LDGT1	132	56	42.42	0	0.00	0	0.00	56	100.00	0	0.00	43	76.79
	LDGT2	903	423	46.84	21	4.96	1	0.00	401	94.80	0	0.00	287	67.85
	LDGV	86	36	41.86	1	2.78	0	0.00	35	97.22	0	0.00	25	69.44
<b>2000 Total</b>		<b>1,121</b>	<b>515</b>	<b>45.94</b>	<b>22</b>	<b>4.27</b>	<b>1</b>	<b>0.00</b>	<b>492</b>	<b>95.53</b>	<b>0</b>	<b>0.00</b>	<b>355</b>	<b>68.93</b>
2001	LDGT1	147	40	27.21	1	2.50	0	0.00	39	97.50	0	0.00	23	57.50
	LDGT2	840	352	41.90	17	4.83	0	0.00	335	95.17	0	0.00	243	69.03
	LDGV	109	47	43.12	2	4.26	0	0.00	45	95.74	0	0.00	25	53.19
<b>2001 Total</b>		<b>1,096</b>	<b>439</b>	<b>40.05</b>	<b>20</b>	<b>4.56</b>	<b>0</b>	<b>0.00</b>	<b>419</b>	<b>95.44</b>	<b>0</b>	<b>0.00</b>	<b>291</b>	<b>66.29</b>
2002	LDGT1	108	47	43.52	0	0.00	0	0.00	47	100.00	0	0.00	38	80.85
	LDGT2	1,004	409	40.74	25	6.11	0	0.00	384	93.89	0	0.00	312	76.28
	LDGV	142	65	45.77	2	3.08	0	0.00	63	96.92	0	0.00	52	80.00
<b>2002 Total</b>		<b>1,254</b>	<b>521</b>	<b>41.55</b>	<b>27</b>	<b>5.18</b>	<b>0</b>	<b>0.00</b>	<b>494</b>	<b>94.82</b>	<b>0</b>	<b>0.00</b>	<b>402</b>	<b>77.16</b>
2003	LDGT1	15	6	40.00	0	0.00	0	0.00	6	100.00	0	0.00	6	100.00
	LDGT2	815	317	38.90	27	8.52	1	0.00	289	91.17	0	0.00	233	73.50
	LDGV	214	92	42.99	4	4.35	0	0.00	85	92.39	3	3.26	59	64.13
<b>2003 Total</b>		<b>1,044</b>	<b>415</b>	<b>39.75</b>	<b>31</b>	<b>7.47</b>	<b>1</b>	<b>0.00</b>	<b>380</b>	<b>91.57</b>	<b>3</b>	<b>0.72</b>	<b>298</b>	<b>71.81</b>
2004	LDGT1	16	8	50.00	0	0.00	0	0.00	8	100.00	0	0.00	8	100.00
	LDGT2	675	230	34.07	18	7.83	0	0.00	212	92.17	0	0.00	191	83.04
	LDGV	134	44	32.84	1	2.27	0	0.00	43	97.73	0	0.00	23	52.27
<b>2004 Total</b>		<b>825</b>	<b>282</b>	<b>34.18</b>	<b>19</b>	<b>6.74</b>	<b>0</b>	<b>0.00</b>	<b>263</b>	<b>93.26</b>	<b>0</b>	<b>0.00</b>	<b>222</b>	<b>78.72</b>
2005	LDGT1	475	214	45.05	7	3.27	2	0.01	205	95.79	0	0.00	138	64.49
	LDGT2	506	230	45.45	24	10.43	0	0.00	206	89.57	0	0.00	192	83.48
	LDGV	849	386	45.47	18	4.66	2	0.01	366	94.82	0	0.00	245	63.47
<b>2005 Total</b>		<b>1,830</b>	<b>830</b>	<b>45.36</b>	<b>49</b>	<b>5.90</b>	<b>4</b>	<b>0.00</b>	<b>777</b>	<b>93.61</b>	<b>0</b>	<b>0.00</b>	<b>575</b>	<b>69.28</b>

Model Year	Type	OBD Retest Total All	Incomplete Total		Unable to Communicate - Communication Error		Unable to Communicate - Inaccessible		MIL Commanded Off and Not Ready		Potential Tampering Readiness Monitors		Retest # 1	
			Count	%	Count	%	Count	%	Count	%	Count	%	Count	%
2006	LDGT1	2,783	1,009	36.26	43	4.26	1	0.00	965	95.64	0	0.00	857	84.94
	LDGT2	1,364	448	32.84	13	2.90	1	0.00	434	96.88	0	0.00	373	83.26
	LDGV	3,920	1,469	37.47	62	4.22	6	0.00	1,397	95.10	4	0.27	1,197	81.48
<b>2006 Total</b>		<b>8,067</b>	<b>2,926</b>	<b>36.27</b>	<b>118</b>	<b>4.03</b>	<b>8</b>	<b>0.00</b>	<b>2,796</b>	<b>95.56</b>	<b>4</b>	<b>0.14</b>	<b>2,427</b>	<b>82.95</b>
2007	LDGT1	1,983	633	31.92	16	2.53	2	0.00	615	97.16	0	0.00	553	87.36
	LDGT2	1,088	352	32.35	13	3.69	0	0.00	339	96.31	0	0.00	304	86.36
	LDGV	2,627	947	36.05	33	3.48	1	0.00	913	96.41	0	0.00	819	86.48
<b>2007 Total</b>		<b>5,698</b>	<b>1,932</b>	<b>33.91</b>	<b>62</b>	<b>3.21</b>	<b>3</b>	<b>0.00</b>	<b>1,867</b>	<b>96.64</b>	<b>0</b>	<b>0.00</b>	<b>1,676</b>	<b>86.75</b>
2008	LDGT1	1,624	476	29.31	13	2.73	0	0.00	463	97.27	0	0.00	412	86.55
	LDGT2	1,155	310	26.84	3	0.97	0	0.00	307	99.03	0	0.00	281	90.65
	LDGV	2,106	724	34.38	20	2.76	4	0.01	700	96.69	0	0.00	610	84.25
<b>2008 Total</b>		<b>4,885</b>	<b>1,510</b>	<b>30.91</b>	<b>36</b>	<b>2.38</b>	<b>4</b>	<b>0.00</b>	<b>1,470</b>	<b>97.35</b>	<b>0</b>	<b>0.00</b>	<b>1,303</b>	<b>86.29</b>
2009	LDGT1	1,111	248	22.32	4	1.61	1	0.00	243	97.98	0	0.00	226	91.13
	LDGT2	728	192	26.37	3	1.56	0	0.00	189	98.44	0	0.00	171	89.06
	LDGV	1,540	503	32.66	17	3.38	6	0.01	480	95.43	0	0.00	452	89.86
<b>2009 Total</b>		<b>3,379</b>	<b>943</b>	<b>27.91</b>	<b>24</b>	<b>2.55</b>	<b>7</b>	<b>0.01</b>	<b>912</b>	<b>96.71</b>	<b>0</b>	<b>0.00</b>	<b>849</b>	<b>90.03</b>
2010	LDGT1	190	31	16.32	1	3.23	0	0.00	30	96.77	0	0.00	25	80.65
	LDGT2	155	30	19.35	0	0.00	0	0.00	30	100.00	0	0.00	27	90.00
	LDGV	324	100	30.86	2	2.00	0	0.00	98	98.00	0	0.00	80	80.00
<b>2010 Total</b>		<b>669</b>	<b>161</b>	<b>24.07</b>	<b>3</b>	<b>1.86</b>	<b>0</b>	<b>0.00</b>	<b>158</b>	<b>98.14</b>	<b>0</b>	<b>0.00</b>	<b>132</b>	<b>81.99</b>
2011	LDGT1	100	24	24.00	1	4.17	0	0.00	23	95.83	0	0.00	24	100.00
	LDGT2	86	13	15.12	0	0.00	0	0.00	13	100.00	0	0.00	11	84.62
	LDGV	119	25	21.01	0	0.00	0	0.00	25	100.00	0	0.00	22	88.00
<b>2011 Total</b>		<b>305</b>	<b>62</b>	<b>20.33</b>	<b>1</b>	<b>1.61</b>	<b>0</b>	<b>0.00</b>	<b>61</b>	<b>98.39</b>	<b>0</b>	<b>0.00</b>	<b>57</b>	<b>91.94</b>
2012	LDGT1	48	10	20.83	0	0.00	0	0.00	10	100.00	0	0.00	10	100.00
	LDGT2	56	14	25.00	0	0.00	0	0.00	14	100.00	0	0.00	14	100.00
	LDGV	117	22	18.80	0	0.00	0	0.00	22	100.00	0	0.00	22	100.00
<b>2012 Total</b>		<b>221</b>	<b>46</b>	<b>20.81</b>	<b>0</b>	<b>0.00</b>	<b>0</b>	<b>0.00</b>	<b>46</b>	<b>100.00</b>	<b>0</b>	<b>0.00</b>	<b>46</b>	<b>100.00</b>
2013	LDGT1	30	5	16.67	0	0.00	0	0.00	5	100.00	0	0.00	5	100.00
	LDGT2	36	1	2.78	0	0.00	0	0.00	1	100.00	0	0.00	1	100.00
	LDGV	63	13	20.63	1	7.69	0	0.00	12	92.31	0	0.00	13	100.00
<b>2013 Total</b>		<b>129</b>	<b>19</b>	<b>14.73</b>	<b>1</b>	<b>5.26</b>	<b>0</b>	<b>0.00</b>	<b>18</b>	<b>94.74</b>	<b>0</b>	<b>0.00</b>	<b>19</b>	<b>100.00</b>
2014	LDGT1	15	2	13.33	0	0.00	0	0.00	2	100.00	0	0.00	2	100.00
	LDGT2	24	2	8.33	0	0.00	0	0.00	2	100.00	0	0.00	2	100.00
	LDGV	32	10	31.25	0	0.00	0	0.00	10	100.00	0	0.00	10	100.00
<b>2014 Total</b>		<b>71</b>	<b>14</b>	<b>19.72</b>	<b>0</b>	<b>0.00</b>	<b>0</b>	<b>0.00</b>	<b>14</b>	<b>100.00</b>	<b>0</b>	<b>0.00</b>	<b>14</b>	<b>100.00</b>
2015	LDGT1	4	2	50.00	0	0.00	0	0.00	2	100.00	0	0.00	2	100.00
	LDGT2	7	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
	LDGV	33	5	15.15	0	0.00	0	0.00	5	100.00	0	0.00	5	100.00
<b>2015 Total</b>		<b>44</b>	<b>7</b>	<b>15.91</b>	<b>0</b>	<b>0.00</b>	<b>0</b>	<b>0.00</b>	<b>7</b>	<b>100.00</b>	<b>0</b>	<b>0.00</b>	<b>7</b>	<b>100.00</b>
2016	LDGV	1	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
<b>2016 Total</b>		<b>1</b>	<b>0</b>	<b>0.00</b>	<b>0</b>	<b>0.00</b>	<b>0</b>	<b>0.00</b>	<b>0</b>	<b>0.00</b>	<b>0</b>	<b>0.00</b>	<b>0</b>	<b>0.00</b>
<b>Grand Total</b>		<b>31,425</b>	<b>10,992</b>	<b>34.98</b>	<b>433</b>	<b>3.94</b>	<b>30</b>	<b>0.00</b>	<b>10,522</b>	<b>95.72</b>	<b>7</b>	<b>0.06</b>	<b>8,913</b>	<b>81.09</b>

OBD Retest Incomplete Inspection Report - Summary by Veh (V 1.00)



Type	OBD Retest Total All	Incomplete Total		Unable to Communicate - Communication Error		Unable to Communicate - Inaccessible		MIL Commanded Off and Not Ready		Potential Tampering Readiness Monitors		Retest # 1	
		Count	%	Count	%	Count	%	Count	%	Count	%	Count	%
LDGT1	8,905	2,867	32.20	87	3.03	6	0.00	2,774	96.76	0	0.00	2,413	84.16
LDGT2	9,874	3,523	35.68	175	4.97	3	0.00	3,345	94.95	0	0.00	2,758	78.29
LDGV	12,646	4,602	36.39	171	3.72	21	0.00	4,403	95.68	7	0.15	3,742	81.31
<b>Grand Total</b>	<b>31,425</b>	<b>10,992</b>	<b>34.98</b>	<b>433</b>	<b>3.94</b>	<b>30</b>	<b>0.00</b>	<b>10,522</b>	<b>95.72</b>	<b>7</b>	<b>0.06</b>	<b>8,913</b>	<b>81.09</b>



## **Appendix B1**

### I/M240 Initial Inspection Report



Date  
Between 1/1/2016 and 12/31/2016

## Initial Inspection Report (V1.01)

Vehicle		All Initial Inspections				Passing Initial Inspections					Failing Initial Inspections				
Year	Type	Total	Avg HC (gpm)	Avg CO (gpm)	Avg NOx (gpm)	Total	Total %	Avg HC (gpm)	Avg CO (gpm)	Avg NOx (gpm)	Total	Total %	Avg HC (gpm)	Avg CO (gpm)	Avg NOx (gpm)
1982	LDGV	240	2.6406	30.8586	2.0302	181	75.42%	1.6677	19.8098	2.0167	59	24.58%	5.6251	64.7539	2.0716
	LDGT1	257	2.8923	38.1804	2.8693	184	71.60%	2.2487	29.1382	2.9700	73	28.40%	4.5145	60.9718	2.6155
	LDGT2	54	3.6909	60.4971	2.3265	30	55.56%	2.1622	32.9551	2.3103	24	44.44%	5.6018	94.9247	2.3467
<b>1982 Total</b>		551	2.8609	37.1784	2.4506	395	71.69%	1.9759	25.1536	2.4831	156	28.31%	5.1018	67.6257	2.3685
1983	LDGV	296	1.9345	23.9221	1.9383	220	74.32%	1.2089	12.1370	2.0079	76	25.68%	4.0352	58.0367	1.7368
	LDGT1	278	3.1396	40.5504	2.4488	188	67.63%	2.7134	31.5816	2.4607	90	32.37%	4.0299	59.2851	2.4240
	LDGT2	94	3.2602	51.9207	2.8358	59	62.77%	2.4518	32.7784	3.0453	35	37.23%	4.6229	84.1890	2.4826
<b>1983 Total</b>		668	2.6226	34.7822	2.2771	467	69.91%	1.9716	22.5726	2.3213	201	30.09%	4.1351	63.1496	2.1744
1984	LDGV	696	1.8101	19.6142	1.8720	533	76.58%	1.2149	10.9921	1.9087	163	23.42%	3.7563	47.8080	1.7519
	LDGT1	581	2.6291	35.5091	2.3976	433	74.53%	1.9755	22.9513	2.5279	148	25.47%	4.5412	72.2491	2.0163
	LDGT2	230	3.4833	51.5632	2.9936	140	60.87%	2.1808	25.9043	3.2183	90	39.13%	5.5096	91.4769	2.6440
<b>1984 Total</b>		1507	2.3812	30.6183	2.2458	1106	73.39%	1.6349	17.5617	2.3169	401	26.61%	4.4395	66.6297	2.0497
1985	LDGV	713	1.3436	15.3395	1.9272	565	79.24%	0.9874	10.5607	1.9034	148	20.76%	2.7036	33.5828	2.0181
	LDGT1	653	2.3869	28.6595	2.6421	482	73.81%	1.8170	18.1733	2.6459	171	26.19%	3.9932	58.2170	2.6313
	LDGT2	202	3.0420	44.3863	2.7408	121	59.90%	1.9650	22.4486	2.8714	81	40.10%	4.6510	77.1575	2.5457
<b>1985 Total</b>		1568	1.9969	24.6287	2.3297	1168	74.49%	1.4310	14.9337	2.3101	400	25.51%	3.6492	52.9378	2.3871
1986	LDGV	1134	1.1771	12.8310	1.8691	949	83.69%	0.8715	7.8965	1.8247	185	16.31%	2.7448	38.1433	2.0970
	LDGT1	1183	1.9443	21.9429	2.4349	941	79.54%	1.5231	15.4923	2.4392	242	20.46%	3.5819	47.0256	2.4180
	LDGT2	298	2.4481	35.0456	2.7743	189	63.42%	1.8172	19.6447	2.7790	109	36.58%	3.5420	61.7498	2.7662
<b>1986 Total</b>		2615	1.6690	19.4846	2.2282	2079	79.50%	1.2524	12.4026	2.1896	536	20.50%	3.2849	46.9542	2.3780
1987	LDGV	1102	1.1607	10.9612	1.8447	940	85.30%	0.8673	7.7105	1.7889	162	14.70%	2.8633	29.8230	2.1681
	LDGT1	1021	1.7250	20.9654	2.3094	819	80.22%	1.3732	14.3586	2.2768	202	19.78%	3.1513	47.7523	2.4414
	LDGT2	326	2.2752	21.9506	2.9094	226	69.33%	1.8083	13.8404	2.8870	100	30.67%	3.3304	40.2796	2.9599
<b>1987 Total</b>		2449	1.5443	16.5949	2.1801	1985	81.05%	1.1832	11.1514	2.1152	464	18.95%	3.0893	39.8820	2.4577
1988	LDGV	1659	1.0045	11.1974	1.5490	1431	86.26%	0.7085	7.6481	1.5179	228	13.74%	2.8624	33.4743	1.7444
	LDGT1	1627	1.5495	15.9941	2.2059	1343	82.54%	1.2539	11.7051	2.1400	284	17.46%	2.9470	36.2763	2.5176
	LDGT2	569	1.7781	16.5096	2.8155	452	79.44%	1.4464	11.9370	2.6551	117	20.56%	3.0597	34.1746	3.4352
<b>1988 Total</b>		3855	1.3487	14.0059	2.0132	3226	83.68%	1.0389	9.9380	1.9362	629	16.32%	2.9373	34.8697	2.4080
1989	LDGV	1732	0.9848	10.8196	1.6585	1482	85.57%	0.7167	7.6088	1.6088	250	14.43%	2.5741	29.8527	1.9532
	LDGT1	1697	1.5162	17.6369	2.1430	1366	80.49%	1.1475	12.2468	2.0509	331	19.51%	3.0380	39.8809	2.5232
	LDGT2	657	1.7748	15.9696	2.8020	515	78.39%	1.4298	12.2408	2.6646	142	21.61%	3.0258	29.4933	3.3006
<b>1989 Total</b>		4086	1.3325	14.4790	2.0436	3363	82.31%	1.0009	10.2020	1.9500	723	17.69%	2.8752	34.3732	2.4788
1990	LDGV	3218	0.8369	9.7877	1.5973	2846	88.44%	0.6422	7.3140	1.5440	372	11.56%	2.3263	28.7128	2.0047
	LDGT1	2118	1.3339	14.5396	2.1522	1742	82.25%	1.0757	10.4563	2.0547	376	17.75%	2.5301	33.4576	2.6039
	LDGT2	860	1.6815	16.8380	2.6642	701	81.51%	1.4081	13.5720	2.5566	159	18.49%	2.8870	31.2374	3.1382
<b>1990 Total</b>		6196	1.1240	12.3907	1.9350	5289	85.36%	0.8865	9.1784	1.8464	907	14.64%	2.5091	31.1223	2.4518
1991	LDGV	3455	0.7846	9.8864	1.5128	2946	85.27%	0.5719	6.7596	1.4232	509	14.73%	2.0156	27.9839	2.0314
	LDGT1	2373	1.1438	13.8044	1.8394	1993	83.99%	0.9199	10.5044	1.7436	380	16.01%	2.3181	31.1118	2.3418
	LDGT2	738	1.6252	18.9925	2.5277	558	75.61%	1.2661	14.7114	2.4137	180	24.39%	2.7384	32.2638	2.8809

Vehicle		All Initial Inspections				Passing Initial Inspections					Failing Initial Inspections				
Year	Type	Total	Avg HC (gpm)	Avg CO (gpm)	Avg NOx (gpm)	Total	Total %	Avg HC (gpm)	Avg CO (gpm)	Avg NOx (gpm)	Total	Total %	Avg HC (gpm)	Avg CO (gpm)	Avg NOx (gpm)
<b>1991 Total</b>		6566	1.0089	12.3259	1.7449	5497	83.72%	0.7685	8.9245	1.6399	1069	16.28%	2.2448	29.8165	2.2848
1992	LDGV	4636	0.6723	8.1611	1.4310	4039	87.12%	0.5171	5.9425	1.3681	597	12.88%	1.7225	23.1710	1.8562
	LDGT1	2873	1.0745	11.8748	1.7904	2488	86.60%	0.8835	9.7213	1.6941	385	13.40%	2.3088	25.7917	2.4128
	LDGT2	1377	1.6837	16.9075	2.5139	1106	80.32%	1.3453	13.6017	2.4110	271	19.68%	3.0647	30.3990	2.9339
<b>1992 Total</b>		8886	0.9591	10.7172	1.7150	7633	85.90%	0.7565	8.2840	1.6255	1253	14.10%	2.1929	25.5395	2.2603
1993	LDGV	4939	0.6877	7.9431	1.5178	4317	87.41%	0.5248	5.6094	1.4318	622	12.59%	1.8181	24.1401	2.1143
	LDGT1	3611	1.1102	12.1389	2.0870	3098	85.79%	0.9171	9.5993	1.9592	513	14.21%	2.2763	27.4755	2.8591
	LDGT2	1444	1.7653	17.2573	2.6119	1140	78.95%	1.3735	14.1337	2.4513	304	21.05%	3.2345	28.9709	3.2137
<b>1993 Total</b>		9994	0.9961	10.8049	1.8815	8555	85.60%	0.7800	8.1902	1.7586	1439	14.40%	2.2807	26.3497	2.6121
1994	LDGV	6585	0.5622	6.4780	1.2089	5837	88.64%	0.3977	4.9214	1.1345	748	11.36%	1.8459	18.6249	1.7898
	LDGT1	5421	0.8878	10.0288	1.8344	4675	86.24%	0.7073	7.8654	1.7033	746	13.76%	2.0189	23.5860	2.6560
	LDGT2	2783	1.2561	13.9194	2.2642	2157	77.51%	0.9572	10.4721	2.0714	626	22.49%	2.2860	25.7975	2.9284
<b>1994 Total</b>		14789	0.8121	9.1799	1.6368	12669	85.67%	0.6072	6.9528	1.5039	2120	14.33%	2.0368	22.4886	2.4308
1995	LDGV	8363	0.5214	6.3724	1.0854	7429	88.83%	0.3848	4.7028	1.0105	934	11.17%	1.6079	19.6521	1.6810
	LDGT1	5577	0.8855	10.0374	1.8880	4767	85.48%	0.6678	7.7045	1.7312	810	14.52%	2.1671	23.7664	2.8109
	LDGT2	3275	1.2188	13.6792	2.2094	2529	77.22%	0.8966	10.3700	2.0259	746	22.78%	2.3108	24.8978	2.8314
<b>1995 Total</b>		17215	0.7720	8.9497	1.5592	14725	85.54%	0.5643	6.6479	1.4182	2490	14.46%	2.0004	22.5621	2.3932
1996	LDGV	10858	0.3688	4.7752	0.8529	9876	90.96%	0.2910	3.7163	0.7883	982	9.04%	1.1507	15.4251	1.5024
	LDGT1	7131	0.4862	6.5648	1.4703	6230	87.37%	0.3736	5.0409	1.3592	901	12.63%	1.2650	17.1019	2.2379
	LDGT2	3460	0.6206	7.5473	1.4623	2979	86.10%	0.4739	5.8948	1.3226	481	13.90%	1.5295	17.7818	2.3274
<b>1996 Total</b>		21449	0.4484	5.8174	1.1564	19085	88.98%	0.3465	4.4887	1.0581	2364	11.02%	1.2713	16.5437	1.9506
1997	LDGV	12618	0.3815	5.1160	0.8235	11330	89.79%	0.2962	3.8781	0.7619	1288	10.21%	1.1322	16.0051	1.3659
	LDGT1	9905	0.4276	6.4164	1.3973	8507	85.89%	0.3319	4.9795	1.2572	1398	14.11%	1.0099	15.1604	2.2498
	LDGT2	4025	0.5738	7.5114	1.5341	3351	83.25%	0.4032	5.7132	1.3529	674	16.75%	1.4219	16.4521	2.4350
<b>1997 Total</b>		26548	0.4279	5.9644	1.1453	23188	87.34%	0.3248	4.5474	1.0290	3360	12.66%	1.1394	15.7433	1.9481
1998	LDGV	16716	0.2914	4.3847	0.6832	15048	90.02%	0.2290	3.4657	0.6200	1668	9.98%	0.8540	12.6755	1.2525
	LDGT1	14248	0.3600	5.2391	1.1753	12598	88.42%	0.2921	4.3169	1.0480	1650	11.58%	0.8782	12.2802	2.1471
	LDGT2	5390	0.4387	6.0026	1.3223	4609	85.51%	0.3195	4.4578	1.1456	781	14.49%	1.1425	15.1190	2.3654
<b>1998 Total</b>		36354	0.3401	4.9594	0.9708	32255	88.72%	0.2666	3.9399	0.8623	4099	11.28%	0.9187	12.9819	1.8247
1999	LDGV	17626	0.2643	4.0309	0.6549	15894	90.17%	0.2032	3.1318	0.5835	1732	9.83%	0.8251	12.2816	1.3103
	LDGT1	13301	0.2774	4.6403	0.9062	11755	88.38%	0.2241	3.6879	0.7873	1546	11.62%	0.6826	11.8825	1.8103
	LDGT2	6735	0.3922	4.9422	1.1111	5635	83.67%	0.2554	3.3007	0.8856	1100	16.33%	1.0930	13.3509	2.2666
<b>1999 Total</b>		37662	0.2918	4.4091	0.8253	33284	88.38%	0.2194	3.3568	0.7066	4378	11.62%	0.8421	12.4093	1.7271
2000	LDGV	24935	0.2025	3.3669	0.5218	22862	91.69%	0.1510	2.6345	0.4479	2073	8.31%	0.7695	11.4440	1.3378
	LDGT1	18186	0.2513	3.9205	0.7950	16288	89.56%	0.2037	3.0486	0.6937	1898	10.44%	0.6603	11.4025	1.6642
	LDGT2	7494	0.2684	3.9266	0.8153	6656	88.82%	0.2015	2.9871	0.6885	838	11.18%	0.8001	11.3883	1.8225
<b>2000 Total</b>		50615	0.2298	3.6487	0.6634	45806	90.50%	0.1771	2.8330	0.5703	4809	9.50%	0.7317	11.4179	1.5511
2001	LDGV	22679	0.1575	2.9173	0.3970	20955	92.40%	0.1136	2.3587	0.3353	1724	7.60%	0.6917	9.7070	1.1468
	LDGT1	16184	0.1725	3.5603	0.5209	14660	90.58%	0.1271	2.8029	0.4459	1524	9.42%	0.6100	10.8462	1.2422
	LDGT2	6999	0.2730	3.8374	0.7101	6270	89.58%	0.2025	2.8969	0.6073	729	10.42%	0.8790	11.9259	1.5936
<b>2001 Total</b>		45862	0.1805	3.2846	0.4885	41885	91.33%	0.1316	2.5947	0.4148	3977	8.67%	0.6947	10.5503	1.2653
2002	LDGV	29176	0.1278	2.9554	0.3362	27121	92.96%	0.0937	2.5578	0.2724	2055	7.04%	0.5780	8.2032	1.1780
	LDGT1	22951	0.1340	3.7637	0.4240	21386	93.18%	0.1041	3.0813	0.3663	1565	6.82%	0.5422	13.0883	1.2132

Vehicle		All Initial Inspections				Passing Initial Inspections					Failing Initial Inspections				
Year	Type	Total	Avg HC (gpm)	Avg CO (gpm)	Avg NOx (gpm)	Total	Total %	Avg HC (gpm)	Avg CO (gpm)	Avg NOx (gpm)	Total	Total %	Avg HC (gpm)	Avg CO (gpm)	Avg NOx (gpm)
	LDGT2	7556	0.1985	2.9214	0.6786	6861	90.80%	0.1568	2.3322	0.5896	695	9.20%	0.6096	8.7374	1.5563
<b>2002 Total</b>		59683	0.1391	3.2619	0.4133	55368	92.77%	0.1056	2.7320	0.3480	4315	7.23%	0.5701	10.0610	1.2517
2003	LDGV	24125	0.1029	2.0673	0.2911	22384	92.78%	0.0723	1.6651	0.2373	1741	7.22%	0.4962	7.2391	0.9828
	LDGT1	17397	0.1154	2.5169	0.3573	16116	92.64%	0.0890	1.9385	0.3090	1281	7.36%	0.4486	9.7946	0.9643
	LDGT2	7328	0.1858	2.7202	0.4826	6725	91.77%	0.1368	2.0394	0.4078	603	8.23%	0.7327	10.3133	1.3172
<b>2003 Total</b>		48850	0.1198	2.3254	0.3434	45225	92.58%	0.0879	1.8182	0.2882	3625	7.42%	0.5187	8.6535	1.0319
2004	LDGV	28374	0.0803	1.6513	0.1959	26696	94.09%	0.0548	1.3560	0.1593	1678	5.91%	0.4849	6.3493	0.7771
	LDGT1	25807	0.0823	1.9671	0.2117	24277	94.07%	0.0619	1.5332	0.1803	1530	5.93%	0.4047	8.8513	0.7094
	LDGT2	10533	0.0994	1.9147	0.2384	9791	92.96%	0.0750	1.4665	0.1919	742	7.04%	0.4219	7.8295	0.8512
<b>2004 Total</b>		64714	0.0842	1.8201	0.2091	60764	93.90%	0.0609	1.4446	0.1730	3950	6.10%	0.4420	7.5965	0.7648
2005	LDGV	24034	0.0688	1.5167	0.1744	22614	94.09%	0.0469	1.2051	0.1390	1420	5.91%	0.4182	6.4802	0.7387
	LDGT1	21054	0.0657	1.4013	0.1424	20140	95.66%	0.0565	1.2121	0.1200	914	4.34%	0.2689	5.5719	0.6375
	LDGT2	6895	0.1364	2.1573	0.2623	6475	93.91%	0.0872	1.5134	0.1973	420	6.09%	0.8953	12.0842	1.2636
<b>2005 Total</b>		51983	0.0765	1.5550	0.1731	49229	94.70%	0.0561	1.2485	0.1389	2754	5.30%	0.4414	7.0334	0.7851
2006	LDGV	4626	0.0873	1.8656	0.1785	4372	94.51%	0.0484	1.3844	0.1162	254	5.49%	0.7578	10.1476	1.2508
	LDGT1	3663	0.0592	1.6352	0.1564	3436	93.80%	0.0483	1.3707	0.1245	227	6.20%	0.2241	5.6384	0.6388
	LDGT2	1388	0.1045	2.0139	0.2456	1304	93.95%	0.0755	1.5544	0.1724	84	6.05%	0.5541	9.1472	1.3823
<b>2006 Total</b>		9677	0.0791	1.7997	0.1798	9112	94.16%	0.0522	1.4036	0.1274	565	5.84%	0.5131	8.1872	1.0245
2007	LDGV	3179	0.0773	1.6801	0.1453	3020	95.00%	0.0430	1.2347	0.0988	159	5.00%	0.7291	10.1395	1.0288
	LDGT1	2218	0.0453	1.6597	0.1132	2105	94.91%	0.0410	1.3723	0.0995	113	5.09%	0.1265	7.0135	0.3702
	LDGT2	1137	0.1023	1.9830	0.2118	1066	93.76%	0.0618	1.2403	0.1167	71	6.24%	0.7100	13.1334	1.6397
<b>2007 Total</b>		6534	0.0708	1.7259	0.1460	6191	94.75%	0.0455	1.2824	0.1021	343	5.25%	0.5266	9.7294	0.9383
2008	LDGV	3362	0.0551	1.4571	0.1257	3228	96.01%	0.0388	1.1990	0.0840	134	3.99%	0.4461	7.6758	1.1295
	LDGT1	2679	0.0381	1.3115	0.1083	2563	95.67%	0.0333	1.1697	0.0839	116	4.33%	0.1430	4.4460	0.6466
	LDGT2	1209	0.0779	2.1400	0.1360	1125	93.05%	0.0519	1.6475	0.0940	84	6.95%	0.4261	8.7371	0.6988
<b>2008 Total</b>		7250	0.0526	1.5172	0.1210	6916	95.39%	0.0389	1.2611	0.0856	334	4.61%	0.3358	6.8210	0.8534
2009	LDGV	2950	0.0476	1.2267	0.1116	2867	97.19%	0.0342	1.0831	0.0719	83	2.81%	0.5107	6.1879	1.4820
	LDGT1	1729	0.0312	1.2813	0.0824	1673	96.76%	0.0295	1.2242	0.0704	56	3.24%	0.0814	2.9858	0.4420
	LDGT2	847	0.0427	1.2801	0.0824	799	94.33%	0.0427	1.2750	0.0816	48	5.67%	0.0422	1.3665	0.0958
<b>2009 Total</b>		5526	0.0417	1.2520	0.0980	5339	96.62%	0.0340	1.1560	0.0729	187	3.38%	0.2619	3.9914	0.8147
2010	LDGV	546	0.1344	1.8214	0.1420	516	94.51%	0.0386	1.3445	0.0827	30	5.49%	1.7809	10.0228	1.1620
	LDGT1	375	0.0313	1.1664	0.0703	355	94.67%	0.0316	1.1232	0.0713	20	5.33%	0.0268	1.9339	0.0530
	LDGT2	240	0.0556	1.3440	0.1166	218	90.83%	0.0492	1.1286	0.0785	22	9.17%	0.1193	3.4787	0.4946
<b>2010 Total</b>		1161	0.0848	1.5111	0.1136	1089	93.80%	0.0384	1.2291	0.0781	72	6.20%	0.7859	5.7763	0.6500
2011	LDGV	311	0.0895	2.1519	0.1953	292	93.89%	0.0322	1.6747	0.0729	19	6.11%	0.9696	9.4859	2.0767
	LDGT1	187	0.0321	1.4133	0.0904	182	97.33%	0.0324	1.4253	0.0699	5	2.67%	0.0220	0.9743	0.8400
	LDGT2	119	0.0397	0.9879	0.1017	117	98.32%	0.0384	0.9577	0.0828	2	1.68%	0.1154	2.7571	1.2126
<b>2011 Total</b>		617	0.0625	1.7035	0.1455	591	95.79%	0.0335	1.4559	0.0739	26	4.21%	0.7217	7.3314	1.7724
2012	LDGV	265	0.0544	1.5994	0.0937	253	95.47%	0.0350	1.4354	0.0716	12	4.53%	0.4646	5.0572	0.5599
	LDGT1	98	0.0298	1.3976	0.0630	96	97.96%	0.0300	1.4140	0.0634	2	2.04%	0.0201	0.6112	0.0432
	LDGT2	78	0.0683	1.2301	0.1246	74	94.87%	0.0402	0.8041	0.0638	4	5.13%	0.5882	9.1116	1.2483
<b>2012 Total</b>		441	0.0514	1.4892	0.0924	423	95.92%	0.0348	1.3201	0.0684	18	4.08%	0.4427	5.4642	0.6555
2013	LDGV	180	0.0328	1.5107	0.0603	174	96.67%	0.0295	1.3810	0.0601	6	3.33%	0.1266	5.2720	0.0653

Vehicle		All Initial Inspections				Passing Initial Inspections					Failing Initial Inspections				
Year	Type	Total	Avg HC (gpm)	Avg CO (gpm)	Avg NOx (gpm)	Total	Total %	Avg HC (gpm)	Avg CO (gpm)	Avg NOx (gpm)	Total	Total %	Avg HC (gpm)	Avg CO (gpm)	Avg NOx (gpm)
	LDGT1	41	0.0242	0.9026	0.0520	41	100.00%	0.0242	0.9026	0.0520	0	0.00%	0.0000	0.0000	0.0000
	LDGT2	27	0.0277	0.6542	0.0652	27	100.00%	0.0277	0.6542	0.0652	0	0.00%	0.0000	0.0000	0.0000
<b>2013 Total</b>		248	0.0308	1.3169	0.0595	242	97.58%	0.0284	1.2188	0.0593	6	2.42%	0.1266	5.2720	0.0653
2014	LDGV	87	0.0765	1.5121	0.1887	80	91.95%	0.0267	1.0924	0.0459	7	8.05%	0.6454	6.3079	1.8210
	LDGT1	22	0.0228	0.8673	0.0532	22	100.00%	0.0228	0.8673	0.0532	0	0.00%	0.0000	0.0000	0.0000
	LDGT2	12	0.0263	0.4382	0.0329	12	100.00%	0.0263	0.4382	0.0329	0	0.00%	0.0000	0.0000	0.0000
<b>2014 Total</b>		121	0.0617	1.2883	0.1486	114	94.21%	0.0259	0.9801	0.0459	7	5.79%	0.6454	6.3079	1.8210
2015	LDGV	28	0.1201	1.8474	0.1896	27	96.43%	0.0490	1.1011	0.0883	1	3.57%	2.0416	21.9973	2.9240
	LDGT1	12	0.0277	1.0930	0.0504	12	100.00%	0.0277	1.0930	0.0504	0	0.00%	0.0000	0.0000	0.0000
	LDGT2	5	0.0275	0.7683	0.0370	5	100.00%	0.0275	0.7683	0.0370	0	0.00%	0.0000	0.0000	0.0000
<b>2015 Total</b>		45	0.0852	1.5263	0.1355	44	97.78%	0.0407	1.0611	0.0721	1	2.22%	2.0416	21.9973	2.9240
2016	LDGV	8	0.0255	0.7433	0.0513	8	100.00%	0.0255	0.7433	0.0513	0	0.00%	0.0000	0.0000	0.0000
	LDGT1	7	0.0184	0.5181	0.0511	7	100.00%	0.0184	0.5181	0.0511	0	0.00%	0.0000	0.0000	0.0000
	LDGT2	6	0.0299	0.5347	0.0349	6	100.00%	0.0299	0.5347	0.0349	0	0.00%	0.0000	0.0000	0.0000
<b>2016 Total</b>		21	0.0244	0.6086	0.0465	21	100.00%	0.0244	0.6086	0.0465	0	0.00%	0.0000	0.0000	0.0000
2017	LDGT1	1	0.0303	0.5996	0.0438	1	100.00%	0.0303	0.5996	0.0438	0	0.00%	0.0000	0.0000	0.0000
	LDGT2	1	0.0213	0.3491	0.0357	1	100.00%	0.0213	0.3491	0.0357	0	0.00%	0.0000	0.0000	0.0000
<b>2017 Total</b>		2	0.0258	0.4744	0.0398	2	100.00%	0.0258	0.4744	0.0398	0	0.00%	0.0000	0.0000	0.0000
<b>Overall Total</b>		<b>556308</b>	<b>0.3165</b>	<b>4.5052</b>	<b>0.7041</b>	<b>504330</b>	<b>90.66%</b>	<b>0.2289</b>	<b>3.3281</b>	<b>0.6078</b>	<b>51978</b>	<b>9.34%</b>	<b>1.1656</b>	<b>15.9266</b>	<b>1.6381</b>

**Summary by Vehicle Type (V1.01)**

Vehicle Type	All Initial Inspections				Passing Initial Inspections					Failing Initial Inspections				
	Total	Avg HC (gpm)	Avg CO (gpm)	Avg NOx (gpm)	Total	Total %	Avg HC (gpm)	Avg CO (gpm)	Avg NOx (gpm)	Total	Total %	Avg HC (gpm)	Avg CO (gpm)	Avg NOx (gpm)
LDGV	265451	0.2547	3.7559	0.5587	243332	91.67%	0.1832	2.8300	0.4893	22119	8.33%	1.0414	13.9409	1.3227
LDGT1	206466	0.3352	4.9306	0.7789	186969	90.56%	0.2517	3.6898	0.6785	19497	9.44%	1.1365	16.8287	1.7417
LDGT2	84391	0.4648	5.8217	0.9782	74029	87.72%	0.3219	4.0516	0.8189	10362	12.28%	1.4853	18.4678	2.1167
<b>Overall Total</b>	<b>556308</b>	<b>0.3165</b>	<b>4.5052</b>	<b>0.7041</b>	<b>504330</b>	<b>90.66%</b>	<b>0.2289</b>	<b>3.3281</b>	<b>0.6078</b>	<b>51978</b>	<b>9.34%</b>	<b>1.1656</b>	<b>15.9266</b>	<b>1.6381</b>



## **Appendix B2**

### **I/M240 Initial Failure Report**



Date  
Between 1/1/2016 and 12/31/2016

Initial Failure Report (V1.03)

Vehicle		Failure for Both Exhaust and Other					Failure for Exhaust Only					Failure for Other				
Year	Type	Total	Total%	Avg HC(gpm)	Avg CO(gpm)	Avg NOx (gpm)	Total	Total%	Avg HC(gpm)	Avg CO(gpm)	Avg NOx(gpm)	Total	Total%	Avg HC(gpm)	Avg CO(gpm)	Avg NOx(gpm)
1982	LDGT1	9	3.50%	4.7105	100.1824	1.8950	30	11.67%	7.0341	85.8379	2.1804	34	13.23%	2.2395	28.6518	3.1902
	LDGT2	4	7.41%	5.1784	125.1273	1.9700	11	20.37%	7.7882	128.9472	1.9705	9	16.67%	3.1178	39.9184	2.9740
	LDGV	11	4.58%	11.2923	102.5082	1.8155	31	12.92%	5.7496	77.2161	1.9022	17	7.08%	1.7309	17.5996	2.5463
<b>1982 Total</b>		24	4.36%	7.8051	105.4059	1.8711	72	13.07%	6.5963	88.7119	2.0285	60	10.89%	2.2272	27.2103	2.9753
1983	LDGT1	12	4.32%	5.0939	86.5378	2.0439	32	11.51%	5.2088	87.1159	1.9727	46	16.55%	2.9321	32.8151	2.8371
	LDGT2	3	3.19%	7.8989	131.0716	1.8983	20	21.28%	5.2503	106.8748	2.1486	12	12.77%	2.7583	34.6588	3.1853
	LDGV	13	4.39%	3.9920	81.7056	1.9798	48	16.22%	4.9132	66.1919	1.5196	15	5.07%	1.2629	11.4273	2.2212
<b>1983 Total</b>		28	4.19%	4.8828	89.0658	1.9985	100	14.97%	5.0752	81.0241	1.7904	73	10.93%	2.5605	28.7234	2.7678
1984	LDGT1	27	4.65%	6.5159	105.6589	1.8821	57	9.81%	6.5162	110.9063	1.4144	64	11.02%	1.9491	23.7254	2.6090
	LDGT2	18	7.83%	8.9014	144.8860	1.9528	52	22.61%	5.6406	97.0005	2.7520	20	8.70%	2.1161	29.0476	2.9854
	LDGV	26	3.74%	7.3943	88.2655	1.6414	81	11.64%	4.2025	58.9169	1.5882	56	8.05%	1.4219	12.9560	2.0401
<b>1984 Total</b>		71	4.71%	7.4423	109.2344	1.8119	190	12.61%	5.2902	84.9366	1.8546	140	9.29%	1.7621	20.1779	2.4352
1985	LDGT1	33	5.05%	6.1775	79.2672	2.4636	75	11.49%	4.9355	82.2416	2.4615	63	9.65%	1.7274	18.5900	2.9213
	LDGT2	18	8.91%	8.0091	123.9412	2.2819	40	19.80%	4.7874	88.4794	2.3717	23	11.39%	1.7855	20.8541	3.0545
	LDGV	17	2.38%	3.3602	33.8133	2.2781	96	13.46%	3.1316	41.6472	1.9480	35	4.91%	1.2106	11.3512	2.0842
<b>1985 Total</b>		68	4.34%	5.9580	79.7292	2.3691	211	13.46%	4.0867	64.9546	2.2108	121	7.72%	1.5890	16.9265	2.7045
1986	LDGT1	28	2.37%	5.1036	105.2920	1.8202	104	8.79%	5.1789	64.2170	2.4847	110	9.30%	1.6847	15.9404	2.5071
	LDGT2	25	8.39%	3.9055	68.0159	3.5947	53	17.79%	4.3924	83.8127	2.4645	31	10.40%	1.7948	18.9761	2.6141
	LDGV	22	1.94%	5.0850	73.6315	1.5785	122	10.76%	2.8850	41.7382	2.2898	41	3.62%	1.0718	8.4038	1.8015
<b>1986 Total</b>		75	2.87%	4.6988	83.5795	2.3408	279	10.67%	4.0264	58.1101	2.3956	182	6.96%	1.5654	14.7597	2.3664
1987	LDGT1	22	2.15%	3.7500	70.1607	2.5095	122	11.95%	3.8373	59.7859	2.3728	58	5.68%	1.4811	13.9405	2.5598
	LDGT2	14	4.29%	5.3184	74.0892	3.2175	47	14.42%	4.0630	52.4268	3.2075	39	11.96%	1.7339	13.5038	2.5690
	LDGV	16	1.45%	4.7694	44.8710	2.6334	101	9.17%	3.4293	36.9229	2.3417	45	4.08%	0.9153	8.5374	1.6131
<b>1987 Total</b>		52	2.12%	4.4859	63.4369	2.7383	270	11.02%	3.7240	49.9524	2.5065	142	5.80%	1.3712	12.1083	2.2623
1988	LDGT1	27	1.66%	4.5559	53.1890	3.2256	142	8.73%	3.9557	52.5709	2.5612	115	7.07%	1.3237	12.1852	2.2975
	LDGT2	16	2.81%	6.6707	90.1059	4.5951	59	10.37%	3.0602	33.6927	3.7337	42	7.38%	1.6834	13.5445	2.5740
	LDGV	19	1.15%	4.6482	48.0584	1.9582	155	9.34%	3.3936	40.8539	1.7687	54	3.25%	0.7093	7.1605	1.5995
<b>1988 Total</b>		62	1.61%	5.1300	61.1437	3.1906	356	9.23%	3.5626	44.3407	2.4104	211	5.47%	1.2381	11.1699	2.1739
1989	LDGT1	40	2.36%	3.7117	55.9942	3.5486	182	10.72%	3.9188	51.9355	2.5076	109	6.42%	1.3201	13.8400	2.1729
	LDGT2	18	2.74%	3.7467	34.9373	4.8831	72	10.96%	4.0392	40.9920	3.4940	52	7.91%	1.3731	11.6876	2.4850
	LDGV	20	1.15%	3.1904	33.3628	2.4753	148	8.55%	3.4584	41.0309	2.0534	82	4.73%	0.8279	8.8214	1.6451
<b>1989 Total</b>		78	1.91%	3.5861	45.3320	3.5813	402	9.84%	3.7709	45.9608	2.5171	243	5.95%	1.1653	11.6859	2.0616
1990	LDGT1	37	1.75%	4.4431	48.9575	3.8287	208	9.82%	3.0235	44.7985	2.6814	131	6.19%	1.2062	11.0727	2.1350
	LDGT2	18	2.09%	3.0586	24.9575	3.5875	82	9.53%	3.8703	46.1655	3.3238	59	6.86%	1.4681	12.4059	2.7431
	LDGV	26	0.81%	2.7670	26.9226	3.2901	225	6.99%	3.1529	40.4793	2.0910	121	3.76%	0.6944	7.2175	1.5681
<b>1990 Total</b>		81	1.31%	3.5974	36.5513	3.6022	515	8.31%	3.2149	43.1291	2.5258	311	5.02%	1.0568	9.8257	2.0298
1991	LDGT1	34	1.43%	4.8513	49.0682	3.1744	196	8.26%	2.8865	43.1641	2.5302	150	6.32%	1.0011	11.2934	1.9068
	LDGT2	21	2.85%	4.4418	54.3704	3.3583	100	13.55%	3.2374	37.6710	3.1386	59	7.99%	1.2864	15.2307	2.2742
	LDGV	36	1.04%	3.7021	33.0342	2.7815	323	9.35%	2.4492	37.0005	2.1723	150	4.34%	0.6773	7.3560	1.5481
<b>1991 Total</b>		91	1.39%	4.3022	43.9487	3.0614	619	9.43%	2.7150	39.0605	2.4417	359	5.47%	0.9127	10.2954	1.8173
1992	LDGT1	29	1.01%	6.2513	50.5630	3.1728	183	6.37%	2.9947	37.2307	2.8391	173	6.02%	0.9224	9.5390	1.8345



Vehicle		Failure for Both Exhaust and Other					Failure for Exhaust Only					Failure for Other				
Year	Type	Total	Total%	Avg HC(gpm)	Avg CO(gpm)	Avg NOx (gpm)	Total	Total%	Avg HC(gpm)	Avg CO(gpm)	Avg NOx(gpm)	Total	Total%	Avg HC(gpm)	Avg CO(gpm)	Avg NOx(gpm)
	LDGT2	17	0.23%	2.3371	34.0655	2.6989	206	2.81%	1.6426	22.5188	2.7117	380	5.19%	0.1677	2.6341	0.4994
	LDGV	45	0.19%	1.8750	21.6043	2.0299	601	2.49%	1.1388	16.2045	2.2079	1,095	4.54%	0.0869	1.7280	0.2673
<b>2003 Total</b>		92	0.19%	1.6391	22.5444	2.3152	1,193	2.44%	1.2415	20.6510	2.2907	2,340	4.79%	0.1062	1.9907	0.3396
2004	LDGT1	27	0.10%	1.0539	26.7073	2.5129	397	1.54%	1.2754	27.3972	2.0056	1,106	4.29%	0.0763	1.7583	0.2001
	LDGT2	9	0.09%	3.0683	70.5121	2.9879	163	1.55%	1.3876	25.4947	2.8972	570	5.41%	0.1039	1.7882	0.2324
	LDGV	31	0.11%	2.0337	17.7862	2.4886	476	1.68%	1.4235	17.7197	2.1429	1,171	4.13%	0.0624	1.4245	0.1766
<b>2004 Total</b>		67	0.10%	1.7778	28.4638	2.5655	1,036	1.60%	1.3611	22.6515	2.2090	2,847	4.40%	0.0761	1.6270	0.1969
2005	LDGT1	14	0.07%	0.6133	9.0722	3.6141	171	0.81%	1.0559	22.7501	2.4573	729	3.46%	0.0777	1.4753	0.1534
	LDGT2	10	0.15%	1.1900	21.0464	2.8763	169	2.45%	2.0005	26.1420	2.6250	241	3.50%	0.1080	1.8544	0.2419
	LDGV	18	0.07%	1.5346	31.9746	2.7386	369	1.54%	1.3977	20.1986	2.2799	1,033	4.30%	0.0489	1.1356	0.1533
<b>2005 Total</b>		42	0.08%	1.1455	21.7385	3.0632	709	1.36%	1.4589	22.2307	2.4049	2,003	3.85%	0.0665	1.3457	0.1640
2006	LDGT1	2	0.05%	0.1458	4.4086	2.7851	45	1.23%	0.9300	22.7076	2.5559	180	4.91%	0.0484	1.3848	0.1357
	LDGT2	1	0.07%	0.8151	16.1598	1.7851	38	2.74%	1.0801	16.9246	2.6896	45	3.24%	0.1042	2.4239	0.2695
	LDGV	1	0.02%	0.6398	9.7517	2.0887	121	2.62%	1.5245	19.8469	2.4439	132	2.85%	0.0560	1.2596	0.1509
<b>2006 Total</b>		4	0.04%	0.4366	8.6822	2.3610	204	2.11%	1.3105	19.9336	2.5143	357	3.69%	0.0583	1.4695	0.1582
2007	LDGT1	1	0.05%	0.2697	6.8202	2.1260	28	1.26%	0.3855	23.4586	1.1960	84	3.79%	0.0385	1.5341	0.0741
	LDGT2	4	0.35%	3.3142	19.5103	5.6431	29	2.55%	1.1867	26.8743	3.0216	38	3.34%	0.0721	1.9757	0.1637
	LDGV	1	0.03%	0.4622	24.5757	1.8136	75	2.36%	1.5038	19.6231	2.0668	83	2.61%	0.0323	1.3960	0.0814
<b>2007 Total</b>		6	0.09%	2.3315	18.2395	4.4187	132	2.02%	1.1969	22.0298	2.0918	205	3.14%	0.0422	1.5600	0.0937
2008	LDGT1	0	0.00%	0.0000	0.0000	0.0000	24	0.90%	0.5393	15.1529	2.7125	92	3.43%	0.0396	1.6529	0.1077
	LDGT2	4	0.33%	1.4435	17.5088	3.0251	26	2.15%	1.0310	22.0033	1.5915	54	4.47%	0.0595	1.6998	0.0966
	LDGV	3	0.09%	1.3090	17.1881	2.1584	45	1.34%	1.1423	18.4674	3.0182	86	2.56%	0.0518	1.6972	0.1053
<b>2008 Total</b>		7	0.10%	1.3859	17.3713	2.6536	95	1.31%	0.9595	18.5977	2.5505	232	3.20%	0.0488	1.6802	0.1042
2009	LDGT1	0	0.00%	0.0000	0.0000	0.0000	8	0.46%	0.3519	10.6520	2.5168	48	2.78%	0.0364	1.7081	0.0962
	LDGT2	0	0.00%	0.0000	0.0000	0.0000	1	0.12%	0.0943	15.3963	0.3751	47	5.55%	0.0411	1.0680	0.0898
	LDGV	1	0.03%	0.4444	8.7570	1.6809	35	1.19%	1.1439	12.9984	3.3034	47	1.59%	0.0405	1.0616	0.1214
<b>2009 Total</b>		1	0.02%	0.4444	8.7570	1.6809	44	0.80%	0.9761	12.6263	3.0938	142	2.57%	0.0393	1.2823	0.1025
2010	LDGT1	0	0.00%	0.0000	0.0000	0.0000	1	0.27%	0.0487	17.9316	0.0784	19	5.07%	0.0257	1.0919	0.0516
	LDGT2	0	0.00%	0.0000	0.0000	0.0000	1	0.42%	0.5951	9.4986	3.7911	21	8.75%	0.0966	3.1920	0.3377
	LDGV	0	0.00%	0.0000	0.0000	0.0000	12	2.20%	4.4105	23.4419	2.7271	18	3.30%	0.0278	1.0767	0.1187
<b>2010 Total</b>		0	0.00%	0.0000	0.0000	0.0000	14	1.21%	3.8264	22.0523	2.6139	58	5.00%	0.0520	1.8476	0.1760
2011	LDGT1	0	0.00%	0.0000	0.0000	0.0000	1	0.53%	0.0161	0.1553	4.0267	4	2.14%	0.0234	1.1790	0.0433
	LDGT2	0	0.00%	0.0000	0.0000	0.0000	1	0.84%	0.2125	5.1878	2.3894	1	0.84%	0.0182	0.3263	0.0357
	LDGV	0	0.00%	0.0000	0.0000	0.0000	10	3.22%	1.8161	16.2502	3.8641	9	2.89%	0.0291	1.9700	0.0908
<b>2011 Total</b>		0	0.00%	0.0000	0.0000	0.0000	12	1.94%	1.5324	13.9871	3.7548	14	2.27%	0.0267	1.6266	0.0733
2012	LDGT1	0	0.00%	0.0000	0.0000	0.0000	0	0.00%	0.0000	0.0000	0.0000	2	2.04%	0.0201	0.6112	0.0432
	LDGT2	0	0.00%	0.0000	0.0000	0.0000	1	1.28%	2.2688	34.9058	4.8440	3	3.85%	0.0280	0.5135	0.0497
	LDGV	0	0.00%	0.0000	0.0000	0.0000	2	0.75%	2.6492	22.1799	2.9684	10	3.77%	0.0276	1.6326	0.0782
<b>2012 Total</b>		0	0.00%	0.0000	0.0000	0.0000	3	0.68%	2.5224	26.4219	3.5936	15	3.40%	0.0267	1.2726	0.0678
2013	LDGT1	0	0.00%	0.0000	0.0000	0.0000	0	0.00%	0.0000	0.0000	0.0000	0	0.00%	0.0000	0.0000	0.0000
	LDGT2	0	0.00%	0.0000	0.0000	0.0000	0	0.00%	0.0000	0.0000	0.0000	0	0.00%	0.0000	0.0000	0.0000
	LDGV	0	0.00%	0.0000	0.0000	0.0000	1	0.56%	0.6407	24.4865	0.0433	5	2.78%	0.0238	1.4291	0.0696
<b>2013 Total</b>		0	0.00%	0.0000	0.0000	0.0000	1	0.40%	0.6407	24.4865	0.0433	5	2.02%	0.0238	1.4291	0.0696
2014	LDGT1	0	0.00%	0.0000	0.0000	0.0000	0	0.00%	0.0000	0.0000	0.0000	0	0.00%	0.0000	0.0000	0.0000

