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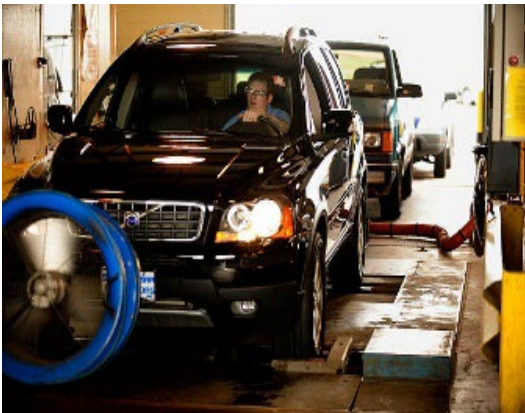
Air Pollution Control Division

Department of Public Health & Environment

Automobile Inspection and Readjustment (AIR) Program

Annual Report Calendar Year 2021

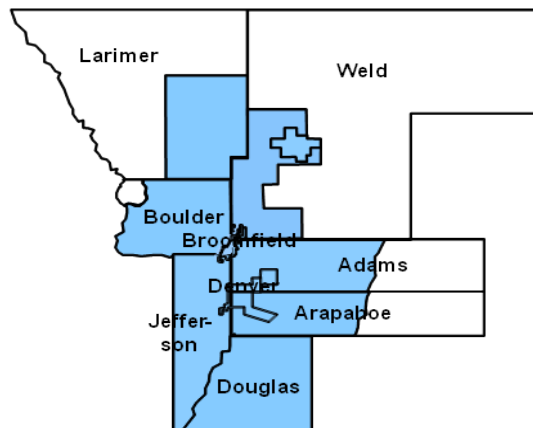
July 1, 2022



Vehicle undergoing an I/M240 inspection at an Air Care Colorado emissions inspection station



A remote sensing test site monitoring on-road vehicles



AIR Program area shown in blue

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Executive Summary

The State of Colorado operates a registration based motor vehicle emissions inspection and maintenance program formally known as the Automobile Inspection and Readjustment (AIR) Program. The area covered by the program consists of the Front Range region of Colorado, and includes all or portions of Adams, Arapahoe, Boulder, Broomfield, Denver, Douglas, Jefferson, Larimer, and Weld counties.

The purpose of the AIR Program is to improve air quality through the detection and repair of excessively emitting gasoline-powered vehicles. Mobile source emissions constitute one of the largest 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 region.

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 when they have at least 12 months remaining in their seven-year exemption period.

Envirotest, a subsidiary of Opus Inspection, operates the Air Care Colorado emissions testing stations under contract with the State of Colorado. Air Care Colorado operates 18 stations with 97 inspection lanes throughout the nine-county program area. The inspection stations inspect gasoline-powered vehicles regardless of a vehicle's age. There are two independent stations that inspect model year 1981 and older gasoline-powered vehicles. Additionally, there are 19 licensed vehicle fleet owners who self-inspect their own qualifying commercial and government vehicles. Air Care Colorado also operates the Remote Sensing Clean Screen program, which consists of 19 on-road Remote Sensing Device (RSD) units.

The Colorado AIR Program administers four primary inspection methodologies depending on the vehicle model year, vehicle weight, and dynamometer compatibility. Three of the inspection methodologies involve inspections at an Air Care Colorado emissions testing station. The fourth measures the emissions from vehicles as they travel on roadways and highway on-ramps. The four inspection methodologies are:

1. On-Board Diagnostic (OBD): electronic query of the vehicle's computer control system for vehicles that are 11 years old and newer.
2. Inspection and Maintenance 240 Seconds (I/M240): dynamometer based emissions inspection for light-duty gasoline-powered vehicles that are model years 1982 through 12 years old.
3. Two-Speed Idle (TSI): measures vehicle emissions at idle and raised idle. TSI inspections are administered to light-duty vehicles that are 1981 and older and all heavy-duty gasoline-powered vehicles regardless of model year.
4. Remote Sensing Device (RSD): measures tailpipe emissions while a vehicle passes an on-road remote sensing device. Vehicles that meet the Clean Screen program standards can forgo the traditional OBD or I/M240 inspection performed at the Air Care Colorado emissions testing stations.

Vehicles inspected at an emissions testing station undergo the following:

- A visual inspection to check for required emissions control equipment (model years 1975-1995) until 10/1/2021
- An opacity inspection that checks for visible smoke
- A gas cap pressure test (model year 1975 and newer light-duty vehicles)

In 2021, as in 2020, the COVID-19 pandemic presented challenges for the AIR Program. The Air Pollution Control Division (APCD) of the Colorado Department of Public Health and Environment (CDPHE) modified the emissions inspection process in 2020 to protect Colorado's air quality while also reducing COVID-19 exposure. The program changes that were put in place in 2020 continued for several months in 2021.

In the calendar year 2021, there were 541,415 initial OBD inspections, 322,633 initial I/M240 inspections and 41,407 TSI inspections conducted throughout the AIR Program network. The OBD failure rate was 5.15%, the I/M240 failure rate was 8.27% and the TSI failure rate was 6.42%. 171,007 unique vehicles were observed by RSD units that met Clean Screen Program requirements. Of these, 135,787 vehicles participated in the program by forgoing an inspection at an emissions testing station.

The state estimates that the net cost of the total AIR Program during 2021 was \$65.48 million. This equates to \$20,932 per ton of ozone precursors removed from Colorado's airsheds. The net cost is a combination of vehicle inspection costs, repair costs, vehicle registration fees, motorist inconvenience, and estimated fuel savings.

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 program that uses the following vehicle inspection methodologies:

- On-Board Diagnostic (OBD): electronic query of the vehicle's computer control system for vehicles that are 11 years old and newer.
- Inspection and Maintenance 240 Seconds (I/M240): dynamometer based emissions inspection for light-duty gasoline-powered vehicles that are model years 1982 through 12 years old.
- Two-Speed Idle (TSI): measures vehicle emissions at idle and raised idle. TSI inspections are administered to light-duty vehicles that are 1981 and older and all heavy-duty gasoline-powered vehicles regardless of model year.
- Visual inspection for required emissions control equipment for all 1975 through 1995 model year vehicles inspected at emissions testing stations until 10/1/2021.

- Inspection for gas cap pressure (light-duty vehicles only) performed on all 1975 and newer light-duty vehicles inspected at emissions inspection stations.
- Visual inspection for opacity (smoke). This type of inspection is performed as part of all inspections conducted at emissions inspection stations.
- Remote Sensing Device (RSD): measures tailpipe emissions while a vehicle passes an on-road remote sensing device. Vehicles that meet the Clean Screen program standards can forgo the traditional OBD or I/M240 inspection performed at the Air Care Colorado emissions testing stations.

The AIR Program area is contained within the Front Range region of Colorado and includes 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 based 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. The exemption allows the newest and cleanest model year vehicles to forgo emissions inspections. 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 improve vehicle owner convenience, the AIR Program includes a Clean Screen program that uses remote sensing devices. The Clean Screen program monitors vehicle emissions while simultaneously photographing the license plate as a vehicle passes through infrared and ultraviolet beams of light. If the vehicle meets the program criteria, the vehicle owner is notified by the county clerk via a registration renewal card that is mailed to the address associated with the vehicle registration. Vehicles that pass the remote sensing inspection process are not required to be inspected at a traditional inspection facility and can continue through the vehicle registration process.

The contractor for the Clean Screen program is Envirotech Systems Corporation. (Envirotech is an operating subsidiary of Opus Inspection.) Envirotech Systems Corporation operates and maintain all of the Air Care Colorado vehicle emissions inspection stations, the Clean Screen remote sensing units and manages all related data and communication services. The Mobile Sources Program in the Air Pollution Control Division at Colorado Department of Public Health and Environment 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 county clerks within the program area. Vehicle owners in the program area must provide proof of a passing emissions inspection in order to renew a vehicle's registration.

Automobile Inspection and Readjustment (AIR) Program

AIR Program Network

Air Care Colorado operates 18 stations with 97 inspection lanes throughout the nine-county program area. There are two independent stations that inspect vehicle year 1981 and older gasoline-powered vehicles. Additionally, there are 19 licensed vehicle fleet owners who self-inspect their own qualifying commercial and government vehicles.

The Clean Screen program consists of, on average, 10 remote sensing units deployed within the program area. The units are rotated among approximately 100 locations throughout the program area, with the primary locations being highway on-ramps.

CDPHE's Air Pollution Control Division (APCD) operates six emissions technical centers throughout the AIR Program area to help both the motoring public and the repair industry.

New Program Developments

In May of 2020, due to the COVID-19 pandemic, a modified inspection program was put in operation to limit COVID-19 exposure. The modified inspection procedures continued until October 1, 2021. The modified inspection procedure primarily affected vehicles between model years 2000-2010. Using the normal inspection procedures, these vehicles would receive an I/M240 inspection requiring the customer to exit the vehicle and wait along with other customers in an enclosed waiting area. To limit COVID-19 exposure, the inspection procedure was changed from the previously required I/M240 to an OBD inspection with the customer waiting inside the vehicle. This change reduced the amount of inspector interaction with customers and also provided the recommended separation of customers in the attempt to limit COVID-19 spread.

As a result of the modified testing procedures, the number of inspections by inspection type in the 2021 AIR Program report are not entirely consistent with AIR Program reports prior to the pandemic. The most notable differences are in increased number of OBD inspections and a reduction of I/M240 inspections.

In August 2021, the Air Quality Control Commission adopted regulatory actions to reduce the emissions standards that are used in the pass/fail determination for the I/M240 inspection. Additionally, the commission removed the requirements to perform a visual advisory inspection of the Malfunction Indicator Light (MIL) (often referred to as the "check engine light") for vehicles that receive an I/M240 inspection, as well as the requirement to perform a visual emissions control component inspection on model year vehicles 1975-1995.

Beginning January 7, 2021, The Environmental Protection Agency (EPA) requires that all states, other than California, use the latest Motor Vehicle Emissions Simulator Model (MOVES3) for official purposes and conformity analysis. The MOVES3 model replaced the previous MOVES2014b modeling software. All of the emissions modeling that was completed for this report was performed using the most contemporary version of MOVES3.

Emissions Technical Centers

Pursuant to Colorado Revised Statutes, APCD operates six emissions technical centers throughout the program area that provide assistance to the motoring public, repair industry and the emissions testing contractor. These centers also support the Department of Revenue in assessing requirements for repair and hardship waivers. The Emissions Technical Centers are a vital part to the success of the AIR Program. Technical center staff provide frontline vehicle owner support and provide valuable input that has helped shape the current emissions program.

In 2021, the Emissions Technical Centers performed approximately 4,700 vehicle evaluations. Vehicle evaluations are completed to help assist the motoring public with proper emissions related repairs and to address potential vehicle tampering problems. In addition to vehicle evaluations, Emissions Technical Centers staff received approximately 15,000 phone calls to answer questions from both the motoring public and the repair industry.

On-Board Diagnostic (OBD) Inspection Program

The OBD inspection involves a visual assessment of the MIL and an electronic query of the computer control system to determine if there are emissions problems. A vehicle's OBD system commands the MIL on if the emissions output is elevated at least 1.5 times the Environmental Protection Agency certification levels.

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

A vehicle fails the OBD inspection if the MIL is illuminated or not functioning (visual fail) or the MIL is commanded on by the OBD system. A vehicle also fails the inspection process if a properly-functioning MIL is *not* commanded on when the vehicle is emitting visual opacity (smoke) or has a faulty or missing gas cap.

As described in *New Program Developments*, if all inspections in 2021 had followed normal inspection procedures instead of the modified procedures put in place due to the COVID-19 pandemic, vehicles model year 2011 and newer would have received an OBD inspection and vehicles model year 2000-2010 would have received an I/M240 inspection. Instead, during the periods when operating under procedures established for the COVID-19 pandemic, light-duty vehicles model years 2000 and newer received an OBD inspection. As a result, more OBD inspections were completed in 2021 than in years prior to the pandemic (2019 and earlier).

The difference between the OBD inspection for model year vehicles 2011 and newer and the modified OBD test for vehicles model years 2000-2010 is that the OBD monitor readiness requirement was eliminated. As such the OBD pass/fail result was determined by the MIL being commanded on. Additional information regarding OBD readiness requirements are provided later in this section. Vehicles model years 2000-2010 that arrived at the testing facility with the MIL illuminated received an I/M240 test with an advisory-only OBD inspection.

Additionally, vehicles model year 1996-2010 received an 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.

OBD - Initial Inspection Results

There were 541,415 initial OBD inspections conducted in 2021. Of these, 27,888 vehicles failed the initial OBD inspection resulting in an OBD initial failure rate of 5.15%. This includes failures for insufficient gas cap pressure; missing gas caps, visual opacity (smoke), visual MIL inspection and/or OBD MIL inspection. Of the 27,888 overall failures, 16,611 vehicles failed the initial OBD MIL inspection resulting in an OBD MIL initial failure rate of 3.07%.

The 5.05% failure rate includes failures for MIL commanded-on; visual inspection of the MIL; gas cap pressure failure; missing gas caps; and/or visual opacity (smoke).

Vehicles that fail the initial inspection must undergo repairs and then return to an emissions station for a post-repair emissions inspection. Table 1 shows the initial OBD inspection results by vehicle type

Table 1: OBD Initial Inspection Results

	Total	Pass	% Pass	Fail	% Fail
Cars	220,141	209,318	95.08%	10,823	4.92%
Trucks	321,274	304,209	94.69%	17,065	5.31%
TOTAL	541,415	513,527	94.85%	27,888	5.15%

Figure 1 shows the initial OBD failure rates for all vehicles that received an OBD inspection in 2021. Additional information regarding initial OBD failures is available in Appendix A2: Initial OBD Inspection Report.

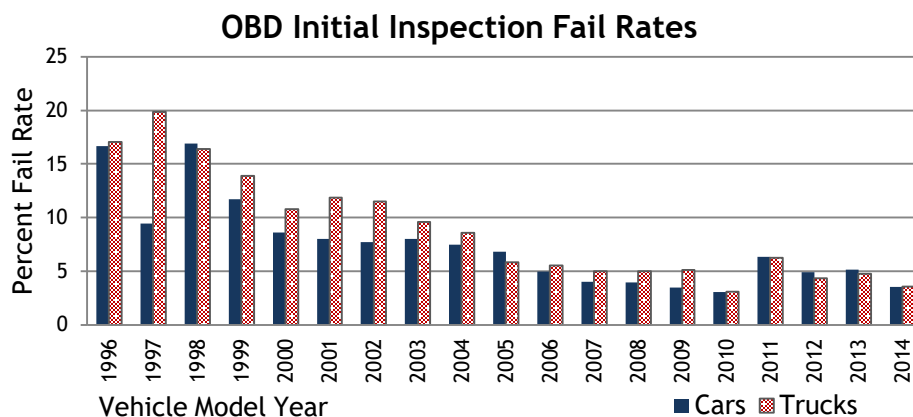


Figure 1: OBD Initial Inspection Fail Rates by Model Year and Vehicle Type

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 Appendix A3: Initial OBD Inspection Failure Report, are also included.

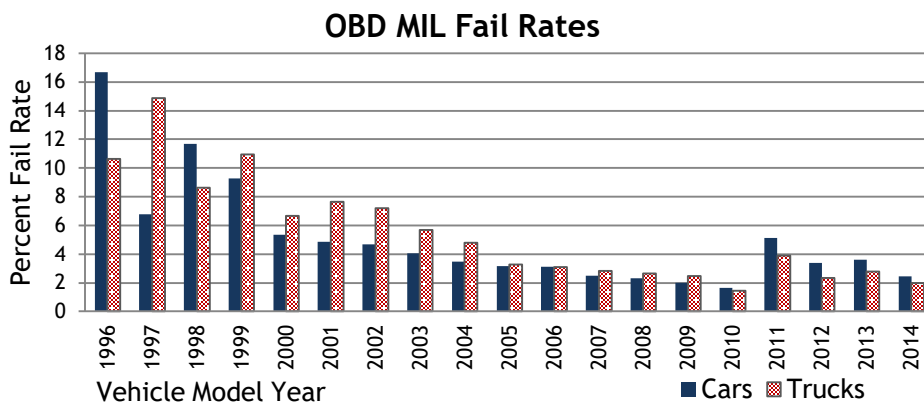


Figure 2: OBD MIL Fail Rates by Model Year and Vehicle Type

Additional information on MIL Inspection activity is available in Appendix A3: Initial OBD Inspection Failure Report.

Sometimes a vehicle’s OBD system does not communicate with the inspection equipment at the testing station. Under “normal” operating procedures, if the MIL passes the visual inspection but the OBD system does not communicate, the vehicle is given an alternate I/M240 inspection. The purpose of administering an alternate I/M240 inspection is for customer convenience, as it helps to reduce the number of trips to the inspection station.

In 2021, during the periods when operating under procedures established for the COVID-19 pandemic, the alternate I/M240 inspection was eliminated to reduce COVID-19 exposure. During those periods, vehicles that were unable to communicate with the OBD testing equipment received an incomplete inspection report. The vehicle was subsequently required to be repaired and return for an OBD inspection.

In 2021, during the periods when operating under normal emission testing procedures, there were 1,378 vehicles where the OBD system did not communicate with the inspection equipment and received an alternate I/M240 inspection instead. The pass/fail results and emissions rates for these inspections are included in the I/M240 section of this report.

In order for a vehicle’s emissions system to be properly evaluated, certain vehicle equipment parameters must be 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.” Under “normal” operating procedures, a vehicle receives 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 I/M240 inspection instead.

In 2021 during the periods when operating under procedures established for the COVID-19 pandemic, model year vehicles 2000 - 2009 vehicles were not required to comply with the OBD readiness monitor requirements.

The readiness monitor requirements vary by model year grouping, with some vehicles receiving an OBD inspection with one readiness monitors set to “Not Ready,” and others with two readiness monitors set to “Not Ready.” In 2021, 5,523 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.

Some vehicles are not compatible with the I/M240 inspection due to the vehicle’s configuration, such as hybrids or all-wheel drive trucks with a wheelbase 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.

If a vehicle receives an incomplete inspection, the vehicle owner must resolve the OBD communication issue or have the readiness monitors meet the “Ready” criteria prior to having the vehicle reinspected. There were 37,577 (6.49%) initial incomplete inspections in 2021. Additional information regarding incomplete OBD inspections is in Appendix A10: Initial OBD Incomplete Inspection Report.

In addition to the mandatory OBD inspections performed on model year vehicles 2011-2014, an advisory OBD inspection was completed on all model year vehicles 1996-2010 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 Appendix A9: OBD Initial Inspection Emissions Report.

OBD - Visual Inspection Results

Vehicles receiving an OBD inspection can fail for a visual inspection of its MIL. If the MIL 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 2021, 5,546-vehicles (1.02%) failed the visual MIL inspection.

In 2021, during the periods when operating under procedures established for the COVID-19 pandemic, the visual MIL inspection was suspended to enhance public safety. All vehicles model year 2000-2010 were pre-screened in the vehicle waiting queue to identify if the MIL was illuminated. If the MIL was illuminated, the vehicle received a pass/fail I/M240 inspection that included an advisory-only MIL inspection. During the periods when operating under normal procedures, model year vehicles 2011 and newer MIL failures are included in the overall OBD initial failure section. Additional information on visual MIL inspection activity is available in Appendix A3: Initial OBD Inspection Failure Report.

OBD - Multiple Retests

Vehicles that fail an inspection are required to make repairs and undergo another inspection. Some of the vehicles that fail the initial OBD inspection fail the first post-repair inspection as well.

In 2021, 24,769 vehicles were given an OBD post-repair inspection. Of these vehicles, 3,397-failed the post-repair inspection resulting in a 13.71% OBD retest failure rate. Additional information on retest activity is available in the OBD Retest Frequency Report in Appendix A6.

When operating under normal procedures, a vehicle's OBD system must have the required readiness monitors set to "Ready" in order to be eligible for an OBD inspection. As previously mentioned, in 2021 during the periods when operating under procedures established for the COVID-19 pandemic, model year vehicles 2000 - 2010 were not required to comply with the OBD readiness monitor requirements.

In 2021, 7,242 vehicles (19.11%) required an OBD post-repair inspection that were "Not Ready" or had OBD Communication Issues and received an incomplete inspection.

When a vehicle has its battery disconnected or has its diagnostic trouble codes manually cleared, the readiness monitors will remain in a "Not Ready" status until a manufacturer-specific drive cycle is completed. The division has an extensive outreach program to educate and inform motorists and repair shops how to properly set readiness monitors after repairs are completed. The goal of this outreach is to reduce the number of vehicles that return for a post-repair inspection without having the required readiness monitors set to "Ready." Additional information is provided in the OBD Retest Incomplete Inspection Report in Appendix A11.

OBD - Post-Repair Inspection Results

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

OBD - Tampering Identification Results

It is not uncommon for vehicle owners to tamper with the OBD system by installing an emissions defeat device, a device that interferes with or disables the emissions controls. In 2021, during the periods when operating under normal procedures, vehicles receiving an OBD inspection had to meet specific criteria to ensure that the OBD system had not been tampered with. During the periods when operating under procedures established for the COVID-19 pandemic, the tampering requirements were removed.

When a vehicle is identified as being tampered, it is referred to an Emissions Technical Center where the vehicle is subject to an evaluation and the vehicle owner is advised on what repairs need to be completed to obtain a passing inspection.

In 2021, 642 vehicles were identified as having been tampered with and were referred to an emissions technical center. Of those 642 vehicles, 317 were evaluated, repaired and received a passing emissions inspection. There were 325 vehicles that were unresolved at the time of this report.

Inspection and Maintenance 240 Seconds (I/M240) Inspection Program

The I/M240 inspection 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 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 (discontinued on October 18, 2021), a visual and pressure test of the gas cap and a visual inspection of the exhaust for opacity (smoke). Vehicles model year 1996 and newer that are I/M240 tested also receive a visual inspection of the OBD MIL as an advisory check (discontinued on October 18, 2021).

As described in *New Program Developments*, if all inspections in 2021 had followed normal inspection procedures instead of the modified procedures put in place due to the COVID-19 pandemic, vehicles model year 2011 and newer would have received an OBD inspection and vehicles model year 2000-2010 would have received an I/M240 inspection. Instead, during the periods when operating under procedures established for the COVID-19 pandemic, *most* vehicles model years 2000 and newer received an OBD inspection and vehicle model years 1982-1999 received an I/M240 inspection. During the periods when operating under normal procedures, vehicles model years 1982-2010 received an I/M240 inspection and vehicles model year 2011 and newer received an OBD inspection. As a result, fewer I/M240 inspections were completed in 2021 than in years prior to the pandemic (2019 and earlier).

I/M240 - Initial Inspection Results

There were 322,633 initial I/M240 inspections conducted in 2021. Of these, 26,689 vehicles failed the initial I/M240 inspection resulting in an I/M240 initial failure rate of 8.27%.

This includes failures for missing or broken emission control equipment (1975 through 1995 model year vehicles), excess exhaust emissions, gas cap pressure failure; missing gas caps; and/or visual opacity (smoke).

Of the 26,689 vehicles that failed, 15,196 vehicles failed for excess exhaust emissions, or an exhaust emissions failure rate of 4.71%.

Note that when operating under procedures established for the COVID-19 pandemic, the I/M240 failure rate is higher than when operating under normal procedures. This is due to vehicles model years 2000-2010 receiving an I/M240 inspection *only when* the MIL is illuminated. In other words, even though fewer vehicles model years 2000-2010 received an I/M240 inspection than would have under normal operating procedures, most of those vehicles had the MIL illuminated at the start of the inspection. Table 2 shows the initial I/M240 inspection results by vehicle type.

Table 2: I/M240 Initial Inspection Results

	Total	Pass	% Pass	Fail	% Fail
Cars	133,985	124,063	92.59%	9922	7.41%
Trucks	188,648	171,881	91.11%	16,767	8.89%
TOTAL	322,633	295,944	91.73%	26,689	8.27%

Figure 3 shows the overall I/M240 initial failure rates by model year and vehicle type. Overall failures consist of vehicles with missing or broken emission control equipment (1995 and older model year vehicles), excess exhaust emissions, faulty or missing gas caps; and/or visual opacity (smoke).

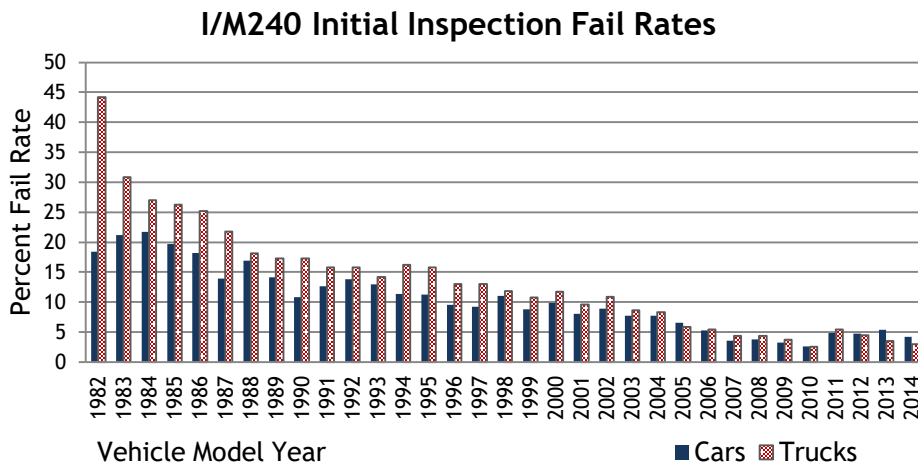


Figure 3: I/M240 Initial Inspection Fail Rates by Model Year and Vehicle Type

In 2021 during the periods when operating under normal procedures, vehicles model years 1982-2010 were required to receive I/M240 inspections. During the periods when operating under procedures established for the COVID-19 pandemic, vehicles model years 2000-2009 only received an I/M240 inspection if the MIL was illuminated (otherwise those vehicles received an OBD inspection). In addition, the alternate I/M240 inspection was discontinued for vehicles model years 2010 and newer. As such, during the periods when operating under procedures established for the COVID-19 pandemic, vehicles that had an OBD system that was unable to communicate or was “Not Ready” received an incomplete inspection and was required to be repaired. Under normal procedures those vehicles would have received an I/M240 inspection.

Figure 4 shows rates of vehicles that failed for excessive exhaust emissions by model year and vehicle type.

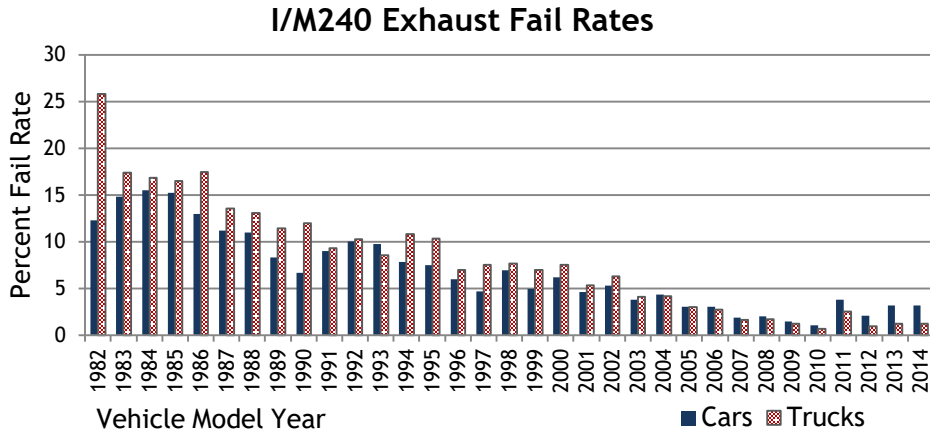


Figure 4: I/M240 Exhaust Fail Rates by Model Year and Vehicle Type

Figures 5, 6, and 7 show the initial exhaust emission results for hydrocarbons (HC), carbon monoxide (CO), and nitrogen oxides (NOx), respectively.

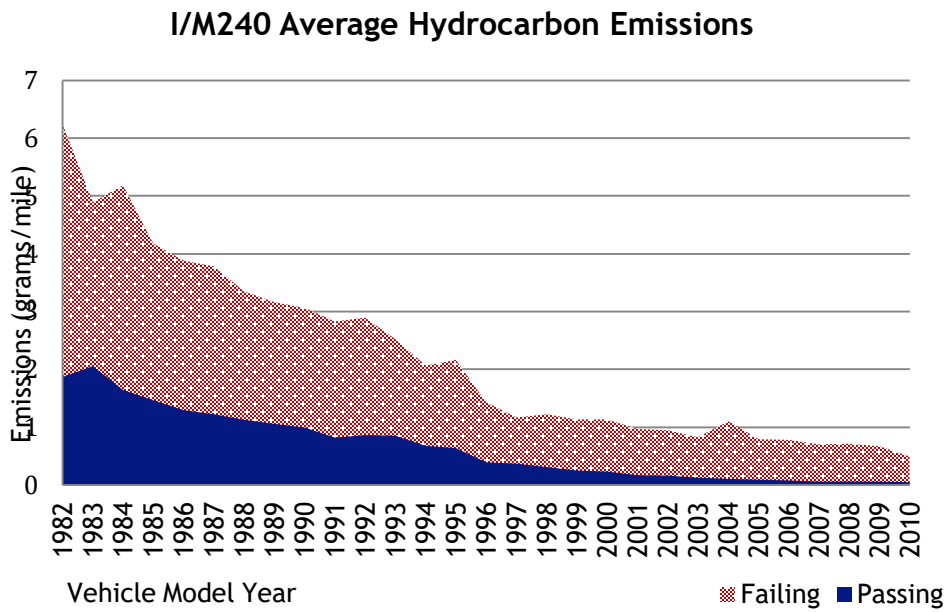


Figure 5: I/M240 Average Hydrocarbon Emissions by Model Year

I/M240 Average Carbon Monoxide Emissions

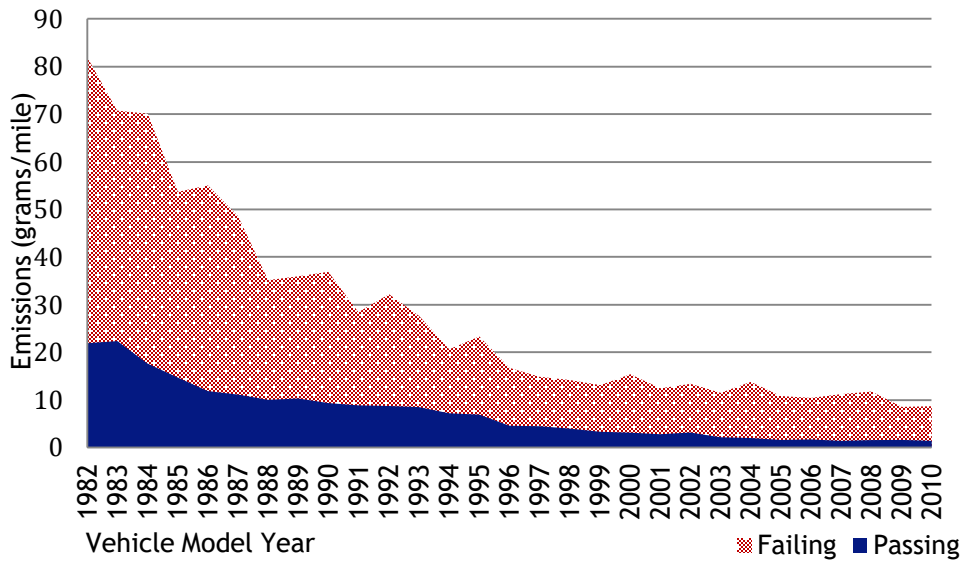


Figure 6: I/M240 Average Carbon Monoxide Emissions by Model Year

I/M240 Average Nitrogen Oxides Emissions

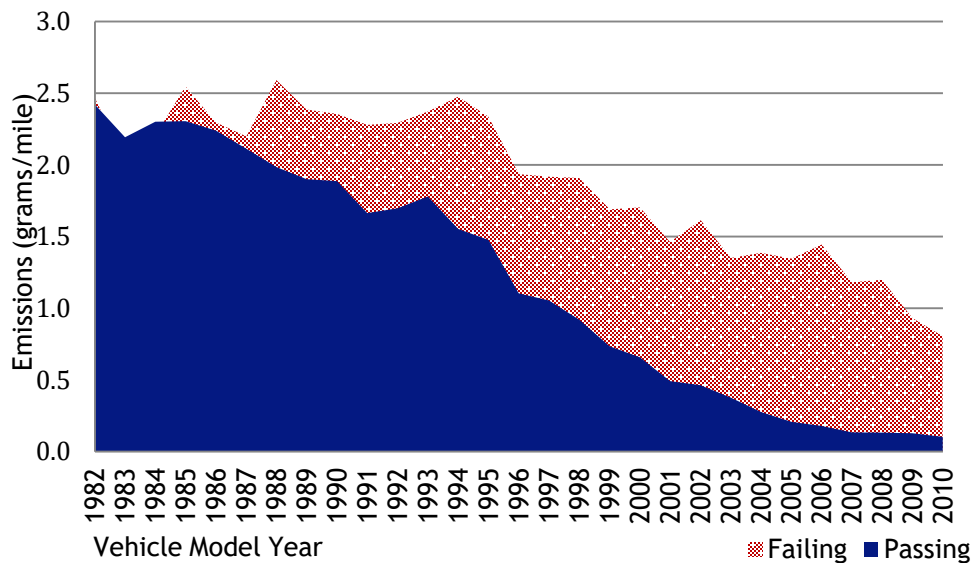


Figure 7: I/M240 Average Nitrogen Oxides Emissions by Model Year

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 regardless of whether the vehicle passes or fails the inspection.