Vehicle		Failure for Both Exhaust and Other					Failure for Exhaust Only					Failure for Other				
Year	Type	Total	Total%	Avg HC(gpm)	Avg CO(gpm)	Avg NOx (gpm)	Total	Total%	Avg HC(gpm)	Avg CO(gpm)	Avg NOx(gpm)	Total	Total%	Avg HC(gpm)	Avg CO(gpm)	Avg NOx(gpm)
	LDGT2	0	0.00%	0.0000	0.0000	0.0000	0	0.00%	0.0000	0.0000	0.0000	0	0.00%	0.0000	0.0000	0.0000
	LDGV	0	0.00%	0.0000	0.0000	0.0000	3	3.45%	1.4879	13.8725	4.1915	4	4.60%	0.0136	0.6344	0.0432
<b>2014 Total</b>		0	0.00%	0.0000	0.0000	0.0000	3	2.48%	1.4879	13.8725	4.1915	4	3.31%	0.0136	0.6344	0.0432
2015	LDGT1	0	0.00%	0.0000	0.0000	0.0000	0	0.00%	0.0000	0.0000	0.0000	0	0.00%	0.0000	0.0000	0.0000
	LDGT2	0	0.00%	0.0000	0.0000	0.0000	0	0.00%	0.0000	0.0000	0.0000	0	0.00%	0.0000	0.0000	0.0000
	LDGV	0	0.00%	0.0000	0.0000	0.0000	1	3.57%	2.0416	21.9973	2.9240	0	0.00%	0.0000	0.0000	0.0000
<b>2015 Total</b>		0	0.00%	0.0000	0.0000	0.0000	1	2.22%	2.0416	21.9973	2.9240	0	0.00%	0.0000	0.0000	0.0000
2016	LDGT1	0	0.00%	0.0000	0.0000	0.0000	0	0.00%	0.0000	0.0000	0.0000	0	0.00%	0.0000	0.0000	0.0000
	LDGT2	0	0.00%	0.0000	0.0000	0.0000	0	0.00%	0.0000	0.0000	0.0000	0	0.00%	0.0000	0.0000	0.0000
	LDGV	0	0.00%	0.0000	0.0000	0.0000	0	0.00%	0.0000	0.0000	0.0000	0	0.00%	0.0000	0.0000	0.0000
<b>2016 Total</b>		0	0.00%	0.0000	0.0000	0.0000	0	0.00%	0.0000	0.0000	0.0000	0	0.00%	0.0000	0.0000	0.0000
2017	LDGT1	0	0.00%	0.0000	0.0000	0.0000	0	0.00%	0.0000	0.0000	0.0000	0	0.00%	0.0000	0.0000	0.0000
	LDGT2	0	0.00%	0.0000	0.0000	0.0000	0	0.00%	0.0000	0.0000	0.0000	0	0.00%	0.0000	0.0000	0.0000
<b>2017 Total</b>		0	0.00%	0.0000	0.0000	0.0000	0	0.00%	0.0000	0.0000	0.0000	0	0.00%	0.0000	0.0000	0.0000
<b>Grand Total</b>		<b>2,343</b>	<b>0.42%</b>	<b>2.9326</b>	<b>36.2145</b>	<b>2.7213</b>	<b>24,451</b>	<b>4.40%</b>	<b>1.8757</b>	<b>26.1358</b>	<b>2.4402</b>	<b>25,184</b>	<b>4.53%</b>	<b>0.3117</b>	<b>4.1270</b>	<b>0.7586</b>

Initial Failure Report - Summary by Veh (V1.03)

Vehicle		Failure for Both Exhaust and Other					Failure for Exhaust Only					Failure for Other				
Type	Total	Total%	Avg HC(gpm)	Avg CO(gpm)	Avg NOx (gpm)	Total	Total%	Avg HC(gpm)	Avg CO(gpm)	Avg NOx(gpm)	Total	Total%	Avg HC(gpm)	Avg CO(gpm)	Avg NOx(gpm)	
LDGT1	897	0.43%	2.8028	38.9340	2.8745	8,494	4.11%	1.8907	28.9489	2.6603	10,106	4.89%	0.3546	4.6798	0.8690	
LDGT2	586	0.69%	3.3387	40.0559	3.3291	5,235	6.20%	2.1759	27.4171	2.9288	4,541	5.38%	0.4500	5.3649	1.0240	
LDGV	860	0.32%	2.7913	30.7605	2.1472	10,722	4.04%	1.7173	23.2817	2.0274	10,537	3.97%	0.2110	3.0634	0.5383	
<b>Grand Total</b>		<b>2,343</b>	<b>0.42%</b>	<b>2.9326</b>	<b>36.2145</b>	<b>2.7213</b>	<b>24,451</b>	<b>4.40%</b>	<b>1.8757</b>	<b>26.1358</b>	<b>2.4402</b>	<b>25,184</b>	<b>4.53%</b>	<b>0.3117</b>	<b>4.1270</b>	<b>0.7586</b>

## **Appendix B3**

### **I/M240 Initial Exhaust Failure Report**





Date  
Between 1/1/2016 and 12/31/2016

## Initial Exhaust Failure Report (V1.01)

Vehicle		HC Failures					CO Failures					NOX Failures				
Year	Type	Total	Total %	Avg HC(gpm)	Avg CO(gpm)	Avg NOx(gpm)	Total	Total %	Avg HC(gpm)	Avg CO(gpm)	Avg NOx(gpm)	Total	Total %	Avg HC(gpm)	Avg CO(gpm)	Avg NOx(gpm)
1982	LDGV	29	69.05%	9.4826	100.9710	1.3946	32	76.19%	8.3763	105.7686	1.0624	5	11.90%	1.8337	10.5429	6.2081
	LDGT1	12	30.77%	13.2467	100.5574	1.6842	29	74.36%	5.5643	111.9500	1.0231	6	15.38%	2.4201	11.5889	6.6383
	LDGT2	5	33.33%	14.6429	172.8829	1.4820	13	86.67%	7.1076	140.8507	1.1731	1	6.67%	3.5505	60.2874	11.3838
<b>1982 Total</b>		46	47.92%	11.0255	108.6796	1.4796	74	77.08%	7.0514	114.3541	1.0664	12	12.50%	2.2700	15.2113	6.8545
1983	LDGV	30	49.18%	7.6405	92.7740	1.4350	56	91.80%	4.9327	75.0633	1.3865	6	9.84%	1.7980	22.4852	5.4839
	LDGT1	14	31.82%	8.1904	102.7304	1.7105	37	84.09%	5.4050	99.5951	1.2449	5	11.36%	2.1372	18.0139	7.1524
	LDGT2	8	34.78%	10.1735	120.0803	2.3343	20	86.96%	4.6215	121.2749	1.4681	1	4.35%	1.8174	16.4254	8.0998
<b>1983 Total</b>		52	40.63%	8.1783	99.6555	1.6475	113	88.28%	5.0323	91.2749	1.3546	12	9.38%	1.9410	20.1172	6.3971
1984	LDGV	57	53.27%	7.6491	84.4825	1.4261	84	78.50%	5.0399	79.8026	1.1953	8	7.48%	1.9880	13.9404	5.4825
	LDGT1	44	52.38%	9.7555	135.9383	1.3366	75	89.29%	6.3751	118.9273	1.2290	4	4.76%	1.8567	12.9848	6.5119
	LDGT2	26	37.14%	12.5877	159.8654	1.8533	57	81.43%	6.6246	128.5466	1.7583	10	14.29%	2.6724	26.7262	7.1341
<b>1984 Total</b>		127	48.66%	9.3899	117.7424	1.4825	216	82.76%	5.9217	106.2505	1.3556	22	8.43%	2.2752	19.5784	6.4204
1985	LDGV	53	46.90%	5.0333	53.8772	1.8363	90	79.65%	2.8350	48.1978	1.5310	14	12.39%	1.8365	13.7242	5.3226
	LDGT1	43	39.81%	9.3647	108.8290	2.0978	87	80.56%	5.1845	95.9855	1.6200	14	12.96%	1.9709	14.3070	7.2012
	LDGT2	23	39.66%	9.9796	131.1559	2.0794	51	87.93%	5.9278	109.3186	1.9502	5	8.62%	2.2272	26.4116	6.7583
<b>1985 Total</b>		119	42.65%	7.5544	88.6700	1.9778	228	81.72%	4.4233	80.1043	1.6587	33	11.83%	1.9527	15.8938	6.3371
1986	LDGV	70	48.61%	5.0468	64.3685	1.8197	107	74.31%	3.5645	59.1214	1.4846	26	18.06%	1.6074	14.7703	5.3702
	LDGT1	64	48.48%	8.1041	88.7142	2.0128	103	78.03%	5.2325	88.0709	1.5976	14	10.61%	2.3624	14.7094	7.4400
	LDGT2	38	48.72%	6.1344	97.9492	2.1865	63	80.77%	4.4020	93.1143	2.0918	11	14.10%	2.5868	30.4680	7.6658
<b>1986 Total</b>		172	48.59%	6.4247	80.8464	1.9726	273	77.12%	4.3871	77.8882	1.6674	51	14.41%	2.0259	18.1394	6.4335
1987	LDGV	59	50.43%	5.8622	48.5808	2.0119	80	68.38%	4.1591	51.4947	1.7765	26	22.22%	1.4434	10.7528	4.7838
	LDGT1	63	43.75%	6.0789	79.2931	2.2831	116	80.56%	3.9647	72.9605	1.6516	22	15.28%	2.2632	14.0925	6.7486
	LDGT2	31	50.82%	6.4329	66.5148	2.6995	41	67.21%	4.6561	78.3752	2.4687	15	24.59%	2.3617	20.4143	7.6388
<b>1987 Total</b>		153	47.52%	6.0670	64.8608	2.2629	237	73.60%	4.1499	66.6514	1.8351	63	19.57%	1.9483	14.2194	6.1497
1988	LDGV	106	60.92%	4.9993	51.1070	1.5340	120	68.97%	3.7795	56.0174	1.2622	28	16.09%	1.5535	12.4012	4.7581
	LDGT1	79	46.75%	6.6724	68.4209	2.4450	124	73.37%	4.2954	66.7022	1.9173	29	17.16%	2.0956	15.9084	6.4336
	LDGT2	30	40.00%	7.0575	70.2686	3.4772	41	54.67%	4.3620	73.9819	2.5895	31	41.33%	2.7190	14.2505	6.4216
<b>1988 Total</b>		215	51.44%	5.9013	60.1426	2.1399	285	68.18%	4.0878	63.2506	1.7381	88	21.05%	2.1428	14.2084	5.8963
1989	LDGV	93	55.36%	5.2313	51.7061	1.7343	120	71.43%	3.9101	51.6100	1.4250	35	20.83%	1.6423	15.3857	4.9549
	LDGT1	106	47.75%	6.0573	71.7944	2.2021	160	72.07%	4.2028	68.2394	1.7862	45	20.27%	2.1261	13.1612	6.5284
	LDGT2	47	52.22%	5.9093	51.0204	3.5237	47	52.22%	3.9326	61.9834	2.5781	32	35.56%	3.3538	17.7370	6.1926
<b>1989 Total</b>		246	51.25%	5.7168	60.2310	2.2777	327	68.13%	4.0566	61.2377	1.7675	112	23.33%	2.3257	15.1637	5.9408
1990	LDGV	152	60.56%	4.3671	47.6035	1.9237	147	58.57%	3.5711	59.3701	1.4001	74	29.48%	1.8240	13.8591	4.3488
	LDGT1	88	35.92%	5.9239	67.8231	2.2602	173	70.61%	3.5952	58.4433	1.8187	62	25.31%	2.4524	16.4004	6.3065
	LDGT2	44	44.00%	6.3008	59.5668	2.8292	61	61.00%	3.7176	61.4349	2.5575	30	30.00%	2.1707	16.7795	6.3391
<b>1990 Total</b>		284	47.65%	5.1491	55.7222	2.1683	381	63.93%	3.6055	59.2798	1.7755	166	27.85%	2.1214	15.3360	5.4397
1991	LDGV	238	66.30%	3.4314	44.9774	1.8979	187	52.09%	3.2745	60.2698	1.2276	115	32.03%	1.5823	12.2046	4.2734
	LDGT1	134	58.26%	4.4316	55.8134	2.1628	140	60.87%	3.7330	62.6976	1.7024	58	25.22%	1.7392	16.8759	5.3289
	LDGT2	69	57.02%	4.9642	52.9498	2.6161	63	52.07%	4.5082	63.7450	2.1029	43	35.54%	2.1171	18.4853	5.7452



Vehicle		HC Failures					CO Failures					NOX Failures				
Year	Type	Total	Total %	Avg HC(gpm)	Avg CO(gpm)	Avg NOx(gpm)	Total	Total %	Avg HC(gpm)	Avg CO(gpm)	Avg NOx(gpm)	Total	Total %	Avg HC(gpm)	Avg CO(gpm)	Avg NOx(gpm)
	LDGT2	59	21.69%	4.0686	45.2136	3.0589	90	33.09%	2.6814	40.3078	2.5011	222	81.62%	0.8527	10.0373	3.4309
<b>2002 Total</b>		500	27.09%	3.2121	40.3960	2.1589	713	38.62%	1.9062	41.5169	1.3545	1,252	67.82%	0.7888	9.3131	3.2758
2003	LDGV	211	32.66%	2.7656	26.7189	2.3199	211	32.66%	1.8143	37.4178	1.3990	472	73.07%	0.8470	9.4993	2.8440
	LDGT1	115	27.64%	3.0618	53.2988	2.0528	216	51.92%	1.5088	44.1931	1.3331	242	58.17%	0.8851	10.1738	3.4065
	LDGT2	72	32.29%	4.3026	48.7765	2.6655	100	44.84%	3.0872	42.3056	2.4436	161	72.20%	1.1689	12.1872	3.4571
<b>2003 Total</b>		398	30.97%	3.1292	38.3894	2.3053	527	41.01%	1.9306	41.1222	1.5702	875	68.09%	0.9168	10.1804	3.1124
2004	LDGV	162	31.95%	3.6013	30.2933	2.2409	185	36.49%	2.3244	37.0039	1.4419	357	70.41%	1.1106	9.9972	2.9176
	LDGT1	111	26.18%	3.7894	62.0611	1.9142	238	56.13%	1.6983	44.3699	1.0265	213	50.24%	0.9909	9.6637	3.5436
	LDGT2	64	37.21%	3.1314	53.2046	2.8886	80	46.51%	2.1894	50.6244	2.3684	124	72.09%	1.0141	14.5178	3.7899
<b>2004 Total</b>		337	30.55%	3.5740	45.1080	2.2563	503	45.60%	2.0067	42.6555	1.3927	694	62.92%	1.0566	10.7026	3.2656
2005	LDGV	132	34.11%	3.2586	37.5377	2.4651	162	41.86%	2.0242	41.0151	1.5755	265	68.48%	0.9753	9.7286	3.1876
	LDGT1	38	20.54%	3.4980	53.0590	2.3766	83	44.86%	1.7299	41.5836	1.4947	123	66.49%	0.6218	8.9113	3.5884
	LDGT2	61	34.08%	4.6096	45.6121	3.0624	101	56.42%	2.8570	38.6059	2.4186	127	70.95%	1.2994	15.3316	3.4043
<b>2005 Total</b>		231	30.76%	3.6548	42.2232	2.6083	346	46.07%	2.1967	40.4482	1.8022	515	68.58%	0.9708	10.9151	3.3367
2006	LDGV	46	37.70%	3.2612	31.0163	2.9269	52	42.62%	2.3697	36.9438	2.2031	90	73.77%	1.2253	12.6968	3.1684
	LDGT1	12	25.53%	2.2162	50.7773	3.2611	23	48.94%	1.3513	38.3669	2.1368	33	70.21%	0.8047	10.1316	3.4598
	LDGT2	10	25.64%	2.4691	22.8415	3.9227	22	56.41%	1.3945	22.4133	2.6661	28	71.79%	1.1185	14.6324	3.2728
<b>2006 Total</b>		68	32.69%	2.9603	33.3014	3.1323	97	46.63%	1.9071	33.9857	2.2924	151	72.60%	1.1136	12.4951	3.2514
2007	LDGV	31	40.79%	2.9954	30.3292	2.4084	29	38.16%	1.8371	39.7848	1.6685	56	73.68%	1.0110	11.0614	2.7249
	LDGT1	2	6.90%	1.4041	23.0497	1.4899	19	65.52%	0.3475	31.7358	0.2025	10	34.48%	0.4460	6.0680	3.1766
	LDGT2	12	36.36%	3.0190	38.6856	5.7763	20	60.61%	1.9598	37.3973	3.4908	25	75.76%	1.7433	23.2402	4.3004
<b>2007 Total</b>		45	32.61%	2.9310	32.2341	3.2657	68	49.28%	1.4570	36.8336	1.7948	91	65.94%	1.1501	13.8585	3.2073
2008	LDGV	20	41.67%	2.1360	22.9439	4.1163	22	45.83%	1.5267	30.8255	2.8082	36	75.00%	1.2686	12.4042	3.8049
	LDGT1	3	12.50%	1.9661	44.1590	3.0524	8	33.33%	0.8543	38.1956	1.0250	18	75.00%	0.4865	5.7225	3.5226
	LDGT2	8	26.67%	2.8604	26.2075	3.0897	24	80.00%	1.0803	23.9781	1.4858	13	43.33%	1.3550	17.1607	3.5677
<b>2008 Total</b>		31	30.39%	2.3065	25.8392	3.7484	54	52.94%	1.2287	28.8741	1.9563	67	65.69%	1.0753	11.5320	3.6830
2009	LDGV	18	50.00%	1.8862	19.0962	3.7001	9	25.00%	1.5495	28.0369	2.9084	34	94.44%	1.1242	10.3031	3.4461
	LDGT1	1	12.50%	1.2925	11.3182	5.4300	2	25.00%	0.2242	25.7348	1.1948	7	87.50%	0.3880	7.1185	2.8680
	LDGT2	0	0.00%	0.0000	0.0000	0.0000	1	100.00%	0.0943	15.3963	0.3751	0	0.00%	0.0000	0.0000	0.0000
<b>2009 Total</b>		19	42.22%	1.8549	18.6869	3.7912	12	26.67%	1.2074	26.5998	2.4117	41	91.11%	0.9985	9.7594	3.3474
2010	LDGV	9	75.00%	5.5784	18.1537	3.3006	10	83.33%	3.0659	26.4223	2.8438	9	75.00%	3.3956	19.0720	3.6082
	LDGT1	0	0.00%	0.0000	0.0000	0.0000	1	100.00%	0.0487	17.9316	0.0784	0	0.00%	0.0000	0.0000	0.0000
	LDGT2	0	0.00%	0.0000	0.0000	0.0000	0	0.00%	0.0000	0.0000	0.0000	1	100.00%	0.5951	9.4986	3.7911
<b>2010 Total</b>		9	64.29%	5.5784	18.1537	3.3006	11	78.57%	2.7916	25.6504	2.5924	10	71.43%	3.1155	18.1147	3.6265
2011	LDGV	6	60.00%	2.6298	20.1850	4.6694	4	40.00%	2.3827	24.1724	4.9100	10	100.00%	1.8161	16.2502	3.8641
	LDGT1	0	0.00%	0.0000	0.0000	0.0000	0	0.00%	0.0000	0.0000	0.0000	1	100.00%	0.0161	0.1553	4.0267
	LDGT2	0	0.00%	0.0000	0.0000	0.0000	0	0.00%	0.0000	0.0000	0.0000	1	100.00%	0.2125	5.1878	2.3894
<b>2011 Total</b>		6	50.00%	2.6298	20.1850	4.6694	4	33.33%	2.3827	24.1724	4.9100	12	100.00%	1.5324	13.9871	3.7548
2012	LDGV	2	100.00%	2.6492	22.1799	2.9684	2	100.00%	2.6492	22.1799	2.9684	2	100.00%	2.6492	22.1799	2.9684
	LDGT1	0	0.00%	0.0000	0.0000	0.0000	0	0.00%	0.0000	0.0000	0.0000	0	0.00%	0.0000	0.0000	0.0000
	LDGT2	1	100.00%	2.2688	34.9058	4.8440	1	100.00%	2.2688	34.9058	4.8440	1	100.00%	2.2688	34.9058	4.8440
<b>2012 Total</b>		3	100.00%	2.5224	26.4219	3.5936	3	100.00%	2.5224	26.4219	3.5936	3	100.00%	2.5224	26.4219	3.5936
2013	LDGV	0	0.00%	0.0000	0.0000	0.0000	1	100.00%	0.6407	24.4865	0.0433	0	0.00%	0.0000	0.0000	0.0000

Vehicle		HC Failures					CO Failures					NOX Failures				
Year	Type	Total	Total %	Avg HC(gpm)	Avg CO(gpm)	Avg NOx(gpm)	Total	Total %	Avg HC(gpm)	Avg CO(gpm)	Avg NOx(gpm)	Total	Total %	Avg HC(gpm)	Avg CO(gpm)	Avg NOx(gpm)
	LDGT1	0	0.00%	0.0000	0.0000	0.0000	0	0.00%	0.0000	0.0000	0.0000	0	0.00%	0.0000	0.0000	0.0000
	LDGT2	0	0.00%	0.0000	0.0000	0.0000	0	0.00%	0.0000	0.0000	0.0000	0	0.00%	0.0000	0.0000	0.0000
<b>2013 Total</b>		0	0.00%	0.0000	0.0000	0.0000	1	100.00%	0.6407	24.4865	0.0433	0	0.00%	0.0000	0.0000	0.0000
2014	LDGV	2	66.67%	1.9848	14.7271	5.2330	1	33.33%	2.6993	17.1972	7.6054	3	100.00%	1.4879	13.8725	4.1915
	LDGT1	0	0.00%	0.0000	0.0000	0.0000	0	0.00%	0.0000	0.0000	0.0000	0	0.00%	0.0000	0.0000	0.0000
	LDGT2	0	0.00%	0.0000	0.0000	0.0000	0	0.00%	0.0000	0.0000	0.0000	0	0.00%	0.0000	0.0000	0.0000
<b>2014 Total</b>		2	66.67%	1.9848	14.7271	5.2330	1	33.33%	2.6993	17.1972	7.6054	3	100.00%	1.4879	13.8725	4.1915
2015	LDGV	1	100.00%	2.0416	21.9973	2.9240	1	100.00%	2.0416	21.9973	2.9240	1	100.00%	2.0416	21.9973	2.9240
	LDGT1	0	0.00%	0.0000	0.0000	0.0000	0	0.00%	0.0000	0.0000	0.0000	0	0.00%	0.0000	0.0000	0.0000
	LDGT2	0	0.00%	0.0000	0.0000	0.0000	0	0.00%	0.0000	0.0000	0.0000	0	0.00%	0.0000	0.0000	0.0000
<b>2015 Total</b>		1	100.00%	2.0416	21.9973	2.9240	1	100.00%	2.0416	21.9973	2.9240	1	100.00%	2.0416	21.9973	2.9240
2016	LDGV	0	0.00%	0.0000	0.0000	0.0000	0	0.00%	0.0000	0.0000	0.0000	0	0.00%	0.0000	0.0000	0.0000
	LDGT1	0	0.00%	0.0000	0.0000	0.0000	0	0.00%	0.0000	0.0000	0.0000	0	0.00%	0.0000	0.0000	0.0000
	LDGT2	0	0.00%	0.0000	0.0000	0.0000	0	0.00%	0.0000	0.0000	0.0000	0	0.00%	0.0000	0.0000	0.0000
<b>2016 Total</b>		0	0.00%	0.0000	0.0000	0.0000	0	0.00%	0.0000	0.0000	0.0000	0	0.00%	0.0000	0.0000	0.0000
2017	LDGT1	0	0.00%	0.0000	0.0000	0.0000	0	0.00%	0.0000	0.0000	0.0000	0	0.00%	0.0000	0.0000	0.0000
	LDGT2	0	0.00%	0.0000	0.0000	0.0000	0	0.00%	0.0000	0.0000	0.0000	0	0.00%	0.0000	0.0000	0.0000
<b>2017 Total</b>		0	0.00%	0.0000	0.0000	0.0000	0	0.00%	0.0000	0.0000	0.0000	0	0.00%	0.0000	0.0000	0.0000
<b>Grand Total</b>		<b>10,489</b>	<b>39.15%</b>	<b>3.9732</b>	<b>43.7478</b>	<b>2.2820</b>	<b>12,787</b>	<b>47.72%</b>	<b>2.8814</b>	<b>47.8446</b>	<b>1.7046</b>	<b>14,498</b>	<b>54.11%</b>	<b>1.0710</b>	<b>10.7786</b>	<b>3.5545</b>

**Summary by Vehicle Type (V1.01)**

Vehicle Type	HC Failures					CO Failures					NOX Failures				
	Total	Total %	Avg HC(gpm)	Avg CO(gpm)	Avg NOx(gpm)	Total	Total %	Avg HC(gpm)	Avg CO(gpm)	Avg NOx(gpm)	Total	Total %	Avg HC(gpm)	Avg CO(gpm)	Avg NOx(gpm)
LDGV	4,803	41.47%	3.5510	38.2022	1.8272	5,132	44.31%	2.6066	45.1370	1.2431	6,206	53.58%	0.9687	9.0951	3.0094
LDGT1	3,277	34.90%	4.2802	51.6633	2.5077	4,710	50.15%	2.8957	51.1964	1.7359	4,980	53.03%	1.0266	11.0127	3.9329
LDGT2	2,409	41.38%	4.3972	44.0369	2.8818	2,945	50.59%	3.3375	47.2024	2.4587	3,312	56.90%	1.3293	13.5812	4.0070
<b>Grand Total</b>	<b>10,489</b>	<b>39.15%</b>	<b>3.9732</b>	<b>43.7478</b>	<b>2.2820</b>	<b>12,787</b>	<b>47.72%</b>	<b>2.8814</b>	<b>47.8446</b>	<b>1.7046</b>	<b>14,498</b>	<b>54.11%</b>	<b>1.0710</b>	<b>10.7786</b>	<b>3.5545</b>

## **Appendix B4**

I/M240 Initial Failure for Other Report













## **Appendix B5**

### **I/M240 Retest Pass Reduction Report**



Date  
**Between 1/1/2016 and 12/31/2016**

Retest Pass Reduction Report (V1.01)

Vehicle		Initial Exhaust Emissions				Passing Retest Exhaust Emissions					Emission Reductions						Average Repair Costs
Year	Type	Total	Avg HC(gpm)	Avg CO(gpm)	Avg NOx(gpm)	Total	Total%	Avg HC(gpm)	Avg CO(gpm)	Avg NOx(gpm)	Avg HC(gpm)	Avg HC%(gpm)	Avg CO(gpm)	Avg CO%(gpm)	Avg NOx(gpm)	Avg NOx%(gpm)	
1982	LDGV	79	4.7826	61.4840	2.1098	44	55.70%	1.6054	20.7284	2.0228	2.4131	60.05%	26.3814	56.00%	0.3320	14.10%	0.00
	LDGT1	104	4.9543	66.1369	2.4733	63	60.58%	2.2276	31.6688	2.4860	2.4030	51.89%	23.7429	42.85%	0.2186	8.08%	559.50
	LDGT2	34	4.2718	95.5243	2.8396	21	61.76%	3.0084	41.7082	2.6414	1.6605	35.57%	49.5301	54.29%	-0.1644	-6.64%	190.00
<b>1982 Total</b>		217	4.7849	69.0475	2.3984	128	58.99%	2.1419	29.5551	2.3523	2.2847	51.61%	28.8806	49.42%	0.1947	7.65%	485.60
1983	LDGV	139	4.2262	64.0986	1.5978	59	42.45%	1.3834	13.3710	1.9271	2.1821	61.20%	31.3581	70.11%	-0.0405	-2.15%	0.00
	LDGT1	113	4.6621	71.4035	2.4054	65	57.52%	3.0164	35.6852	2.5399	0.9854	24.62%	20.3416	36.31%	0.0461	1.78%	142.50
	LDGT2	83	5.4139	105.3755	2.3705	35	42.17%	2.5240	37.4874	2.7081	2.5567	50.32%	62.0042	62.32%	-0.2246	-9.04%	140.00
<b>1983 Total</b>		335	4.6675	76.7894	2.0617	159	47.46%	2.3021	27.8018	2.3495	1.7754	43.54%	33.6005	54.72%	-0.0456	-1.98%	141.25
1984	LDGV	241	4.3071	54.8068	1.6067	119	49.38%	1.3666	13.5947	1.8239	1.7630	56.33%	24.2107	64.04%	-0.1315	-7.77%	362.50
	LDGT1	210	5.0630	89.9115	1.9365	118	56.19%	1.9550	26.1129	2.5422	1.8566	48.71%	37.5661	58.99%	-0.2711	-11.94%	405.60
	LDGT2	151	7.8838	101.7533	2.2305	66	43.71%	2.0212	28.5610	2.9431	3.2773	61.85%	49.3068	63.32%	-0.2928	-11.05%	591.50
<b>1984 Total</b>		602	5.4680	78.8283	1.8782	303	50.33%	1.7383	21.7297	2.3474	2.1293	55.05%	34.8783	61.61%	-0.2210	-10.39%	414.31
1985	LDGV	240	3.1281	39.5497	2.1154	103	42.92%	1.1145	9.5381	2.0495	1.3657	55.06%	18.6521	66.17%	0.0760	3.58%	563.50
	LDGT1	305	5.0984	74.2595	2.4207	144	47.21%	1.9812	22.6352	2.7650	1.9088	49.07%	31.6882	58.33%	-0.1243	-4.71%	321.33
	LDGT2	140	4.3949	71.8704	2.6572	48	34.29%	1.5270	21.1094	2.9271	1.1842	43.68%	27.7181	56.77%	-0.1755	-6.38%	0.00
<b>1985 Total</b>		685	4.2643	61.6101	2.3621	295	43.07%	1.6047	17.8140	2.5415	1.6013	49.95%	26.4907	59.79%	-0.0627	-2.53%	442.42
1986	LDGV	308	2.9132	37.8815	2.3925	131	42.53%	1.0939	10.0468	1.9635	1.4697	57.33%	20.6300	67.25%	0.2007	9.27%	470.25
	LDGT1	323	3.8910	53.9203	2.3654	186	57.59%	1.6767	18.3089	2.3904	1.5195	47.54%	20.9260	53.34%	-0.0280	-1.19%	389.29
	LDGT2	181	4.9527	66.0376	2.6622	80	44.20%	1.9035	20.7256	2.8890	1.6548	46.51%	30.4108	59.47%	0.0075	0.26%	250.00
<b>1986 Total</b>		812	3.7568	50.5376	2.4418	397	48.89%	1.5301	16.0696	2.3500	1.5303	50.00%	22.7396	58.59%	0.0546	2.27%	404.67
1987	LDGV	307	3.0504	39.0148	2.0463	130	42.35%	1.0793	9.8496	1.8164	1.4193	56.80%	20.7983	67.86%	0.2750	13.15%	386.33
	LDGT1	335	3.4763	55.2880	2.2004	166	49.55%	1.4148	15.1584	2.3719	1.4692	50.94%	26.0266	63.19%	0.0171	0.71%	382.17
	LDGT2	190	3.6211	56.7885	3.2741	80	42.11%	1.8442	14.0205	2.6922	1.3204	41.72%	23.6712	62.80%	0.5119	15.98%	149.00
<b>1987 Total</b>		832	3.3522	49.6260	2.3887	376	45.19%	1.3902	13.0808	2.2480	1.4203	50.54%	23.7178	64.45%	0.2115	8.60%	350.64
1988	LDGV	347	2.2925	32.9422	1.7148	179	51.59%	0.8252	8.2605	1.5886	1.3457	61.99%	22.9365	73.52%	0.1025	6.06%	295.25
	LDGT1	466	3.3681	43.0734	2.5875	245	52.58%	1.2810	12.1280	2.1992	1.4812	53.62%	17.6790	59.31%	0.4016	15.44%	476.92
	LDGT2	198	3.0789	42.0391	3.6240	101	51.01%	1.4208	12.6091	2.6664	1.4939	51.26%	17.6406	58.32%	0.7991	23.06%	368.43
<b>1988 Total</b>		1011	2.9423	39.3935	2.4910	525	51.93%	1.1525	10.9019	2.0809	1.4374	55.50%	19.4642	64.10%	0.3761	15.31%	415.00
1989	LDGV	395	2.5023	33.0096	1.9236	214	54.18%	0.8354	8.3203	1.6683	1.1434	57.78%	18.1353	68.55%	0.2305	12.14%	253.00
	LDGT1	574	3.4783	49.8300	2.6299	279	48.61%	1.2366	11.6778	2.2036	1.6473	57.12%	24.6565	67.86%	0.4107	15.71%	383.78
	LDGT2	212	3.1419	33.9594	3.4773	128	60.38%	1.4651	12.6251	2.5029	1.5410	51.26%	20.8464	62.28%	0.6912	21.64%	154.50
<b>1989 Total</b>		1181	3.0915	41.3553	2.5458	621	52.58%	1.1455	10.7160	2.0808	1.4518	55.90%	21.6239	66.86%	0.4064	16.34%	304.58
1990	LDGV	550	2.6556	30.5777	2.1652	305	55.45%	0.8057	7.6888	1.5697	1.3331	62.33%	18.8050	70.98%	0.3797	19.48%	428.50
	LDGT1	587	3.0758	41.0506	2.5573	312	53.15%	1.2325	11.9654	2.2778	1.2685	50.72%	18.4805	60.70%	0.2473	9.79%	511.20
	LDGT2	245	3.7093	41.3674	3.1022	136	55.51%	1.5071	12.2695	2.6187	1.3336	46.95%	13.7124	52.78%	0.5037	16.13%	419.80
<b>1990 Total</b>		1382	3.0209	36.9388	2.4979	753	54.49%	1.1092	10.2881	2.0526	1.3064	54.08%	17.7508	63.31%	0.3473	14.47%	469.74
1991	LDGV	778	2.2853	30.4280	2.0482	410	52.70%	0.7014	7.3886	1.5715	1.0857	60.75%	16.6498	69.26%	0.4162	20.94%	357.70
	LDGT1	556	2.4353	33.2941	2.4892	327	58.81%	1.0686	10.7507	1.8968	1.0108	48.61%	15.2217	58.61%	0.4600	19.52%	364.86



Vehicle		Initial Exhaust Emissions				Passing Retest Exhaust Emissions					Emission Reductions						Average Repair Costs
Year	Type	Total	Avg HC(gpm)	Avg CO(gpm)	Avg NOx(gpm)	Total	Total%	Avg HC(gpm)	Avg CO(gpm)	Avg NOx(gpm)	Avg HC(gpm)	Avg HC%(gpm)	Avg CO(gpm)	Avg CO%(gpm)	Avg NOx(gpm)	Avg NOx%(gpm)	
<b>2001 Total</b>		4901	0.7535	12.0456	1.5604	3513	71.68%	0.1818	3.1134	0.5568	0.3981	68.65%	6.1962	66.56%	0.5916	51.51%	357.50
2002	LDGV	2477	0.8600	9.2941	1.4141	1819	73.44%	0.1404	2.9417	0.3719	0.3513	71.45%	3.9114	57.07%	0.6542	63.76%	301.94
	LDGT1	1948	0.6420	15.5426	1.4390	1401	71.92%	0.1393	3.6175	0.4785	0.3119	69.13%	7.7524	68.18%	0.5832	54.93%	380.78
	LDGT2	823	0.5433	8.6563	1.8551	625	75.94%	0.2340	3.2397	0.7847	0.2245	48.96%	4.2945	57.00%	0.5982	43.26%	323.92
<b>2002 Total</b>		5248	0.7294	11.5134	1.4925	3845	73.27%	0.1552	3.2364	0.4778	0.3164	67.09%	5.3732	62.41%	0.6192	56.44%	334.71
2003	LDGV	2000	0.6317	8.5781	1.1592	1580	79.00%	0.1219	2.2550	0.3301	0.3062	71.53%	4.5517	66.87%	0.5406	62.09%	416.92
	LDGT1	1460	0.5445	12.9593	1.1285	1173	80.34%	0.1214	2.6235	0.4201	0.2888	70.40%	6.5780	71.49%	0.4398	51.15%	401.14
	LDGT2	761	0.8468	11.4935	1.6276	557	73.19%	0.1968	3.2048	0.6161	0.3217	62.04%	5.3682	62.62%	0.5523	47.27%	391.33
<b>2003 Total</b>		4221	0.6403	10.6192	1.2330	3310	78.42%	0.1343	2.5454	0.4101	0.3026	69.26%	5.4072	67.99%	0.5068	55.28%	407.00
2004	LDGV	1906	0.5221	7.2438	1.0229	1538	80.69%	0.0954	1.8849	0.2344	0.2745	74.21%	3.6943	66.22%	0.4669	66.58%	354.22
	LDGT1	1715	0.5519	12.3570	0.9281	1405	81.92%	0.0933	2.3158	0.2673	0.2167	69.90%	5.1346	68.92%	0.3693	58.01%	440.32
	LDGT2	822	0.5376	8.4886	1.1551	684	83.21%	0.1179	2.1267	0.3022	0.2587	68.70%	4.3514	67.17%	0.4874	61.73%	1692.60
<b>2004 Total</b>		4443	0.5365	9.4478	1.0107	3627	81.63%	0.0988	2.0974	0.2599	0.2491	71.60%	4.3761	67.60%	0.4330	62.49%	552.50
2005	LDGV	1522	0.4967	7.8706	0.8675	1295	85.09%	0.0785	1.6999	0.1998	0.3047	79.51%	4.1488	70.94%	0.4295	68.25%	455.56
	LDGT1	969	0.4795	7.3242	0.8000	831	85.76%	0.0861	1.8084	0.2146	0.1286	59.89%	2.1947	54.82%	0.3168	59.62%	166.67
	LDGT2	521	1.3289	14.4662	1.5972	366	70.25%	0.1613	2.8798	0.3836	0.7531	82.36%	7.6498	72.65%	0.6758	63.79%	392.50
<b>2005 Total</b>		3012	0.6351	8.8357	0.9720	2492	82.74%	0.0932	1.9094	0.2317	0.3119	76.98%	4.0114	67.75%	0.4281	64.88%	325.91
2006	LDGV	342	0.9730	12.7443	1.7077	240	70.18%	0.1227	2.3274	0.2616	0.5613	82.06%	7.7381	76.88%	1.0913	80.66%	163.67
	LDGT1	245	0.2007	5.3611	0.7415	216	88.16%	0.0673	1.6231	0.2467	0.0750	52.72%	2.8319	63.57%	0.2472	50.04%	0.00
	LDGT2	106	0.8576	14.5483	1.6691	79	74.53%	0.1635	3.3780	0.4808	0.4322	72.55%	7.7861	69.74%	0.7925	62.24%	380.00
<b>2006 Total</b>		693	0.6823	10.4100	1.3602	535	77.20%	0.1063	2.1982	0.2880	0.3459	76.49%	5.7644	72.39%	0.7064	71.04%	174.20
2007	LDGV	198	0.7603	10.6309	1.3220	155	78.28%	0.1080	2.3219	0.2209	0.5686	84.04%	7.0345	75.18%	0.8200	78.78%	0.00
	LDGT1	129	0.1551	9.8855	0.4355	109	84.50%	0.0680	2.7666	0.1621	0.0462	40.45%	3.8330	58.08%	0.2405	59.73%	0.00
	LDGT2	102	0.8525	12.3561	2.1760	67	65.69%	0.1684	2.9790	0.3789	0.4470	72.64%	8.7847	74.68%	1.0836	74.09%	15.00
<b>2007 Total</b>		429	0.6003	10.8170	1.2585	331	77.16%	0.1071	2.6013	0.2335	0.3719	77.65%	6.3345	70.89%	0.6825	74.51%	15.00
2008	LDGV	172	0.5511	9.2633	1.3845	130	75.58%	0.1059	2.0588	0.2164	0.3413	76.31%	5.6618	73.33%	0.8380	79.47%	362.50
	LDGT1	124	0.1989	8.8963	0.7473	106	85.48%	0.0466	1.7300	0.1294	0.0872	65.15%	2.2171	56.17%	0.3678	73.98%	73.00
	LDGT2	102	0.4071	9.2005	0.6935	81	79.41%	0.1148	3.2676	0.1861	0.2373	67.39%	4.1420	55.90%	0.3102	62.51%	150.00
<b>2008 Total</b>		398	0.4045	9.1329	1.0089	317	79.65%	0.0884	2.2577	0.1796	0.2297	72.22%	4.1216	64.61%	0.5459	75.25%	219.60
2009	LDGV	83	0.4689	6.6239	1.4767	72	86.75%	0.0684	1.5888	0.1924	0.3169	82.24%	4.1799	72.46%	1.0953	85.06%	54.00
	LDGT1	67	0.0816	3.4068	0.5358	62	92.54%	0.0501	2.2991	0.1551	0.0303	37.70%	1.0968	32.30%	0.2484	61.56%	0.00
	LDGT2	47	0.0433	1.4069	0.0955	47	100.00%	0.0420	1.3276	0.0823	0.0013	2.91%	0.0793	5.63%	0.0132	13.82%	0.00
<b>2009 Total</b>		197	0.2356	4.2851	0.8272	181	91.88%	0.0553	1.7643	0.1510	0.1368	71.22%	2.0590	53.85%	0.5242	77.63%	54.00
2010	LDGV	29	1.5591	13.8025	0.9206	27	93.10%	0.1084	2.2346	0.1498	1.5073	93.29%	8.8116	79.77%	0.8305	84.72%	0.00
	LDGT1	19	0.0273	2.0045	0.0536	19	100.00%	0.0263	1.0215	0.0405	0.0010	3.59%	0.9830	49.04%	0.0132	24.54%	0.00
	LDGT2	25	0.1021	3.3271	0.4342	21	84.00%	0.0771	3.2239	0.2936	0.0234	23.25%	0.0079	0.24%	0.0522	15.08%	0.00
<b>2010 Total</b>		73	0.6614	7.1443	0.5284	67	91.78%	0.0753	2.2007	0.1639	0.6150	89.09%	3.8322	63.52%	0.3548	68.40%	0.00
2011	LDGV	18	0.5302	7.0569	1.6144	16	88.89%	0.0747	2.9324	0.2345	0.4654	86.16%	3.6600	55.52%	1.3727	85.41%	433.00
	LDGT1	3	0.0242	1.2685	0.0441	3	100.00%	0.0182	0.7922	0.0563	0.0060	24.83%	0.4763	37.55%	-0.0122	-27.74%	0.00
	LDGT2	2	0.1154	2.7571	1.2126	2	100.00%	0.2639	2.8467	0.7357	-0.1485	-128.74%	-0.0897	-3.25%	0.4769	39.33%	0.00
<b>2011 Total</b>		23	0.4281	5.9280	1.3747	21	91.30%	0.0847	2.6185	0.2568	0.3413	80.13%	2.8481	52.10%	1.0896	80.93%	433.00

Vehicle		Initial Exhaust Emissions				Passing Retest Exhaust Emissions					Emission Reductions						Average Repair Costs
Year	Type	Total	Avg HC(gpm)	Avg CO(gpm)	Avg NOx(gpm)	Total	Total%	Avg HC(gpm)	Avg CO(gpm)	Avg NOx(gpm)	Avg HC(gpm)	Avg HC%(gpm)	Avg CO(gpm)	Avg CO%(gpm)	Avg NOx(gpm)	Avg NOx%(gpm)	
2012	LDGV	12	0.2481	5.3644	0.7157	11	91.67%	0.0178	1.6941	0.1271	0.1301	87.97%	1.9741	53.82%	0.2989	70.17%	0.00
	LDGT1	2	0.0201	0.6112	0.0432	2	100.00%	0.0359	1.2265	0.0830	-0.0158	-78.36%	-0.6153	-100.66%	-0.0398	-92.13%	0.00
	LDGT2	3	0.0280	0.5135	0.0497	3	100.00%	0.0308	1.0548	0.0485	-0.0028	-10.12%	-0.5412	-105.39%	0.0012	2.48%	0.00
<b>2012 Total</b>		17	0.1824	3.9492	0.5191	16	94.12%	0.0225	1.5158	0.1068	0.0869	79.44%	1.1788	43.75%	0.2007	65.27%	0.00
2013	LDGV	5	0.0238	1.4291	0.0696	5	100.00%	0.0141	0.8596	0.0477	0.0096	40.57%	0.5696	39.85%	0.0219	31.48%	0.00
<b>2013 Total</b>		5	0.0238	1.4291	0.0696	5	100.00%	0.0141	0.8596	0.0477	0.0096	40.57%	0.5696	39.85%	0.0219	31.48%	0.00
2014	LDGV	6	0.5413	5.3164	1.6478	6	100.00%	0.0309	2.2353	0.0616	0.5103	94.29%	3.0811	57.95%	1.5861	96.26%	0.00
<b>2014 Total</b>		6	0.5413	5.3164	1.6478	6	100.00%	0.0309	2.2353	0.0616	0.5103	94.29%	3.0811	57.95%	1.5861	96.26%	0.00
<b>Grand Total</b>		68761	1.4303	19.2941	1.9078	45243	65.80%	0.4004	5.0893	0.9524	0.5914	59.63%	8.7904	63.33%	0.5815	37.91%	417.97

Retest Pass Reduction Report - Summary by Veh (V1.01)

Vehicle		Initial Exhaust Emissions				Passing Retest Exhaust Emissions					Emission Reductions						Average Repair Costs
Type	Total	Avg HC(gpm)	Avg CO(gpm)	Avg NOx(gpm)	Total	Total%	Avg HC(gpm)	Avg CO(gpm)	Avg NOx(gpm)	Avg HC(gpm)	Avg HC%(gpm)	Avg CO(gpm)	Avg CO%(gpm)	Avg NOx(gpm)	Avg NOx%(gpm)		
LDGV	28229	1.2562	16.3928	1.5202	18925	67.04%	0.2972	3.9051	0.7046	0.5666	65.59%	8.1781	67.68%	0.5091	41.95%	401.48	
LDGT1	25612	1.3603	20.7419	2.0343	17269	67.43%	0.4320	5.6669	1.0624	0.5365	55.39%	8.8930	61.08%	0.5835	35.45%	398.80	
LDGT2	14920	1.8798	22.2979	2.4239	9049	60.65%	0.5559	6.4638	1.2609	0.7480	57.36%	9.8749	60.44%	0.7291	36.64%	482.96	
<b>Grand Total</b>		68761	1.4303	19.2941	45243	65.80%	0.4004	5.0893	0.9524	0.5914	59.63%	8.7904	63.33%	0.5815	37.91%	417.97	



## **Appendix B6**

### I/M240 Retest Frequency Report



Date  
Between 1/1/2016 and 12/31/2016

Retest Frequency Report (V1.01)

Vehicle			Avg Retest	Retest #1				Retest #2				Retest #3				Retest #4				Retest >= #5			
Year	Type	Total	#	Cnt	Cnt%	Goal	Goal%	Cnt	Cnt%	Goal	Goal%	Cnt	Cnt %	Goal	Goal%	Cnt	Cnt%	Goal	Goal%	Cnt	Cnt%	Goal	Goal%
1982	LDGV	79	1.7	45	56.96%	29	64.44%	16	20.25%	6	37.50%	11	13.92%	7	63.64%	2	2.53%	1	50.00%	5	6.33%	1	20.00%
	LDGT1	104	1.7	64	61.54%	39	60.94%	23	22.12%	15	65.22%	11	10.58%	5	45.45%	3	2.88%	2	66.67%	3	2.88%	2	66.67%
	LDGT2	34	1.4	23	67.65%	15	65.22%	8	23.53%	4	50.00%	2	5.88%	1	50.00%	1	2.94%	1	100.00%	0	0.00%	0	0.00%
<b>1982 Total</b>		217	1.6	132	60.83%	83	62.88%	47	21.66%	25	53.19%	24	11.06%	13	54.17%	6	2.76%	4	66.67%	8	3.69%	3	37.50%
1983	LDGV	139	1.7	68	48.92%	32	47.06%	39	28.06%	19	48.72%	14	10.07%	5	35.71%	5	3.60%	1	20.00%	13	9.35%	2	15.38%
	LDGT1	113	1.4	76	67.26%	53	69.74%	18	15.93%	7	38.89%	9	7.96%	2	22.22%	5	4.42%	0	0.00%	5	4.42%	3	60.00%
	LDGT2	83	2.5	37	44.58%	18	48.65%	16	19.28%	3	18.75%	13	15.66%	6	46.15%	8	9.64%	5	62.50%	9	10.84%	3	33.33%
<b>1983 Total</b>		335	1.8	181	54.03%	103	56.91%	73	21.79%	29	39.73%	36	10.75%	13	36.11%	18	5.37%	6	33.33%	27	8.06%	8	29.63%
1984	LDGV	241	1.6	147	61.00%	81	55.10%	53	21.99%	17	32.08%	25	10.37%	15	60.00%	9	3.73%	2	22.22%	7	2.90%	4	57.14%
	LDGT1	210	1.5	135	64.29%	85	62.96%	38	18.10%	16	42.11%	22	10.48%	10	45.45%	9	4.29%	5	55.56%	6	2.86%	2	33.33%
	LDGT2	151	2.1	73	48.34%	36	49.32%	34	22.52%	11	32.35%	20	13.25%	13	65.00%	6	3.97%	1	16.67%	18	11.92%	5	27.78%
<b>1984 Total</b>		602	1.7	355	58.97%	202	56.90%	125	20.76%	44	35.20%	67	11.13%	38	56.72%	24	3.99%	8	33.33%	31	5.15%	11	35.48%
1985	LDGV	240	1.6	131	54.58%	71	54.20%	52	21.67%	18	34.62%	25	10.42%	5	20.00%	15	6.25%	5	33.33%	17	7.08%	4	23.53%
	LDGT1	305	2.0	148	48.52%	82	55.41%	72	23.61%	33	45.83%	38	12.46%	11	28.95%	22	7.21%	10	45.45%	25	8.20%	8	32.00%
	LDGT2	140	2.2	66	47.14%	29	43.94%	27	19.29%	7	25.93%	16	11.43%	5	31.25%	9	6.43%	1	11.11%	22	15.71%	6	27.27%
<b>1985 Total</b>		685	1.9	345	50.36%	182	52.75%	151	22.04%	58	38.41%	79	11.53%	21	26.58%	46	6.72%	16	34.78%	64	9.34%	18	28.13%
1986	LDGV	308	1.6	157	50.97%	87	55.41%	66	21.43%	21	31.82%	39	12.66%	14	35.90%	17	5.52%	5	29.41%	29	9.42%	4	13.79%
	LDGT1	323	1.4	208	64.40%	136	65.38%	67	20.74%	28	41.79%	28	8.67%	16	57.14%	10	3.10%	4	40.00%	10	3.10%	2	20.00%
	LDGT2	181	1.9	95	52.49%	50	52.63%	34	18.78%	17	50.00%	17	9.39%	6	35.29%	11	6.08%	1	9.09%	24	13.26%	6	25.00%
<b>1986 Total</b>		812	1.6	460	56.65%	273	59.35%	167	20.57%	66	39.52%	84	10.34%	36	42.86%	38	4.68%	10	26.32%	63	7.76%	12	19.05%
1987	LDGV	307	2.0	153	49.84%	79	51.63%	65	21.17%	23	35.38%	34	11.07%	10	29.41%	22	7.17%	6	27.27%	33	10.75%	12	36.36%
	LDGT1	335	1.6	190	56.72%	104	54.74%	80	23.88%	38	47.50%	37	11.04%	14	37.84%	17	5.07%	6	35.29%	11	3.28%	4	36.36%
	LDGT2	190	2.0	92	48.42%	49	53.26%	38	20.00%	13	34.21%	21	11.05%	6	28.57%	18	9.47%	6	33.33%	21	11.05%	6	28.57%
<b>1987 Total</b>		832	1.8	435	52.28%	232	53.33%	183	22.00%	74	40.44%	92	11.06%	30	32.61%	57	6.85%	18	31.58%	65	7.81%	22	33.85%
1988	LDGV	347	1.6	204	58.79%	120	58.82%	71	20.46%	30	42.25%	41	11.82%	19	46.34%	17	4.90%	6	35.29%	14	4.03%	4	28.57%
	LDGT1	466	1.7	267	57.30%	173	64.79%	83	17.81%	36	43.37%	45	9.66%	20	44.44%	20	4.29%	4	20.00%	51	10.94%	12	23.53%
	LDGT2	198	1.7	110	55.56%	67	60.91%	45	22.73%	19	42.22%	19	9.60%	9	47.37%	9	4.55%	1	11.11%	15	7.58%	5	33.33%
<b>1988 Total</b>		1011	1.6	581	57.47%	360	61.96%	199	19.68%	85	42.71%	105	10.39%	48	45.71%	46	4.55%	11	23.91%	80	7.91%	21	26.25%
1989	LDGV	395	1.7	234	59.24%	143	61.11%	79	20.00%	37	46.84%	43	10.89%	21	48.84%	13	3.29%	5	38.46%	26	6.58%	8	30.77%
	LDGT1	574	1.8	307	53.48%	181	58.96%	118	20.56%	46	38.98%	58	10.10%	23	39.66%	34	5.92%	11	32.35%	57	9.93%	18	31.58%
	LDGT2	212	1.6	128	60.38%	86	67.19%	47	22.17%	27	57.45%	17	8.02%	8	47.06%	6	2.83%	1	16.67%	14	6.60%	6	42.86%
<b>1989 Total</b>		1181	1.7	669	56.65%	410	61.29%	244	20.66%	110	45.08%	118	9.99%	52	44.07%	53	4.49%	17	32.08%	97	8.21%	32	32.99%
1990	LDGV	550	1.6	336	61.09%	200	59.52%	117	21.27%	58	49.57%	49	8.91%	29	59.18%	22	4.00%	8	36.36%	26	4.73%	10	38.46%
	LDGT1	587	1.7	343	58.43%	209	60.93%	119	20.27%	56	47.06%	55	9.37%	18	32.73%	30	5.11%	11	36.67%	40	6.81%	18	45.00%
	LDGT2	245	1.5	149	60.82%	97	65.10%	50	20.41%	20	40.00%	24	9.80%	13	54.17%	9	3.67%	3	33.33%	13	5.31%	3	23.08%
<b>1990 Total</b>		1382	1.6	828	59.91%	506	61.11%	286	20.69%	134	46.85%	128	9.26%	60	46.88%	61	4.41%	22	36.07%	79	5.72%	31	39.24%





Vehicle			Avg Retest #	Retest #1				Retest #2				Retest #3				Retest #4				Retest >= #5			
Year	Type	Total		Cnt	Cnt%	Goal	Goal%	Cnt	Cnt%	Goal	Goal%	Cnt	Cnt %	Goal	Goal%	Cnt	Cnt%	Goal	Goal%	Cnt	Cnt%	Goal	Goal%
2011	LDGV	18	1.1	16	88.89%	15	93.75%	1	5.56%	0	0.00%	1	5.56%	1	100.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%
	LDGT1	3	1.0	3	100.00%	3	100.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%
	LDGT2	2	1.0	2	100.00%	2	100.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%
<b>2011 Total</b>		<b>23</b>	<b>1.1</b>	<b>21</b>	<b>91.30%</b>	<b>20</b>	<b>95.24%</b>	<b>1</b>	<b>4.35%</b>	<b>0</b>	<b>0.00%</b>	<b>1</b>	<b>4.35%</b>	<b>1</b>	<b>100.00%</b>	<b>0</b>	<b>0.00%</b>	<b>0</b>	<b>0.00%</b>	<b>0</b>	<b>0.00%</b>	<b>0</b>	<b>0.00%</b>
2012	LDGV	12	1.1	11	91.67%	10	90.91%	1	8.33%	1	100.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%
	LDGT1	2	1.0	2	100.00%	2	100.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%
	LDGT2	3	1.0	3	100.00%	3	100.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%
<b>2012 Total</b>		<b>17</b>	<b>1.1</b>	<b>16</b>	<b>94.12%</b>	<b>15</b>	<b>93.75%</b>	<b>1</b>	<b>5.88%</b>	<b>1</b>	<b>100.00%</b>	<b>0</b>	<b>0.00%</b>	<b>0</b>	<b>0.00%</b>	<b>0</b>	<b>0.00%</b>	<b>0</b>	<b>0.00%</b>	<b>0</b>	<b>0.00%</b>	<b>0</b>	<b>0.00%</b>
2013	LDGV	5	1.0	5	100.00%	5	100.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%
<b>2013 Total</b>		<b>5</b>	<b>1.0</b>	<b>5</b>	<b>100.00%</b>	<b>5</b>	<b>100.00%</b>	<b>0</b>	<b>0.00%</b>	<b>0</b>	<b>0.00%</b>	<b>0</b>	<b>0.00%</b>	<b>0</b>	<b>0.00%</b>	<b>0</b>	<b>0.00%</b>	<b>0</b>	<b>0.00%</b>	<b>0</b>	<b>0.00%</b>	<b>0</b>	<b>0.00%</b>
2014	LDGV	6	1.0	6	100.00%	6	100.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%
<b>2014 Total</b>		<b>6</b>	<b>1.0</b>	<b>6</b>	<b>100.00%</b>	<b>6</b>	<b>100.00%</b>	<b>0</b>	<b>0.00%</b>	<b>0</b>	<b>0.00%</b>	<b>0</b>	<b>0.00%</b>	<b>0</b>	<b>0.00%</b>	<b>0</b>	<b>0.00%</b>	<b>0</b>	<b>0.00%</b>	<b>0</b>	<b>0.00%</b>	<b>0</b>	<b>0.00%</b>
<b>Overall Total</b>		<b>68761</b>	<b>1.4</b>	<b>48018</b>	<b>69.83%</b>	<b>35929</b>	<b>74.82%</b>	<b>10815</b>	<b>15.73%</b>	<b>5247</b>	<b>48.52%</b>	<b>4897</b>	<b>7.12%</b>	<b>2137</b>	<b>43.64%</b>	<b>2,347</b>	<b>3.41%</b>	<b>967</b>	<b>41.20%</b>	<b>2684</b>	<b>3.90%</b>	<b>963</b>	<b>35.88%</b>

Retest Frequency Report Summary by Veh (V1.01)