I/M240 - Visual Inspection Results

All vehicles undergoing an I/M240 inspection are subjected to a visual inspection of the secondary air injection system, catalytic converter(s), and oxygen sensor(s).

In 2021, there were 26,689 vehicles that failed the overall I/M240 inspection. Of these, 206 vehicles failed for missing or improperly installed catalytic converter(s), 250 vehicles failed for a missing or tampered air injection system and 120 vehicles failed for a missing or tampered oxygen sensor(s). As previously mentioned, the visual emissions control inspection was discontinued on October 18, 2021.

I/M240 - Multiple Retests

Vehicles that fail an inspection are required to make repairs and undergo another inspection. Some of the vehicles that fail the initial I/M240 inspection fail the first post-repair inspection as well.

In 2021, 23,177 vehicles were given an I/M240 post-repair inspection. Of these vehicles, 6,576 failed the post-repair inspection resulting in a 28.37% I/M240 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 reduced emissions from repairing these vehicles generates the program’s air quality benefit.

Table 3 shows the average emissions from all vehicles that failed the initial I/M240 inspections and received a retest, average emissions from vehicles that passed a retest and the percent reduction by pollutant and vehicle type in grams per mile.

Table 3: I/M240 Passed Retest Inspection Results

Vehicle Type	Failed Initial Inspection			Passed Post Repair Inspection			Percent Reduction		
	HC gpm	CO gpm	NOx gpm	HC gpm	CO gpm	NOx gpm	HC	CO	NOx
Cars	1.46	16.70	1.55	0.33	3.96	0.68	67.97	67.67	40.97
Trucks	1.70	22.16	2.11	0.48	5.86	1.08	57.15	62.23	33.79
Total	1.62	20.24	1.92	0.43	5.18	0.94	60.82	63.91	35.84

Two-Speed Idle (TSI) Inspection Program

The AIR Program requires non-exempt¹ model year 1981 and older gasoline-powered vehicles to undergo annual Two-Speed Idle (TSI) inspections. Fleet-owned vehicles model year 1995 and older undergo a TSI inspection annually. Fleet-owned vehicles model year 1996 and newer are OBD inspected annually (the results of those inspections are included in the OBD section). Heavy-duty gasoline-powered vehicles newer than model year 1981 undergo TSI inspections biennially (every two years).

The TSI inspection measures vehicle emissions at idle and raised (2500 rpm) idle. Hydrocarbon (HC) and carbon monoxide (CO) emissions are measured with no engine load placed on the vehicle. Nitrogen oxides (NOx) emissions are not measured as part of the TSI inspection because NOx is not produced in significant amounts at idle and when the vehicle is not under load.

Instead of measuring the actual mass of emissions, TSI inspections measure the HC exhaust pollutant concentration levels in parts per million and by percent for CO. The TSI inspection also includes a visual inspection of emissions control equipment for 1975 through 1995 and newer model year vehicles (discontinued on October 18, 2021), a visual and pressure test of the gas cap (light-duty only) and a visual inspection of the exhaust for opacity (smoke).

TSI - Initial Inspection Results

There were 41,407-initial TSI inspections conducted in 2021. Of these, 2,659 vehicles failed the initial TSI inspection, resulting in a TSI initial failure rate of 6.42%.

This includes failures for excess exhaust emissions, gas cap pressure failure; missing gas caps; and/or visual opacity (smoke).

Of the 2,659 vehicles that failed, 2,271 vehicles failed for excess exhaust emissions, or an exhaust emissions failure rate of 5.48%.

Figures 8, 9, and 10 show failure rates by model year, along with the average emissions of passing and failing vehicles by pollutant.

¹ Exempt vehicles include vehicles registered as collector series, street rods, farm vehicles, or horseless carriage.

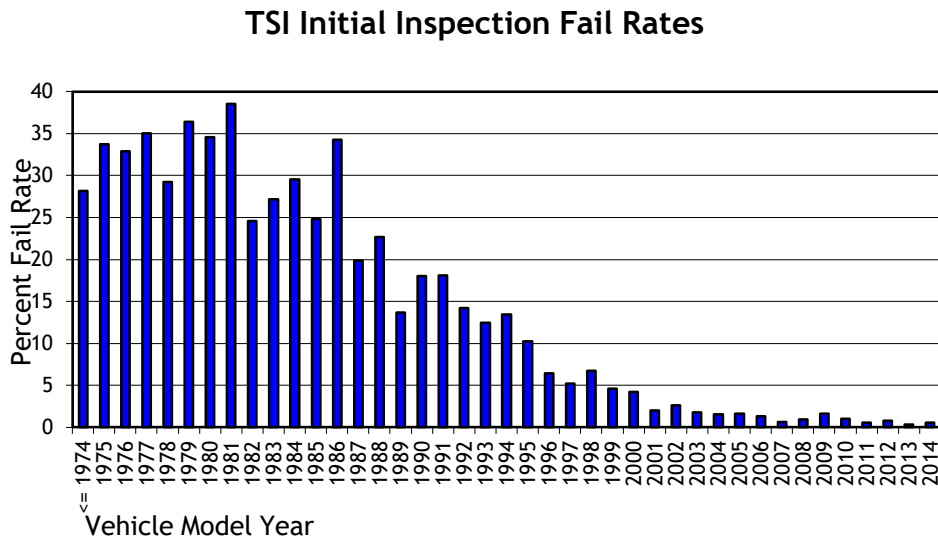


Figure 8: TSI Initial Inspection Fail Rate by Model Year

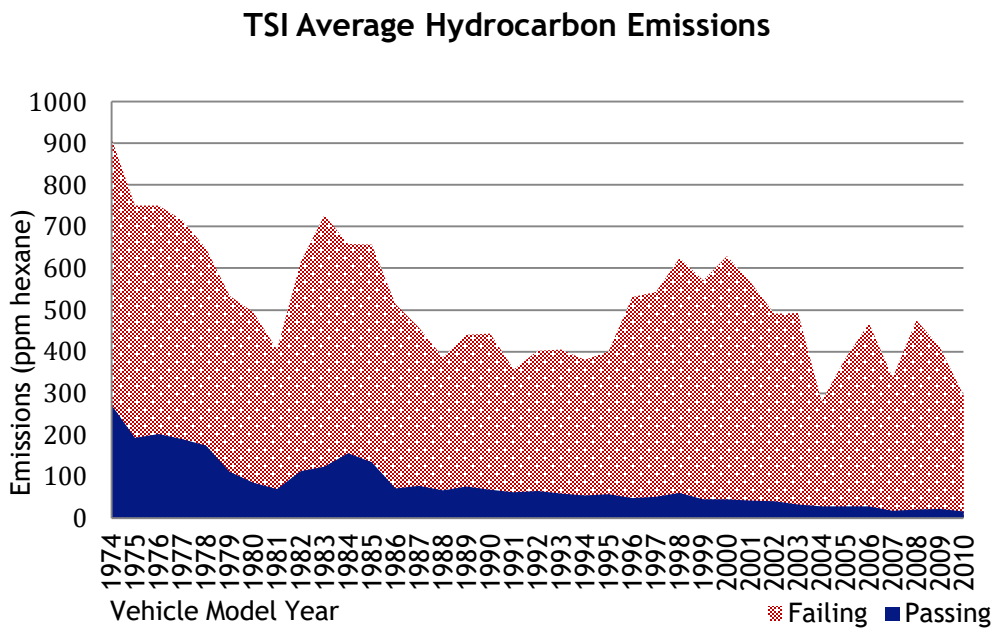


Figure 9: TSI Inspection Average Hydrocarbon by Model Year

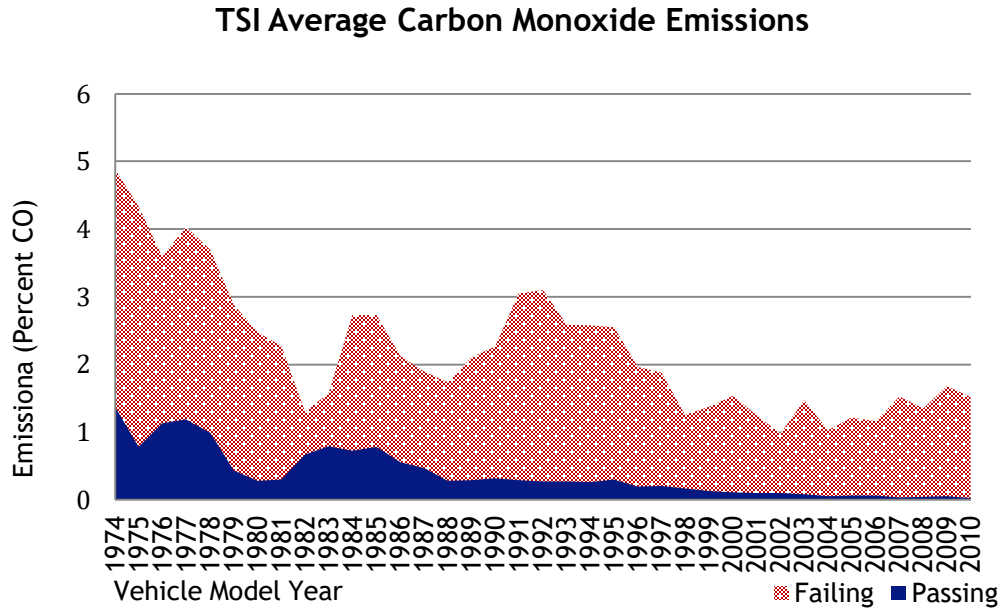


Figure 10: TSI Inspection Average Carbon Monoxide by Model Year

TSI - Visual Inspection Results

All vehicles undergoing a TSI inspection are subjected to a visual inspection of the secondary air injection system, catalytic converter(s), and oxygen sensor(s).

In 2021, there were 2,659 vehicles that failed the overall TSI inspection. Of these, 106 vehicles failed for missing or improperly installed catalytic converter(s), 150 failed for a missing or tampered air injection system, and 23 failed for missing or tampered oxygen sensor(s). As previously mentioned, the visual emissions control inspection was discontinued on October 18, 2021.

TSI - Multiple Retests

Vehicles that fail an inspection are required to make repairs and undergo another inspection. Some of the vehicles that fail the initial TSI inspection fail the first post-repair inspection as well.

In 2021, 2,219 vehicles were given a TSI post-repair inspection. Of these vehicles, 902 failed the post-repair inspection resulting in a 40.65% TSI retest failure rate. Additional information on retest activity is available in the Idle Retest Frequency Report in Appendix C6.

TSI - Post-Repair Inspection Results

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

Table 4 shows the average emissions (in part per million and percent) at idle and raised idle (2500 rpm) from all vehicles that failed the initial TSI inspection and received a retest, average emissions from vehicles that passed a retest and the percent reduction by pollutant the percent reduction by pollutant and vehicle type.

Table 4: TSI Passed Retest Inspection Results

Vehicle Type	Failed Initial Idle		Failed Initial 2500		Passed Retest Idle		Passed Retest 2500		% Reduction Idle		% Reduction 2500	
	HC (ppm)	CO (%)	HC (ppm)	CO (%)	HC (ppm)	CO (%)	HC (ppm)	CO (%)	HC	CO	HC	CO
Cars	636.63	3.18	516.88	3.25	135.29	0.55	145.81	1.11	73.17	79.70	64.89	59.79
Trucks	656.46	2.91	512.52	2.65	145.29	0.68	140.24	0.96	74.69	72.80	68.93	58.09
Total	650.70	2.96	513.44	2.78	143.27	0.66	141.36	0.99	74.41	74.29	68.16	58.49

Gas Cap Inspection Results

All three inspection procedures (OBD, TSI and I/M240) include a visual and functional inspection of gas caps. Inspectors first verify that a gas cap is present and if so, the gas cap is given a pressure test. To test its pressure, the gas cap is connected to a device that pressurizes the cap. The device measures the decay of pressure over time to determine if there is 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 customer is required to install a functional gas cap.

Replacing faulty gas caps reduces gasoline vapors venting to the atmosphere, which is a major factor in ground-level ozone formation. The EPA’s emissions model, MOVES, estimates that a functional gas cap program removes approximately one ton of hydrocarbons (HC) per day in Colorado.

Table 5 shows the gas cap inspection results by inspection type.

Table 5: Gas Cap Inspection Results

	Total	Pass	% Pass	Fail	% Fail
OBD	541,415	529,768	97.85%	11,647	2.15%
IM240	317,559	305,682	96.26%	11,877	3.74%
TSI	4252	3938	92.62%	314	7.38%
TOTAL	863,226	839,388	97.24%	23,838	2.76%

Additional information on gas cap failure rates is available in the following reports:

- Appendix A3: Initial OBD Inspection Failure Report
- Appendix B4: I/M240 Initial Failure for Other Report

- Appendix C4: Idle Initial Failure for Other Report

Figure 11 shows the percentage of gas cap failures by model year.

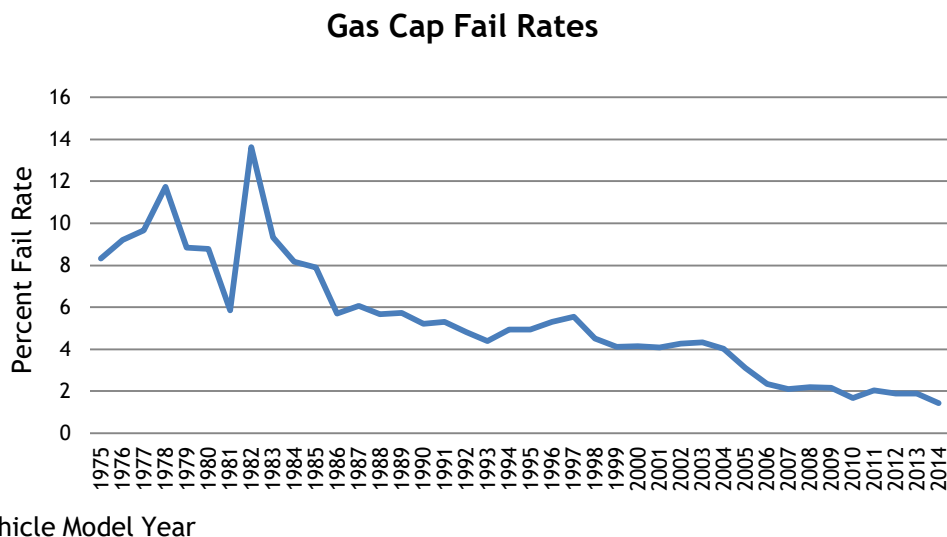


Figure 11: Gas Cap Fail Rates by Model Year

Unresolved Vehicles

Unresolved vehicles are the vehicles that fail the initial inspection, never receive a passing inspection, and disappear from the registered fleet during the time period of this report.

In 2021, out of the 57,235 initial failures, there were 12,991 vehicles (22.7%) that did not receive a passing retest by March 2022.

It is assumed that the vast majority of these vehicles are successfully repaired outside of the analysis period (calendar year 2021), 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 for public health reasons.

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. In 2021, CDPHE received 2,283 reports of smoking vehicles.

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 emissions technical centers.

Vehicle information reported on the hotline is also transferred to Air Care Colorado 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 2021, 807 vehicles failed the visible smoke portion of the emissions inspection (380 OBD inspections, 360 I/M240 inspections and 67 TSI 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:

1. 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 2021, there were 243 repair waivers issued by Department of Revenue (DOR).
2. 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 2021, there were 184 economic hardship waivers issued by DOR.
3. 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 2021, there were two 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.

Clean Screen Program

The state also operates a remote sensing based roadside emissions inspection program called the Clean Screen Program or RapidScreen. 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 10 units daily in the nine county program area. These units operated a total of 18,866 hours in 2021, collecting approximately 2.97 million valid emissions records.

In 2021, the overall remote sensing evaluated fraction of testable vehicles was 23.24% (based on 832,578 total I/M eligible vehicles in the fleet, with 193,503 unique eligible vehicles assessed by remote sensing devices). The number of unique eligible vehicles evaluated includes both vehicles that did and did not pass Clean Screen standards.

Of the 193,503 vehicles evaluated by remote sensing units, 171,007 (88.37%) were identified as passing Clean Screen standards.

Under normal operating procedures, two percent of the vehicles passing Clean Screen standards are required to be tested in the traditional manner at one of the emissions inspection stations. This requirement was removed until August 1, 2021 due to the COVID-19 pandemic as a way to reduce the number of inspections that needed to be conducted at an emissions testing station. In 2021, 175,244 vehicles were issued a Clean Screen notice. Of those Clean Screen notices, 135,787 or 77.48% were redeemed. The redeemed numbers are calculated from each individual vehicle that passed Clean Screen requirements whose owners chose to use the passing Clean Screen results to register their vehicles in lieu of getting the traditional emissions inspections.

Clean Screen Average Vehicle Emissions Results

The Clean Screen 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 Hydrocarbon (HC), Carbon Monoxide (CO) and Nitrogen Oxides (NOx) grouped by vehicle model year.

The fleet average emissions are shown by the green line in each of the charts. It represents the average emissions for the model year 1982 and newer vehicle fleet that are evaluated through remote sensing. As defined on the charts, average fleet emissions for all three pollutants (HC, CO, and NOx) show a pronounced downward trend to the newest vehicles that are the cleanest portion of the fleet.

The blue line indicates the average emissions by model year for vehicles that met all the Clean Screen requirements and pass Clean Screen standards. 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.

The red line shows the average emissions by model year for vehicles that qualified to participate in the Clean Screen Program but did not pass the Clean Screen standards.

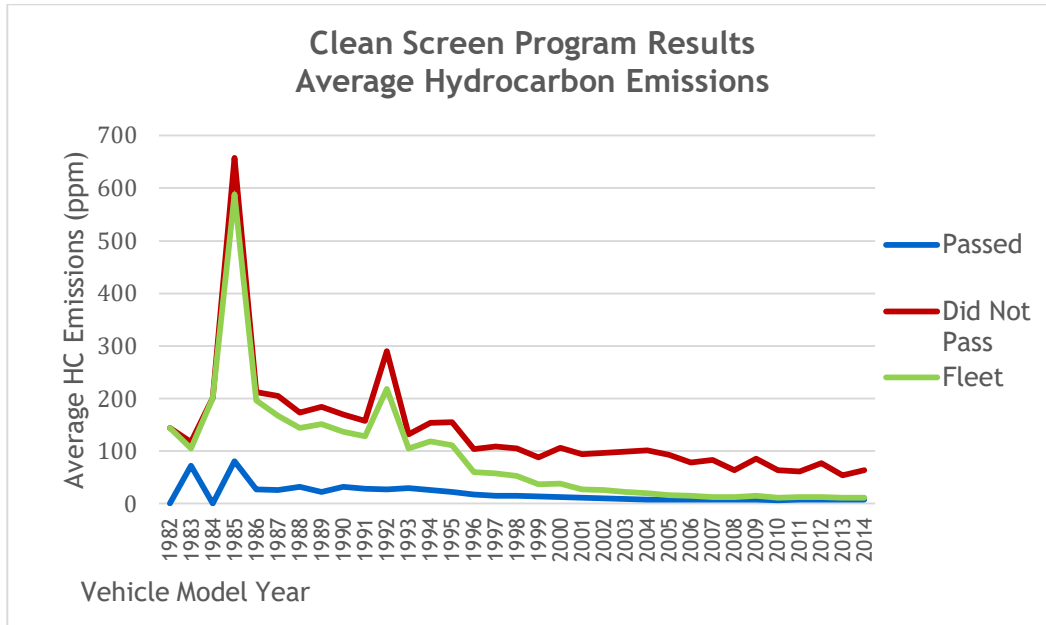


Figure 12: Clean Screen Program Results - Average Hydrocarbon Emissions by Model Year

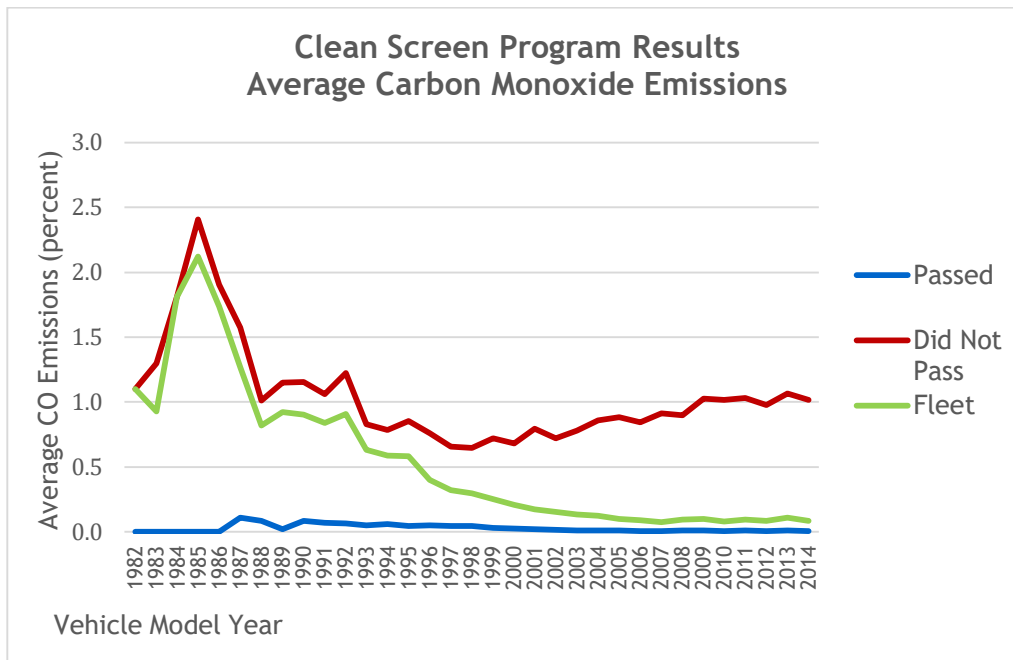


Figure 13: Clean Screen Program Results - Average Carbon Monoxide Emissions by Model Year

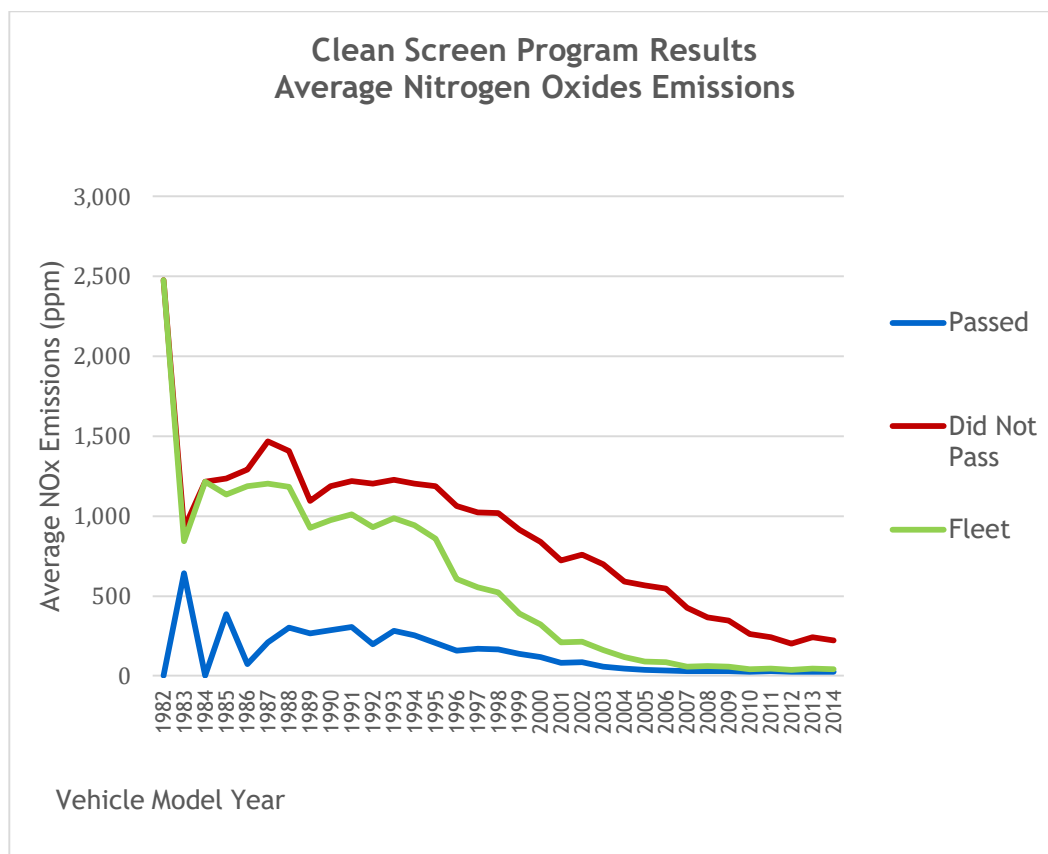


Figure 14: Clean Screen Program Results - Average Nitrogen Oxides Emissions by Model Year

Cost Effectiveness of the AIR Program

As with any public program, it's important to evaluate the value that the AIR Program provides in relation to the overall program costs. Such analysis depends on assumptions about the program design and the financial impact to the motorist.

The state looks at the program's benefit as measured in tons per day of emissions reduced and the daily program operating costs. The analysis is completed using methodologies consistent with that used in the development of the State Implementation Plan.

This analysis included the inspection costs, the number of vehicles inspected, registration fees associated with the operation of the AIR Program, the average cost of repairs for vehicles undergoing repair, and the fuel economy benefit obtained from repairing excessively emitting vehicles. Motorist inconvenience costs are also provided.

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 motorists 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 2021, there were 905,455 initial inspections conducted. Of these inspections, 541,415 were initial OBD inspections, 322,633 were initial I/M240 inspections, and 41,407 were initial TSI inspections. In addition, there were 135,787 owners of vehicles that redeemed a Clean Screen inspection.

The state estimates that the program’s inspection costs amounted to \$26,597,990 in 2021. Table 6 shows overall inspection costs per type of inspection.

Table 6: Overall Inspection Cost by Inspection Type

Inspection Type	Initial Inspections	Total Paid Inspections	Cost
OBD	541,415	551,360	\$13,784,000
I/M240	322,633	335,981	\$8,399,525
TSI	41,407	42,612	\$1,019,790
Clean Screen	135,787	135,787	\$3,394,675
TOTAL	1,041,242	1,065,740	\$26,597,990

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 AIR 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 Department of Revenue and Colorado Department of Public Health and Environment that design, administer, evaluate, and enforce the program.

There were an estimated 3,136,351 fee-eligible gasoline-powered vehicles registered in the enhanced nine-county AIR Program area as of December 31, 2021. This equates to a total registration-fee cost of \$6,899,972 for the entire program.

Repair Costs

Vehicles that failed their emissions inspections 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 2021, the average emissions repair cost for vehicles failing the OBD inspection was \$443.91 and for the I/M240 inspection was \$602.41. For vehicles receiving the TSI inspection, the average repair costs were \$251.94 for model year 1981 and older vehicles, and \$420.89 for model year 1982 and newer vehicles. For vehicles failing the gas cap portion of the I/M240 inspection, the assumed replacement gas cap cost is \$25 each.

For the OBD inspected vehicles, 27,888 failed their initial OBD inspections. Of these vehicles, 16,991 failed for the MIL commanded on and/or visual MIL inspection, and other non-gas cap failures. There were 11,647 OBD inspected vehicles that 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, 26,689 vehicles failed their initial I/M240 inspections, with 14,812 of these vehicles failing for excess emissions only, or excess emissions in combination with failing a visual inspection. Vehicles were also failed for excess opacity. For the gas cap portion of the test, there were 11,877 I/M240 vehicles that failed. There were some vehicles that failed for both excess emissions and gas cap. These vehicles are included in both the excess emissions/visual failure group and gas cap failure group.

In the TSI tested vehicle group, 2,659 vehicles failed the initial inspection. Of these vehicles, 2,553 failed for exhaust only, a combination of the exhaust and visual components of the inspection process, or excess opacity. For the gas cap portion of the test, there were 314 vehicles that failed the gas cap inspection. Some of these 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 7 details the total repair costs by inspection type.

Table 7: Total Repair Costs by Inspection Type

Inspection Type	Excess Emissions/Visual/Opacity		Gas Cap		TOTAL
	Count	Cost	Count	Cost	
OBD	16,991	\$7,542,475	11,647	\$291,175	\$7,833,650
I/M240	14,812	\$8,922,897	11,877	\$296,925	\$9,219,822
TSI	2,553 1981 older: 1200 1982 newer: 1353	\$871,792 1981 older: \$302,328 1982 newer: \$569,464	314	\$7,850	\$879,642
TOTAL	34,364	\$17,337,164	23,838	\$595,950	\$17,933,114

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 I/M240 inspection, fuel economy is measured. Based on Colorado’s I/M240 testing, a fuel economy improvement of 8.16% was achieved for all vehicles failing their initial I/M240 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 1.4 million gallons of gasoline. Using a 2021 average cost of \$3.2685 per gallon², vehicles undergoing emission repairs saved an estimated \$4,579,033 on gasoline as a result of reduced fuel usage.

Motorist Inconvenience Costs

Vehicle owners incur an inconvenience cost, which generally represents the time and effort expended in order to complete the emissions test at an emissions inspection center. These costs include:

- Vehicle operation costs associated with travel to and from the emissions inspection center.
- Time spent traveling to and from an emissions inspection center.
- Time waiting for and during the emission test.

To calculate direct vehicle operation costs, an average cost of 56 cents per mile was assumed, representing the 2021 IRS standard business mileage rate. The average travel to an inspection center was seven miles. Based on the number of vehicles receiving inspections, average per mile cost of operation, and average travel to and from an emissions inspection center, a vehicle operation cost of \$7,576,529 was calculated.

Travel to and from an emissions inspection center averaged 22.24 minutes. Assuming half the hourly consumer wage rate of \$32.09 per hour³, this equates to a motorist travel time cost of \$5,747,480.

The average motorist experienced an average wait time before their vehicle was inspected of 11.54 minutes in 2021. Applying the same discounted average hourly consumer wage as above to the total wait times, produces a motorist wait time cost of \$2,982,281.

For 2021, the average emissions inspection took 8.97 minutes to complete. Once again applying the discounted hourly consumer wage rate to total test time, results in a motorist test time cost of \$2,318,116.