Vehicle		Avg Retest #	Retest #1				Retest #2				Retest #3				Retest #4				Retest >= #5			
Type	Total		Cnt	Cnt%	Goal	Goal%	Cnt	Cnt%	Goal	Goal%	Cnt	Cnt %	Goal	Goal%	Cnt	Cnt%	Goal	Goal%	Cnt	Cnt%	Goal	Goal%
LDGV	28229	1.4	20217	71.62%	15336	75.86%	4248	15.05%	2042	48.07%	1912	6.77%	852	44.56%	866	3.07%	342	39.49%	986	3.49%	353	35.80%
LDGT1	25612	1.4	18139	70.82%	13834	76.27%	3940	15.38%	1977	50.18%	1734	6.77%	755	43.54%	859	3.35%	371	43.19%	940	3.67%	332	35.32%
LDGT2	14920	1.5	9662	64.76%	6759	69.95%	2627	17.61%	1228	46.75%	1251	8.38%	530	42.37%	622	4.17%	254	40.84%	758	5.08%	278	36.68%
<b>Overall Total</b>	<b>68761</b>	<b>1.4</b>	<b>48018</b>	<b>69.83%</b>	<b>35929</b>	<b>74.82%</b>	<b>10815</b>	<b>15.73%</b>	<b>5247</b>	<b>48.52%</b>	<b>4897</b>	<b>7.12%</b>	<b>2137</b>	<b>43.64%</b>	<b>2,347</b>	<b>3.41%</b>	<b>967</b>	<b>41.20%</b>	<b>2684</b>	<b>3.90%</b>	<b>963</b>	<b>35.88%</b>

## **Appendix B7**

I/M240 Fleet Characterization Summary Report

Initial Inspection Component





Date  
Between 1/1/2016 and 12/31/2016

## IM240 Fleet Initial Inspection Report (V1.01)

Vehicle		Overall Initial Exhaust Emissions				Pass Initial Test Exhaust Emissions					Pass or Waived Retest Initial Exhaust Emissions				
Year	Type	Total	Avg HC(gpm)	Avg CO(gpm)	Avg NOx(gpm)	Total	Total %	Avg HC(gpm)	Avg CO(gpm)	Avg NOx(gpm)	Total	Total %	Avg HC(gpm)	Avg CO(gpm)	Avg NOx(gpm)
1982	LDGV	225	2.1274	25.1485	2.0828	181	80.44%	1.6677	19.8098	2.0167	44	19.56%	4.0185	47.1098	2.3548
	LDGT1	247	2.8562	35.8395	2.9023	184	74.49%	2.2487	29.1382	2.9700	63	25.51%	4.6307	55.4117	2.7045
	LDGT2	51	3.1943	56.9540	2.3789	30	58.82%	2.1622	32.9551	2.3103	21	41.18%	4.6689	91.2383	2.4769
<b>1982 Total</b>		523	2.5757	33.2991	2.4987	395	75.53%	1.9759	25.1536	2.4831	128	24.47%	4.4265	58.4357	2.5470
1983	LDGV	281	1.7248	19.5256	1.9726	220	78.29%	1.2089	12.1370	2.0079	61	21.71%	3.5854	46.1728	1.8450
	LDGT1	255	3.0668	38.5407	2.4798	188	73.73%	2.7134	31.5816	2.4607	67	26.27%	4.0584	58.0677	2.5332
	LDGT2	94	3.4306	57.6184	2.8361	59	62.77%	2.4518	32.7784	3.0453	35	37.23%	5.0807	99.4916	2.4835
<b>1983 Total</b>		630	2.5225	32.9059	2.3067	467	74.13%	1.9716	22.5726	2.3213	163	25.87%	4.1009	62.5109	2.2650
1984	LDGV	657	1.6326	16.6336	1.8599	533	81.13%	1.2149	10.9921	1.9087	124	18.87%	3.4279	40.8829	1.6500
	LDGT1	552	2.3718	31.7841	2.4742	433	78.44%	1.9755	22.9513	2.5279	119	21.56%	3.8140	63.9237	2.2787
	LDGT2	206	3.1797	42.5528	3.0363	140	67.96%	2.1808	25.9043	3.2183	66	32.04%	5.2985	77.8678	2.6503
<b>1984 Total</b>		1415	2.1462	26.3173	2.2708	1106	78.16%	1.6349	17.5617	2.3169	309	21.84%	3.9761	57.6559	2.1058
1985	LDGV	673	1.2695	13.5481	1.9416	565	83.95%	0.9874	10.5607	1.9034	108	16.05%	2.7455	29.1767	2.1411
	LDGT1	630	2.3156	26.8429	2.6376	482	76.51%	1.8170	18.1733	2.6459	148	23.49%	3.9394	55.0778	2.6106
	LDGT2	172	2.4403	33.0676	2.7916	121	70.35%	1.9650	22.4486	2.8714	51	29.65%	3.5679	58.2617	2.6022
<b>1985 Total</b>		1475	1.8528	21.5027	2.3380	1168	79.19%	1.4310	14.9337	2.3101	307	20.81%	3.4577	46.4949	2.4440
1986	LDGV	1089	1.0979	11.1550	1.8623	949	87.14%	0.8715	7.8965	1.8247	140	12.86%	2.6328	33.2425	2.1171
	LDGT1	1130	1.8212	19.5838	2.4220	941	83.27%	1.5231	15.4923	2.4392	189	16.73%	3.3056	39.9548	2.3365
	LDGT2	271	2.3490	29.2669	2.8202	189	69.74%	1.8172	19.6447	2.7790	82	30.26%	3.5747	51.4450	2.9153
<b>1986 Total</b>		2490	1.5623	16.9513	2.2206	2079	83.49%	1.2524	12.4026	2.1896	411	16.51%	3.1301	39.9608	2.3772
1987	LDGV	1074	1.0758	10.8230	1.8224	940	87.52%	0.8673	7.7105	1.7889	134	12.48%	2.5386	32.6568	2.0571
	LDGT1	989	1.6417	19.2145	2.2916	819	82.81%	1.3732	14.3586	2.2768	170	17.19%	2.9350	42.6085	2.3629
	LDGT2	309	2.1782	20.4671	2.9904	226	73.14%	1.8083	13.8404	2.8870	83	26.86%	3.1856	38.5108	3.2718
<b>1987 Total</b>		2372	1.4554	15.5782	2.1702	1985	83.68%	1.1832	11.1514	2.1152	387	16.32%	2.8515	38.2838	2.4519
1988	LDGV	1616	0.8730	10.3139	1.5375	1431	88.55%	0.7085	7.6481	1.5179	185	11.45%	2.1454	30.9340	1.6896
	LDGT1	1594	1.4946	14.6851	2.2064	1343	84.25%	1.2539	11.7051	2.1400	251	15.75%	2.7820	30.6301	2.5620
	LDGT2	557	1.7565	16.1952	2.8060	452	81.15%	1.4464	11.9370	2.6551	105	18.85%	3.0916	34.5256	3.4552
<b>1988 Total</b>		3767	1.2666	13.0332	2.0081	3226	85.64%	1.0389	9.9380	1.9362	541	14.36%	2.6244	31.4901	2.4370
1989	LDGV	1699	0.8792	10.0146	1.6462	1482	87.23%	0.7167	7.6088	1.6088	217	12.77%	1.9892	26.4449	1.9016
	LDGT1	1651	1.4549	16.6166	2.1466	1366	82.74%	1.1475	12.2468	2.0509	285	17.26%	2.9282	37.5605	2.6056
	LDGT2	644	1.7471	16.4623	2.7690	515	79.97%	1.4298	12.2408	2.6646	129	20.03%	3.0136	33.3157	3.1859
<b>1989 Total</b>		3994	1.2571	13.7833	2.0341	3363	84.20%	1.0009	10.2020	1.9500	631	15.80%	2.6228	32.8701	2.4821
1990	LDGV	3154	0.7880	9.1714	1.5858	2846	90.23%	0.6422	7.3140	1.5440	308	9.77%	2.1351	26.3342	1.9715
	LDGT1	2058	1.2940	13.5465	2.1318	1742	84.65%	1.0757	10.4563	2.0547	316	15.35%	2.4974	30.5814	2.5569
	LDGT2	839	1.6613	15.8913	2.6452	701	83.55%	1.4081	13.5720	2.5566	138	16.45%	2.9478	27.6731	3.0951
<b>1990 Total</b>		6051	1.0812	11.5912	1.9184	5289	87.41%	0.8865	9.1784	1.8464	762	12.59%	2.4325	28.3380	2.4178
1991	LDGV	3368	0.7284	9.0186	1.4933	2946	87.47%	0.5719	6.7596	1.4232	422	12.53%	1.8215	24.7886	1.9829
	LDGT1	2322	1.0853	12.6986	1.8293	1993	85.83%	0.9199	10.5044	1.7436	329	14.17%	2.0875	25.9907	2.3482
	LDGT2	719	1.5625	18.3531	2.4865	558	77.61%	1.2661	14.7114	2.4137	161	22.39%	2.5899	30.9747	2.7388
<b>1991 Total</b>		6409	0.9513	11.3991	1.7265	5497	85.77%	0.7685	8.9245	1.6399	912	14.23%	2.0531	26.3143	2.2481

Vehicle		Overall Initial Exhaust Emissions				Pass Initial Test Exhaust Emissions					Pass or Waived Retest Initial Exhaust Emissions				
Year	Type	Total	Avg HC(gpm)	Avg CO(gpm)	Avg NOx(gpm)	Total	Total %	Avg HC(gpm)	Avg CO(gpm)	Avg NOx(gpm)	Total	Total %	Avg HC(gpm)	Avg CO(gpm)	Avg NOx(gpm)
1992	LDGV	4554	0.6449	7.6377	1.4271	4039	88.69%	0.5171	5.9425	1.3681	515	11.31%	1.6472	20.9326	1.8894
	LDGT1	2837	1.0146	11.4286	1.7776	2488	87.70%	0.8835	9.7213	1.6941	349	12.30%	1.9490	23.5996	2.3733
	LDGT2	1343	1.6626	16.0560	2.4957	1106	82.35%	1.3453	13.6017	2.4110	237	17.65%	3.1435	27.5097	2.8910
<b>1992 Total</b>		8734	0.9215	10.1635	1.7053	7633	87.39%	0.7565	8.2840	1.6255	1101	12.61%	2.0650	23.1938	2.2584
1993	LDGV	4820	0.6362	7.3809	1.4987	4317	89.56%	0.5248	5.6094	1.4318	503	10.44%	1.5921	22.5855	2.0724
	LDGT1	3541	1.0431	11.3959	2.0677	3098	87.49%	0.9171	9.5993	1.9592	443	12.51%	1.9238	23.9599	2.8266
	LDGT2	1413	1.7046	16.9761	2.5776	1140	80.68%	1.3735	14.1337	2.4513	273	19.32%	3.0874	28.8455	3.1049
<b>1993 Total</b>		9774	0.9381	10.2227	1.8608	8555	87.53%	0.7800	8.1902	1.7586	1219	12.47%	2.0475	24.4869	2.5777
1994	LDGV	6427	0.5066	6.0156	1.1929	5837	90.82%	0.3977	4.9214	1.1345	590	9.18%	1.5835	16.8407	1.7708
	LDGT1	5297	0.8278	9.4044	1.8122	4675	88.26%	0.7073	7.8654	1.7033	622	11.74%	1.7335	20.9712	2.6306
	LDGT2	2703	1.2032	13.1811	2.2400	2157	79.80%	0.9572	10.4721	2.0714	546	20.20%	2.1747	23.8830	2.9060
<b>1994 Total</b>		14427	0.7550	8.6023	1.6164	12669	87.81%	0.6072	6.9528	1.5039	1758	12.19%	1.8202	20.4893	2.4276
1995	LDGV	8177	0.4805	5.8241	1.0658	7429	90.85%	0.3848	4.7028	1.0105	748	9.15%	1.4302	16.9607	1.6152
	LDGT1	5485	0.8199	9.5917	1.8665	4767	86.91%	0.6678	7.7045	1.7312	718	13.09%	1.8300	22.1207	2.7649
	LDGT2	3182	1.1151	12.9017	2.1862	2529	79.48%	0.8966	10.3700	2.0259	653	20.52%	1.9613	22.7066	2.8072
<b>1995 Total</b>		16844	0.7109	8.3880	1.5382	14725	87.42%	0.5643	6.6479	1.4182	2119	12.58%	1.7293	20.4798	2.3721
1996	LDGV	10690	0.3448	4.4996	0.8370	9876	92.39%	0.2910	3.7163	0.7883	814	7.61%	0.9976	14.0034	1.4277
	LDGT1	7034	0.4459	6.1631	1.4514	6230	88.57%	0.3736	5.0409	1.3592	804	11.43%	1.0064	14.8587	2.1655
	LDGT2	3393	0.5828	7.1978	1.4244	2979	87.80%	0.4739	5.8948	1.3226	414	12.20%	1.3663	16.5742	2.1574
<b>1996 Total</b>		21117	0.4167	5.4873	1.1360	19085	90.38%	0.3465	4.4887	1.0581	2032	9.62%	1.0762	14.8656	1.8683
1997	LDGV	12445	0.3484	4.7884	0.8080	11330	91.04%	0.2962	3.8781	0.7619	1115	8.96%	0.8788	14.0381	1.2771
	LDGT1	9771	0.4030	6.1078	1.3813	8507	87.06%	0.3319	4.9795	1.2572	1264	12.94%	0.8810	13.7016	2.2168
	LDGT2	3940	0.5392	7.0868	1.5003	3351	85.05%	0.4032	5.7132	1.3529	589	14.95%	1.3131	14.9015	2.3387
<b>1997 Total</b>		26156	0.3975	5.6275	1.1265	23188	88.65%	0.3248	4.5474	1.0290	2968	11.35%	0.9659	14.0661	1.8880
1998	LDGV	16473	0.2732	4.2121	0.6663	15048	91.35%	0.2290	3.4657	0.6200	1425	8.65%	0.7395	12.0933	1.1542
	LDGT1	14084	0.3415	5.0881	1.1544	12598	89.45%	0.2921	4.3169	1.0480	1486	10.55%	0.7605	11.6260	2.0566
	LDGT2	5287	0.4148	5.7189	1.2880	4609	87.18%	0.3195	4.4578	1.1456	678	12.82%	1.0629	14.2914	2.2559
<b>1998 Total</b>		35844	0.3209	4.7785	0.9498	32255	89.99%	0.2666	3.9399	0.8623	3589	10.01%	0.8093	12.3150	1.7360
1999	LDGV	17376	0.2449	3.7831	0.6378	15894	91.47%	0.2032	3.1318	0.5835	1482	8.53%	0.6926	10.7680	1.2196
	LDGT1	13144	0.2678	4.4643	0.8883	11755	89.43%	0.2241	3.6879	0.7873	1389	10.57%	0.6379	11.0356	1.7429
	LDGT2	6594	0.3620	4.6098	1.0706	5635	85.46%	0.2554	3.3007	0.8856	959	14.54%	0.9887	12.3022	2.1579
<b>1999 Total</b>		37114	0.2738	4.1712	0.8034	33284	89.68%	0.2194	3.3568	0.7066	3830	10.32%	0.7469	11.2492	1.6443
2000	LDGV	24630	0.1914	3.2050	0.5025	22862	92.82%	0.1510	2.6345	0.4479	1768	7.18%	0.7135	10.5822	1.2088
	LDGT1	17978	0.2405	3.7009	0.7737	16288	90.60%	0.2037	3.0486	0.6937	1690	9.40%	0.5956	9.9869	1.5441
	LDGT2	7391	0.2484	3.8252	0.7891	6656	90.06%	0.2015	2.9871	0.6885	735	9.94%	0.6729	11.4146	1.7001
<b>2000 Total</b>		49999	0.2175	3.4750	0.6424	45806	91.61%	0.1771	2.8330	0.5703	4193	8.39%	0.6588	10.4882	1.4301
2001	LDGV	22454	0.1456	2.8026	0.3813	20955	93.32%	0.1136	2.3587	0.3353	1499	6.68%	0.5934	9.0078	1.0236
	LDGT1	16042	0.1597	3.3609	0.5067	14660	91.39%	0.1271	2.8029	0.4459	1382	8.61%	0.5061	9.2798	1.1513
	LDGT2	6929	0.2521	3.6048	0.6904	6270	90.49%	0.2025	2.8969	0.6073	659	9.51%	0.7235	10.3394	1.4809
<b>2001 Total</b>		45425	0.1668	3.1221	0.4727	41885	92.21%	0.1316	2.5947	0.4148	3540	7.79%	0.5836	9.3619	1.1586
2002	LDGV	28955	0.1199	2.8335	0.3209	27121	93.67%	0.0937	2.5578	0.2724	1834	6.33%	0.5067	6.9120	1.0371
	LDGT1	22798	0.1261	3.6085	0.4099	21386	93.81%	0.1041	3.0813	0.3663	1412	6.19%	0.4594	11.5937	1.0703
	LDGT2	7486	0.1820	2.7666	0.6559	6861	91.65%	0.1568	2.3322	0.5896	625	8.35%	0.4585	7.5342	1.3829

Vehicle		Overall Initial Exhaust Emissions				Pass Initial Test Exhaust Emissions					Pass or Waived Retest Initial Exhaust Emissions				
Year	Type	Total	Avg HC(gpm)	Avg CO(gpm)	Avg NOx(gpm)	Total	Total %	Avg HC(gpm)	Avg CO(gpm)	Avg NOx(gpm)	Total	Total %	Avg HC(gpm)	Avg CO(gpm)	Avg NOx(gpm)
<b>2002 Total</b>		59239	0.1301	3.1233	0.3975	55368	93.47%	0.1056	2.7320	0.3480	3871	6.53%	0.4817	8.7202	1.1050
2003	LDGV	23970	0.0961	2.0100	0.2795	22384	93.38%	0.0723	1.6651	0.2373	1586	6.62%	0.4308	6.8774	0.8751
	LDGT1	17292	0.1108	2.4316	0.3474	16116	93.20%	0.0890	1.9385	0.3090	1176	6.80%	0.4094	9.1890	0.8727
	LDGT2	7282	0.1660	2.5391	0.4660	6725	92.35%	0.1368	2.0394	0.4078	557	7.65%	0.5185	8.5730	1.1685
<b>2003 Total</b>		48544	0.1118	2.2395	0.3316	45225	93.16%	0.0879	1.8182	0.2882	3319	6.84%	0.4379	7.9810	0.9235
2004	LDGV	28240	0.0721	1.5891	0.1892	26696	94.53%	0.0548	1.3560	0.1593	1544	5.47%	0.3711	5.6194	0.7050
	LDGT1	25688	0.0780	1.8648	0.2055	24277	94.51%	0.0619	1.5332	0.1803	1411	5.49%	0.3548	7.5702	0.6393
	LDGT2	10475	0.0947	1.7937	0.2309	9791	93.47%	0.0750	1.4665	0.1919	684	6.53%	0.3767	6.4781	0.7896
<b>2004 Total</b>		64403	0.0782	1.7324	0.2025	60764	94.35%	0.0609	1.4446	0.1730	3639	5.65%	0.3658	6.5372	0.6954
2005	LDGV	23912	0.0653	1.4579	0.1661	22614	94.57%	0.0469	1.2051	0.1390	1298	5.43%	0.3867	5.8622	0.6371
	LDGT1	20973	0.0627	1.3228	0.1368	20140	96.03%	0.0565	1.2121	0.1200	833	3.97%	0.2143	4.0001	0.5429
	LDGT2	6844	0.1318	2.0011	0.2446	6475	94.61%	0.0872	1.5134	0.1973	369	5.39%	0.9134	10.5584	1.0740
<b>2005 Total</b>		51729	0.0731	1.4750	0.1646	49229	95.17%	0.0561	1.2485	0.1389	2500	4.83%	0.4070	5.9349	0.6702
2006	LDGV	4614	0.0835	1.8406	0.1818	4372	94.76%	0.0484	1.3844	0.1162	242	5.24%	0.7183	10.0827	1.3673
	LDGT1	3652	0.0539	1.5532	0.1464	3436	94.09%	0.0483	1.3707	0.1245	216	5.91%	0.1423	4.4550	0.4939
	LDGT2	1383	0.1052	2.1034	0.2353	1304	94.29%	0.0755	1.5544	0.1724	79	5.71%	0.5957	11.1641	1.2734
<b>2006 Total</b>		9649	0.0754	1.7695	0.1761	9112	94.43%	0.0522	1.4036	0.1274	537	5.57%	0.4686	7.9781	1.0022
2007	LDGV	3175	0.0739	1.6312	0.1448	3020	95.12%	0.0430	1.2347	0.0988	155	4.88%	0.6766	9.3563	1.0409
	LDGT1	2214	0.0446	1.6296	0.1144	2105	95.08%	0.0410	1.3723	0.0995	109	4.92%	0.1143	6.5996	0.4026
	LDGT2	1133	0.0945	1.8626	0.1963	1066	94.09%	0.0618	1.2403	0.1167	67	5.91%	0.6154	11.7637	1.4625
<b>2007 Total</b>		6522	0.0675	1.6709	0.1434	6191	94.92%	0.0455	1.2824	0.1021	331	5.08%	0.4790	8.9358	0.9160
2008	LDGV	3359	0.0551	1.4569	0.1231	3228	96.10%	0.0388	1.1990	0.0840	131	3.90%	0.4565	7.8128	1.0878
	LDGT1	2669	0.0373	1.2800	0.1004	2563	96.03%	0.0333	1.1697	0.0839	106	3.97%	0.1338	3.9470	0.4971
	LDGT2	1206	0.0721	2.0345	0.1210	1125	93.28%	0.0519	1.6475	0.0940	81	6.72%	0.3521	7.4097	0.4963
<b>2008 Total</b>		7234	0.0514	1.4879	0.1144	6916	95.60%	0.0389	1.2611	0.0856	318	4.40%	0.3223	6.4215	0.7403
2009	LDGV	2939	0.0428	1.1979	0.1017	2867	97.55%	0.0342	1.0831	0.0719	72	2.45%	0.3853	5.7687	1.2877
	LDGT1	1735	0.0313	1.3018	0.0823	1673	96.43%	0.0295	1.2242	0.0704	62	3.57%	0.0804	3.3959	0.4036
	LDGT2	846	0.0428	1.2823	0.0823	799	94.44%	0.0427	1.2750	0.0816	47	5.56%	0.0433	1.4069	0.0955
<b>2009 Total</b>		5520	0.0392	1.2435	0.0926	5339	96.72%	0.0340	1.1560	0.0729	181	3.28%	0.1920	3.8233	0.6753
2010	LDGV	543	0.1170	1.8269	0.1273	516	95.03%	0.0386	1.3445	0.0827	27	4.97%	1.6157	11.0462	0.9804
	LDGT1	374	0.0314	1.1679	0.0704	355	94.92%	0.0316	1.1232	0.0713	19	5.08%	0.0273	2.0045	0.0536
	LDGT2	239	0.0537	1.3134	0.1020	218	91.21%	0.0492	1.1286	0.0785	21	8.79%	0.1005	3.2318	0.3458
<b>2010 Total</b>		1156	0.0762	1.5076	0.1037	1089	94.20%	0.0384	1.2291	0.0781	67	5.80%	0.6904	6.0329	0.5187
2011	LDGV	308	0.0586	1.9301	0.1526	292	94.81%	0.0322	1.6747	0.0729	16	5.19%	0.5402	6.5924	1.6072
	LDGT1	185	0.0323	1.4228	0.0694	182	98.38%	0.0324	1.4253	0.0699	3	1.62%	0.0242	1.2685	0.0441
	LDGT2	119	0.0397	0.9879	0.1017	117	98.32%	0.0384	0.9577	0.0828	2	1.68%	0.1154	2.7571	1.2126
<b>2011 Total</b>		612	0.0469	1.5936	0.1176	591	96.57%	0.0335	1.4559	0.0739	21	3.43%	0.4260	5.4666	1.3464
2012	LDGV	264	0.0397	1.5284	0.0864	253	95.83%	0.0350	1.4354	0.0716	11	4.17%	0.1479	3.6682	0.4259
	LDGT1	98	0.0298	1.3976	0.0630	96	97.96%	0.0300	1.4140	0.0634	2	2.04%	0.0201	0.6112	0.0432
	LDGT2	77	0.0397	0.7928	0.0633	74	96.10%	0.0402	0.8041	0.0638	3	3.90%	0.0280	0.5135	0.0497
<b>2012 Total</b>		439	0.0375	1.3702	0.0771	423	96.36%	0.0348	1.3201	0.0684	16	3.64%	0.1094	2.6945	0.3076
2013	LDGV	179	0.0294	1.3823	0.0604	174	97.21%	0.0295	1.3810	0.0601	5	2.79%	0.0238	1.4291	0.0696
	LDGT1	41	0.0242	0.9026	0.0520	41	100.00%	0.0242	0.9026	0.0520	0	0.00%	0.0000	0.0000	0.0000

Vehicle		Overall Initial Exhaust Emissions				Pass Initial Test Exhaust Emissions					Pass or Waived Retest Initial Exhaust Emissions				
Year	Type	Total	Avg HC(gpm)	Avg CO(gpm)	Avg NOx(gpm)	Total	Total %	Avg HC(gpm)	Avg CO(gpm)	Avg NOx(gpm)	Total	Total %	Avg HC(gpm)	Avg CO(gpm)	Avg NOx(gpm)
	LDGT2	27	0.0277	0.6542	0.0652	27	100.00%	0.0277	0.6542	0.0652	0	0.00%	0.0000	0.0000	0.0000
<b>2013 Total</b>		247	0.0283	1.2231	0.0595	242	97.98%	0.0284	1.2188	0.0593	5	2.02%	0.0238	1.4291	0.0696
2014	LDGV	86	0.0626	1.3871	0.1577	80	93.02%	0.0267	1.0924	0.0459	6	6.98%	0.5413	5.3164	1.6478
	LDGT1	22	0.0228	0.8673	0.0532	22	100.00%	0.0228	0.8673	0.0532	0	0.00%	0.0000	0.0000	0.0000
	LDGT2	12	0.0263	0.4382	0.0329	12	100.00%	0.0263	0.4382	0.0329	0	0.00%	0.0000	0.0000	0.0000
<b>2014 Total</b>		120	0.0516	1.1969	0.1260	114	95.00%	0.0259	0.9801	0.0459	6	5.00%	0.5413	5.3164	1.6478
2015	LDGV	27	0.0490	1.1011	0.0883	27	100.00%	0.0490	1.1011	0.0883	0	0.00%	0.0000	0.0000	0.0000
	LDGT1	12	0.0277	1.0930	0.0504	12	100.00%	0.0277	1.0930	0.0504	0	0.00%	0.0000	0.0000	0.0000
	LDGT2	5	0.0275	0.7683	0.0370	5	100.00%	0.0275	0.7683	0.0370	0	0.00%	0.0000	0.0000	0.0000
<b>2015 Total</b>		44	0.0407	1.0611	0.0721	44	100.00%	0.0407	1.0611	0.0721	0	0.00%	0.0000	0.0000	0.0000
2016	LDGV	8	0.0255	0.7433	0.0513	8	100.00%	0.0255	0.7433	0.0513	0	0.00%	0.0000	0.0000	0.0000
	LDGT1	7	0.0184	0.5181	0.0511	7	100.00%	0.0184	0.5181	0.0511	0	0.00%	0.0000	0.0000	0.0000
	LDGT2	6	0.0299	0.5347	0.0349	6	100.00%	0.0299	0.5347	0.0349	0	0.00%	0.0000	0.0000	0.0000
<b>2016 Total</b>		21	0.0244	0.6086	0.0465	21	100.00%	0.0244	0.6086	0.0465	0	0.00%	0.0000	0.0000	0.0000
2017	LDGT1	1	0.0303	0.5996	0.0438	1	100.00%	0.0303	0.5996	0.0438	0	0.00%	0.0000	0.0000	0.0000
	LDGT2	1	0.0213	0.3491	0.0357	1	100.00%	0.0213	0.3491	0.0357	0	0.00%	0.0000	0.0000	0.0000
<b>2017 Total</b>		2	0.0258	0.4744	0.0398	2	100.00%	0.0258	0.4744	0.0398	0	0.00%	0.0000	0.0000	0.0000
<b>Grand Total</b>		<b>550041</b>	<b>0.2940</b>	<b>4.2241</b>	<b>0.6856</b>	<b>504330</b>	<b>91.69%</b>	<b>0.2289</b>	<b>3.3281</b>	<b>0.6078</b>	<b>45711</b>	<b>8.31%</b>	<b>1.0123</b>	<b>14.1098</b>	<b>1.5439</b>

**IM240 Fleet Initial Inspection Report - Summary by Veh (V1.01)**

Vehicle		Overall Initial Exhaust Emissions				Pass Initial Test Exhaust Emissions					Pass or Waived Retest Initial Exhaust Emissions				
Type	Total	Avg HC(gpm)	Avg CO(gpm)	Avg NOx(gpm)	Total	Total %	Avg HC(gpm)	Avg CO(gpm)	Avg NOx(gpm)	Total	Total %	Avg HC(gpm)	Avg CO(gpm)	Avg NOx(gpm)	
LDGV	262461	0.2341	3.5194	0.5427	243332	92.71%	0.1832	2.8300	0.4893	19129	7.29%	0.8818	12.2888	1.2218	
LDGT1	204402	0.3142	4.6346	0.7617	186969	91.47%	0.2517	3.6898	0.6785	17433	8.53%	0.9852	14.7672	1.6550	
LDGT2	83178	0.4335	5.4390	0.9494	74029	89.00%	0.3219	4.0516	0.8189	9149	11.00%	1.3366	16.6648	2.0058	
<b>Grand Total</b>		<b>550041</b>	<b>0.2940</b>	<b>4.2241</b>	<b>504330</b>	<b>91.69%</b>	<b>0.2289</b>	<b>3.3281</b>	<b>0.6078</b>	<b>45711</b>	<b>8.31%</b>	<b>1.0123</b>	<b>14.1098</b>	<b>1.5439</b>	

## **Appendix B8**

I/M240 Fleet Characterization Summary Report

Final Inspection Component



Date  
Between 1/1/2016 and 12/31/2016

IM240 Fleet Final Inspection Report (V1.01)

Vehicle		Overall Final Exhaust Emissions				Pass Retest Exhaust Emissions					Waived Exhaust Emissions				
Year	Type	Total	Avg HC(gpm)	Avg CO(gpm)	Avg NOx(gpm)	Total	Total %	Avg HC(gpm)	Avg CO(gpm)	Avg NOx(gpm)	Total	Total %	Avg HC(gpm)	Avg CO(gpm)	Avg NOx(gpm)
1982	LDGV	225	1.6556	19.9895	2.0179	44	19.56%	1.6054	20.7284	2.0228	0	0.00%	0.0000	0.0000	0.0000
	LDGT1	247	2.2433	29.7836	2.8466	63	25.51%	2.2276	31.6688	2.4860	0	0.00%	0.0000	0.0000	0.0000
	LDGT2	51	2.5106	36.5593	2.4466	21	41.18%	3.0084	41.7082	2.6414	0	0.00%	0.0000	0.0000	0.0000
<b>1982 Total</b>		523	2.0165	26.2308	2.4511	128	24.47%	2.1419	29.5551	2.3523	0	0.00%	0.0000	0.0000	0.0000
1983	LDGV	281	1.2550	12.8466	1.9834	59	21.00%	1.3834	13.3710	1.9271	2	0.71%	2.5502	75.4342	0.9508
	LDGT1	255	2.8365	33.6182	2.4684	65	25.49%	3.0164	35.6852	2.5399	2	0.78%	8.5591	157.8727	0.8701
	LDGT2	94	2.4787	34.5318	2.9197	35	37.23%	2.5240	37.4874	2.7081	0	0.00%	0.0000	0.0000	0.0000
<b>1983 Total</b>		630	2.0777	24.4897	2.3194	159	25.24%	2.3021	27.8018	2.3495	4	0.63%	5.5547	116.6534	0.9104
1984	LDGV	657	1.3022	12.2940	1.8828	119	18.11%	1.3666	13.5947	1.8239	5	0.76%	9.0758	120.1229	0.5138
	LDGT1	552	1.9708	23.7299	2.5266	118	21.38%	1.9550	26.1129	2.5422	1	0.18%	1.7776	79.6732	0.1082
	LDGT2	206	2.1296	26.7555	3.1301	66	32.04%	2.0212	28.5610	2.9431	0	0.00%	0.0000	0.0000	0.0000
<b>1984 Total</b>		1415	1.6835	18.8605	2.3155	303	21.41%	1.7383	21.7297	2.3474	6	0.42%	7.8594	113.3813	0.4462
1985	LDGV	673	1.0300	10.6940	1.9242	103	15.30%	1.1145	9.5381	2.0495	5	0.74%	4.1011	49.5669	1.6982
	LDGT1	630	1.8887	19.9520	2.6611	144	22.86%	1.9812	22.6352	2.7650	4	0.63%	7.2034	137.6837	0.7478
	LDGT2	172	1.8667	23.0331	2.8494	48	27.91%	1.5270	21.1094	2.9271	3	1.74%	3.3361	77.3855	0.7213
<b>1985 Total</b>		1475	1.4943	16.0871	2.3468	295	20.00%	1.6047	17.8140	2.5415	12	0.81%	4.9440	85.8938	1.1372
1986	LDGV	1089	0.9213	8.6950	1.8358	131	12.03%	1.0939	10.0468	1.9635	9	0.83%	3.6662	73.2122	1.1492
	LDGT1	1130	1.5643	16.1420	2.4270	186	16.46%	1.6767	18.3089	2.3904	3	0.27%	7.5187	85.5733	0.8726
	LDGT2	271	1.8533	20.3263	2.7953	80	29.52%	1.9035	20.7256	2.8890	2	0.74%	3.2585	68.7642	0.5842
<b>1986 Total</b>		2490	1.3146	13.3404	2.2085	397	15.94%	1.5301	16.0696	2.3500	14	0.56%	4.4335	75.2256	1.0092
1987	LDGV	1074	0.9018	8.0918	1.7945	130	12.10%	1.0793	9.8496	1.8164	4	0.37%	3.2375	40.5659	2.3997
	LDGT1	989	1.3992	14.8935	2.2885	166	16.78%	1.4148	15.1584	2.3719	4	0.40%	6.0724	113.4078	1.2299
	LDGT2	309	1.8083	14.2091	2.8360	80	25.89%	1.8442	14.0205	2.6922	3	0.97%	0.8567	47.0139	2.8254
<b>1987 Total</b>		2372	1.2273	11.7246	2.1362	376	15.85%	1.3902	13.0808	2.2480	11	0.46%	3.6190	68.8124	2.0904
1988	LDGV	1616	0.7253	7.8346	1.5253	179	11.08%	0.8252	8.2605	1.5886	6	0.37%	1.7483	39.6117	1.4103
	LDGT1	1594	1.2639	11.9524	2.1433	245	15.37%	1.2810	12.1280	2.1992	6	0.38%	2.8018	60.1337	0.6085
	LDGT2	557	1.4457	12.2617	2.6604	101	18.13%	1.4208	12.6091	2.6664	4	0.72%	1.9967	40.1793	3.1022
<b>1988 Total</b>		3767	1.0597	10.2316	1.9547	525	13.94%	1.1525	10.9019	2.0809	16	0.42%	2.2055	47.4494	1.5326
1989	LDGV	1699	0.7364	7.7710	1.6156	214	12.60%	0.8354	8.3203	1.6683	3	0.18%	3.4266	48.7040	1.2241
	LDGT1	1651	1.1719	12.4744	2.0740	279	16.90%	1.2366	11.6778	2.2036	6	0.36%	3.7291	101.3234	1.3020
	LDGT2	644	1.4506	12.4527	2.6331	128	19.88%	1.4651	12.6251	2.5029	1	0.16%	10.3196	99.5242	3.1158
<b>1989 Total</b>		3994	1.0316	10.4701	1.9692	621	15.55%	1.1455	10.7160	2.0808	10	0.25%	4.2974	85.3577	1.4600
1990	LDGV	3154	0.6588	7.3530	1.5488	305	9.67%	0.8057	7.6888	1.5697	3	0.10%	1.4440	10.1580	3.9644
	LDGT1	2058	1.1011	10.7331	2.0937	312	15.16%	1.2325	11.9654	2.2778	4	0.19%	1.9234	35.1343	4.7161
	LDGT2	839	1.4296	13.4535	2.5624	136	16.21%	1.5071	12.2695	2.6187	2	0.24%	3.7204	52.4458	0.7546
<b>1990 Total</b>		6051	0.9161	9.3484	1.8747	753	12.44%	1.1092	10.2881	2.0526	9	0.15%	2.1629	30.6558	3.5852
1991	LDGV	3368	0.5995	6.9791	1.4423	410	12.17%	0.7014	7.3886	1.5715	12	0.36%	3.9131	46.8810	1.7048
	LDGT1	2322	0.9427	10.5576	1.7646	327	14.08%	1.0686	10.7507	1.8968	2	0.09%	3.1032	32.0537	1.0359
	LDGT2	719	1.2679	14.5032	2.4015	158	21.97%	1.2615	13.2820	2.3239	3	0.42%	1.9377	40.1003	4.2118
<b>1991 Total</b>		6409	0.7989	9.1197	1.6666	895	13.96%	0.9344	9.6574	1.8232	17	0.27%	3.4692	43.9400	2.0685

Vehicle		Overall Final Exhaust Emissions				Pass Retest Exhaust Emissions					Waived Exhaust Emissions				
Year	Type	Total	Avg HC(gpm)	Avg CO(gpm)	Avg NOx(gpm)	Total	Total %	Avg HC(gpm)	Avg CO(gpm)	Avg NOx(gpm)	Total	Total %	Avg HC(gpm)	Avg CO(gpm)	Avg NOx(gpm)
1992	LDGV	4554	0.5394	6.0931	1.3947	498	10.94%	0.6629	6.8044	1.5941	17	0.37%	2.2110	21.0542	1.8664
	LDGT1	2837	0.9045	9.9751	1.7147	343	12.09%	1.0215	11.3094	1.8587	6	0.21%	2.9402	38.9293	2.0072
	LDGT2	1343	1.3610	13.6663	2.3990	231	17.20%	1.3797	13.1496	2.3658	6	0.45%	3.5419	45.4707	1.4694
<b>1992 Total</b>		8734	0.7843	8.5186	1.6531	1072	12.27%	0.9321	9.6131	1.8450	29	0.33%	2.6372	29.8042	1.8134
1993	LDGV	4820	0.5352	5.6915	1.4496	496	10.29%	0.6135	6.2612	1.5932	7	0.15%	1.3723	15.9786	2.2650
	LDGT1	3541	0.9284	9.6842	1.9750	437	12.34%	0.9853	9.9781	2.0747	6	0.17%	2.6143	32.1094	2.8959
	LDGT2	1413	1.3743	13.9883	2.4357	269	19.04%	1.3578	12.8268	2.3585	4	0.28%	2.7161	50.6407	3.1543
<b>1993 Total</b>		9774	0.7990	8.3375	1.7825	1202	12.30%	0.9152	9.0818	1.9395	17	0.17%	2.1268	29.8276	2.6969
1994	LDGV	6427	0.4163	4.9989	1.1556	582	9.06%	0.5192	5.4986	1.3533	8	0.12%	6.4897	25.1535	2.1813
	LDGT1	5297	0.7190	7.9715	1.7232	618	11.67%	0.8059	8.7430	1.8567	4	0.08%	1.0071	12.7007	4.3759
	LDGT2	2703	0.9598	10.4075	2.0703	536	19.83%	0.9540	10.1002	2.0043	10	0.37%	1.8324	12.9371	5.3610
<b>1994 Total</b>		14427	0.6293	7.1036	1.5354	1736	12.03%	0.7555	8.0744	1.7335	22	0.15%	3.3759	17.3364	4.0256
1995	LDGV	8177	0.3954	4.7491	1.0216	734	8.98%	0.4568	4.8539	1.1175	14	0.17%	2.7492	23.8232	1.8678
	LDGT1	5485	0.6851	7.7986	1.7507	712	12.98%	0.7855	8.3105	1.8702	6	0.11%	2.5268	21.7356	3.0707
	LDGT2	3182	0.9092	10.3884	1.9973	644	20.24%	0.9326	10.1698	1.8885	9	0.28%	2.7581	31.2277	1.7425
<b>1995 Total</b>		16844	0.5868	6.8074	1.4433	2090	12.41%	0.7154	7.6695	1.6115	29	0.17%	2.7060	25.6892	2.0778
1996	LDGV	10690	0.2985	3.8338	0.7992	803	7.51%	0.3639	4.6368	0.9262	11	0.10%	2.1902	50.6866	1.3422
	LDGT1	7034	0.3782	5.1191	1.3760	790	11.23%	0.3872	5.3628	1.4867	14	0.20%	1.9270	26.1511	2.5629
	LDGT2	3393	0.4775	5.8946	1.3281	411	12.11%	0.4948	5.8013	1.3424	3	0.09%	1.7298	18.4622	4.8337
<b>1996 Total</b>		21117	0.3538	4.5930	1.0763	2004	9.49%	0.3999	5.1618	1.2325	28	0.13%	2.0093	34.9662	2.3267
1997	LDGV	12445	0.3008	3.9494	0.7716	1101	8.85%	0.3420	4.5346	0.8547	14	0.11%	0.8275	15.6077	2.0680
	LDGT1	9771	0.3395	5.0900	1.2748	1246	12.75%	0.3823	5.6540	1.3720	18	0.18%	0.9721	18.2551	2.8864
	LDGT2	3940	0.4214	5.8439	1.3648	580	14.72%	0.4427	6.0135	1.4042	9	0.23%	5.8451	43.5728	3.2705
<b>1997 Total</b>		26156	0.3335	4.6609	1.0489	2927	11.19%	0.3791	5.3042	1.1838	41	0.16%	1.9924	22.9086	2.6913
1998	LDGV	16473	0.2328	3.5243	0.6255	1413	8.58%	0.2637	3.9461	0.6740	12	0.07%	1.2907	27.3080	1.6926
	LDGT1	14084	0.2962	4.3425	1.0612	1471	10.44%	0.3157	4.3848	1.1543	15	0.11%	1.8120	21.7029	3.0788
	LDGT2	5287	0.3318	4.6157	1.1640	669	12.65%	0.3943	5.4848	1.2537	9	0.17%	1.9746	20.8731	3.9062
<b>1998 Total</b>		35844	0.2723	4.0068	0.8761	3553	9.91%	0.3098	4.4174	0.9820	36	0.10%	1.6789	23.3638	2.8236
1999	LDGV	17376	0.2076	3.1779	0.5924	1471	8.47%	0.2465	3.5490	0.6791	11	0.06%	1.4052	20.1839	1.8688
	LDGT1	13144	0.2298	3.7437	0.8056	1378	10.48%	0.2769	4.1661	0.9473	11	0.08%	0.4407	10.4783	2.6751
	LDGT2	6594	0.2733	3.4709	0.9186	943	14.30%	0.3484	4.1734	1.0738	16	0.24%	2.1704	22.0246	3.4062
<b>1999 Total</b>		37114	0.2271	3.4303	0.7259	3792	10.22%	0.2829	3.9285	0.8747	38	0.10%	1.4482	18.1494	2.7495
2000	LDGV	24630	0.1560	2.7066	0.4576	1749	7.10%	0.2082	3.4006	0.5728	19	0.08%	1.2427	25.4854	1.5801
	LDGT1	17978	0.2095	3.1467	0.7149	1673	9.31%	0.2447	3.8188	0.8971	17	0.09%	2.3678	30.9535	3.0213
	LDGT2	7391	0.2089	3.0517	0.7160	727	9.84%	0.2553	3.5653	0.9345	8	0.11%	2.1440	10.0786	3.8259
<b>2000 Total</b>		49999	0.1830	2.9158	0.5883	4149	8.30%	0.2312	3.5981	0.7669	44	0.09%	1.8412	24.7968	2.5452
2001	LDGV	22454	0.1173	2.3926	0.3428	1490	6.64%	0.1655	2.8165	0.4358	9	0.04%	0.7067	11.2622	2.2647
	LDGT1	16042	0.1304	2.8519	0.4582	1369	8.53%	0.1622	3.2733	0.5700	13	0.08%	0.5568	13.7757	2.4623
	LDGT2	6929	0.2090	2.9666	0.6264	654	9.44%	0.2602	3.4550	0.8048	5	0.07%	1.6131	26.4046	1.2045
<b>2001 Total</b>		45425	0.1359	2.6424	0.4268	3513	7.73%	0.1818	3.1134	0.5568	27	0.06%	0.8024	15.2766	2.1635
2002	LDGV	28955	0.0982	2.5876	0.2800	1819	6.28%	0.1404	2.9417	0.3719	15	0.05%	3.1510	13.5529	2.7024
	LDGT1	22798	0.1070	3.1315	0.3740	1401	6.15%	0.1393	3.6175	0.4785	11	0.05%	1.6661	38.8320	2.1478
	LDGT2	7486	0.1632	2.4080	0.6059	625	8.35%	0.2340	3.2397	0.7847	0	0.00%	0.0000	0.0000	0.0000



Vehicle		Overall Final Exhaust Emissions				Pass Retest Exhaust Emissions					Waived Exhaust Emissions				
Year	Type	Total	Avg HC(gpm)	Avg CO(gpm)	Avg NOx(gpm)	Total	Total %	Avg HC(gpm)	Avg CO(gpm)	Avg NOx(gpm)	Total	Total %	Avg HC(gpm)	Avg CO(gpm)	Avg NOx(gpm)
<b>2002 Total</b>		59239	0.1098	2.7742	0.3573	3845	6.49%	0.1552	3.2364	0.4778	26	0.04%	2.5227	24.2479	2.4677
2003	LDGV	23970	0.0758	1.7070	0.2439	1580	6.59%	0.1219	2.2550	0.3301	6	0.03%	0.7491	13.9165	2.2849
	LDGT1	17292	0.0912	1.9854	0.3174	1173	6.78%	0.1214	2.6235	0.4201	3	0.02%	0.1163	4.7649	5.3363
	LDGT2	7282	0.1414	2.1285	0.4237	557	7.65%	0.1968	3.2048	0.6161	0	0.00%	0.0000	0.0000	0.0000
<b>2003 Total</b>		48544	0.0911	1.8694	0.2971	3310	6.82%	0.1343	2.5454	0.4101	9	0.02%	0.5382	10.8659	3.3020
2004	LDGV	28240	0.0572	1.3873	0.1637	1538	5.45%	0.0954	1.8849	0.2344	6	0.02%	0.5939	13.2718	1.5640
	LDGT1	25688	0.0661	1.5829	0.1853	1405	5.47%	0.0933	2.3158	0.2673	6	0.02%	10.4376	31.2004	1.2576
	LDGT2	10475	0.0778	1.5096	0.1991	684	6.53%	0.1179	2.1267	0.3022	0	0.00%	0.0000	0.0000	0.0000
<b>2004 Total</b>		64403	0.0641	1.4852	0.1781	3627	5.63%	0.0988	2.0974	0.2599	12	0.02%	5.5158	22.2361	1.4108
2005	LDGV	23912	0.0488	1.2329	0.1427	1295	5.42%	0.0785	1.6999	0.1998	3	0.01%	1.9782	9.1638	3.2130
	LDGT1	20973	0.0576	1.2357	0.1241	831	3.96%	0.0861	1.8084	0.2146	2	0.01%	0.0249	1.0694	4.3218
	LDGT2	6844	0.0915	1.5923	0.2084	366	5.35%	0.1613	2.8798	0.3836	3	0.04%	0.8662	14.6559	2.7039
<b>2005 Total</b>		51729	0.0580	1.2816	0.1439	2492	4.82%	0.0932	1.9094	0.2317	8	0.02%	1.0729	9.1997	3.2993
2006	LDGV	4614	0.0543	1.4380	0.1250	240	5.20%	0.1227	2.3274	0.2616	2	0.04%	4.7602	11.8600	2.8831
	LDGT1	3652	0.0494	1.3857	0.1317	216	5.91%	0.0673	1.6231	0.2467	0	0.00%	0.0000	0.0000	0.0000
	LDGT2	1383	0.0805	1.6586	0.1900	79	5.71%	0.1635	3.3780	0.4808	0	0.00%	0.0000	0.0000	0.0000
<b>2006 Total</b>		9649	0.0562	1.4498	0.1369	535	5.54%	0.1063	2.1982	0.2880	2	0.02%	4.7602	11.8600	2.8831
2007	LDGV	3175	0.0462	1.2878	0.1047	155	4.88%	0.1080	2.3219	0.2209	0	0.00%	0.0000	0.0000	0.0000
	LDGT1	2214	0.0423	1.4409	0.1025	109	4.92%	0.0680	2.7666	0.1621	0	0.00%	0.0000	0.0000	0.0000
	LDGT2	1133	0.0681	1.3432	0.1322	67	5.91%	0.1684	2.9790	0.3789	0	0.00%	0.0000	0.0000	0.0000
<b>2007 Total</b>		6522	0.0487	1.3494	0.1088	331	5.08%	0.1071	2.6013	0.2335	0	0.00%	0.0000	0.0000	0.0000
2008	LDGV	3359	0.0480	1.2338	0.0893	130	3.87%	0.1059	2.0588	0.2164	1	0.03%	22.2620	6.5021	0.8232
	LDGT1	2669	0.0338	1.1919	0.0857	106	3.97%	0.0466	1.7300	0.1294	0	0.00%	0.0000	0.0000	0.0000
	LDGT2	1206	0.0562	1.7563	0.1002	81	6.72%	0.1148	3.2676	0.1861	0	0.00%	0.0000	0.0000	0.0000
<b>2008 Total</b>		7234	0.0442	1.3055	0.0898	317	4.38%	0.0884	2.2577	0.1796	1	0.01%	22.2620	6.5021	0.8232
2009	LDGV	2939	0.0351	1.0955	0.0749	72	2.45%	0.0684	1.5888	0.1924	0	0.00%	0.0000	0.0000	0.0000
	LDGT1	1735	0.0303	1.2626	0.0734	62	3.57%	0.0501	2.2991	0.1551	0	0.00%	0.0000	0.0000	0.0000
	LDGT2	846	0.0427	1.2779	0.0816	47	5.56%	0.0420	1.3276	0.0823	0	0.00%	0.0000	0.0000	0.0000
<b>2009 Total</b>		5520	0.0347	1.1760	0.0754	181	3.28%	0.0553	1.7643	0.1510	0	0.00%	0.0000	0.0000	0.0000
2010	LDGV	543	0.0421	1.3888	0.0860	27	4.97%	0.1084	2.2346	0.1498	0	0.00%	0.0000	0.0000	0.0000
	LDGT1	374	0.0313	1.1180	0.0697	19	5.08%	0.0263	1.0215	0.0405	0	0.00%	0.0000	0.0000	0.0000
	LDGT2	239	0.0516	1.3127	0.0974	21	8.79%	0.0771	3.2239	0.2936	0	0.00%	0.0000	0.0000	0.0000
<b>2010 Total</b>		1156	0.0406	1.2855	0.0831	67	5.80%	0.0753	2.2007	0.1639	0	0.00%	0.0000	0.0000	0.0000
2011	LDGV	308	0.0344	1.7400	0.0813	16	5.19%	0.0747	2.9324	0.2345	0	0.00%	0.0000	0.0000	0.0000
	LDGT1	185	0.0322	1.4151	0.0696	3	1.62%	0.0182	0.7922	0.0563	0	0.00%	0.0000	0.0000	0.0000
	LDGT2	119	0.0422	0.9894	0.0937	2	1.68%	0.2639	2.8467	0.7357	0	0.00%	0.0000	0.0000	0.0000
<b>2011 Total</b>		612	0.0352	1.4958	0.0802	21	3.43%	0.0847	2.6185	0.2568	0	0.00%	0.0000	0.0000	0.0000
2012	LDGV	264	0.0343	1.4462	0.0739	11	4.17%	0.0178	1.6941	0.1271	0	0.00%	0.0000	0.0000	0.0000
	LDGT1	98	0.0302	1.4101	0.0638	2	2.04%	0.0359	1.2265	0.0830	0	0.00%	0.0000	0.0000	0.0000
	LDGT2	77	0.0398	0.8139	0.0632	3	3.90%	0.0308	1.0548	0.0485	0	0.00%	0.0000	0.0000	0.0000
<b>2012 Total</b>		439	0.0343	1.3272	0.0698	16	3.64%	0.0225	1.5158	0.1068	0	0.00%	0.0000	0.0000	0.0000
2013	LDGV	179	0.0291	1.3664	0.0598	5	2.79%	0.0141	0.8596	0.0477	0	0.00%	0.0000	0.0000	0.0000
	LDGT1	41	0.0242	0.9026	0.0520	0	0.00%	0.0000	0.0000	0.0000	0	0.00%	0.0000	0.0000	0.0000

Vehicle		Overall Final Exhaust Emissions				Pass Retest Exhaust Emissions					Waived Exhaust Emissions				
Year	Type	Total	Avg HC(gpm)	Avg CO(gpm)	Avg NOx(gpm)	Total	Total %	Avg HC(gpm)	Avg CO(gpm)	Avg NOx(gpm)	Total	Total %	Avg HC(gpm)	Avg CO(gpm)	Avg NOx(gpm)
	LDGT2	27	0.0277	0.6542	0.0652	0	0.00%	0.0000	0.0000	0.0000	0	0.00%	0.0000	0.0000	0.0000
<b>2013 Total</b>		247	0.0281	1.2116	0.0591	5	2.02%	0.0141	0.8596	0.0477	0	0.00%	0.0000	0.0000	0.0000
2014	LDGV	86	0.0270	1.1722	0.0470	6	6.98%	0.0309	2.2353	0.0616	0	0.00%	0.0000	0.0000	0.0000
	LDGT1	22	0.0228	0.8673	0.0532	0	0.00%	0.0000	0.0000	0.0000	0	0.00%	0.0000	0.0000	0.0000
	LDGT2	12	0.0263	0.4382	0.0329	0	0.00%	0.0000	0.0000	0.0000	0	0.00%	0.0000	0.0000	0.0000
<b>2014 Total</b>		120	0.0261	1.0429	0.0467	6	5.00%	0.0309	2.2353	0.0616	0	0.00%	0.0000	0.0000	0.0000
2015	LDGV	27	0.0490	1.1011	0.0883	0	0.00%	0.0000	0.0000	0.0000	0	0.00%	0.0000	0.0000	0.0000
	LDGT1	12	0.0277	1.0930	0.0504	0	0.00%	0.0000	0.0000	0.0000	0	0.00%	0.0000	0.0000	0.0000
	LDGT2	5	0.0275	0.7683	0.0370	0	0.00%	0.0000	0.0000	0.0000	0	0.00%	0.0000	0.0000	0.0000
<b>2015 Total</b>		44	0.0407	1.0611	0.0721	0	0.00%	0.0000	0.0000	0.0000	0	0.00%	0.0000	0.0000	0.0000
2016	LDGV	8	0.0255	0.7433	0.0513	0	0.00%	0.0000	0.0000	0.0000	0	0.00%	0.0000	0.0000	0.0000
	LDGT1	7	0.0184	0.5181	0.0511	0	0.00%	0.0000	0.0000	0.0000	0	0.00%	0.0000	0.0000	0.0000
	LDGT2	6	0.0299	0.5347	0.0349	0	0.00%	0.0000	0.0000	0.0000	0	0.00%	0.0000	0.0000	0.0000
<b>2016 Total</b>		21	0.0244	0.6086	0.0465	0	0.00%	0.0000	0.0000	0.0000	0	0.00%	0.0000	0.0000	0.0000
2017	LDGT1	1	0.0303	0.5996	0.0438	0	0.00%	0.0000	0.0000	0.0000	0	0.00%	0.0000	0.0000	0.0000
	LDGT2	1	0.0213	0.3491	0.0357	0	0.00%	0.0000	0.0000	0.0000	0	0.00%	0.0000	0.0000	0.0000
<b>2017 Total</b>		2	0.0258	0.4744	0.0398	0	0.00%	0.0000	0.0000	0.0000	0	0.00%	0.0000	0.0000	0.0000
<b>Grand Total</b>		<b>550041</b>	<b>0.2450</b>	<b>3.4977</b>	<b>0.6376</b>	<b>45243</b>	<b>8.23%</b>	<b>0.4004</b>	<b>5.0893</b>	<b>0.9524</b>	<b>468</b>	<b>0.09%</b>	<b>2.5337</b>	<b>32.4202</b>	<b>2.3648</b>

Summary by Vehicle Type (V1.01)

Vehicle		Overall Final Exhaust Emissions				Pass Retest Exhaust Emissions					Waived Exhaust Emissions				
Type	Total	Avg HC(gpm)	Avg CO(gpm)	Avg NOx(gpm)	Total	Total %	Avg HC(gpm)	Avg CO(gpm)	Avg NOx(gpm)	Total	Total %	Avg HC(gpm)	Avg CO(gpm)	Avg NOx(gpm)	
LDGV	262461	0.1932	2.9287	0.5059	18925	7.21%	0.2972	3.9051	0.7046	204	0.08%	2.5305	30.0850	1.8795	
LDGT1	204402	0.2687	3.8828	0.7124	17269	8.45%	0.4320	5.6669	1.0624	164	0.08%	2.4726	36.0301	2.5168	
LDGT2	83178	0.3502	4.3468	0.8697	9049	10.88%	0.5559	6.4638	1.2609	100	0.12%	2.6403	31.2638	3.1054	
<b>Grand Total</b>	<b>550041</b>	<b>0.2450</b>	<b>3.4977</b>	<b>0.6376</b>	<b>45243</b>	<b>8.23%</b>	<b>0.4004</b>	<b>5.0893</b>	<b>0.9524</b>	<b>468</b>	<b>0.09%</b>	<b>2.5337</b>	<b>32.4202</b>	<b>2.3648</b>	