Inconvenience cost is the total of vehicle operation costs and motorist personal time costs, or a total of \$18,624,406.

There are no inconvenience costs for the Clean Screen inspection. Vehicles are screened during on-road travel that incurs no inconvenience cost to the motorist. Vehicle owners are notified by the receipt of their vehicle registration renewal postcard and pay for the screening with the registration renewal payment.

² Denver/Front Range annual average from the U.S. Energy Information Administration.

³ Based on U.S. Bureau of Labor Statistics May 2020 state occupational employment and wage estimates for Colorado.

Overall Program Costs

Overall program costs include inspection fees, vehicle registration fees, repair costs, and fuel economy savings, as well as motorist inconvenience costs. Table 8 details these costs, and the overall cost of the program.

Table 8: Overall Program Cost

Annual AIR Program Cost (dollars)	
Inspection Fees	\$26,597,990
Registration Fees	\$6,899,972
Repair Costs	\$17,933,114
Fuel Economy Savings	-\$4,579,033
Inconvenience Costs	\$18,624,406
Total	\$65,476,448

Emission Benefits

Based on the EPA’s MOVES model, Colorado’s current AIR Program reduces total gaseous hydrocarbon (TGH) emissions by 3.86 tons per day (tpd), carbon monoxide (CO) emissions by 74.18 tpd, nitrogen oxide (NOx) emissions by 3.47 tpd, and overall ozone precursors (TGH + [1/60]CO + NOx) by 8.57 tpd. Table 9 details the overall emissions program benefit by pollutant developed by the EPA’s MOVES model.

Table 9: Modeled Program Benefit

MOVES Emission Inventories and Program Benefit (tons/day)				
	TGH	CO	NOx	TGH + (1/60)CO + NOx
No IM	48.43	610.87	53.62	112.23
Current IM	44.56	536.69	50.15	103.66
TPD Benefit	3.86	74.18	3.47	8.57
%Benefit	8.0%	12.14%	6.47%	7.63%

Both total gaseous hydrocarbon (TGH) and nitrogen oxide (NOx) emissions can be ozone precursors. Carbon monoxide (CO) can be a weak ozone precursor. The combined TGH + (1/60) CO + NOx ozone precursor reduction is equal to 8.57 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 gasoline with a one pound waiver for ethanol and 100% market share for ethanol-blended gasoline.

Greenhouse-Gas (GHG) emissions are reduced from repaired motor vehicles in terms of emissions such as methane that are reduced through better catalytic converter function, as well as carbon dioxide emissions from improved fuel economy. From the stated fuel economy

improvements stated in the cost section, it is estimated that 37.6 tons per day of carbon dioxide emissions are prevented from repaired vehicle through fuel economy improvements.

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 \$65.48 million in 2021. This cost includes inspection costs, repair costs, motorist inconvenience costs and registration renewal fees used to fund administrative expenses.

The State estimates the cost-effectiveness of the inspection program at \$20,932 per ton of ozone precursors removed from the AIR Program area. In addition, while not a focus of this program, the AIR Program does produce a greenhouse gas benefit that has not been fully defined in this analysis. Table 10 gives the specific breakdown of cost per ton for ozone precursors that is the focus of this program.

Table 10: AIR Program Cost Effectiveness in Dollars per Ton

Cost Benefit Results	
Emission	Cost/Benefit (\$/ton)
TGH	\$46,473
CO	\$2,418
NOx	\$51,697
TGH + (1/60) CO + NOx	\$20,932

2021 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 (CHPHE), continues to operate the enhanced Colorado Vehicle Emissions Inspection and Maintenance (I/M) Program, which has been in place since 1995, designed to meet the requirements of the federal “Clean Air Act”, as amended by the federal “Clean Air Act Amendments of 1990”, 42 U.S.C. sec. 7401 et seq. 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.) during 2021.

2021 Audit Results

Pursuant to C.R.S. 42-4-305(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

Pursuant to C.R.S. 42-4-305(6)(b)(I), DOR performed 237 record audits on all contractor-operated inspection centers and inspection-only facilities. Record audits are 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 4.7 million vehicles currently registered statewide; this ensures that county clerks maintain a reasonable level of record accuracy.

Performance Audits

Pursuant to C.R.S. 42-4-305(6)(b)(I), DOR executed overt performance audits which were conducted contemporaneously with equipment audits at the enhanced inspection centers, resulting in 582 performance audits completed. Thirty-five overt performance audits were completed at the independent inspection-only facilities and fleet testing facilities.

Equipment Audits

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

During 2021, 206 initial lane equipment audits were performed on 97 contractor-operated enhanced inspection lanes, 3 initial equipment audits performed at 2 independent inspection only stations, and 46 initial equipment audits performed at 20 operational fleet inspection stations. There were 3 occasions where a fleet testing facility was inoperable as a result of equipment failure. An equipment audit was unable to be conducted until repairs were completed. The facility was then returned to service.

There were 76 initial equipment audit failures (see Table 1), 15 of which resulted in the suspension of a testing lane. (Note: A lane is suspended and unable to test until its failures are mitigated.)

Table 1 - Audit Failures by Equipment Category (2021)

2021 Initial Equipment Audit Failures by Category	
Emissions Analyzer	62
Dynamometer	13
Gas Cap Analyzer	1

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 2021, 244 covert inspections were conducted at enhanced inspection centers, resulting in 194 tests conducted properly and 107 deficiencies. In these covert tests, emissions control components were not correctly identified, resulting in 35 emission control component violations. Table 2 categorizes these violations and the number of times components were incorrectly identified. In 27 of the 35 improper tests, the failing vehicles received passing results.

Table 2 – Emission Components Incorrectly Identified During Covert Audits (2021)

Emission Component Tampered	Number of Times Incorrectly Identified
Air Injection System	16
Catalytic Converter	6
Check Engine Light	2
Oxygen Sensor	11

Risk-Based Audits

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

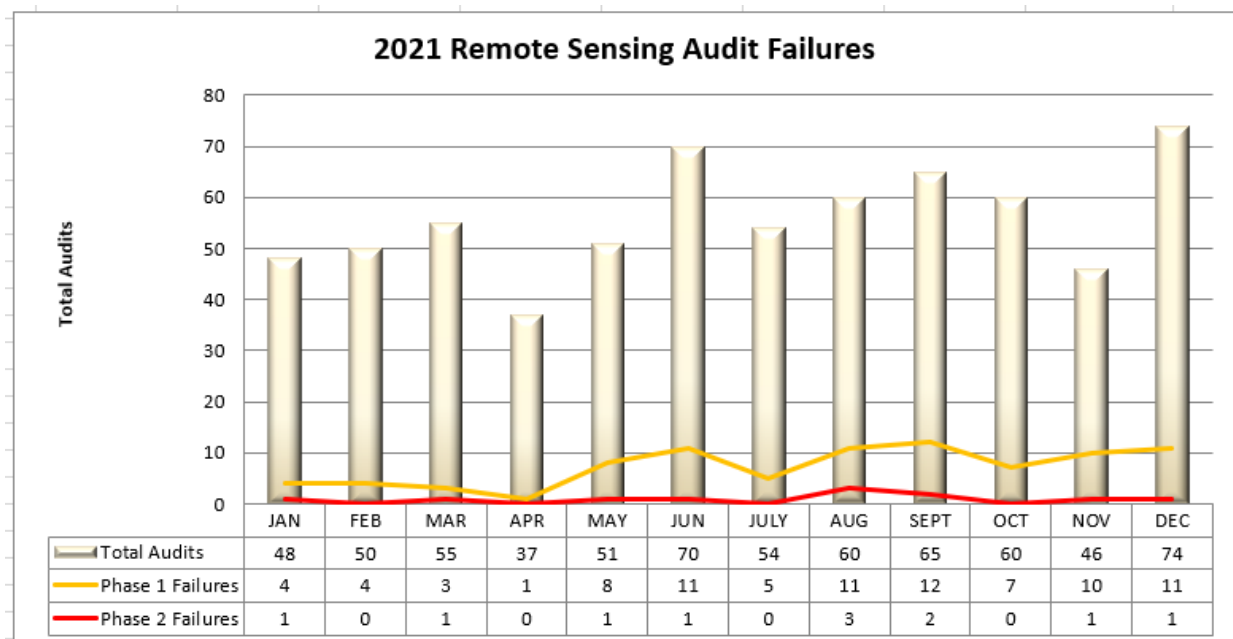
Utilizing the above-named methods of detection, DOR conducted 538 risk-based equipment audits. While there were 55 initial equipment failures, 53 issues were resolved on the retest. Ten risk-based covert audits were conducted, resulting in zero violations.

Remote Sensing Audits

DOR performed Remote Sensing (i.e., Clean Screen, Rapid Screen, or RSD) mobile emissions testing equipment audits for quality assurance purposes (see Figure 1). A Phase I audit includes 9 gas readings from 3 different known gas blends. In the event that a gas reading is outside the allowable tolerance, a Phase II audit is initiated. A Phase II audit includes 6 additional gas readings from the specific gas blend that failed the Phase I audit.

DOR performed 670 audits in 2021, resulting in 87 Phase I failures, or a 12.99% initial failure rate. Of the 87 Phase I failures, 11 units failed the Phase II audit and were suspended pending repairs and/or CDPHE evaluation. Note: The overall audit result is not a failure unless a secondary audit (Phase II) also fails.

Figure 1 - Remote Sensing Audit Failures (2021)



2021 Enforcement Results

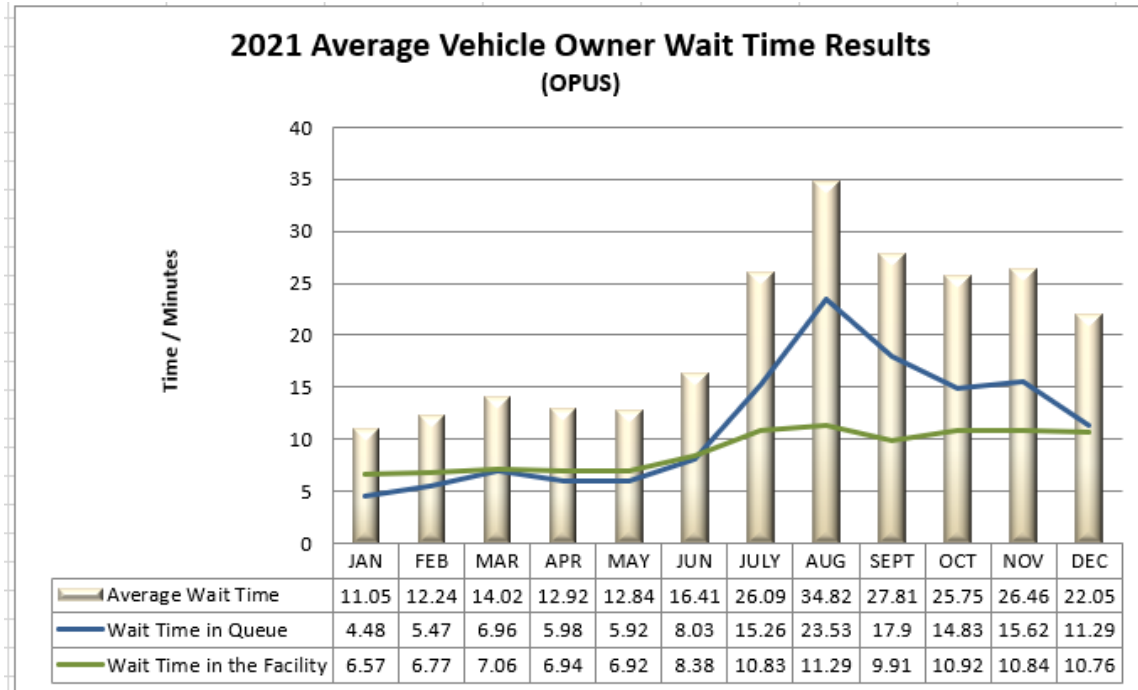
Hearings & Fines

In 2021, 84 hearings were conducted as a result of improper vehicle emission inspections. Hearing proceedings resulted in 38 inspectors placed on probation, with no inspector licenses revoked. Fines totaling \$34,100 were collected as a result of improper vehicle inspections.

Additionally, *\$207,225 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 OPUS. The total of all fines collected in 2021 was \$241,325. Figure 2 shows the average total motorist wait time in relation to the amount of time spent in the queue and within the facility.

* As a result of COVID-19 impacts on available staffing levels to perform testing, some wait-time relief was extended to the Contractor for 2021.

Figure 2 - Average Vehicle Owner Wait Time Results (2021, OPUS only)



Complaints

A total of 157 Vehicle Damage, Procedural and Statutory Non-Compliance complaints were opened against inspection stations operated by OPUS. DOR involvement in the complaint mitigation process resulted in \$36,228.99 in refunds to consumers. DOR responded to 21 emissions-related complaints against auto dealerships. A total of \$108,386.14 was refunded to consumers from those proceedings. Table 3 shows the 178 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 (42-4-309 (6)(a)(b)(c)) 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 3 - Complaints Opened, by Category (2021) (Dealer Statutory 18, Procedural 2, Damage 1)

2021 Complaints Opened by Category	
Vehicle Damage	141
Procedural Claims	17
Statutory Non-Compliance	20

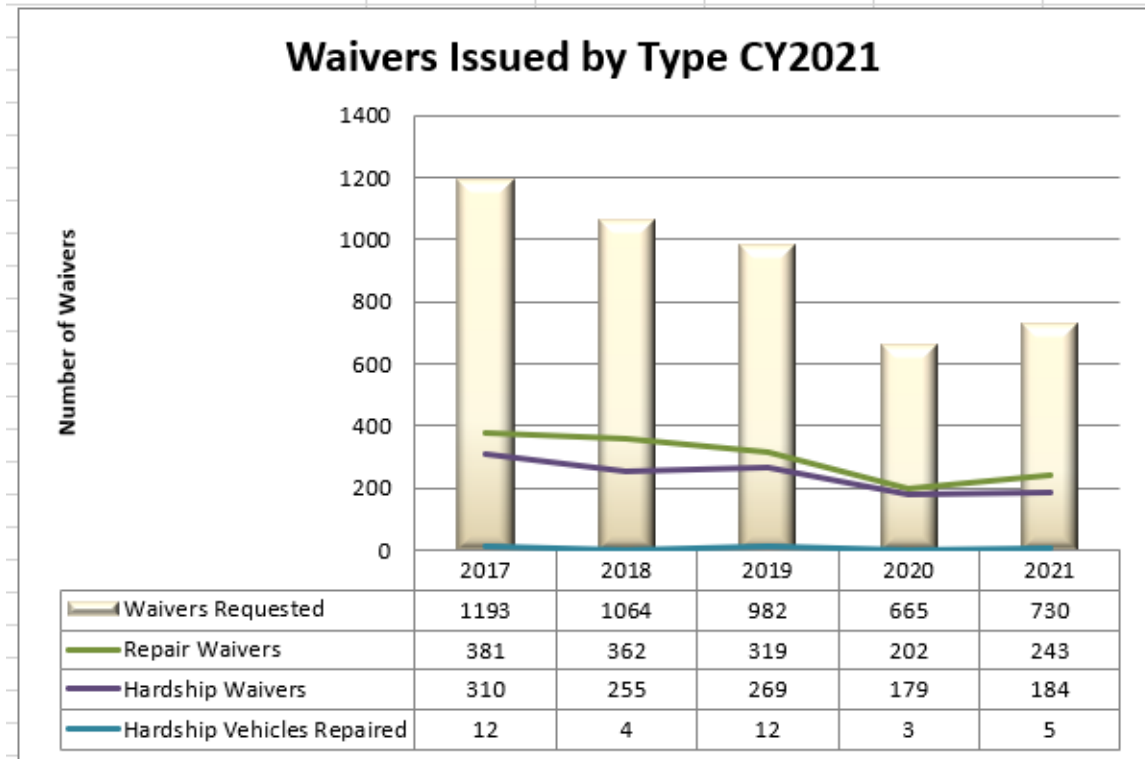
Waivers

In 2021, 730 waiver applications were submitted to and processed by DOR. Of the 730 applications, 33% resulted in the issuance of Repair Waivers and 25% resulted in the issuance of Economic Hardship Waivers. The remaining 42% were not issued waivers.

In 2021, 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 5 vehicles (0.68%) that otherwise would have been issued a hardship waiver.

Figure 3 shows the total amount of emission waivers requested and issued by waiver type over a five-year period.

Figure 3 – Waivers Issued by Type (2017 – 2021)



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

- **9.04% of Waiver requests were not pursued** - after completing the waiver application, the vehicle owner withdrew the request or did not respond to requests for information or availability.
- **7.26% of Waiver requests passed 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.
- **3.97% of Waiver requests had 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)
- **11.92% of Waiver requests were 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)

- **6.85% of Waiver requests did not meet minimum waiver limits for dollars spent to repair the vehicle** - 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)
- **0.68% of Waiver request vehicles were repaired through CDPHEs Repair Assistance Program for vehicles otherwise eligible for Hardship Waivers.**
- **0.0% of Waiver requests had not yet been resolved at the completion of the calendar year.**

2021 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 that are employed by the inspection facilities.

All Rapid Screen testing sites are authorized annually in conjunction with the Colorado Department of Transportation (CDOT), as testing sites require frequent review due to road or traffic configuration changes.

Table 4 shows the number of initial, renewed, and active licenses by license type for 2021.

Table 4 - Licenses Issued and Renewed, by Type (2021)

License Type	Number of Initial Licenses	Number of Licenses Renewed	Total Active Licenses
Fleet Inspector	31	10	64
Independent Inspector	0	1	2
Contractor Employed Inspectors	149	61	243
Independent Station	0	1	2
Fleet Station	2	17	19
Total	182	90	330

Authorized RSD Sites	82
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Appendix A1

Initial Inspection Report All Test Types

Date Range
Between 1/1/2021 and 1/1/2022

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	%						
1974	HDGV	57	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	57	100.00	53	92.98	4	7.02
	LDGT1	157	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	157	100.00	109	69.43	48	30.57
	LDGT2	129	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	129	100.00	111	86.05	18	13.95
	LDGV	386	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	386	100.00	251	65.03	135	34.97
1974 Total		729	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	729	100.00	524	71.88	205	28.12
1975	HDGV	18	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	18	100.00	12	66.67	6	33.33
	LDGT1	8	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	8	100.00	2	25.00	6	75.00
	LDGT2	25	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	25	100.00	22	88.00	3	12.00
	LDGV	29	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	29	100.00	17	58.62	12	41.38
1975 Total		80	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	80	100.00	53	66.25	27	33.75
1976	HDGV	47	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	47	100.00	34	72.34	13	27.66
	LDGT1	69	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	69	100.00	41	59.42	28	40.58
	LDGT2	151	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	151	100.00	110	72.85	41	27.15
	LDGV	122	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	122	100.00	76	62.30	46	37.70
1976 Total		389	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	389	100.00	261	67.10	128	32.90
1977	HDGV	67	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	67	100.00	47	70.15	20	29.85
	LDGT1	82	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	82	100.00	48	58.54	34	41.46
	LDGT2	199	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	199	100.00	148	74.37	51	25.63
	LDGV	192	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	192	100.00	108	56.25	84	43.75
1977 Total		540	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	540	100.00	351	65.00	189	35.00
1978	HDGV	72	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	72	100.00	53	73.61	19	26.39
	LDGT1	115	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	115	100.00	69	60.00	46	40.00
	LDGT2	280	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	280	100.00	212	75.71	68	24.29
	LDGV	207	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	207	100.00	143	69.08	64	30.92
1978 Total		674	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	674	100.00	477	70.77	197	29.23
1979	HDGV	69	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	69	100.00	53	76.81	16	23.19
	LDGT1	138	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	138	100.00	86	62.32	52	37.68
	LDGT2	163	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	163	100.00	101	61.96	62	38.04
	LDGV	215	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	215	100.00	132	61.40	83	38.60
1979 Total		585	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	585	100.00	372	63.59	213	36.41
1980	HDGV	29	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	29	100.00	20	68.97	9	31.03
	LDGT1	120	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	120	100.00	77	64.17	43	35.83

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	65	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	65	100.00	41	63.08	24	36.92
	LDGV	168	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	168	100.00	112	66.67	56	33.33
1980 Total		382	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	382	100.00	250	65.45	132	34.55
1981	HDGV	71	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	71	100.00	50	70.42	21	29.58
	LDGT1	114	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	114	100.00	66	57.89	48	42.11
	LDGT2	54	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	54	100.00	34	62.96	20	37.04
	LDGV	145	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	145	100.00	86	59.31	59	40.69
1981 Total		384	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	384	100.00	236	61.46	148	38.54
1982	HDGV	54	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	54	100.00	43	79.63	11	20.37
	LDGT1	95	0	0.00	0	0.00	0	0.00	94	98.95	55	58.51	39	41.49	1	1.05	0	0.00	1	100.00
	LDGT2	27	0	0.00	0	0.00	0	0.00	26	96.30	12	46.15	14	53.85	1	3.70	1	100.00	0	0.00
	LDGV	119	0	0.00	0	0.00	0	0.00	114	95.80	93	81.58	21	18.42	5	4.20	2	40.00	3	60.00
1982 Total		295	0	0.00	0	0.00	0	0.00	234	79.32	160	68.38	74	31.62	61	20.68	46	75.41	15	24.59
1983	HDGV	75	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	75	100.00	56	74.67	19	25.33
	LDGT1	156	0	0.00	0	0.00	0	0.00	156	100.00	111	71.15	45	28.85	0	0.00	0	0.00	0	0.00
	LDGT2	46	0	0.00	0	0.00	0	0.00	45	97.83	28	62.22	17	37.78	1	2.17	0	0.00	1	100.00
	LDGV	194	0	0.00	0	0.00	0	0.00	189	97.42	149	78.84	40	21.16	5	2.58	3	60.00	2	40.00
1983 Total		471	0	0.00	0	0.00	0	0.00	390	82.80	288	73.85	102	26.15	81	17.20	59	72.84	22	27.16
1984	HDGV	153	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	153	100.00	110	71.90	43	28.10
	LDGT1	254	0	0.00	0	0.00	0	0.00	253	99.61	197	77.87	56	22.13	1	0.39	0	0.00	1	100.00
	LDGT2	106	0	0.00	0	0.00	0	0.00	103	97.17	63	61.17	40	38.83	3	2.83	1	33.33	2	66.67
	LDGV	292	0	0.00	0	0.00	0	0.00	290	99.32	227	78.28	63	21.72	2	0.68	1	50.00	1	50.00
1984 Total		805	0	0.00	0	0.00	0	0.00	646	80.25	487	75.39	159	24.61	159	19.75	112	70.44	47	29.56
1985	HDGV	153	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	153	100.00	117	76.47	36	23.53
	LDGT1	362	0	0.00	0	0.00	0	0.00	357	98.62	274	76.75	83	23.25	5	1.38	2	40.00	3	60.00
	LDGT2	98	0	0.00	0	0.00	0	0.00	97	98.98	61	62.89	36	37.11	1	1.02	1	100.00	0	0.00
	LDGV	393	0	0.00	0	0.00	0	0.00	387	98.47	311	80.36	76	19.64	6	1.53	4	66.67	2	33.33
1985 Total		1,006	0	0.00	0	0.00	0	0.00	841	83.60	646	76.81	195	23.19	165	16.40	124	75.15	41	24.85
1986	HDGV	95	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	95	100.00	65	68.42	30	31.58
	LDGT1	454	0	0.00	0	0.00	0	0.00	449	98.90	353	78.62	96	21.38	5	1.10	1	20.00	4	80.00
	LDGT2	109	0	0.00	0	0.00	0	0.00	107	98.17	63	58.88	44	41.12	2	1.83	1	50.00	1	50.00
	LDGV	468	0	0.00	0	0.00	0	0.00	462	98.72	378	81.82	84	18.18	6	1.28	4	66.67	2	33.33
1986 Total		1,126	0	0.00	0	0.00	0	0.00	1,018	90.41	794	78.00	224	22.00	108	9.59	71	65.74	37	34.26
1987	HDGV	127	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	127	100.00	101	79.53	26	20.47
	LDGT1	628	0	0.00	0	0.00	0	0.00	626	99.68	507	80.99	119	19.01	2	0.32	2	100.00	0	0.00
	LDGT2	174	0	0.00	0	0.00	0	0.00	173	99.43	118	68.21	55	31.79	1	0.57	1	100.00	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	%
	LDGV	600	0	0.00	0	0.00	0	0.00	589	98.17	507	86.08	82	13.92	11	1.83	9	81.82	2	18.18
1987 Total		1,529	0	0.00	0	0.00	0	0.00	1,388	90.78	1,132	81.56	256	18.44	141	9.22	113	80.14	28	19.86
1988	HDGV	217	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	217	100.00	168	77.42	49	22.58
	LDGT1	707	0	0.00	0	0.00	0	0.00	702	99.29	584	83.19	118	16.81	5	0.71	3	60.00	2	40.00
	LDGT2	280	0	0.00	0	0.00	0	0.00	277	98.93	217	78.34	60	21.66	3	1.07	3	100.00	0	0.00
	LDGV	613	0	0.00	0	0.00	0	0.00	609	99.35	506	83.09	103	16.91	4	0.65	3	75.00	1	25.00
1988 Total		1,817	0	0.00	0	0.00	0	0.00	1,588	87.40	1,307	82.30	281	17.70	229	12.60	177	77.29	52	22.71
1989	HDGV	348	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	348	100.00	305	87.64	43	12.36
	LDGT1	1,115	0	0.00	0	0.00	0	0.00	1,105	99.10	916	82.90	189	17.10	10	0.90	5	50.00	5	50.00
	LDGT2	398	0	0.00	0	0.00	0	0.00	396	99.50	326	82.32	70	17.68	2	0.50	2	100.00	0	0.00
	LDGV	925	0	0.00	0	0.00	0	0.00	906	97.95	778	85.87	128	14.13	19	2.05	15	78.95	4	21.05
1989 Total		2,786	0	0.00	0	0.00	0	0.00	2,407	86.40	2,020	83.92	387	16.08	379	13.60	327	86.28	52	13.72
1990	HDGV	275	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	275	100.00	236	85.82	39	14.18
	LDGT1	957	0	0.00	0	0.00	0	0.00	949	99.16	779	82.09	170	17.91	8	0.84	4	50.00	4	50.00
	LDGT2	388	0	0.00	0	0.00	0	0.00	378	97.42	319	84.39	59	15.61	10	2.58	6	60.00	4	40.00
	LDGV	1,093	0	0.00	0	0.00	0	0.00	1,064	97.35	949	89.19	115	10.81	29	2.65	18	62.07	11	37.93
1990 Total		2,713	0	0.00	0	0.00	0	0.00	2,391	88.13	2,047	85.61	344	14.39	322	11.87	264	81.99	58	18.01
1991	HDGV	323	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	323	100.00	268	82.97	55	17.03
	LDGT1	1,440	0	0.00	0	0.00	0	0.00	1,434	99.58	1,238	86.33	196	13.67	6	0.42	4	66.67	2	33.33
	LDGT2	489	0	0.00	0	0.00	0	0.00	486	99.39	379	77.98	107	22.02	3	0.61	1	33.33	2	66.67
	LDGV	1,613	0	0.00	0	0.00	0	0.00	1,586	98.33	1,385	87.33	201	12.67	27	1.67	21	77.78	6	22.22
1991 Total		3,865	0	0.00	0	0.00	0	0.00	3,506	90.71	3,002	85.62	504	14.38	359	9.29	294	81.89	65	18.11
1992	HDGV	412	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	412	100.00	358	86.89	54	13.11
	LDGT1	1,257	0	0.00	0	0.00	0	0.00	1,246	99.12	1,093	87.72	153	12.28	11	0.88	7	63.64	4	36.36
	LDGT2	743	0	0.00	0	0.00	0	0.00	737	99.19	577	78.29	160	21.71	6	0.81	4	66.67	2	33.33
	LDGV	1,476	0	0.00	0	0.00	0	0.00	1,455	98.58	1,254	86.19	201	13.81	21	1.42	17	80.95	4	19.05
1992 Total		3,888	0	0.00	0	0.00	0	0.00	3,438	88.43	2,924	85.05	514	14.95	450	11.57	386	85.78	64	14.22
1993	HDGV	496	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	496	100.00	440	88.71	56	11.29
	LDGT1	2,124	0	0.00	0	0.00	0	0.00	2,111	99.39	1,854	87.83	257	12.17	13	0.61	12	92.31	1	7.69
	LDGT2	933	0	0.00	0	0.00	0	0.00	922	98.82	748	81.13	174	18.87	11	1.18	7	63.64	4	36.36
	LDGV	2,026	0	0.00	0	0.00	0	0.00	2,002	98.82	1,742	87.01	260	12.99	24	1.18	17	70.83	7	29.17
1993 Total		5,579	0	0.00	0	0.00	0	0.00	5,035	90.25	4,344	86.28	691	13.72	544	9.75	476	87.50	68	12.50
1994	HDGV	631	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	631	100.00	552	87.48	79	12.52
	LDGT1	2,507	0	0.00	0	0.00	0	0.00	2,484	99.08	2,129	85.71	355	14.29	23	0.92	17	73.91	6	26.09
	LDGT2	1,631	0	0.00	0	0.00	0	0.00	1,605	98.41	1,298	80.87	307	19.13	26	1.59	20	76.92	6	23.08
	LDGV	2,312	0	0.00	0	0.00	0	0.00	2,279	98.57	2,019	88.59	260	11.41	33	1.43	28	84.85	5	15.15