## **Appendix B9**

I/M240 Fleet Characterization Summary Report

Emissions Reduction Component



Date  
Between 1/1/2016 and 12/31/2016

IM240 Fleet Emission Reduction Report (V1.01)

Vehicle		Overall Initial Exhaust Emissions				Overall Final Exhaust Emissions				Emission Reduction					
Year	Type	Total	Avg HC (gpm)	Avg CO(gpm)	Avg NOx (gpm)	Total	Avg HC (gpm)	Avg CO(gpm)	Avg NOx (gpm)	Avg HC (gpm)	% Improvement	Avg CO (gpm)	% Improvement	Avg NOx(gpm)	% Improvement
1982	LDGV	225	2.1274	25.1485	2.0828	225	1.6556	19.9895	2.0179	0.4719	22.18%	5.1590	20.51%	0.0649	3.12%
	LDGT1	247	2.8562	35.8395	2.9023	247	2.2433	29.7836	2.8466	0.6129	21.46%	6.0559	16.90%	0.0557	1.92%
	LDGT2	51	3.1943	56.9540	2.3789	51	2.5106	36.5593	2.4466	0.6838	21.41%	20.3947	35.81%	-0.0677	-2.85%
<b>1982 Total</b>		<b>523</b>	<b>2.5757</b>	<b>33.2991</b>	<b>2.4987</b>	<b>523</b>	<b>2.0165</b>	<b>26.2308</b>	<b>2.4511</b>	<b>0.5592</b>	<b>21.71%</b>	<b>7.0683</b>	<b>21.23%</b>	<b>0.0477</b>	<b>1.91%</b>
1983	LDGV	281	1.7248	19.5256	1.9726	281	1.2550	12.8466	1.9834	0.4697	27.23%	6.6789	34.21%	-0.0109	-0.55%
	LDGT1	255	3.0668	38.5407	2.4798	255	2.8365	33.6182	2.4684	0.2303	7.51%	4.9226	12.77%	0.0113	0.46%
	LDGT2	94	3.4306	57.6184	2.8361	94	2.4787	34.5318	2.9197	0.9520	27.75%	23.0867	40.07%	-0.0836	-2.95%
<b>1983 Total</b>		<b>630</b>	<b>2.5225</b>	<b>32.9059</b>	<b>2.3067</b>	<b>630</b>	<b>2.0777</b>	<b>24.4897</b>	<b>2.3194</b>	<b>0.4448</b>	<b>17.63%</b>	<b>8.4162</b>	<b>25.58%</b>	<b>-0.0127</b>	<b>-0.55%</b>
1984	LDGV	657	1.6326	16.6336	1.8599	657	1.3022	12.2940	1.8828	0.3304	20.24%	4.3396	26.09%	-0.0229	-1.23%
	LDGT1	552	2.3718	31.7841	2.4742	552	1.9708	23.7299	2.5266	0.4011	16.91%	8.0542	25.34%	-0.0524	-2.12%
	LDGT2	206	3.1797	42.5528	3.0363	206	2.1296	26.7555	3.1301	1.0500	33.02%	15.7973	37.12%	-0.0938	-3.09%
<b>1984 Total</b>		<b>1415</b>	<b>2.1462</b>	<b>26.3173</b>	<b>2.2708</b>	<b>1415</b>	<b>1.6835</b>	<b>18.8605</b>	<b>2.3155</b>	<b>0.4627</b>	<b>21.56%</b>	<b>7.4567</b>	<b>28.33%</b>	<b>-0.0447</b>	<b>-1.97%</b>
1985	LDGV	673	1.2695	13.5481	1.9416	673	1.0300	10.6940	1.9242	0.2395	18.87%	2.8541	21.07%	0.0173	0.89%
	LDGT1	630	2.3156	26.8429	2.6376	630	1.8887	19.9520	2.6611	0.4269	18.43%	6.8910	25.67%	-0.0235	-0.89%
	LDGT2	172	2.4403	33.0676	2.7916	172	1.8667	23.0331	2.8494	0.5736	23.50%	10.0345	30.35%	-0.0579	-2.07%
<b>1985 Total</b>		<b>1475</b>	<b>1.8528</b>	<b>21.5027</b>	<b>2.3380</b>	<b>1475</b>	<b>1.4943</b>	<b>16.0871</b>	<b>2.3468</b>	<b>0.3585</b>	<b>19.35%</b>	<b>5.4156</b>	<b>25.19%</b>	<b>-0.0089</b>	<b>-0.38%</b>
1986	LDGV	1089	1.0979	11.1550	1.8623	1089	0.9213	8.6950	1.8358	0.1766	16.08%	2.4600	22.05%	0.0265	1.42%
	LDGT1	1130	1.8212	19.5838	2.4220	1130	1.5643	16.1420	2.4270	0.2569	14.11%	3.4418	17.57%	-0.0050	-0.21%
	LDGT2	271	2.3490	29.2669	2.8202	271	1.8533	20.3263	2.7953	0.4957	21.10%	8.9406	30.55%	0.0250	0.89%
<b>1986 Total</b>		<b>2490</b>	<b>1.5623</b>	<b>16.9513</b>	<b>2.2206</b>	<b>2490</b>	<b>1.3146</b>	<b>13.3404</b>	<b>2.2085</b>	<b>0.2478</b>	<b>15.86%</b>	<b>3.6109</b>	<b>21.30%</b>	<b>0.0120</b>	<b>0.54%</b>
1987	LDGV	1074	1.0758	10.8230	1.8224	1074	0.9018	8.0918	1.7945	0.1740	16.18%	2.7312	25.24%	0.0279	1.53%
	LDGT1	989	1.6417	19.2145	2.2916	989	1.3992	14.8935	2.2885	0.2425	14.77%	4.3210	22.49%	0.0031	0.13%
	LDGT2	309	2.1782	20.4671	2.9904	309	1.8083	14.2091	2.8360	0.3699	16.98%	6.2580	30.58%	0.1544	5.16%
<b>1987 Total</b>		<b>2372</b>	<b>1.4554</b>	<b>15.5782</b>	<b>2.1702</b>	<b>2372</b>	<b>1.2273</b>	<b>11.7246</b>	<b>2.1362</b>	<b>0.2281</b>	<b>15.67%</b>	<b>3.8535</b>	<b>24.74%</b>	<b>0.0340</b>	<b>1.57%</b>
1988	LDGV	1616	0.8730	10.3139	1.5375	1616	0.7253	7.8346	1.5253	0.1477	16.92%	2.4793	24.04%	0.0122	0.80%
	LDGT1	1594	1.4946	14.6851	2.2064	1594	1.2639	11.9524	2.1433	0.2306	15.43%	2.7327	18.61%	0.0631	2.86%
	LDGT2	557	1.7565	16.1952	2.8060	557	1.4457	12.2617	2.6604	0.3108	17.70%	3.9335	24.29%	0.1456	5.19%
<b>1988 Total</b>		<b>3767</b>	<b>1.2666</b>	<b>13.0332</b>	<b>2.0081</b>	<b>3767</b>	<b>1.0597</b>	<b>10.2316</b>	<b>1.9547</b>	<b>0.2069</b>	<b>16.34%</b>	<b>2.8016</b>	<b>21.50%</b>	<b>0.0535</b>	<b>2.66%</b>
1989	LDGV	1699	0.8792	10.0146	1.6462	1699	0.7364	7.7710	1.6156	0.1428	16.24%	2.2436	22.40%	0.0306	1.86%
	LDGT1	1651	1.4549	16.6166	2.1466	1651	1.1719	12.4744	2.0740	0.2830	19.45%	4.1422	24.93%	0.0727	3.39%
	LDGT2	644	1.7471	16.4623	2.7690	644	1.4506	12.4527	2.6331	0.2964	16.97%	4.0096	24.36%	0.1358	4.91%
<b>1989 Total</b>		<b>3994</b>	<b>1.2571</b>	<b>13.7833</b>	<b>2.0341</b>	<b>3994</b>	<b>1.0316</b>	<b>10.4701</b>	<b>1.9692</b>	<b>0.2255</b>	<b>17.94%</b>	<b>3.3132</b>	<b>24.04%</b>	<b>0.0650</b>	<b>3.19%</b>
1990	LDGV	3154	0.7880	9.1714	1.5858	3154	0.6588	7.3530	1.5488	0.1292	16.40%	1.8184	19.83%	0.0370	2.33%
	LDGT1	2058	1.2940	13.5465	2.1318	2058	1.1011	10.7331	2.0937	0.1929	14.91%	2.8134	20.77%	0.0381	1.79%
	LDGT2	839	1.6613	15.8913	2.6452	839	1.4296	13.4535	2.5624	0.2317	13.95%	2.4378	15.34%	0.0828	3.13%
<b>1990 Total</b>		<b>6051</b>	<b>1.0812</b>	<b>11.5912</b>	<b>1.9184</b>	<b>6051</b>	<b>0.9161</b>	<b>9.3484</b>	<b>1.8747</b>	<b>0.1651</b>	<b>15.27%</b>	<b>2.2427</b>	<b>19.35%</b>	<b>0.0437</b>	<b>2.28%</b>
1991	LDGV	3368	0.7284	9.0186	1.4933	3368	0.5995	6.9791	1.4423	0.1289	17.70%	2.0395	22.61%	0.0511	3.42%
	LDGT1	2322	1.0853	12.6986	1.8293	2322	0.9427	10.5576	1.7646	0.1426	13.14%	2.1410	16.86%	0.0647	3.54%
	LDGT2	719	1.5625	18.3531	2.4865	719	1.2679	14.5032	2.4015	0.2946	18.86%	3.8499	20.98%	0.0850	3.42%
<b>1991 Total</b>		<b>6409</b>	<b>0.9513</b>	<b>11.3991</b>	<b>1.7265</b>	<b>6409</b>	<b>0.7989</b>	<b>9.1197</b>	<b>1.6666</b>	<b>0.1525</b>	<b>16.03%</b>	<b>2.2793</b>	<b>20.00%</b>	<b>0.0598</b>	<b>3.46%</b>

Vehicle		Overall Initial Exhaust Emissions				Overall Final Exhaust Emissions				Emission Reduction					
Year	Type	Total	Avg HC (gpm)	Avg CO(gpm)	Avg NOx (gpm)	Total	Avg HC (gpm)	Avg CO(gpm)	Avg NOx (gpm)	Avg HC (gpm)	% Improvement	Avg CO (gpm)	% Improvement	Avg NOx(gpm)	% Improvement
1992	LDGV	4554	0.6449	7.6377	1.4271	4554	0.5394	6.0931	1.3947	0.1055	16.36%	1.5445	20.22%	0.0324	2.27%
	LDGT1	2837	1.0146	11.4286	1.7776	2837	0.9045	9.9751	1.7147	0.1100	10.85%	1.4535	12.72%	0.0630	3.54%
	LDGT2	1343	1.6626	16.0560	2.4957	1343	1.3610	13.6663	2.3990	0.3016	18.14%	2.3897	14.88%	0.0967	3.87%
<b>1992 Total</b>		8734	0.9215	10.1635	1.7053	8734	0.7843	8.5186	1.6531	0.1371	14.88%	1.6449	16.18%	0.0522	3.06%
1993	LDGV	4820	0.6362	7.3809	1.4987	4820	0.5352	5.6915	1.4496	0.1010	15.88%	1.6894	22.89%	0.0490	3.27%
	LDGT1	3541	1.0431	11.3959	2.0677	3541	0.9284	9.6842	1.9750	0.1147	10.99%	1.7117	15.02%	0.0927	4.48%
	LDGT2	1413	1.7046	16.9761	2.5776	1413	1.3743	13.9883	2.4357	0.3303	19.38%	2.9879	17.60%	0.1420	5.51%
<b>1993 Total</b>		9774	0.9381	10.2227	1.8608	9774	0.7990	8.3375	1.7825	0.1391	14.83%	1.8852	18.44%	0.0783	4.21%
1994	LDGV	6427	0.5066	6.0156	1.1929	6427	0.4163	4.9989	1.1556	0.0903	17.82%	1.0167	16.90%	0.0373	3.13%
	LDGT1	5297	0.8278	9.4044	1.8122	5297	0.7190	7.9715	1.7232	0.1088	13.14%	1.4329	15.24%	0.0890	4.91%
	LDGT2	2703	1.2032	13.1811	2.2400	2703	0.9598	10.4075	2.0703	0.2433	20.22%	2.7736	21.04%	0.1697	7.58%
<b>1994 Total</b>		14427	0.7550	8.6023	1.6164	14427	0.6293	7.1036	1.5354	0.1257	16.65%	1.4987	17.42%	0.0811	5.02%
1995	LDGV	8177	0.4805	5.8241	1.0658	8177	0.3954	4.7491	1.0216	0.0851	17.72%	1.0750	18.46%	0.0442	4.15%
	LDGT1	5485	0.8199	9.5917	1.8665	5485	0.6851	7.7986	1.7507	0.1348	16.44%	1.7931	18.69%	0.1158	6.20%
	LDGT2	3182	1.1151	12.9017	2.1862	3182	0.9092	10.3884	1.9973	0.2059	18.47%	2.5132	19.48%	0.1889	8.64%
<b>1995 Total</b>		16844	0.7109	8.3880	1.5382	16844	0.5868	6.8074	1.4433	0.1241	17.46%	1.5805	18.84%	0.0949	6.17%
1996	LDGV	10690	0.3448	4.4996	0.8370	10690	0.2985	3.8338	0.7992	0.0464	13.45%	0.6658	14.80%	0.0378	4.51%
	LDGT1	7034	0.4459	6.1631	1.4514	7034	0.3782	5.1191	1.3760	0.0677	15.19%	1.0440	16.94%	0.0754	5.20%
	LDGT2	3393	0.5828	7.1978	1.4244	3393	0.4775	5.8946	1.3281	0.1052	18.06%	1.3033	18.11%	0.0964	6.76%
<b>1996 Total</b>		21117	0.4167	5.4873	1.1360	21117	0.3538	4.5930	1.0763	0.0629	15.10%	0.8942	16.30%	0.0597	5.26%
1997	LDGV	12445	0.3484	4.7884	0.8080	12445	0.3008	3.9494	0.7716	0.0476	13.65%	0.8390	17.52%	0.0365	4.51%
	LDGT1	9771	0.4030	6.1078	1.3813	9771	0.3395	5.0900	1.2748	0.0634	15.74%	1.0178	16.66%	0.1065	7.71%
	LDGT2	3940	0.5392	7.0868	1.5003	3940	0.4214	5.8439	1.3648	0.1178	21.84%	1.2429	17.54%	0.1354	9.03%
<b>1997 Total</b>		26156	0.3975	5.6275	1.1265	26156	0.3335	4.6609	1.0489	0.0641	16.11%	0.9667	17.18%	0.0775	6.88%
1998	LDGV	16473	0.2732	4.2121	0.6663	16473	0.2328	3.5243	0.6255	0.0404	14.79%	0.6878	16.33%	0.0408	6.12%
	LDGT1	14084	0.3415	5.0881	1.1544	14084	0.2962	4.3425	1.0612	0.0453	13.27%	0.7456	14.65%	0.0932	8.07%
	LDGT2	5287	0.4148	5.7189	1.2880	5287	0.3318	4.6157	1.1640	0.0831	20.02%	1.1032	19.29%	0.1240	9.63%
<b>1998 Total</b>		35844	0.3209	4.7785	0.9498	35844	0.2723	4.0068	0.8761	0.0486	15.16%	0.7717	16.15%	0.0736	7.75%
1999	LDGV	17376	0.2449	3.7831	0.6378	17376	0.2076	3.1779	0.5924	0.0373	15.24%	0.6052	16.00%	0.0453	7.11%
	LDGT1	13144	0.2678	4.4643	0.8883	13144	0.2298	3.7437	0.8056	0.0380	14.20%	0.7207	16.14%	0.0826	9.30%
	LDGT2	6594	0.3620	4.6098	1.0706	6594	0.2733	3.4709	0.9186	0.0887	24.50%	1.1389	24.71%	0.1520	14.20%
<b>1999 Total</b>		37114	0.2738	4.1712	0.8034	37114	0.2271	3.4303	0.7259	0.0467	17.05%	0.7409	17.76%	0.0775	9.65%
2000	LDGV	24630	0.1914	3.2050	0.5025	24630	0.1560	2.7066	0.4576	0.0355	18.53%	0.4985	15.55%	0.0449	8.93%
	LDGT1	17978	0.2405	3.7009	0.7737	17978	0.2095	3.1467	0.7149	0.0310	12.88%	0.5542	14.97%	0.0588	7.60%
	LDGT2	7391	0.2484	3.8252	0.7891	7391	0.2089	3.0517	0.7160	0.0395	15.90%	0.7735	20.22%	0.0730	9.25%
<b>2000 Total</b>		49999	0.2175	3.4750	0.6424	49999	0.1830	2.9158	0.5883	0.0344	15.84%	0.5592	16.09%	0.0540	8.41%
2001	LDGV	22454	0.1456	2.8026	0.3813	22454	0.1173	2.3926	0.3428	0.0284	19.47%	0.4099	14.63%	0.0385	10.10%
	LDGT1	16042	0.1597	3.3609	0.5067	16042	0.1304	2.8519	0.4582	0.0293	18.35%	0.5089	15.14%	0.0485	9.58%
	LDGT2	6929	0.2521	3.6048	0.6904	6929	0.2090	2.9666	0.6264	0.0431	17.09%	0.6382	17.70%	0.0640	9.27%
<b>2001 Total</b>		45425	0.1668	3.1221	0.4727	45425	0.1359	2.6424	0.4268	0.0309	18.54%	0.4797	15.37%	0.0459	9.72%
2002	LDGV	28955	0.1199	2.8335	0.3209	28955	0.0982	2.5876	0.2800	0.0216	18.05%	0.2460	8.68%	0.0409	12.75%
	LDGT1	22798	0.1261	3.6085	0.4099	22798	0.1070	3.1315	0.3740	0.0191	15.13%	0.4770	13.22%	0.0358	8.75%
	LDGT2	7486	0.1820	2.7666	0.6559	7486	0.1632	2.4080	0.6059	0.0187	10.30%	0.3585	12.96%	0.0499	7.61%

Vehicle		Overall Initial Exhaust Emissions				Overall Final Exhaust Emissions					Emission Reduction				
Year	Type	Total	Avg HC (gpm)	Avg CO(gpm)	Avg NOx (gpm)	Total	Avg HC (gpm)	Avg CO(gpm)	Avg NOx (gpm)	Avg HC (gpm)	% Improvement	Avg CO (gpm)	% Improvement	Avg NOx(gpm)	% Improvement
<b>2002 Total</b>		59239	0.1301	3.1233	0.3975	59239	0.1098	2.7742	0.3573	0.0203	15.59%	0.3491	11.18%	0.0401	10.09%
2003	LDGV	23970	0.0961	2.0100	0.2795	23970	0.0758	1.7070	0.2439	0.0203	21.12%	0.3029	15.07%	0.0356	12.73%
	LDGT1	17292	0.1108	2.4316	0.3474	17292	0.0912	1.9854	0.3174	0.0196	17.68%	0.4461	18.35%	0.0299	8.62%
	LDGT2	7282	0.1660	2.5391	0.4660	7282	0.1414	2.1285	0.4237	0.0246	14.82%	0.4106	16.17%	0.0422	9.07%
<b>2003 Total</b>		48544	0.1118	2.2395	0.3316	48544	0.0911	1.8694	0.2971	0.0207	18.50%	0.3701	16.53%	0.0346	10.42%
2004	LDGV	28240	0.0721	1.5891	0.1892	28240	0.0572	1.3873	0.1637	0.0150	20.75%	0.2018	12.70%	0.0254	13.45%
	LDGT1	25688	0.0780	1.8648	0.2055	25688	0.0661	1.5829	0.1853	0.0119	15.31%	0.2819	15.12%	0.0202	9.83%
	LDGT2	10475	0.0947	1.7937	0.2309	10475	0.0778	1.5096	0.1991	0.0169	17.84%	0.2841	15.84%	0.0318	13.78%
<b>2004 Total</b>		64403	0.0782	1.7324	0.2025	64403	0.0641	1.4852	0.1781	0.0141	18.01%	0.2471	14.26%	0.0244	12.05%
2005	LDGV	23912	0.0653	1.4579	0.1661	23912	0.0488	1.2329	0.1427	0.0165	25.25%	0.2250	15.43%	0.0234	14.07%
	LDGT1	20973	0.0627	1.3228	0.1368	20973	0.0576	1.2357	0.1241	0.0051	8.12%	0.0871	6.59%	0.0126	9.25%
	LDGT2	6844	0.1318	2.0011	0.2446	6844	0.0915	1.5923	0.2084	0.0402	30.54%	0.4088	20.43%	0.0362	14.80%
<b>2005 Total</b>		51729	0.0731	1.4750	0.1646	51729	0.0580	1.2816	0.1439	0.0150	20.55%	0.1934	13.11%	0.0207	12.59%
2006	LDGV	4614	0.0835	1.8406	0.1818	4614	0.0543	1.4380	0.1250	0.0292	35.01%	0.4026	21.87%	0.0569	31.27%
	LDGT1	3652	0.0539	1.5532	0.1464	3652	0.0494	1.3857	0.1317	0.0044	8.23%	0.1675	10.78%	0.0146	9.99%
	LDGT2	1383	0.1052	2.1034	0.2353	1383	0.0805	1.6586	0.1900	0.0247	23.47%	0.4448	21.15%	0.0453	19.24%
<b>2006 Total</b>		9649	0.0754	1.7695	0.1761	9649	0.0562	1.4498	0.1369	0.0192	25.46%	0.3197	18.07%	0.0392	22.27%
2007	LDGV	3175	0.0739	1.6312	0.1448	3175	0.0462	1.2878	0.1047	0.0278	37.55%	0.3434	21.05%	0.0400	27.65%
	LDGT1	2214	0.0446	1.6296	0.1144	2214	0.0423	1.4409	0.1025	0.0023	5.10%	0.1887	11.58%	0.0118	10.35%
	LDGT2	1133	0.0945	1.8626	0.1963	1133	0.0681	1.3432	0.1322	0.0264	27.96%	0.5195	27.89%	0.0641	32.65%
<b>2007 Total</b>		6522	0.0675	1.6709	0.1434	6522	0.0487	1.3494	0.1088	0.0189	27.95%	0.3215	19.24%	0.0346	24.15%
2008	LDGV	3359	0.0551	1.4569	0.1231	3359	0.0480	1.2338	0.0893	0.0071	12.83%	0.2231	15.31%	0.0338	27.45%
	LDGT1	2669	0.0373	1.2800	0.1004	2669	0.0338	1.1919	0.0857	0.0035	9.28%	0.0881	6.88%	0.0146	14.56%
	LDGT2	1206	0.0721	2.0345	0.1210	1206	0.0562	1.7563	0.1002	0.0159	22.11%	0.2782	13.67%	0.0208	17.22%
<b>2008 Total</b>		7234	0.0514	1.4879	0.1144	7234	0.0442	1.3055	0.0898	0.0072	14.05%	0.1825	12.26%	0.0246	21.47%
2009	LDGV	2939	0.0428	1.1979	0.1017	2939	0.0351	1.0955	0.0749	0.0078	18.13%	0.1024	8.55%	0.0268	26.38%
	LDGT1	1735	0.0313	1.3018	0.0823	1735	0.0303	1.2626	0.0734	0.0011	3.45%	0.0392	3.01%	0.0089	10.79%
	LDGT2	846	0.0428	1.2823	0.0823	846	0.0427	1.2779	0.0816	0.0001	0.16%	0.0044	0.34%	0.0007	0.89%
<b>2009 Total</b>		5520	0.0392	1.2435	0.0926	5520	0.0347	1.1760	0.0754	0.0045	11.44%	0.0675	5.43%	0.0172	18.56%
2010	LDGV	543	0.1170	1.8269	0.1273	543	0.0421	1.3888	0.0860	0.0749	64.03%	0.4381	23.98%	0.0413	32.44%
	LDGT1	374	0.0314	1.1679	0.0704	374	0.0313	1.1180	0.0697	0.0000	0.16%	0.0499	4.28%	0.0007	0.95%
	LDGT2	239	0.0537	1.3134	0.1020	239	0.0516	1.3127	0.0974	0.0021	3.82%	0.0007	0.05%	0.0046	4.50%
<b>2010 Total</b>		1156	0.0762	1.5076	0.1037	1156	0.0406	1.2855	0.0831	0.0356	46.76%	0.2221	14.73%	0.0206	19.84%
2011	LDGV	308	0.0586	1.9301	0.1526	308	0.0344	1.7400	0.0813	0.0242	41.27%	0.1901	9.85%	0.0713	46.73%
	LDGT1	185	0.0323	1.4228	0.0694	185	0.0322	1.4151	0.0696	0.0001	0.30%	0.0077	0.54%	-0.0002	-0.29%
	LDGT2	119	0.0397	0.9879	0.1017	119	0.0422	0.9894	0.0937	-0.0025	-6.29%	-0.0015	-0.15%	0.0080	7.88%
<b>2011 Total</b>		612	0.0469	1.5936	0.1176	612	0.0352	1.4958	0.0802	0.0117	24.95%	0.0977	6.13%	0.0374	31.80%
2012	LDGV	264	0.0397	1.5284	0.0864	264	0.0343	1.4462	0.0739	0.0054	13.66%	0.0823	5.38%	0.0125	14.41%
	LDGT1	98	0.0298	1.3976	0.0630	98	0.0302	1.4101	0.0638	-0.0003	-1.08%	-0.0126	-0.90%	-0.0008	-1.29%
	LDGT2	77	0.0397	0.7928	0.0633	77	0.0398	0.8139	0.0632	-0.0001	-0.28%	-0.0211	-2.66%	0.0000	0.08%
<b>2012 Total</b>		439	0.0375	1.3702	0.0771	439	0.0343	1.3272	0.0698	0.0032	8.45%	0.0430	3.14%	0.0073	9.49%
2013	LDGV	179	0.0294	1.3823	0.0604	179	0.0291	1.3664	0.0598	0.0003	0.92%	0.0159	1.15%	0.0006	1.01%
	LDGT1	41	0.0242	0.9026	0.0520	41	0.0242	0.9026	0.0520	0.0000	0.00%	0.0000	0.00%	0.0000	0.00%

Vehicle		Overall Initial Exhaust Emissions				Overall Final Exhaust Emissions				Emission Reduction					
Year	Type	Total	Avg HC (gpm)	Avg CO(gpm)	Avg NOx (gpm)	Total	Avg HC (gpm)	Avg CO(gpm)	Avg NOx (gpm)	Avg HC (gpm)	% Improvement	Avg CO (gpm)	% Improvement	Avg NOx(gpm)	% Improvement
	LDGT2	27	0.0277	0.6542	0.0652	27	0.0277	0.6542	0.0652	0.0000	0.00%	0.0000	0.00%	0.0000	0.00%
<b>2013 Total</b>		<b>247</b>	<b>0.0283</b>	<b>1.2231</b>	<b>0.0595</b>	<b>247</b>	<b>0.0281</b>	<b>1.2116</b>	<b>0.0591</b>	<b>0.0002</b>	<b>0.69%</b>	<b>0.0115</b>	<b>0.94%</b>	<b>0.0004</b>	<b>0.75%</b>
2014	LDGV	86	0.0626	1.3871	0.1577	86	0.0270	1.1722	0.0470	0.0356	56.90%	0.2150	15.50%	0.1107	70.18%
	LDGT1	22	0.0228	0.8673	0.0532	22	0.0228	0.8673	0.0532	0.0000	0.00%	0.0000	0.00%	0.0000	0.00%
	LDGT2	12	0.0263	0.4382	0.0329	12	0.0263	0.4382	0.0329	0.0000	0.00%	0.0000	0.00%	0.0000	0.00%
<b>2014 Total</b>		<b>120</b>	<b>0.0516</b>	<b>1.1969</b>	<b>0.1260</b>	<b>120</b>	<b>0.0261</b>	<b>1.0429</b>	<b>0.0467</b>	<b>0.0255</b>	<b>49.41%</b>	<b>0.1541</b>	<b>12.87%</b>	<b>0.0793</b>	<b>62.92%</b>
2015	LDGV	27	0.0490	1.1011	0.0883	27	0.0490	1.1011	0.0883	0.0000	0.00%	0.0000	0.00%	0.0000	0.00%
	LDGT1	12	0.0277	1.0930	0.0504	12	0.0277	1.0930	0.0504	0.0000	0.00%	0.0000	0.00%	0.0000	0.00%
	LDGT2	5	0.0275	0.7683	0.0370	5	0.0275	0.7683	0.0370	0.0000	0.00%	0.0000	0.00%	0.0000	0.00%
<b>2015 Total</b>		<b>44</b>	<b>0.0407</b>	<b>1.0611</b>	<b>0.0721</b>	<b>44</b>	<b>0.0407</b>	<b>1.0611</b>	<b>0.0721</b>	<b>0.0000</b>	<b>0.00%</b>	<b>0.0000</b>	<b>0.00%</b>	<b>0.0000</b>	<b>0.00%</b>
2016	LDGV	8	0.0255	0.7433	0.0513	8	0.0255	0.7433	0.0513	0.0000	0.00%	0.0000	0.00%	0.0000	0.00%
	LDGT1	7	0.0184	0.5181	0.0511	7	0.0184	0.5181	0.0511	0.0000	0.00%	0.0000	0.00%	0.0000	0.00%
	LDGT2	6	0.0299	0.5347	0.0349	6	0.0299	0.5347	0.0349	0.0000	0.00%	0.0000	0.00%	0.0000	0.00%
<b>2016 Total</b>		<b>21</b>	<b>0.0244</b>	<b>0.6086</b>	<b>0.0465</b>	<b>21</b>	<b>0.0244</b>	<b>0.6086</b>	<b>0.0465</b>	<b>0.0000</b>	<b>0.00%</b>	<b>0.0000</b>	<b>0.00%</b>	<b>0.0000</b>	<b>0.00%</b>
2017	LDGT1	1	0.0303	0.5996	0.0438	1	0.0303	0.5996	0.0438	0.0000	0.00%	0.0000	0.00%	0.0000	0.00%
	LDGT2	1	0.0213	0.3491	0.0357	1	0.0213	0.3491	0.0357	0.0000	0.00%	0.0000	0.00%	0.0000	0.00%
<b>2017 Total</b>		<b>2</b>	<b>0.0258</b>	<b>0.4744</b>	<b>0.0398</b>	<b>2</b>	<b>0.0258</b>	<b>0.4744</b>	<b>0.0398</b>	<b>0.0000</b>	<b>0.00%</b>	<b>0.0000</b>	<b>0.00%</b>	<b>0.0000</b>	<b>0.00%</b>
<b>Grand Total</b>		<b>550041</b>	<b>0.2940</b>	<b>4.2241</b>	<b>0.6856</b>	<b>550041</b>	<b>0.2450</b>	<b>3.4977</b>	<b>0.6376</b>	<b>0.0490</b>	<b>16.67%</b>	<b>0.7264</b>	<b>17.20%</b>	<b>0.0480</b>	<b>6.99%</b>

**IM240 Fleet Emission Reduction Report -Summary by Veh (V1.01)**

Vehicle		Overall Initial Exhaust Emissions				Overall Final Exhaust Emissions				Emission Reduction					
Type	Total	Avg HC (gpm)	Avg CO(gpm)	Avg NOx (gpm)	Total	Avg HC (gpm)	Avg CO(gpm)	Avg NOx (gpm)	Avg HC (gpm)	% Improvement	Avg CO (gpm)	% Improvement	Avg NOx(gpm)	% Improvement	
LDGV	262461	0.2341	3.5194	0.5427	262461	0.1932	2.9287	0.5059	0.0409	17.46%	0.5907	16.78%	0.0368	6.78%	
LDGT1	204402	0.3142	4.6346	0.7617	204402	0.2687	3.8828	0.7124	0.0455	14.49%	0.7518	16.22%	0.0494	6.48%	
LDGT2	83178	0.4335	5.4390	0.9494	83178	0.3502	4.3468	0.8697	0.0834	19.23%	1.0922	20.08%	0.0797	8.40%	
<b>Grand Total</b>	<b>550041</b>	<b>0.2940</b>	<b>4.2241</b>	<b>0.6856</b>	<b>550041</b>	<b>0.2450</b>	<b>3.4977</b>	<b>0.6376</b>	<b>0.0490</b>	<b>16.67%</b>	<b>0.7264</b>	<b>17.20%</b>	<b>0.0480</b>	<b>6.99%</b>	



## **Appendix C1**

### Idle Initial Inspection Report



Date  
Between 1/1/2016 and 12/31/2016

Idle Initial Inspection Report (V1.01)

Vehicle		All Initial Inspections					Passing Initial Inspections						Failing Initial Inspections					
Year	Type	Total	Avg HC Idle	Avg CO Idle	Avg HC 2500 rpm	Avg CO 2500 rpm	Total	Total%	Avg HC Idle	Avg CO Idle	Avg HC 2500 rpm	Avg CO 2500 rpm	Total	Total%	Avg HC Idle	Avg CO Idle	Avg HC 2500 rpm	Avg CO 2500 rpm
1974	LDGV	773	517.14	2.52	421.57	3.16	528	68.31%	291.16	1.33	272.42	2.45	245	31.69%	1004.16	5.09	743.01	4.68
	LDGT	399	398.58	2.04	386.59	2.76	293	73.43%	271.27	1.11	306.88	2.33	106	26.57%	750.50	4.62	606.93	3.95
	HDGT	466	391.28	2.42	347.19	2.84	402	86.27%	292.17	1.87	300.89	2.60	64	13.73%	1013.80	5.92	638.02	4.39
<b>1974 Total</b>		1,638	452.45	2.38	391.89	2.97	1223	74.66%	286.73	1.46	290.03	2.47	415	25.34%	940.86	5.10	692.06	4.45
1975	LDGV	59	211.26	1.31	178.34	2.03	41	69.49%	133.43	0.54	146.29	1.76	18	30.51%	388.54	3.05	251.33	2.62
	LDGT	17	289.61	2.02	244.72	1.92	7	41.18%	188.14	0.88	149.36	1.55	10	58.82%	360.63	2.83	311.48	2.19
	HDGT	109	349.78	2.04	242.51	2.08	93	85.32%	261.02	1.51	190.05	1.83	16	14.68%	865.69	5.16	547.40	3.51
<b>1975 Total</b>		185	300.07	1.81	222.25	2.05	141	76.22%	220.30	1.20	175.31	1.80	44	23.78%	555.70	3.77	372.66	2.85
1976	LDGV	253	311.37	1.47	257.46	2.10	157	62.06%	135.15	0.52	139.15	1.41	96	37.94%	599.57	3.02	450.95	3.22
	LDGT	142	339.26	1.64	260.39	2.11	85	59.86%	178.64	0.57	190.11	1.36	57	40.14%	578.78	3.24	365.19	3.22
	HDGT	466	378.40	2.18	299.05	2.57	374	80.26%	273.08	1.58	238.57	2.32	92	19.74%	806.57	4.60	544.89	3.61
<b>1976 Total</b>		861	352.25	1.88	280.45	2.36	616	71.54%	224.89	1.17	206.55	1.96	245	28.46%	672.46	3.67	466.27	3.37
1977	LDGV	279	223.57	0.98	173.39	1.42	187	67.03%	110.63	0.29	97.96	1.03	92	32.97%	453.13	2.38	326.71	2.21
	LDGT	127	240.38	1.24	190.11	1.82	74	58.27%	127.40	0.36	126.26	1.01	53	41.73%	398.14	2.48	279.27	2.97
	HDGT	671	387.67	2.14	321.26	2.33	551	82.12%	279.55	1.60	246.29	2.11	120	17.88%	884.08	4.63	665.51	3.30
<b>1977 Total</b>		1,077	327.79	1.73	267.49	2.03	812	75.39%	226.78	1.18	201.19	1.76	265	24.61%	637.28	3.42	470.64	2.86
1978	LDGV	358	219.55	1.05	185.71	1.58	261	72.91%	121.77	0.32	130.52	0.96	97	27.09%	482.64	3.01	334.19	3.24
	LDGT	168	255.10	1.25	248.59	1.73	104	61.90%	119.01	0.39	129.30	1.17	64	38.10%	476.24	2.64	442.42	2.65
	HDGT	794	379.03	2.01	288.23	2.33	670	84.38%	272.51	1.66	228.19	2.15	124	15.62%	954.58	3.91	612.61	3.33
<b>1978 Total</b>		1,320	320.00	1.65	255.38	2.05	1035	78.41%	219.07	1.20	193.62	1.75	285	21.59%	686.54	3.32	479.63	3.15
1979	LDGV	425	195.45	0.94	177.89	1.53	311	73.18%	107.47	0.28	122.67	1.09	114	26.82%	435.47	2.76	328.54	2.74
	LDGT	620	262.36	1.09	254.76	1.67	411	66.29%	111.90	0.31	132.04	1.17	209	33.71%	558.23	2.61	496.08	2.66
	HDGT	224	330.68	1.60	235.36	1.91	175	78.13%	217.15	0.97	163.37	1.60	49	21.88%	736.16	3.86	492.48	3.01
<b>1979 Total</b>		1,269	252.01	1.13	225.59	1.67	897	70.69%	130.89	0.43	134.91	1.23	372	29.31%	544.05	2.82	444.26	2.73
1980	LDGV	307	159.09	0.78	142.08	1.30	234	76.22%	76.42	0.21	79.64	0.83	73	23.78%	424.09	2.61	342.23	2.80
	LDGT	328	231.61	0.80	187.55	1.72	227	69.21%	101.68	0.24	102.00	1.24	101	30.79%	523.64	2.05	379.84	2.80
	HDGT	120	262.93	1.18	223.21	1.38	100	83.33%	169.48	0.88	139.03	1.08	20	16.67%	730.23	2.71	644.13	2.85
<b>1980 Total</b>		755	207.10	0.85	174.73	1.50	561	74.30%	103.23	0.34	99.27	1.04	194	25.70%	507.48	2.33	392.93	2.80
1981	LDGV	258	116.89	0.59	133.93	1.11	169	65.50%	62.07	0.13	59.61	0.27	89	34.50%	220.99	1.45	275.03	2.69
	LDGT	342	184.35	0.82	149.92	0.93	203	59.36%	64.37	0.15	55.81	0.31	139	40.64%	359.58	1.81	287.36	1.85
	HDGT	176	230.72	1.05	165.66	1.23	147	83.52%	138.02	0.73	107.35	1.08	29	16.48%	700.63	2.67	461.22	2.00
<b>1981 Total</b>		776	172.44	0.80	148.17	1.06	519	66.88%	84.48	0.31	71.65	0.52	257	33.12%	350.07	1.78	302.71	2.16
1982	LDGV	10	86.64	0.55	96.51	0.89	8	80.00%	57.99	0.20	61.61	0.34	2	20.00%	201.25	1.93	236.10	3.07
	LDGT	6	127.32	0.24	137.92	0.36	5	83.33%	62.28	0.26	52.08	0.35	1	16.67%	452.50	0.13	567.10	0.36
	HDGT	135	207.70	1.21	145.06	0.95	111	82.22%	136.11	0.74	103.40	0.67	24	17.78%	538.78	3.42	337.75	2.23
<b>1982 Total</b>		151	196.48	1.13	141.56	0.92	124	82.12%	128.09	0.68	98.64	0.64	27	17.88%	510.59	3.18	338.72	2.22
1983	LDGV	7	54.33	0.12	68.99	0.79	4	57.14%	62.28	0.07	63.85	0.30	3	42.86%	43.73	0.19	75.83	1.45
	LDGT	4	221.38	1.80	86.30	0.62	2	50.00%	152.95	0.31	67.50	0.37	2	50.00%	289.80	3.29	105.10	0.88
	HDGT	147	250.31	1.39	148.56	1.26	119	80.95%	132.46	0.84	87.98	0.85	28	19.05%	751.18	3.72	406.03	3.02

Vehicle		All Initial Inspections					Passing Initial Inspections						Failing Initial Inspections					
Year	Type	Total	Avg HC Idle	Avg CO Idle	Avg HC 2500 rpm	Avg CO 2500 rpm	Total	Total%	Avg HC Idle	Avg CO Idle	Avg HC 2500 rpm	Avg CO 2500 rpm	Total	Total%	Avg HC Idle	Avg CO Idle	Avg HC 2500 rpm	Avg CO 2500 rpm
<b>1983 Total</b>		158	240.90	1.34	143.46	1.23	125	79.11%	130.54	0.81	86.88	0.83	33	20.89%	658.90	3.37	357.78	2.75
1984	LDGV	25	166.76	0.91	163.11	1.32	18	72.00%	62.01	0.16	52.51	0.25	7	28.00%	436.13	2.87	447.50	4.06
	LDGT	7	313.39	1.41	308.01	1.00	3	42.86%	62.13	0.10	58.07	0.46	4	57.14%	501.83	2.39	495.48	1.41
	HDGT	297	242.22	1.13	150.43	0.87	242	81.48%	147.84	0.82	97.97	0.68	55	18.52%	657.49	2.46	381.25	1.72
<b>1984 Total</b>		329	238.00	1.12	154.74	0.91	263	79.94%	140.99	0.77	94.40	0.65	66	20.06%	624.58	2.50	395.20	1.95
1985	LDGV	19	240.62	0.58	222.21	0.79	12	63.16%	38.22	0.10	37.73	0.17	7	36.84%	587.60	1.40	538.46	1.86
	LDGT	9	302.17	0.41	297.99	0.51	6	66.67%	43.37	0.14	55.17	0.24	3	33.33%	819.77	0.96	783.63	1.06
	HDGT	306	234.35	1.00	146.62	0.76	249	81.37%	133.71	0.68	76.01	0.59	57	18.63%	674.00	2.43	455.09	1.52
<b>1985 Total</b>		334	236.54	0.96	155.00	0.76	267	79.94%	127.39	0.64	73.82	0.56	67	20.06%	671.50	2.25	478.51	1.54
1986	LDGV	22	99.35	0.65	87.70	0.83	17	77.27%	74.96	0.28	58.14	0.44	5	22.73%	182.28	1.90	188.22	2.16
	LDGT	9	205.26	1.77	158.61	1.96	4	44.44%	62.00	0.35	50.65	0.44	5	55.56%	319.86	2.91	244.98	3.18
	HDGT	308	199.35	1.02	116.94	0.94	224	72.73%	82.13	0.60	56.98	0.67	84	27.27%	511.95	2.14	276.86	1.65
<b>1986 Total</b>		339	193.02	1.02	116.15	0.96	245	72.27%	81.30	0.57	56.95	0.65	94	27.73%	484.20	2.16	270.45	1.76
1987	LDGV	23	106.52	0.65	137.43	0.88	19	82.61%	50.36	0.25	84.68	0.65	4	17.39%	373.25	2.53	387.95	1.98
	LDGT	19	177.59	0.14	145.74	0.35	12	63.16%	97.49	0.12	81.48	0.38	7	36.84%	314.91	0.18	255.89	0.30
	HDGT	242	194.05	0.91	149.68	0.76	181	74.79%	76.95	0.44	68.16	0.48	61	25.21%	541.51	2.30	391.56	1.60
<b>1987 Total</b>		284	185.86	0.84	148.42	0.74	212	74.65%	75.73	0.41	70.39	0.49	72	25.35%	510.13	2.11	378.17	1.49
1988	LDGV	15	126.48	0.79	136.48	1.07	12	80.00%	36.25	0.08	42.95	0.15	3	20.00%	487.40	3.67	510.60	4.74
	LDGT	33	187.66	0.51	177.28	0.81	22	66.67%	91.65	0.20	95.73	0.41	11	33.33%	379.69	1.12	340.38	1.60
	HDGT	385	136.54	0.60	116.07	0.66	327	84.94%	74.08	0.31	68.31	0.46	58	15.06%	488.65	2.19	385.28	1.79
<b>1988 Total</b>		433	140.08	0.60	121.44	0.69	361	83.37%	73.89	0.30	69.14	0.45	72	16.63%	471.95	2.09	383.64	1.88
1989	LDGV	34	111.74	0.44	132.94	0.77	28	82.35%	69.58	0.19	54.98	0.28	6	17.65%	308.50	1.60	496.78	3.04
	LDGT	48	223.28	0.73	197.39	0.94	28	58.33%	87.60	0.30	88.47	0.41	20	41.67%	413.22	1.32	349.88	1.68
	HDGT	595	132.09	0.54	109.90	0.59	502	84.37%	73.37	0.31	59.23	0.42	93	15.63%	449.09	1.78	383.36	1.50
<b>1989 Total</b>		677	137.54	0.55	117.26	0.62	558	82.42%	73.89	0.30	60.49	0.41	119	17.58%	435.97	1.70	383.45	1.61
1990	LDGV	57	140.13	0.39	128.85	0.60	44	77.19%	43.23	0.14	43.28	0.23	13	22.81%	468.12	1.26	418.47	1.87
	LDGT	48	170.82	0.67	170.29	0.99	30	62.50%	82.29	0.28	93.76	0.45	18	37.50%	318.37	1.31	297.82	1.90
	HDGT	601	113.52	0.58	90.30	0.58	528	87.85%	71.11	0.33	58.19	0.44	73	12.15%	420.26	2.36	322.55	1.57
<b>1990 Total</b>		706	119.56	0.57	98.85	0.61	602	85.27%	69.63	0.32	58.87	0.43	104	14.73%	408.61	2.04	330.26	1.67
1991	LDGV	84	120.50	0.36	108.37	0.62	60	71.43%	53.25	0.12	44.92	0.21	24	28.57%	288.65	0.96	266.98	1.64
	LDGT	51	122.20	0.41	115.01	0.50	36	70.59%	69.39	0.20	56.85	0.27	15	29.41%	248.92	0.90	254.59	1.06
	HDGT	454	117.49	0.69	86.74	0.73	389	85.68%	73.11	0.34	49.39	0.52	65	14.32%	383.10	2.77	310.29	2.04
<b>1991 Total</b>		589	118.33	0.62	92.27	0.70	485	82.34%	70.38	0.30	49.39	0.46	104	17.66%	341.95	2.09	292.26	1.81
1992	LDGV	81	142.61	0.55	137.86	0.64	59	72.84%	53.95	0.13	51.25	0.24	22	27.16%	380.39	1.69	370.13	1.73
	LDGT	49	133.07	0.34	180.42	0.41	34	69.39%	83.83	0.19	65.76	0.34	15	30.61%	244.69	0.67	440.32	0.58
	HDGT	733	97.37	0.53	82.17	0.66	639	87.18%	57.00	0.23	44.14	0.43	94	12.82%	371.79	2.55	340.70	2.16
<b>1992 Total</b>		863	103.64	0.52	92.98	0.64	732	84.82%	58.00	0.22	45.72	0.41	131	15.18%	358.68	2.19	357.05	1.90
1993	LDGV	51	87.15	0.23	73.89	0.34	40	78.43%	48.63	0.11	47.49	0.17	11	21.57%	227.21	0.66	169.89	0.95
	LDGT	37	107.89	0.44	97.91	0.64	31	83.78%	76.40	0.16	59.36	0.36	6	16.22%	270.62	1.89	297.07	2.09
	HDGT	732	77.19	0.39	68.48	0.56	668	91.26%	53.39	0.21	46.57	0.40	64	8.74%	325.61	2.25	297.08	2.22
<b>1993 Total</b>		820	79.20	0.38	70.14	0.55	739	90.12%	54.10	0.20	47.16	0.38	81	9.88%	308.17	2.01	279.81	2.04
1994	LDGV	82	115.27	0.38	123.83	0.52	66	80.49%	45.38	0.12	42.38	0.15	16	19.51%	403.59	1.47	459.78	2.03
	LDGT	74	151.45	0.63	116.51	0.71	56	75.68%	79.38	0.27	55.98	0.40	18	24.32%	375.66	1.74	304.83	1.68

Vehicle		All Initial Inspections					Passing Initial Inspections						Failing Initial Inspections					
Year	Type	Total	Avg HC Idle	Avg CO Idle	Avg HC 2500 rpm	Avg CO 2500 rpm	Total	Total%	Avg HC Idle	Avg CO Idle	Avg HC 2500 rpm	Avg CO 2500 rpm	Total	Total%	Avg HC Idle	Avg CO Idle	Avg HC 2500 rpm	Avg CO 2500 rpm
	HDGT	1,095	91.54	0.49	70.44	0.54	983	89.77%	52.64	0.24	41.46	0.37	112	10.23%	433.00	2.72	324.82	2.06
<b>1994 Total</b>		1,251	96.64	0.49	76.67	0.55	1105	88.33%	53.56	0.23	42.25	0.36	146	11.67%	422.71	2.46	337.15	2.01
1995	LDGV	121	92.88	0.32	93.85	0.47	95	78.51%	46.53	0.11	46.93	0.22	26	21.49%	262.23	1.07	265.26	1.38
	LDGT	65	100.56	0.35	88.57	0.42	51	78.46%	69.37	0.21	60.99	0.30	14	21.54%	214.19	0.85	189.04	0.87
	HDGT	1,273	89.39	0.48	63.15	0.63	1153	90.57%	53.62	0.24	41.56	0.41	120	9.43%	433.13	2.85	270.59	2.70
<b>1995 Total</b>		1,459	90.18	0.46	66.83	0.60	1299	89.03%	53.72	0.23	42.71	0.39	160	10.97%	386.20	2.39	262.59	2.32
1996	LDGV	15	187.27	0.62	110.63	0.46	12	80.00%	31.11	0.07	29.16	0.14	3	20.00%	811.90	2.82	436.53	1.72
	LDGT	3	15.30	0.07	19.13	0.10	3	100.00%	15.30	0.07	19.13	0.10	0	0.00%	0.00	0.00	0.00	0.00
	HDGT	1,496	79.64	0.33	50.04	0.36	1407	94.05%	48.11	0.18	30.92	0.26	89	5.95%	578.07	2.71	352.27	1.95
<b>1996 Total</b>		1,514	80.58	0.33	50.58	0.36	1422	93.92%	47.90	0.18	30.88	0.26	92	6.08%	585.69	2.71	355.02	1.94
1997	LDGV	14	78.72	0.21	79.24	0.26	11	78.57%	50.64	0.16	46.19	0.23	3	21.43%	181.70	0.38	200.43	0.38
	LDGT	14	49.73	0.19	39.67	0.07	13	92.86%	52.28	0.20	21.44	0.06	1	7.14%	16.50	0.01	276.70	0.12
	HDGT	1,608	63.80	0.23	41.69	0.23	1552	96.52%	47.56	0.17	32.10	0.20	56	3.48%	513.86	2.04	307.48	1.24
<b>1997 Total</b>		1,636	63.81	0.23	42.00	0.23	1576	96.33%	47.62	0.17	32.11	0.20	60	3.67%	488.96	1.92	301.61	1.17
1998	LDGV	11	49.64	0.11	59.32	0.14	10	90.91%	22.49	0.03	31.66	0.07	1	9.09%	321.10	0.93	335.90	0.91
	LDGT	11	67.82	0.18	72.76	0.18	10	90.91%	47.16	0.14	52.10	0.15	1	9.09%	274.40	0.51	279.40	0.45
	HDGT	1,330	89.31	0.23	54.15	0.25	1255	94.36%	62.50	0.18	39.53	0.22	75	5.64%	538.02	1.17	298.78	0.86
<b>1998 Total</b>		1,352	88.82	0.23	54.35	0.25	1275	94.30%	62.06	0.17	39.57	0.21	77	5.70%	531.78	1.16	299.01	0.86
1999	LDGV	8	30.28	0.09	38.04	0.13	6	75.00%	9.00	0.01	11.87	0.02	2	25.00%	94.10	0.34	116.55	0.48
	LDGT	12	38.03	0.09	32.74	0.13	12	100.00%	38.03	0.09	32.74	0.13	0	0.00%	0.00	0.00	0.00	0.00
	HDGT	2,198	68.48	0.19	52.04	0.24	2108	95.91%	45.51	0.13	37.09	0.19	90	4.09%	606.40	1.49	402.11	1.31
<b>1999 Total</b>		2,218	68.18	0.19	51.89	0.24	2126	95.85%	45.37	0.13	37.00	0.19	92	4.15%	595.26	1.46	395.91	1.29
2000	LDGV	11	20.46	0.01	22.84	0.03	11	100.00%	20.46	0.01	22.84	0.03	0	0.00%	0.00	0.00	0.00	0.00
	LDGT	18	43.35	0.11	45.53	0.11	18	100.00%	43.35	0.11	45.53	0.11	0	0.00%	0.00	0.00	0.00	0.00
	HDGT	2,717	59.64	0.16	42.95	0.20	2629	96.76%	41.61	0.11	31.26	0.15	88	3.24%	598.32	1.62	392.15	1.55
<b>2000 Total</b>		2,746	59.38	0.16	42.89	0.19	2658	96.80%	41.54	0.11	31.32	0.15	88	3.20%	598.32	1.62	392.15	1.55
2001	LDGV	4	10.28	0.01	8.08	0.00	4	100.00%	10.28	0.01	8.08	0.00	0	0.00%	0.00	0.00	0.00	0.00
	LDGT	8	12.74	0.01	15.86	0.03	8	100.00%	12.74	0.01	15.86	0.03	0	0.00%	0.00	0.00	0.00	0.00
	HDGT	2,307	42.51	0.11	34.02	0.17	2269	98.35%	34.30	0.09	27.26	0.14	38	1.65%	532.75	1.84	437.61	2.19
<b>2001 Total</b>		2,319	42.35	0.11	33.91	0.17	2281	98.36%	34.18	0.09	27.18	0.14	38	1.64%	532.75	1.84	437.61	2.19
2002	LDGV	10	22.34	0.06	29.83	0.10	10	100.00%	22.34	0.06	29.83	0.10	0	0.00%	0.00	0.00	0.00	0.00
	LDGT	15	12.95	0.05	17.94	0.12	13	86.67%	12.95	0.05	13.81	0.03	2	13.33%	13.00	0.01	44.80	0.75
	HDGT	2,394	41.81	0.11	32.61	0.17	2367	98.87%	35.77	0.09	27.89	0.15	27	1.13%	571.51	1.91	446.74	1.58
<b>2002 Total</b>		2,419	41.55	0.11	32.51	0.17	2390	98.80%	35.59	0.09	27.82	0.15	29	1.20%	532.99	1.78	419.02	1.52
2003	LDGV	12	23.33	0.02	29.33	0.05	12	100.00%	23.33	0.02	29.33	0.05	0	0.00%	0.00	0.00	0.00	0.00
	LDGT	17	13.73	0.04	15.15	0.06	17	100.00%	13.73	0.04	15.15	0.06	0	0.00%	0.00	0.00	0.00	0.00
	HDGT	2,093	31.15	0.10	26.02	0.14	2067	98.76%	27.15	0.08	22.63	0.13	26	1.24%	349.63	1.43	295.11	1.05
<b>2003 Total</b>		2,122	30.97	0.09	25.95	0.14	2096	98.77%	27.02	0.08	22.61	0.13	26	1.23%	349.63	1.43	295.11	1.05
2004	LDGV	13	13.32	0.02	9.08	0.01	13	100.00%	13.32	0.02	9.08	0.01	0	0.00%	0.00	0.00	0.00	0.00
	LDGT	12	11.42	0.01	12.07	0.01	12	100.00%	11.42	0.01	12.07	0.01	0	0.00%	0.00	0.00	0.00	0.00
	HDGT	2,418	22.45	0.06	17.59	0.10	2401	99.30%	19.85	0.04	16.36	0.08	17	0.70%	388.94	2.57	191.47	2.85
<b>2004 Total</b>		2,443	22.34	0.06	17.52	0.10	2426	99.30%	19.78	0.04	16.30	0.08	17	0.70%	388.94	2.57	191.47	2.85
2005	LDGV	7	4.73	0.00	11.30	0.02	7	100.00%	4.73	0.00	11.30	0.02	0	0.00%	0.00	0.00	0.00	0.00

Vehicle		All Initial Inspections					Passing Initial Inspections						Failing Initial Inspections					
Year	Type	Total	Avg HC Idle	Avg CO Idle	Avg HC 2500 rpm	Avg CO 2500 rpm	Total	Total%	Avg HC Idle	Avg CO Idle	Avg HC 2500 rpm	Avg CO 2500 rpm	Total	Total%	Avg HC Idle	Avg CO Idle	Avg HC 2500 rpm	Avg CO 2500 rpm
	LDGT	12	21.33	0.03	24.07	0.04	12	100.00%	21.33	0.03	24.07	0.04	0	0.00%	0.00	0.00	0.00	0.00
	HDGT	1,618	23.65	0.06	19.35	0.09	1612	99.63%	22.74	0.06	18.50	0.08	6	0.37%	267.80	1.10	246.82	1.02
<b>2005 Total</b>		1,637	23.55	0.06	19.35	0.09	1631	99.63%	22.66	0.06	18.51	0.08	6	0.37%	267.80	1.10	246.82	1.02
2006	LDGV	4	50.65	0.07	66.90	0.13	3	75.00%	6.80	0.02	12.93	0.13	1	25.00%	182.20	0.22	228.80	0.14
	LDGT	8	13.85	0.03	22.95	0.02	8	100.00%	13.85	0.03	22.95	0.02	0	0.00%	0.00	0.00	0.00	0.00
	HDGT	2,250	22.81	0.07	17.88	0.08	2232	99.20%	21.02	0.06	16.68	0.08	18	0.80%	245.82	1.45	166.52	0.57
<b>2006 Total</b>		2,262	22.83	0.07	17.98	0.08	2243	99.16%	20.97	0.06	16.69	0.08	19	0.84%	242.47	1.39	169.80	0.54
2007	LDGV	4	19.50	0.01	22.98	0.01	4	100.00%	19.50	0.01	22.98	0.01	0	0.00%	0.00	0.00	0.00	0.00
	LDGT	7	28.71	0.24	53.03	0.46	6	85.71%	5.55	0.01	4.90	0.00	1	14.29%	167.70	1.61	341.80	3.23
	HDGT	1,438	16.90	0.05	13.15	0.06	1431	99.51%	14.58	0.04	11.17	0.05	7	0.49%	491.20	1.35	418.20	1.12
<b>2007 Total</b>		1,449	16.96	0.05	13.37	0.06	1441	99.45%	14.55	0.04	11.18	0.05	8	0.55%	450.76	1.38	408.65	1.38
2008	LDGV	10	5.21	0.00	6.93	0.07	10	100.00%	5.21	0.00	6.93	0.07	0	0.00%	0.00	0.00	0.00	0.00
	LDGT	11	10.88	0.03	13.45	0.04	11	100.00%	10.88	0.03	13.45	0.04	0	0.00%	0.00	0.00	0.00	0.00
	HDGT	2,536	13.85	0.05	12.28	0.07	2527	99.65%	13.03	0.04	11.73	0.07	9	0.35%	244.16	1.88	165.57	1.29
<b>2008 Total</b>		2,557	13.80	0.05	12.26	0.07	2548	99.65%	12.99	0.04	11.72	0.07	9	0.35%	244.16	1.88	165.57	1.29
2009	LDGV	1	1.60	0.01	2.10	0.01	1	100.00%	1.60	0.01	2.10	0.01	0	0.00%	0.00	0.00	0.00	0.00
	LDGT	7	9.24	0.02	9.97	0.04	6	85.71%	10.22	0.03	11.07	0.05	1	14.29%	3.40	0.00	3.40	0.00
	HDGT	1,386	13.09	0.04	13.11	0.08	1385	99.93%	12.54	0.04	13.05	0.08	1	0.07%	772.60	1.20	97.40	0.73
<b>2009 Total</b>		1,394	13.06	0.04	13.09	0.08	1392	99.86%	12.52	0.04	13.04	0.08	2	0.14%	388.00	0.60	50.40	0.37
2010	LDGT	1	0.90	0.00	0.70	0.00	1	100.00%	0.90	0.00	0.70	0.00	0	0.00%	0.00	0.00	0.00	0.00
	HDGT	308	11.92	0.03	15.64	0.11	307	99.68%	11.84	0.03	15.26	0.10	1	0.32%	33.90	0.00	132.30	2.34
<b>2010 Total</b>		309	11.88	0.03	15.59	0.10	308	99.68%	11.81	0.03	15.21	0.10	1	0.32%	33.90	0.00	132.30	2.34
2011	LDGT	1	0.30	0.00	0.80	0.00	1	100.00%	0.30	0.00	0.80	0.00	0	0.00%	0.00	0.00	0.00	0.00
	HDGT	396	12.15	0.04	14.40	0.08	394	99.49%	11.49	0.03	13.37	0.07	2	0.51%	143.40	1.40	217.70	1.53
<b>2011 Total</b>		397	12.12	0.04	14.37	0.08	395	99.50%	11.46	0.03	13.34	0.07	2	0.50%	143.40	1.40	217.70	1.53
2012	HDGT	305	10.32	0.03	13.28	0.07	305	100.00%	10.32	0.03	13.28	0.07	0	0.00%	0.00	0.00	0.00	0.00
<b>2012 Total</b>		305	10.32	0.03	13.28	0.07	305	100.00%	10.32	0.03	13.28	0.07	0	0.00%	0.00	0.00	0.00	0.00
2013	HDGT	119	5.69	0.01	6.49	0.04	119	100.00%	5.69	0.01	6.49	0.04	0	0.00%	0.00	0.00	0.00	0.00
<b>2013 Total</b>		119	5.69	0.01	6.49	0.04	119	100.00%	5.69	0.01	6.49	0.04	0	0.00%	0.00	0.00	0.00	0.00
2014	HDGT	86	9.40	0.02	8.74	0.03	86	100.00%	9.40	0.02	8.74	0.03	0	0.00%	0.00	0.00	0.00	0.00
<b>2014 Total</b>		86	9.40	0.02	8.74	0.03	86	100.00%	9.40	0.02	8.74	0.03	0	0.00%	0.00	0.00	0.00	0.00
2015	HDGT	95	4.63	0.00	6.41	0.02	95	100.00%	4.63	0.00	6.41	0.02	0	0.00%	0.00	0.00	0.00	0.00
<b>2015 Total</b>		95	4.63	0.00	6.41	0.02	95	100.00%	4.63	0.00	6.41	0.02	0	0.00%	0.00	0.00	0.00	0.00
2016	HDGT	42	9.00	0.02	9.36	0.10	42	100.00%	9.00	0.02	9.36	0.10	0	0.00%	0.00	0.00	0.00	0.00
<b>2016 Total</b>		42	9.00	0.02	9.36	0.10	42	100.00%	9.00	0.02	9.36	0.10	0	0.00%	0.00	0.00	0.00	0.00
2017	HDGT	7	16.91	0.02	15.07	0.26	7	100.00%	16.91	0.02	15.07	0.26	0	0.00%	0.00	0.00	0.00	0.00
<b>2017 Total</b>		7	16.91	0.02	15.07	0.26	7	100.00%	16.91	0.02	15.07	0.26	0	0.00%	0.00	0.00	0.00	0.00
<b>Grand Total</b>		45,702	102.96	0.46	82.35	0.57	41783	91.42%	60.09	0.25	51.22	0.39	3,919	8.58%	559.96	2.76	414.27	2.50

**Summary by Vehicle Type (V1.01)**

Vehicle Type	All Initial Inspections					Passing Initial Inspections						Failing Initial Inspections					
	Total	Avg HC Idle	Avg CO Idle	Avg HC 2500 rpm	Avg CO 2500 rpm	Total	Total%	Avg HC Idle	Avg CO Idle	Avg HC 2500 rpm	Avg CO 2500 rpm	Total	Total%	Avg HC Idle	Avg CO Idle	Avg HC 2500 rpm	Avg CO 2500 rpm
LDGV	3,467	252.42	1.19	216.25	1.67	2484	71.65%	129.45	0.47	127.65	1.10	983	28.35%	563.16	3.01	440.15	3.12

Vehicle Type	All Initial Inspections					Passing Initial Inspections						Failing Initial Inspections					
	Total	Avg HC Idle	Avg CO Idle	Avg HC 2500 rpm	Avg CO 2500 rpm	Total	Total%	Avg HC Idle	Avg CO Idle	Avg HC 2500 rpm	Avg CO 2500 rpm	Total	Total%	Avg HC Idle	Avg CO Idle	Avg HC 2500 rpm	Avg CO 2500 rpm
LDGT	2,759	240.20	1.06	218.53	1.52	1875	67.96%	121.97	0.40	130.14	1.04	884	32.04%	490.97	2.47	406.03	2.54
HDGT	39,476	80.24	0.36	61.07	0.41	37424	94.80%	52.39	0.22	42.19	0.31	2052	5.20%	588.14	2.77	405.42	2.19
<b>Overall Total</b>	<b>45,702</b>	<b>102.96</b>	<b>0.46</b>	<b>82.35</b>	<b>0.57</b>	<b>41783</b>	<b>91.42%</b>	<b>60.09</b>	<b>0.25</b>	<b>51.22</b>	<b>0.39</b>	<b>3919</b>	<b>8.58%</b>	<b>559.96</b>	<b>2.76</b>	<b>414.27</b>	<b>2.50</b>





## **Appendix C2**

### **Idle Initial Failure Report**



Date  
Between 1/1/2016 and 12/31/2016

## Idle Initial Failure Report (V1.03)

Vehicle		Failure for Both Exhaust and Other						Failure for Exhaust Only						Failure for Other					
Year	Type	Total	Total%	Avg HC	Avg CO	Avg HC 2500 rpm	Avg CO 2500 rpm	Total	Total%	Avg HC	Avg CO	Avg HC 2500 rpm	Avg CO 2500 rpm	Total	Total%	Avg HC	Avg CO	Avg HC 2500 rpm	Avg CO 2500 rpm
1974	HDGV	0	0.00%	0.00	0.00	0.00	0.00	19	11.73%	1203.19	6.51	674.46	5.14	1	0.62%	356.20	2.70	625.30	3.48
	LDGT1	2	0.50%	1883.85	5.82	1270.70	8.70	102	25.56%	734.47	4.67	583.29	3.82	2	0.50%	434.35	0.67	1148.80	6.01
	LDGT2	0	0.00%	0.00	0.00	0.00	0.00	41	13.49%	998.27	5.92	645.79	4.21	3	0.99%	245.90	3.21	305.30	2.26
	LDGV	0	0.00%	0.00	0.00	0.00	0.00	245	31.69%	1004.16	5.09	743.01	4.68	0	0.00%	0.00	0.00	0.00	0.00
<b>1974 Total</b>		2	0.12%	1883.85	5.82	1270.70	8.70	407	24.85%	945.27	5.14	689.99	4.44	6	0.37%	327.10	2.28	639.80	3.71
1975	HDGV	0	0.00%	0.00	0.00	0.00	0.00	5	12.82%	1402.92	4.31	998.10	3.95	1	2.56%	597.10	0.62	1425.60	5.19
	LDGT1	3	17.65%	239.83	2.40	186.97	2.45	5	29.41%	470.60	4.08	456.40	1.90	2	11.76%	266.90	0.34	135.95	2.52
	LDGT2	0	0.00%	0.00	0.00	0.00	0.00	7	10.00%	768.39	7.45	257.61	3.08	3	4.29%	286.87	2.77	179.67	3.20
	LDGV	6	10.17%	411.82	3.91	232.98	3.58	8	13.56%	404.65	3.68	304.89	2.79	4	6.78%	321.40	0.50	171.75	0.86
<b>1975 Total</b>		9	4.86%	354.49	3.41	217.64	3.20	25	13.51%	719.34	4.94	460.60	2.92	10	5.41%	327.71	1.16	292.35	2.33
1976	HDGV	1	0.83%	1201.60	0.20	1244.70	1.25	23	19.17%	926.00	5.19	553.07	4.14	0	0.00%	0.00	0.00	0.00	0.00
	LDGT1	13	9.15%	875.50	4.77	449.20	3.60	29	20.42%	659.50	3.96	435.53	3.41	15	10.56%	165.55	0.51	156.39	2.52
	LDGT2	1	0.29%	2000.00	4.80	2000.00	4.04	41	11.85%	1014.16	5.98	680.90	4.05	26	7.51%	312.46	2.08	240.31	2.52
	LDGV	14	5.53%	1033.02	3.98	900.32	5.88	64	25.30%	623.23	3.58	437.13	3.16	18	7.11%	178.31	0.30	150.57	1.38
<b>1976 Total</b>		29	3.37%	1001.57	4.23	747.89	4.64	157	18.23%	776.37	4.51	517.48	3.58	59	6.85%	234.18	1.14	191.59	2.17
1977	HDGV	2	1.29%	1211.30	0.74	1241.30	1.99	21	13.55%	1094.84	4.70	651.70	2.79	2	1.29%	397.80	0.35	1612.40	1.73
	LDGT1	14	11.02%	700.09	4.78	500.13	4.27	22	17.32%	396.37	2.58	245.63	2.77	17	13.39%	151.75	0.44	140.91	2.14
	LDGT2	5	0.97%	1189.94	4.38	1210.22	3.13	67	12.98%	995.79	5.77	696.51	3.85	23	4.46%	313.56	2.00	336.97	2.46
	LDGV	9	3.23%	860.19	4.20	491.50	3.91	71	25.45%	448.52	2.48	344.53	2.30	12	4.30%	175.07	0.39	97.69	0.44
<b>1977 Total</b>		30	2.79%	863.84	4.27	665.30	3.82	181	16.81%	719.75	3.97	498.44	2.99	54	5.01%	234.96	1.09	269.31	1.88
1978	HDGV	1	0.52%	2000.00	6.64	2000.00	6.65	31	16.15%	1200.09	3.20	978.95	3.18	0	0.00%	0.00	0.00	0.00	0.00
	LDGT1	13	7.74%	576.22	2.98	484.18	3.07	42	25.00%	526.90	3.03	497.61	3.03	9	5.36%	95.41	0.30	124.57	0.26
	LDGT2	3	0.50%	776.10	7.71	502.20	8.09	68	11.30%	1022.63	4.75	541.61	3.21	21	3.49%	347.54	1.55	251.41	3.11
	LDGV	16	4.47%	722.29	4.24	549.31	4.56	64	17.88%	518.92	3.39	342.87	3.47	17	4.75%	120.50	0.41	99.09	1.13
<b>1978 Total</b>		33	2.50%	708.36	4.13	563.33	4.36	205	15.53%	790.64	3.74	536.68	3.25	47	3.56%	217.14	0.90	172.03	1.85
1979	HDGV	4	1.79%	1100.75	6.39	337.65	3.16	34	15.18%	840.49	4.25	595.51	3.56	11	4.91%	281.08	1.73	230.30	1.29
	LDGT1	13	6.37%	430.02	4.22	520.52	3.02	26	12.75%	684.57	1.62	632.48	2.73	14	6.86%	141.56	0.56	105.44	0.95
	LDGT2	38	9.13%	632.29	4.35	692.36	3.32	90	21.63%	701.01	2.93	505.61	2.98	28	6.73%	149.38	0.42	256.38	1.39
	LDGV	15	3.53%	548.71	3.71	286.74	2.95	72	16.94%	529.27	3.44	402.18	3.30	27	6.35%	122.43	0.41	155.39	1.11
<b>1979 Total</b>		70	5.52%	603.58	4.30	553.26	3.18	222	17.49%	664.75	3.14	500.70	3.14	80	6.30%	157.03	0.62	192.30	1.20
1980	HDGV	1	0.83%	835.70	2.52	1426.60	1.63	10	8.33%	1178.46	3.75	932.90	2.58	9	7.50%	220.47	1.58	236.33	3.29
	LDGT1	14	7.14%	804.41	3.29	562.52	3.65	31	15.82%	495.29	2.93	330.58	3.69	12	6.12%	87.81	0.34	135.57	1.49
	LDGT2	8	6.06%	597.30	2.64	352.51	3.51	23	17.42%	806.83	1.82	625.79	2.55	13	9.85%	144.85	0.22	107.75	0.94
	LDGV	13	4.23%	661.02	3.76	546.31	3.61	46	14.98%	465.36	3.03	354.36	3.11	14	4.56%	68.48	0.14	112.88	1.01
<b>1980 Total</b>		36	4.77%	707.48	3.29	534.00	3.55	110	14.57%	610.02	2.82	457.00	3.11	48	6.36%	122.49	0.48	140.31	1.54
1981	HDGV	4	2.27%	482.55	3.61	558.33	5.29	20	11.36%	866.93	2.93	523.33	1.53	5	2.84%	209.90	0.85	135.10	1.27
	LDGT1	16	7.21%	565.99	3.60	485.94	3.23	52	23.42%	425.31	1.73	302.68	1.84	24	10.81%	64.71	0.21	55.02	0.32
	LDGT2	6	5.00%	685.93	2.84	448.60	3.02	38	31.67%	338.19	2.14	321.98	2.18	3	2.50%	96.67	0.41	60.50	0.54
	LDGV	13	5.04%	293.28	1.98	345.58	3.38	70	27.13%	222.31	1.47	282.73	2.79	6	2.33%	48.88	0.10	32.45	0.10
<b>1981 Total</b>		39	5.03%	484.98	2.94	440.84	3.46	180	23.20%	377.04	1.85	323.51	2.24	38	4.90%	83.84	0.29	62.42	0.43
1982	HDGV	2	1.48%	913.30	5.77	277.55	4.45	17	12.59%	610.45	3.93	418.96	2.25	5	3.70%	145.30	0.72	85.72	1.27

Vehicle		Failure for Both Exhaust and Other						Failure for Exhaust Only						Failure for Other					
Year	Type	Total	Total%	Avg HC	Avg CO	Avg HC 2500 rpm	Avg CO 2500 rpm	Total	Total%	Avg HC	Avg CO	Avg HC 2500 rpm	Avg CO 2500 rpm	Total	Total%	Avg HC	Avg CO	Avg HC 2500 rpm	Avg CO 2500 rpm
	LDGT1	0	0.00%	0.00	0.00	0.00	0.00	1	25.00%	452.50	0.13	567.10	0.36	0	0.00%	0.00	0.00	0.00	0.00
	LDGT2	0	0.00%	0.00	0.00	0.00	0.00	0	0.00%	0.00	0.00	0.00	0.00	0	0.00%	0.00	0.00	0.00	0.00
	LDGV	0	0.00%	0.00	0.00	0.00	0.00	2	20.00%	201.25	1.93	236.10	3.07	0	0.00%	0.00	0.00	0.00	0.00
<b>1982 Total</b>		<b>2</b>	<b>1.32%</b>	<b>913.30</b>	<b>5.77</b>	<b>277.55</b>	<b>4.45</b>	<b>20</b>	<b>13.25%</b>	<b>561.64</b>	<b>3.54</b>	<b>408.09</b>	<b>2.23</b>	<b>5</b>	<b>3.31%</b>	<b>145.30</b>	<b>0.72</b>	<b>85.72</b>	<b>1.27</b>
1983	HDGV	3	2.04%	1146.87	3.82	790.17	4.76	20	13.61%	818.68	4.34	412.66	3.24	5	3.40%	243.76	1.19	149.04	1.12
	LDGT1	0	0.00%	0.00	0.00	0.00	0.00	1	33.33%	432.50	4.06	145.20	1.07	0	0.00%	0.00	0.00	0.00	0.00
	LDGT2	0	0.00%	0.00	0.00	0.00	0.00	1	100.00%	147.10	2.51	65.00	0.68	0	0.00%	0.00	0.00	0.00	0.00
	LDGV	0	0.00%	0.00	0.00	0.00	0.00	1	14.29%	15.90	0.02	107.60	3.69	2	28.57%	57.65	0.28	59.95	0.33
<b>1983 Total</b>		<b>3</b>	<b>1.90%</b>	<b>1146.87</b>	<b>3.82</b>	<b>790.17</b>	<b>4.76</b>	<b>23</b>	<b>14.56%</b>	<b>737.78</b>	<b>4.06</b>	<b>372.65</b>	<b>3.05</b>	<b>7</b>	<b>4.43%</b>	<b>190.59</b>	<b>0.93</b>	<b>123.59</b>	<b>0.89</b>
1984	HDGV	8	2.69%	682.58	3.83	492.85	3.48	40	13.47%	736.58	2.40	401.30	1.43	7	2.36%	176.91	1.25	139.17	1.42
	LDGT1	0	0.00%	0.00	0.00	0.00	0.00	2	40.00%	170.60	0.05	280.35	1.95	0	0.00%	0.00	0.00	0.00	0.00
	LDGT2	0	0.00%	0.00	0.00	0.00	0.00	2	100.00%	833.05	4.74	710.60	0.88	0	0.00%	0.00	0.00	0.00	0.00
	LDGV	2	8.00%	462.40	4.42	505.40	9.41	4	16.00%	509.80	2.71	509.73	2.17	1	4.00%	88.90	0.40	82.80	0.90
<b>1984 Total</b>		<b>10</b>	<b>3.04%</b>	<b>638.54</b>	<b>3.95</b>	<b>495.36</b>	<b>4.66</b>	<b>48</b>	<b>14.59%</b>	<b>698.11</b>	<b>2.43</b>	<b>418.18</b>	<b>1.49</b>	<b>8</b>	<b>2.43%</b>	<b>165.91</b>	<b>1.14</b>	<b>132.13</b>	<b>1.36</b>
1985	HDGV	7	2.29%	1450.36	4.07	987.91	2.58	37	12.09%	693.00	2.52	449.30	1.27	13	4.25%	201.88	1.28	184.66	1.66
	LDGT1	0	0.00%	0.00	0.00	0.00	0.00	3	42.86%	819.77	0.96	783.63	1.06	0	0.00%	0.00	0.00	0.00	0.00
	LDGT2	0	0.00%	0.00	0.00	0.00	0.00	0	0.00%	0.00	0.00	0.00	0.00	0	0.00%	0.00	0.00	0.00	0.00
	LDGV	0	0.00%	0.00	0.00	0.00	0.00	6	31.58%	659.45	1.63	596.05	2.16	1	5.26%	156.50	0.00	192.90	0.05
<b>1985 Total</b>		<b>7</b>	<b>2.10%</b>	<b>1450.36</b>	<b>4.07</b>	<b>987.91</b>	<b>2.58</b>	<b>46</b>	<b>13.77%</b>	<b>696.89</b>	<b>2.30</b>	<b>490.25</b>	<b>1.38</b>	<b>14</b>	<b>4.19%</b>	<b>198.64</b>	<b>1.19</b>	<b>185.25</b>	<b>1.54</b>
1986	HDGV	6	1.95%	651.97	3.36	448.97	1.84	72	23.38%	531.58	2.12	276.28	1.66	6	1.95%	136.38	1.07	111.63	1.38
	LDGT1	1	16.67%	859.90	9.60	685.00	11.41	2	33.33%	193.10	1.36	197.30	1.82	1	16.67%	52.00	0.08	40.90	0.20
	LDGT2	0	0.00%	0.00	0.00	0.00	0.00	1	33.33%	301.20	2.18	104.40	0.67	0	0.00%	0.00	0.00	0.00	0.00
	LDGV	0	0.00%	0.00	0.00	0.00	0.00	5	22.73%	182.28	1.90	188.22	2.16	0	0.00%	0.00	0.00	0.00	0.00
<b>1986 Total</b>		<b>7</b>	<b>2.06%</b>	<b>681.67</b>	<b>4.25</b>	<b>482.69</b>	<b>3.20</b>	<b>80</b>	<b>23.60%</b>	<b>498.41</b>	<b>2.09</b>	<b>266.66</b>	<b>1.68</b>	<b>7</b>	<b>2.06%</b>	<b>124.33</b>	<b>0.93</b>	<b>101.53</b>	<b>1.21</b>
1987	HDGV	8	3.31%	867.31	5.35	510.78	2.14	48	19.83%	530.85	1.94	397.99	1.55	5	2.07%	122.62	0.93	139.16	1.19
	LDGT1	1	6.25%	251.00	0.01	108.00	0.46	4	25.00%	388.08	0.29	323.95	0.28	1	6.25%	181.00	0.08	152.00	0.44
	LDGT2	0	0.00%	0.00	0.00	0.00	0.00	1	33.33%	220.10	0.01	235.40	0.12	0	0.00%	0.00	0.00	0.00	0.00
	LDGV	1	4.35%	904.90	0.93	1121.40	2.17	3	13.04%	196.03	3.07	143.47	1.92	0	0.00%	0.00	0.00	0.00	0.00
<b>1987 Total</b>		<b>10</b>	<b>3.52%</b>	<b>809.44</b>	<b>4.38</b>	<b>531.56</b>	<b>1.97</b>	<b>56</b>	<b>19.72%</b>	<b>497.16</b>	<b>1.85</b>	<b>376.16</b>	<b>1.45</b>	<b>6</b>	<b>2.11%</b>	<b>132.35</b>	<b>0.79</b>	<b>141.30</b>	<b>1.07</b>
1988	HDGV	5	1.30%	534.46	1.51	455.46	2.21	44	11.43%	564.76	2.65	443.82	2.07	9	2.34%	91.14	0.34	60.11	0.21
	LDGT1	1	4.55%	101.00	0.31	243.00	0.84	3	13.64%	324.80	0.71	208.17	0.70	0	0.00%	0.00	0.00	0.00	0.00
	LDGT2	2	18.18%	371.35	1.04	144.50	0.96	2	18.18%	1070.05	3.86	1169.35	6.33	3	27.27%	72.80	0.04	83.00	0.05
	LDGV	0	0.00%	0.00	0.00	0.00	0.00	3	20.00%	487.40	3.67	510.60	4.74	0	0.00%	0.00	0.00	0.00	0.00
<b>1988 Total</b>		<b>8</b>	<b>1.85%</b>	<b>439.50</b>	<b>1.24</b>	<b>351.16</b>	<b>1.73</b>	<b>52</b>	<b>12.01%</b>	<b>565.88</b>	<b>2.64</b>	<b>461.98</b>	<b>2.30</b>	<b>12</b>	<b>2.77%</b>	<b>86.56</b>	<b>0.26</b>	<b>65.83</b>	<b>0.17</b>
1989	HDGV	6	1.01%	952.35	3.78	784.38	4.99	67	11.26%	505.52	1.97	419.17	1.42	20	3.36%	109.07	0.56	143.11	0.71
	LDGT1	2	5.13%	240.65	0.59	275.55	0.52	14	35.90%	455.65	1.41	353.05	1.72	0	0.00%	0.00	0.00	0.00	0.00
	LDGT2	0	0.00%	0.00	0.00	0.00	0.00	3	33.33%	439.53	1.66	477.00	2.61	1	11.11%	85.30	0.49	72.70	0.67
	LDGV	0	0.00%	0.00	0.00	0.00	0.00	4	11.76%	418.55	2.37	702.05	4.52	2	5.88%	88.40	0.07	86.25	0.08
<b>1989 Total</b>		<b>8</b>	<b>1.18%</b>	<b>774.43</b>	<b>2.98</b>	<b>657.18</b>	<b>3.87</b>	<b>88</b>	<b>13.00%</b>	<b>491.39</b>	<b>1.89</b>	<b>423.48</b>	<b>1.65</b>	<b>23</b>	<b>3.40%</b>	<b>106.24</b>	<b>0.51</b>	<b>135.10</b>	<b>0.65</b>
1990	HDGV	2	0.33%	967.25	0.10	750.40	0.12	60	9.98%	456.17	2.67	351.77	1.77	11	1.83%	124.94	1.05	85.39	0.77
	LDGT1	1	2.27%	234.00	0.47	271.00	9.99	16	36.36%	289.13	1.01	283.83	1.10	0	0.00%	0.00	0.00	0.00	0.00
	LDGT2	1	25.00%	870.60	7.05	548.50	6.59	0	0.00%	0.00	0.00	0.00	0.00	0	0.00%	0.00	0.00	0.00	0.00
	LDGV	3	5.26%	786.93	1.57	830.00	2.18	9	15.79%	395.38	1.20	312.48	1.85	1	1.75%	166.40	0.90	137.80	1.17
<b>1990 Total</b>		<b>7</b>	<b>0.99%</b>	<b>771.41</b>	<b>1.77</b>	<b>687.19</b>	<b>3.34</b>	<b>85</b>	<b>12.04%</b>	<b>418.29</b>	<b>2.20</b>	<b>334.82</b>	<b>1.65</b>	<b>12</b>	<b>1.70%</b>	<b>128.39</b>	<b>1.04</b>	<b>89.76</b>	<b>0.80</b>

Vehicle		Failure for Both Exhaust and Other						Failure for Exhaust Only						Failure for Other					
Year	Type	Total	Total%	Avg HC	Avg CO	Avg HC 2500 rpm	Avg CO 2500 rpm	Total	Total%	Avg HC	Avg CO	Avg HC 2500 rpm	Avg CO 2500 rpm	Total	Total%	Avg HC	Avg CO	Avg HC 2500 rpm	Avg CO 2500 rpm
1991	HDGV	2	0.44%	290.35	2.43	188.85	2.49	56	12.33%	421.62	3.09	348.27	2.24	7	1.54%	101.41	0.36	41.13	0.31
	LDGT1	0	0.00%	0.00	0.00	0.00	0.00	4	9.52%	305.95	1.25	538.68	1.68	5	11.90%	93.94	0.33	112.62	0.51
	LDGT2	1	11.11%	273.00	0.10	43.00	0.16	5	55.56%	353.46	1.35	211.60	1.30	0	0.00%	0.00	0.00	0.00	0.00
	LDGV	2	2.38%	269.20	1.56	201.40	1.46	18	21.43%	320.99	1.04	304.38	1.96	4	4.76%	152.88	0.32	131.48	0.32
<b>1991 Total</b>		<b>5</b>	<b>0.85%</b>	<b>278.42</b>	<b>1.62</b>	<b>164.70</b>	<b>1.61</b>	<b>83</b>	<b>14.09%</b>	<b>390.12</b>	<b>2.45</b>	<b>339.70</b>	<b>2.09</b>	<b>16</b>	<b>2.72%</b>	<b>111.94</b>	<b>0.34</b>	<b>86.06</b>	<b>0.37</b>
1992	HDGV	3	0.41%	318.43	2.43	309.80	1.24	80	10.91%	406.80	2.81	374.61	2.41	11	1.50%	131.72	0.64	102.52	0.57
	LDGT1	1	2.70%	422.00	0.96	672.00	0.75	7	18.92%	274.73	0.72	730.69	0.73	1	2.70%	98.20	0.74	75.30	0.14
	LDGT2	0	0.00%	0.00	0.00	0.00	0.00	4	33.33%	263.73	0.79	148.40	0.53	2	16.67%	86.10	0.11	74.55	0.30
	LDGV	2	2.47%	359.15	0.52	284.00	0.84	15	18.52%	496.55	2.37	492.80	2.37	5	6.17%	40.42	0.11	36.58	0.19
<b>1992 Total</b>		<b>6</b>	<b>0.70%</b>	<b>349.27</b>	<b>1.55</b>	<b>361.57</b>	<b>1.03</b>	<b>106</b>	<b>12.28%</b>	<b>405.38</b>	<b>2.53</b>	<b>406.31</b>	<b>2.22</b>	<b>19</b>	<b>2.20%</b>	<b>101.13</b>	<b>0.45</b>	<b>80.79</b>	<b>0.42</b>
1993	HDGV	2	0.27%	320.00	4.90	214.70	1.98	51	6.97%	378.77	2.52	349.87	2.52	11	1.50%	80.15	0.53	67.30	0.85
	LDGT1	1	3.33%	754.80	1.71	705.90	2.02	3	10.00%	253.73	3.08	324.03	3.16	2	6.67%	53.85	0.20	52.20	0.51
	LDGT2	0	0.00%	0.00	0.00	0.00	0.00	0	0.00%	0.00	0.00	0.00	0.00	0	0.00%	0.00	0.00	0.00	0.00
	LDGV	0	0.00%	0.00	0.00	0.00	0.00	10	19.61%	240.35	0.73	179.75	1.03	1	1.96%	95.80	0.04	71.30	0.11
<b>1993 Total</b>		<b>3</b>	<b>0.37%</b>	<b>464.93</b>	<b>3.84</b>	<b>378.43</b>	<b>1.99</b>	<b>64</b>	<b>7.80%</b>	<b>351.28</b>	<b>2.26</b>	<b>322.08</b>	<b>2.32</b>	<b>14</b>	<b>1.71%</b>	<b>77.51</b>	<b>0.45</b>	<b>65.43</b>	<b>0.75</b>
1994	HDGV	2	0.18%	365.65	1.71	265.60	0.86	101	9.22%	466.48	2.94	348.13	2.16	9	0.82%	72.21	0.50	76.46	1.29
	LDGT1	0	0.00%	0.00	0.00	0.00	0.00	5	13.51%	310.82	2.08	277.94	2.67	2	5.41%	108.00	0.35	100.50	0.50
	LDGT2	1	2.70%	498.40	0.63	466.40	0.54	9	24.32%	496.21	2.18	379.77	1.70	1	2.70%	27.50	0.02	12.00	0.03
	LDGV	2	2.44%	180.55	1.07	282.35	3.99	10	12.20%	572.34	2.06	659.34	2.35	4	4.88%	93.25	0.18	49.58	0.24
<b>1994 Total</b>		<b>5</b>	<b>0.40%</b>	<b>318.16</b>	<b>1.24</b>	<b>312.46</b>	<b>2.05</b>	<b>125</b>	<b>9.98%</b>	<b>470.86</b>	<b>2.78</b>	<b>372.49</b>	<b>2.16</b>	<b>16</b>	<b>1.28%</b>	<b>79.15</b>	<b>0.37</b>	<b>68.71</b>	<b>0.85</b>
1995	HDGV	3	0.24%	412.17	5.00	381.77	5.04	101	7.93%	486.81	3.17	299.72	2.95	16	1.26%	98.22	0.45	65.81	0.64
	LDGT1	0	0.00%	0.00	0.00	0.00	0.00	3	10.00%	140.37	0.76	267.07	0.87	1	3.33%	10.20	0.01	32.80	0.09
	LDGT2	1	2.86%	374.10	0.76	292.00	1.46	6	17.14%	341.75	1.43	228.32	1.16	3	8.57%	47.57	0.11	50.20	0.33
	LDGV	4	3.31%	473.20	3.11	596.65	4.16	18	14.88%	260.43	0.82	237.62	1.00	4	3.31%	59.38	0.16	58.28	0.32
<b>1995 Total</b>		<b>8</b>	<b>0.55%</b>	<b>437.92</b>	<b>3.53</b>	<b>477.99</b>	<b>4.15</b>	<b>128</b>	<b>8.77%</b>	<b>440.06</b>	<b>2.70</b>	<b>286.88</b>	<b>2.55</b>	<b>24</b>	<b>1.64%</b>	<b>81.75</b>	<b>0.34</b>	<b>61.23</b>	<b>0.53</b>
1996	HDGV	1	0.07%	187.90	3.64	2000.00	11.24	87	5.82%	588.60	2.73	326.69	1.86	1	0.07%	51.40	0.29	930.10	0.16
	LDGT1	0	0.00%	0.00	0.00	0.00	0.00	0	0.00%	0.00	0.00	0.00	0.00	0	0.00%	0.00	0.00	0.00	0.00
	LDGT2	0	0.00%	0.00	0.00	0.00	0.00	0	0.00%	0.00	0.00	0.00	0.00	0	0.00%	0.00	0.00	0.00	0.00
	LDGV	0	0.00%	0.00	0.00	0.00	0.00	2	13.33%	1141.25	4.09	595.80	2.18	1	6.67%	153.20	0.27	118.00	0.82
<b>1996 Total</b>		<b>1</b>	<b>0.07%</b>	<b>187.90</b>	<b>3.64</b>	<b>2000.00</b>	<b>11.24</b>	<b>89</b>	<b>5.88%</b>	<b>601.02</b>	<b>2.76</b>	<b>332.74</b>	<b>1.87</b>	<b>2</b>	<b>0.13%</b>	<b>102.30</b>	<b>0.28</b>	<b>524.05</b>	<b>0.49</b>
1997	HDGV	0	0.00%	0.00	0.00	0.00	0.00	55	3.42%	522.85	2.07	312.90	1.25	1	0.06%	19.60	0.18	9.10	0.23
	LDGT1	0	0.00%	0.00	0.00	0.00	0.00	0	0.00%	0.00	0.00	0.00	0.00	0	0.00%	0.00	0.00	0.00	0.00
	LDGT2	0	0.00%	0.00	0.00	0.00	0.00	1	12.50%	16.50	0.01	276.70	0.12	0	0.00%	0.00	0.00	0.00	0.00
	LDGV	1	7.14%	319.40	0.60	353.80	0.62	1	7.14%	218.00	0.51	239.00	0.51	1	7.14%	7.70	0.03	8.50	0.02
<b>1997 Total</b>		<b>1</b>	<b>0.06%</b>	<b>319.40</b>	<b>0.60</b>	<b>353.80</b>	<b>0.62</b>	<b>57</b>	<b>3.48%</b>	<b>508.62</b>	<b>2.01</b>	<b>310.97</b>	<b>1.22</b>	<b>2</b>	<b>0.12%</b>	<b>13.65</b>	<b>0.11</b>	<b>8.80</b>	<b>0.13</b>
1998	HDGV	3	0.23%	473.47	0.70	82.17	0.44	70	5.26%	552.45	1.21	314.74	0.89	2	0.15%	129.95	0.35	65.05	0.43
	LDGT1	0	0.00%	0.00	0.00	0.00	0.00	1	14.29%	274.40	0.51	279.40	0.45	0	0.00%	0.00	0.00	0.00	0.00
	LDGT2	0	0.00%	0.00	0.00	0.00	0.00	0	0.00%	0.00	0.00	0.00	0.00	0	0.00%	0.00	0.00	0.00	0.00
	LDGV	0	0.00%	0.00	0.00	0.00	0.00	1	9.09%	321.10	0.93	335.90	0.91	0	0.00%	0.00	0.00	0.00	0.00
<b>1998 Total</b>		<b>3</b>	<b>0.22%</b>	<b>473.47</b>	<b>0.70</b>	<b>82.17</b>	<b>0.44</b>	<b>72</b>	<b>5.33%</b>	<b>545.37</b>	<b>1.20</b>	<b>314.55</b>	<b>0.89</b>	<b>2</b>	<b>0.15%</b>	<b>129.95</b>	<b>0.35</b>	<b>65.05</b>	<b>0.43</b>
1999	HDGV	0	0.00%	0.00	0.00	0.00	0.00	85	3.87%	634.20	1.56	422.80	1.37	5	0.23%	133.84	0.25	50.48	0.27
	LDGT1	0	0.00%	0.00	0.00	0.00	0.00	0	0.00%	0.00	0.00	0.00	0.00	0	0.00%	0.00	0.00	0.00	0.00
	LDGT2	0	0.00%	0.00	0.00	0.00	0.00	0	0.00%	0.00	0.00	0.00	0.00	0	0.00%	0.00	0.00	0.00	0.00
	LDGV	0	0.00%	0.00	0.00	0.00	0.00	0	0.00%	0.00	0.00	0.00	0.00	2	25.00%	94.10	0.34	116.55	0.48

Vehicle		Failure for Both Exhaust and Other						Failure for Exhaust Only						Failure for Other					
Year	Type	Total	Total%	Avg HC	Avg CO	Avg HC 2500 rpm	Avg CO 2500 rpm	Total	Total%	Avg HC	Avg CO	Avg HC 2500 rpm	Avg CO 2500 rpm	Total	Total%	Avg HC	Avg CO	Avg HC 2500 rpm	Avg CO 2500 rpm
<b>1999 Total</b>		0	0.00%	0.00	0.00	0.00	0.00	85	3.83%	634.20	1.56	422.80	1.37	7	0.32%	122.49	0.28	69.36	0.33
2000	HDGV	0	0.00%	0.00	0.00	0.00	0.00	84	3.09%	624.82	1.70	409.91	1.63	4	0.15%	41.95	0.06	19.08	0.06
	LDGT1	0	0.00%	0.00	0.00	0.00	0.00	0	0.00%	0.00	0.00	0.00	0.00	0	0.00%	0.00	0.00	0.00	0.00
	LDGT2	0	0.00%	0.00	0.00	0.00	0.00	0	0.00%	0.00	0.00	0.00	0.00	0	0.00%	0.00	0.00	0.00	0.00
	LDGV	0	0.00%	0.00	0.00	0.00	0.00	0	0.00%	0.00	0.00	0.00	0.00	0	0.00%	0.00	0.00	0.00	0.00
<b>2000 Total</b>		0	0.00%	0.00	0.00	0.00	0.00	84	3.06%	624.82	1.70	409.91	1.63	4	0.15%	41.95	0.06	19.08	0.06
2001	HDGV	0	0.00%	0.00	0.00	0.00	0.00	36	1.56%	559.18	1.93	459.75	2.30	2	0.09%	57.10	0.24	39.15	0.22
	LDGT1	0	0.00%	0.00	0.00	0.00	0.00	0	0.00%	0.00	0.00	0.00	0.00	0	0.00%	0.00	0.00	0.00	0.00
	LDGT2	0	0.00%	0.00	0.00	0.00	0.00	0	0.00%	0.00	0.00	0.00	0.00	0	0.00%	0.00	0.00	0.00	0.00
	LDGV	0	0.00%	0.00	0.00	0.00	0.00	0	0.00%	0.00	0.00	0.00	0.00	0	0.00%	0.00	0.00	0.00	0.00
<b>2001 Total</b>		0	0.00%	0.00	0.00	0.00	0.00	36	1.55%	559.18	1.93	459.75	2.30	2	0.09%	57.10	0.24	39.15	0.22
2002	HDGV	0	0.00%	0.00	0.00	0.00	0.00	21	0.88%	708.68	2.34	556.32	1.91	6	0.25%	91.42	0.41	63.22	0.45
	LDGT1	0	0.00%	0.00	0.00	0.00	0.00	0	0.00%	0.00	0.00	0.00	0.00	1	10.00%	4.40	0.00	4.90	0.00
	LDGT2	0	0.00%	0.00	0.00	0.00	0.00	1	20.00%	21.60	0.02	84.70	1.49	0	0.00%	0.00	0.00	0.00	0.00
	LDGV	0	0.00%	0.00	0.00	0.00	0.00	0	0.00%	0.00	0.00	0.00	0.00	0	0.00%	0.00	0.00	0.00	0.00
<b>2002 Total</b>		0	0.00%	0.00	0.00	0.00	0.00	22	0.91%	677.45	2.24	534.89	1.89	7	0.29%	78.99	0.35	54.89	0.38
2003	HDGV	1	0.05%	178.30	3.71	132.40	5.05	21	1.00%	410.51	1.53	345.83	0.95	4	0.19%	72.83	0.35	69.53	0.57
	LDGT1	0	0.00%	0.00	0.00	0.00	0.00	0	0.00%	0.00	0.00	0.00	0.00	0	0.00%	0.00	0.00	0.00	0.00
	LDGT2	0	0.00%	0.00	0.00	0.00	0.00	0	0.00%	0.00	0.00	0.00	0.00	0	0.00%	0.00	0.00	0.00	0.00
	LDGV	0	0.00%	0.00	0.00	0.00	0.00	0	0.00%	0.00	0.00	0.00	0.00	0	0.00%	0.00	0.00	0.00	0.00
<b>2003 Total</b>		1	0.05%	178.30	3.71	132.40	5.05	21	0.99%	410.51	1.53	345.83	0.95	4	0.19%	72.83	0.35	69.53	0.57
2004	HDGV	0	0.00%	0.00	0.00	0.00	0.00	14	0.58%	466.47	3.12	228.94	3.45	3	0.12%	27.10	0.00	16.63	0.05
	LDGT1	0	0.00%	0.00	0.00	0.00	0.00	0	0.00%	0.00	0.00	0.00	0.00	0	0.00%	0.00	0.00	0.00	0.00
	LDGT2	0	0.00%	0.00	0.00	0.00	0.00	0	0.00%	0.00	0.00	0.00	0.00	0	0.00%	0.00	0.00	0.00	0.00
	LDGV	0	0.00%	0.00	0.00	0.00	0.00	0	0.00%	0.00	0.00	0.00	0.00	0	0.00%	0.00	0.00	0.00	0.00
<b>2004 Total</b>		0	0.00%	0.00	0.00	0.00	0.00	14	0.57%	466.47	3.12	228.94	3.45	3	0.12%	27.10	0.00	16.63	0.05
2005	HDGV	0	0.00%	0.00	0.00	0.00	0.00	3	0.19%	513.63	2.16	476.23	1.83	3	0.19%	21.97	0.04	17.40	0.21
	LDGT1	0	0.00%	0.00	0.00	0.00	0.00	0	0.00%	0.00	0.00	0.00	0.00	0	0.00%	0.00	0.00	0.00	0.00
	LDGT2	0	0.00%	0.00	0.00	0.00	0.00	0	0.00%	0.00	0.00	0.00	0.00	0	0.00%	0.00	0.00	0.00	0.00
	LDGV	0	0.00%	0.00	0.00	0.00	0.00	0	0.00%	0.00	0.00	0.00	0.00	0	0.00%	0.00	0.00	0.00	0.00
<b>2005 Total</b>		0	0.00%	0.00	0.00	0.00	0.00	3	0.18%	513.63	2.16	476.23	1.83	3	0.18%	21.97	0.04	17.40	0.21
2006	HDGV	1	0.04%	351.00	9.07	153.00	0.03	9	0.40%	433.48	1.84	298.58	1.03	8	0.36%	21.55	0.06	19.65	0.11
	LDGT1	0	0.00%	0.00	0.00	0.00	0.00	0	0.00%	0.00	0.00	0.00	0.00	0	0.00%	0.00	0.00	0.00	0.00
	LDGT2	0	0.00%	0.00	0.00	0.00	0.00	0	0.00%	0.00	0.00	0.00	0.00	0	0.00%	0.00	0.00	0.00	0.00
	LDGV	0	0.00%	0.00	0.00	0.00	0.00	1	25.00%	182.20	0.22	228.80	0.14	0	0.00%	0.00	0.00	0.00	0.00
<b>2006 Total</b>		1	0.04%	351.00	9.07	153.00	0.03	10	0.44%	408.35	1.68	291.60	0.94	8	0.35%	21.55	0.06	19.65	0.11
2007	HDGV	0	0.00%	0.00	0.00	0.00	0.00	5	0.35%	637.86	1.80	572.12	1.46	1	0.07%	1.10	0.01	33.40	0.25
	LDGT1	0	0.00%	0.00	0.00	0.00	0.00	1	16.67%	167.70	1.61	341.80	3.23	0	0.00%	0.00	0.00	0.00	0.00
	LDGT2	0	0.00%	0.00	0.00	0.00	0.00	0	0.00%	0.00	0.00	0.00	0.00	0	0.00%	0.00	0.00	0.00	0.00
	LDGV	0	0.00%	0.00	0.00	0.00	0.00	0	0.00%	0.00	0.00	0.00	0.00	0	0.00%	0.00	0.00	0.00	0.00
<b>2007 Total</b>		0	0.00%	0.00	0.00	0.00	0.00	6	0.41%	559.50	1.77	533.73	1.76	1	0.07%	1.10	0.01	33.40	0.25
2008	HDGV	0	0.00%	0.00	0.00	0.00	0.00	7	0.28%	304.10	2.42	208.39	1.66	2	0.08%	34.35	0.00	15.70	0.02
	LDGT1	0	0.00%	0.00	0.00	0.00	0.00	0	0.00%	0.00	0.00	0.00	0.00	0	0.00%	0.00	0.00	0.00	0.00
	LDGT2	0	0.00%	0.00	0.00	0.00	0.00	0	0.00%	0.00	0.00	0.00	0.00	0	0.00%	0.00	0.00	0.00	0.00

Vehicle		Failure for Both Exhaust and Other						Failure for Exhaust Only						Failure for Other					
Year	Type	Total	Total%	Avg HC	Avg CO	Avg HC 2500 rpm	Avg CO 2500 rpm	Total	Total%	Avg HC	Avg CO	Avg HC 2500 rpm	Avg CO 2500 rpm	Total	Total%	Avg HC	Avg CO	Avg HC 2500 rpm	Avg CO 2500 rpm
	LDGV	0	0.00%	0.00	0.00	0.00	0.00	0	0.00%	0.00	0.00	0.00	0.00	0	0.00%	0.00	0.00	0.00	0.00
<b>2008 Total</b>		0	0.00%	0.00	0.00	0.00	0.00	7	0.27%	304.10	2.42	208.39	1.66	2	0.08%	34.35	0.00	15.70	0.02
2009	HDGV	0	0.00%	0.00	0.00	0.00	0.00	1	0.07%	772.60	1.20	97.40	0.73	0	0.00%	0.00	0.00	0.00	0.00
	LDGT1	0	0.00%	0.00	0.00	0.00	0.00	0	0.00%	0.00	0.00	0.00	0.00	0	0.00%	0.00	0.00	0.00	0.00
	LDGT2	0	0.00%	0.00	0.00	0.00	0.00	0	0.00%	0.00	0.00	0.00	0.00	1	16.67%	3.40	0.00	3.40	0.00
	LDGV	0	0.00%	0.00	0.00	0.00	0.00	0	0.00%	0.00	0.00	0.00	0.00	0	0.00%	0.00	0.00	0.00	0.00
<b>2009 Total</b>		0	0.00%	0.00	0.00	0.00	0.00	1	0.07%	772.60	1.20	97.40	0.73	1	0.07%	3.40	0.00	3.40	0.00
2010	HDGV	0	0.00%	0.00	0.00	0.00	0.00	0	0.00%	0.00	0.00	0.00	0.00	1	0.32%	33.90	0.00	132.30	2.34
	LDGT1	0	0.00%	0.00	0.00	0.00	0.00	0	0.00%	0.00	0.00	0.00	0.00	0	0.00%	0.00	0.00	0.00	0.00
<b>2010 Total</b>		0	0.00%	0.00	0.00	0.00	0.00	0	0.00%	0.00	0.00	0.00	0.00	1	0.32%	33.90	0.00	132.30	2.34
2011	HDGV	0	0.00%	0.00	0.00	0.00	0.00	1	0.25%	210.60	2.42	376.30	2.70	1	0.25%	76.20	0.38	59.10	0.35
	LDGT2	0	0.00%	0.00	0.00	0.00	0.00	0	0.00%	0.00	0.00	0.00	0.00	0	0.00%	0.00	0.00	0.00	0.00
<b>2011 Total</b>		0	0.00%	0.00	0.00	0.00	0.00	1	0.25%	210.60	2.42	376.30	2.70	1	0.25%	76.20	0.38	59.10	0.35
2012	HDGV	0	0.00%	0.00	0.00	0.00	0.00	0	0.00%	0.00	0.00	0.00	0.00	0	0.00%	0.00	0.00	0.00	0.00
<b>2012 Total</b>		0	0.00%	0.00	0.00	0.00	0.00	0	0.00%	0.00	0.00	0.00	0.00	0	0.00%	0.00	0.00	0.00	0.00
2013	HDGV	0	0.00%	0.00	0.00	0.00	0.00	0	0.00%	0.00	0.00	0.00	0.00	0	0.00%	0.00	0.00	0.00	0.00
<b>2013 Total</b>		0	0.00%	0.00	0.00	0.00	0.00	0	0.00%	0.00	0.00	0.00	0.00	0	0.00%	0.00	0.00	0.00	0.00
2014	HDGV	0	0.00%	0.00	0.00	0.00	0.00	0	0.00%	0.00	0.00	0.00	0.00	0	0.00%	0.00	0.00	0.00	0.00
<b>2014 Total</b>		0	0.00%	0.00	0.00	0.00	0.00	0	0.00%	0.00	0.00	0.00	0.00	0	0.00%	0.00	0.00	0.00	0.00
2015	HDGV	0	0.00%	0.00	0.00	0.00	0.00	0	0.00%	0.00	0.00	0.00	0.00	0	0.00%	0.00	0.00	0.00	0.00
<b>2015 Total</b>		0	0.00%	0.00	0.00	0.00	0.00	0	0.00%	0.00	0.00	0.00	0.00	0	0.00%	0.00	0.00	0.00	0.00
2016	HDGV	0	0.00%	0.00	0.00	0.00	0.00	0	0.00%	0.00	0.00	0.00	0.00	0	0.00%	0.00	0.00	0.00	0.00
<b>2016 Total</b>		0	0.00%	0.00	0.00	0.00	0.00	0	0.00%	0.00	0.00	0.00	0.00	0	0.00%	0.00	0.00	0.00	0.00
2017	HDGV	0	0.00%	0.00	0.00	0.00	0.00	0	0.00%	0.00	0.00	0.00	0.00	0	0.00%	0.00	0.00	0.00	0.00
<b>2017 Total</b>		0	0.00%	0.00	0.00	0.00	0.00	0	0.00%	0.00	0.00	0.00	0.00	0	0.00%	0.00	0.00	0.00	0.00
<b>Grand Total</b>		344	0.75%	680.65	3.65	548.40	3.50	2,999	6.56%	624.42	3.06	449.74	2.64	575	1.26%	152.07	0.69	149.50	1.22

Idle Initial Failure Report - Summary by Veh (V1.03)

Vehicle		Failure for Both Exhaust and Other						Failure for Exhaust Only						Failure for Other					
Type	Total	Total%	Avg HC	Avg CO	Avg HC 2500 rpm	Avg CO 2500 rpm	Total	Total%	Avg HC	Avg CO	Avg HC 2500 rpm	Avg CO 2500 rpm	Total	Total%	Avg HC	Avg CO	Avg HC 2500 rpm	Avg CO 2500 rpm	
HDGV	78	0.21%	783.67	3.66	586.29	2.98	1,456	3.87%	590.29	2.61	404.37	2.04	208	0.55%	131.60	0.71	131.33	0.94	
LDGT1	96	5.05%	647.63	3.74	498.87	3.54	379	19.93%	544.70	2.91	447.55	2.81	109	5.73%	119.74	0.37	128.71	1.27	
LDGT2	67	2.49%	685.94	3.94	642.06	3.39	411	15.25%	812.20	4.14	545.55	3.17	131	4.86%	238.46	1.28	230.01	1.98	
LDGV	103	2.97%	629.99	3.39	504.94	3.93	753	21.72%	628.06	3.41	486.27	3.40	127	3.66%	124.21	0.31	114.19	0.84	
<b>Grand Total</b>		344	0.75%	680.65	3.65	548.40	3.50	2,999	6.56%	624.42	3.06	449.74	2.64	575	1.26%	152.07	0.69	149.50	1.22





## **Appendix C3**

### **Idle Initial Exhaust Failure Report**



Date  
**Between 1/1/2016 and 12/31/2016**

Idle Initial Exhaust Failure Report (V1.01)