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	%
1994 Total		7,081	0	0.00	0	0.00	0	0.00	6,368	89.93	5,446	85.52	922	14.48	713	10.07	617	86.54	96	13.46
1995	HDGV	908	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	908	100.00	817	89.98	91	10.02
	LDGT1	3,006	0	0.00	0	0.00	0	0.00	2,990	99.47	2,589	86.59	401	13.41	16	0.53	15	93.75	1	6.25
	LDGT2	2,282	0	0.00	0	0.00	0	0.00	2,254	98.77	1,828	81.10	426	18.90	28	1.23	20	71.43	8	28.57
	LDGV	3,371	0	0.00	0	0.00	0	0.00	3,331	98.81	2,957	88.77	374	11.23	40	1.19	38	95.00	2	5.00
1995 Total		9,567	0	0.00	0	0.00	0	0.00	8,575	89.63	7,374	85.99	1,201	14.01	992	10.37	890	89.72	102	10.28
1996	HDGV	866	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	866	100.00	812	93.76	54	6.24
	LDGT1	3,110	25	0.80	19	76.00	6	24.00	3,076	98.91	2,688	87.39	388	12.61	9	0.29	9	100.00	0	0.00
	LDGT2	1,997	22	1.10	20	90.91	2	9.09	1,969	98.60	1,703	86.49	266	13.51	6	0.30	6	100.00	0	0.00
	LDGV	3,521	48	1.36	40	83.33	8	16.67	3,455	98.13	3,127	90.51	328	9.49	18	0.51	14	77.78	4	22.22
1996 Total		9,494	95	1.00	79	83.16	16	16.84	8,500	89.53	7,518	88.45	982	11.55	899	9.47	841	93.55	58	6.45
1997	HDGV	1,220	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	1,220	100.00	1,161	95.16	59	4.84
	LDGT1	5,834	63	1.08	53	84.13	10	15.87	5,742	98.42	5,032	87.63	710	12.37	29	0.50	26	89.66	3	10.34
	LDGT2	2,652	58	2.19	44	75.86	14	24.14	2,572	96.98	2,201	85.58	371	14.42	22	0.83	20	90.91	2	9.09
	LDGV	5,251	74	1.41	67	90.54	7	9.46	5,157	98.21	4,684	90.83	473	9.17	20	0.38	17	85.00	3	15.00
1997 Total		14,957	195	1.30	164	84.10	31	15.90	13,471	90.06	11,917	88.46	1,554	11.54	1,291	8.63	1,224	94.81	67	5.19
1998	HDGV	837	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	837	100.00	785	93.79	52	6.21
	LDGT1	6,551	93	1.42	79	84.95	14	15.05	6,433	98.20	5,725	88.99	708	11.01	25	0.38	22	88.00	3	12.00
	LDGT2	2,675	23	0.86	18	78.26	5	21.74	2,642	98.77	2,279	86.26	363	13.74	10	0.37	10	100.00	0	0.00
	LDGV	6,116	77	1.26	64	83.12	13	16.88	6,006	98.20	5,343	88.96	663	11.04	33	0.54	27	81.82	6	18.18
1998 Total		16,179	193	1.19	161	83.42	32	16.58	15,081	93.21	13,347	88.50	1,734	11.50	905	5.59	844	93.26	61	6.74
1999	HDGV	1,817	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	1,817	100.00	1,741	95.82	76	4.18
	LDGT1	8,634	112	1.30	101	90.18	11	9.82	8,487	98.30	7,662	90.28	825	9.72	35	0.41	32	91.43	3	8.57
	LDGT2	4,968	739	14.88	632	85.52	107	14.48	4,200	84.54	3,664	87.24	536	12.76	29	0.58	27	93.10	2	6.90
	LDGV	8,334	162	1.94	143	88.27	19	11.73	8,122	97.46	7,410	91.23	712	8.77	50	0.60	42	84.00	8	16.00
1999 Total		23,753	1,013	4.26	876	86.48	137	13.52	20,809	87.61	18,736	90.04	2,073	9.96	1,931	8.13	1,842	95.39	89	4.61
2000	HDGV	1,776	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	1,776	100.00	1,704	95.95	72	4.05
	LDGT1	9,204	3,584	38.94	3,262	91.02	322	8.98	5,589	60.72	4,938	88.35	651	11.65	31	0.34	28	90.32	3	9.68
	LDGT2	5,168	2,596	50.23	2,250	86.67	346	13.33	2,549	49.32	2,247	88.15	302	11.85	23	0.45	22	95.65	1	4.35
	LDGV	9,725	3,616	37.18	3,305	91.40	311	8.60	6,085	62.57	5,487	90.17	598	9.83	24	0.25	22	91.67	2	8.33
2000 Total		25,873	9,796	37.86	8,817	90.01	979	9.99	14,223	54.97	12,672	89.10	1,551	10.90	1,854	7.17	1,776	95.79	78	4.21
2001	HDGV	2,147	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	2,147	100.00	2,104	98.00	43	2.00
	LDGT1	11,433	4,049	35.42	3,613	89.23	436	10.77	7,353	64.31	6,696	91.06	657	8.94	31	0.27	31	100.00	0	0.00
	LDGT2	7,276	3,548	48.76	3,082	86.87	466	13.13	3,699	50.84	3,297	89.13	402	10.87	29	0.40	28	96.55	1	3.45
	LDGV	12,401	4,412	35.58	4,059	92.00	353	8.00	7,945	64.07	7,307	91.97	638	8.03	44	0.35	42	95.45	2	4.55
2001 Total		33,257	12,009	36.11	10,754	89.55	1,255	10.45	18,997	57.12	17,300	91.07	1,697	8.93	2,251	6.77	2,205	97.96	46	2.04

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	1,686	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	1,686	100.00	1,647	97.69	39	2.31
	LDGT1	11,974	4,620	38.58	4,180	90.48	440	9.52	7,322	61.15	6,556	89.54	766	10.46	32	0.27	28	87.50	4	12.50
	LDGT2	6,722	3,573	53.15	3,073	86.01	500	13.99	3,123	46.46	2,756	88.25	367	11.75	26	0.39	25	96.15	1	3.85
	LDGV	13,121	4,989	38.02	4,606	92.32	383	7.68	8,103	61.76	7,385	91.14	718	8.86	29	0.22	27	93.10	2	6.90
2002 Total		33,503	13,182	39.35	11,859	89.96	1,323	10.04	18,548	55.36	16,697	90.02	1,851	9.98	1,773	5.29	1,727	97.41	46	2.59
2003	HDGV	2,108	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	2,108	100.00	2,078	98.58	30	1.42
	LDGT1	15,336	5,616	36.62	5,162	91.92	454	8.08	9,694	63.21	8,859	91.39	835	8.61	26	0.17	25	96.15	1	3.85
	LDGT2	8,822	4,384	49.69	3,877	88.44	507	11.56	4,406	49.94	4,030	91.47	376	8.53	32	0.36	29	90.63	3	9.38
	LDGV	16,191	6,229	38.47	5,730	91.99	499	8.01	9,918	61.26	9,153	92.29	765	7.71	44	0.27	39	88.64	5	11.36
2003 Total		42,457	16,229	38.22	14,769	91.00	1,460	9.00	24,018	56.57	22,042	91.77	1,976	8.23	2,210	5.21	2,171	98.24	39	1.76
2004	HDGV	1,726	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	1,726	100.00	1,708	98.96	18	1.04
	LDGT1	15,818	6,253	39.53	5,841	93.41	412	6.59	9,522	60.20	8,763	92.03	759	7.97	43	0.27	37	86.05	6	13.95
	LDGT2	9,319	4,825	51.78	4,287	88.85	538	11.15	4,471	47.98	4,065	90.92	406	9.08	23	0.25	21	91.30	2	8.70
	LDGV	15,353	6,503	42.36	6,018	92.54	485	7.46	8,817	57.43	8,139	92.31	678	7.69	33	0.21	31	93.94	2	6.06
2004 Total		42,216	17,581	41.65	16,146	91.84	1,435	8.16	22,810	54.03	20,967	91.92	1,843	8.08	1,825	4.32	1,797	98.47	28	1.53
2005	HDGV	1,846	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	1,846	100.00	1,823	98.75	23	1.25
	LDGT1	21,008	10,954	52.14	10,432	95.23	522	4.77	10,015	47.67	9,484	94.70	531	5.30	39	0.19	35	89.74	4	10.26
	LDGT2	9,109	5,808	63.76	5,354	92.18	454	7.82	3,285	36.06	3,030	92.24	255	7.76	16	0.18	14	87.50	2	12.50
	LDGV	21,397	11,907	55.65	11,097	93.20	810	6.80	9,448	44.16	8,826	93.42	622	6.58	42	0.20	39	92.86	3	7.14
2005 Total		53,360	28,669	53.73	26,883	93.77	1,786	6.23	22,748	42.63	21,340	93.81	1,408	6.19	1,943	3.64	1,911	98.35	32	1.65
2006	HDGV	1,899	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	1,899	100.00	1,876	98.79	23	1.21
	LDGT1	18,548	10,638	57.35	10,150	95.41	488	4.59	7,876	42.46	7,501	95.24	375	4.76	34	0.18	33	97.06	1	2.94
	LDGT2	9,053	5,678	62.72	5,267	92.76	411	7.24	3,356	37.07	3,124	93.09	232	6.91	19	0.21	18	94.74	1	5.26
	LDGV	20,475	11,886	58.05	11,299	95.06	587	4.94	8,553	41.77	8,100	94.70	453	5.30	36	0.18	34	94.44	2	5.56
2006 Total		49,975	28,202	56.43	26,716	94.73	1,486	5.27	19,785	39.59	18,725	94.64	1,060	5.36	1,988	3.98	1,961	98.64	27	1.36
2007	HDGV	1,679	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	1,679	100.00	1,671	99.52	8	0.48
	LDGT1	23,898	13,607	56.94	13,116	96.39	491	3.61	10,258	42.92	9,880	96.32	378	3.68	33	0.14	32	96.97	1	3.03
	LDGT2	12,527	8,533	68.12	7,918	92.79	615	7.21	3,974	31.72	3,728	93.81	246	6.19	20	0.16	18	90.00	2	10.00
	LDGV	25,841	15,312	59.25	14,695	95.97	617	4.03	10,490	40.59	10,120	96.47	370	3.53	39	0.15	38	97.44	1	2.56
2007 Total		63,945	37,452	58.57	35,729	95.40	1,723	4.60	24,722	38.66	23,728	95.98	994	4.02	1,771	2.77	1,759	99.32	12	0.68
2008	HDGV	1,731	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	1,731	100.00	1,719	99.31	12	0.69
	LDGT1	20,543	12,577	61.22	12,140	96.53	437	3.47	7,933	38.62	7,663	96.60	270	3.40	33	0.16	31	93.94	2	6.06
	LDGT2	10,920	7,655	70.10	7,080	92.49	575	7.51	3,238	29.65	3,019	93.24	219	6.76	27	0.25	25	92.59	2	7.41
	LDGV	21,816	13,617	62.42	13,077	96.03	540	3.97	8,152	37.37	7,840	96.17	312	3.83	47	0.22	45	95.74	2	4.26
2008 Total		55,010	33,849	61.53	32,297	95.41	1,552	4.59	19,323	35.13	18,522	95.85	801	4.15	1,838	3.34	1,820	99.02	18	0.98
2009	HDGV	868	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	868	100.00	858	98.85	10	1.15

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	10,712	6,445	60.17	6,193	96.09	252	3.91	4,254	39.71	4,127	97.01	127	2.99	13	0.12	11	84.62	2	15.38
	LDGT2	5,351	3,645	68.12	3,380	92.73	265	7.27	1,691	31.60	1,598	94.50	93	5.50	15	0.28	15	100.00	0	0.00
	LDGV	15,535	9,640	62.05	9,308	96.56	332	3.44	5,864	37.75	5,671	96.71	193	3.29	31	0.20	28	90.32	3	9.68
2009 Total		32,466	19,730	60.77	18,881	95.70	849	4.30	11,809	36.37	11,396	96.50	413	3.50	927	2.86	912	98.38	15	1.62
2010	HDGV	967	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	967	100.00	960	99.28	7	0.72
	LDGT1	22,635	13,325	58.87	13,034	97.82	291	2.18	9,290	41.04	9,111	98.07	179	1.93	20	0.09	20	100.00	0	0.00
	LDGT2	11,109	7,304	65.75	6,955	95.22	349	4.78	3,784	34.06	3,625	95.80	159	4.20	21	0.19	20	95.24	1	4.76
	LDGV	25,091	15,684	62.51	15,208	96.97	476	3.03	9,368	37.34	9,128	97.44	240	2.56	39	0.16	36	92.31	3	7.69
2010 Total		59,802	36,313	60.72	35,197	96.93	1,116	3.07	22,442	37.53	21,864	97.42	578	2.58	1,047	1.75	1,036	98.95	11	1.05
2011	HDGV	1,337	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	1,337	100.00	1,331	99.55	6	0.45
	LDGT1	16,141	15,540	96.28	14,792	95.19	748	4.81	593	3.67	562	94.77	31	5.23	8	0.05	8	100.00	0	0.00
	LDGT2	9,183	8,838	96.24	8,070	91.31	768	8.69	330	3.59	311	94.24	19	5.76	15	0.16	13	86.67	2	13.33
	LDGV	15,768	15,179	96.26	14,216	93.66	963	6.34	576	3.65	548	95.14	28	4.86	13	0.08	13	100.00	0	0.00
2011 Total		42,429	39,557	93.23	37,078	93.73	2,479	6.27	1,499	3.53	1,421	94.80	78	5.20	1,373	3.24	1,365	99.42	8	0.58
2012	HDGV	2,082	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	2,082	100.00	2,067	99.28	15	0.72
	LDGT1	28,303	27,472	97.06	26,603	96.84	869	3.16	808	2.85	784	97.03	24	2.97	23	0.08	23	100.00	0	0.00
	LDGT2	14,968	14,496	96.85	13,545	93.44	951	6.56	456	3.05	424	92.98	32	7.02	16	0.11	15	93.75	1	6.25
	LDGV	33,822	32,776	96.91	31,171	95.10	1,605	4.90	1,014	3.00	966	95.27	48	4.73	32	0.09	31	96.88	1	3.13
2012 Total		79,175	74,744	94.40	71,319	95.42	3,425	4.58	2,278	2.88	2,174	95.43	104	4.57	2,153	2.72	2,136	99.21	17	0.79
2013	HDGV	1,173	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	1,173	100.00	1,171	99.83	2	0.17
	LDGT1	17,313	16,957	97.94	16,432	96.90	525	3.10	343	1.98	334	97.38	9	2.62	13	0.08	13	100.00	0	0.00
	LDGT2	9,064	8,818	97.29	8,115	92.03	703	7.97	231	2.55	220	95.24	11	4.76	15	0.17	13	86.67	2	13.33
	LDGV	21,853	21,233	97.16	20,138	94.84	1,095	5.16	599	2.74	567	94.66	32	5.34	21	0.10	21	100.00	0	0.00
2013 Total		49,403	47,008	95.15	44,685	95.06	2,323	4.94	1,173	2.37	1,121	95.57	52	4.43	1,222	2.47	1,218	99.67	4	0.33
2014	HDGV	2,369	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	2,369	100.00	2,360	99.62	9	0.38
	LDGT1	42,769	42,100	98.44	41,148	97.74	952	2.26	643	1.50	629	97.82	14	2.18	26	0.06	26	100.00	0	0.00
	LDGT2	23,461	22,863	97.45	21,522	94.13	1,341	5.87	583	2.48	560	96.05	23	3.95	15	0.06	14	93.33	1	6.67
	LDGV	38,934	38,082	97.81	36,744	96.49	1,338	3.51	817	2.10	783	95.84	34	4.16	35	0.09	32	91.43	3	8.57
2014 Total		107,533	103,045	95.83	99,414	96.48	3,631	3.52	2,043	1.90	1,972	96.52	71	3.48	2,445	2.27	2,432	99.47	13	0.53
2015	HDGV	671	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	671	100.00	668	99.55	3	0.45
	LDGT1	5,670	5,545	97.80	5,393	97.26	152	2.74	121	2.13	117	96.69	4	3.31	4	0.07	4	100.00	0	0.00
	LDGT2	2,575	2,488	96.62	2,354	94.61	134	5.39	83	3.22	81	97.59	2	2.41	4	0.16	3	75.00	1	25.00
	LDGV	5,636	5,477	97.18	5,231	95.51	246	4.49	158	2.80	151	95.57	7	4.43	1	0.02	1	100.00	0	0.00
2015 Total		14,552	13,510	92.84	12,978	96.06	532	3.94	362	2.49	349	96.41	13	3.59	680	4.67	676	99.41	4	0.59
2016	HDGV	244	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	244	100.00	244	100.00	0	0.00
	LDGT1	1,945	1,906	97.99	1,838	96.43	68	3.57	39	2.01	39	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	725	703	96.97	659	93.74	44	6.26	20	2.76	20	100.00	0	0.00	2	0.28	2	100.00	0	0.00
	LDGV	1,649	1,599	96.97	1,507	94.25	92	5.75	49	2.97	48	97.96	1	2.04	1	0.06	1	100.00	0	0.00
2016 Total		4,563	4,208	92.22	4,004	95.15	204	4.85	108	2.37	107	99.07	1	0.93	247	5.41	247	100.00	0	0.00
2017	HDGV	198	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	198	100.00	198	100.00	0	0.00
	LDGT1	1,132	1,115	98.50	1,090	97.76	25	2.24	15	1.33	15	100.00	0	0.00	2	0.18	2	100.00	0	0.00
	LDGT2	447	442	98.88	431	97.51	11	2.49	5	1.12	5	100.00	0	0.00	0	0.00	0	0.00	0	0.00
	LDGV	907	889	98.02	863	97.08	26	2.92	18	1.98	18	100.00	0	0.00	0	0.00	0	0.00	0	0.00
2017 Total		2,684	2,446	91.13	2,384	97.47	62	2.53	38	1.42	38	100.00	0	0.00	200	7.45	200	100.00	0	0.00
2018	HDGV	72	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	72	100.00	72	100.00	0	0.00
	LDGT1	755	750	99.34	734	97.87	16	2.13	5	0.66	5	100.00	0	0.00	0	0.00	0	0.00	0	0.00
	LDGT2	257	254	98.83	247	97.24	7	2.76	3	1.17	3	100.00	0	0.00	0	0.00	0	0.00	0	0.00
	LDGV	408	405	99.26	397	98.02	8	1.98	3	0.74	2	66.67	1	33.33	0	0.00	0	0.00	0	0.00
2018 Total		1,492	1,409	94.44	1,378	97.80	31	2.20	11	0.74	10	90.91	1	9.09	72	4.83	72	100.00	0	0.00
2019	HDGV	77	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	77	100.00	77	100.00	0	0.00
	LDGT1	373	371	99.46	368	99.19	3	0.81	2	0.54	2	100.00	0	0.00	0	0.00	0	0.00	0	0.00
	LDGT2	134	133	99.25	131	98.50	2	1.50	1	0.75	1	100.00	0	0.00	0	0.00	0	0.00	0	0.00
	LDGV	222	218	98.20	211	96.79	7	3.21	3	1.35	3	100.00	0	0.00	1	0.45	1	100.00	0	0.00
2019 Total		806	722	89.58	710	98.34	12	1.66	6	0.74	6	100.00	0	0.00	78	9.68	78	100.00	0	0.00
2020	HDGV	10	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	10	100.00	10	100.00	0	0.00
	LDGT1	52	51	98.08	48	94.12	3	5.88	1	1.92	1	100.00	0	0.00	0	0.00	0	0.00	0	0.00
	LDGT2	52	52	100.00	49	94.23	3	5.77	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
	LDGV	101	100	99.01	97	97.00	3	3.00	1	0.99	1	100.00	0	0.00	0	0.00	0	0.00	0	0.00
2020 Total		215	203	94.42	194	95.57	9	4.43	2	0.93	2	100.00	0	0.00	10	4.65	10	100.00	0	0.00
2021	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	14	13	92.86	13	100.00	0	0.00	1	7.14	1	100.00	0	0.00	0	0.00	0	0.00	0	0.00
	LDGT2	14	14	100.00	14	100.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
	LDGV	26	25	96.15	25	100.00	0	0.00	1	3.85	1	100.00	0	0.00	0	0.00	0	0.00	0	0.00
2021 Total		61	52	85.25	52	100.00	0	0.00	2	3.28	2	100.00	0	0.00	7	11.48	7	100.00	0	0.00
2022	HDGV	1	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	1	100.00	1	100.00	0	0.00
	LDGT1	1	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	0.00
	LDGV	2	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
2022 Total		4	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	0.00
Grand Total		905,455	541,415	59.79	513,527	94.85	27,888	5.15	322,633	35.63	295,944	91.73	26,689	8.27	41,407	4.57	38,748	93.58	2,659	6.42

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

	OBD	IM240	Two Speed Idle
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Type	Overall Total	Total	% of Overall Total	Pass	%	Fail	%	Total	% of Overall Total	Pass	%	Fail	%	Total	% of Overall Total	Pass	%	Fail	%
HDGV	36,111	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	36,111	100.00	34,811	96.40	1,300	3.60
LDGT1	335,571	203,782	60.73	195,835	96.10	7,947	3.90	130,371	38.85	119,853	91.93	10,518	8.07	1,418	0.42	1,046	73.77	372	26.23
LDGT2	177,318	117,492	66.26	108,374	92.24	9,118	7.76	58,277	32.87	52,028	89.28	6,249	10.72	1,549	0.87	1,205	77.79	344	22.21
LDGV	356,455	220,141	61.76	209,318	95.08	10,823	4.92	133,985	37.59	124,063	92.59	9,922	7.41	2,329	0.65	1,686	72.39	643	27.61
Grand Total	905,455	541,415	59.79	513,527	94.85	27,888	5.15	322,633	35.63	295,944	91.73	26,689	8.27	41,407	4.57	38,748	93.58	2,659	6.42

Appendix A2

Initial OBD Inspection Report

Date Range
Between 1/1/2021 and 1/1/2022

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	41	25	60.98	19	76.00	6	24.00
	LDGT2	35	22	62.86	20	90.91	2	9.09
	LDGV	75	48	64.00	40	83.33	8	16.67
1996 Total		151	95	62.91	79	83.16	16	16.84
1997	LDGT1	117	63	53.85	53	84.13	10	15.87
	LDGT2	77	58	75.32	44	75.86	14	24.14
	LDGV	100	74	74.00	67	90.54	7	9.46
1997 Total		294	195	66.33	164	84.10	31	15.90
1998	LDGT1	125	93	74.40	79	84.95	14	15.05
	LDGT2	40	23	57.50	18	78.26	5	21.74
	LDGV	109	77	70.64	64	83.12	13	16.88
1998 Total		274	193	70.44	161	83.42	32	16.58
1999	LDGT1	148	112	75.68	101	90.18	11	9.82
	LDGT2	877	739	84.26	632	85.52	107	14.48
	LDGV	181	162	89.50	143	88.27	19	11.73
1999 Total		1,206	1,013	84.00	876	86.48	137	13.52
2000	LDGT1	3,826	3,584	93.67	3,262	91.02	322	8.98
	LDGT2	2,928	2,596	88.66	2,250	86.67	346	13.33
	LDGV	3,863	3,616	93.61	3,305	91.40	311	8.60
2000 Total		10,617	9,796	92.27	8,817	90.01	979	9.99
2001	LDGT1	4,288	4,049	94.43	3,613	89.23	436	10.77
	LDGT2	4,046	3,548	87.69	3,082	86.87	466	13.13
	LDGV	4,659	4,412	94.70	4,059	92.00	353	8.00
2001 Total		12,993	12,009	92.43	10,754	89.55	1,255	10.45
2002	LDGT1	4,858	4,620	95.10	4,180	90.48	440	9.52
	LDGT2	4,115	3,573	86.83	3,073	86.01	500	13.99
	LDGV	5,261	4,989	94.83	4,606	92.32	383	7.68
2002 Total		14,234	13,182	92.61	11,859	89.96	1,323	10.04
2003	LDGT1	5,794	5,616	96.93	5,162	91.92	454	8.08
	LDGT2	4,973	4,384	88.16	3,877	88.44	507	11.56
	LDGV	6,508	6,229	95.71	5,730	91.99	499	8.01
2003 Total		17,275	16,229	93.95	14,769	91.00	1,460	9.00
2004	LDGT1	6,428	6,253	97.28	5,841	93.41	412	6.59
	LDGT2	5,565	4,825	86.70	4,287	88.85	538	11.15
	LDGV	6,834	6,503	95.16	6,018	92.54	485	7.46
2004 Total		18,827	17,581	93.38	16,146	91.84	1,435	8.16
2005	LDGT1	11,506	10,954	95.20	10,432	95.23	522	4.77
	LDGT2	6,571	5,808	88.39	5,354	92.18	454	7.82
	LDGV	12,587	11,907	94.60	11,097	93.20	810	6.80
2005 Total		30,664	28,669	93.49	26,883	93.77	1,786	6.23
2006	LDGT1	11,132	10,638	95.56	10,150	95.41	488	4.59
	LDGT2	6,166	5,678	92.09	5,267	92.76	411	7.24

Model Year	Type	OBD Total All	OBD Total Pass/Fail	OBD Total Pass/Fail %	Pass		Fail	
					Count	%	Count	%
	LDGV	12,525	11,886	94.90	11,299	95.06	587	4.94
2006 Total		29,823	28,202	94.56	26,716	94.73	1,486	5.27
2007	LDGT1	14,082	13,607	96.63	13,116	96.39	491	3.61
	LDGT2	9,231	8,533	92.44	7,918	92.79	615	7.21
	LDGV	16,067	15,312	95.30	14,695	95.97	617	4.03
2007 Total		39,380	37,452	95.10	35,729	95.40	1,723	4.60
2008	LDGT1	13,028	12,577	96.54	12,140	96.53	437	3.47
	LDGT2	8,181	7,655	93.57	7,080	92.49	575	7.51
	LDGV	14,269	13,617	95.43	13,077	96.03	540	3.97
2008 Total		35,478	33,849	95.41	32,297	95.41	1,552	4.59
2009	LDGT1	6,675	6,445	96.55	6,193	96.09	252	3.91
	LDGT2	3,889	3,645	93.73	3,380	92.73	265	7.27
	LDGV	10,061	9,640	95.82	9,308	96.56	332	3.44
2009 Total		20,625	19,730	95.66	18,881	95.70	849	4.30
2010	LDGT1	14,736	13,325	90.42	13,034	97.82	291	2.18
	LDGT2	8,449	7,304	86.45	6,955	95.22	349	4.78
	LDGV	17,701	15,684	88.61	15,208	96.97	476	3.03
2010 Total		40,886	36,313	88.82	35,197	96.93	1,116	3.07
2011	LDGT1	17,022	15,540	91.29	14,792	95.19	748	4.81
	LDGT2	9,993	8,838	88.44	8,070	91.31	768	8.69
	LDGV	16,946	15,179	89.57	14,216	93.66	963	6.34
2011 Total		43,961	39,557	89.98	37,078	93.73	2,479	6.27
2012	LDGT1	29,012	27,472	94.69	26,603	96.84	869	3.16
	LDGT2	15,660	14,496	92.57	13,545	93.44	951	6.56
	LDGV	35,216	32,776	93.07	31,171	95.10	1,605	4.90
2012 Total		79,888	74,744	93.56	71,319	95.42	3,425	4.58
2013	LDGT1	17,865	16,957	94.92	16,432	96.90	525	3.10
	LDGT2	9,845	8,818	89.57	8,115	92.03	703	7.97
	LDGV	23,252	21,233	91.32	20,138	94.84	1,095	5.16
2013 Total		50,962	47,008	92.24	44,685	95.06	2,323	4.94
2014	LDGT1	43,106	42,100	97.67	41,148	97.74	952	2.26
	LDGT2	24,603	22,863	92.93	21,522	94.13	1,341	5.87
	LDGV	39,947	38,082	95.33	36,744	96.49	1,338	3.51
2014 Total		107,656	103,045	95.72	99,414	96.48	3,631	3.52
2015	LDGT1	5,774	5,545	96.03	5,393	97.26	152	2.74
	LDGT2	2,690	2,488	92.49	2,354	94.61	134	5.39
	LDGV	5,856	5,477	93.53	5,231	95.51	246	4.49
2015 Total		14,320	13,510	94.34	12,978	96.06	532	3.94
2016	LDGT1	1,964	1,906	97.05	1,838	96.43	68	3.57
	LDGT2	756	703	92.99	659	93.74	44	6.26
	LDGV	1,712	1,599	93.40	1,507	94.25	92	5.75
2016 Total		4,432	4,208	94.95	4,004	95.15	204	4.85
2017	LDGT1	1,137	1,115	98.07	1,090	97.76	25	2.24
	LDGT2	461	442	95.88	431	97.51	11	2.49
	LDGV	958	889	92.80	863	97.08	26	2.92
2017 Total		2,556	2,446	95.70	2,384	97.47	62	2.53

Model Year	Type	OBD Total All	OBD Total Pass/Fail	OBD Total Pass/Fail %	Pass		Fail	
					Count	%	Count	%
2018	LDGT1	777	750	96.53	734	97.87	16	2.13
	LDGT2	270	254	94.07	247	97.24	7	2.76
	LDGV	420	405	96.43	397	98.02	8	1.98
2018 Total		1,467	1,409	96.05	1,378	97.80	31	2.20
2019	LDGT1	380	371	97.63	368	99.19	3	0.81
	LDGT2	139	133	95.68	131	98.50	2	1.50
	LDGV	230	218	94.78	211	96.79	7	3.21
2019 Total		749	722	96.40	710	98.34	12	1.66
2020	LDGT1	53	51	96.23	48	94.12	3	5.88
	LDGT2	57	52	91.23	49	94.23	3	5.77
	LDGV	106	100	94.34	97	97.00	3	3.00
2020 Total		216	203	93.98	194	95.57	9	4.43
2021	LDGT1	13	13	100.00	13	100.00	0	0.00
	LDGT2	17	14	82.35	14	100.00	0	0.00
	LDGV	25	25	100.00	25	100.00	0	0.00
2021 Total		55	52	94.55	52	100.00	0	0.00
2022	LDGT1	1	1	100.00	1	100.00	0	0.00
	LDGV	2	2	100.00	2	100.00	0	0.00
2022 Total		3	3	100.00	3	100.00	0	0.00
Grand Total		578,992	541,415	93.51	513,527	94.85	27,888	5.15

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	213,888	203,782	95.28	195,835	96.10	7,947	3.90
LDGT2	129,634	117,492	90.63	108,374	92.24	9,118	7.76
LDGV	235,470	220,141	93.49	209,318	95.08	10,823	4.92
Grand Total	578,992	541,415	93.51	513,527	94.85	27,888	5.15

Appendix A3

Initial OBD Inspection Failure Report

Date Range
Between 1/1/2021 and 1/1/2022

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	6	3	50.00	0	0.00	1	16.67	0	0.00	0	0.00	0	0.00	0	0.00	2	33.33	0	0.00
	LDGT2	2	0	0.00	1	50.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	1	50.00	0	0.00
	LDGV	8	6	75.00	0	0.00	2	25.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
1996 Total		16	9	56.25	1	6.25	3	18.75	0	0.00	0	0.00	0	0.00	0	0.00	3	18.75	0	0.00
1997	LDGT1	10	4	40.00	1	10.00	1	10.00	1	10.00	0	0.00	0	0.00	0	0.00	2	20.00	1	10.00
	LDGT2	14	8	57.14	1	7.14	2	14.29	0	0.00	0	0.00	0	0.00	0	0.00	3	21.43	0	0.00
	LDGV	7	3	42.86	0	0.00	2	28.57	0	0.00	0	0.00	0	0.00	0	0.00	2	28.57	0	0.00
1997 Total		31	15	48.39	2	6.45	5	16.13	1	3.23	0	0.00	0	0.00	0	0.00	7	22.58	1	3.23
1998	LDGT1	14	6	42.86	1	7.14	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	7	50.00	0	0.00
	LDGT2	5	3	60.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	2	40.00	0	0.00
	LDGV	13	7	53.85	1	7.69	0	0.00	0	0.00	1	7.69	0	0.00	0	0.00	4	30.77	0	0.00
1998 Total		32	16	50.00	2	6.25	0	0.00	0	0.00	1	3.13	0	0.00	0	0.00	13	40.63	0	0.00
1999	LDGT1	11	5	45.45	1	9.09	0	0.00	2	18.18	0	0.00	0	0.00	0	0.00	3	27.27	0	0.00
	LDGT2	107	41	38.32	8	7.48	31	28.97	1	0.93	0	0.00	4	3.74	4	3.74	21	19.63	1	0.93
	LDGV	19	7	36.84	3	15.79	4	21.05	1	5.26	0	0.00	0	0.00	0	0.00	4	21.05	1	5.26
1999 Total		137	53	38.69	12	8.76	35	25.55	4	2.92	0	0.00	4	2.92	4	2.92	28	20.44	2	1.46
2000	LDGT1	322	153	47.52	0	0.00	7	2.17	7	2.17	0	0.00	1	0.31	1	0.31	150	46.58	5	1.55
	LDGT2	346	153	44.22	12	3.47	59	17.05	7	2.02	0	0.00	13	3.76	13	3.76	99	28.61	3	0.87
	LDGV	311	178	57.23	1	0.32	7	2.25	7	2.25	0	0.00	0	0.00	0	0.00	115	36.98	3	0.96
2000 Total		979	484	49.44	13	1.33	73	7.46	21	2.15	0	0.00	14	1.43	14	1.43	364	37.18	11	1.12
2001	LDGT1	436	224	51.38	3	0.69	22	5.05	16	3.67	0	0.00	2	0.46	2	0.46	162	37.16	8	1.83
	LDGT2	466	176	37.77	18	3.86	105	22.53	9	1.93	3	0.64	3	0.64	3	0.64	150	32.19	6	1.29
	LDGV	353	190	53.82	3	0.85	10	2.83	11	3.12	0	0.00	0	0.00	0	0.00	137	38.81	2	0.57
2001 Total		1,255	590	47.01	24	1.91	137	10.92	36	2.87	3	0.24	5	0.40	5	0.40	449	35.78	16	1.27
2002	LDGT1	440	216	49.09	3	0.68	15	3.41	7	1.59	1	0.23	0	0.00	0	0.00	194	44.09	6	1.36
	LDGT2	500	193	38.60	19	3.80	108	21.60	16	3.20	2	0.40	11	2.20	11	2.20	147	29.40	6	1.20
	LDGV	383	201	52.48	6	1.57	17	4.44	9	2.35	0	0.00	1	0.26	1	0.26	145	37.86	4	1.04
2002 Total		1,323	610	46.11	28	2.12	140	10.58	32	2.42	3	0.23	12	0.91	12	0.91	486	36.73	16	1.21
2003	LDGT1	454	183	40.31	2	0.44	8	1.76	11	2.42	0	0.00	0	0.00	0	0.00	244	53.74	10	2.20
	LDGT2	507	210	41.42	24	4.73	110	21.70	11	2.17	1	0.20	7	1.38	7	1.38	141	27.81	4	0.79
	LDGV	499	209	41.88	1	0.20	23	4.61	18	3.61	1	0.20	1	0.20	1	0.20	241	48.30	5	1.00
2003 Total		1,460	602	41.23	27	1.85	141	9.66	40	2.74	2	0.14	8	0.55	8	0.55	626	42.88	19	1.30
2004	LDGT1	412	161	39.08	1	0.24	7	1.70	4	0.97	0	0.00	0	0.00	0	0.00	231	56.07	11	2.67

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	538	184	34.20	32	5.95	117	21.75	16	2.97	2	0.37	6	1.12	178	33.09	4	0.74
	LDGV	485	180	37.11	8	1.65	24	4.95	12	2.47	0	0.00	3	0.62	252	51.96	6	1.24
2004 Total		1,435	525	36.59	41	2.86	148	10.31	32	2.23	2	0.14	9	0.63	661	46.06	21	1.46
2005	LDGT1	522	209	40.04	5	0.96	26	4.98	6	1.15	0	0.00	2	0.38	258	49.43	18	3.45
	LDGT2	454	163	35.90	27	5.95	97	21.37	9	1.98	1	0.22	5	1.10	141	31.06	14	3.08
	LDGV	810	305	37.65	3	0.37	51	6.30	16	1.98	1	0.12	3	0.37	428	52.84	3	0.37
2005 Total		1,786	677	37.91	35	1.96	174	9.74	31	1.74	2	0.11	10	0.56	827	46.30	35	1.96
2006	LDGT1	488	231	47.34	4	0.82	31	6.35	9	1.84	0	0.00	0	0.00	204	41.80	10	2.05
	LDGT2	411	140	34.06	17	4.14	52	12.65	10	2.43	1	0.24	7	1.70	172	41.85	13	3.16
	LDGV	587	318	54.17	5	0.85	40	6.81	8	1.36	0	0.00	2	0.34	208	35.43	7	1.19
2006 Total		1,486	689	46.37	26	1.75	123	8.28	27	1.82	1	0.07	9	0.61	584	39.30	30	2.02
2007	LDGT1	491	176	35.85	3	0.61	29	5.91	6	1.22	0	0.00	0	0.00	269	54.79	9	1.83
	LDGT2	615	192	31.22	16	2.60	183	29.76	8	1.30	0	0.00	9	1.46	197	32.03	11	1.79
	LDGV	617	298	48.30	8	1.30	62	10.05	12	1.94	0	0.00	1	0.16	227	36.79	10	1.62
2007 Total		1,723	666	38.65	27	1.57	274	15.90	26	1.51	0	0.00	10	0.58	693	40.22	30	1.74
2008	LDGT1	437	151	34.55	4	0.92	28	6.41	8	1.83	0	0.00	3	0.69	237	54.23	6	1.37
	LDGT2	575	158	27.48	15	2.61	155	26.96	7	1.22	0	0.00	7	1.22	225	39.13	11	1.91
	LDGV	540	246	45.56	8	1.48	49	9.07	8	1.48	0	0.00	2	0.37	220	40.74	7	1.30
2008 Total		1,552	555	35.76	27	1.74	232	14.95	23	1.48	0	0.00	12	0.77	682	43.94	24	1.55
2009	LDGT1	252	88	34.92	1	0.40	8	3.17	7	2.78	0	0.00	1	0.40	147	58.33	0	0.00
	LDGT2	265	91	34.34	1	0.38	49	18.49	3	1.13	0	0.00	2	0.75	113	42.64	7	2.64
	LDGV	332	160	48.19	2	0.60	29	8.73	3	0.90	0	0.00	0	0.00	134	40.36	4	1.20
2009 Total		849	339	39.93	4	0.47	86	10.13	13	1.53	0	0.00	3	0.35	394	46.41	11	1.30
2010	LDGT1	291	96	32.99	1	0.34	16	5.50	4	1.37	0	0.00	0	0.00	165	56.70	9	3.09
	LDGT2	349	103	29.51	7	2.01	56	16.05	7	2.01	0	0.00	4	1.15	166	47.56	6	1.72
	LDGV	476	206	43.28	13	2.73	34	7.14	6	1.26	0	0.00	0	0.00	208	43.70	9	1.89
2010 Total		1,116	405	36.29	21	1.88	106	9.50	17	1.52	0	0.00	4	0.36	539	48.30	24	2.15
2011	LDGT1	748	260	34.76	13	1.74	233	31.15	6	0.80	0	0.00	12	1.60	216	28.88	9	1.20
	LDGT2	768	189	24.61	6	0.78	207	26.95	10	1.30	2	0.26	17	2.21	332	43.23	6	0.78
	LDGV	963	439	45.59	32	3.32	282	29.28	10	1.04	0	0.00	12	1.25	179	18.59	10	1.04
2011 Total		2,479	888	35.82	51	2.06	722	29.12	26	1.05	2	0.08	41	1.65	727	29.33	25	1.01
2012	LDGT1	869	261	30.03	9	1.04	215	24.74	9	1.04	0	0.00	11	1.27	353	40.62	12	1.38
	LDGT2	951	247	25.97	14	1.47	195	20.50	15	1.58	1	0.11	11	1.16	460	48.37	11	1.16
	LDGV	1,605	585	36.45	26	1.62	460	28.66	18	1.12	1	0.06	15	0.93	479	29.84	22	1.37
2012 Total		3,425	1,093	31.91	49	1.43	870	25.40	42	1.23	2	0.06	37	1.08	1,292	37.72	45	1.31
2013	LDGT1	525	188	35.81	11	2.10	148	28.19	11	2.10	0	0.00	3	0.57	158	30.10	7	1.33
	LDGT2	703	148	21.05	10	1.42	162	23.04	12	1.71	1	0.14	18	2.56	345	49.08	9	1.28

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 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	1,095	442	40.37	9	0.82	304	27.76	3	0.27	0	0.00	10	0.91	315	28.77	15	1.37
2013 Total		2,323	778	33.49	30	1.29	614	26.43	26	1.12	1	0.04	31	1.33	818	35.21	31	1.33
2014	LDGT1	952	285	29.94	20	2.10	246	25.84	9	0.95	0	0.00	4	0.42	375	39.39	13	1.37
	LDGT2	1,341	322	24.01	15	1.12	337	25.13	20	1.49	0	0.00	16	1.19	624	46.53	8	0.60
	LDGV	1,338	515	38.49	20	1.49	391	29.22	6	0.45	0	0.00	4	0.30	390	29.15	14	1.05
2014 Total		3,631	1,122	30.90	55	1.51	974	26.82	35	0.96	0	0.00	24	0.66	1,389	38.25	35	0.96
2015	LDGT1	152	49	32.24	0	0.00	36	23.68	1	0.66	0	0.00	2	1.32	62	40.79	2	1.32
	LDGT2	134	34	25.37	1	0.75	31	23.13	1	0.75	0	0.00	0	0.00	67	50.00	0	0.00
	LDGV	246	87	35.37	1	0.41	57	23.17	2	0.81	0	0.00	4	1.63	95	38.62	0	0.00
2015 Total		532	170	31.95	2	0.38	124	23.31	4	0.75	0	0.00	6	1.13	224	42.11	2	0.38
2016	LDGT1	68	23	33.82	0	0.00	14	20.59	0	0.00	0	0.00	0	0.00	31	45.59	0	0.00
	LDGT2	44	13	29.55	0	0.00	9	20.45	0	0.00	0	0.00	0	0.00	22	50.00	0	0.00
	LDGV	92	34	36.96	0	0.00	22	23.91	3	3.26	0	0.00	1	1.09	32	34.78	0	0.00
2016 Total		204	70	34.31	0	0.00	45	22.06	3	1.47	0	0.00	1	0.49	85	41.67	0	0.00
2017	LDGT1	25	2	8.00	1	4.00	3	12.00	0	0.00	0	0.00	0	0.00	18	72.00	1	4.00
	LDGT2	11	4	36.36	1	9.09	1	9.09	0	0.00	0	0.00	0	0.00	5	45.45	0	0.00
	LDGV	26	6	23.08	1	3.85	8	30.77	0	0.00	0	0.00	0	0.00	11	42.31	0	0.00
2017 Total		62	12	19.35	3	4.84	12	19.35	0	0.00	0	0.00	0	0.00	34	54.84	1	1.61
2018	LDGT1	16	4	25.00	1	6.25	5	31.25	0	0.00	0	0.00	0	0.00	6	37.50	0	0.00
	LDGT2	7	1	14.29	0	0.00	1	14.29	0	0.00	0	0.00	0	0.00	4	57.14	1	14.29
	LDGV	8	2	25.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	6	75.00	0	0.00
2018 Total		31	7	22.58	1	3.23	6	19.35	0	0.00	0	0.00	0	0.00	16	51.61	1	3.23
2019	LDGT1	3	2	66.67	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	1	33.33	0	0.00
	LDGT2	2	1	50.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	1	50.00	0	0.00
	LDGV	7	4	57.14	0	0.00	1	14.29	0	0.00	0	0.00	0	0.00	2	28.57	0	0.00
2019 Total		12	7	58.33	0	0.00	1	8.33	0	0.00	0	0.00	0	0.00	4	33.33	0	0.00
2020	LDGT1	3	2	66.67	0	0.00	1	33.33	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
	LDGT2	3	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	3	100.00	0	0.00
	LDGV	3	2	66.67	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	1	33.33	0	0.00
2020 Total		9	4	44.44	0	0.00	1	11.11	0	0.00	0	0.00	0	0.00	4	44.44	0	0.00
Grand Total		27,888	10,386	37.24	481	1.72	5,046	18.09	439	1.57	19	0.07	240	0.86	10,949	39.26	380	1.36

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

	Failed OBD Only	Failed Both OBD and Gas Cap	Failed Gas Cap Only	Failed Opacity
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Type	Total Fail	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	7,947	2,982	37.52	85	1.07	1,100	13.84	124	1.56	1	0.01	41	0.52	3,495	43.98	137	1.72
LDGT2	9,118	2,774	30.42	245	2.69	2,067	22.67	162	1.78	14	0.15	140	1.54	3,619	39.69	121	1.33
LDGV	10,823	4,630	42.78	151	1.40	1,879	17.36	153	1.41	4	0.04	59	0.55	3,835	35.43	122	1.13
Grand Total	27,888	10,386	37.24	481	1.72	5,046	18.09	439	1.57	19	0.07	240	0.86	10,949	39.26	380	1.36

Appendix A4

Initial OBD Fail DTC Report

Date Range
Between 1/1/2021 and 1/1/2022

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	4	0	0.00	3	75.00	0	0.00	0	0.00	0	0.00	1	25.00	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
	LDGV	8	1	12.50	4	50.00	3	37.50	0	0.00	0	0.00	0	0.00	0	0.00
1996 Total		13	2	15.38	7	53.85	3	23.08	0	0.00	0	0.00	1	7.69	0	0.00
1997	LDGT1	7	1	14.29	2	28.57	2	28.57	1	14.29	0	0.00	1	14.29	0	0.00
	LDGT2	11	3	27.27	3	27.27	1	9.09	1	9.09	3	27.27	0	0.00	0	0.00
	LDGV	5	0	0.00	2	40.00	2	40.00	1	20.00	0	0.00	0	0.00	0	0.00
1997 Total		23	4	17.39	7	30.43	5	21.74	3	13.04	3	13.04	1	4.35	0	0.00
1998	LDGT1	7	1	14.29	2	28.57	2	28.57	2	28.57	0	0.00	0	0.00	0	0.00
	LDGT2	3	1	33.33	0	0.00	1	33.33	1	33.33	0	0.00	0	0.00	0	0.00
	LDGV	9	1	11.11	3	33.33	1	11.11	0	0.00	0	0.00	3	33.33	1	11.11
1998 Total		19	3	15.79	5	26.32	4	21.05	3	15.79	0	0.00	3	15.79	1	5.26
1999	LDGT1	8	2	25.00	1	12.50	2	25.00	0	0.00	1	12.50	2	25.00	0	0.00
	LDGT2	85	7	8.24	31	36.47	22	25.88	12	14.12	2	2.35	9	10.59	2	2.35
	LDGV	15	2	13.33	7	46.67	2	13.33	0	0.00	0	0.00	3	20.00	1	6.67
1999 Total		108	11	10.19	39	36.11	26	24.07	12	11.11	3	2.78	14	12.96	3	2.78
2000	LDGT1	168	3	1.79	72	42.86	44	26.19	27	16.07	9	5.36	13	7.74	0	0.00
	LDGT2	244	9	3.69	93	38.11	67	27.46	43	17.62	11	4.51	15	6.15	6	2.46
	LDGV	193	7	3.63	76	39.38	46	23.83	30	15.54	16	8.29	18	9.33	0	0.00
2000 Total		605	19	3.14	241	39.83	157	25.95	100	16.53	36	5.95	46	7.60	6	0.99
2001	LDGT1	267	2	0.75	106	39.70	66	24.72	33	12.36	24	8.99	33	12.36	3	1.12
	LDGT2	314	21	6.69	122	38.85	58	18.47	57	18.15	25	7.96	19	6.05	12	3.82
	LDGV	214	9	4.21	86	40.19	47	21.96	34	15.89	27	12.62	9	4.21	2	0.93
2001 Total		795	32	4.03	314	39.50	171	21.51	124	15.60	76	9.56	61	7.67	17	2.14
2002	LDGT1	242	5	2.07	89	36.78	47	19.42	42	17.36	24	9.92	33	13.64	2	0.83
	LDGT2	349	17	4.87	158	45.27	83	23.78	34	9.74	25	7.16	22	6.30	10	2.87
	LDGV	234	13	5.56	86	36.75	55	23.50	28	11.97	27	11.54	23	9.83	2	0.85
2002 Total		825	35	4.24	333	40.36	185	22.42	104	12.61	76	9.21	78	9.45	14	1.70
2003	LDGT1	204	5	2.45	83	40.69	42	20.59	25	12.25	25	12.25	24	11.76	0	0.00
	LDGT2	363	20	5.51	142	39.12	91	25.07	44	12.12	26	7.16	28	7.71	12	3.31
	LDGV	253	10	3.95	108	42.69	59	23.32	39	15.42	16	6.32	20	7.91	1	0.40
2003 Total		820	35	4.27	333	40.61	192	23.41	108	13.17	67	8.17	72	8.78	13	1.59

			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	173	3	1.73	61	35.26	51	29.48	27	15.61	14	8.09	17	9.83	0	0.00
	LDGT2	357	11	3.08	123	34.45	90	25.21	44	12.32	31	8.68	34	9.52	24	6.72
	LDGV	227	27	11.89	93	40.97	44	19.38	27	11.89	11	4.85	23	10.13	2	0.88
2004 Total		757	41	5.42	277	36.59	185	24.44	98	12.95	56	7.40	74	9.78	26	3.43
2005	LDGT1	248	12	4.84	96	38.71	78	31.45	29	11.69	18	7.26	15	6.05	0	0.00
	LDGT2	302	13	4.30	112	37.09	78	25.83	45	14.90	15	4.97	21	6.95	18	5.96
	LDGV	379	24	6.33	183	48.28	85	22.43	46	12.14	19	5.01	20	5.28	2	0.53
2005 Total		929	49	5.27	391	42.09	241	25.94	120	12.92	52	5.60	56	6.03	20	2.15
2006	LDGT1	275	7	2.55	130	47.27	60	21.82	27	9.82	18	6.55	33	12.00	0	0.00
	LDGT2	227	10	4.41	79	34.80	53	23.35	26	11.45	15	6.61	33	14.54	11	4.85
	LDGV	373	29	7.77	160	42.90	94	25.20	46	12.33	19	5.09	23	6.17	2	0.54
2006 Total		875	46	5.26	369	42.17	207	23.66	99	11.31	52	5.94	89	10.17	13	1.49
2007	LDGT1	214	7	3.27	95	44.39	45	21.03	31	14.49	11	5.14	24	11.21	1	0.47
	LDGT2	408	9	2.21	187	45.83	89	21.81	44	10.78	28	6.86	44	10.78	7	1.72
	LDGV	381	24	6.30	184	48.29	76	19.95	40	10.50	26	6.82	31	8.14	0	0.00
2007 Total		1,003	40	3.99	466	46.46	210	20.94	115	11.47	65	6.48	99	9.87	8	0.80
2008	LDGT1	194	9	4.64	80	41.24	51	26.29	30	15.46	11	5.67	12	6.19	1	0.52
	LDGT2	342	14	4.09	122	35.67	94	27.49	49	14.33	19	5.56	37	10.82	7	2.05
	LDGV	313	16	5.11	153	48.88	65	20.77	30	9.58	16	5.11	31	9.90	2	0.64
2008 Total		849	39	4.59	355	41.81	210	24.73	109	12.84	46	5.42	80	9.42	10	1.18
2009	LDGT1	105	3	2.86	54	51.43	20	19.05	15	14.29	7	6.67	6	5.71	0	0.00
	LDGT2	146	3	2.05	59	40.41	27	18.49	25	17.12	10	6.85	22	15.07	0	0.00
	LDGV	194	20	10.31	96	49.48	39	20.10	27	13.92	8	4.12	3	1.55	1	0.52
2009 Total		445	26	5.84	209	46.97	86	19.33	67	15.06	25	5.62	31	6.97	1	0.22
2010	LDGT1	117	18	15.38	61	52.14	17	14.53	13	11.11	3	2.56	5	4.27	0	0.00
	LDGT2	177	17	9.60	81	45.76	46	25.99	16	9.04	4	2.26	11	6.21	2	1.13
	LDGV	259	30	11.58	124	47.88	57	22.01	17	6.56	10	3.86	17	6.56	4	1.54
2010 Total		553	65	11.75	266	48.10	120	21.70	46	8.32	17	3.07	33	5.97	6	1.08
2011	LDGT1	524	6	1.15	322	61.45	118	22.52	38	7.25	21	4.01	14	2.67	5	0.95
	LDGT2	431	11	2.55	226	52.44	103	23.90	41	9.51	23	5.34	24	5.57	3	0.70
	LDGV	775	81	10.45	417	53.81	155	20.00	52	6.71	24	3.10	37	4.77	9	1.16
2011 Total		1,730	98	5.66	965	55.78	376	21.73	131	7.57	68	3.93	75	4.34	17	0.98
2012	LDGT1	505	12	2.38	318	62.97	114	22.57	32	6.34	12	2.38	14	2.77	3	0.59
	LDGT2	483	24	4.97	262	54.24	116	24.02	42	8.70	18	3.73	17	3.52	4	0.83
	LDGV	1,105	65	5.88	634	57.38	231	20.90	85	7.69	38	3.44	41	3.71	11	1.00
2012 Total		2,093	101	4.83	1,214	58.00	461	22.03	159	7.60	68	3.25	72	3.44	18	0.86

			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	361	15	4.16	200	55.40	87	24.10	31	8.59	12	3.32	12	3.32	4	1.11
	LDGT2	351	11	3.13	202	57.55	86	24.50	24	6.84	7	1.99	14	3.99	7	1.99
	LDGV	768	43	5.60	408	53.13	169	22.01	70	9.11	30	3.91	43	5.60	5	0.65
2013 Total		1,480	69	4.66	810	54.73	342	23.11	125	8.45	49	3.31	69	4.66	16	1.08
2014	LDGT1	564	36	6.38	339	60.11	116	20.57	30	5.32	18	3.19	20	3.55	5	0.89
	LDGT2	710	33	4.65	390	54.93	161	22.68	64	9.01	32	4.51	25	3.52	5	0.70
	LDGV	936	63	6.73	508	54.27	188	20.09	73	7.80	39	4.17	58	6.20	7	0.75
2014 Total		2,210	132	5.97	1,237	55.97	465	21.04	167	7.56	89	4.03	103	4.66	17	0.77
2015	LDGT1	88	2	2.27	54	61.36	22	25.00	8	9.09	1	1.14	1	1.14	0	0.00
	LDGT2	67	2	2.99	36	53.73	21	31.34	5	7.46	2	2.99	0	0.00	1	1.49
	LDGV	151	8	5.30	94	62.25	27	17.88	12	7.95	4	2.65	5	3.31	1	0.66
2015 Total		306	12	3.92	184	60.13	70	22.88	25	8.17	7	2.29	6	1.96	2	0.65
2016	LDGT1	37	5	13.51	24	64.86	5	13.51	3	8.11	0	0.00	0	0.00	0	0.00
	LDGT2	22	2	9.09	12	54.55	4	18.18	2	9.09	1	4.55	1	4.55	0	0.00
	LDGV	60	5	8.33	36	60.00	10	16.67	3	5.00	5	8.33	1	1.67	0	0.00
2016 Total		119	12	10.08	72	60.50	19	15.97	8	6.72	6	5.04	2	1.68	0	0.00
2017	LDGT1	6	1	16.67	4	66.67	0	0.00	0	0.00	0	0.00	1	16.67	0	0.00
	LDGT2	6	0	0.00	3	50.00	0	0.00	1	16.67	1	16.67	0	0.00	1	16.67
	LDGV	15	4	26.67	7	46.67	2	13.33	0	0.00	1	6.67	1	6.67	0	0.00
2017 Total		27	5	18.52	14	51.85	2	7.41	1	3.70	2	7.41	2	7.41	1	3.70
2018	LDGT1	10	4	40.00	6	60.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
	LDGT2	2	0	0.00	2	100.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
	LDGV	2	1	50.00	0	0.00	0	0.00	0	0.00	0	0.00	1	50.00	0	0.00
2018 Total		14	5	35.71	8	57.14	0	0.00	0	0.00	0	0.00	1	7.14	0	0.00
2019	LDGT1	2	1	50.00	0	0.00	1	50.00	0	0.00	0	0.00	0	0.00	0	0.00
	LDGT2	1	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	1	100.00	0	0.00
	LDGV	5	3	60.00	1	20.00	1	20.00	0	0.00	0	0.00	0	0.00	0	0.00
2019 Total		8	4	50.00	1	12.50	2	25.00	0	0.00	0	0.00	1	12.50	0	0.00
2020	LDGT1	3	2	66.67	1	33.33	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
	LDGT2	0	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
	LDGV	2	1	50.00	1	50.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
2020 Total		5	3	60.00	2	40.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
Grand Total		16,611	888	5.35	8,119	48.88	3,739	22.51	1,724	10.38	863	5.20	1,069	6.44	209	1.26

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

			Count of Tests by Number of DTC Present												No DTCs Available	
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Type	Total Fail	0 Count	0 %	1 Count	1 %	2 Count	2 %	3 Count	3 %	4 Count	4 %	>= 5 Count	>= 5 %	Count	%
LDGT1	4,333	162	3.74	2,203	50.84	990	22.85	444	10.25	229	5.29	281	6.49	24	0.55
LDGT2	5,402	239	4.42	2,445	45.26	1,291	23.90	620	11.48	298	5.52	377	6.98	132	2.44
LDGV	6,876	487	7.08	3,471	50.48	1,458	21.20	660	9.60	336	4.89	411	5.98	53	0.77
Grand Total	16,611	888	5.35	8,119	48.88	3,739	22.51	1,724	10.38	863	5.20	1,069	6.44	209	1.26

Appendix A5

Initial OBD Fail Readiness Monitor Summary Report

Appendix A6

OBD Retest Frequency Report

Date Range
Between 1/1/2021 and 1/1/2022

OBD Retest Frequency Report (V 1.04)

Model Year	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	%
1996	LDGT1	6	1.33	4	66.67	2	50.00	2	33.33	1	50.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
	LDGT2	3	1.00	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
	LDGV	6	1.00	6	100.00	3	50.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
1996 Total		15	1.13	13	86.67	8	61.54	2	13.33	1	50.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
1997	LDGT1	18	2.11	9	50.00	6	66.67	4	22.22	2	50.00	2	11.11	1	50.00	1	5.56	0	0.00	2	11.11	0	0.00
	LDGT2	13	1.92	7	53.85	5	71.43	3	23.08	2	66.67	1	7.69	0	0.00	1	7.69	1	100.00	1	7.69	0	0.00
	LDGV	9	1.67	7	77.78	3	42.86	1	11.11	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	1	11.11	0	0.00
1997 Total		40	1.95	23	57.50	14	60.87	8	20.00	4	50.00	3	7.50	1	33.33	2	5.00	1	50.00	4	10.00	0	0.00
1998	LDGT1	20	2.75	11	55.00	9	81.82	1	5.00	0	0.00	1	5.00	0	0.00	2	10.00	0	0.00	5	25.00	1	20.00
	LDGT2	6	1.50	4	66.67	2	50.00	1	16.67	0	0.00	1	16.67	1	100.00	0	0.00	0	0.00	0	0.00	0	0.00
	LDGV	15	1.27	12	80.00	9	75.00	2	13.33	2	100.00	1	6.67	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
1998 Total		41	2.02	27	65.85	20	74.07	4	9.76	2	50.00	3	7.32	1	33.33	2	4.88	0	0.00	5	12.20	1	20.00
1999	LDGT1	18	1.33	13	72.22	8	61.54	4	22.22	0	0.00	1	5.56	1	100.00	0	0.00	0	0.00	0	0.00	0	0.00
	LDGT2	123	1.30	96	78.05	64	66.67	20	16.26	14	70.00	5	4.07	3	60.00	1	0.81	0	0.00	1	0.81	1	100.00
	LDGV	19	1.26	15	78.95	12	80.00	3	15.79	1	33.33	1	5.26	1	100.00	0	0.00	0	0.00	0	0.00	0	0.00
1999 Total		160	1.30	124	77.50	84	67.74	27	16.88	15	55.56	7	4.38	5	71.43	1	0.63	0	0.00	1	0.63	1	100.00
2000	LDGT1	403	1.33	320	79.40	240	75.00	55	13.65	30	54.55	15	3.72	6	40.00	9	2.23	5	55.56	4	0.99	0	0.00
	LDGT2	424	1.48	309	72.88	224	72.49	70	16.51	41	58.57	20	4.72	9	45.00	13	3.07	5	38.46	12	2.83	5	41.67
	LDGV	357	1.46	269	75.35	207	76.95	52	14.57	26	50.00	17	4.76	8	47.06	9	2.52	3	33.33	10	2.80	1	10.00
2000 Total		1,184	1.42	898	75.84	671	74.72	177	14.95	97	54.80	52	4.39	23	44.23	31	2.62	13	41.94	26	2.20	6	23.08
2001	LDGT1	582	1.50	414	71.13	299	72.22	98	16.84	54	55.10	38	6.53	16	42.11	17	2.92	5	29.41	15	2.58	4	26.67
	LDGT2	517	1.35	413	79.88	335	81.11	65	12.57	37	56.92	21	4.06	11	52.38	8	1.55	3	37.50	10	1.93	4	40.00
	LDGV	430	1.38	334	77.67	256	76.65	60	13.95	29	48.33	21	4.88	11	52.38	7	1.63	3	42.86	8	1.86	1	12.50
2001 Total		1,529	1.42	1,161	75.93	890	76.66	223	14.58	120	53.81	80	5.23	38	47.50	32	2.09	11	34.38	33	2.16	9	27.27
2002	LDGT1	535	1.37	411	76.82	321	78.10	75	14.02	34	45.33	31	5.79	17	54.84	11	2.06	4	36.36	7	1.31	2	28.57
	LDGT2	571	1.28	459	80.39	367	79.96	78	13.66	42	53.85	24	4.20	12	50.00	8	1.40	5	62.50	2	0.35	1	50.00
	LDGV	455	1.37	351	77.14	274	78.06	64	14.07	29	45.31	26	5.71	15	57.69	8	1.76	2	25.00	6	1.32	3	50.00
2002 Total		1,561	1.34	1,221	78.22	962	78.79	217	13.90	105	48.39	81	5.19	44	54.32	27	1.73	11	40.74	15	0.96	6	40.00
2003	LDGT1	534	1.24	441	82.58	361	81.86	69	12.92	43	62.32	17	3.18	8	47.06	5	0.94	4	80.00	2	0.37	0	0.00
	LDGT2	590	1.30	476	80.68	393	82.56	73	12.37	43	58.90	25	4.24	13	52.00	10	1.69	3	30.00	6	1.02	3	50.00
	LDGV	544	1.25	464	85.29	393	84.70	54	9.93	31	57.41	11	2.02	4	36.36	8	1.47	3	37.50	7	1.29	2	28.57
2003 Total		1,668	1.26	1,381	82.79	1,147	83.06	196	11.75	117	59.69	53	3.18	25	47.17	23	1.38	10	43.48	15	0.90	5	33.33
2004	LDGT1	487	1.21	409	83.98	339	82.89	59	12.11	35	59.32	13	2.67	6	46.15	5	1.03	2	40.00	1	0.21	1	100.00
	LDGT2	601	1.29	488	81.20	397	81.35	77	12.81	48	62.34	22	3.66	15	68.18	7	1.16	2	28.57	7	1.16	2	28.57
	LDGV	540	1.30	444	82.22	375	84.46	61	11.30	33	54.10	20	3.70	13	65.00	6	1.11	1	16.67	9	1.67	3	33.33
2004 Total		1,628	1.27	1,341	82.37	1,111	82.85	197	12.10	116	58.88	55	3.38	34	61.82	18	1.11	5	27.78	17	1.04	6	35.29
2005	LDGT1	592	1.29	494	83.45	415	84.01	60	10.14	36	60.00	18	3.04	4	22.22	10	1.69	3	30.00	10	1.69	4	40.00
	LDGT2	443	1.22	373	84.20	308	82.57	49	11.06	28	57.14	15	3.39	10	66.67	4	0.90	2	50.00	2	0.45	2	100.00
	LDGV	821	1.17	721	87.82	633	87.79	72	8.77	48	66.67	18	2.19	12	66.67	6	0.73	3	50.00	4	0.49	1	25.00
2005 Total		1,856	1.22	1,588	85.56	1,356	85.39	181	9.75	112	61.88	51	2.75	26	50.98	20	1.08	8	40.00	16	0.86	7	43.75