Vehicle		Overall Exhaust Failures						HC Failures						CO Failures					
Year	Type	Total	Total%	Avg HC Idle	Avg CO Idle	Avg HC 2500 rpm	Avg CO 2500 rpm	Total	Total %	Avg HC Idle	Avg CO Idle	Avg HC 2500 rpm	Avg CO 2500 rpm	Total	Total%	Avg HC Idle	Avg CO Idle	Avg HC 2500 rpm	Avg CO 2500 rpm
1974	LDGV	245	100.00%	1151.70	5.49	842.68	5.15	113	46.12%	1627.83	4.93	1151.03	5.19	207	84.49%	891.78	5.80	674.35	5.14
	LDGT	104	98.11%	889.41	4.94	654.79	4.10	32	30.77%	1515.95	3.89	1070.07	3.77	88	84.62%	661.58	5.33	503.79	4.22
	HDGT	60	93.75%	1194.27	6.66	668.67	4.66	31	51.67%	1561.55	5.42	882.82	4.07	43	71.67%	929.48	7.56	514.28	5.09
<b>1974 Total</b>		<b>409</b>	<b>98.55%</b>	<b>1096.59</b>	<b>5.53</b>	<b>773.76</b>	<b>4.84</b>	<b>176</b>	<b>43.03%</b>	<b>1595.81</b>	<b>4.83</b>	<b>1089.07</b>	<b>4.73</b>	<b>338</b>	<b>82.64%</b>	<b>836.64</b>	<b>5.90</b>	<b>609.58</b>	<b>4.89</b>
1975	LDGV	14	77.78%	479.28	4.34	275.52	2.95	4	28.57%	853.55	4.43	382.48	3.50	12	85.71%	354.52	4.31	239.87	2.77
	LDGT	8	80.00%	384.06	3.45	355.36	2.11	1	12.50%	752.50	0.28	1070.90	0.31	7	87.50%	331.43	3.90	253.14	2.36
	HDGT	12	75.00%	1117.81	6.46	605.08	3.68	4	33.33%	1832.13	4.28	1266.58	3.64	10	83.33%	832.08	7.33	340.48	3.70
<b>1975 Total</b>		<b>34</b>	<b>77.27%</b>	<b>694.48</b>	<b>4.93</b>	<b>413.74</b>	<b>3.04</b>	<b>9</b>	<b>26.47%</b>	<b>1277.24</b>	<b>3.90</b>	<b>851.90</b>	<b>3.21</b>	<b>29</b>	<b>85.29%</b>	<b>513.62</b>	<b>5.25</b>	<b>277.77</b>	<b>2.99</b>
1976	LDGV	78	81.25%	847.63	4.15	614.96	4.03	34	43.59%	1246.84	3.91	882.17	3.77	64	82.05%	635.55	4.27	473.01	4.17
	LDGT	42	73.68%	872.05	4.90	492.34	3.95	22	52.38%	1143.71	4.60	662.11	4.34	34	80.95%	696.27	5.10	382.48	3.70
	HDGT	66	71.74%	1070.88	5.99	692.11	4.39	32	48.48%	1481.63	4.30	1058.05	3.64	46	69.70%	785.15	7.17	437.55	4.91
<b>1976 Total</b>		<b>186</b>	<b>75.92%</b>	<b>928.58</b>	<b>4.95</b>	<b>611.30</b>	<b>4.13</b>	<b>88</b>	<b>47.31%</b>	<b>1306.44</b>	<b>4.22</b>	<b>891.11</b>	<b>3.86</b>	<b>144</b>	<b>77.42%</b>	<b>697.67</b>	<b>5.40</b>	<b>440.30</b>	<b>4.30</b>
1977	LDGV	80	86.96%	568.86	2.99	390.07	2.77	40	50.00%	796.83	2.40	553.51	2.74	61	76.25%	419.37	3.38	282.90	2.79
	LDGT	36	67.92%	630.63	3.81	424.53	3.35	16	44.44%	901.23	3.86	573.01	3.23	32	88.89%	495.33	3.79	350.28	3.42
	HDGT	95	79.17%	1114.37	5.88	719.23	3.79	51	53.68%	1465.95	3.90	1086.46	2.99	64	67.37%	834.21	7.45	426.60	4.43
<b>1977 Total</b>		<b>211</b>	<b>79.62%</b>	<b>817.72</b>	<b>4.40</b>	<b>539.72</b>	<b>3.32</b>	<b>107</b>	<b>50.71%</b>	<b>1131.36</b>	<b>3.34</b>	<b>810.45</b>	<b>2.94</b>	<b>157</b>	<b>74.41%</b>	<b>603.96</b>	<b>5.12</b>	<b>355.21</b>	<b>3.59</b>
1978	LDGV	80	82.47%	658.57	4.13	443.86	4.18	43	53.75%	867.71	4.05	555.03	4.21	66	82.50%	522.31	4.19	371.43	4.16
	LDGT	55	85.94%	610.00	3.48	556.99	3.40	31	56.36%	801.89	3.16	694.71	3.53	43	78.18%	471.66	3.70	457.71	3.31
	HDGT	103	83.06%	1148.69	4.80	733.64	3.60	61	59.22%	1457.26	2.81	942.77	2.89	56	54.37%	812.57	6.97	505.84	4.38
<b>1978 Total</b>		<b>238</b>	<b>83.51%</b>	<b>837.74</b>	<b>4.23</b>	<b>584.78</b>	<b>3.76</b>	<b>135</b>	<b>56.72%</b>	<b>1118.99</b>	<b>3.29</b>	<b>762.30</b>	<b>3.46</b>	<b>165</b>	<b>69.33%</b>	<b>607.62</b>	<b>5.01</b>	<b>439.53</b>	<b>4.01</b>
1979	LDGV	87	76.32%	635.56	4.08	411.97	3.47	39	44.83%	907.91	4.20	588.13	3.21	75	86.21%	493.94	4.01	320.37	3.60
	LDGT	167	79.90%	738.72	3.77	615.20	3.43	108	64.67%	904.95	3.02	739.88	2.97	111	66.47%	576.97	4.49	493.90	3.88
	HDGT	38	77.55%	967.76	5.01	562.17	3.78	21	55.26%	1205.62	3.66	744.53	2.86	26	68.42%	775.64	6.09	414.88	4.53
<b>1979 Total</b>		<b>292</b>	<b>78.49%</b>	<b>736.10</b>	<b>4.01</b>	<b>547.67</b>	<b>3.49</b>	<b>168</b>	<b>57.53%</b>	<b>943.22</b>	<b>3.37</b>	<b>705.23</b>	<b>3.01</b>	<b>212</b>	<b>72.60%</b>	<b>571.96</b>	<b>4.52</b>	<b>422.82</b>	<b>3.86</b>
1980	LDGV	59	80.82%	613.16	3.76	439.42	3.47	29	49.15%	851.91	3.55	621.53	3.27	47	79.66%	465.84	3.88	327.06	3.59
	LDGT	76	75.25%	748.32	3.20	532.88	3.78	45	59.21%	960.57	2.35	653.48	2.98	48	63.16%	549.34	4.00	419.81	4.52
	HDGT	11	55.00%	1218.36	4.08	959.90	2.52	7	63.64%	1594.91	1.99	1425.07	1.35	5	45.45%	691.18	6.99	308.66	4.15
<b>1980 Total</b>		<b>146</b>	<b>75.26%</b>	<b>722.73</b>	<b>3.49</b>	<b>521.95</b>	<b>3.56</b>	<b>81</b>	<b>55.48%</b>	<b>976.48</b>	<b>2.75</b>	<b>708.72</b>	<b>2.95</b>	<b>100</b>	<b>68.49%</b>	<b>517.19</b>	<b>4.09</b>	<b>370.66</b>	<b>4.07</b>
1981	LDGV	83	93.26%	399.06	3.15	355.44	3.23	31	37.35%	435.46	2.47	401.87	2.72	29	34.94%	360.14	3.88	305.80	3.77
	LDGT	112	80.58%	618.94	3.61	405.81	2.58	64	57.14%	669.68	2.79	458.26	2.06	49	43.75%	552.68	4.68	337.30	3.26
	HDGT	24	82.76%	845.62	3.49	531.61	2.59	13	54.17%	1272.20	2.27	891.28	2.09	13	54.17%	419.04	4.72	171.94	3.08
<b>1981 Total</b>		<b>219</b>	<b>85.21%</b>	<b>582.26</b>	<b>3.46</b>	<b>407.06</b>	<b>2.77</b>	<b>108</b>	<b>49.32%</b>	<b>674.97</b>	<b>2.64</b>	<b>494.20</b>	<b>2.25</b>	<b>91</b>	<b>41.55%</b>	<b>472.23</b>	<b>4.43</b>	<b>303.64</b>	<b>3.39</b>
1982	LDGV	2	100.00%	211.97	1.93	246.23	2.69	1	50.00%	233.40	1.93	266.50	1.92	2	100.00%	201.25	1.93	236.10	3.07
	LDGT	1	100.00%	452.50	0.13	567.10	0.36	1	100.00%	452.50	0.13	567.10	0.36	0	0.00%	0.00	0.00	0.00	0.00
	HDGT	19	79.17%	752.44	4.67	507.19	3.11	10	52.63%	972.31	3.60	657.84	3.07	13	68.42%	583.32	5.49	391.30	3.14
<b>1982 Total</b>		<b>22</b>	<b>81.48%</b>	<b>681.28</b>	<b>4.19</b>	<b>480.41</b>	<b>2.96</b>	<b>12</b>	<b>54.55%</b>	<b>867.42</b>	<b>3.17</b>	<b>617.67</b>	<b>2.75</b>	<b>15</b>	<b>68.18%</b>	<b>532.37</b>	<b>5.01</b>	<b>370.61</b>	<b>3.13</b>
1983	LDGV	1	33.33%	0.00	0.00	0.00	0.00	0	0.00%	0.00	0.00	0.00	0.00	0	0.00%	0.00	0.00	0.00	0.00
	LDGT	2	100.00%	337.37	3.54	118.47	0.94	1	50.00%	432.50	4.06	145.20	1.07	2	100.00%	289.80	3.29	105.10	0.88
	HDGT	23	82.14%	1003.17	5.00	518.81	4.14	16	69.57%	1115.38	4.15	608.53	3.88	16	69.57%	890.97	5.84	429.09	4.40
<b>1983 Total</b>		<b>26</b>	<b>78.79%</b>	<b>946.10</b>	<b>4.87</b>	<b>484.49</b>	<b>3.87</b>	<b>17</b>	<b>65.38%</b>	<b>1075.21</b>	<b>4.14</b>	<b>581.28</b>	<b>3.72</b>	<b>18</b>	<b>69.23%</b>	<b>824.17</b>	<b>5.56</b>	<b>393.09</b>	<b>4.01</b>
1984	LDGV	6	85.71%	476.27	3.69	443.64	5.24	5	83.33%	563.54	3.47	580.66	5.02	5	83.33%	389.00	3.90	306.62	5.47

Vehicle		Overall Exhaust Failures						HC Failures						CO Failures					
Year	Type	Total	Total%	Avg HC Idle	Avg CO Idle	Avg HC 2500 rpm	Avg CO 2500 rpm	Total	Total %	Avg HC Idle	Avg CO Idle	Avg HC 2500 rpm	Avg CO 2500 rpm	Total	Total%	Avg HC Idle	Avg CO Idle	Avg HC 2500 rpm	Avg CO 2500 rpm
	LDGT	4	100.00%	867.33	4.17	701.55	1.37	2	50.00%	901.60	3.61	692.50	1.87	2	50.00%	833.05	4.74	710.60	0.88
	HDGT	48	87.27%	775.62	3.12	409.81	1.84	31	64.58%	968.67	1.78	556.81	1.12	22	45.83%	503.59	5.00	202.67	2.85
<b>1984 Total</b>		58	87.88%	736.41	3.26	432.27	2.32	38	65.52%	911.83	2.10	567.09	1.67	29	50.00%	506.55	4.79	255.62	3.17
1985	LDGV	6	85.71%	1124.54	3.10	967.04	4.53	3	50.00%	1150.80	2.54	920.60	3.85	2	33.33%	1085.15	3.93	1036.70	5.55
	LDGT	3	100.00%	1058.43	1.17	1087.73	1.21	3	100.00%	819.77	0.96	783.63	1.06	1	33.33%	1774.40	1.78	2000.00	1.63
	HDGT	44	77.19%	901.18	3.33	564.80	1.74	30	68.18%	1073.75	2.26	719.42	1.34	22	50.00%	665.86	4.79	353.96	2.28
<b>1985 Total</b>		53	79.10%	929.80	3.17	632.06	1.93	36	67.92%	1059.01	2.17	741.53	1.52	25	47.17%	743.75	4.60	474.42	2.52
1986	LDGV	5	100.00%	298.35	3.63	130.98	1.06	2	40.00%	343.90	3.31	161.80	1.17	2	40.00%	252.80	3.94	100.15	0.96
	LDGT	4	80.00%	506.42	5.11	362.92	5.30	2	50.00%	580.55	5.89	394.70	6.04	3	75.00%	457.00	4.59	341.73	4.81
	HDGT	78	92.86%	605.89	2.73	333.36	2.07	55	70.51%	693.11	1.77	367.21	1.54	37	47.44%	476.25	4.15	283.03	2.85
<b>1986 Total</b>		87	92.55%	588.79	2.88	326.80	2.19	59	67.82%	677.46	1.96	361.18	1.68	42	48.28%	464.23	4.17	278.51	2.90
1987	LDGV	4	100.00%	351.28	2.94	351.90	2.14	2	50.00%	584.15	2.74	664.55	2.47	3	75.00%	196.03	3.07	143.47	1.92
	LDGT	6	85.71%	337.23	0.20	273.20	0.28	6	100.00%	337.23	0.20	273.20	0.28	0	0.00%	0.00	0.00	0.00	0.00
	HDGT	56	91.80%	627.74	3.15	423.97	2.02	43	76.79%	704.10	2.30	486.29	1.52	27	48.21%	506.13	4.51	324.73	2.80
<b>1987 Total</b>		66	91.67%	589.16	2.92	408.36	1.90	51	77.27%	656.24	2.07	468.21	1.41	30	45.45%	475.12	4.37	306.60	2.72
1988	LDGV	3	100.00%	551.26	3.75	579.44	5.03	2	66.67%	647.05	3.88	682.70	5.47	3	100.00%	487.40	3.67	510.60	4.74
	LDGT	8	72.73%	929.35	2.89	792.70	3.64	5	62.50%	715.22	2.06	551.24	2.42	1	12.50%	2000.00	7.07	2000.00	9.75
	HDGT	49	84.48%	641.35	3.01	484.14	2.32	34	69.39%	739.17	2.23	591.61	1.80	28	57.14%	522.58	3.96	353.64	2.95
<b>1988 Total</b>		60	83.33%	658.85	3.05	516.03	2.61	41	68.33%	731.76	2.29	591.13	2.05	32	53.33%	565.45	4.03	419.80	3.33
1989	LDGV	4	66.67%	658.13	4.57	1131.73	6.56	3	75.00%	521.13	3.11	842.30	4.57	1	25.00%	1069.10	8.93	2000.00	12.54
	LDGT	19	95.00%	643.02	2.26	434.19	1.85	13	68.42%	573.06	1.69	358.77	1.35	6	31.58%	794.58	3.51	597.62	2.93
	HDGT	73	78.49%	600.45	2.62	479.92	2.01	55	75.34%	656.31	1.94	551.16	1.59	37	50.68%	517.42	3.62	374.01	2.63
<b>1989 Total</b>		96	80.67%	609.49	2.63	495.03	2.14	71	73.96%	635.36	1.95	528.24	1.67	44	45.83%	567.75	3.72	441.45	2.90
1990	LDGV	12	92.31%	648.98	1.93	567.66	1.95	7	58.33%	784.44	1.63	666.13	1.69	6	50.00%	490.95	2.27	452.78	2.25
	LDGT	18	100.00%	397.68	2.03	289.22	2.36	12	66.67%	413.48	1.31	308.11	2.18	4	22.22%	350.28	4.20	232.55	2.88
	HDGT	62	84.93%	488.34	3.03	355.33	2.12	39	62.90%	638.20	2.32	510.10	2.01	37	59.68%	330.37	3.77	192.19	2.23
<b>1990 Total</b>		92	88.46%	494.41	2.74	371.54	2.13	58	63.04%	609.36	2.03	487.14	2.01	47	51.09%	352.57	3.62	228.90	2.29
1991	LDGV	20	83.33%	606.02	2.24	483.75	2.72	9	45.00%	566.09	1.51	420.14	1.92	3	15.00%	725.80	4.45	674.57	5.14
	LDGT	10	66.67%	392.03	1.96	277.23	1.49	8	80.00%	384.36	1.45	227.06	1.12	3	30.00%	412.47	3.33	411.00	2.46
	HDGT	58	89.23%	458.24	3.48	375.05	2.63	31	53.45%	622.34	3.07	544.76	2.62	43	74.14%	339.93	3.78	252.71	2.63
<b>1991 Total</b>		88	84.62%	469.01	3.16	377.41	2.51	48	54.55%	572.13	2.51	468.44	2.24	49	55.68%	367.99	3.79	288.23	2.78
1992	LDGV	17	77.27%	650.05	3.28	580.87	3.05	13	76.47%	595.93	2.51	556.65	2.42	7	41.18%	750.56	4.70	625.83	4.22
	LDGT	12	80.00%	335.57	0.88	323.93	0.62	9	75.00%	339.11	0.77	353.27	0.65	1	8.33%	303.70	1.85	59.90	0.38
	HDGT	83	88.30%	455.33	3.19	419.16	2.84	42	50.60%	636.35	2.56	617.67	2.59	58	69.88%	324.25	3.65	275.42	3.02
<b>1992 Total</b>		112	85.50%	476.08	3.03	436.71	2.70	64	57.14%	586.34	2.30	568.09	2.28	66	58.93%	369.15	3.73	309.32	3.10
1993	LDGV	10	90.91%	314.39	1.06	197.81	0.92	7	70.00%	308.94	0.78	190.94	0.72	2	20.00%	333.45	2.06	221.85	1.63
	LDGT	4	66.67%	534.82	3.66	537.24	3.87	2	50.00%	618.05	3.79	619.60	4.05	3	75.00%	479.33	3.58	482.33	3.75
	HDGT	53	82.81%	419.38	3.01	381.17	2.99	29	54.72%	543.26	2.39	520.08	2.91	36	67.92%	319.59	3.51	269.27	3.05
<b>1993 Total</b>		67	82.72%	414.72	2.83	370.16	2.81	38	56.72%	504.03	2.17	464.69	2.56	41	61.19%	331.95	3.44	282.55	3.03
1994	LDGV	12	75.00%	638.32	3.09	717.78	3.00	8	66.67%	687.50	2.56	790.46	2.37	5	41.67%	559.62	3.95	601.50	4.01
	LDGT	15	83.33%	654.99	3.76	476.40	3.24	11	73.33%	549.65	2.60	375.46	2.31	3	20.00%	1041.20	8.02	846.50	6.64
	HDGT	103	91.96%	520.28	3.41	370.75	2.41	71	68.93%	589.49	3.00	440.46	2.16	72	69.90%	452.04	3.82	302.01	2.65
<b>1994 Total</b>		130	89.04%	540.40	3.42	405.99	2.52	90	69.23%	593.33	2.91	463.63	2.20	80	61.54%	480.86	3.99	341.15	2.88
1995	LDGV	22	84.62%	408.05	1.97	357.67	1.87	15	68.18%	390.09	1.54	313.25	1.51	7	31.82%	446.54	2.88	452.87	2.64
	LDGT	10	71.43%	383.10	1.59	243.77	1.38	6	60.00%	383.20	1.38	268.00	1.29	4	40.00%	382.95	1.92	207.43	1.52

Vehicle		Overall Exhaust Failures						HC Failures						CO Failures					
Year	Type	Total	Total%	Avg HC Idle	Avg CO Idle	Avg HC 2500 rpm	Avg CO 2500 rpm	Total	Total %	Avg HC Idle	Avg CO Idle	Avg HC 2500 rpm	Avg CO 2500 rpm	Total	Total%	Avg HC Idle	Avg CO Idle	Avg HC 2500 rpm	Avg CO 2500 rpm
	HDGT	104	86.67%	551.16	3.73	341.32	3.51	67	64.42%	646.71	3.46	393.08	3.34	77	74.04%	468.01	3.96	296.27	3.65
<b>1995 Total</b>		136	85.00%	523.72	3.39	337.82	3.18	88	64.71%	585.00	2.99	370.94	2.89	88	64.71%	462.44	3.79	304.69	3.47
1996	LDGV	2	66.67%	1427.50	5.25	744.80	2.50	2	100.00%	1141.25	4.09	595.80	2.18	1	50.00%	2000.00	7.57	1042.80	3.15
	LDGT	0	0.00%	0.00	0.00	0.00	0.00	0	0.00%	0.00	0.00	0.00	0.00	0	0.00%	0.00	0.00	0.00	0.00
	HDGT	88	98.88%	671.94	3.24	377.01	2.29	65	73.86%	721.16	2.65	399.84	1.92	53	60.23%	611.58	3.97	349.01	2.75
<b>1996 Total</b>		90	97.83%	690.67	3.29	386.13	2.30	67	74.44%	733.70	2.69	405.69	1.92	54	60.00%	637.29	4.04	361.85	2.76
1997	LDGV	2	66.67%	319.40	0.60	353.80	0.62	1	50.00%	319.40	0.60	353.80	0.62	0	0.00%	0.00	0.00	0.00	0.00
	LDGT	1	100.00%	0.00	0.00	0.00	0.00	0	0.00%	0.00	0.00	0.00	0.00	0	0.00%	0.00	0.00	0.00	0.00
	HDGT	55	98.21%	536.01	2.47	316.63	1.42	42	76.36%	634.96	1.83	369.92	1.01	27	49.09%	382.09	3.46	233.74	2.05
<b>1997 Total</b>		58	96.67%	532.92	2.44	317.17	1.41	43	74.14%	627.63	1.80	369.55	1.00	27	46.55%	382.09	3.46	233.74	2.05
1998	LDGV	1	100.00%	321.10	0.93	335.90	0.91	1	100.00%	321.10	0.93	335.90	0.91	0	0.00%	0.00	0.00	0.00	0.00
	LDGT	1	100.00%	274.40	0.51	279.40	0.45	1	100.00%	274.40	0.51	279.40	0.45	0	0.00%	0.00	0.00	0.00	0.00
	HDGT	73	97.33%	577.30	1.35	299.12	1.04	69	94.52%	568.18	1.11	309.03	0.81	12	16.44%	629.77	2.69	242.15	2.37
<b>1998 Total</b>		75	97.40%	570.57	1.33	299.33	1.03	71	94.67%	560.56	1.10	308.99	0.80	12	16.00%	629.77	2.69	242.15	2.37
1999	LDGV	0	0.00%	0.00	0.00	0.00	0.00	0	0.00%	0.00	0.00	0.00	0.00	0	0.00%	0.00	0.00	0.00	0.00
	LDGT	0	0.00%	0.00	0.00	0.00	0.00	0	0.00%	0.00	0.00	0.00	0.00	0	0.00%	0.00	0.00	0.00	0.00
	HDGT	85	94.44%	680.05	1.99	440.79	1.68	81	95.29%	656.83	1.51	436.20	1.33	22	25.88%	765.57	3.73	457.65	2.97
<b>1999 Total</b>		85	92.39%	680.05	1.99	440.79	1.68	81	95.29%	656.83	1.51	436.20	1.33	22	25.88%	765.57	3.73	457.65	2.97
2000	LDGV	0	0.00%	0.00	0.00	0.00	0.00	0	0.00%	0.00	0.00	0.00	0.00	0	0.00%	0.00	0.00	0.00	0.00
	LDGT	0	0.00%	0.00	0.00	0.00	0.00	0	0.00%	0.00	0.00	0.00	0.00	0	0.00%	0.00	0.00	0.00	0.00
	HDGT	84	95.45%	654.25	2.08	438.89	1.94	78	92.86%	656.48	1.59	416.36	1.30	25	29.76%	647.29	3.63	509.18	3.95
<b>2000 Total</b>		84	95.45%	654.25	2.08	438.89	1.94	78	92.86%	656.48	1.59	416.36	1.30	25	29.76%	647.29	3.63	509.18	3.95
2001	LDGV	0	0.00%	0.00	0.00	0.00	0.00	0	0.00%	0.00	0.00	0.00	0.00	0	0.00%	0.00	0.00	0.00	0.00
	LDGT	0	0.00%	0.00	0.00	0.00	0.00	0	0.00%	0.00	0.00	0.00	0.00	0	0.00%	0.00	0.00	0.00	0.00
	HDGT	36	94.74%	580.31	2.45	496.97	2.84	30	83.33%	625.15	1.77	475.79	1.87	13	36.11%	476.83	4.02	545.86	5.08
<b>2001 Total</b>		36	94.74%	580.31	2.45	496.97	2.84	30	83.33%	625.15	1.77	475.79	1.87	13	36.11%	476.83	4.02	545.86	5.08
2002	LDGV	0	0.00%	0.00	0.00	0.00	0.00	0	0.00%	0.00	0.00	0.00	0.00	0	0.00%	0.00	0.00	0.00	0.00
	LDGT	1	50.00%	0.00	0.00	0.00	0.00	0	0.00%	0.00	0.00	0.00	0.00	0	0.00%	0.00	0.00	0.00	0.00
	HDGT	21	77.78%	748.68	3.06	540.48	2.39	20	95.24%	737.55	2.34	579.56	1.90	8	38.10%	776.50	4.85	442.78	3.64
<b>2002 Total</b>		22	75.86%	748.68	3.06	540.48	2.39	20	90.91%	737.55	2.34	579.56	1.90	8	36.36%	776.50	4.85	442.78	3.64
2003	LDGV	0	0.00%	0.00	0.00	0.00	0.00	0	0.00%	0.00	0.00	0.00	0.00	0	0.00%	0.00	0.00	0.00	0.00
	LDGT	0	0.00%	0.00	0.00	0.00	0.00	0	0.00%	0.00	0.00	0.00	0.00	0	0.00%	0.00	0.00	0.00	0.00
	HDGT	22	84.62%	405.90	1.91	367.46	1.29	18	81.82%	443.31	1.37	394.60	0.99	9	40.91%	331.08	3.00	313.19	1.91
<b>2003 Total</b>		22	84.62%	405.90	1.91	367.46	1.29	18	81.82%	443.31	1.37	394.60	0.99	9	40.91%	331.08	3.00	313.19	1.91
2004	LDGV	0	0.00%	0.00	0.00	0.00	0.00	0	0.00%	0.00	0.00	0.00	0.00	0	0.00%	0.00	0.00	0.00	0.00
	LDGT	0	0.00%	0.00	0.00	0.00	0.00	0	0.00%	0.00	0.00	0.00	0.00	0	0.00%	0.00	0.00	0.00	0.00
	HDGT	14	82.35%	481.79	3.66	228.10	3.92	12	85.71%	512.48	3.26	239.56	3.32	10	71.43%	444.96	4.15	214.36	4.65
<b>2004 Total</b>		14	82.35%	481.79	3.66	228.10	3.92	12	85.71%	512.48	3.26	239.56	3.32	10	71.43%	444.96	4.15	214.36	4.65
2005	LDGV	0	0.00%	0.00	0.00	0.00	0.00	0	0.00%	0.00	0.00	0.00	0.00	0	0.00%	0.00	0.00	0.00	0.00
	LDGT	0	0.00%	0.00	0.00	0.00	0.00	0	0.00%	0.00	0.00	0.00	0.00	0	0.00%	0.00	0.00	0.00	0.00
	HDGT	3	50.00%	495.73	2.23	379.68	1.82	2	66.67%	680.30	1.96	616.60	1.42	2	66.67%	311.15	2.50	142.75	2.22
<b>2005 Total</b>		3	50.00%	495.73	2.23	379.68	1.82	2	66.67%	680.30	1.96	616.60	1.42	2	66.67%	311.15	2.50	142.75	2.22
2006	LDGV	1	100.00%	0.00	0.00	0.00	0.00	0	0.00%	0.00	0.00	0.00	0.00	0	0.00%	0.00	0.00	0.00	0.00
	LDGT	0	0.00%	0.00	0.00	0.00	0.00	0	0.00%	0.00	0.00	0.00	0.00	0	0.00%	0.00	0.00	0.00	0.00
	HDGT	10	55.56%	411.38	3.21	251.88	0.78	6	60.00%	603.15	2.57	386.87	0.27	6	60.00%	219.60	3.86	116.88	1.30

Vehicle		Overall Exhaust Failures						HC Failures						CO Failures					
Year	Type	Total	Total%	Avg HC Idle	Avg CO Idle	Avg HC 2500 rpm	Avg CO 2500 rpm	Total	Total %	Avg HC Idle	Avg CO Idle	Avg HC 2500 rpm	Avg CO 2500 rpm	Total	Total%	Avg HC Idle	Avg CO Idle	Avg HC 2500 rpm	Avg CO 2500 rpm
<b>2006 Total</b>		11	57.89%	411.38	3.21	251.88	0.78	6	54.55%	603.15	2.57	386.87	0.27	6	54.55%	219.60	3.86	116.88	1.30
2007	LDGV	0	0.00%	0.00	0.00	0.00	0.00	0	0.00%	0.00	0.00	0.00	0.00	0	0.00%	0.00	0.00	0.00	0.00
	LDGT	1	100.00%	167.70	1.61	341.80	3.23	0	0.00%	0.00	0.00	0.00	0.00	1	100.00%	167.70	1.61	341.80	3.23
	HDGT	5	71.43%	785.37	2.10	747.47	1.55	4	80.00%	756.58	1.60	682.03	0.97	3	60.00%	823.77	2.77	834.73	2.33
<b>2007 Total</b>		6	75.00%	708.16	2.04	696.76	1.76	4	66.67%	756.58	1.60	682.03	0.97	4	66.67%	659.75	2.48	711.50	2.56
2008	LDGV	0	0.00%	0.00	0.00	0.00	0.00	0	0.00%	0.00	0.00	0.00	0.00	0	0.00%	0.00	0.00	0.00	0.00
	LDGT	0	0.00%	0.00	0.00	0.00	0.00	0	0.00%	0.00	0.00	0.00	0.00	0	0.00%	0.00	0.00	0.00	0.00
	HDGT	7	77.78%	346.88	2.76	233.30	2.12	4	57.14%	428.10	1.81	279.58	1.57	4	57.14%	265.65	3.70	187.03	2.67
<b>2008 Total</b>		7	77.78%	346.88	2.76	233.30	2.12	4	57.14%	428.10	1.81	279.58	1.57	4	57.14%	265.65	3.70	187.03	2.67
2009	LDGV	0	0.00%	0.00	0.00	0.00	0.00	0	0.00%	0.00	0.00	0.00	0.00	0	0.00%	0.00	0.00	0.00	0.00
	LDGT	0	0.00%	0.00	0.00	0.00	0.00	0	0.00%	0.00	0.00	0.00	0.00	0	0.00%	0.00	0.00	0.00	0.00
	HDGT	1	100.00%	772.60	1.20	97.40	0.73	1	100.00%	772.60	1.20	97.40	0.73	0	0.00%	0.00	0.00	0.00	0.00
<b>2009 Total</b>		1	50.00%	772.60	1.20	97.40	0.73	1	100.00%	772.60	1.20	97.40	0.73	0	0.00%	0.00	0.00	0.00	0.00
2010	LDGV	0	0.00%	0.00	0.00	0.00	0.00	0	0.00%	0.00	0.00	0.00	0.00	0	0.00%	0.00	0.00	0.00	0.00
	LDGT	0	0.00%	0.00	0.00	0.00	0.00	0	0.00%	0.00	0.00	0.00	0.00	0	0.00%	0.00	0.00	0.00	0.00
	HDGT	0	0.00%	0.00	0.00	0.00	0.00	0	0.00%	0.00	0.00	0.00	0.00	0	0.00%	0.00	0.00	0.00	0.00
<b>2010 Total</b>		0	0.00%	0.00	0.00	0.00	0.00	0	0.00%	0.00	0.00	0.00	0.00	0	0.00%	0.00	0.00	0.00	0.00
2011	LDGV	0	0.00%	0.00	0.00	0.00	0.00	0	0.00%	0.00	0.00	0.00	0.00	0	0.00%	0.00	0.00	0.00	0.00
	LDGT	0	0.00%	0.00	0.00	0.00	0.00	0	0.00%	0.00	0.00	0.00	0.00	0	0.00%	0.00	0.00	0.00	0.00
	HDGT	1	50.00%	210.60	2.42	376.30	2.70	0	0.00%	0.00	0.00	0.00	0.00	1	100.00%	210.60	2.42	376.30	2.70
<b>2011 Total</b>		1	50.00%	210.60	2.42	376.30	2.70	0	0.00%	0.00	0.00	0.00	0.00	1	100.00%	210.60	2.42	376.30	2.70
2012	LDGV	0	0.00%	0.00	0.00	0.00	0.00	0	0.00%	0.00	0.00	0.00	0.00	0	0.00%	0.00	0.00	0.00	0.00
	LDGT	0	0.00%	0.00	0.00	0.00	0.00	0	0.00%	0.00	0.00	0.00	0.00	0	0.00%	0.00	0.00	0.00	0.00
	HDGT	0	0.00%	0.00	0.00	0.00	0.00	0	0.00%	0.00	0.00	0.00	0.00	0	0.00%	0.00	0.00	0.00	0.00
<b>2012 Total</b>		0	0.00%	0.00	0.00	0.00	0.00	0	0.00%	0.00	0.00	0.00	0.00	0	0.00%	0.00	0.00	0.00	0.00
2013	LDGV	0	0.00%	0.00	0.00	0.00	0.00	0	0.00%	0.00	0.00	0.00	0.00	0	0.00%	0.00	0.00	0.00	0.00
	LDGT	0	0.00%	0.00	0.00	0.00	0.00	0	0.00%	0.00	0.00	0.00	0.00	0	0.00%	0.00	0.00	0.00	0.00
	HDGT	0	0.00%	0.00	0.00	0.00	0.00	0	0.00%	0.00	0.00	0.00	0.00	0	0.00%	0.00	0.00	0.00	0.00
<b>2013 Total</b>		0	0.00%	0.00	0.00	0.00	0.00	0	0.00%	0.00	0.00	0.00	0.00	0	0.00%	0.00	0.00	0.00	0.00
2014	LDGV	0	0.00%	0.00	0.00	0.00	0.00	0	0.00%	0.00	0.00	0.00	0.00	0	0.00%	0.00	0.00	0.00	0.00
	LDGT	0	0.00%	0.00	0.00	0.00	0.00	0	0.00%	0.00	0.00	0.00	0.00	0	0.00%	0.00	0.00	0.00	0.00
	HDGT	0	0.00%	0.00	0.00	0.00	0.00	0	0.00%	0.00	0.00	0.00	0.00	0	0.00%	0.00	0.00	0.00	0.00
<b>2014 Total</b>		0	0.00%	0.00	0.00	0.00	0.00	0	0.00%	0.00	0.00	0.00	0.00	0	0.00%	0.00	0.00	0.00	0.00
2015	LDGV	0	0.00%	0.00	0.00	0.00	0.00	0	0.00%	0.00	0.00	0.00	0.00	0	0.00%	0.00	0.00	0.00	0.00
	LDGT	0	0.00%	0.00	0.00	0.00	0.00	0	0.00%	0.00	0.00	0.00	0.00	0	0.00%	0.00	0.00	0.00	0.00
	HDGT	0	0.00%	0.00	0.00	0.00	0.00	0	0.00%	0.00	0.00	0.00	0.00	0	0.00%	0.00	0.00	0.00	0.00
<b>2015 Total</b>		0	0.00%	0.00	0.00	0.00	0.00	0	0.00%	0.00	0.00	0.00	0.00	0	0.00%	0.00	0.00	0.00	0.00
2016	LDGV	0	0.00%	0.00	0.00	0.00	0.00	0	0.00%	0.00	0.00	0.00	0.00	0	0.00%	0.00	0.00	0.00	0.00
	LDGT	0	0.00%	0.00	0.00	0.00	0.00	0	0.00%	0.00	0.00	0.00	0.00	0	0.00%	0.00	0.00	0.00	0.00
	HDGT	0	0.00%	0.00	0.00	0.00	0.00	0	0.00%	0.00	0.00	0.00	0.00	0	0.00%	0.00	0.00	0.00	0.00
<b>2016 Total</b>		0	0.00%	0.00	0.00	0.00	0.00	0	0.00%	0.00	0.00	0.00	0.00	0	0.00%	0.00	0.00	0.00	0.00
2017	LDGT	0	0.00%	0.00	0.00	0.00	0.00	0	0.00%	0.00	0.00	0.00	0.00	0	0.00%	0.00	0.00	0.00	0.00
	HDGT	0	0.00%	0.00	0.00	0.00	0.00	0	0.00%	0.00	0.00	0.00	0.00	0	0.00%	0.00	0.00	0.00	0.00
<b>2017 Total</b>		0	0.00%	0.00	0.00	0.00	0.00	0	0.00%	0.00	0.00	0.00	0.00	0	0.00%	0.00	0.00	0.00	0.00
<b>Grand Total</b>		<b>3,343</b>	<b>85.30%</b>	<b>726.19</b>	<b>3.72</b>	<b>505.86</b>	<b>3.11</b>	<b>2,020</b>	<b>60.42%</b>	<b>862.75</b>	<b>2.78</b>	<b>606.14</b>	<b>2.52</b>	<b>2,039</b>	<b>60.99%</b>	<b>590.90</b>	<b>4.65</b>	<b>406.51</b>	<b>3.69</b>

**Summary by Vehicle Type (V1.01)**

Vehicle Type	Overall Exhaust Failures						HC Failures						CO Failures					
	Total	Total%	Avg HC Idle	Avg CO Idle	Avg HC 2500 rpm	Avg CO 2500 rpm	Total	Total %	Avg HC Idle	Avg CO Idle	Avg HC 2500 rpm	Avg CO 2500 rpm	Total	Total%	Avg HC Idle	Avg CO Idle	Avg HC 2500 rpm	Avg CO 2500 rpm
LDGV	856	87.08%	785.76	4.18	576.39	3.95	414	48.36%	1010.96	3.61	730.47	3.64	610	71.26%	632.91	4.56	471.81	4.16
LDGT	720	81.45%	704.87	3.70	529.63	3.28	401	55.69%	842.46	2.83	622.13	2.74	446	61.94%	581.16	4.49	446.47	3.76
HDGT	1,767	86.11%	706.56	3.51	463.65	2.65	1,205	68.19%	818.58	2.49	558.10	2.06	983	55.63%	569.25	4.77	347.86	3.37
<b>Grand Total</b>	<b>3,343</b>	<b>85.30%</b>	<b>726.19</b>	<b>3.72</b>	<b>505.86</b>	<b>3.11</b>	<b>2,020</b>	<b>60.42%</b>	<b>862.75</b>	<b>2.78</b>	<b>606.14</b>	<b>2.52</b>	<b>2,039</b>	<b>60.99%</b>	<b>590.90</b>	<b>4.65</b>	<b>406.51</b>	<b>3.69</b>





## **Appendix C4**

### Idle Initial Failure for Other Report



Date

Between 1/1/2016 and 12/31/2016

## Idle Initial Failure for Other Report (V1.03)

Vehicle		Other Overall					CAT				AIS				O2				Gas Cap				Opacity			
Year	Type	Total	Pass	Pass %	Fail	Fail %	Pass	Pass %	Fail	Fail %	Pass	Pass %	Fail	Fail %	Pass	Pass %	Fail	Fail %	Pass	Pass %	Fail	Fail %	Pass	Pass %	Fail	Fail %
1974	HDGV	162	161	99.38	1	5.88	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	161	99.38	1	0.62
	LDGT1	399	395	99.00	4	4.82	1	100.00	0	0.00	6	100.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	395	99.00	4	1.00
	LDGT2	304	301	99.01	3	3.57	2	100.00	0	0.00	2	100.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	301	99.01	3	0.99
	LDGV	773	773	100.00	0	0.00	1	100.00	0	0.00	10	100.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	773	100.00	0	0.00
<b>1974 Total</b>		<b>1,638</b>	<b>1630</b>	<b>99.51</b>	<b>8</b>	<b>2.32</b>	<b>4</b>	<b>100.00</b>	<b>0</b>	<b>0.00</b>	<b>18</b>	<b>100.00</b>	<b>0</b>	<b>0.00</b>	<b>0</b>	<b>0.00</b>	<b>0</b>	<b>0.00</b>	<b>0</b>	<b>0.00</b>	<b>0</b>	<b>0.00</b>	<b>1630</b>	<b>99.51</b>	<b>8</b>	<b>0.49</b>
1975	HDGV	39	38	97.44	1	2.56	1	100.00	0	0.00	3	100.00	0	0.00	0	0.00	0	0.00	4	80.00	1	20.00	38	97.44	1	2.56
	LDGT1	17	12	70.59	5	29.41	7	100.00	0	0.00	1	25.00	3	75.00	0	0.00	0	0.00	7	70.00	3	30.00	17	100.00	0	0.00
	LDGT2	70	67	95.71	3	4.29	3	100.00	0	0.00	3	100.00	0	0.00	0	0.00	0	0.00	7	70.00	3	30.00	70	100.00	0	0.00
	LDGV	59	49	83.05	10	16.95	38	86.36	6	10.17	25	86.21	4	13.79	0	0.00	0	0.00	35	89.74	4	10.26	59	100.00	0	0.00
<b>1975 Total</b>		<b>185</b>	<b>166</b>	<b>89.73</b>	<b>19</b>	<b>10.27</b>	<b>49</b>	<b>89.09</b>	<b>6</b>	<b>3.24</b>	<b>32</b>	<b>82.05</b>	<b>7</b>	<b>17.95</b>	<b>0</b>	<b>0.00</b>	<b>0</b>	<b>0.00</b>	<b>53</b>	<b>82.81</b>	<b>11</b>	<b>17.19</b>	<b>184</b>	<b>99.46</b>	<b>1</b>	<b>0.54</b>
1976	HDGV	120	119	99.17	1	0.83	6	100.00	0	0.00	8	100.00	0	0.00	3	100.00	0	0.00	17	94.44	1	5.56	120	100.00	0	0.00
	LDGT1	142	114	80.28	28	19.72	62	89.86	7	4.93	50	90.91	5	9.09	4	100.00	0	0.00	86	82.69	18	17.31	142	100.00	0	0.00
	LDGT2	346	319	92.20	27	7.80	9	75.00	3	0.87	25	83.33	5	16.67	3	100.00	0	0.00	56	76.71	17	23.29	342	98.84	4	1.16
	LDGV	253	221	87.35	32	12.65	175	95.63	8	3.16	108	91.53	10	8.47	7	100.00	0	0.00	160	90.40	17	9.60	251	99.21	2	0.79
<b>1976 Total</b>		<b>861</b>	<b>773</b>	<b>89.78</b>	<b>88</b>	<b>10.22</b>	<b>252</b>	<b>93.33</b>	<b>18</b>	<b>2.09</b>	<b>191</b>	<b>90.52</b>	<b>20</b>	<b>9.48</b>	<b>17</b>	<b>100.00</b>	<b>0</b>	<b>0.00</b>	<b>319</b>	<b>85.75</b>	<b>53</b>	<b>14.25</b>	<b>855</b>	<b>99.30</b>	<b>6</b>	<b>0.70</b>
1977	HDGV	155	151	97.42	4	2.58	6	85.71	1	0.65	8	88.89	1	11.11	1	100.00	0	0.00	32	94.12	2	5.88	154	99.35	1	0.65
	LDGT1	127	96	75.59	31	24.41	73	91.25	7	5.51	63	85.14	11	14.86	6	100.00	0	0.00	70	78.65	19	21.35	124	97.64	3	2.36
	LDGT2	516	488	94.57	28	5.43	31	91.18	3	0.58	43	91.49	4	8.51	2	100.00	0	0.00	81	81.82	18	18.18	509	98.64	7	1.36
	LDGV	279	258	92.47	21	7.53	233	99.15	2	0.72	136	98.55	2	1.45	7	100.00	0	0.00	186	91.63	17	8.37	279	100.00	0	0.00
<b>1977 Total</b>		<b>1,077</b>	<b>993</b>	<b>92.20</b>	<b>84</b>	<b>7.80</b>	<b>343</b>	<b>96.35</b>	<b>13</b>	<b>1.21</b>	<b>250</b>	<b>93.28</b>	<b>18</b>	<b>6.72</b>	<b>16</b>	<b>100.00</b>	<b>0</b>	<b>0.00</b>	<b>369</b>	<b>86.82</b>	<b>56</b>	<b>13.18</b>	<b>1066</b>	<b>98.98</b>	<b>11</b>	<b>1.02</b>
1978	HDGV	192	191	99.48	1	0.52	5	100.00	0	0.00	17	100.00	0	0.00	1	100.00	0	0.00	25	100.00	0	0.00	191	99.48	1	0.52
	LDGT1	168	146	86.90	22	13.10	99	96.12	4	2.38	81	93.10	6	6.90	10	90.91	1	9.09	114	89.76	13	10.24	168	100.00	0	0.00
	LDGT2	602	578	96.01	24	3.99	72	88.89	9	1.50	58	87.88	8	12.12	6	100.00	0	0.00	34	75.56	11	24.44	599	99.50	3	0.50
	LDGV	358	325	90.78	33	9.22	304	96.20	12	3.35	189	96.43	7	3.57	13	100.00	0	0.00	234	93.98	15	6.02	356	99.44	2	0.56
<b>1978 Total</b>		<b>1,320</b>	<b>1240</b>	<b>93.94</b>	<b>80</b>	<b>6.06</b>	<b>480</b>	<b>95.05</b>	<b>25</b>	<b>1.89</b>	<b>345</b>	<b>94.26</b>	<b>21</b>	<b>5.74</b>	<b>30</b>	<b>96.77</b>	<b>1</b>	<b>3.23</b>	<b>407</b>	<b>91.26</b>	<b>39</b>	<b>8.74</b>	<b>1314</b>	<b>99.55</b>	<b>6</b>	<b>0.45</b>
1979	HDGV	224	209	93.30	15	6.70	20	95.24	1	0.45	118	89.39	14	10.61	1	100.00	0	0.00	25	92.59	2	7.41	224	100.00	0	0.00
	LDGT1	204	177	86.76	27	13.24	158	96.34	6	2.94	130	90.28	14	9.72	7	100.00	0	0.00	141	89.81	16	10.19	204	100.00	0	0.00
	LDGT2	416	350	84.13	66	15.87	362	94.27	22	5.29	221	89.84	25	10.16	8	100.00	0	0.00	278	86.60	43	13.40	414	99.52	2	0.48
	LDGV	425	383	90.12	42	9.88	367	98.39	6	1.41	211	94.62	12	5.38	28	100.00	0	0.00	279	91.48	26	8.52	424	99.76	1	0.24
<b>1979 Total</b>		<b>1,269</b>	<b>1119</b>	<b>88.18</b>	<b>150</b>	<b>11.82</b>	<b>907</b>	<b>96.28</b>	<b>35</b>	<b>2.76</b>	<b>680</b>	<b>91.28</b>	<b>65</b>	<b>8.72</b>	<b>44</b>	<b>100.00</b>	<b>0</b>	<b>0.00</b>	<b>723</b>	<b>89.26</b>	<b>87</b>	<b>10.74</b>	<b>1266</b>	<b>99.76</b>	<b>3</b>	<b>0.24</b>
1980	HDGV	120	110	91.67	10	8.33	14	100.00	0	0.00	75	92.59	6	7.41	3	100.00	0	0.00	22	84.62	4	15.38	119	99.17	1	0.83
	LDGT1	196	170	86.73	26	13.27	156	96.30	6	3.06	133	94.33	8	5.67	23	100.00	0	0.00	136	90.07	15	9.93	194	98.98	2	1.02
	LDGT2	132	111	84.09	21	15.91	114	96.61	4	3.03	95	96.94	3	3.06	7	100.00	0	0.00	86	85.15	15	14.85	132	100.00	0	0.00
	LDGV	307	280	91.21	27	8.79	286	97.28	8	2.61	213	96.38	8	3.62	91	98.91	1	1.09	222	94.07	14	5.93	306	99.67	1	0.33
<b>1980 Total</b>		<b>755</b>	<b>671</b>	<b>88.87</b>	<b>84</b>	<b>11.13</b>	<b>570</b>	<b>96.94</b>	<b>18</b>	<b>2.38</b>	<b>516</b>	<b>95.38</b>	<b>25</b>	<b>4.62</b>	<b>124</b>	<b>99.20</b>	<b>1</b>	<b>0.80</b>	<b>466</b>	<b>90.66</b>	<b>48</b>	<b>9.34</b>	<b>751</b>	<b>99.47</b>	<b>4</b>	<b>0.53</b>
1981	HDGV	176	167	94.89	9	5.11	16	94.12	1	0.57	149	94.30	9	5.70	2	100.00	0	0.00	3	100.00	0	0.00	176	100.00	0	0.00
	LDGT1	222	182	81.98	40	18.02	212	99.07	2	0.90	163	94.22	10	5.78	43	93.48	3	6.52	158	84.49	29	15.51	220	99.10	2	0.90
	LDGT2	120	111	92.50	9	7.50	106	96.36	4	3.33	102	95.33	5	4.67	1	100.00	0	0.00	95	95.00	5	5.00	120	100.00	0	0.00
	LDGV	258	239	92.64	19	7.36	249	97.65	6	2.33	168	97.11	5	2.89	171	98.28	3	1.72	175	94.09	11	5.91	256	99.22	2	0.78
<b>1981 Total</b>		<b>776</b>	<b>699</b>	<b>90.08</b>	<b>77</b>	<b>9.92</b>	<b>583</b>	<b>97.82</b>	<b>13</b>	<b>1.68</b>	<b>582</b>	<b>95.25</b>	<b>29</b>	<b>4.75</b>	<b>217</b>	<b>97.31</b>	<b>6</b>	<b>2.69</b>	<b>431</b>	<b>90.55</b>	<b>45</b>	<b>9.45</b>	<b>772</b>	<b>99.48</b>	<b>4</b>	<b>0.52</b>
1982	HDGV	135	128	94.81	7	5.19	13	92.86	1	0.74	124	95.38	6	4.62	5	100.00	0	0.00	4	100.00	0	0.00	135	100.00	0	0.00
	LDGT1	4	4	100.00	0	0.00	4	100.00	0	0.00	4	100.00	0	0.00	0	0.00	0	0.00	3	100.00	0	0.00	4	100.00	0	0.00
	LDGT2	2	2	100.00	0	0.00	2	100.00	0	0.00	2	100.00	0	0.00	1	100.00	0	0.00	2	100.00	0	0.00	2	100.00	0	0.00
	LDGV	10	10	100.00	0	0.00	10	100.00	0	0.00	4	100.00	0	0.00	7	100.00	0	0.00	5	100.00	0	0.00	10	100.00	0	0.00
<b>1982 Total</b>		<b>151</b>	<b>144</b>	<b>95.36</b>	<b>7</b>																					

Vehicle		Other Overall					CAT				AIS				O2				Gas Cap				Opacity			
Year	Type	Total	Pass	Pass %	Fail	Fail %	Pass	Pass %	Fail	Fail %	Pass	Pass %	Fail	Fail %	Pass	Pass %	Fail	Fail %	Pass	Pass %	Fail	Fail %	Pass	Pass %	Fail	Fail %
	LDGT2	2	2	100.00	0	0.00	1	100.00	0	0.00	1	100.00	0	0.00	0	0.00	0	0.00	1	100.00	0	0.00	2	100.00	0	0.00
	LDGV	25	22	88.00	3	12.00	24	100.00	0	0.00	14	93.33	1	6.67	22	100.00	0	0.00	17	89.47	2	10.53	24	96.00	1	4.00
<b>1984 Total</b>		329	311	94.53	18	5.47	55	98.21	1	0.30	291	95.41	14	4.59	37	100.00	0	0.00	22	88.00	3	12.00	327	99.39	2	0.61
1985	HDGV	306	286	93.46	20	6.54	22	91.67	2	0.65	278	95.21	14	4.79	12	100.00	0	0.00	1	33.33	2	66.67	304	99.35	2	0.65
	LDGT1	7	7	100.00	0	0.00	7	100.00	0	0.00	2	100.00	0	0.00	5	100.00	0	0.00	6	100.00	0	0.00	7	100.00	0	0.00
	LDGT2	2	2	100.00	0	0.00	2	100.00	0	0.00	1	100.00	0	0.00	1	100.00	0	0.00	1	100.00	0	0.00	2	100.00	0	0.00
	LDGV	19	18	94.74	1	5.26	19	100.00	0	0.00	11	91.67	1	8.33	15	100.00	0	0.00	13	100.00	0	0.00	19	100.00	0	0.00
<b>1985 Total</b>		334	313	93.71	21	6.29	50	96.15	2	0.60	292	95.11	15	4.89	33	100.00	0	0.00	21	91.30	2	8.70	332	99.40	2	0.60
1986	HDGV	308	296	96.10	12	3.90	22	95.65	1	0.32	290	96.99	9	3.01	14	100.00	0	0.00	2	100.00	0	0.00	306	99.35	2	0.65
	LDGT1	6	4	66.67	2	33.33	6	100.00	0	0.00	3	75.00	1	25.00	3	75.00	1	25.00	4	66.67	2	33.33	6	100.00	0	0.00
	LDGT2	3	3	100.00	0	0.00	3	100.00	0	0.00	3	100.00	0	0.00	1	100.00	0	0.00	3	100.00	0	0.00	3	100.00	0	0.00
	LDGV	22	22	100.00	0	0.00	22	100.00	0	0.00	10	100.00	0	0.00	21	100.00	0	0.00	18	100.00	0	0.00	22	100.00	0	0.00
<b>1986 Total</b>		339	325	95.87	14	4.13	53	98.15	1	0.29	306	96.84	10	3.16	39	97.50	1	2.50	27	93.10	2	6.90	337	99.41	2	0.59
1987	HDGV	242	229	94.63	13	5.37	95	100.00	0	0.00	218	95.20	11	4.80	66	98.51	1	1.49	3	100.00	0	0.00	240	99.17	2	0.83
	LDGT1	16	14	87.50	2	12.50	16	100.00	0	0.00	4	100.00	0	0.00	16	100.00	0	0.00	13	86.67	2	13.33	16	100.00	0	0.00
	LDGT2	3	3	100.00	0	0.00	3	100.00	0	0.00	3	100.00	0	0.00	2	100.00	0	0.00	2	100.00	0	0.00	3	100.00	0	0.00
	LDGV	23	22	95.65	1	4.35	21	95.45	1	4.35	13	100.00	0	0.00	18	100.00	0	0.00	14	93.33	1	6.67	23	100.00	0	0.00
<b>1987 Total</b>		284	268	94.37	16	5.63	135	99.26	1	0.35	238	95.58	11	4.42	102	99.03	1	0.97	32	91.43	3	8.57	282	99.30	2	0.70
1988	HDGV	385	371	96.36	14	3.64	309	98.41	5	1.30	350	96.69	12	3.31	265	99.62	1	0.38	3	100.00	0	0.00	385	100.00	0	0.00
	LDGT1	22	21	95.45	1	4.55	22	100.00	0	0.00	3	100.00	0	0.00	22	100.00	0	0.00	20	95.24	1	4.76	22	100.00	0	0.00
	LDGT2	11	6	54.55	5	45.45	9	81.82	2	18.18	10	90.91	1	9.09	9	100.00	0	0.00	7	70.00	3	30.00	11	100.00	0	0.00
	LDGV	15	15	100.00	0	0.00	15	100.00	0	0.00	11	100.00	0	0.00	13	100.00	0	0.00	10	100.00	0	0.00	15	100.00	0	0.00
<b>1988 Total</b>		433	413	95.38	20	4.62	355	98.07	7	1.62	374	96.64	13	3.36	309	99.68	1	0.32	40	90.91	4	9.09	433	100.00	0	0.00
1989	HDGV	595	569	95.63	26	4.37	524	98.50	8	1.34	443	96.94	14	3.06	472	99.37	3	0.63	3	60.00	2	40.00	591	99.33	4	0.67
	LDGT1	39	37	94.87	2	5.13	39	100.00	0	0.00	10	100.00	0	0.00	36	100.00	0	0.00	32	94.12	2	5.88	39	100.00	0	0.00
	LDGT2	9	8	88.89	1	11.11	9	100.00	0	0.00	5	100.00	0	0.00	9	100.00	0	0.00	7	87.50	1	12.50	9	100.00	0	0.00
	LDGV	34	32	94.12	2	5.88	34	100.00	0	0.00	12	92.31	1	7.69	29	100.00	0	0.00	26	96.30	1	3.70	34	100.00	0	0.00
<b>1989 Total</b>		677	646	95.42	31	4.58	606	98.70	8	1.18	470	96.91	15	3.09	546	99.45	3	0.55	68	91.89	6	8.11	673	99.41	4	0.59
1990	HDGV	601	588	97.84	13	2.16	584	98.82	7	1.16	378	98.18	7	1.82	574	98.97	6	1.03	0	0.00	2	100.00	601	100.00	0	0.00
	LDGT1	44	43	97.73	1	2.27	44	100.00	0	0.00	9	100.00	0	0.00	44	100.00	0	0.00	38	97.44	1	2.56	44	100.00	0	0.00
	LDGT2	4	3	75.00	1	25.00	3	75.00	1	25.00	1	100.00	0	0.00	3	75.00	1	25.00	3	100.00	0	0.00	4	100.00	0	0.00
	LDGV	57	53	92.98	4	7.02	54	98.18	1	1.75	17	94.44	1	5.56	53	96.36	2	3.64	49	98.00	1	2.00	56	98.25	1	1.75
<b>1990 Total</b>		706	687	97.31	19	2.69	685	98.70	9	1.27	405	98.06	8	1.94	674	98.68	9	1.32	90	95.74	4	4.26	705	99.86	1	0.14
1991	HDGV	454	445	98.02	9	1.98	441	98.88	5	1.10	245	99.19	2	0.81	448	99.78	1	0.22	3	75.00	1	25.00	454	100.00	0	0.00
	LDGT1	42	37	88.10	5	11.90	41	97.62	1	2.38	13	100.00	0	0.00	42	100.00	0	0.00	33	86.84	5	13.16	42	100.00	0	0.00
	LDGT2	9	8	88.89	1	11.11	9	100.00	0	0.00	3	100.00	0	0.00	9	100.00	0	0.00	8	88.89	1	11.11	9	100.00	0	0.00
	LDGV	84	78	92.86	6	7.14	82	98.80	1	1.19	20	95.24	1	4.76	83	100.00	0	0.00	71	94.67	4	5.33	84	100.00	0	0.00
<b>1991 Total</b>		589	568	96.43	21	3.57	573	98.79	7	1.19	281	98.94	3	1.06	582	99.83	1	0.17	115	91.27	11	8.73	589	100.00	0	0.00
1992	HDGV	733	719	98.09	14	1.91	713	98.75	9	1.23	412	98.80	5	1.20	727	99.73	2	0.27	1	33.33	2	66.67	733	100.00	0	0.00
	LDGT1	37	35	94.59	2	5.41	37	100.00	0	0.00	2	100.00	0	0.00	37	100.00	0	0.00	30	96.77	1	3.23	36	97.30	1	2.70
	LDGT2	12	10	83.33	2	16.67	12	100.00	0	0.00	4	80.00	1	20.00	12	100.00	0	0.00	11	91.67	1	8.33	12	100.00	0	0.00
	LDGV	81	74	91.36	7	8.64	79	97.53	2	2.47	23	95.83	1	4.17	78	97.50	2	2.50	61	95.31	3	4.69	81	100.00	0	0.00
<b>1992 Total</b>		863	838	97.10	25	2.90	841	98.71	11	1.27	441	98.44	7	1.56	854	99.53	4	0.47	103	93.64	7	6.36	862	99.88	1	0.12
1993	HDGV	732	719	98.22	13	1.78	714	98.89	8	1.09	400	98.77	5	1.23	724	99.86	1	0.14	1	25.00	3	75.00	731	99.86	1	0.14
	LDGT1	30	27	90.00	3	10.00	28	93.33	2	6.67	2	100.00	0	0.00	30	100.00	0	0.00	28	93.33	2	6.67	30	100.00	0	0.00
	LDGT2	7	7	100.00	0	0.00	7	100.00	0	0.00	6	100.00	0	0.00	7	100.00	0	0.00	7	100.00	0	0.00	7	100.00	0	0.00
	LDGV	51	50	98.04	1	1.96	50	98.04	1	1.96	12	100.00	0	0.00	51	100.00	0	0.00	47	100.00	0	0.00	51	100.00	0	0.00
<b>1993 Total</b>		820	803	97.93	17	2.07	799	98.64	11	1.34	420	98.82	5	1.18	812	99.88	1	0.12	83	94.32	5	5.68	819	99.88	1	0.12
1994																										