Model Year	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	%
2006	LDGT1	533	1.22	448	84.05	370	82.59	61	11.44	35	57.38	16	3.00	9	56.25	6	1.13	2	33.33	2	0.38	2	100.00
	LDGT2	441	1.21	372	84.35	314	84.41	51	11.56	32	62.75	13	2.95	10	76.92	5	1.13	4	80.00	0	0.00	0	0.00
	LDGV	611	1.27	508	83.14	417	82.09	64	10.47	37	57.81	24	3.93	9	37.50	8	1.31	2	25.00	7	1.15	3	42.86
2006 Total		1,585	1.24	1,328	83.79	1,101	82.91	176	11.10	104	59.09	53	3.34	28	52.83	19	1.20	8	42.11	9	0.57	5	55.56
2007	LDGT1	540	1.19	475	87.96	423	89.05	47	8.70	31	65.96	8	1.48	2	25.00	6	1.11	3	50.00	4	0.74	1	25.00
	LDGT2	647	1.27	524	80.99	428	81.68	85	13.14	49	57.65	27	4.17	17	62.96	7	1.08	3	42.86	4	0.62	2	50.00
	LDGV	648	1.20	550	84.88	468	85.09	71	10.96	43	60.56	23	3.55	13	56.52	4	0.62	2	50.00	0	0.00	0	0.00
2007 Total		1,835	1.22	1,549	84.41	1,319	85.15	203	11.06	123	60.59	58	3.16	32	55.17	17	0.93	8	47.06	8	0.44	3	37.50
2008	LDGT1	471	1.18	418	88.75	373	89.23	41	8.70	33	80.49	7	1.49	4	57.14	1	0.21	1	100.00	4	0.85	1	25.00
	LDGT2	571	1.24	489	85.64	416	85.07	52	9.11	30	57.69	16	2.80	7	43.75	9	1.58	7	77.78	5	0.88	2	40.00
	LDGV	552	1.23	480	86.96	430	89.58	42	7.61	21	50.00	17	3.08	8	47.06	6	1.09	1	16.67	7	1.27	3	42.86
2008 Total		1,594	1.22	1,387	87.01	1,219	87.89	135	8.47	84	62.22	40	2.51	19	47.50	16	1.00	9	56.25	16	1.00	6	37.50
2009	LDGT1	281	1.17	243	86.48	217	89.30	30	10.68	20	66.67	7	2.49	5	71.43	1	0.36	1	100.00	0	0.00	0	0.00
	LDGT2	282	1.24	234	82.98	196	83.76	34	12.06	23	67.65	9	3.19	4	44.44	4	1.42	3	75.00	1	0.35	1	100.00
	LDGV	383	1.22	323	84.33	278	86.07	41	10.70	29	70.73	14	3.66	6	42.86	4	1.04	3	75.00	1	0.26	1	100.00
2009 Total		946	1.21	800	84.57	691	86.38	105	11.10	72	68.57	30	3.17	15	50.00	9	0.95	7	77.78	2	0.21	2	100.00
2010	LDGT1	349	1.20	300	85.96	257	85.67	37	10.60	25	67.57	6	1.72	1	16.67	3	0.86	0	0.00	3	0.86	2	66.67
	LDGT2	380	1.21	328	86.32	287	87.50	34	8.95	19	55.88	12	3.16	7	58.33	4	1.05	2	50.00	2	0.53	1	50.00
	LDGV	559	1.30	466	83.36	401	86.05	61	10.91	41	67.21	16	2.86	11	68.75	6	1.07	3	50.00	10	1.79	3	30.00
2010 Total		1,288	1.25	1,094	84.94	945	86.38	132	10.25	85	64.39	34	2.64	19	55.88	13	1.01	5	38.46	15	1.16	6	40.00
2011	LDGT1	753	1.22	640	84.99	559	87.34	78	10.36	50	64.10	22	2.92	9	40.91	9	1.20	5	55.56	4	0.53	2	50.00
	LDGT2	762	1.15	680	89.24	598	87.94	61	8.01	49	80.33	15	1.97	7	46.67	4	0.52	0	0.00	2	0.26	2	100.00
	LDGV	898	1.19	780	86.86	663	85.00	88	9.80	54	61.36	21	2.34	16	76.19	3	0.33	1	33.33	6	0.67	3	50.00
2011 Total		2,413	1.19	2,100	87.03	1,820	86.67	227	9.41	153	67.40	58	2.40	32	55.17	16	0.66	6	37.50	12	0.50	7	58.33
2012	LDGT1	799	1.10	737	92.24	681	92.40	47	5.88	35	74.47	11	1.38	7	63.64	3	0.38	2	66.67	1	0.13	1	100.00
	LDGT2	912	1.16	832	91.23	760	91.35	57	6.25	42	73.68	10	1.10	5	50.00	4	0.44	1	25.00	9	0.99	2	22.22
	LDGV	1,493	1.13	1,349	90.35	1,218	90.29	110	7.37	75	68.18	25	1.67	14	56.00	8	0.54	5	62.50	1	0.07	0	0.00
2012 Total		3,204	1.13	2,918	91.07	2,659	91.12	214	6.68	152	71.03	46	1.44	26	56.52	15	0.47	8	53.33	11	0.34	3	27.27
2013	LDGT1	553	1.07	518	93.67	479	92.47	31	5.61	26	83.87	3	0.54	2	66.67	0	0.00	0	0.00	1	0.18	1	100.00
	LDGT2	732	1.11	664	90.71	604	90.96	59	8.06	45	76.27	5	0.68	2	40.00	3	0.41	2	66.67	1	0.14	1	100.00
	LDGV	1,091	1.15	973	89.18	870	89.41	87	7.97	63	72.41	20	1.83	11	55.00	8	0.73	6	75.00	3	0.27	2	66.67
2013 Total		2,376	1.12	2,155	90.70	1,953	90.63	177	7.45	134	75.71	28	1.18	15	53.57	11	0.46	8	72.73	5	0.21	4	80.00
2014	LDGT1	861	1.05	825	95.82	782	94.79	32	3.72	29	90.63	3	0.35	1	33.33	1	0.12	1	100.00	0	0.00	0	0.00
	LDGT2	1,216	1.06	1,148	94.41	1,072	93.38	60	4.93	50	83.33	6	0.49	2	33.33	2	0.16	2	100.00	0	0.00	0	0.00
	LDGV	1,180	1.08	1,103	93.47	1,008	91.39	66	5.59	53	80.30	10	0.85	8	80.00	1	0.08	0	0.00	0	0.00	0	0.00
2014 Total		3,257	1.06	3,076	94.44	2,862	93.04	158	4.85	132	83.54	19	0.58	11	57.89	4	0.12	3	75.00	0	0.00	0	0.00
2015	LDGT1	126	1.06	119	94.44	107	89.92	7	5.56	7	100.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
	LDGT2	99	1.02	97	97.98	94	96.91	2	2.02	2	100.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
	LDGV	185	1.07	172	92.97	152	88.37	13	7.03	11	84.62	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
2015 Total		410	1.05	388	94.63	353	90.98	22	5.37	20	90.91	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
2016	LDGT1	52	1.04	50	96.15	47	94.00	2	3.85	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
	LDGT2	27	1.11	25	92.59	24	96.00	1	3.70	0	0.00	1	3.70	1	100.00	0	0.00	0	0.00	0	0.00	0	0.00
	LDGV	50	1.02	49	98.00	47	95.92	1	2.00	1	100.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
2016 Total		129	1.05	124	96.12	118	95.16	4	3.10	1	25.00	1	0.78	1	100.00	0	0.00	0	0.00	0	0.00	0	0.00

Model Year	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	%
2017	LDGT1	24	1.04	23	95.83	22	95.65	1	4.17	1	100.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
	LDGT2	8	1.00	8	100.00	7	87.50	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
	LDGV	17	1.06	16	94.12	15	93.75	1	5.88	1	100.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
2017 Total		49	1.04	47	95.92	44	93.62	2	4.08	2	100.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
2018	LDGT1	6	1.00	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
	LDGT2	5	1.00	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
	LDGV	4	1.00	4	100.00	4	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
2018 Total		15	1.00	15	100.00	15	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
2019	LDGT1	2	1.00	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	1	1.00	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	0.00	0	0.00
	LDGV	3	1.00	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
2019 Total		6	1.00	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
2020	LDGT1	1	1.00	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	0.00	0	0.00
	LDGT2	2	1.00	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
	LDGV	2	1.00	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
2020 Total		5	1.00	5	100.00	4	80.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
Overall Total		28,794	1.21	24,769	86.02	21,372	86.29	2,787	9.68	1,751	62.83	752	2.61	395	52.53	276	0.96	121	43.84	210	0.73	77	36.67

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	8,546	1.22	7,331	85.78	6,325	86.28	841	9.84	527	62.66	219	2.56	99	45.21	90	1.05	38	42.22	65	0.76	22	33.85
LDGT2	9,376	1.22	8,037	85.72	6,906	85.93	932	9.94	596	63.95	248	2.65	136	54.84	94	1.00	45	47.87	65	0.69	29	44.62
LDGV	10,872	1.21	9,401	86.47	8,141	86.60	1,014	9.33	628	61.93	285	2.62	160	56.14	92	0.85	38	41.30	80	0.74	26	32.50
Overall Total	28,794	1.21	24,769	86.02	21,372	86.29	2,787	9.68	1,751	62.83	752	2.61	395	52.53	276	0.96	121	43.84	210	0.73	77	36.67

Appendix A7

Initial OBD Pass DTC Report

Date Range
Between 1/1/2021 and 1/1/2022

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	19	18	94.74	1	5.26	0	0.00	0	0.00	0	0.00	0	0.00
	LDGT2	20	19	95.00	1	5.00	0	0.00	0	0.00	0	0.00	0	0.00
	LDGV	40	38	95.00	1	2.50	1	2.50	0	0.00	0	0.00	0	0.00
1996 Total		79	75	94.94	3	3.80	1	1.27	0	0.00	0	0.00	0	0.00
1997	LDGT1	53	46	86.79	5	9.43	2	3.77	0	0.00	0	0.00	0	0.00
	LDGT2	44	40	90.91	4	9.09	0	0.00	0	0.00	0	0.00	0	0.00
	LDGV	67	63	94.03	3	4.48	0	0.00	1	1.49	0	0.00	0	0.00
1997 Total		164	149	90.85	12	7.32	2	1.22	1	0.61	0	0.00	0	0.00
1998	LDGT1	79	66	83.54	11	13.92	1	1.27	1	1.27	0	0.00	0	0.00
	LDGT2	18	15	83.33	2	11.11	1	5.56	0	0.00	0	0.00	0	0.00
	LDGV	64	54	84.38	7	10.94	2	3.13	0	0.00	1	1.56	0	0.00
1998 Total		161	135	83.85	20	12.42	4	2.48	1	0.62	1	0.62	0	0.00
1999	LDGT1	101	94	93.07	3	2.97	2	1.98	1	0.99	0	0.00	1	0.99
	LDGT2	632	533	84.34	44	6.96	44	6.96	6	0.95	4	0.63	1	0.16
	LDGV	143	130	90.91	13	9.09	0	0.00	0	0.00	0	0.00	0	0.00
1999 Total		876	757	86.42	60	6.85	46	5.25	7	0.80	4	0.46	2	0.23
2000	LDGT1	3,262	2,865	87.83	317	9.72	42	1.29	18	0.55	9	0.28	11	0.34
	LDGT2	2,250	1,997	88.76	154	6.84	56	2.49	31	1.38	8	0.36	4	0.18
	LDGV	3,305	2,969	89.83	227	6.87	58	1.75	14	0.42	5	0.15	32	0.97
2000 Total		8,817	7,831	88.82	698	7.92	156	1.77	63	0.71	22	0.25	47	0.53
2001	LDGT1	3,613	3,325	92.03	204	5.65	47	1.30	13	0.36	8	0.22	16	0.44
	LDGT2	3,082	2,732	88.64	195	6.33	95	3.08	46	1.49	10	0.32	4	0.13
	LDGV	4,059	3,569	87.93	364	8.97	81	2.00	22	0.54	4	0.10	19	0.47
2001 Total		10,754	9,626	89.51	763	7.10	223	2.07	81	0.75	22	0.20	39	0.36
2002	LDGT1	4,180	3,646	87.22	380	9.09	98	2.34	27	0.65	15	0.36	14	0.33
	LDGT2	3,073	2,748	89.42	188	6.12	72	2.34	47	1.53	9	0.29	9	0.29
	LDGV	4,606	4,026	87.41	436	9.47	90	1.95	26	0.56	10	0.22	18	0.39
2002 Total		11,859	10,420	87.87	1,004	8.47	260	2.19	100	0.84	34	0.29	41	0.35
2003	LDGT1	5,162	4,589	88.90	410	7.94	104	2.01	25	0.48	15	0.29	19	0.37
	LDGT2	3,877	3,486	89.91	265	6.84	71	1.83	35	0.90	9	0.23	11	0.28
	LDGV	5,730	5,056	88.24	475	8.29	130	2.27	37	0.65	15	0.26	17	0.30
2003 Total		14,769	13,131	88.91	1,150	7.79	305	2.07	97	0.66	39	0.26	47	0.32

			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	5,841	5,094	87.21	526	9.01	128	2.19	43	0.74	17	0.29	33	0.56
	LDGT2	4,287	3,854	89.90	240	5.60	91	2.12	77	1.80	16	0.37	9	0.21
	LDGV	6,018	5,370	89.23	491	8.16	107	1.78	27	0.45	10	0.17	13	0.22
2004 Total		16,146	14,318	88.68	1,257	7.79	326	2.02	147	0.91	43	0.27	55	0.34
2005	LDGT1	10,432	9,426	90.36	710	6.81	182	1.74	53	0.51	24	0.23	37	0.35
	LDGT2	5,354	4,861	90.79	317	5.92	95	1.77	56	1.05	16	0.30	9	0.17
	LDGV	11,097	10,050	90.57	766	6.90	199	1.79	52	0.47	19	0.17	11	0.10
2005 Total		26,883	24,337	90.53	1,793	6.67	476	1.77	161	0.60	59	0.22	57	0.21
2006	LDGT1	10,150	9,158	90.23	683	6.73	174	1.71	54	0.53	22	0.22	59	0.58
	LDGT2	5,267	4,686	88.97	353	6.70	129	2.45	53	1.01	19	0.36	27	0.51
	LDGV	11,299	10,204	90.31	805	7.12	187	1.66	63	0.56	13	0.12	27	0.24
2006 Total		26,716	24,048	90.01	1,841	6.89	490	1.83	170	0.64	54	0.20	113	0.42
2007	LDGT1	13,116	12,108	92.31	700	5.34	170	1.30	71	0.54	17	0.13	50	0.38
	LDGT2	7,918	7,262	91.72	444	5.61	144	1.82	42	0.53	16	0.20	10	0.13
	LDGV	14,695	13,599	92.54	793	5.40	198	1.35	56	0.38	23	0.16	26	0.18
2007 Total		35,729	32,969	92.28	1,937	5.42	512	1.43	169	0.47	56	0.16	86	0.24
2008	LDGT1	12,140	11,387	93.80	531	4.37	141	1.16	38	0.31	9	0.07	34	0.28
	LDGT2	7,080	6,397	90.35	430	6.07	175	2.47	46	0.65	13	0.18	19	0.27
	LDGV	13,077	12,106	92.57	730	5.58	161	1.23	50	0.38	13	0.10	17	0.13
2008 Total		32,297	29,890	92.55	1,691	5.24	477	1.48	134	0.41	35	0.11	70	0.22
2009	LDGT1	6,193	5,862	94.66	257	4.15	53	0.86	18	0.29	0	0.00	3	0.05
	LDGT2	3,380	3,029	89.62	237	7.01	77	2.28	24	0.71	6	0.18	7	0.21
	LDGV	9,308	8,720	93.68	453	4.87	90	0.97	33	0.35	8	0.09	4	0.04
2009 Total		18,881	17,611	93.27	947	5.02	220	1.17	75	0.40	14	0.07	14	0.07
2010	LDGT1	13,034	12,531	96.14	394	3.02	83	0.64	19	0.15	3	0.02	4	0.03
	LDGT2	6,955	6,468	93.00	321	4.62	120	1.73	28	0.40	10	0.14	8	0.12
	LDGV	15,208	14,453	95.04	584	3.84	117	0.77	31	0.20	10	0.07	13	0.09
2010 Total		35,197	33,452	95.04	1,299	3.69	320	0.91	78	0.22	23	0.07	25	0.07
2011	LDGT1	14,792	14,160	95.73	500	3.38	99	0.67	18	0.12	11	0.07	4	0.03
	LDGT2	8,070	7,404	91.75	492	6.10	129	1.60	27	0.33	14	0.17	4	0.05
	LDGV	14,216	13,314	93.66	697	4.90	136	0.96	46	0.32	11	0.08	12	0.08
2011 Total		37,078	34,878	94.07	1,689	4.56	364	0.98	91	0.25	36	0.10	20	0.05
2012	LDGT1	26,603	25,761	96.83	681	2.56	117	0.44	34	0.13	5	0.02	5	0.02
	LDGT2	13,545	12,736	94.03	598	4.41	162	1.20	23	0.17	16	0.12	10	0.07
	LDGV	31,171	29,622	95.03	1,212	3.89	250	0.80	52	0.17	20	0.06	15	0.05
2012 Total		71,319	68,119	95.51	2,491	3.49	529	0.74	109	0.15	41	0.06	30	0.04

			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	16,432	15,804	96.18	478	2.91	120	0.73	19	0.12	6	0.04	5	0.03
	LDGT2	8,115	7,514	92.59	443	5.46	126	1.55	18	0.22	6	0.07	8	0.10
	LDGV	20,138	18,957	94.14	933	4.63	179	0.89	38	0.19	20	0.10	11	0.05
2013 Total		44,685	42,275	94.61	1,854	4.15	425	0.95	75	0.17	32	0.07	24	0.05
2014	LDGT1	41,148	39,857	96.86	1,062	2.58	180	0.44	27	0.07	13	0.03	9	0.02
	LDGT2	21,522	20,335	94.48	884	4.11	231	1.07	46	0.21	15	0.07	11	0.05
	LDGV	36,744	35,330	96.15	1,077	2.93	237	0.65	62	0.17	20	0.05	18	0.05
2014 Total		99,414	95,522	96.09	3,023	3.04	648	0.65	135	0.14	48	0.05	38	0.04
2015	LDGT1	5,393	5,237	97.11	128	2.37	25	0.46	2	0.04	0	0.00	1	0.02
	LDGT2	2,354	2,244	95.33	74	3.14	30	1.27	1	0.04	3	0.13	2	0.08
	LDGV	5,231	5,004	95.66	176	3.36	34	0.65	9	0.17	4	0.08	4	0.08
2015 Total		12,978	12,485	96.20	378	2.91	89	0.69	12	0.09	7	0.05	7	0.05
2016	LDGT1	1,838	1,789	97.33	43	2.34	5	0.27	1	0.05	0	0.00	0	0.00
	LDGT2	659	631	95.75	16	2.43	10	1.52	1	0.15	1	0.15	0	0.00
	LDGV	1,507	1,452	96.35	40	2.65	12	0.80	2	0.13	0	0.00	1	0.07
2016 Total		4,004	3,872	96.70	99	2.47	27	0.67	4	0.10	1	0.02	1	0.02
2017	LDGT1	1,090	1,065	97.71	21	1.93	2	0.18	1	0.09	1	0.09	0	0.00
	LDGT2	431	416	96.52	10	2.32	4	0.93	1	0.23	0	0.00	0	0.00
	LDGV	863	842	97.57	18	2.09	3	0.35	0	0.00	0	0.00	0	0.00
2017 Total		2,384	2,323	97.44	49	2.06	9	0.38	2	0.08	1	0.04	0	0.00
2018	LDGT1	734	723	98.50	7	0.95	1	0.14	3	0.41	0	0.00	0	0.00
	LDGT2	247	240	97.17	3	1.21	3	1.21	0	0.00	0	0.00	1	0.40
	LDGV	397	388	97.73	5	1.26	3	0.76	0	0.00	1	0.25	0	0.00
2018 Total		1,378	1,351	98.04	15	1.09	7	0.51	3	0.22	1	0.07	1	0.07
2019	LDGT1	368	363	98.64	4	1.09	1	0.27	0	0.00	0	0.00	0	0.00
	LDGT2	131	121	92.37	1	0.76	2	1.53	5	3.82	1	0.76	1	0.76
	LDGV	211	209	99.05	2	0.95	0	0.00	0	0.00	0	0.00	0	0.00
2019 Total		710	693	97.61	7	0.99	3	0.42	5	0.70	1	0.14	1	0.14
2020	LDGT1	48	48	100.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
	LDGT2	49	47	95.92	1	2.04	0	0.00	1	2.04	0	0.00	0	0.00
	LDGV	97	96	98.97	1	1.03	0	0.00	0	0.00	0	0.00	0	0.00
2020 Total		194	191	98.45	2	1.03	0	0.00	1	0.52	0	0.00	0	0.00
2021	LDGT1	13	13	100.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
	LDGT2	14	13	92.86	0	0.00	1	7.14	0	0.00	0	0.00	0	0.00
	LDGV	25	24	96.00	1	4.00	0	0.00	0	0.00	0	0.00	0	0.00
2021 Total		52	50	96.15	1	1.92	1	1.92	0	0.00	0	0.00	0	0.00

			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 %
2022	LDGT1	1	1	100.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
	LDGV	2	2	100.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
2022 Total		3	3	100.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
Grand Total		513,527	480,511	93.57	24,083	4.69	5,920	1.15	1,721	0.34	574	0.11	718	0.14

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	195,835	185,036	94.49	8,056	4.11	1,777	0.91	486	0.25	175	0.09	305	0.16	
LDGT2	108,374	99,828	92.11	5,717	5.28	1,868	1.72	614	0.57	192	0.18	155	0.14	
LDGV	209,318	195,647	93.47	10,310	4.93	2,275	1.09	621	0.30	207	0.10	258	0.12	
Grand Total	513,527	480,511	93.57	24,083	4.69	5,920	1.15	1,721	0.34	574	0.11	718	0.14	

Appendix A8

Initial OBD Pass Readiness Monitor Summary Report

Type	Total Pass	% of Total Pass with Unset Readiness Monitors	CAT				EVAP				SAIR				O2				HO2				EGR			
			Supported Count	Supported %	Ready Count	Ready %	Supported Count	Supported %	Ready Count	Ready %	Supported Count	Supported %	Ready Count	Ready %	Supported Count	Supported %	Ready Count	Ready %	Supported Count	Supported %	Ready Count	Ready %	Supported Count	Supported %	Ready Count	Ready %
LDGV	209,318	12.38	209,012	99.85	200,057	95.72	208,772	99.74	185,992	89.09	17,829	8.52	16,496	92.52	209,001	99.85	202,856	97.06	201,806	96.41	200,073	99.14	159,103	76.01	156,314	98.25
LDGT1	195,835	10.77	195,652	99.91	188,095	96.14	194,992	99.57	176,637	90.59	11,554	5.90	11,069	95.80	195,651	99.91	190,411	97.32	191,091	97.58	188,962	98.89	149,085	76.13	147,400	98.87
LDGT2	108,374	17.01	108,016	99.67	103,508	95.83	107,779	99.45	90,347	83.83	9,833	9.07	9,503	96.64	108,013	99.67	104,824	97.05	106,197	97.99	104,290	98.20	74,334	68.59	73,283	98.59
Grand Total	513,527	12.75	512,680	99.84	491,660	95.90	511,543	99.61	452,976	88.55	39,216	7.64	37,068	94.52	512,665	99.83	498,091	97.16	499,094	97.19	493,325	98.84	382,522	74.49	376,997	98.56

Appendix A9

OBD Initial Inspection Emissions Report

Model Year	Type	Overall Total	Passing Initial OBD Inspection												Failing Initial OBD Inspection											
			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	6,563	5,866	89.38	5,847	99.68	0.05	1.27	0.12	19	0.32	3.51	10.26	1.73	697	10.62	642	92.11	0.10	2.03	0.19	55	7.89	1.07	18.37	2.23
2007 Total		15,503	13,775	88.85	13,736	99.72	0.05	1.23	0.11	39	0.28	1.96	14.03	1.94	1,728	11.15	1,598	92.48	0.09	2.01	0.20	130	7.52	1.37	28.06	2.40
2008	LDGT1	5,110	4,596	89.94	4,578	99.61	0.05	1.35	0.11	18	0.39	0.67	18.88	2.63	514	10.06	485	94.36	0.08	2.38	0.20	29	5.64	0.88	31.90	2.37
	LDGT2	1,944	1,643	84.52	1,627	99.03	0.07	1.33	0.11	16	0.97	0.46	19.80	1.60	301	15.48	280	93.02	0.11	2.73	0.19	21	6.98	1.50	21.93	2.88
	LDGV	5,008	4,386	87.58	4,362	99.45	0.06	1.39	0.11	24	0.55	1.37	19.32	3.18	622	12.42	584	93.89	0.10	2.20	0.19	38	6.11	1.15	26.46	1.74
2008 Total		12,062	10,625	88.09	10,567	99.45	0.05	1.36	0.11	58	0.55	0.90	19.32	2.57	1,437	11.91	1,349	93.88	0.09	2.38	0.19	88	6.12	1.15	27.17	2.22
2009	LDGT1	2,773	2,507	90.41	2,500	99.72	0.05	1.60	0.12	7	0.28	0.83	27.71	1.06	266	9.59	253	95.11	0.07	2.97	0.17	13	4.89	1.08	21.85	1.84
	LDGT2	1,022	878	85.91	875	99.66	0.07	1.34	0.11	3	0.34	1.47	11.84	1.39	144	14.09	137	95.14	0.13	2.93	0.23	7	4.86	0.80	24.14	1.53
	LDGV	3,743	3,430	91.64	3,418	99.65	0.06	1.39	0.12	12	0.35	2.68	17.44	2.30	313	8.36	287	91.69	0.08	1.95	0.16	26	8.31	1.04	12.87	2.27
2009 Total		7,538	6,815	90.41	6,793	99.68	0.06	1.46	0.12	22	0.32	1.92	19.94	1.78	723	9.59	677	93.64	0.09	2.53	0.18	46	6.36	1.01	17.13	2.04
2010	LDGT1	6,446	6,170	95.72	6,165	99.92	0.04	1.25	0.09	5	0.08	0.30	16.74	2.16	276	4.28	265	96.01	0.08	2.55	0.18	11	3.99	0.67	17.32	2.19
	LDGT2	2,480	2,269	91.49	2,262	99.69	0.05	1.13	0.09	7	0.31	0.42	12.58	2.70	211	8.51	194	91.94	0.11	2.66	0.21	17	8.06	0.99	39.93	1.33
	LDGV	6,344	5,978	94.23	5,954	99.60	0.05	1.39	0.09	24	0.40	1.72	13.06	2.49	366	5.77	358	97.81	0.08	2.30	0.13	8	2.19	1.70	39.27	1.35
2010 Total		15,270	14,417	94.41	14,381	99.75	0.05	1.29	0.09	36	0.25	1.27	13.48	2.49	853	5.59	817	95.78	0.09	2.47	0.17	36	4.22	1.05	32.87	1.60
2011	LDGT1	18	17	94.44	17	100.00	0.07	2.14	0.14	0	0.00	0.00	0.00	0.00	1	5.56	1	100.00	0.08	5.66	0.11	0	0.00	0.00	0.00	0.00
	LDGT2	7	7	100.00	7	100.00	0.02	0.82	0.11	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	11	11	100.00	11	100.00	0.02	0.58	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
2011 Total		36	35	97.22	35	100.00	0.05	1.38	0.10	0	0.00	0.00	0.00	0.00	1	2.78	1	100.00	0.08	5.66	0.11	0	0.00	0.00	0.00	0.00
2012	LDGT1	44	44	100.00	44	100.00	0.04	1.65	0.08	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	15	14	93.33	14	100.00	0.03	1.88	0.06	0	0.00	0.00	0.00	0.00	1	6.67	1	100.00	0.05	2.07	0.11	0	0.00	0.00	0.00	0.00
	LDGV	36	33	91.67	33	100.00	0.02	0.75	0.05	0	0.00	0.00	0.00	0.00	3	8.33	2	66.67	0.12	1.77	0.12	1	33.33	0.04	16.65	0.48
2012 Total		95	91	95.79	91	100.00	0.03	1.36	0.07	0	0.00	0.00	0.00	0.00	4	4.21	3	75.00	0.09	1.87	0.12	1	25.00	0.04	16.65	0.48
2013	LDGT1	10	10	100.00	10	100.00	0.05	2.46	0.08	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	0.06	1.46	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	0.32	0.08	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
2013 Total		17	17	100.00	17	100.00	0.04	1.65	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
2014	LDGT1	65	61	93.85	61	100.00	0.03	1.44	0.06	0	0.00	0.00	0.00	0.00	4	6.15	4	100.00	0.02	2.24	0.03	0	0.00	0.00	0.00	0.00
	LDGT2	27	26	96.30	26	100.00	0.04	1.07	0.06	0	0.00	0.00	0.00	0.00	1	3.70	1	100.00	0.13	0.54	1.51	0	0.00	0.00	0.00	0.00
	LDGV	42	41	97.62	41	100.00	0.05	1.34	0.05	0	0.00	0.00	0.00	0.00	1	2.38	1	100.00	0.03	12.85	0.01	0	0.00	0.00	0.00	0.00
2014 Total		134	128	95.52	128	100.00	0.04	1.34	0.06	0	0.00	0.00	0.00	0.00	6	4.48	6	100.00	0.04	3.72	0.28	0	0.00	0.00	0.00	0.00
Grand Total		149,068	125,081	83.91	123,715	98.91	0.12	1.92	0.30	1,366	1.09	1.30	15.54	2.16	23,987	16.09	21,236	88.53	0.19	3.17	0.52	2,751	11.47	1.79	24.44	2.30

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

Type	Overall Total	Passing Initial OBD Inspection												Failing Initial OBD Inspection											
		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	62,145	52,445	84.39	51,912	98.98	0.12	2.04	0.32	533	1.02	1.10	16.26	2.28	9,700	15.61	8,606	88.72	0.20	3.41	0.57	1,094	11.28	1.73	28.67	2.44
LDGT2	25,179	20,563	81.67	20,283	98.64	0.15	1.95	0.39	280	1.36	1.09	14.55	2.43	4,616	18.33	4,011	86.89	0.25	3.40	0.67	605	13.11	2.15	23.82	2.60
LDGV	61,744	52,073	84.34	51,520	98.94	0.10	1.78	0.24	553	1.06	1.60	15.35	1.92	9,671	15.66	8,619	89.12	0.17	2.83	0.40	1,052	10.88	1.65	20.40	1.99
Grand Total	149,068	125,081	83.91	123,715	98.91	0.12	1.92	0.30	1,366	1.09	1.30	15.54	2.16	23,987	16.09	21,236	88.53	0.19	3.17	0.52	2,751	11.47	1.79	24.44	2.30

Appendix A10

Initial OBD Incomplete Inspection Report

Date Range
Between 1/1/2021 and 1/1/2022

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	41	16	39.02	5	31.25	0	0.00	11	68.75	0	0.00
	LDGT2	35	13	37.14	1	7.69	0	0.00	12	92.31	0	0.00
	LDGV	75	27	36.00	4	14.81	0	0.00	23	85.19	0	0.00
1996 Total		151	56	37.09	10	17.86	0	0.00	46	82.14	0	0.00
1997	LDGT1	117	54	46.15	2	3.70	1	1.85	51	94.44	0	0.00
	LDGT2	77	19	24.68	2	10.53	0	0.00	17	89.47	0	0.00
	LDGV	100	26	26.00	5	19.23	0	0.00	21	80.77	0	0.00
1997 Total		294	99	33.67	9	9.09	1	1.01	89	89.90	0	0.00
1998	LDGT1	125	32	25.60	5	15.63	1	3.13	26	81.25	0	0.00
	LDGT2	40	17	42.50	6	35.29	0	0.00	11	64.71	0	0.00
	LDGV	109	32	29.36	7	21.88	0	0.00	25	78.13	0	0.00
1998 Total		274	81	29.56	18	22.22	1	1.23	62	76.54	0	0.00
1999	LDGT1	148	36	24.32	7	19.44	0	0.00	29	80.56	0	0.00
	LDGT2	877	138	15.74	38	27.54	1	0.72	99	71.74	0	0.00
	LDGV	181	19	10.50	3	15.79	1	5.26	15	78.95	0	0.00
1999 Total		1,206	193	16.00	48	24.87	2	1.04	143	74.09	0	0.00
2000	LDGT1	3,826	242	6.33	173	71.49	1	0.41	68	28.10	0	0.00
	LDGT2	2,928	332	11.34	185	55.72	0	0.00	147	44.28	0	0.00
	LDGV	3,863	247	6.39	214	86.64	0	0.00	33	13.36	0	0.00
2000 Total		10,617	821	7.73	572	69.67	1	0.12	248	30.21	0	0.00
2001	LDGT1	4,288	239	5.57	164	68.62	3	1.26	72	30.13	0	0.00
	LDGT2	4,046	498	12.31	308	61.85	3	0.60	187	37.55	0	0.00
	LDGV	4,659	247	5.30	182	73.68	2	0.81	63	25.51	0	0.00
2001 Total		12,993	984	7.57	654	66.46	8	0.81	322	32.72	0	0.00
2002	LDGT1	4,858	238	4.90	199	83.61	1	0.42	38	15.97	0	0.00
	LDGT2	4,115	542	13.17	301	55.54	0	0.00	241	44.46	0	0.00
	LDGV	5,261	272	5.17	189	69.49	4	1.47	79	29.04	0	0.00
2002 Total		14,234	1,052	7.39	689	65.49	5	0.48	358	34.03	0	0.00
2003	LDGT1	5,794	178	3.07	160	89.89	3	1.69	15	8.43	0	0.00
	LDGT2	4,973	589	11.84	382	64.86	1	0.17	206	34.97	0	0.00
	LDGV	6,508	279	4.29	205	73.48	0	0.00	74	26.52	0	0.00
2003 Total		17,275	1,046	6.05	747	71.41	4	0.38	295	28.20	0	0.00
2004	LDGT1	6,428	175	2.72	138	78.86	1	0.57	36	20.57	0	0.00
	LDGT2	5,565	740	13.30	503	67.97	2	0.27	235	31.76	0	0.00
	LDGV	6,834	331	4.84	250	75.53	1	0.30	80	24.17	0	0.00
2004 Total		18,827	1,246	6.62	891	71.51	4	0.32	351	28.17	0	0.00
2005	LDGT1	11,506	552	4.80	229	41.49	1	0.18	322	58.33	0	0.00
	LDGT2	6,571	763	11.61	484	63.43	0	0.00	279	36.57	0	0.00
	LDGV	12,587	680	5.40	305	44.85	4	0.59	371	54.56	0	0.00
2005 Total		30,664	1,995	6.51	1,018	51.03	5	0.25	972	48.72	0	0.00
2006	LDGT1	11,132	494	4.44	221	44.74	1	0.20	272	55.06	0	0.00