Vehicle		Other Overall					CAT				AIS				O2				Gas Cap				Opacity			
Year	Type	Total	Pass	Pass %	Fail	Fail %	Pass	Pass %	Fail	Fail %	Pass	Pass %	Fail	Fail %	Pass	Pass %	Fail	Fail %	Pass	Pass %	Fail	Fail %	Pass	Pass %	Fail	Fail %
<b>2006 Total</b>		2,262	2253	99.60	9	0.40	37	100.00	0	0.00	1	50.00	1	50.00	37	100.00	0	0.00	34	82.93	7	17.07	2261	99.96	1	0.04
2007	HDGV	1,438	1437	99.93	1	0.07	72	100.00	0	0.00	13	100.00	0	0.00	72	100.00	0	0.00	11	91.67	1	8.33	1438	100.00	0	0.00
	LDGT1	6	6	100.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	6	100.00	0	0.00	6	100.00	0	0.00
	LDGT2	1	1	100.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	1	100.00	0	0.00	1	100.00	0	0.00
	LDGV	4	4	100.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	3	100.00	0	0.00	4	100.00	0	0.00
<b>2007 Total</b>		1,449	1448	99.93	1	0.07	72	100.00	0	0.00	13	100.00	0	0.00	72	100.00	0	0.00	21	95.45	1	4.55	1449	100.00	0	0.00
2008	HDGV	2,536	2534	99.92	2	0.08	62	100.00	0	0.00	6	100.00	0	0.00	62	100.00	0	0.00	17	89.47	2	10.53	2536	100.00	0	0.00
	LDGT1	9	9	100.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	9	100.00	0	0.00	9	100.00	0	0.00
	LDGT2	2	2	100.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	2	100.00	0	0.00	2	100.00	0	0.00
	LDGV	10	10	100.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	9	100.00	0	0.00	10	100.00	0	0.00
<b>2008 Total</b>		2,557	2555	99.92	2	0.08	62	100.00	0	0.00	6	100.00	0	0.00	62	100.00	0	0.00	37	94.87	2	5.13	2557	100.00	0	0.00
2009	HDGV	1,386	1386	100.00	0	0.00	47	100.00	0	0.00	1	100.00	0	0.00	47	100.00	0	0.00	19	100.00	0	0.00	1386	100.00	0	0.00
	LDGT1	1	1	100.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	1	100.00	0	0.00	1	100.00	0	0.00
	LDGT2	6	5	83.33	1	16.67	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	5	83.33	1	16.67	6	100.00	0	0.00
	LDGV	1	1	100.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	1	100.00	0	0.00	1	100.00	0	0.00
<b>2009 Total</b>		1,394	1393	99.93	1	0.07	47	100.00	0	0.00	1	100.00	0	0.00	47	100.00	0	0.00	26	96.30	1	3.70	1394	100.00	0	0.00
2010	HDGV	308	307	99.68	1	0.32	15	100.00	0	0.00	0	0.00	0	0.00	15	100.00	0	0.00	4	80.00	1	20.00	308	100.00	0	0.00
	LDGT1	1	1	100.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	1	100.00	0	0.00	1	100.00	0	0.00
<b>2010 Total</b>		309	308	99.68	1	0.32	15	100.00	0	0.00	0	0.00	0	0.00	15	100.00	0	0.00	5	83.33	1	16.67	309	100.00	0	0.00
2011	HDGV	396	395	99.75	1	0.25	33	100.00	0	0.00	0	0.00	0	0.00	33	100.00	0	0.00	0	0.00	1	100.00	396	100.00	0	0.00
	LDGT2	1	1	100.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	1	100.00	0	0.00	1	100.00	0	0.00
<b>2011 Total</b>		397	396	99.75	1	0.25	33	100.00	0	0.00	0	0.00	0	0.00	33	100.00	0	0.00	1	50.00	1	50.00	397	100.00	0	0.00
2012	HDGV	305	305	100.00	0	0.00	5	100.00	0	0.00	1	100.00	0	0.00	5	100.00	0	0.00	0	0.00	0	0.00	305	100.00	0	0.00
<b>2012 Total</b>		305	305	100.00	0	0.00	5	100.00	0	0.00	1	100.00	0	0.00	5	100.00	0	0.00	0	0.00	0	0.00	305	100.00	0	0.00
2013	HDGV	119	119	100.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	119	100.00	0	0.00
<b>2013 Total</b>		119	119	100.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	119	100.00	0	0.00
2014	HDGV	86	86	100.00	0	0.00	8	100.00	0	0.00	0	0.00	0	0.00	8	100.00	0	0.00	0	0.00	0	0.00	86	100.00	0	0.00
<b>2014 Total</b>		86	86	100.00	0	0.00	8	100.00	0	0.00	0	0.00	0	0.00	8	100.00	0	0.00	0	0.00	0	0.00	86	100.00	0	0.00
2015	HDGV	95	95	100.00	0	0.00	12	100.00	0	0.00	0	0.00	0	0.00	12	100.00	0	0.00	0	0.00	0	0.00	95	100.00	0	0.00
<b>2015 Total</b>		95	95	100.00	0	0.00	12	100.00	0	0.00	0	0.00	0	0.00	12	100.00	0	0.00	0	0.00	0	0.00	95	100.00	0	0.00
2016	HDGV	42	42	100.00	0	0.00	2	100.00	0	0.00	0	0.00	0	0.00	2	100.00	0	0.00	2	100.00	0	0.00	42	100.00	0	0.00
<b>2016 Total</b>		42	42	100.00	0	0.00	2	100.00	0	0.00	0	0.00	0	0.00	2	100.00	0	0.00	2	100.00	0	0.00	42	100.00	0	0.00
2017	HDGV	7	7	100.00	0	0.00	6	100.00	0	0.00	0	0.00	0	0.00	6	100.00	0	0.00	0	0.00	0	0.00	7	100.00	0	0.00
<b>2017 Total</b>		7	7	100.00	0	0.00	6	100.00	0	0.00	0	0.00	0	0.00	6	100.00	0	0.00	0	0.00	0	0.00	7	100.00	0	0.00
<b>Grand Total</b>		<b>45,703</b>	<b>44784</b>	<b>97.99</b>	<b>919</b>	<b>2.07</b>	<b>10569</b>	<b>98.09</b>	<b>206</b>	<b>0.46</b>	<b>7779</b>	<b>96.16</b>	<b>311</b>	<b>3.84</b>	<b>7,743</b>	<b>99.52</b>	<b>37</b>	<b>0.48</b>	<b>4,213</b>	<b>90.31</b>	<b>452</b>	<b>9.69</b>	<b>45629</b>	<b>99.84</b>	<b>74</b>	<b>0.16</b>

Idle Initial Failure for Other Report - Summary by Veh (V1.03)

Vehicle		Visual Overall					CAT				AIS				O2				Gas Cap				Opacity			
Type	Total	Pass	Pass %	Fail	Fail %	Pass	Pass %	Fail	Fail %	Pass	Pass %	Fail	Fail %	Pass	Pass %	Fail	Fail %	Pass	Pass %	Fail	Fail %	Pass	Pass %	Fail	Fail %	
HDGV	37,639	37353	99.24	286	0.76	6381	98.99	65	0.17	5221	97.30	145	2.70	6,278	99.70	19	0.30	428	86.64	66	13.36	37609	99.92	30	0.08	
LDGT1	1,902	1697	89.22	205	12.93	1087	96.88	35	2.21	685	92.19	58	7.81	401	98.77	5	1.23	1,092	89.14	133	10.86	1890	99.37	12	0.63	
LDGT2	2,695	2497	92.65	198	8.00	832	94.55	48	1.94	594	91.95	52	8.05	154	99.35	1	0.65	801	86.50	125	13.50	2675	99.26	20	0.74	
LDGV	3,467	3237	93.37	230	8.06	2269	97.51	58	2.03	1279	95.81	56	4.19	910	98.70	12	1.30	1,892	93.66	128	6.34	3455	99.65	12	0.35	
<b>Grand Total</b>		<b>45,703</b>	<b>44784</b>	<b>97.99</b>	<b>919</b>	<b>2.07</b>	<b>10569</b>	<b>98.09</b>	<b>206</b>	<b>0.46</b>	<b>7779</b>	<b>96.16</b>	<b>311</b>	<b>3.84</b>	<b>7,743</b>	<b>99.52</b>	<b>37</b>	<b>0.48</b>	<b>4,213</b>	<b>90.31</b>	<b>452</b>	<b>9.69</b>	<b>45629</b>	<b>99.84</b>	<b>74</b>	<b>0.16</b>

## **Appendix C5**

### Idle Retest Pass Reduction Report





Date  
Between 1/1/2016 and 12/31/2016

Idle Retest Pass Reduction Report (V1.01)

Vehicle		Initial Exhaust Emissions					Passing Retest Exhaust Emissions						Emission Reductions								Average Repair Costs
Year	Type	Total	Avg HC Idle	Avg CO Idle	Avg HC2500 rpm	Avg CO2500 rpm	Total	Total%	Avg HC Idle	Avg CO Idle	Avg HC2500 rpm	Avg CO2500 rpm	Avg HC Idle	Avg HC % Idle	Avg CO Idle	Avg CO % Idle	Avg HC2500 rpm	Avg HC% 2500rpm	Avg CO2500 rpm	Avg CO% 2500rpm	
1974	LDGV	222	937.73	4.95	616.81	4.03	128	57.66%	337.70	1.55	350.30	2.92	574.03	62.96%	3.21	67.41%	280.24	44.44%	1.16	28.38%	290.00
	LDGT	91	893.42	4.68	544.09	3.85	60	65.93%	373.93	1.50	378.41	2.65	414.41	52.57%	3.08	67.28%	88.01	18.87%	0.62	18.88%	539.25
	HDGT	67	1132.53	5.81	756.23	4.28	47	70.15%	338.79	2.43	464.87	2.70	718.14	67.95%	2.83	53.86%	196.10	29.67%	0.96	26.27%	0.00
<b>1974 Total</b>		<b>380</b>	<b>961.46</b>	<b>5.03</b>	<b>623.98</b>	<b>4.03</b>	<b>235</b>	<b>61.84%</b>	<b>347.17</b>	<b>1.71</b>	<b>380.39</b>	<b>2.80</b>	<b>562.10</b>	<b>61.82%</b>	<b>3.10</b>	<b>64.42%</b>	<b>214.33</b>	<b>36.04%</b>	<b>0.98</b>	<b>25.87%</b>	<b>414.63</b>
1975	LDGV	18	254.78	2.67	190.76	2.66	10	55.56%	199.67	0.77	142.18	0.74	134.35	40.22%	1.67	68.40%	57.62	28.84%	1.33	64.29%	0.00
	LDGT	12	355.80	3.93	225.67	2.78	6	50.00%	181.07	0.60	161.72	2.53	140.37	43.67%	2.52	80.83%	-15.20	-10.37%	-0.12	-4.91%	0.00
	HDGT	19	563.56	4.37	473.28	2.98	11	57.89%	244.06	1.40	247.04	1.97	366.07	60.00%	2.88	67.21%	224.03	47.56%	1.43	42.03%	65.00
<b>1975 Total</b>		<b>49</b>	<b>399.25</b>	<b>3.64</b>	<b>308.86</b>	<b>2.81</b>	<b>27</b>	<b>55.10%</b>	<b>213.62</b>	<b>0.99</b>	<b>189.24</b>	<b>1.64</b>	<b>230.09</b>	<b>51.86%</b>	<b>2.35</b>	<b>70.36%</b>	<b>109.23</b>	<b>36.60%</b>	<b>1.05</b>	<b>39.04%</b>	<b>65.00</b>
1976	LDGV	116	663.07	3.11	489.17	3.09	70	60.34%	161.35	0.59	177.63	1.34	351.42	68.53%	2.39	80.20%	176.35	49.82%	1.14	45.93%	85.00
	LDGT	95	760.95	4.13	461.63	3.90	47	49.47%	169.18	0.79	168.81	2.19	369.54	68.60%	2.25	74.10%	181.67	51.83%	0.71	24.54%	0.00
	HDGT	106	819.05	4.59	455.39	3.54	78	73.58%	358.96	1.85	367.31	2.78	412.05	53.44%	2.60	58.45%	92.31	20.08%	0.85	23.51%	151.50
<b>1976 Total</b>		<b>317</b>	<b>744.56</b>	<b>3.91</b>	<b>469.62</b>	<b>3.48</b>	<b>195</b>	<b>61.51%</b>	<b>242.28</b>	<b>1.14</b>	<b>251.38</b>	<b>2.12</b>	<b>380.04</b>	<b>61.07%</b>	<b>2.44</b>	<b>68.15%</b>	<b>144.01</b>	<b>36.42%</b>	<b>0.92</b>	<b>30.31%</b>	<b>138.20</b>
1977	LDGV	135	555.35	2.91	379.81	2.27	62	45.93%	151.17	0.42	166.03	1.17	277.43	64.73%	2.04	82.88%	121.76	42.31%	0.61	34.24%	602.00
	LDGT	80	463.11	3.22	259.09	2.78	43	53.75%	137.78	0.52	113.23	1.54	281.40	67.13%	2.40	82.22%	142.42	55.71%	1.01	39.44%	155.00
	HDGT	147	1042.81	4.97	715.51	3.43	99	67.35%	338.10	1.94	314.34	2.68	576.25	63.02%	2.88	59.68%	345.97	52.40%	0.73	21.41%	273.50
<b>1977 Total</b>		<b>362</b>	<b>732.91</b>	<b>3.81</b>	<b>489.45</b>	<b>2.85</b>	<b>204</b>	<b>56.35%</b>	<b>239.06</b>	<b>1.18</b>	<b>226.87</b>	<b>1.98</b>	<b>423.28</b>	<b>63.91%</b>	<b>2.52</b>	<b>68.12%</b>	<b>234.92</b>	<b>50.87%</b>	<b>0.75</b>	<b>27.49%</b>	<b>381.20</b>
1978	LDGV	142	571.05	3.24	352.34	3.32	83	58.45%	141.92	0.45	140.07	1.71	293.32	67.39%	2.45	84.39%	145.02	50.87%	1.20	41.14%	106.00
	LDGT	111	520.30	2.47	394.46	2.75	60	54.05%	147.67	0.52	178.57	1.66	289.73	66.24%	1.90	78.54%	169.35	48.67%	0.68	29.08%	20.00
	HDGT	172	983.11	3.68	612.15	3.20	115	66.86%	388.96	1.63	322.75	2.43	490.47	55.77%	1.80	52.58%	256.52	44.28%	0.52	17.75%	562.33
<b>1978 Total</b>		<b>425</b>	<b>724.56</b>	<b>3.22</b>	<b>468.49</b>	<b>3.12</b>	<b>258</b>	<b>60.71%</b>	<b>253.37</b>	<b>0.99</b>	<b>230.45</b>	<b>2.02</b>	<b>380.36</b>	<b>60.02%</b>	<b>2.03</b>	<b>67.23%</b>	<b>200.38</b>	<b>46.51%</b>	<b>0.78</b>	<b>27.78%</b>	<b>362.60</b>
1979	LDGV	182	627.39	2.91	394.84	2.69	102	56.04%	155.98	0.38	145.57	1.44	275.76	63.87%	1.88	83.04%	188.15	56.38%	1.07	42.60%	619.50
	LDGT	309	597.43	2.64	441.69	2.41	173	55.99%	135.40	0.43	170.50	1.37	366.93	73.05%	1.85	81.13%	221.00	56.45%	0.82	37.48%	105.00
	HDGT	60	644.89	3.82	408.20	2.93	37	61.67%	281.11	1.63	190.79	1.99	338.50	54.63%	1.84	53.01%	251.62	56.87%	0.58	22.70%	25.00
<b>1979 Total</b>		<b>551</b>	<b>612.50</b>	<b>2.86</b>	<b>422.57</b>	<b>2.56</b>	<b>312</b>	<b>56.62%</b>	<b>159.41</b>	<b>0.56</b>	<b>164.75</b>	<b>1.46</b>	<b>333.76</b>	<b>67.68%</b>	<b>1.86</b>	<b>76.93%</b>	<b>213.89</b>	<b>56.49%</b>	<b>0.87</b>	<b>37.35%</b>	<b>263.17</b>
1980	LDGV	85	631.56	3.01	462.50	2.99	51	60.00%	71.41	0.34	120.83	1.73	357.25	83.34%	2.01	85.73%	227.20	65.28%	0.74	29.91%	50.00
	LDGT	143	491.45	2.43	357.26	2.49	79	55.24%	126.66	0.40	134.74	1.16	300.30	70.33%	1.61	80.22%	196.76	59.35%	1.15	49.91%	453.00
	HDGT	25	770.70	3.36	560.62	2.42	20	80.00%	180.21	0.82	171.15	1.23	410.84	69.51%	2.11	72.06%	291.87	63.04%	1.35	52.28%	112.50
<b>1980 Total</b>		<b>253</b>	<b>566.12</b>	<b>2.71</b>	<b>412.71</b>	<b>2.65</b>	<b>150</b>	<b>59.29%</b>	<b>115.01</b>	<b>0.43</b>	<b>134.87</b>	<b>1.36</b>	<b>334.40</b>	<b>74.41%</b>	<b>1.81</b>	<b>80.76%</b>	<b>219.79</b>	<b>61.97%</b>	<b>1.04</b>	<b>43.26%</b>	<b>182.00</b>
1981	LDGV	156	257.21	1.83	284.96	2.97	72	46.15%	65.44	0.14	66.25	0.32	148.25	69.38%	1.34	90.88%	197.27	74.86%	2.06	86.55%	429.33
	LDGT	231	380.66	2.03	270.59	1.98	106	45.89%	70.09	0.17	61.61	0.29	217.27	75.61%	1.26	87.83%	172.07	73.64%	1.16	79.95%	321.50
	HDGT	43	781.79	3.04	510.08	1.69	27	62.79%	176.28	0.84	154.39	0.80	445.99	71.67%	1.67	66.61%	269.41	63.57%	0.64	44.40%	0.00
<b>1981 Total</b>		<b>430</b>	<b>375.99</b>	<b>2.06</b>	<b>299.75</b>	<b>2.31</b>	<b>205</b>	<b>47.67%</b>	<b>82.44</b>	<b>0.25</b>	<b>75.46</b>	<b>0.37</b>	<b>223.15</b>	<b>73.02%</b>	<b>1.34</b>	<b>84.42%</b>	<b>193.74</b>	<b>71.97%</b>	<b>1.41</b>	<b>79.28%</b>	<b>386.20</b>
1982	LDGV	6	314.52	2.09	299.23	2.39	3	50.00%	50.27	0.15	56.57	0.30	405.63	88.97%	2.70	94.74%	364.23	86.56%	3.19	91.32%	0.00
	LDGT	4	625.25	4.85	333.78	0.58	0	0.00%	0.00	0.00	0.00	0.00	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00
	HDGT	30	740.86	3.89	651.03	3.38	17	56.67%	160.77	0.81	79.96	0.95	383.11	70.44%	2.52	75.75%	348.46	81.34%	1.38	59.30%	0.00
<b>1982 Total</b>		<b>40</b>	<b>665.35</b>	<b>3.71</b>	<b>566.54</b>	<b>2.95</b>	<b>20</b>	<b>50.00%</b>	<b>144.20</b>	<b>0.71</b>	<b>76.45</b>	<b>0.85</b>	<b>386.49</b>	<b>72.83%</b>	<b>2.55</b>	<b>78.24%</b>	<b>350.83</b>	<b>82.11%</b>	<b>1.65</b>	<b>66.01%</b>	<b>0.00</b>
1983	LDGV	6	380.72	2.02	232.12	2.78	2	33.33%	84.20	0.50	62.15	0.26	-26.55	-46.05%	-0.22	-78.57%	-2.20	-3.67%	0.07	21.54%	0.00
	LDGT	5	218.04	3.12	84.08	0.70	2	40.00%	88.60	0.31	85.45	0.86	183.95	67.49%	3.59	92.04%	19.65	18.70%	0.02	2.29%	100.00
	HDGT	32	859.25	4.08	431.79	2.55	21	65.63%	192.18	1.14	93.70	1.07	586.39	75.32%	2.55	69.20%	258.06	73.36%	1.20	52.82%	260.00

Vehicle		Initial Exhaust Emissions					Passing Retest Exhaust Emissions						Emission Reductions								Average Repair Costs
Year	Type	Total	Avg HC Idle	Avg CO Idle	Avg HC2500 rpm	Avg CO2500 rpm	Total	Total%	Avg HC Idle	Avg CO Idle	Avg HC2500 rpm	Avg CO2500 rpm	Avg HC Idle	Avg HC % Idle	Avg CO Idle	Avg CO % Idle	Avg HC2500 rpm	Avg HC% 2500rpm	Avg CO2500 rpm	Avg CO% 2500rpm	
<b>1983 Total</b>		43	717.92	3.68	363.50	2.37	25	58.14%	175.25	1.02	90.51	0.99	505.16	74.24%	2.41	70.31%	218.17	70.68%	1.02	50.65%	180.00
1984	LDGV	10	563.89	1.51	556.71	1.28	6	60.00%	79.57	0.44	85.17	0.54	334.95	80.80%	1.61	78.69%	293.72	77.52%	1.18	68.74%	0.00
	LDGT	7	644.17	2.73	527.20	1.22	1	14.29%	11.70	0.00	10.90	0.00	415.90	97.26%	0.14	100.00%	413.10	97.43%	2.53	100.00%	0.00
	HDGT	80	777.72	3.40	342.85	1.91	45	56.25%	178.96	1.06	97.60	1.16	508.36	73.96%	1.35	56.19%	256.39	72.43%	0.35	23.37%	371.33
<b>1984 Total</b>		97	746.04	3.16	378.20	1.79	52	53.61%	164.28	0.96	94.50	1.07	486.58	74.76%	1.36	58.52%	263.71	73.62%	0.49	31.54%	371.33
1985	LDGV	22	1211.28	3.92	1134.31	5.66	3	13.64%	84.47	0.20	68.53	0.27	238.53	73.85%	0.44	69.27%	185.63	73.04%	0.58	68.63%	0.00
	LDGT	2	265.10	1.42	198.70	0.61	1	50.00%	93.30	0.41	65.60	0.12	211.80	69.42%	2.07	83.47%	176.00	72.85%	0.04	25.00%	0.00
	HDGT	78	728.78	3.03	442.17	2.17	51	65.38%	189.09	1.06	100.33	0.89	448.10	70.32%	1.59	59.97%	210.82	67.76%	0.50	35.87%	0.00
<b>1985 Total</b>		102	823.76	3.19	586.68	2.89	55	53.92%	181.64	1.00	97.96	0.84	432.38	70.42%	1.54	60.52%	208.81	68.07%	0.49	36.98%	0.00
1986	LDGV	11	338.17	4.64	136.60	1.53	3	27.27%	86.17	0.11	62.80	0.29	93.00	51.91%	0.92	89.35%	50.33	44.49%	0.92	76.03%	0.00
	LDGT	6	380.28	3.75	278.12	4.19	2	33.33%	85.00	0.23	66.45	0.54	59.30	41.09%	-0.03	-15.00%	33.40	33.45%	0.20	27.03%	0.00
	HDGT	128	611.09	2.09	345.44	1.90	64	50.00%	122.22	0.84	94.94	0.83	419.76	77.45%	1.23	59.34%	229.71	70.76%	0.96	53.73%	233.20
<b>1986 Total</b>		145	580.84	2.36	326.81	1.96	69	47.59%	119.57	0.79	92.71	0.79	395.10	76.77%	1.18	59.80%	216.22	69.99%	0.94	54.08%	233.20
1987	LDGV	7	417.81	2.88	441.23	2.23	4	57.14%	49.40	0.25	54.03	0.49	323.85	86.76%	2.29	90.23%	333.93	86.07%	1.50	75.54%	0.00
	LDGT	13	248.81	0.22	200.63	0.61	8	61.54%	91.54	0.15	111.18	0.36	115.00	55.68%	0.05	24.54%	20.61	15.64%	0.16	31.07%	0.00
	HDGT	85	653.90	2.00	433.88	1.63	38	44.71%	144.29	0.62	104.85	0.68	468.39	76.45%	0.91	59.71%	306.58	74.52%	0.59	46.36%	75.50
<b>1987 Total</b>		105	588.01	1.83	405.49	1.54	50	47.62%	128.26	0.51	101.79	0.61	400.28	75.73%	0.88	63.32%	263.01	72.10%	0.59	49.15%	75.50
1988	LDGV	6	331.05	3.41	253.78	2.93	2	33.33%	31.25	0.09	46.05	0.03	249.25	88.86%	2.02	95.95%	106.15	69.74%	1.94	98.48%	0.00
	LDGT	10	264.55	1.05	290.23	1.61	8	80.00%	85.25	0.25	97.32	0.41	227.81	72.77%	0.94	78.90%	245.80	71.64%	1.40	77.35%	0.00
	HDGT	74	683.77	2.83	423.23	1.71	35	47.30%	119.50	0.66	81.49	0.72	398.71	76.94%	1.46	68.75%	320.80	79.74%	0.64	47.15%	187.00
<b>1988 Total</b>		90	613.68	2.67	397.15	1.78	45	50.00%	109.49	0.56	82.73	0.63	361.69	76.76%	1.39	71.15%	297.92	78.27%	0.83	56.84%	187.00
1989	LDGV	8	561.41	3.03	598.45	3.61	6	75.00%	66.05	0.10	71.18	0.30	355.25	84.32%	1.99	95.45%	372.55	83.96%	2.21	88.23%	0.00
	LDGT	27	505.39	2.82	281.05	1.41	14	51.85%	57.44	0.25	71.91	0.29	204.44	78.07%	1.59	86.42%	121.78	62.87%	1.20	80.68%	0.00
	HDGT	127	559.64	2.21	361.85	1.72	68	53.54%	113.09	0.56	94.37	0.97	352.87	75.73%	1.38	71.02%	239.59	71.74%	0.37	27.68%	446.67
<b>1989 Total</b>		162	550.68	2.36	360.07	1.76	88	54.32%	101.03	0.48	89.21	0.81	329.42	76.53%	1.46	75.14%	229.91	72.04%	0.63	43.59%	446.67
1990	LDGV	25	366.93	1.40	279.98	1.54	9	36.00%	91.20	0.31	73.84	0.41	122.69	57.36%	0.92	74.53%	111.08	60.07%	1.20	74.47%	0.00
	LDGT	26	209.20	1.33	194.37	0.58	14	53.85%	79.34	0.29	70.77	0.35	111.85	58.50%	0.33	53.29%	101.56	58.93%	-0.01	-3.85%	0.00
	HDGT	104	533.65	3.04	363.82	1.82	61	58.65%	126.13	0.55	94.45	0.78	314.61	71.38%	2.08	78.94%	222.00	70.15%	0.72	47.97%	764.00
<b>1990 Total</b>		155	452.34	2.49	321.88	1.57	84	54.19%	114.59	0.48	88.30	0.67	260.25	69.43%	1.66	77.43%	190.05	68.28%	0.65	49.25%	764.00
1991	LDGV	34	294.77	0.92	198.30	0.99	16	47.06%	81.36	0.18	82.94	0.24	99.89	55.11%	0.45	72.07%	82.18	49.77%	0.63	72.20%	366.00
	LDGT	20	319.33	0.85	150.35	0.85	9	45.00%	73.38	0.16	84.88	0.32	189.00	72.03%	0.60	78.78%	49.04	36.62%	0.47	59.35%	0.00
	HDGT	105	482.62	3.17	322.62	2.27	54	51.43%	108.21	0.60	80.32	0.89	250.36	69.82%	2.16	78.34%	168.23	67.68%	0.89	50.06%	519.00
<b>1991 Total</b>		159	421.91	2.40	274.37	1.82	79	49.69%	98.80	0.46	81.37	0.69	212.90	68.30%	1.64	77.98%	137.23	62.78%	0.79	53.26%	468.00
1992	LDGV	27	377.30	1.78	345.19	1.83	18	66.67%	51.47	0.07	46.22	0.15	198.29	79.39%	1.21	94.35%	159.27	77.51%	1.02	86.88%	0.00
	LDGT	21	571.40	2.60	448.90	2.26	9	42.86%	75.60	0.14	71.59	0.24	279.09	78.69%	1.19	89.61%	238.23	76.89%	0.98	80.33%	0.00
	HDGT	134	476.43	2.80	367.84	2.39	86	64.18%	107.03	0.47	96.98	0.64	333.87	75.72%	1.93	80.58%	253.70	72.34%	1.34	67.79%	352.25
<b>1992 Total</b>		182	472.68	2.63	373.83	2.29	113	62.09%	95.68	0.38	86.88	0.53	307.91	76.29%	1.76	82.35%	237.43	73.21%	1.26	70.47%	352.25
1993	LDGV	20	236.02	1.03	159.02	1.16	11	55.00%	100.54	0.18	90.82	0.26	161.91	61.69%	0.90	83.29%	85.60	48.52%	0.93	78.41%	934.00
	LDGT	6	172.05	1.72	156.35	1.82	5	83.33%	66.48	0.13	78.30	0.53	30.22	31.25%	0.73	85.12%	2.66	3.29%	0.44	45.15%	0.00
	HDGT	83	462.18	2.74	299.58	2.15	61	73.49%	111.16	0.56	77.78	0.73	338.62	75.29%	2.05	78.55%	227.03	74.48%	1.31	64.34%	499.00
<b>1993 Total</b>		109	404.72	2.37	265.91	1.95	77	70.64%	106.74	0.48	79.67	0.65	293.35	73.32%	1.80	79.03%	192.26	70.70%	1.20	64.99%	716.50
1994	LDGV	29	304.40	1.33	219.32	1.16	12	41.38%	86.03	0.25	78.00	0.34	244.73	73.99%	1.15	82.39%	159.76	67.19%	0.87	72.22%	0.00
	LDGT	31	592.72	2.54	526.59	2.25	18	58.06%	102.43	0.30	86.75	0.45	281.54	73.32%	0.91	75.54%	232.82	72.85%	0.49	52.06%	0.00

Vehicle		Initial Exhaust Emissions					Passing Retest Exhaust Emissions						Emission Reductions								Average Repair Costs
Year	Type	Total	Avg HC Idle	Avg CO Idle	Avg HC2500 rpm	Avg CO2500 rpm	Total	Total%	Avg HC Idle	Avg CO Idle	Avg HC2500 rpm	Avg CO2500 rpm	Avg HC Idle	Avg HC % Idle	Avg CO Idle	Avg CO % Idle	Avg HC2500 rpm	Avg HC% 2500rpm	Avg CO2500 rpm	Avg CO% 2500rpm	
	HDGT	184	586.43	3.51	264.31	2.58	98	53.26%	98.48	0.48	79.15	0.77	391.62	79.91%	2.29	82.80%	188.39	70.42%	1.24	61.75%	512.00
<b>1994 Total</b>		244	553.71	3.13	292.29	2.37	128	52.46%	97.87	0.43	80.11	0.68	362.37	78.73%	1.99	82.27%	191.95	70.56%	1.10	61.70%	512.00
1995	LDGV	33	390.20	1.57	284.07	1.41	23	69.70%	86.92	0.21	81.58	0.40	231.87	72.73%	1.09	83.52%	159.01	66.09%	0.80	66.80%	0.00
	LDGT	22	404.49	2.03	255.17	2.01	11	50.00%	76.57	0.19	84.14	0.37	220.26	74.20%	0.60	75.52%	142.21	62.83%	0.29	44.24%	210.00
	HDGT	204	641.12	3.36	282.04	2.72	104	50.98%	134.25	0.66	104.81	1.07	385.11	74.15%	2.13	76.26%	107.79	50.70%	1.04	49.17%	101.50
<b>1995 Total</b>		259	589.05	3.02	280.02	2.49	138	53.28%	121.76	0.55	99.29	0.90	346.43	73.99%	1.83	76.90%	119.07	54.53%	0.94	50.93%	137.67
1996	LDGV	2	430.10	0.76	169.55	0.94	1	50.00%	25.70	0.00	18.00	0.00	494.10	95.06%	0.74	100.00%	172.30	90.54%	0.68	100.00%	0.00
	HDGT	143	707.09	3.14	348.70	2.21	68	47.55%	89.04	0.35	83.73	0.59	460.09	83.78%	2.48	87.54%	191.12	69.54%	1.28	68.40%	290.67
<b>1996 Total</b>		145	703.27	3.11	346.23	2.20	69	47.59%	88.13	0.35	82.78	0.58	460.59	83.94%	2.45	87.59%	190.85	69.75%	1.27	68.57%	290.67
1997	LDGV	2	197.40	0.31	181.15	0.32	2	100.00%	61.15	0.11	61.20	0.23	136.25	69.02%	0.21	66.13%	119.95	66.22%	0.10	29.69%	0.00
	HDGT	84	727.17	2.41	371.73	1.29	52	61.90%	101.84	0.44	71.38	0.57	568.21	84.80%	1.98	81.88%	294.55	80.49%	0.80	58.17%	0.00
<b>1997 Total</b>		86	714.85	2.36	367.30	1.26	54	62.79%	100.33	0.43	71.00	0.56	552.21	84.62%	1.92	81.80%	288.08	80.23%	0.77	57.92%	0.00
1998	LDGT	3	509.30	1.09	165.93	0.58	2	66.67%	177.95	0.32	69.35	0.51	448.80	71.61%	1.07	77.17%	39.85	36.49%	0.14	21.71%	0.00
	HDGT	108	771.21	1.94	339.85	1.19	65	60.19%	130.79	0.33	57.34	0.29	573.47	81.43%	1.37	80.63%	220.43	79.36%	0.67	69.45%	325.50
<b>1998 Total</b>		111	764.13	1.92	335.15	1.18	67	60.36%	132.20	0.33	57.69	0.30	569.75	81.17%	1.36	80.55%	215.04	78.85%	0.65	68.48%	325.50
1999	LDGV	4	204.00	0.54	187.13	0.52	3	75.00%	16.40	0.00	30.37	0.01	163.70	90.89%	0.56	99.40%	133.23	81.44%	0.50	98.03%	0.00
	LDGT	2	1500.00	3.71	1084.20	3.43	0	0.00%	0.00	0.00	0.00	0.00	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00
	HDGT	122	776.21	1.61	416.32	1.17	82	67.21%	103.79	0.29	78.64	0.48	662.89	86.46%	1.39	82.81%	308.54	79.69%	0.71	59.81%	0.00
<b>1999 Total</b>		128	769.64	1.61	419.60	1.18	85	66.41%	100.71	0.28	76.94	0.46	645.27	86.50%	1.36	83.01%	302.35	79.71%	0.70	60.39%	0.00
2000	LDGT	1	771.50	0.47	1048.40	0.54	1	100.00%	143.90	0.18	33.10	0.00	627.60	81.35%	0.29	61.70%	1015.30	96.84%	0.54	100.00%	0.00
	HDGT	135	789.50	2.05	428.52	1.55	72	53.33%	116.37	0.30	62.84	0.36	585.96	83.43%	1.84	86.18%	250.24	79.93%	1.25	77.65%	1450.50
<b>2000 Total</b>		136	789.37	2.04	433.08	1.54	73	53.68%	116.74	0.29	62.43	0.36	586.53	83.40%	1.82	86.11%	260.72	80.68%	1.24	77.75%	1450.50
2001	LDGT	2	212.50	0.95	158.20	2.96	0	0.00%	0.00	0.00	0.00	0.00	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00
	HDGT	52	698.17	2.08	435.97	1.96	37	71.15%	95.83	0.35	134.13	0.75	593.35	86.09%	2.03	85.29%	292.71	68.58%	1.57	67.56%	0.00
<b>2001 Total</b>		54	680.19	2.04	425.68	1.99	37	68.52%	95.83	0.35	134.13	0.75	593.35	86.09%	2.03	85.29%	292.71	68.58%	1.57	67.56%	0.00
2002	LDGT	4	237.83	2.19	55.23	0.87	4	100.00%	65.05	0.11	47.05	0.20	172.78	72.65%	2.08	94.97%	8.18	14.80%	0.67	77.30%	0.00
	HDGT	40	547.51	2.08	399.09	1.35	30	75.00%	98.00	0.29	126.53	0.44	479.16	83.02%	1.79	86.28%	251.91	66.57%	0.97	68.53%	0.00
<b>2002 Total</b>		44	519.36	2.09	367.83	1.30	34	77.27%	94.12	0.26	117.18	0.42	443.11	82.48%	1.83	87.35%	223.24	65.58%	0.93	69.20%	0.00
2003	HDGT	27	454.10	1.39	315.34	0.91	24	88.89%	91.51	0.48	73.40	0.40	359.05	79.69%	0.91	65.58%	234.03	76.13%	0.43	51.74%	0.00
<b>2003 Total</b>		27	454.10	1.39	315.34	0.91	24	88.89%	91.51	0.48	73.40	0.40	359.05	79.69%	0.91	65.58%	234.03	76.13%	0.43	51.74%	0.00
2004	HDGT	18	562.93	4.42	192.98	3.78	13	72.22%	17.38	0.07	24.43	0.47	445.90	96.25%	3.25	98.00%	127.75	83.95%	2.71	85.24%	575.00
<b>2004 Total</b>		18	562.93	4.42	192.98	3.78	13	72.22%	17.38	0.07	24.43	0.47	445.90	96.25%	3.25	98.00%	127.75	83.95%	2.71	85.24%	575.00
2005	HDGT	10	461.95	0.71	501.76	0.63	8	80.00%	70.61	0.23	63.46	0.27	297.73	80.83%	0.65	74.25%	269.01	80.91%	0.50	64.51%	0.00
<b>2005 Total</b>		10	461.95	0.71	501.76	0.63	8	80.00%	70.61	0.23	63.46	0.27	297.73	80.83%	0.65	74.25%	269.01	80.91%	0.50	64.51%	0.00
2006	LDGV	1	182.20	0.22	228.80	0.14	0	0.00%	0.00	0.00	0.00	0.00	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00
	HDGT	22	240.88	0.78	144.79	0.57	17	77.27%	47.54	0.11	30.27	0.16	118.09	71.30%	0.56	83.64%	29.35	49.23%	0.29	63.78%	0.00
<b>2006 Total</b>		23	238.33	0.76	148.44	0.55	17	73.91%	47.54	0.11	30.27	0.16	118.09	71.30%	0.56	83.64%	29.35	49.23%	0.29	63.78%	0.00
2007	LDGT	1	399.30	3.42	341.80	3.23	1	100.00%	0.50	0.00	0.60	0.00	398.80	99.87%	3.42	100.00%	341.20	99.82%	3.23	100.00%	0.00
	HDGT	7	276.24	1.00	166.66	0.92	6	85.71%	56.93	0.13	23.02	0.11	201.37	77.96%	0.56	81.66%	109.47	82.63%	0.49	81.27%	0.00
<b>2007 Total</b>		8	291.63	1.31	188.55	1.21	7	87.50%	48.87	0.11	19.81	0.10	229.57	82.45%	0.97	90.01%	142.57	87.80%	0.88	90.09%	0.00
2008	HDGT	7	393.64	2.60	189.53	1.87	7	100.00%	52.26	0.15	21.91	0.21	341.39	86.72%	2.46	94.40%	167.61	88.44%	1.66	88.82%	0.00
<b>2008 Total</b>		7	393.64	2.60	189.53	1.87	7	100.00%	52.26	0.15	21.91	0.21	341.39	86.72%	2.46	94.40%	167.61	88.44%	1.66	88.82%	0.00
2009	LDGT	1	3.40	0.00	3.40	0.00	1	100.00%	7.30	0.00	8.70	0.00	-3.90	-114.71%	0.00		-5.30	-155.88%	0.00	0.00%	0.00

Vehicle		Initial Exhaust Emissions					Passing Retest Exhaust Emissions						Emission Reductions								Average Repair Costs
Year	Type	Total	Avg HC Idle	Avg CO Idle	Avg HC2500 rpm	Avg CO2500 rpm	Total	Total%	Avg HC Idle	Avg CO Idle	Avg HC2500 rpm	Avg CO2500 rpm	Avg HC Idle	Avg HC % Idle	Avg CO Idle	Avg CO % Idle	Avg HC2500 rpm	Avg HC% 2500rpm	Avg CO2500 rpm	Avg CO% 2500rpm	
	HDGT	4	553.33	3.33	448.83	3.43	3	75.00%	68.67	0.33	56.40	0.50	567.57	89.21%	3.39	91.13%	512.90	90.09%	3.83	88.38%	0.00
<b>2009 Total</b>		5	443.34	2.66	359.74	2.75	4	80.00%	53.32	0.25	44.48	0.38	424.70	88.84%	2.54	91.13%	383.35	89.60%	2.87	88.38%	0.00
2011	HDGT	1	128.00	0.72	59.10	0.35	1	100.00%	90.60	0.41	63.00	0.47	37.40	29.22%	0.31	43.06%	-3.90	-6.60%	-0.12	-34.29%	0.00
<b>2011 Total</b>		1	128.00	0.72	59.10	0.35	1	100.00%	90.60	0.41	63.00	0.47	37.40	29.22%	0.31	43.06%	-3.90	-6.60%	-0.12	-34.29%	0.00
2014	HDGT	1	0.00	0.00	0.00	0.00	1	100.00%	105.70	0.32	61.90	0.38	-105.70	0.00%	-0.32	0.00%	-61.90	0.00%	-0.38	0.00%	0.00
<b>2014 Total</b>		1	0.00	0.00	0.00	0.00	1	100.00%	105.70	0.32	61.90	0.38	-105.70	0.00%	-0.32	0.00%	-61.90	0.00%	-0.38	0.00%	0.00
<b>Grand Total</b>		<b>5463</b>	<b>631.43</b>	<b>2.95</b>	<b>401.37</b>	<b>2.45</b>	<b>3110</b>	<b>56.93%</b>	<b>161.35</b>	<b>0.70</b>	<b>149.33</b>	<b>1.21</b>	<b>388.44</b>	<b>70.65%</b>	<b>1.93</b>	<b>73.39%</b>	<b>208.72</b>	<b>58.29%</b>	<b>0.94</b>	<b>43.74%</b>	<b>359.79</b>

**Summary by Vehicle Type (V1.01)**

Vehicle Type		Initial Exhaust Emissions				Passing Retest Exhaust Emissions						Emission Reductions								Average Repair Costs	
		Total	Avg HC Idle	Avg CO Idle	Avg HC 2500 rpm	Avg CO 2500 rpm	Total	Total%	Avg HC Idle	Avg CO Idle	Avg HC 2500 rpm	Avg CO 2500 rpm	Avg HC Idle	Avg HC % Idle	Avg CO Idle	Avg CO % Idle	Avg HC 2500 rpm	Avg HC% 2500 rpm	Avg CO 2500 rpm		Avg CO% 2500 rpm
LDGV		1309	581.64	2.98	414.29	2.87	702	53.63%	158.52	0.57	164.09	1.40	318.60	66.78%	2.07	78.35%	189.76	53.63%	1.14	44.78%	399.88
LDGT		1286	532.76	2.69	370.32	2.46	685	53.27%	140.18	0.49	149.73	1.23	300.06	68.16%	1.76	78.37%	171.97	53.46%	0.84	40.64%	289.50
HDGT		2868	698.40	3.05	409.39	2.26	1723	60.08%	170.91	0.84	143.16	1.12	452.03	72.56%	1.94	69.86%	231.05	61.74%	0.90	44.46%	365.49
<b>Grand Total</b>		<b>5463</b>	<b>631.43</b>	<b>2.95</b>	<b>401.37</b>	<b>2.45</b>	<b>3110</b>	<b>56.93%</b>	<b>161.35</b>	<b>0.70</b>	<b>149.33</b>	<b>1.21</b>	<b>388.44</b>	<b>70.65%</b>	<b>1.93</b>	<b>73.39%</b>	<b>208.72</b>	<b>58.29%</b>	<b>0.94</b>	<b>43.74%</b>	<b>359.79</b>

## **Appendix C6**

### Idle Retest Frequency Report



Date  
Between 1/1/2016 and 12/31/2016

Idle Retest Frequency Report (V1.01)

Vehicle			Avg Retest #	Retest #1				Retest #2				Retest #3				Retest #4				Retest >= #5			
Year	Type	Total		Cnt	Cnt%	Goal	Goal%	Cnt	Cnt%	Goal	Goal%	Cnt	Cnt %	Goal	Goal%	Cnt	Cnt%	Goal	Goal%	Cnt	Cnt%	Goal	Goal%
1974	LDGV	222	1.5	155	69.82%	88	56.77%	44	19.82%	24	54.55%	16	7.21%	11	68.75%	5	2.25%	4	80.00%	2	1	1	50.00%
	LDGT	91	1.2	72	79.12%	49	68.06%	13	14.29%	8	61.54%	4	4.40%	3	75.00%	2	2.20%	0	0.00%	0	0	0	0.00%
	HDGT	67	1.3	52	77.61%	38	73.08%	9	13.43%	6	66.67%	3	4.48%	1	33.33%	2	2.99%	1	50.00%	1	1	1	100.00%
<b>1974 Total</b>		380	1.4	279	73.42%	175	62.72%	66	17.37%	38	57.58%	23	6.05%	15	65.22%	9	2.37%	5	55.56%	3	1	2	66.67%
1975	LDGV	18	1.5	11	61.11%	7	63.64%	4	22.22%	2	50.00%	2	11.11%	0	0.00%	1	5.56%	1	100.00%	0	0	0	0.00%
	LDGT	12	1.5	8	66.67%	4	50.00%	3	25.00%	1	33.33%	1	8.33%	1	100.00%	0	0.00%	0	0.00%	0	0	0	0.00%
	HDGT	19	1.7	12	63.16%	6	50.00%	4	21.05%	2	50.00%	3	15.79%	3	100.00%	0	0.00%	0	0.00%	0	0	0	0.00%
<b>1975 Total</b>		49	1.6	31	63.27%	17	54.84%	11	22.45%	5	45.45%	6	12.24%	4	66.67%	1	2.04%	1	100.00%	0	0	0	0.00%
1976	LDGV	116	1.5	78	67.24%	49	62.82%	26	22.41%	15	57.69%	6	5.17%	4	66.67%	2	1.72%	1	50.00%	4	3	1	25.00%
	LDGT	95	1.6	57	60.00%	33	57.89%	21	22.11%	6	28.57%	11	11.58%	5	45.45%	4	4.21%	2	50.00%	2	2	1	50.00%
	HDGT	106	1.4	75	70.75%	55	73.33%	22	20.75%	18	81.82%	5	4.72%	3	60.00%	3	2.83%	1	33.33%	1	1	1	100.00%
<b>1976 Total</b>		317	1.5	210	66.25%	137	65.24%	69	21.77%	39	56.52%	22	6.94%	12	54.55%	9	2.84%	4	44.44%	7	2	3	42.86%
1977	LDGV	135	1.8	73	54.07%	40	54.79%	30	22.22%	9	30.00%	15	11.11%	5	33.33%	10	7.41%	4	40.00%	7	5	4	57.14%
	LDGT	80	1.7	47	58.75%	27	57.45%	17	21.25%	8	47.06%	8	10.00%	5	62.50%	4	5.00%	1	25.00%	4	5	2	50.00%
	HDGT	147	1.4	99	67.35%	75	75.76%	25	17.01%	12	48.00%	15	10.20%	8	53.33%	6	4.08%	2	33.33%	2	1	2	100.00%
<b>1977 Total</b>		362	1.6	219	60.50%	142	64.84%	72	19.89%	29	40.28%	38	10.50%	18	47.37%	20	5.52%	7	35.00%	13	4	8	61.54%
1978	LDGV	142	1.6	90	63.38%	55	61.11%	29	20.42%	14	48.28%	13	9.15%	8	61.54%	5	3.52%	2	40.00%	5	4	4	80.00%
	LDGT	111	1.6	67	60.36%	41	61.19%	23	20.72%	9	39.13%	14	12.61%	5	35.71%	5	4.50%	5	100.00%	2	2	0	0.00%
	HDGT	172	1.4	118	68.60%	85	72.03%	30	17.44%	22	73.33%	9	5.23%	1	11.11%	8	4.65%	4	50.00%	7	4	3	42.86%
<b>1978 Total</b>		425	1.5	275	64.71%	181	65.82%	82	19.29%	45	54.88%	36	8.47%	14	38.89%	18	4.24%	11	61.11%	14	3	7	50.00%
1979	LDGV	182	1.7	105	57.69%	67	63.81%	37	20.33%	19	51.35%	18	9.89%	8	44.44%	10	5.49%	4	40.00%	12	7	4	33.33%
	LDGT	309	1.6	186	60.19%	119	63.98%	63	20.39%	30	47.62%	30	9.71%	10	33.33%	17	5.50%	8	47.06%	13	4	6	46.15%
	HDGT	60	1.6	43	71.67%	28	65.12%	8	13.33%	3	37.50%	4	6.67%	2	50.00%	3	5.00%	2	66.67%	2	3	2	100.00%
<b>1979 Total</b>		551	1.6	334	60.62%	214	64.07%	108	19.60%	52	48.15%	52	9.44%	20	38.46%	30	5.44%	14	46.67%	27	5	12	44.44%
1980	LDGV	85	1.4	58	68.24%	37	63.79%	15	17.65%	10	66.67%	4	4.71%	3	75.00%	1	1.18%	0	0.00%	7	8	1	14.29%
	LDGT	143	1.5	85	59.44%	53	62.35%	29	20.28%	17	58.62%	12	8.39%	4	33.33%	7	4.90%	4	57.14%	10	7	1	10.00%
	HDGT	25	1.2	21	84.00%	17	80.95%	3	12.00%	2	66.67%	1	4.00%	1	100.00%	0	0.00%	0	0.00%	0	0	0	0.00%
<b>1980 Total</b>		253	1.4	164	64.82%	107	65.24%	47	18.58%	29	61.70%	17	6.72%	8	47.06%	8	3.16%	4	50.00%	17	7	2	11.76%
1981	LDGV	156	1.9	80	51.28%	37	46.25%	39	25.00%	19	48.72%	18	11.54%	7	38.89%	10	6.41%	3	30.00%	9	6	6	66.67%
	LDGT	231	1.8	121	52.38%	70	57.85%	48	20.78%	16	33.33%	27	11.69%	8	29.63%	15	6.49%	5	33.33%	20	9	7	35.00%
	HDGT	43	1.4	29	67.44%	18	62.07%	10	23.26%	6	60.00%	4	9.30%	3	75.00%	0	0.00%	0	0.00%	0	0	0	0.00%
<b>1981 Total</b>		430	1.8	230	53.49%	125	54.35%	97	22.56%	41	42.27%	49	11.40%	18	36.73%	25	5.81%	8	32.00%	29	7	13	44.83%
1982	LDGV	6	1.7	3	50.00%	2	66.67%	1	16.67%	0	0.00%	1	16.67%	1	100.00%	0	0.00%	0	0.00%	1	17	0	0.00%
	LDGT	4	0.0	2	50.00%	0	0.00%	2	50.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0	0	0.00%
	HDGT	30	1.6	19	63.33%	13	68.42%	4	13.33%	1	25.00%	3	10.00%	1	33.33%	2	6.67%	1	50.00%	2	7	1	50.00%
<b>1982 Total</b>		40	1.7	24	60.00%	15	62.50%	7	17.50%	1	14.29%	4	10.00%	2	50.00%	2	5.00%	1	50.00%	3	8	1	33.33%
1983	LDGV	6	1.0	3	50.00%	2	66.67%	2	33.33%	0	0.00%	1	16.67%	0	0.00%	0	0.00%	0	0.00%	0	0	0	0.00%
	LDGT	5	2.0	3	60.00%	0	0.00%	2	40.00%	2	100.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0	0	0.00%
	HDGT	32	1.4	23	71.88%	15	65.22%	7	21.88%	5	71.43%	1	3.13%	0	0.00%	1	3.13%	1	100.00%	0	0	0	0.00%

Vehicle			Avg Retest #	Retest #1				Retest #2				Retest #3				Retest #4				Retest >= #5				
Year	Type	Total		Cnt	Cnt%	Goal	Goal%	Cnt	Cnt%	Goal	Goal%	Cnt	Cnt %	Goal	Goal%	Cnt	Cnt%	Goal	Goal%	Cnt	Cnt%	Goal	Goal%	
<b>1983 Total</b>			43	1.4	29	67.44%	17	58.62%	11	25.58%	7	63.64%	2	4.65%	0	0.00%	1	2.33%	1	100.00%	0	0	0	0.00%
1984	LDGV	10	1.7	6	60.00%	4	66.67%	2	20.00%	0	0.00%	2	20.00%	2	100.00%	0	0.00%	0	0.00%	0	0	0	0.00%	
	LDGT	7	2.0	4	57.14%	0	0.00%	3	42.86%	1	33.33%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0	0	0.00%	
	HDGT	80	1.5	49	61.25%	33	67.35%	15	18.75%	6	40.00%	8	10.00%	3	37.50%	4	5.00%	2	50.00%	4	5	1	25.00%	
<b>1984 Total</b>			97	1.6	59	60.82%	37	62.71%	20	20.62%	7	35.00%	10	10.31%	5	50.00%	4	4.12%	2	50.00%	4	4	1	25.00%
1985	LDGV	22	1.3	9	40.91%	2	22.22%	4	18.18%	1	25.00%	1	4.55%	0	0.00%	1	4.55%	0	0.00%	7	32	0	0.00%	
	LDGT	2	1.0	2	100.00%	1	50.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0	0	0.00%	
	HDGT	78	1.3	52	66.67%	39	75.00%	16	20.51%	9	56.25%	3	3.85%	2	66.67%	1	1.28%	0	0.00%	6	8	1	16.67%	
<b>1985 Total</b>			102	1.3	63	61.76%	42	66.67%	20	19.61%	10	50.00%	4	3.92%	2	50.00%	2	1.96%	0	0.00%	13	13	1	7.69%
1986	LDGV	11	1.0	4	36.36%	3	75.00%	1	9.09%	0	0.00%	1	9.09%	0	0.00%	1	9.09%	0	0.00%	4	36	0	0.00%	
	LDGT	6	1.0	3	50.00%	2	66.67%	1	16.67%	0	0.00%	1	16.67%	0	0.00%	1	16.67%	0	0.00%	0	0	0	0.00%	
	HDGT	128	1.9	72	56.25%	35	48.61%	30	23.44%	14	46.67%	15	11.72%	7	46.67%	8	6.25%	5	62.50%	3	2	3	100.00%	
<b>1986 Total</b>			145	1.8	79	54.48%	40	50.63%	32	22.07%	14	43.75%	17	11.72%	7	41.18%	10	6.90%	5	50.00%	7	5	3	42.86%
1987	LDGV	7	1.8	4	57.14%	2	50.00%	2	28.57%	1	50.00%	1	14.29%	1	100.00%	0	0.00%	0	0.00%	0	0	0	0.00%	
	LDGT	13	1.9	7	53.85%	5	71.43%	2	15.38%	1	50.00%	2	15.38%	0	0.00%	2	15.38%	2	100.00%	0	0	0	0.00%	
	HDGT	85	1.8	46	54.12%	21	45.65%	21	24.71%	8	38.10%	11	12.94%	6	54.55%	4	4.71%	2	50.00%	3	4	1	33.33%	
<b>1987 Total</b>			105	1.8	57	54.29%	28	49.12%	25	23.81%	10	40.00%	14	13.33%	7	50.00%	6	5.71%	4	66.67%	3	3	1	33.33%
1988	LDGV	6	1.5	2	33.33%	1	50.00%	3	50.00%	1	33.33%	1	16.67%	0	0.00%	0	0.00%	0	0.00%	0	0	0	0.00%	
	LDGT	10	1.1	9	90.00%	7	77.78%	1	10.00%	1	100.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0	0	0.00%	
	HDGT	74	1.7	46	62.16%	23	50.00%	15	20.27%	7	46.67%	6	8.11%	4	66.67%	1	1.35%	0	0.00%	6	8	1	16.67%	
<b>1988 Total</b>			90	1.6	57	63.33%	31	54.39%	19	21.11%	9	47.37%	7	7.78%	4	57.14%	1	1.11%	0	0.00%	6	7	1	16.67%
1989	LDGV	8	1.5	5	62.50%	3	60.00%	3	37.50%	3	100.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0	0	0.00%	
	LDGT	27	1.6	17	62.96%	11	64.71%	4	14.81%	1	25.00%	2	7.41%	1	50.00%	1	3.70%	0	0.00%	3	11	1	33.33%	
	HDGT	127	1.6	77	60.63%	47	61.04%	23	18.11%	8	34.78%	18	14.17%	9	50.00%	7	5.51%	4	57.14%	2	2	0	0.00%	
<b>1989 Total</b>			162	1.6	99	61.11%	61	61.62%	30	18.52%	12	40.00%	20	12.35%	10	50.00%	8	4.94%	4	50.00%	5	3	1	20.00%
1990	LDGV	25	2.0	11	44.00%	7	63.64%	4	16.00%	0	0.00%	4	16.00%	0	0.00%	3	12.00%	1	33.33%	3	12	1	33.33%	
	LDGT	26	1.6	16	61.54%	10	62.50%	5	19.23%	1	20.00%	3	11.54%	1	33.33%	2	7.69%	2	100.00%	0	0	0	0.00%	
	HDGT	104	1.7	65	62.50%	41	63.08%	19	18.27%	9	47.37%	11	10.58%	6	54.55%	4	3.85%	2	50.00%	5	5	3	60.00%	
<b>1990 Total</b>			155	1.7	92	59.35%	58	63.04%	28	18.06%	10	35.71%	18	11.61%	7	38.89%	9	5.81%	5	55.56%	8	5	4	50.00%
1991	LDGV	34	1.6	19	55.88%	11	57.89%	7	20.59%	1	14.29%	5	14.71%	3	60.00%	2	5.88%	1	50.00%	1	3	0	0.00%	
	LDGT	20	1.7	12	60.00%	5	41.67%	5	25.00%	3	60.00%	2	10.00%	0	0.00%	1	5.00%	1	100.00%	0	0	0	0.00%	
	HDGT	105	1.6	62	59.05%	39	62.90%	22	20.95%	5	22.73%	13	12.38%	6	46.15%	6	5.71%	3	50.00%	2	2	1	50.00%	
<b>1991 Total</b>			159	1.6	93	58.49%	55	59.14%	34	21.38%	9	26.47%	20	12.58%	9	45.00%	9	5.66%	5	55.56%	3	2	1	33.33%
1992	LDGV	27	1.4	19	70.37%	12	63.16%	7	25.93%	5	71.43%	0	0.00%	0	0.00%	1	3.70%	1	100.00%	0	0	0	0.00%	
	LDGT	21	1.3	13	61.90%	8	61.54%	3	14.29%	0	0.00%	4	19.05%	0	0.00%	1	4.76%	1	100.00%	0	0	0	0.00%	
	HDGT	134	1.6	85	63.43%	56	65.88%	32	23.88%	19	59.38%	10	7.46%	5	50.00%	6	4.48%	5	83.33%	1	1	1	100.00%	
<b>1992 Total</b>			182	1.5	117	64.29%	76	64.96%	42	23.08%	24	57.14%	14	7.69%	5	35.71%	8	4.40%	7	87.50%	1	1	1	100.00%
1993	LDGV	20	1.9	10	50.00%	4	40.00%	7	35.00%	4	57.14%	3	15.00%	3	100.00%	0	0.00%	0	0.00%	0	0	0	0.00%	
	LDGT	6	1.0	6	100.00%	5	83.33%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0	0	0.00%	
	HDGT	83	1.4	61	73.49%	44	72.13%	14	16.87%	10	71.43%	5	6.02%	4	80.00%	3	3.61%	3	100.00%	0	0	0	0.00%	
<b>1993 Total</b>			109	1.5	77	70.64%	53	68.83%	21	19.27%	14	66.67%	8	7.34%	7	87.50%	3	2.75%	3	100.00%	0	0	0	0.00%
1994	LDGV	29	1.8	18	62.07%	8	44.44%	4	13.79%	1	25.00%	3	10.34%	1	33.33%	2	6.90%	1	50.00%	2	7	1	50.00%	



Vehicle			Avg Retest #	Retest #1				Retest #2				Retest #3				Retest #4				Retest >= #5			
Year	Type	Total		Cnt	Cnt%	Goal	Goal%	Cnt	Cnt%	Goal	Goal%	Cnt	Cnt %	Goal	Goal%	Cnt	Cnt%	Goal	Goal%	Cnt	Cnt%	Goal	Goal%
	LDGT	31	1.7	17	54.84%	11	64.71%	7	22.58%	4	57.14%	3	9.68%	2	66.67%	1	3.23%	0	0.00%	3	10	1	33.33%
	HDGT	184	1.6	107	58.15%	69	64.49%	31	16.85%	12	38.71%	19	10.33%	10	52.63%	9	4.89%	3	33.33%	18	10	4	22.22%
<b>1994 Total</b>		244	1.7	142	58.20%	88	61.97%	42	17.21%	17	40.48%	25	10.25%	13	52.00%	12	4.92%	4	33.33%	23	9	6	26.09%
1995	LDGV	33	1.5	23	69.70%	19	82.61%	5	15.15%	2	40.00%	2	6.06%	1	50.00%	1	3.03%	0	0.00%	2	6	1	50.00%
	LDGT	22	1.2	16	72.73%	9	56.25%	4	18.18%	2	50.00%	2	9.09%	0	0.00%	0	0.00%	0	0.00%	0	0	0	0.00%
	HDGT	204	1.8	109	53.43%	65	59.63%	44	21.57%	19	43.18%	20	9.80%	9	45.00%	11	5.39%	5	45.45%	20	10	6	30.00%
<b>1995 Total</b>		259	1.7	148	57.14%	93	62.84%	53	20.46%	23	43.40%	24	9.27%	10	41.67%	12	4.63%	5	41.67%	22	8	7	31.82%
1996	LDGV	2	3.0	1	50.00%	0	0.00%	0	0.00%	0	0.00%	1	50.00%	1	100.00%	0	0.00%	0	0.00%	0	0	0	0.00%
	LDGT	0	0.0	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0	0	0.00%
	HDGT	143	1.9	76	53.15%	40	52.63%	30	20.98%	13	43.33%	16	11.19%	7	43.75%	9	6.29%	2	22.22%	12	8	6	50.00%
<b>1996 Total</b>		145	1.9	77	53.10%	40	51.95%	30	20.69%	13	43.33%	17	11.72%	8	47.06%	9	6.21%	2	22.22%	12	8	6	50.00%
1997	LDGV	2	1.0	2	100.00%	2	100.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0	0	0.00%
	LDGT	0	0.0	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0	0	0.00%
	HDGT	84	1.5	55	65.48%	35	63.64%	17	20.24%	12	70.59%	6	7.14%	4	66.67%	1	1.19%	0	0.00%	5	6	1	20.00%
<b>1997 Total</b>		86	1.5	57	66.28%	37	64.91%	17	19.77%	12	70.59%	6	6.98%	4	66.67%	1	1.16%	0	0.00%	5	6	1	20.00%
1998	LDGV	0	0.0	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0	0	0.00%
	LDGT	3	1.0	3	100.00%	2	66.67%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0	0	0.00%
	HDGT	108	1.6	68	62.96%	45	66.18%	21	19.44%	11	52.38%	9	8.33%	4	44.44%	5	4.63%	2	40.00%	5	5	3	60.00%
<b>1998 Total</b>		111	1.6	71	63.96%	47	66.20%	21	18.92%	11	52.38%	9	8.11%	4	44.44%	5	4.50%	2	40.00%	5	5	3	60.00%
1999	LDGV	4	1.3	3	75.00%	2	66.67%	1	25.00%	1	100.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0	0	0.00%
	LDGT	2	0.0	2	100.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0	0	0.00%
	HDGT	122	1.4	83	68.03%	65	78.31%	19	15.57%	8	42.11%	12	9.84%	6	50.00%	5	4.10%	2	40.00%	3	2	1	33.33%
<b>1999 Total</b>		128	1.4	88	68.75%	67	76.14%	20	15.63%	9	45.00%	12	9.38%	6	50.00%	5	3.91%	2	40.00%	3	2	1	33.33%
2000	LDGV	0	0.0	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0	0	0.00%
	LDGT	1	2.0	0	0.00%	0	0.00%	1	100.00%	1	100.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0	0	0.00%
	HDGT	135	1.5	81	60.00%	48	59.26%	28	20.74%	13	46.43%	15	11.11%	7	46.67%	8	5.93%	4	50.00%	3	2	0	0.00%
<b>2000 Total</b>		136	1.5	81	59.56%	48	59.26%	29	21.32%	14	48.28%	15	11.03%	7	46.67%	8	5.88%	4	50.00%	3	2	0	0.00%
2001	LDGV	0	0.0	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0	0	0.00%
	LDGT	2	0.0	0	0.00%	0	0.00%	1	50.00%	0	0.00%	1	50.00%	0	0.00%	0	0.00%	0	0.00%	0	0	0	0.00%
	HDGT	52	1.3	39	75.00%	30	76.92%	9	17.31%	5	55.56%	3	5.77%	1	33.33%	1	1.92%	1	100.00%	0	0	0	0.00%
<b>2001 Total</b>		54	1.3	39	72.22%	30	76.92%	10	18.52%	5	50.00%	4	7.41%	1	25.00%	1	1.85%	1	100.00%	0	0	0	0.00%
2002	LDGV	0	0.0	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0	0	0.00%
	LDGT	4	1.8	3	75.00%	3	100.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	1	25.00%	1	100.00%	0	0	0	0.00%
	HDGT	40	1.3	31	77.50%	23	74.19%	7	17.50%	5	71.43%	2	5.00%	2	100.00%	0	0.00%	0	0.00%	0	0	0	0.00%
<b>2002 Total</b>		44	1.4	34	77.27%	26	76.47%	7	15.91%	5	71.43%	2	4.55%	2	100.00%	1	2.27%	1	100.00%	0	0	0	0.00%
2003	LDGV	0	0.0	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0	0	0.00%
	LDGT	0	0.0	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0	0	0.00%
	HDGT	27	1.1	24	88.89%	21	87.50%	3	11.11%	3	100.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0	0	0.00%
<b>2003 Total</b>		27	1.1	24	88.89%	21	87.50%	3	11.11%	3	100.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0	0	0.00%
2004	LDGV	0	0.0	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0	0	0.00%
	LDGT	0	0.0	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0	0	0.00%
	HDGT	18	1.3	14	77.78%	11	78.57%	2	11.11%	1	50.00%	1	5.56%	0	0.00%	1	5.56%	1	100.00%	0	0	0	0.00%

Vehicle			Avg Retest #	Retest #1				Retest #2				Retest #3				Retest #4				Retest >= #5				
Year	Type	Total		Cnt	Cnt%	Goal	Goal%	Cnt	Cnt%	Goal	Goal%	Cnt	Cnt %	Goal	Goal%	Cnt	Cnt%	Goal	Goal%	Cnt	Cnt%	Goal	Goal%	
<b>2004 Total</b>			18	1.3	14	77.78%	11	78.57%	2	11.11%	1	50.00%	1	5.56%	0	0.00%	1	5.56%	1	100.00%	0	0	0	0.00%
2005	LDGV	0	0.0	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0	0	0.00%	
	LDGT	0	0.0	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0	0	0.00%	
	HDGT	10	1.3	8	80.00%	7	87.50%	1	10.00%	0	0.00%	1	10.00%	1	100.00%	0	0.00%	0	0.00%	0	0	0	0.00%	
<b>2005 Total</b>			10	1.3	8	80.00%	7	87.50%	1	10.00%	0	0.00%	1	10.00%	1	100.00%	0	0.00%	0	0.00%	0	0	0	0.00%
2006	LDGV	1	0.0	1	100.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0	0	0.00%	
	LDGT	0	0.0	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0	0	0.00%	
	HDGT	22	1.1	20	90.91%	15	75.00%	2	9.09%	2	100.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0	0	0.00%	
<b>2006 Total</b>			23	1.1	21	91.30%	15	71.43%	2	8.70%	2	100.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0	0	0.00%
2007	LDGV	0	0.0	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0	0	0.00%	
	LDGT	1	1.0	1	100.00%	1	100.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0	0	0.00%	
	HDGT	7	1.2	6	85.71%	5	83.33%	1	14.29%	1	100.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0	0	0.00%	
<b>2007 Total</b>			8	1.1	7	87.50%	6	85.71%	1	12.50%	1	100.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0	0	0.00%
2008	LDGV	0	0.0	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0	0	0.00%	
	LDGT	0	0.0	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0	0	0.00%	
	HDGT	7	1.0	7	100.00%	7	100.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0	0	0.00%	
<b>2008 Total</b>			7	1.0	7	100.00%	7	100.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0	0	0.00%
2009	LDGV	0	0.0	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0	0	0.00%	
	LDGT	1	1.0	1	100.00%	1	100.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0	0	0.00%	
	HDGT	4	1.3	3	75.00%	2	66.67%	1	25.00%	1	100.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0	0	0.00%	
<b>2009 Total</b>			5	1.3	4	80.00%	3	75.00%	1	20.00%	1	100.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0	0	0.00%
2010	LDGV	0	0.0	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0	0	0.00%	
	LDGT	0	0.0	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0	0	0.00%	
<b>2010 Total</b>			0	0.0	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0	0	0.00%
2011	LDGV	0	0.0	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0	0	0.00%	
	LDGT	0	0.0	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0	0	0.00%	
	HDGT	1	1.0	1	100.00%	1	100.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0	0	0.00%	
<b>2011 Total</b>			1	1.0	1	100.00%	1	100.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0	0	0.00%
2012	LDGV	0	0.0	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0	0	0.00%	
	LDGT	0	0.0	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0	0	0.00%	
<b>2012 Total</b>			0	0.0	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0	0	0.00%
2013	LDGV	0	0.0	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0	0	0.00%	
<b>2013 Total</b>			0	0.0	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0	0	0.00%
2014	LDGV	0	0.0	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0	0	0.00%	
	HDGT	1	1.0	1	100.00%	1	100.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0	0	0.00%	
<b>2014 Total</b>			1	1.0	1	100.00%	1	100.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0	0	0.00%
<b>Overall Total</b>			5,463	1.6	3412	62.46%	2159	63.28%	1080	19.77%	522	48.33%	497	9.10%	230	46.28%	238	4.36%	113	47.48%	236	4	86	36.44%

Idle Retest Frequency Report (V1.01)

Vehicle			Avg Retest #	Retest #1				Retest #2				Retest #3				Retest #4				Retest >= #5			
Type	Total			Cnt	Cnt%	Goal	Goal%	Cnt	Cnt%	Goal	Goal%	Cnt	Cnt %	Goal	Goal%	Cnt	Cnt%	Goal	Goal%	Cnt	Cnt%	Goal	Goal%
LDGV	1,309		1.6	793	60.58%	464	58.51%	277	21.16%	132	47.65%	118	9.01%	59	50.00%	55	4.20%	23	41.82%	66	5	24	36.36%

Vehicle		Avg Retest #	Retest #1				Retest #2				Retest #3				Retest #4				Retest >= #5			
Type	Total		Cnt	Cnt%	Goal	Goal%	Cnt	Cnt%	Goal	Goal%	Cnt	Cnt %	Goal	Goal%	Cnt	Cnt%	Goal	Goal%	Cnt	Cnt%	Goal	Goal%
LDGT	1,286	1.6	780	60.65%	477	61.15%	258	20.06%	112	43.41%	127	9.88%	45	35.43%	64	4.98%	32	50.00%	57	4	19	33.33%
HDGT	2,868	1.5	1839	64.12%	1218	66.23%	545	19.00%	278	51.01%	252	8.79%	126	50.00%	119	4.15%	58	48.74%	113	4	43	38.05%
<b>Overall Total</b>	<b>5,463</b>	<b>1.6</b>	<b>3412</b>	<b>62.46%</b>	<b>2159</b>	<b>63.28%</b>	<b>1080</b>	<b>19.77%</b>	<b>522</b>	<b>48.33%</b>	<b>497</b>	<b>9.10%</b>	<b>230</b>	<b>46.28%</b>	<b>238</b>	<b>4.36%</b>	<b>113</b>	<b>47.48%</b>	<b>236</b>	<b>4</b>	<b>86</b>	<b>36.44%</b>



## **Appendix D1**

### **I/M Eligible Vehicle Report**

#### **Evaluated Vehicles**



# Colorado

## I/M Eligible Vehicle Report, Evaluated Vehicles

Tuesday, 04-April-2017

Report Start: **Jan, 2016**

Report Period:

**Year**

County: **All Counties**

Model Year	Veh. Type	Emis. Due Veh.	Meet Time and Location Criteria					Total	Percent	CO	HC	NOX	Accel	Emis. Due Veh. Evaluated	
			No			Yes									
			0 Hits	1 Hit	2+ Hits	1 Hit	2+ Hits								
<b>1982</b>															
	<b>P</b>	22	0	14	0	0	8	<b>Clean:</b>	0	0.00%	0.0000	0.0000	0.0000	0.00	
			0.00%	63.64%	0.00%	0.00%	36.36%	<b>Not Clean:</b>	8	100.00%	1.0737	113.1875	997.3750	0.87	36.36%
	<b>T</b>	43	0	25	0	0	18	<b>Clean:</b>	2	11.11%	0.1450	36.4500	151.4500	0.85	
			0.00%	58.14%	0.00%	0.00%	41.86%	<b>Not Clean:</b>	16	88.89%	2.9819	1,865.0625	1,264.9156	1.11	41.86%
	<b>U</b>	543	543	0	0	0	0	<b>Clean:</b>	0	0.00%	0.0000	0.0000	0.0000	0.00	
			100.00%	0.00%	0.00%	0.00%	0.00%	<b>Not Clean:</b>	0	0.00%	0.0000	0.0000	0.0000	0.00	0.00%
<b>Total For 1982</b>		<b>608</b>	<b>543</b>	<b>39</b>	<b>0</b>	<b>0</b>	<b>26</b>	<b>Clean:</b>	<b>2</b>	<b>7.69%</b>	<b>0.1450</b>	<b>36.4500</b>	<b>151.4500</b>	<b>0.85</b>	
			89.31%	6.41%	0.00%	0.00%	4.28%	<b>Not Clean:</b>	<b>24</b>	<b>92.31%</b>	<b>2.3458</b>	<b>1,281.1042</b>	<b>1,175.7354</b>	<b>1.03</b>	<b>4.28%</b>
<b>1983</b>															
	<b>P</b>	27	0	19	0	0	8	<b>Clean:</b>	1	12.50%	0.1900	65.4000	260.5500	0.15	
			0.00%	70.37%	0.00%	0.00%	29.63%	<b>Not Clean:</b>	7	87.50%	1.2964	205.1929	1,208.5143	0.88	29.63%
	<b>T</b>	52	0	31	1	0	20	<b>Clean:</b>	1	5.00%	0.0850	3.4000	36.6500	1.90	
			0.00%	59.62%	1.92%	0.00%	38.46%	<b>Not Clean:</b>	19	95.00%	2.2574	464.4447	1,332.0079	0.94	38.46%
	<b>U</b>	552	550	2	0	0	0	<b>Clean:</b>	0	0.00%	0.0000	0.0000	0.0000	0.00	
			99.64%	0.36%	0.00%	0.00%	0.00%	<b>Not Clean:</b>	0	0.00%	0.0000	0.0000	0.0000	0.00	0.00%
<b>Total For 1983</b>		<b>631</b>	<b>550</b>	<b>52</b>	<b>1</b>	<b>0</b>	<b>28</b>	<b>Clean:</b>	<b>2</b>	<b>7.14%</b>	<b>0.1375</b>	<b>34.4000</b>	<b>148.6000</b>	<b>1.02</b>	
			87.16%	8.24%	0.16%	0.00%	4.44%	<b>Not Clean:</b>	<b>26</b>	<b>92.86%</b>	<b>1.9987</b>	<b>394.6462</b>	<b>1,298.7596</b>	<b>0.92</b>	<b>4.44%</b>
<b>1984</b>															
	<b>P</b>	55	0	38	0	0	17	<b>Clean:</b>	3	17.65%	0.2550	56.1667	669.8167	3.42	
			0.00%	69.09%	0.00%	0.00%	30.91%	<b>Not Clean:</b>	14	82.35%	1.0000	148.2000	1,407.3214	1.00	30.91%
	<b>T</b>	112	0	59	1	0	52	<b>Clean:</b>	5	9.62%	0.1040	46.1600	606.7700	0.44	
			0.00%	52.68%	0.89%	0.00%	46.43%	<b>Not Clean:</b>	47	90.38%	2.1177	281.4702	1,390.4277	0.99	46.43%
	<b>U</b>	1,418	1,414	3	0	0	1	<b>Clean:</b>	0	0.00%	0.0000	0.0000	0.0000	0.00	
			99.72%	0.21%	0.00%	0.00%	0.07%	<b>Not Clean:</b>	1	100.00%	1.7500	153.9000	75.0500	1.50	0.07%
<b>Total For 1984</b>		<b>1,585</b>	<b>1,414</b>	<b>100</b>	<b>1</b>	<b>0</b>	<b>70</b>	<b>Clean:</b>	<b>8</b>	<b>11.43%</b>	<b>0.1606</b>	<b>49.9125</b>	<b>630.4125</b>	<b>1.56</b>	
			89.21%	6.31%	0.06%	0.00%	4.42%	<b>Not Clean:</b>	<b>62</b>	<b>88.57%</b>	<b>1.8594</b>	<b>249.3194</b>	<b>1,373.0266</b>	<b>1.00</b>	<b>4.42%</b>

Model Year	Veh. Type	Emis. Due Veh.	Meet Time and Location Criteria					Total	Percent	CO	HC	NOX	Accel	Emis. Due Veh. Evaluated	
			No			Yes									
			0 Hits	1 Hit	2+ Hits	1 Hit	2+ Hits								
<b>1985</b>															
P	83	0	52	0	0	31	Clean:	5	16.13%	0.1680	102.1800	492.1800	0.40		
			0.00%	62.65%	0.00%	0.00%	37.35%	Not Clean:	26	83.87%	1.8798	239.9904	1,299.7423	1.31	37.35%
T	149	0	81	0	0	68	Clean:	5	7.35%	0.2290	43.8600	278.6900	1.52		
			0.00%	54.36%	0.00%	0.00%	45.64%	Not Clean:	63	92.65%	2.6766	413.8389	1,241.6921	0.82	45.64%
U	1,354	1,352	2	0	0	0	Clean:	0	0.00%	0.0000	0.0000	0.0000	0.00		
			99.85%	0.15%	0.00%	0.00%	0.00%	Not Clean:	0	0.00%	0.0000	0.0000	0.0000	0.00	0.00%
<b>Total For 1985</b>		<b>1,586</b>	<b>1,352</b>	<b>135</b>	<b>0</b>	<b>0</b>	<b>99</b>	<b>Clean:</b>	<b>10</b>	<b>10.10%</b>	<b>0.1985</b>	<b>73.0200</b>	<b>385.4350</b>	<b>0.96</b>	
			85.25%	8.51%	0.00%	0.00%	6.24%	Not Clean:	89	89.90%	2.4438	363.0517	1,258.6506	0.96	6.24%
<b>1986</b>															
P	157	0	76	0	8	73	Clean:	18	22.22%	0.0706	16.5361	182.3028	0.97		
			0.00%	48.41%	0.00%	5.10%	46.50%	Not Clean:	63	77.78%	0.8978	188.3230	1,396.5056	1.27	51.59%
T	238	0	145	1	1	91	Clean:	6	6.52%	0.1275	28.3917	224.2917	0.87		
			0.00%	60.92%	0.42%	0.42%	38.24%	Not Clean:	86	93.48%	1.3968	262.5907	1,396.1238	0.96	38.66%
U	2,250	2,247	0	0	0	3	Clean:	0	0.00%	0.0000	0.0000	0.0000	0.00		
			99.87%	0.00%	0.00%	0.00%	0.13%	Not Clean:	3	100.00%	1.2750	296.9000	933.5333	1.43	0.13%
<b>Total For 1986</b>		<b>2,645</b>	<b>2,247</b>	<b>221</b>	<b>1</b>	<b>9</b>	<b>167</b>	<b>Clean:</b>	<b>24</b>	<b>13.64%</b>	<b>0.0848</b>	<b>19.5000</b>	<b>192.8000</b>	<b>0.94</b>	
			84.95%	8.36%	0.04%	0.34%	6.31%	Not Clean:	152	86.36%	1.1876	232.4859	1,387.1520	1.10	6.65%
<b>1987</b>															
P	151	0	73	0	0	78	Clean:	13	16.67%	0.2019	45.0885	390.3961	1.72		
			0.00%	48.34%	0.00%	0.00%	51.66%	Not Clean:	65	83.33%	1.1277	169.7123	1,234.9231	1.09	51.66%
T	244	0	129	0	2	113	Clean:	11	9.57%	0.1359	46.5136	310.1864	0.35		
			0.00%	52.87%	0.00%	0.82%	46.31%	Not Clean:	104	90.43%	1.4607	242.8731	1,253.5861	1.15	47.13%
U	1,727	1,727	0	0	0	0	Clean:	0	0.00%	0.0000	0.0000	0.0000	0.00		
			100.00%	0.00%	0.00%	0.00%	0.00%	Not Clean:	0	0.00%	0.0000	0.0000	0.0000	0.00	0.00%
<b>Total For 1987</b>		<b>2,122</b>	<b>1,727</b>	<b>202</b>	<b>0</b>	<b>2</b>	<b>191</b>	<b>Clean:</b>	<b>24</b>	<b>12.44%</b>	<b>0.1717</b>	<b>45.7417</b>	<b>353.6333</b>	<b>1.09</b>	
			81.39%	9.52%	0.00%	0.09%	9.00%	Not Clean:	169	87.56%	1.3326	214.7343	1,246.4080	1.13	9.10%
<b>1988</b>															
P	257	0	138	0	10	109	Clean:	33	27.73%	0.0889	28.7500	210.6303	0.78		
			0.00%	53.70%	0.00%	3.89%	42.41%	Not Clean:	86	72.27%	1.0892	165.4366	1,088.0488	1.05	46.30%
T	420	0	238	2	1	179	Clean:	22	12.22%	0.1945	49.4364	379.2477	0.60		
			0.00%	56.67%	0.48%	0.24%	42.62%	Not Clean:	158	87.78%	1.1172	271.6377	1,347.0883	0.88	42.86%
U	3,082	3,079	2	0	0	1	Clean:	0	0.00%	0.0000	0.0000	0.0000	0.00		
			99.90%	0.06%	0.00%	0.00%	0.03%	Not Clean:	1	100.00%	2.4850	104.9000	1,113.9500	1.30	0.03%
<b>Total For 1988</b>		<b>3,759</b>	<b>3,079</b>	<b>378</b>	<b>2</b>	<b>11</b>	<b>289</b>	<b>Clean:</b>	<b>55</b>	<b>18.33%</b>	<b>0.1312</b>	<b>37.0245</b>	<b>278.0773</b>	<b>0.71</b>	
			81.91%	10.06%	0.05%	0.29%	7.69%	Not Clean:	245	81.67%	1.1130	233.6784	1,255.2086	0.94	7.98%



Model Year	Veh. Type	Emis. Due Veh.	Meet Time and Location Criteria					Total	Percent	CO	HC	NOX	Accel	Emis. Due Veh. Evaluated	
			No			Yes									
			0 Hits	1 Hit	2+ Hits	1 Hit	2+ Hits								
<b>1989</b>															
P	265	0	131	0	6	128	Clean:	35	26.12%	0.1161	24.3171	233.5429	0.40		
			0.00%	49.43%	0.00%	2.26%	48.30%	Not Clean:	99	73.88%	1.1085	166.0268	1,146.5975	1.01	50.57%
T	473	0	218	3	2	250	Clean:	37	14.68%	0.1547	52.5730	367.5919	0.87		
			0.00%	46.09%	0.63%	0.42%	52.85%	Not Clean:	215	85.32%	0.9577	219.8477	1,289.5672	1.00	53.28%
U	2,912	2,910	1	0	0	1	Clean:	0	0.00%	0.0000	0.0000	0.0000	0.00		
			99.93%	0.03%	0.00%	0.00%	0.03%	Not Clean:	1	100.00%	2.1950	1,537.5000	1,801.2000	0.65	0.03%
<b>Total For 1989</b>		<b>3,650</b>	<b>2,910</b>	<b>350</b>	<b>3</b>	<b>8</b>	<b>379</b>	<b>Clean:</b>	<b>72</b>	<b>18.60%</b>	<b>0.1360</b>	<b>38.8375</b>	<b>302.4292</b>	<b>0.64</b>	
			79.73%	9.59%	0.08%	0.22%	10.38%	Not Clean:	315	81.40%	1.0090	207.1156	1,246.2581	1.00	10.60%
<b>1990</b>															
P	522	0	226	0	30	266	Clean:	91	30.74%	0.1018	17.8005	227.3874	0.43		
			0.00%	43.30%	0.00%	5.75%	50.96%	Not Clean:	205	69.26%	1.2096	159.4195	1,137.1929	0.90	56.70%
T	642	0	285	2	22	333	Clean:	61	17.18%	0.0953	20.3295	176.4041	0.39		
			0.00%	44.39%	0.31%	3.43%	51.87%	Not Clean:	294	82.82%	1.0427	147.8585	1,281.7270	1.04	55.30%
U	4,735	4,734	0	0	0	1	Clean:	0	0.00%	0.0000	0.0000	0.0000	0.00		
			99.98%	0.00%	0.00%	0.00%	0.02%	Not Clean:	1	100.00%	4.7500	116.6000	495.6000	7.65	0.02%
<b>Total For 1990</b>		<b>5,899</b>	<b>4,734</b>	<b>511</b>	<b>2</b>	<b>52</b>	<b>600</b>	<b>Clean:</b>	<b>152</b>	<b>23.31%</b>	<b>0.0992</b>	<b>18.8155</b>	<b>206.9270</b>	<b>0.41</b>	
			80.25%	8.66%	0.03%	0.88%	10.17%	Not Clean:	500	76.69%	1.1185	152.5360	1,220.8958	1.00	11.05%
<b>1991</b>															
P	623	0	311	0	18	294	Clean:	88	28.21%	0.1419	24.0097	269.0165	0.91		
			0.00%	49.92%	0.00%	2.89%	47.19%	Not Clean:	224	71.79%	1.1088	133.3230	1,182.3975	1.15	50.08%
T	704	0	291	5	17	391	Clean:	86	21.08%	0.1196	30.3558	241.8616	0.81		
			0.00%	41.34%	0.71%	2.41%	55.54%	Not Clean:	322	78.92%	1.1184	161.9435	1,161.4290	1.08	57.95%
U	4,216	4,211	2	0	0	3	Clean:	1	33.33%	0.0900	24.3000	389.2500	0.55		
			99.88%	0.05%	0.00%	0.00%	0.07%	Not Clean:	2	66.67%	0.6075	58.1000	1,626.9000	0.35	0.07%
<b>Total For 1991</b>		<b>5,543</b>	<b>4,211</b>	<b>604</b>	<b>5</b>	<b>35</b>	<b>688</b>	<b>Clean:</b>	<b>175</b>	<b>24.20%</b>	<b>0.1307</b>	<b>27.1300</b>	<b>256.3589</b>	<b>0.86</b>	
			75.97%	10.90%	0.09%	0.63%	12.41%	Not Clean:	548	75.80%	1.1127	149.8656	1,171.6989	1.11	13.04%
<b>1992</b>															
P	900	0	470	0	5	425	Clean:	141	32.79%	0.1510	27.2316	314.0972	0.74		
			0.00%	52.22%	0.00%	0.56%	47.22%	Not Clean:	289	67.21%	0.8365	142.3609	1,179.6934	1.19	47.78%
T	1,033	0	463	10	19	541	Clean:	96	17.14%	0.1131	33.6547	288.7510	0.72		
			0.00%	44.82%	0.97%	1.84%	52.37%	Not Clean:	464	82.86%	0.9718	168.8787	1,210.6038	1.09	54.21%
U	6,412	6,412	0	0	0	0	Clean:	0	0.00%	0.0000	0.0000	0.0000	0.00		
			100.00%	0.00%	0.00%	0.00%	0.00%	Not Clean:	0	0.00%	0.0000	0.0000	0.0000	0.00	0.00%
<b>Total For 1992</b>		<b>8,345</b>	<b>6,412</b>	<b>933</b>	<b>10</b>	<b>24</b>	<b>966</b>	<b>Clean:</b>	<b>237</b>	<b>23.94%</b>	<b>0.1356</b>	<b>29.8333</b>	<b>303.8304</b>	<b>0.74</b>	
			76.84%	11.18%	0.12%	0.29%	11.58%	Not Clean:	753	76.06%	0.9199	158.7012	1,198.7404	1.13	11.86%

Model Year	Veh. Type	Emis. Due Veh.	Meet Time and Location Criteria					Total	Percent	CO	HC	NOX	Accel	Emis. Due Veh. Evaluated
			No			Yes								
			0 Hits	1 Hit	2+ Hits	1 Hit	2+ Hits							
<b>1993</b>														
P	961	0	455	0	25	481	Clean:	159	31.42%	0.1529	31.7805	299.7283	0.82	
		0.00%	47.35%	0.00%	2.60%	50.05%	Not Clean:	347	68.58%	0.9194	140.8432	1,161.7620	1.12	52.65%
T	1,315	0	509	5	60	741	Clean:	166	20.72%	0.1039	29.0747	232.4877	0.67	
		0.00%	38.71%	0.38%	4.56%	56.35%	Not Clean:	635	79.28%	0.9123	173.4416	1,233.8032	1.02	60.91%
U	6,252	6,249	3	0	0	0	Clean:	0	0.00%	0.0000	0.0000	0.0000	0.00	
		99.95%	0.05%	0.00%	0.00%	0.00%	Not Clean:	0	0.00%	0.0000	0.0000	0.0000	0.00	0.00%
<b>Total For 1993</b>	<b>8,528</b>	<b>6,249</b>	<b>967</b>	<b>5</b>	<b>85</b>	<b>1,222</b>	<b>Clean:</b>	<b>325</b>	<b>24.87%</b>	<b>0.1278</b>	<b>30.3985</b>	<b>265.3838</b>	<b>0.74</b>	
		73.28%	11.34%	0.06%	1.00%	14.33%	Not Clean:	982	75.13%	0.9148	161.9226	1,208.3467	1.06	15.33%
<b>1994</b>														
P	1,411	0	585	0	83	743	Clean:	329	39.83%	0.1157	20.7049	200.5065	0.75	
		0.00%	41.46%	0.00%	5.88%	52.66%	Not Clean:	497	60.17%	0.8298	178.3202	1,057.9942	1.39	58.54%
T	2,175	0	958	4	38	1,175	Clean:	255	21.02%	0.1257	30.7208	284.8318	0.77	
		0.00%	44.05%	0.18%	1.75%	54.02%	Not Clean:	958	78.98%	0.8194	132.2940	1,198.9719	1.11	55.77%
U	9,762	9,758	2	0	0	2	Clean:	0	0.00%	0.0000	0.0000	0.0000	0.00	
		99.96%	0.02%	0.00%	0.00%	0.02%	Not Clean:	2	100.00%	0.2800	115.8500	1,744.5250	0.80	0.02%
<b>Total For 1994</b>	<b>13,348</b>	<b>9,758</b>	<b>1,545</b>	<b>4</b>	<b>121</b>	<b>1,920</b>	<b>Clean:</b>	<b>584</b>	<b>28.61%</b>	<b>0.1201</b>	<b>25.0783</b>	<b>237.3266</b>	<b>0.76</b>	
		73.10%	11.57%	0.03%	0.91%	14.38%	Not Clean:	1,457	71.39%	0.8222	147.9716	1,151.6316	1.21	15.29%
<b>1995</b>														
P	1,856	0	709	0	161	986	Clean:	521	45.42%	0.1119	21.1177	192.0983	0.72	
		0.00%	38.20%	0.00%	8.67%	53.13%	Not Clean:	626	54.58%	0.8181	129.2954	913.9403	1.09	61.80%
T	2,570	0	981	20	86	1,483	Clean:	429	27.34%	0.1206	28.9951	274.5880	0.79	
		0.00%	38.17%	0.78%	3.35%	57.70%	Not Clean:	1,140	72.66%	0.8272	132.3584	1,175.9361	1.07	61.05%
U	10,306	10,302	3	0	0	1	Clean:	0	0.00%	0.0000	0.0000	0.0000	0.00	
		99.96%	0.03%	0.00%	0.00%	0.01%	Not Clean:	1	100.00%	0.3900	87.3500	1,471.5000	1.35	0.01%
<b>Total For 1995</b>	<b>14,732</b>	<b>10,302</b>	<b>1,693</b>	<b>20</b>	<b>247</b>	<b>2,470</b>	<b>Clean:</b>	<b>950</b>	<b>34.97%</b>	<b>0.1158</b>	<b>24.6749</b>	<b>229.3489</b>	<b>0.75</b>	
		69.93%	11.49%	0.14%	1.68%	16.77%	Not Clean:	1,767	65.03%	0.8237	131.2478	1,083.2853	1.08	18.44%
<b>1996</b>														
P	2,689	0	1118	0	264	1,307	Clean:	893	56.84%	0.1014	18.9754	172.5307	0.75	
		0.00%	41.58%	0.00%	9.82%	48.61%	Not Clean:	678	43.16%	0.7952	110.5849	831.6482	1.23	58.42%
T	3,587	0	1029	17	368	2,173	Clean:	1,179	46.40%	0.1038	19.1226	189.9805	0.67	
		0.00%	28.69%	0.47%	10.26%	60.58%	Not Clean:	1,362	53.60%	0.6919	113.0428	1,048.9610	1.10	70.84%
U	14,123	14,119	3	0	0	1	Clean:	1	100.00%	0.0950	37.4000	37.6000	2.05	
		99.97%	0.02%	0.00%	0.00%	0.01%	Not Clean:	0	0.00%	0.0000	0.0000	0.0000	0.00	0.01%
<b>Total For 1996</b>	<b>20,399</b>	<b>14,119</b>	<b>2,150</b>	<b>17</b>	<b>632</b>	<b>3,481</b>	<b>Clean:</b>	<b>2,073</b>	<b>50.40%</b>	<b>0.1028</b>	<b>19.0680</b>	<b>182.3900</b>	<b>0.70</b>	
		69.21%	10.54%	0.08%	3.10%	17.06%	Not Clean:	2,040	49.60%	0.7263	112.2259	976.7364	1.15	20.16%

Model Year	Veh. Type	Emis. Due Veh.	Meet Time and Location Criteria					Total	Percent	CO	HC	NOX	Accel	Emis. Due Veh. Evaluated
			No			Yes								
			0 Hits	1 Hit	2+ Hits	1 Hit	2+ Hits							
<b>1997</b>														
P	3,071	0	931	0	488	1,652	Clean:	1,298	60.65%	0.0877	15.7980	149.1048	0.66	
		0.00%	30.32%	0.00%	15.89%	53.79%	Not Clean:	842	39.35%	0.9251	110.6428	777.8920	1.24	69.68%
T	4,541	0	1807	20	146	2,568	Clean:	1,259	46.39%	0.1338	21.6932	241.4059	0.88	
		0.00%	39.79%	0.44%	3.22%	56.55%	Not Clean:	1,455	53.61%	0.5859	85.1248	1,025.2257	1.12	59.77%
U	14,970	14,965	2	0	0	3	Clean:	1	33.33%	0.1000	51.8500	9.2500	0.50	
		99.97%	0.01%	0.00%	0.00%	0.02%	Not Clean:	2	66.67%	5.9350	592.3000	1,526.9500	0.98	0.02%
<b>Total For 1997</b>	<b>22,582</b>	<b>14,965</b>	<b>2,740</b>	<b>20</b>	<b>634</b>	<b>4,223</b>	<b>Clean:</b>	<b>2,558</b>	<b>52.67%</b>	<b>0.1104</b>	<b>18.7136</b>	<b>194.4790</b>	<b>0.77</b>	
		66.27%	12.13%	0.09%	2.81%	18.70%	Not Clean:	2,299	47.33%	0.7148	94.9119	935.0771	1.16	21.51%
<b>1998</b>														
P	4,437	0	1426	0	729	2,282	Clean:	1,991	66.12%	0.0864	15.5460	135.3466	0.70	
		0.00%	32.14%	0.00%	16.43%	51.43%	Not Clean:	1,020	33.88%	0.9254	112.6026	672.0458	1.33	67.86%
T	7,025	0	2540	34	401	4,050	Clean:	2,564	57.61%	0.1171	17.8367	217.0967	0.87	
		0.00%	36.16%	0.48%	5.71%	57.65%	Not Clean:	1,887	42.39%	0.6043	76.1194	961.0966	1.15	63.36%
U	21,931	21,928	2	0	0	1	Clean:	0	0.00%	0.0000	0.0000	0.0000	0.00	
		99.99%	0.01%	0.00%	0.00%	0.00%	Not Clean:	1	100.00%	0.1250	32.7500	1,115.3500	1.15	0.00%
<b>Total For 1998</b>	<b>33,393</b>	<b>21,928</b>	<b>3,968</b>	<b>34</b>	<b>1,130</b>	<b>6,333</b>	<b>Clean:</b>	<b>4,555</b>	<b>61.03%</b>	<b>0.1037</b>	<b>16.8354</b>	<b>181.3636</b>	<b>0.80</b>	
		65.67%	11.88%	0.10%	3.38%	18.97%	Not Clean:	2,908	38.97%	0.7168	88.9013	859.7632	1.21	22.35%
<b>1999</b>														
P	4,496	0	1301	0	836	2,359	Clean:	2,213	69.26%	0.0786	14.5042	125.2733	0.69	
		0.00%	28.94%	0.00%	18.59%	52.47%	Not Clean:	982	30.74%	0.9183	91.4026	666.1254	1.18	71.06%
T	7,960	0	2052	43	1,126	4,739	Clean:	3,987	67.98%	0.0891	13.8296	151.4107	0.76	
		0.00%	25.78%	0.54%	14.15%	59.54%	Not Clean:	1,878	32.02%	0.6231	78.4242	894.4604	1.17	73.68%
U	20,593	20,585	3	0	0	5	Clean:	1	20.00%	0.1900	13.0500	52.5000	-3.45	
		99.96%	0.01%	0.00%	0.00%	0.02%	Not Clean:	4	80.00%	0.1387	24.9750	814.4125	0.34	0.02%
<b>Total For 1999</b>	<b>33,049</b>	<b>20,585</b>	<b>3,356</b>	<b>43</b>	<b>1,962</b>	<b>7,103</b>	<b>Clean:</b>	<b>6,201</b>	<b>68.41%</b>	<b>0.0854</b>	<b>14.0702</b>	<b>142.0669</b>	<b>0.73</b>	
		62.29%	10.15%	0.13%	5.94%	21.49%	Not Clean:	2,864	31.59%	0.7236	82.7995	816.0577	1.17	27.43%
<b>2000</b>														
P	7,383	0	1741	0	1,659	3,983	Clean:	4,257	75.45%	0.0727	11.9833	91.4327	0.68	
		0.00%	23.58%	0.00%	22.47%	53.95%	Not Clean:	1,385	24.55%	0.9108	70.6482	604.8675	1.20	76.42%
T	11,936	0	2398	68	2,260	7,210	Clean:	7,157	75.58%	0.0797	12.3634	123.9418	0.74	
		0.00%	20.09%	0.57%	18.93%	60.41%	Not Clean:	2,313	24.42%	0.6715	75.2256	817.1767	1.16	79.34%
U	31,591	31,571	9	0	0	11	Clean:	7	63.64%	0.1379	23.4643	198.8429	0.81	
		99.94%	0.03%	0.00%	0.00%	0.03%	Not Clean:	4	36.36%	0.2975	58.5125	1,582.8250	1.00	0.03%
<b>Total For 2000</b>	<b>50,910</b>	<b>31,571</b>	<b>4,148</b>	<b>68</b>	<b>3,919</b>	<b>11,204</b>	<b>Clean:</b>	<b>11,421</b>	<b>75.52%</b>	<b>0.0771</b>	<b>12.2285</b>	<b>111.8705</b>	<b>0.72</b>	
		62.01%	8.15%	0.13%	7.70%	22.01%	Not Clean:	3,702	24.48%	0.7607	73.4951	738.5744	1.18	29.71%

Model Year	Veh. Type	Emis. Due Veh.	Meet Time and Location Criteria					Total	Percent	CO	HC	NOX	Accel	Emis. Due Veh. Evaluated	
			No			Yes									
			0 Hits	1 Hit	2+ Hits	1 Hit	2+ Hits								
<b>2001</b>															
P	6,377	0	1065	0	1,723	3,589	Clean:	4,245	79.91%	0.0669	11.3037	71.9485	0.69		
			0.00%	16.70%	0.00%	27.02%	56.28%	Not Clean:	1,067	20.09%	0.8722	75.4384	617.1010	1.31	83.30%
T	10,405	0	1407	60	2,508	6,430	Clean:	7,220	80.78%	0.0737	11.6964	92.4441	0.71		
			0.00%	13.52%	0.58%	24.10%	61.80%	Not Clean:	1,718	19.22%	0.7536	73.5672	670.5818	1.10	85.90%
U	25,048	25,036	10	0	0	2	Clean:	1	50.00%	0.0500	22.4000	46.4000	0.75		
			99.95%	0.04%	0.00%	0.00%	0.01%	Not Clean:	1	50.00%	0.1550	13.9500	879.3000	8.40	0.01%
<b>Total For 2001</b>	<b>41,830</b>	<b>25,036</b>	<b>2,482</b>	<b>60</b>	<b>4,231</b>	<b>10,021</b>	<b>Clean:</b>	<b>11,466</b>	<b>80.45%</b>	<b>0.0712</b>	<b>11.5519</b>	<b>84.8521</b>	<b>0.70</b>		
			59.85%	5.93%	0.14%	10.11%	23.96%	Not Clean:	2,786	19.55%	0.7988	74.2625	650.1743	1.18	34.07%
<b>2002</b>															
P	9,440	0	1053	0	3,117	5,270	Clean:	6,963	83.02%	0.0570	9.3405	56.4924	0.65		
			0.00%	11.15%	0.00%	33.02%	55.83%	Not Clean:	1,424	16.98%	0.7699	82.4455	571.2603	1.29	88.85%
T	16,581	0	1892	54	4,559	10,076	Clean:	12,408	84.78%	0.0669	10.3301	85.4640	0.70		
			0.00%	11.41%	0.33%	27.50%	60.77%	Not Clean:	2,227	15.22%	0.7021	68.2351	683.5227	1.15	88.26%
U	37,781	37,769	4	0	0	8	Clean:	4	50.00%	0.1513	12.5750	137.9875	1.42		
			99.97%	0.01%	0.00%	0.00%	0.02%	Not Clean:	4	50.00%	0.2925	37.2125	1,104.0625	1.86	0.02%
<b>Total For 2002</b>	<b>63,802</b>	<b>37,769</b>	<b>2,949</b>	<b>54</b>	<b>7,676</b>	<b>15,354</b>	<b>Clean:</b>	<b>19,375</b>	<b>84.13%</b>	<b>0.0633</b>	<b>9.9749</b>	<b>75.0630</b>	<b>0.68</b>		
			59.20%	4.62%	0.08%	12.03%	24.07%	Not Clean:	3,655	15.87%	0.7281	73.7376	640.2451	1.21	36.10%
<b>2003</b>															
P	7,263	0	658	0	2,452	4,153	Clean:	5,611	84.95%	0.0584	9.6498	56.2069	0.61		
			0.00%	9.06%	0.00%	33.76%	57.18%	Not Clean:	994	15.05%	0.8994	65.1263	517.9776	1.46	90.94%
T	12,076	0	712	30	3,762	7,572	Clean:	9,886	87.22%	0.0647	10.0102	66.0292	0.70		
			0.00%	5.90%	0.25%	31.15%	62.70%	Not Clean:	1,448	12.78%	0.7733	72.1568	600.4318	1.18	93.86%
U	25,020	25,008	7	0	0	5	Clean:	4	80.00%	0.0837	9.9875	33.0375	1.19		
			99.95%	0.03%	0.00%	0.00%	0.02%	Not Clean:	1	20.00%	0.3650	81.4500	76.4000	1.90	0.02%
<b>Total For 2003</b>	<b>44,359</b>	<b>25,008</b>	<b>1,377</b>	<b>30</b>	<b>6,214</b>	<b>11,730</b>	<b>Clean:</b>	<b>15,501</b>	<b>86.39%</b>	<b>0.0625</b>	<b>9.8797</b>	<b>62.4652</b>	<b>0.67</b>		
			56.38%	3.10%	0.07%	14.01%	26.44%	Not Clean:	2,443	13.61%	0.8244	69.3001	566.6686	1.29	40.45%
<b>2004</b>															
P	10,417	0	869	0	3,813	5,735	Clean:	8,473	88.74%	0.0541	8.4552	43.3125	0.66		
			0.00%	8.34%	0.00%	36.60%	55.05%	Not Clean:	1,075	11.26%	0.7782	69.7460	515.9818	1.36	91.66%
T	22,444	0	1257	93	7,293	13,801	Clean:	19,356	91.76%	0.0546	8.8692	44.8494	0.70		
			0.00%	5.60%	0.41%	32.49%	61.49%	Not Clean:	1,738	8.24%	0.7779	58.6984	467.5194	1.19	93.99%
U	40,467	40,453	4	0	0	10	Clean:	8	80.00%	0.0887	12.2625	60.9125	0.85		
			99.97%	0.01%	0.00%	0.00%	0.02%	Not Clean:	2	20.00%	0.1050	168.8000	366.6000	0.72	0.02%
<b>Total For 2004</b>	<b>73,328</b>	<b>40,453</b>	<b>2,130</b>	<b>93</b>	<b>11,106</b>	<b>19,546</b>	<b>Clean:</b>	<b>27,837</b>	<b>90.82%</b>	<b>0.0545</b>	<b>8.7442</b>	<b>44.3862</b>	<b>0.69</b>		
			55.17%	2.90%	0.13%	15.15%	26.66%	Not Clean:	2,815	9.18%	0.7776	62.9955	485.9547	1.25	41.80%

Model Year	Veh. Type	Emis. Due Veh.	Meet Time and Location Criteria					Total	Percent	CO	HC	NOX	Accel	Emis. Due Veh. Evaluated	
			No			Yes									
			0 Hits	1 Hit	2+ Hits	1 Hit	2+ Hits								
<b>2005</b>															
P	7,831	0	663	0	2,673	4,495	Clean:	6,380	89.01%	0.0543	8.7404	38.8132	0.69		
			0.00%	8.47%	0.00%	34.13%	57.40%	Not Clean:	788	10.99%	0.8519	69.4464	471.9101	1.35	91.53%
T	13,836	0	653	67	4,348	8,768	Clean:	12,015	91.61%	0.0566	9.2177	43.6371	0.74		
			0.00%	4.72%	0.48%	31.43%	63.37%	Not Clean:	1,101	8.39%	0.6922	74.2648	477.7386	1.16	94.80%
U	24,602	24,592	6	0	0	4	Clean:	3	75.00%	0.1433	34.2333	11.4167	0.90		
			99.96%	0.02%	0.00%	0.00%	0.02%	Not Clean:	1	25.00%	0.5100	6.5000	8.5000	2.10	0.02%
<b>Total For 2005</b>	<b>46,269</b>	<b>24,592</b>	<b>1,322</b>	<b>67</b>	<b>7,021</b>	<b>13,267</b>	<b>Clean:</b>	<b>18,398</b>	<b>90.68%</b>	<b>0.0558</b>	<b>9.0562</b>	<b>41.9591</b>	<b>0.72</b>		
			53.15%	2.86%	0.14%	15.17%	28.67%	<b>Not Clean:</b>	<b>1,890</b>	<b>9.32%</b>	<b>0.7587</b>	<b>72.2200</b>	<b>475.0603</b>	<b>1.24</b>	<b>43.85%</b>
<b>2006</b>															
P	11,840	0	1504	0	3,668	6,668	Clean:	9,369	90.64%	0.0587	9.4840	37.3998	0.73		
			0.00%	12.70%	0.00%	30.98%	56.32%	Not Clean:	967	9.36%	0.8834	59.8736	364.0059	1.43	87.30%
T	21,067	0	911	104	6,656	13,396	Clean:	18,687	93.19%	0.0538	8.9849	38.7453	0.74		
			0.00%	4.32%	0.49%	31.59%	63.59%	Not Clean:	1,365	6.81%	0.7147	57.0170	400.4848	1.18	95.18%
U	36,043	36,030	5	0	0	8	Clean:	5	62.50%	0.1460	7.7500	50.4800	-0.21		
			99.96%	0.01%	0.00%	0.00%	0.02%	Not Clean:	3	37.50%	0.7117	45.0667	170.8833	2.43	0.02%
<b>Total For 2006</b>	<b>68,950</b>	<b>36,030</b>	<b>2,420</b>	<b>104</b>	<b>10,324</b>	<b>20,072</b>	<b>Clean:</b>	<b>28,061</b>	<b>92.32%</b>	<b>0.0555</b>	<b>9.1513</b>	<b>38.2981</b>	<b>0.74</b>		
			52.26%	3.51%	0.15%	14.97%	29.11%	<b>Not Clean:</b>	<b>2,335</b>	<b>7.68%</b>	<b>0.7845</b>	<b>58.1846</b>	<b>385.0827</b>	<b>1.29</b>	<b>44.08%</b>
<b>2007</b>															
P	7,922	0	1004	0	2,373	4,545	Clean:	6,347	91.75%	0.0584	9.1980	34.1796	0.77		
			0.00%	12.67%	0.00%	29.95%	57.37%	Not Clean:	571	8.25%	0.8094	79.7045	355.6352	1.37	87.33%
T	14,282	0	702	60	4,391	9,129	Clean:	12,637	93.47%	0.0566	8.7949	35.1735	0.77		
			0.00%	4.92%	0.42%	30.74%	63.92%	Not Clean:	883	6.53%	0.8132	54.6267	319.1649	1.34	94.66%
U	22,312	22,295	7	0	0	10	Clean:	7	70.00%	0.1107	25.1429	80.6071	1.98		
			99.92%	0.03%	0.00%	0.00%	0.04%	Not Clean:	3	30.00%	0.6900	24.3667	622.1833	0.45	0.04%
<b>Total For 2007</b>	<b>44,516</b>	<b>22,295</b>	<b>1,713</b>	<b>60</b>	<b>6,764</b>	<b>13,684</b>	<b>Clean:</b>	<b>18,991</b>	<b>92.87%</b>	<b>0.0572</b>	<b>8.9357</b>	<b>34.8581</b>	<b>0.77</b>		
			50.08%	3.85%	0.13%	15.19%	30.74%	<b>Not Clean:</b>	<b>1,457</b>	<b>7.13%</b>	<b>0.8115</b>	<b>64.3924</b>	<b>334.0816</b>	<b>1.35</b>	<b>45.93%</b>
<b>2008</b>															
P	14,151	0	3192	0	2,894	8,065	Clean:	10,105	92.21%	0.0656	10.5978	35.5746	0.88		
			0.00%	22.56%	0.00%	20.45%	56.99%	Not Clean:	854	7.79%	0.8323	65.7779	273.1804	1.45	77.44%
T	26,559	0	2938	220	6,230	17,171	Clean:	21,661	92.56%	0.0660	9.7177	35.5413	0.85		
			0.00%	11.06%	0.83%	23.46%	64.65%	Not Clean:	1,740	7.44%	0.7940	42.9040	207.6456	1.27	88.11%
U	39,496	39,434	18	0	0	44	Clean:	31	70.45%	0.1060	16.6048	50.1774	1.06		
			99.84%	0.05%	0.00%	0.00%	0.11%	Not Clean:	13	29.55%	0.9062	52.9462	1,003.2384	0.23	0.11%
<b>Total For 2008</b>	<b>80,206</b>	<b>39,434</b>	<b>6,148</b>	<b>220</b>	<b>9,124</b>	<b>25,280</b>	<b>Clean:</b>	<b>31,797</b>	<b>92.42%</b>	<b>0.0659</b>	<b>10.0041</b>	<b>35.5662</b>	<b>0.86</b>		
			49.17%	7.67%	0.27%	11.38%	31.52%	<b>Not Clean:</b>	<b>2,607</b>	<b>7.58%</b>	<b>0.8071</b>	<b>50.4471</b>	<b>233.0807</b>	<b>1.32</b>	<b>42.89%</b>

Model Year	Veh. Type	Emis. Due Veh.	Meet Time and Location Criteria					Total	Percent	CO	HC	NOX	Accel	Emis. Due Veh. Evaluated	
			No			Yes									
			0 Hits	1 Hit	2+ Hits	1 Hit	2+ Hits								
<b>2009</b>															
P	4,733	4,733	0	1170	0	849	2,714	Clean:	3,318	93.12%	0.0679	10.6698	34.1603	0.93	
			0.00%	24.72%	0.00%	17.94%	57.34%	Not Clean:	245	6.88%	0.8959	60.3998	214.8322	1.35	75.28%
T	4,396	4,396	0	746	17	927	2,706	Clean:	3,364	92.60%	0.0673	10.1944	34.6354	0.88	
			0.00%	16.97%	0.39%	21.09%	61.56%	Not Clean:	269	7.40%	0.7808	53.4180	231.4530	1.35	82.64%
U	68,746	68,746	39,174	11492	0	0	18,080	Clean:	16,600	91.81%	0.0861	13.3226	47.4332	1.21	
			56.98%	16.72%	0.00%	0.00%	26.30%	Not Clean:	1,480	8.19%	0.7381	51.0186	194.2524	1.36	26.30%
<b>Total For 2009</b>		<b>77,875</b>	<b>39,174</b>	<b>13,408</b>	<b>17</b>	<b>1,776</b>	<b>23,500</b>	<b>Clean:</b>	<b>23,282</b>	<b>92.11%</b>	<b>0.0808</b>	<b>12.4926</b>	<b>43.6925</b>	<b>1.13</b>	
			50.30%	17.22%	0.02%	2.28%	30.18%	<b>Not Clean:</b>	<b>1,994</b>	<b>7.89%</b>	<b>0.7632</b>	<b>52.4949</b>	<b>201.7996</b>	<b>1.36</b>	<b>32.46%</b>
<b>Overall Total</b>		<b>774,449</b>	<b>448,447</b>	<b>58,041</b>	<b>941</b>	<b>73,107</b>	<b>193,913</b>	<b>Clean:</b>	<b>224,136</b>	<b>83.94%</b>	<b>0.0663</b>	<b>10.6437</b>	<b>61.5650</b>	<b>0.78</b>	
			57.91%	7.49%	0.12%	9.44%	25.04%	<b>Not Clean:</b>	<b>42,884</b>	<b>16.06%</b>	<b>0.7955</b>	<b>88.7884</b>	<b>704.8340</b>	<b>1.21</b>	<b>34.48%</b>