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	%
2006	LDGT2	6,166	488	7.91	254	52.05	0	0.00	234	47.95	0	0.00
	LDGV	12,525	639	5.10	289	45.23	3	0.47	347	54.30	0	0.00
2006 Total		29,823	1,621	5.44	764	47.13	4	0.25	853	52.62	0	0.00
2007	LDGT1	14,082	475	3.37	226	47.58	2	0.42	247	52.00	0	0.00
	LDGT2	9,231	698	7.56	305	43.70	3	0.43	390	55.87	0	0.00
	LDGV	16,067	755	4.70	353	46.75	9	1.19	393	52.05	0	0.00
2007 Total		39,380	1,928	4.90	884	45.85	14	0.73	1,030	53.42	0	0.00
2008	LDGT1	13,028	451	3.46	208	46.12	1	0.22	242	53.66	0	0.00
	LDGT2	8,181	526	6.43	176	33.46	0	0.00	350	66.54	0	0.00
	LDGV	14,269	652	4.57	313	48.01	0	0.00	339	51.99	0	0.00
2008 Total		35,478	1,629	4.59	697	42.79	1	0.06	931	57.15	0	0.00
2009	LDGT1	6,675	230	3.45	87	37.83	0	0.00	143	62.17	0	0.00
	LDGT2	3,889	244	6.27	81	33.20	1	0.41	162	66.39	0	0.00
	LDGV	10,061	421	4.18	175	41.57	5	1.19	241	57.24	0	0.00
2009 Total		20,625	895	4.34	343	38.32	6	0.67	546	61.01	0	0.00
2010	LDGT1	14,736	1,411	9.58	188	13.32	0	0.00	1,223	86.68	0	0.00
	LDGT2	8,449	1,145	13.55	101	8.82	4	0.35	1,040	90.83	0	0.00
	LDGV	17,701	2,017	11.39	233	11.55	3	0.15	1,781	88.30	0	0.00
2010 Total		40,886	4,573	11.18	522	11.41	7	0.15	4,044	88.43	0	0.00
2011	LDGT1	17,022	1,482	8.71	164	11.07	1	0.07	1,317	88.87	0	0.00
	LDGT2	9,993	1,155	11.56	102	8.83	2	0.17	1,051	91.00	0	0.00
	LDGV	16,946	1,767	10.43	254	14.37	1	0.06	1,512	85.57	0	0.00
2011 Total		43,961	4,404	10.02	520	11.81	4	0.09	3,880	88.10	0	0.00
2012	LDGT1	29,012	1,540	5.31	254	16.49	1	0.06	1,285	83.44	0	0.00
	LDGT2	15,660	1,164	7.43	147	12.63	1	0.09	1,016	87.29	0	0.00
	LDGV	35,216	2,440	6.93	479	19.63	2	0.08	1,959	80.29	0	0.00
2012 Total		79,888	5,144	6.44	880	17.11	4	0.08	4,260	82.81	0	0.00
2013	LDGT1	17,865	908	5.08	153	16.85	1	0.11	754	83.04	0	0.00
	LDGT2	9,845	1,027	10.43	112	10.91	4	0.39	911	88.70	0	0.00
	LDGV	23,252	2,019	8.68	213	10.55	3	0.15	1,803	89.30	0	0.00
2013 Total		50,962	3,954	7.76	478	12.09	8	0.20	3,468	87.71	0	0.00
2014	LDGT1	43,106	1,006	2.33	261	25.94	2	0.20	743	73.86	0	0.00
	LDGT2	24,603	1,740	7.07	195	11.21	1	0.06	1,544	88.74	0	0.00
	LDGV	39,947	1,865	4.67	339	18.18	8	0.43	1,518	81.39	0	0.00
2014 Total		107,656	4,611	4.28	795	17.24	11	0.24	3,805	82.52	0	0.00
2015	LDGT1	5,774	229	3.97	26	11.35	0	0.00	203	88.65	0	0.00
	LDGT2	2,690	202	7.51	24	11.88	0	0.00	178	88.12	0	0.00
	LDGV	5,856	379	6.47	55	14.51	0	0.00	324	85.49	0	0.00
2015 Total		14,320	810	5.66	105	12.96	0	0.00	705	87.04	0	0.00
2016	LDGT1	1,964	58	2.95	14	24.14	0	0.00	44	75.86	0	0.00
	LDGT2	756	53	7.01	13	24.53	0	0.00	40	75.47	0	0.00
	LDGV	1,712	113	6.60	9	7.96	0	0.00	104	92.04	0	0.00
2016 Total		4,432	224	5.05	36	16.07	0	0.00	188	83.93	0	0.00
2017	LDGT1	1,137	22	1.93	14	63.64	0	0.00	8	36.36	0	0.00
	LDGT2	461	19	4.12	6	31.58	0	0.00	13	68.42	0	0.00

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	%
	LDGV	958	69	7.20	20	28.99	1	1.45	48	69.57	0	0.00
2017 Total		2,556	110	4.30	40	36.36	1	0.91	69	62.73	0	0.00
2018	LDGT1	777	27	3.47	13	48.15	1	3.70	13	48.15	0	0.00
	LDGT2	270	16	5.93	4	25.00	0	0.00	12	75.00	0	0.00
	LDGV	420	15	3.57	1	6.67	0	0.00	14	93.33	0	0.00
2018 Total		1,467	58	3.95	18	31.03	1	1.72	39	67.24	0	0.00
2019	LDGT1	380	9	2.37	6	66.67	0	0.00	3	33.33	0	0.00
	LDGT2	139	6	4.32	5	83.33	0	0.00	1	16.67	0	0.00
	LDGV	230	12	5.22	3	25.00	0	0.00	9	75.00	0	0.00
2019 Total		749	27	3.60	14	51.85	0	0.00	13	48.15	0	0.00
2020	LDGT1	53	2	3.77	2	100.00	0	0.00	0	0.00	0	0.00
	LDGT2	57	5	8.77	2	40.00	0	0.00	3	60.00	0	0.00
	LDGV	106	6	5.66	4	66.67	0	0.00	2	33.33	0	0.00
2020 Total		216	13	6.02	8	61.54	0	0.00	5	38.46	0	0.00
2021	LDGT1	13	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
	LDGT2	17	3	17.65	3	100.00	0	0.00	0	0.00	0	0.00
	LDGV	25	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
2021 Total		55	3	5.45	3	100.00	0	0.00	0	0.00	0	0.00
2022	LDGT1	1	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
	LDGV	2	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
2022 Total		3	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
Grand Total		578,992	37,577	6.49	10,763	28.64	92	0.24	26,722	71.11	0	0.00

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

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	%
LDGT1	213,888	10,106	4.72	2,919	28.88	22	0.22	7,165	70.90	0	0.00
LDGT2	129,634	12,142	9.37	3,740	30.80	23	0.19	8,379	69.01	0	0.00
LDGV	235,470	15,329	6.51	4,104	26.77	47	0.31	11,178	72.92	0	0.00
Grand Total	578,992	37,577	6.49	10,763	28.64	92	0.24	26,722	71.11	0	0.00

Appendix A11

OBD Retest Incomplete Inspection Report

Date Range
Between 1/1/2021 and 1/1/2022

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	8	2	25.00	0	0.00	0	0.00	2	100.00	0	0.00	1	50.00
	LDGT2	6	3	50.00	0	0.00	0	0.00	3	100.00	0	0.00	3	100.00
	LDGV	7	1	14.29	0	0.00	0	0.00	1	100.00	0	0.00	1	100.00
1996 Total		21	6	28.57	0	0.00	0	0.00	6	100.00	0	0.00	5	83.33
1997	LDGT1	27	9	33.33	1	11.11	2	0.22	6	66.67	0	0.00	7	77.78
	LDGT2	14	1	7.14	0	0.00	0	0.00	1	100.00	0	0.00	1	100.00
	LDGV	13	4	30.77	1	25.00	0	0.00	3	75.00	0	0.00	2	50.00
1997 Total		54	14	25.93	2	14.29	2	0.14	10	71.43	0	0.00	10	71.43
1998	LDGT1	28	8	28.57	2	25.00	0	0.00	6	75.00	0	0.00	7	87.50
	LDGT2	8	2	25.00	0	0.00	0	0.00	2	100.00	0	0.00	0	0.00
	LDGV	19	4	21.05	2	50.00	0	0.00	2	50.00	0	0.00	2	50.00
1998 Total		55	14	25.45	4	28.57	0	0.00	10	71.43	0	0.00	9	64.29
1999	LDGT1	21	3	14.29	1	33.33	0	0.00	2	66.67	0	0.00	2	66.67
	LDGT2	193	70	36.27	9	12.86	1	0.01	60	85.71	0	0.00	51	72.86
	LDGV	25	6	24.00	1	16.67	0	0.00	5	83.33	0	0.00	5	83.33
1999 Total		239	79	33.05	11	13.92	1	0.01	67	84.81	0	0.00	58	73.42
2000	LDGT1	450	47	10.44	9	19.15	1	0.02	37	78.72	0	0.00	27	57.45
	LDGT2	572	148	25.87	30	20.27	0	0.00	118	79.73	0	0.00	98	66.22
	LDGV	424	67	15.80	14	20.90	1	0.01	52	77.61	0	0.00	36	53.73
2000 Total		1,446	262	18.12	53	20.23	2	0.01	207	79.01	0	0.00	161	61.45
2001	LDGT1	640	58	9.06	10	17.24	0	0.00	48	82.76	0	0.00	36	62.07
	LDGT2	680	163	23.97	21	12.88	2	0.01	140	85.89	0	0.00	114	69.94
	LDGV	476	46	9.66	14	30.43	1	0.02	31	67.39	0	0.00	30	65.22
2001 Total		1,796	267	14.87	45	16.85	3	0.01	219	82.02	0	0.00	180	67.42
2002	LDGT1	615	80	13.01	14	17.50	0	0.00	66	82.50	0	0.00	45	56.25
	LDGT2	710	139	19.58	21	15.11	1	0.01	117	84.17	0	0.00	92	66.19
	LDGV	519	64	12.33	11	17.19	1	0.02	52	81.25	0	0.00	48	75.00
2002 Total		1,844	283	15.35	46	16.25	2	0.01	235	83.04	0	0.00	185	65.37
2003	LDGT1	589	55	9.34	16	29.09	0	0.00	39	70.91	0	0.00	31	56.36
	LDGT2	728	138	18.96	20	14.49	1	0.01	117	84.78	0	0.00	105	76.09
	LDGV	606	62	10.23	15	24.19	0	0.00	47	75.81	0	0.00	42	67.74
2003 Total		1,923	255	13.26	51	20.00	1	0.00	203	79.61	0	0.00	178	69.80
2004	LDGT1	558	71	12.72	11	15.49	0	0.00	60	84.51	0	0.00	46	64.79
	LDGT2	751	150	19.97	21	14.00	0	0.00	129	86.00	0	0.00	106	70.67
	LDGV	600	60	10.00	11	18.33	0	0.00	49	81.67	0	0.00	34	56.67
2004 Total		1,909	281	14.72	43	15.30	0	0.00	238	84.70	0	0.00	186	66.19
2005	LDGT1	669	77	11.51	6	7.79	0	0.00	71	92.21	0	0.00	49	63.64
	LDGT2	571	128	22.42	22	17.19	1	0.01	105	82.03	0	0.00	105	82.03
	LDGV	903	82	9.08	8	9.76	0	0.00	74	90.24	0	0.00	59	71.95
2005 Total		2,143	287	13.39	36	12.54	1	0.00	250	87.11	0	0.00	213	74.22

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	594	61	10.27	6	9.84	0	0.00	55	90.16	0	0.00	45	73.77
	LDGT2	524	83	15.84	9	10.84	0	0.00	74	89.16	0	0.00	68	81.93
	LDGV	747	136	18.21	16	11.76	0	0.00	120	88.24	0	0.00	94	69.12
2006 Total		1,865	280	15.01	31	11.07	0	0.00	249	88.93	0	0.00	207	73.93
2007	LDGT1	626	86	13.74	10	11.63	0	0.00	76	88.37	0	0.00	61	70.93
	LDGT2	799	152	19.02	10	6.58	0	0.00	142	93.42	0	0.00	101	66.45
	LDGV	764	116	15.18	7	6.03	0	0.00	109	93.97	0	0.00	82	70.69
2007 Total		2,189	354	16.17	27	7.63	0	0.00	327	92.37	0	0.00	244	68.93
2008	LDGT1	531	60	11.30	6	10.00	1	0.02	53	88.33	0	0.00	49	81.67
	LDGT2	689	118	17.13	9	7.63	1	0.01	108	91.53	0	0.00	95	80.51
	LDGV	679	127	18.70	11	8.66	1	0.01	115	90.55	0	0.00	94	74.02
2008 Total		1,899	305	16.06	26	8.52	3	0.01	276	90.49	0	0.00	238	78.03
2009	LDGT1	307	26	8.47	2	7.69	0	0.00	24	92.31	0	0.00	16	61.54
	LDGT2	340	58	17.06	3	5.17	0	0.00	55	94.83	0	0.00	40	68.97
	LDGV	416	33	7.93	5	15.15	0	0.00	28	84.85	0	0.00	25	75.76
2009 Total		1,063	117	11.01	10	8.55	0	0.00	107	91.45	0	0.00	81	69.23
2010	LDGT1	494	145	29.35	4	2.76	1	0.01	140	96.55	0	0.00	110	75.86
	LDGT2	584	204	34.93	5	2.45	0	0.00	199	97.55	0	0.00	151	74.02
	LDGV	828	269	32.49	12	4.46	0	0.00	257	95.54	0	0.00	196	72.86
2010 Total		1,906	618	32.42	21	3.40	1	0.00	596	96.44	0	0.00	457	73.95
2011	LDGT1	1,225	472	38.53	9	1.91	1	0.00	462	97.88	0	0.00	376	79.66
	LDGT2	1,134	372	32.80	12	3.23	0	0.00	360	96.77	0	0.00	285	76.61
	LDGV	1,458	560	38.41	23	4.11	0	0.00	537	95.89	0	0.00	473	84.46
2011 Total		3,817	1,404	36.78	44	3.13	1	0.00	1,359	96.79	0	0.00	1,134	80.77
2012	LDGT1	1,218	419	34.40	15	3.58	3	0.01	401	95.70	0	0.00	352	84.01
	LDGT2	1,352	440	32.54	20	4.55	2	0.00	418	95.00	0	0.00	375	85.23
	LDGV	2,242	749	33.41	20	2.67	7	0.01	722	96.40	0	0.00	644	85.98
2012 Total		4,812	1,608	33.42	55	3.42	12	0.01	1,541	95.83	0	0.00	1,371	85.26
2013	LDGT1	777	224	28.83	6	2.68	0	0.00	218	97.32	0	0.00	208	92.86
	LDGT2	1,058	326	30.81	7	2.15	0	0.00	319	97.85	0	0.00	271	83.13
	LDGV	1,681	590	35.10	23	3.90	0	0.00	567	96.10	0	0.00	488	82.71
2013 Total		3,516	1,140	32.42	36	3.16	0	0.00	1,104	96.84	0	0.00	967	84.82
2014	LDGT1	1,124	263	23.40	7	2.66	4	0.02	252	95.82	0	0.00	239	90.87
	LDGT2	1,747	531	30.39	9	1.69	5	0.01	517	97.36	0	0.00	474	89.27
	LDGV	1,736	556	32.03	14	2.52	2	0.00	540	97.12	0	0.00	488	87.77
2014 Total		4,607	1,350	29.30	30	2.22	11	0.01	1,309	96.96	0	0.00	1,201	88.96
2015	LDGT1	166	40	24.10	0	0.00	0	0.00	40	100.00	0	0.00	28	70.00
	LDGT2	126	27	21.43	2	7.41	0	0.00	25	92.59	0	0.00	24	88.89
	LDGV	250	65	26.00	2	3.08	0	0.00	63	96.92	0	0.00	55	84.62
2015 Total		542	132	24.35	4	3.03	0	0.00	128	96.97	0	0.00	107	81.06
2016	LDGT1	65	13	20.00	0	0.00	0	0.00	13	100.00	0	0.00	13	100.00
	LDGT2	41	14	34.15	0	0.00	0	0.00	14	100.00	0	0.00	14	100.00
	LDGV	61	11	18.03	0	0.00	0	0.00	11	100.00	0	0.00	11	100.00
2016 Total		167	38	22.75	0	0.00	0	0.00	38	100.00	0	0.00	38	100.00

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	%
2017	LDGT1	24	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
	LDGT2	14	6	42.86	1	16.67	0	0.00	5	83.33	0	0.00	6	100.00
	LDGV	18	1	5.56	0	0.00	0	0.00	1	100.00	0	0.00	1	100.00
2017 Total		56	7	12.50	1	14.29	0	0.00	6	85.71	0	0.00	7	100.00
2018	LDGT1	10	4	40.00	0	0.00	0	0.00	4	100.00	0	0.00	4	100.00
	LDGT2	5	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
2018 Total		19	4	21.05	0	0.00	0	0.00	4	100.00	0	0.00	4	100.00
2019	LDGT1	3	1	33.33	0	0.00	0	0.00	1	100.00	0	0.00	1	100.00
	LDGT2	1	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
	LDGV	3	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
2019 Total		7	1	14.29	0	0.00	0	0.00	1	100.00	0	0.00	1	100.00
2020	LDGT1	1	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
	LDGT2	2	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
	LDGV	2	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
2020 Total		5	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
Grand Total		37,900	9,106	24.03	576	6.33	40	0.00	8,490	93.24	0	0.00	7,242	79.53

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	10,770	2,224	20.65	135	6.07	13	0.01	2,076	93.35	0	0.00	1,753	78.82	
LDGT2	12,649	3,273	25.88	231	7.06	14	0.00	3,028	92.51	0	0.00	2,579	78.80	
LDGV	14,481	3,609	24.92	210	5.82	13	0.00	3,386	93.82	0	0.00	2,910	80.63	
Grand Total		37,900	9,106	24.03	576	6.33	40	0.00	8,490	93.24	0	0.00	7,242	79.53

Appendix B1

I/M240 Initial Inspection Report

Date
Between 1/1/2021 and 1/1/2022

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	114	2.6197	29.2401	1.9808	93	81.58%	1.6737	18.9328	1.9944	21	18.42%	6.8091	74.8870	1.9206
	LDGT1	94	3.4546	48.1152	2.9145	55	58.51%	2.1304	25.0038	3.1949	39	41.49%	5.3222	80.7083	2.5189
	LDGT2	26	5.2444	66.0791	2.7190	12	46.15%	2.1995	30.8783	2.1927	14	53.85%	7.8543	96.2512	3.1701
1982 Total		234	3.2467	40.9157	2.4379	160	68.38%	1.8701	21.9156	2.4219	74	31.62%	6.2232	81.9969	2.4723
1983	LDGV	189	2.0186	25.0793	1.9058	149	78.84%	1.3200	12.2312	1.9760	40	21.16%	4.6210	72.9388	1.6444
	LDGT1	156	3.6028	42.5714	2.3808	111	71.15%	2.8916	32.3841	2.4050	45	28.85%	5.3571	67.7000	2.3211
	LDGT2	45	3.2915	50.7372	2.3585	28	62.22%	2.6853	36.5125	2.5016	17	37.78%	4.2900	74.1661	2.1226
1983 Total		390	2.7992	35.0367	2.1480	288	73.85%	2.0585	22.3591	2.1925	102	26.15%	4.8906	70.8321	2.0226
1984	LDGV	290	2.3431	22.0610	1.8636	227	78.28%	1.3565	11.3603	1.8889	63	21.72%	5.8981	60.6175	1.7727
	LDGT1	253	2.5242	32.5486	2.5444	197	77.87%	1.8415	22.0133	2.6080	56	22.13%	4.9259	69.6104	2.3207
	LDGT2	103	2.9854	49.4945	2.7902	63	61.17%	2.0559	26.6058	2.8247	40	38.83%	4.4493	85.5443	2.7358
1984 Total		646	2.5165	30.5425	2.2780	487	75.39%	1.6432	17.6418	2.3008	159	24.61%	5.1912	70.0557	2.2080
1985	LDGV	387	1.7132	17.0586	1.9170	311	80.36%	1.0583	10.6375	1.8759	76	19.64%	4.3933	43.3344	2.0853
	LDGT1	357	2.2811	27.1214	2.7098	274	76.75%	1.8335	17.7340	2.7030	83	23.25%	3.7586	58.1109	2.7320
	LDGT2	97	2.9238	38.0465	2.8468	61	62.89%	1.8886	21.9446	2.7028	36	37.11%	4.6779	65.3302	3.0907
1985 Total		841	2.0939	23.7509	2.3608	646	76.81%	1.4655	14.7152	2.3048	195	23.19%	4.1757	53.6846	2.5462
1986	LDGV	462	1.3369	13.7118	1.8372	378	81.82%	0.9259	7.8376	1.7978	84	18.18%	3.1867	40.1456	2.0143
	LDGT1	449	2.0649	24.2997	2.5725	353	78.62%	1.5985	14.9778	2.6323	96	21.38%	3.7799	58.5771	2.3525
	LDGT2	107	3.2969	42.0344	2.7002	63	58.88%	1.8286	18.5983	2.6833	44	41.12%	5.3992	75.5906	2.7244
1986 Total		1018	1.8640	21.3586	2.2522	794	78.00%	1.2965	11.8658	2.2391	224	22.00%	3.8755	55.0072	2.2987
1987	LDGV	589	1.3741	12.2195	1.7826	507	86.08%	0.9247	7.8177	1.7963	82	13.92%	4.1531	39.4359	1.6976
	LDGT1	626	1.8132	22.4782	2.2845	507	80.99%	1.3938	13.9363	2.3149	119	19.01%	3.5998	58.8709	2.1549
	LDGT2	173	2.3767	21.8352	2.7464	118	68.21%	1.7922	13.3012	2.6062	55	31.79%	3.6307	40.1444	3.0471
1987 Total		1388	1.6971	18.0447	2.1291	1132	81.56%	1.2252	11.1297	2.1130	256	18.44%	3.7837	48.6224	2.2001
1988	LDGV	609	1.2827	11.4337	1.5769	506	83.09%	0.7836	7.6427	1.5233	103	16.91%	3.7347	30.0576	1.8402
	LDGT1	702	1.5769	15.0494	2.2909	584	83.19%	1.3194	11.5041	2.1482	118	16.81%	2.8514	32.5959	2.9967
	LDGT2	277	1.9121	19.6176	2.7205	217	78.34%	1.4261	11.5888	2.6189	60	21.66%	3.6697	48.6552	3.0879
1988 Total		1588	1.5225	14.4596	2.0920	1307	82.30%	1.1297	10.0232	1.9844	281	17.70%	3.3499	35.0945	2.5923
1989	LDGV	906	0.9583	10.0337	1.5068	778	85.87%	0.7472	7.3067	1.4959	128	14.13%	2.2410	26.6087	1.5732
	LDGT1	1105	1.5825	17.4172	2.0792	916	82.90%	1.1589	12.1849	1.9598	189	17.10%	3.6355	42.7762	2.6575
	LDGT2	396	1.8854	16.1592	2.7738	326	82.32%	1.5226	12.2344	2.6944	70	17.68%	3.5751	34.4376	3.1433
1989 Total		2407	1.3974	14.4311	1.9780	2020	83.92%	1.0591	10.3140	1.8997	387	16.08%	3.1634	35.9205	2.3867
1990	LDGV	1064	0.8339	8.9984	1.5745	949	89.19%	0.7057	7.1712	1.5150	115	10.81%	1.8920	24.0775	2.0658
	LDGT1	949	1.6285	16.9385	2.1314	779	82.09%	1.1482	10.3529	2.0878	170	17.91%	3.8296	47.1160	2.3314
	LDGT2	378	1.7398	16.2927	2.5765	319	84.39%	1.4844	13.3262	2.4990	59	15.61%	3.1209	32.3321	2.9953
1990 Total		2391	1.2925	13.3031	1.9540	2047	85.61%	0.9955	9.3412	1.8863	344	14.39%	3.0603	36.8786	2.3565
1991	LDGV	1586	0.8436	8.5182	1.4577	1385	87.33%	0.5855	6.3729	1.3878	201	12.67%	2.6221	23.3002	1.9388
	LDGT1	1434	1.1745	12.8548	1.8415	1238	86.33%	0.9461	9.9151	1.7921	196	13.67%	2.6175	31.4228	2.1535
	LDGT2	486	1.7903	18.4866	2.4457	379	77.98%	1.2824	14.4899	2.2483	107	22.02%	3.5894	32.6434	3.1449

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)
1991 Total		3506	1.1102	11.6737	1.7516	3002	85.62%	0.8222	8.8584	1.6632	504	14.38%	2.8256	28.4426	2.2783
1992	LDGV	1455	0.8394	9.7971	1.4226	1254	86.19%	0.5531	5.8385	1.3683	201	13.81%	2.6257	34.4940	1.7614
	LDGT1	1246	1.1341	12.1891	1.7769	1093	87.72%	0.9654	9.6150	1.7178	153	12.28%	2.3397	30.5778	2.1989
	LDGT2	737	1.8748	17.1739	2.5182	577	78.29%	1.3535	13.3570	2.3708	160	21.71%	3.7547	30.9388	3.0497
1992 Total		3438	1.1682	12.2454	1.7859	2924	85.05%	0.8651	8.7338	1.6968	514	14.95%	2.8920	32.2216	2.2926
1993	LDGV	2002	0.7400	8.0224	1.4792	1742	87.01%	0.5409	5.4512	1.4013	260	12.99%	2.0740	25.2493	2.0013
	LDGT1	2111	1.1129	11.5229	1.9689	1854	87.83%	0.9401	9.2529	1.9001	257	12.17%	2.3593	27.8986	2.4656
	LDGT2	922	1.7569	16.9017	2.4415	748	81.13%	1.3723	13.7133	2.3597	174	18.87%	3.4105	30.6081	2.7932
1993 Total		5035	1.0825	11.1160	1.8607	4344	86.28%	0.8544	8.4964	1.7792	691	13.72%	2.5166	27.5841	2.3734
1994	LDGV	2279	0.5868	6.2369	1.2061	2019	88.59%	0.4236	4.8022	1.1147	260	11.41%	1.8542	17.3780	1.9154
	LDGT1	2484	0.9211	9.5424	1.8160	2129	85.71%	0.7495	7.7337	1.6863	355	14.29%	1.9502	20.3896	2.5937
	LDGT2	1605	1.2282	12.6447	2.1689	1298	80.87%	0.9578	10.0487	2.0153	307	19.13%	2.3717	23.6203	2.8183
1994 Total		6368	0.8789	9.1413	1.6867	5446	85.52%	0.6783	7.1987	1.5528	922	14.48%	2.0635	20.6160	2.4772
1995	LDGV	3331	0.5628	6.1601	1.0356	2957	88.77%	0.3977	4.4518	0.9625	374	11.23%	1.8680	19.6672	1.6136
	LDGT1	2990	0.9019	9.9716	1.8179	2589	86.59%	0.7214	7.5118	1.7034	401	13.41%	2.0670	25.8528	2.5568
	LDGT2	2254	1.2202	12.7136	2.1336	1828	81.10%	0.9196	10.0713	1.9855	426	18.90%	2.5102	24.0521	2.7691
1995 Total		8575	0.8538	9.2118	1.5970	7374	85.99%	0.6407	6.9192	1.4762	1201	14.01%	2.1623	23.2878	2.3384
1996	LDGV	3455	0.4324	4.8130	0.8507	3127	90.51%	0.3232	3.6678	0.7869	328	9.49%	1.4732	15.7312	1.4591
	LDGT1	3076	0.5455	6.5684	1.4603	2688	87.39%	0.4163	4.9808	1.3478	388	12.61%	1.4406	17.5667	2.2395
	LDGT2	1969	0.6088	7.1238	1.4039	1703	86.49%	0.4888	5.6281	1.2992	266	13.51%	1.3771	16.6996	2.0745
1996 Total		8500	0.5142	5.9835	1.1994	7518	88.45%	0.3940	4.5813	1.1035	982	11.55%	1.4343	16.7187	1.9341
1997	LDGV	5157	0.4180	4.6035	0.7960	4684	90.83%	0.3347	3.7143	0.7476	473	9.17%	1.2430	13.4094	1.2754
	LDGT1	5742	0.4625	6.0903	1.3441	5032	87.63%	0.3808	4.7946	1.2343	710	12.37%	1.0417	15.2731	2.1225
	LDGT2	2572	0.5550	6.9190	1.4419	2201	85.58%	0.4287	5.4304	1.2909	371	14.42%	1.3039	15.7500	2.3372
1997 Total		13471	0.4631	5.6793	1.1529	11917	88.46%	0.3715	4.4874	1.0535	1554	11.54%	1.1656	14.8197	1.9159
1998	LDGV	6006	0.3523	4.4724	0.7055	5343	88.96%	0.2601	3.3700	0.6350	663	11.04%	1.0952	13.3569	1.2738
	LDGT1	6433	0.4186	5.5072	1.2190	5725	88.99%	0.3410	4.4268	1.0919	708	11.01%	1.0463	14.2438	2.2471
	LDGT2	2642	0.5559	5.8563	1.3250	2279	86.26%	0.3601	4.3170	1.1519	363	13.74%	1.7855	15.5200	2.4122
1998 Total		15081	0.4163	5.1563	1.0331	13347	88.50%	0.3119	3.9850	0.9192	1734	11.50%	1.2197	14.1719	1.9095
1999	LDGV	8122	0.3207	3.7800	0.6505	7410	91.23%	0.2338	3.0458	0.5906	712	8.77%	1.2247	11.4212	1.2738
	LDGT1	8487	0.3221	4.7736	0.9063	7662	90.28%	0.2576	3.7138	0.8101	825	9.72%	0.9207	14.6164	1.7994
	LDGT2	4200	0.4130	4.3216	1.0207	3664	87.24%	0.2776	3.0615	0.8657	536	12.76%	1.3392	12.9358	2.0798
1999 Total		20809	0.3399	4.2946	0.8296	18736	90.04%	0.2521	3.3221	0.7342	2073	9.96%	1.1333	13.0844	1.6914
2000	LDGV	6085	0.2970	4.1353	0.5921	5487	90.17%	0.2024	2.9088	0.5107	598	9.83%	1.1648	15.3892	1.3394
	LDGT1	5589	0.3534	4.7578	0.9164	4938	88.35%	0.2666	3.3795	0.7804	651	11.65%	1.0123	15.2126	1.9485
	LDGT2	2549	0.3679	4.5975	0.8820	2247	88.15%	0.2396	3.1245	0.7450	302	11.85%	1.3223	15.5573	1.9014
2000 Total		14223	0.3319	4.4628	0.7715	12672	89.10%	0.2340	3.1305	0.6573	1551	10.90%	1.1315	15.3478	1.7045
2001	LDGV	7945	0.2034	3.1556	0.4511	7307	91.97%	0.1453	2.5188	0.3804	638	8.03%	0.8690	10.4490	1.2605
	LDGT1	7353	0.2272	3.9861	0.5987	6696	91.06%	0.1681	3.0745	0.5207	657	8.94%	0.8299	13.2772	1.3936
	LDGT2	3699	0.3629	4.1388	0.8086	3297	89.13%	0.2406	2.9261	0.6754	402	10.87%	1.3657	14.0842	1.9010
2001 Total		18997	0.2437	3.6685	0.5778	17300	91.07%	0.1723	2.8115	0.4909	1697	8.93%	0.9715	12.4051	1.4638
2002	LDGV	8103	0.2108	3.7604	0.4522	7385	91.14%	0.1466	3.0333	0.3503	718	8.86%	0.8720	11.2381	1.5000
	LDGT1	7322	0.2447	4.8341	0.5996	6556	89.54%	0.1598	3.4637	0.4794	766	10.46%	0.9715	16.5627	1.6291

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	3123	0.3204	3.7317	0.8504	2756	88.25%	0.2245	2.7731	0.7226	367	11.75%	1.0406	10.9305	1.8103
2002 Total		18548	0.2426	4.1794	0.5775	16697	90.02%	0.1646	3.1594	0.4624	1851	9.98%	0.9466	13.3806	1.6150
2003	LDGV	9918	0.1604	2.4605	0.3620	9153	92.29%	0.1051	1.9353	0.2939	765	7.71%	0.8225	8.7453	1.1771
	LDGT1	9694	0.1802	3.3145	0.4787	8859	91.39%	0.1301	2.3149	0.3994	835	8.61%	0.7124	13.9201	1.3205
	LDGT2	4406	0.2534	3.1342	0.6188	4030	91.47%	0.1770	2.3410	0.5110	376	8.53%	1.0723	11.6351	1.7748
2003 Total		24018	0.1855	2.9288	0.4562	22042	91.77%	0.1283	2.1620	0.3760	1976	8.23%	0.8235	11.4819	1.3514
2004	LDGV	8817	0.1612	2.4710	0.3250	8139	92.31%	0.0936	1.7714	0.2410	678	7.69%	0.9727	10.8687	1.3341
	LDGT1	9522	0.1982	3.1905	0.3593	8763	92.03%	0.1094	2.1328	0.2813	759	7.97%	1.2227	15.4017	1.2592
	LDGT2	4471	0.2211	3.4489	0.4568	4065	90.92%	0.1346	2.2005	0.3311	406	9.08%	1.0875	15.9481	1.7154
2004 Total		22810	0.1884	2.9630	0.3652	20967	91.92%	0.1082	2.0057	0.2753	1843	8.08%	1.1010	13.8545	1.3872
2005	LDGV	9448	0.1201	1.9351	0.2609	8826	93.42%	0.0769	1.4289	0.1944	622	6.58%	0.7336	9.1168	1.2037
	LDGT1	10015	0.1239	2.0810	0.2485	9484	94.70%	0.0943	1.6126	0.1887	531	5.30%	0.6527	10.4469	1.3175
	LDGT2	3285	0.2275	3.1119	0.4149	3030	92.24%	0.1429	2.0505	0.3021	255	7.76%	1.2333	15.7233	1.7555
2005 Total		22748	0.1373	2.1692	0.2777	21340	93.81%	0.0940	1.5988	0.2072	1408	6.19%	0.7936	10.8149	1.3465
2006	LDGV	8553	0.1242	2.0386	0.2319	8100	94.70%	0.0767	1.6488	0.1635	453	5.30%	0.9741	9.0078	1.4563
	LDGT1	7876	0.0950	2.2503	0.2355	7501	95.24%	0.0758	1.8331	0.1840	375	4.76%	0.4791	10.5958	1.2645
	LDGT2	3356	0.1566	2.3494	0.3072	3124	93.09%	0.1033	1.5650	0.2029	232	6.91%	0.8747	12.9121	1.7119
2006 Total		19785	0.1181	2.1756	0.2461	18725	94.64%	0.0808	1.7087	0.1783	1060	5.36%	0.7772	10.4241	1.4444
2007	LDGV	10490	0.0950	1.7591	0.1729	10120	96.47%	0.0631	1.4258	0.1329	370	3.53%	0.9678	10.8752	1.2653
	LDGT1	10258	0.0673	1.8692	0.1648	9880	96.32%	0.0520	1.4735	0.1300	378	3.68%	0.4689	12.2097	1.0727
	LDGT2	3974	0.1166	1.7614	0.2089	3728	93.81%	0.0801	1.1882	0.1429	246	6.19%	0.6698	10.4483	1.2100
2007 Total		24722	0.0870	1.8051	0.1753	23728	95.98%	0.0611	1.4084	0.1333	994	4.02%	0.7043	11.2770	1.1784
2008	LDGV	8152	0.0989	1.9709	0.1746	7840	96.17%	0.0654	1.5546	0.1283	312	3.83%	0.9409	12.4317	1.3370
	LDGT1	7933	0.0649	1.9055	0.1667	7663	96.60%	0.0535	1.5542	0.1338	270	3.40%	0.3891	11.8779	1.1000
	LDGT2	3238	0.1300	2.2776	0.2025	3019	93.24%	0.0802	1.6611	0.1357	219	6.76%	0.8169	10.7771	1.1243
2008 Total		19323	0.0902	1.9955	0.1760	18522	95.85%	0.0629	1.5718	0.1318	801	4.15%	0.7210	11.7926	1.1990
2009	LDGV	5864	0.0911	1.6983	0.1526	5671	96.71%	0.0599	1.5027	0.1228	193	3.29%	1.0081	7.4454	1.0298
	LDGT1	4254	0.0645	2.0049	0.1553	4127	97.01%	0.0559	1.7687	0.1327	127	2.99%	0.3463	9.6809	0.8911
	LDGT2	1691	0.0936	2.0012	0.1658	1598	94.50%	0.0754	1.5940	0.1297	93	5.50%	0.4065	8.9991	0.7866
2009 Total		11809	0.0819	1.8521	0.1555	11396	96.50%	0.0606	1.6118	0.1273	413	3.50%	0.6691	8.4827	0.9324
2010	LDGV	9368	0.0696	1.6771	0.1239	9128	97.44%	0.0516	1.4985	0.1005	240	2.56%	0.7560	8.4699	1.0133
	LDGT1	9290	0.0470	1.4685	0.1085	9111	98.07%	0.0431	1.3446	0.0995	179	1.93%	0.2454	7.7756	0.5639
	LDGT2	3784	0.0743	1.7113	0.1388	3625	95.80%	0.0615	1.3443	0.1117	159	4.20%	0.3667	10.0787	0.7570
2010 Total		22442	0.0611	1.5965	0.1200	21864	97.42%	0.0497	1.4088	0.1019	578	2.58%	0.4908	8.6975	0.8036
2011	LDGV	576	0.1349	2.5759	0.2105	548	95.14%	0.0679	1.9366	0.1199	28	4.86%	1.4476	15.0866	1.9848
	LDGT1	593	0.0912	2.9759	0.1760	562	94.77%	0.0634	2.0882	0.1302	31	5.23%	0.5954	19.0682	1.0057
	LDGT2	330	0.1021	2.2104	0.1875	311	94.24%	0.0735	1.6695	0.1271	19	5.76%	0.5689	11.0637	1.1749
2011 Total		1499	0.1104	2.6537	0.1918	1421	94.80%	0.0673	1.9381	0.1256	78	5.20%	0.8948	15.6891	1.3984
2012	LDGV	1014	0.0981	2.1014	0.1383	966	95.27%	0.0577	1.7010	0.0993	48	4.73%	0.9115	10.1587	0.9226
	LDGT1	808	0.0527	2.0971	0.1064	784	97.03%	0.0492	1.8845	0.1013	24	2.97%	0.1695	9.0441	0.2717
	LDGT2	456	0.0915	2.0418	0.1214	424	92.98%	0.0647	1.5885	0.1208	32	7.02%	0.4455	8.0492	0.1291
2012 Total		2278	0.0807	2.0880	0.1236	2174	95.43%	0.0560	1.7452	0.1042	104	4.57%	0.5969	9.2524	0.5282
2013	LDGV	599	0.0922	2.1897	0.1636	567	94.66%	0.0471	1.5701	0.0837	32	5.34%	0.8917	13.1685	1.5806

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	343	0.0582	2.4748	0.1066	334	97.38%	0.0493	2.2373	0.0828	9	2.62%	0.3894	11.2889	0.9870
	LDGT2	231	0.0863	1.5700	0.1578	220	95.24%	0.0755	1.4431	0.1370	11	4.76%	0.3006	4.1090	0.5727
2013 Total		1173	0.0811	2.1510	0.1458	1121	95.57%	0.0533	1.7439	0.0939	52	4.43%	0.6797	10.9267	1.2646
2014	LDGV	817	0.0904	2.0720	0.1919	783	95.84%	0.0454	1.5188	0.0842	34	4.16%	1.1262	14.8120	2.6706
	LDGT1	643	0.0421	1.8752	0.0933	629	97.82%	0.0346	1.6731	0.0714	14	2.18%	0.3785	10.9552	1.0781
	LDGT2	583	0.0867	1.5725	0.1281	560	96.05%	0.0660	1.3064	0.0915	23	3.95%	0.5888	8.0524	1.0186
2014 Total		2043	0.0741	1.8675	0.1426	1972	96.52%	0.0478	1.5077	0.0822	71	3.48%	0.8047	11.8618	1.8214
2015	LDGV	158	0.1269	2.1731	0.2012	151	95.57%	0.0505	1.5327	0.0883	7	4.43%	1.7738	15.9883	2.6386
	LDGT1	121	0.0424	2.0497	0.0784	117	96.69%	0.0410	1.8446	0.0780	4	3.31%	0.0812	8.0500	0.0885
	LDGT2	83	0.0916	1.4815	0.1139	81	97.59%	0.0780	1.3601	0.0853	2	2.41%	0.6414	6.3966	1.2734
2015 Total		362	0.0905	1.9733	0.1402	349	96.41%	0.0537	1.5972	0.0841	13	3.59%	1.0788	12.0701	1.6439
2016	LDGV	49	0.0378	1.3881	0.0673	48	97.96%	0.0383	1.3855	0.0678	1	2.04%	0.0179	1.5149	0.0416
	LDGT1	39	0.0285	1.8560	0.0808	39	100.00%	0.0285	1.8560	0.0808	0	0.00%	0.0000	0.0000	0.0000
	LDGT2	20	0.0799	1.7018	0.0722	20	100.00%	0.0799	1.7018	0.0722	0	0.00%	0.0000	0.0000	0.0000
2016 Total		108	0.0423	1.6152	0.0731	107	99.07%	0.0425	1.6161	0.0733	1	0.93%	0.0179	1.5149	0.0416
2017	LDGV	18	0.0286	0.9987	0.0560	18	100.00%	0.0286	0.9987	0.0560	0	0.00%	0.0000	0.0000	0.0000
	LDGT1	15	0.0280	1.3484	0.0645	15	100.00%	0.0280	1.3484	0.0645	0	0.00%	0.0000	0.0000	0.0000
	LDGT2	5	0.0390	1.1874	0.0363	5	100.00%	0.0390	1.1874	0.0363	0	0.00%	0.0000	0.0000	0.0000
2017 Total		38	0.0297	1.1616	0.0568	38	100.00%	0.0297	1.1616	0.0568	0	0.00%	0.0000	0.0000	0.0000
2018	LDGV	3	0.9107	8.8823	0.8647	2	66.67%	0.0183	0.3444	0.0419	1	33.33%	2.6954	25.9583	2.5104
	LDGT1	5	0.0152	0.5271	0.0442	5	100.00%	0.0152	0.5271	0.0442	0	0.00%	0.0000	0.0000	0.0000
	LDGT2	3	0.0607	0.9638	0.0454	3	100.00%	0.0607	0.9638	0.0454	0	0.00%	0.0000	0.0000	0.0000
2018 Total		11	0.2718	2.9249	0.2683	10	90.91%	0.0295	0.6215	0.0441	1	9.09%	2.6954	25.9583	2.5104
2019	LDGV	3	0.0128	0.3382	0.0442	3	100.00%	0.0128	0.3382	0.0442	0	0.00%	0.0000	0.0000	0.0000
	LDGT1	2	0.0160	0.4367	0.0407	2	100.00%	0.0160	0.4367	0.0407	0	0.00%	0.0000	0.0000	0.0000
	LDGT2	1	0.0165	0.2540	0.0372	1	100.00%	0.0165	0.2540	0.0372	0	0.00%	0.0000	0.0000	0.0000
2019 Total		6	0.0145	0.3570	0.0419	6	100.00%	0.0145	0.3570	0.0419	0	0.00%	0.0000	0.0000	0.0000
2020	LDGV	1	0.2077	2.6611	0.0722	1	100.00%	0.2077	2.6611	0.0722	0	0.00%	0.0000	0.0000	0.0000
	LDGT1	1	0.0120	0.4167	0.0406	1	100.00%	0.0120	0.4167	0.0406	0	0.00%	0.0000	0.0000	0.0000
2020 Total		2	0.1098	1.5389	0.0564	2	100.00%	0.1098	1.5389	0.0564	0	0.00%	0.0000	0.0000	0.0000
2021	LDGV	1	0.0110	0.3286	0.0426	1	100.00%	0.0110	0.3286	0.0426	0	0.00%	0.0000	0.0000	0.0000
	LDGT1	1	0.0192	0.5174	0.0532	1	100.00%	0.0192	0.5174	0.0532	0	0.00%	0.0000	0.0000	0.0000
2021 Total		2	0.0151	0.4230	0.0479	2	100.00%	0.0151	0.4230	0.0479	0	0.00%	0.0000	0.0000	0.0000
Overall Total		322633	0.3209	4.2397	0.6323	295944	91.73%	0.2237	3.0633	0.5351	26689	8.27%	1.3983	17.2838	1.7110

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	133985	0.2633	3.4825	0.4887	124063	92.59%	0.1777	2.5752	0.4149	9922	7.41%	1.3336	14.8276	1.4107
LDGT1	130371	0.3231	4.5809	0.6809	119853	91.93%	0.2372	3.3260	0.5844	10518	8.07%	1.3025	18.8807	1.7804
LDGT2	58277	0.4485	5.2171	0.8540	52028	89.28%	0.3027	3.6222	0.7078	6249	10.72%	1.6624	18.4957	2.0712
Overall Total	322633	0.3209	4.2397	0.6323	295944	91.73%	0.2237	3.0633	0.5351	26689	8.27%	1.3983	17.2838	1.7110

Appendix B2

I/M240 Initial Failure Report

Date
Between 1/1/2021 and 1/1/2022

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	6	6.38%	12.6439	144.9441	1.8644	16	17.02%	6.0405	111.4708	1.8460	17	18.09%	2.0621	29.0840	3.3833
	LDGT2	4	15.38%	10.9277	149.8084	3.7670	5	19.23%	10.7518	107.7050	2.4248	5	19.23%	2.4980	41.9518	3.4379
	LDGV	6	5.26%	13.6083	104.2078	1.3283	8	7.02%	6.3430	102.6325	2.1682	7	6.14%	1.5140	18.0457	2.1455
1982 Total		16	6.84%	12.5765	130.8841	2.1390	29	12.39%	6.9362	108.3833	2.0347	29	12.39%	2.0049	28.6381	3.0939
1983	LDGT1	6	3.85%	8.2957	115.8286	2.2624	16	10.26%	7.4775	99.3225	2.4988	23	14.74%	3.1155	33.1466	2.2128
	LDGT2	4	8.89%	5.1381	73.6492	2.2659	9	20.00%	4.5855	97.7243	1.8909	4	8.89%	2.7771	21.6770	2.5008
	LDGV	5	2.65%	11.2572	146.5246	1.0168	23	12.17%	4.8518	88.6170	1.8005	12	6.35%	1.4133	12.2281	1.6067
1983 Total		15	3.85%	8.4408	114.8127	1.8481	48	12.31%	5.6771	93.8931	2.0502	39	10.00%	2.5570	25.5337	2.0558
1984	LDGT1	8	3.16%	7.3980	88.7155	2.7594	22	8.70%	7.0140	111.8425	1.9281	26	10.28%	2.3984	27.9970	2.5178
	LDGT2	7	6.80%	8.2128	109.6014	2.6264	23	22.33%	4.2179	103.2272	3.0943	10	9.71%	2.3473	28.0336	1.9879
	LDGV	6	2.07%	11.3761	177.7173	0.7519	39	13.45%	6.9402	64.3121	1.8797	18	6.21%	1.8142	13.5793	1.8810
1984 Total		21	3.25%	8.8062	121.1065	2.1415	84	13.00%	6.2141	87.4159	2.2250	54	8.36%	2.1942	23.1979	2.2074
1985	LDGT1	13	3.64%	6.5563	96.2593	2.0782	38	10.64%	4.1771	78.4812	2.6166	32	8.96%	2.1251	18.4234	3.1347
	LDGT2	4	4.12%	4.4459	131.1263	1.8761	20	20.62%	6.0644	76.8307	3.4253	12	12.37%	2.4443	24.2306	2.9380
	LDGV	9	2.33%	13.8651	100.3183	1.4503	50	12.92%	3.7980	44.2549	2.2512	17	4.39%	1.1298	10.4590	1.9335
1985 Total		26	3.09%	8.7616	103.0285	1.8297	108	12.84%	4.3511	62.3300	2.5972	61	7.25%	1.9105	17.3462	2.7612
1986	LDGT1	11	2.45%	7.7751	105.1408	1.7389	53	11.80%	4.2051	72.9913	2.4813	32	7.13%	1.7022	18.6973	2.3501
	LDGT2	7	6.54%	3.7267	112.5796	2.0205	26	24.30%	6.9564	89.2136	2.6587	11	10.28%	2.7826	19.8521	3.3275
	LDGV	10	2.16%	5.9239	80.2292	1.8628	50	10.82%	3.5021	46.9112	2.1935	24	5.19%	1.3892	9.3493	1.7040
1986 Total		28	2.75%	6.1019	98.1035	1.8536	129	12.67%	4.4872	66.1523	2.4055	67	6.58%	1.7675	15.5383	2.2791
1987	LDGT1	9	1.44%	9.5776	124.9757	2.3058	72	11.50%	4.0228	74.8200	2.0669	38	6.07%	1.3825	12.9952	2.2861
	LDGT2	5	2.89%	4.1447	46.1538	3.2023	22	12.72%	5.6765	72.1397	3.0573	28	16.18%	1.9315	13.9321	3.0113
	LDGV	12	2.04%	4.0925	48.0255	2.4702	54	9.17%	5.1676	47.2309	1.5725	16	2.72%	0.7745	6.6855	1.5403
1987 Total		26	1.87%	6.0012	74.3022	2.5541	148	10.66%	4.6863	64.3553	2.0337	82	5.91%	1.4513	12.0840	2.3882
1988	LDGT1	13	1.85%	4.3641	38.4517	4.0425	73	10.40%	3.1887	40.2906	2.9451	32	4.56%	1.4672	12.6635	2.6896
	LDGT2	8	2.89%	3.0962	55.1104	2.2878	34	12.27%	5.0216	66.3083	3.5520	18	6.50%	1.3710	12.4414	2.5669
	LDGV	9	1.48%	6.0097	66.1618	1.3885	58	9.52%	5.0811	38.2031	1.9059	36	5.91%	0.9967	7.9081	1.8473
1988 Total		30	1.89%	4.5197	51.2071	2.7783	165	10.39%	4.2316	44.9180	2.7049	86	5.42%	1.2501	10.6264	2.3113
1989	LDGT1	20	1.81%	5.8301	76.2235	3.0860	106	9.59%	4.6826	54.7756	3.0238	63	5.70%	1.1770	11.9684	1.9050
	LDGT2	8	2.02%	8.9828	55.1225	3.9315	37	9.34%	3.7095	44.7865	3.3294	25	6.31%	1.6456	12.5020	2.6156
	LDGV	5	0.55%	6.0840	43.1923	1.3538	70	7.73%	3.0566	40.4658	1.6273	53	5.85%	0.8014	6.7424	1.5224
1989 Total		33	1.37%	6.6329	66.1034	3.0285	213	8.85%	3.9792	48.3377	2.6179	141	5.86%	1.1189	10.0986	1.8872
1990	LDGT1	31	3.27%	6.2557	76.8563	2.3358	90	9.48%	4.4300	56.7364	2.4737	49	5.16%	1.1917	10.6305	2.0673
	LDGT2	4	1.06%	4.3496	27.8502	5.3251	34	8.99%	3.9096	44.1248	3.0462	21	5.56%	1.6099	14.0927	2.4692
	LDGV	7	0.66%	3.3123	34.8997	3.0775	64	6.02%	2.5078	34.0413	2.2459	44	4.14%	0.7702	7.8630	1.6429
1990 Total		42	1.76%	5.5836	65.1963	2.7441	188	7.86%	3.6815	46.7296	2.4997	114	4.77%	1.1061	10.2002	1.9776
1991	LDGT1	11	0.77%	5.5835	58.8812	2.1059	96	6.69%	3.7010	47.0251	2.4413	89	6.21%	1.0821	11.1997	1.8489
	LDGT2	11	2.26%	6.1667	35.4768	3.8213	61	12.55%	4.4434	43.0163	3.4427	35	7.20%	1.2910	13.6746	2.4131
	LDGV	15	0.95%	2.9501	19.8900	3.1562	128	8.07%	3.4850	31.3797	2.0273	58	3.66%	0.6328	6.3516	1.4287
1991 Total		37	1.06%	4.6893	36.1159	3.0417	285	8.13%	3.7629	39.1404	2.4697	182	5.19%	0.9791	10.1306	1.8235
1992	LDGT1	16	1.28%	3.4566	53.3004	2.4902	75	6.02%	3.1354	42.5755	2.3807	62	4.98%	1.0889	10.2004	1.9037

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	8	1.09%	5.1660	46.0612	4.5438	104	14.11%	4.7633	38.0635	3.2572	48	6.51%	1.3342	12.9816	2.3511
	LDGV	11	0.76%	8.9023	93.8312	2.8430	135	9.28%	2.9085	41.4300	1.8122	55	3.78%	0.6764	5.6020	1.4202
1992 Total		35	1.02%	5.5588	64.3840	3.0705	314	9.13%	3.5770	40.5886	2.4266	165	4.80%	1.0228	9.4767	1.8727
1993	LDGT1	15	0.71%	3.3688	28.4456	3.8650	133	6.30%	3.2461	42.5281	2.5518	109	5.16%	1.1382	9.9728	2.1679
	LDGT2	6	0.65%	5.7543	32.6066	3.1409	106	11.50%	4.4068	40.2259	3.1513	62	6.72%	1.4802	13.9715	2.1474
	LDGV	15	0.75%	2.3229	22.3734	3.1111	180	8.99%	2.5747	32.5930	2.1325	65	3.25%	0.6302	5.5767	1.3817
1993 Total		36	0.71%	3.3306	26.6090	3.4302	419	8.32%	3.2513	37.6776	2.5233	236	4.69%	1.0881	9.8125	1.9460
1994	LDGT1	26	1.05%	5.1887	36.7898	3.8083	201	8.09%	2.2452	26.0042	2.9832	128	5.15%	0.8291	8.2415	1.7355
	LDGT2	21	1.31%	4.4854	33.3250	2.9812	193	12.02%	2.8095	29.2374	3.2000	93	5.79%	0.9860	9.7718	1.9893
	LDGV	13	0.57%	5.5163	40.8597	2.3014	165	7.24%	2.2442	21.6757	2.2479	82	3.60%	0.4887	5.0075	1.1852
1994 Total		60	0.94%	5.0135	36.4589	3.1923	559	8.78%	2.4398	25.8429	2.8410	303	4.76%	0.7851	7.8360	1.6645
1995	LDGT1	19	0.64%	6.3385	25.3483	4.1386	222	7.42%	2.6134	38.6553	3.0066	160	5.35%	0.8017	8.1493	1.7449
	LDGT2	34	1.51%	2.8554	26.0387	3.7468	266	11.80%	3.1932	30.2461	2.9751	126	5.59%	0.9752	10.4398	2.0703
	LDGV	32	0.96%	3.2446	34.5044	2.4359	218	6.54%	2.4859	26.0034	1.8304	124	3.72%	0.4265	4.6987	1.0203
1995 Total		85	0.99%	3.7805	29.0715	3.3409	706	8.23%	2.7925	31.5803	2.6316	410	4.78%	0.7416	7.8096	1.6258
1996	LDGT1	19	0.62%	2.4186	24.7251	3.0653	183	5.95%	2.3672	29.2967	2.9797	186	6.05%	0.4291	5.2946	1.4270
	LDGT2	12	0.61%	1.6700	15.4567	2.2475	138	7.01%	2.0825	25.9687	2.6422	116	5.89%	0.5075	5.8011	1.3812
	LDGV	8	0.23%	3.1517	31.7667	1.6395	198	5.73%	2.0982	22.4566	1.8246	122	3.53%	0.3489	3.7648	0.8540
1996 Total		39	0.46%	2.3387	23.3177	2.5212	519	6.11%	2.1889	25.8022	2.4493	424	4.99%	0.4275	4.9930	1.2496
1997	LDGT1	36	0.63%	1.8989	32.6831	2.8740	347	6.04%	1.5278	22.8175	2.7423	327	5.69%	0.4314	5.3506	1.3820
	LDGT2	25	0.97%	1.5510	21.1361	2.8742	220	8.55%	1.7586	20.7971	2.8647	126	4.90%	0.4610	5.8691	1.3097
	LDGV	15	0.29%	1.3244	22.9926	1.6376	228	4.42%	2.1369	22.4119	1.7669	230	4.46%	0.3516	3.8603	0.7645
1997 Total		76	0.56%	1.6711	26.9722	2.6301	795	5.90%	1.7664	22.1420	2.4965	683	5.07%	0.4100	4.9444	1.1607
1998	LDGT1	28	0.44%	1.5928	18.6353	2.4502	415	6.45%	1.4380	20.1690	2.9466	265	4.12%	0.3750	4.5007	1.1301
	LDGT2	22	0.83%	1.1951	14.7494	3.4377	233	8.82%	2.4872	20.6984	2.8885	108	4.09%	0.3918	4.5051	1.1756
	LDGV	19	0.32%	1.3722	12.4751	1.9794	398	6.63%	1.5819	19.3453	1.6405	246	4.10%	0.2863	3.7366	0.6261
1998 Total		69	0.46%	1.4052	15.7001	2.6354	1,046	6.94%	1.7265	19.9735	2.4367	619	4.10%	0.3427	4.1978	0.9377
1999	LDGT1	30	0.35%	2.7068	49.8795	2.7967	480	5.66%	1.2025	19.3366	2.3269	315	3.71%	0.3212	4.0653	0.9005
	LDGT2	28	0.67%	2.2867	13.6282	3.2970	346	8.24%	1.7383	17.1650	2.5218	162	3.86%	0.3230	3.7832	0.9255
	LDGV	25	0.31%	2.0745	21.3556	1.9508	376	4.63%	1.9764	17.3976	1.7764	311	3.83%	0.2477	3.3972	0.6118
1999 Total		83	0.40%	2.3746	29.0586	2.7107	1,202	5.78%	1.5988	18.1050	2.2108	788	3.79%	0.2926	3.7436	0.7917
2000	LDGT1	29	0.52%	2.7297	37.7914	2.1556	400	7.16%	1.2795	20.0936	2.5481	222	3.97%	0.3066	3.4686	0.8412
	LDGT2	13	0.51%	5.1515	43.4127	2.6705	169	6.63%	1.7709	21.8180	2.5734	120	4.71%	0.2756	3.7225	0.8717
	LDGV	14	0.23%	1.3531	19.7760	1.6528	361	5.93%	1.7421	22.8042	1.8246	223	3.66%	0.2184	3.1100	0.5342
2000 Total		56	0.39%	2.9478	34.5925	2.1494	930	6.54%	1.5483	21.4592	2.2719	565	3.97%	0.2652	3.3810	0.7265
2001	LDGT1	24	0.33%	1.4444	21.1198	2.5372	313	4.26%	1.4230	22.8927	2.1301	320	4.35%	0.2037	3.2838	0.5875
	LDGT2	12	0.32%	3.2821	48.8082	2.0816	239	6.46%	1.9518	19.1329	2.6570	151	4.08%	0.2859	3.3338	0.6900
	LDGV	11	0.14%	1.8838	22.4492	1.6107	356	4.48%	1.3875	16.3024	1.9258	271	3.41%	0.1466	2.2725	0.3722
2001 Total		47	0.25%	2.0164	28.5003	2.2040	908	4.78%	1.5483	19.3192	2.1887	742	3.91%	0.1996	2.9246	0.5297
2002	LDGT1	36	0.49%	1.2425	25.5783	3.1531	402	5.49%	1.5854	26.6273	2.3965	328	4.48%	0.1893	3.2380	0.5213
	LDGT2	14	0.45%	0.7295	21.3821	1.8414	203	6.50%	1.6435	15.9925	2.6036	150	4.80%	0.2538	3.1045	0.7339
	LDGV	18	0.22%	1.4989	11.1009	2.0174	411	5.07%	1.3385	17.0029	2.2633	289	3.57%	0.1695	3.0483	0.3824
2002 Total		68	0.37%	1.2047	20.8821	2.5824	1,016	5.48%	1.4972	20.6091	2.3840	767	4.14%	0.1945	3.1404	0.5105
2003	LDGT1	24	0.25%	1.1466	29.5681	2.3178	368	3.80%	1.3637	26.7021	2.3110	443	4.57%	0.1478	2.4543	0.4436

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	10	0.23%	2.0815	17.9449	3.5483	175	3.97%	1.9268	20.5772	2.9317	191	4.33%	0.2366	3.1117	0.6221
	LDGV	23	0.23%	1.2142	14.8862	1.8190	355	3.58%	1.5601	15.7723	2.0584	387	3.90%	0.1226	1.9344	0.3306
2003 Total		57	0.24%	1.3379	21.6047	2.3324	898	3.74%	1.5511	21.1877	2.3321	1,021	4.25%	0.1549	2.3802	0.4341
2004	LDGT1	21	0.22%	4.6783	28.9132	2.5137	352	3.70%	2.2105	28.8654	2.1830	386	4.05%	0.1340	2.3889	0.3484
	LDGT2	13	0.29%	0.8980	17.5407	3.1366	198	4.43%	1.9954	29.0146	2.8640	195	4.36%	0.1782	2.5743	0.4543
	LDGV	21	0.24%	2.6985	10.1142	3.0465	359	4.07%	1.5933	18.3903	2.1185	298	3.38%	0.1035	1.8605	0.2686
2004 Total		55	0.24%	3.0288	19.0473	2.8644	909	3.99%	1.9199	24.7609	2.3059	879	3.85%	0.1334	2.2509	0.3448
2005	LDGT1	12	0.12%	6.1614	30.9223	2.6671	236	2.36%	0.9739	19.4576	2.4910	283	2.83%	0.1512	2.0644	0.2816
	LDGT2	12	0.37%	5.5027	25.0975	2.8103	138	4.20%	1.6580	24.9617	2.7085	105	3.20%	0.1871	2.5101	0.3825
	LDGV	13	0.14%	1.1104	14.6520	1.4957	276	2.92%	1.5034	18.2033	2.3824	333	3.52%	0.0809	1.3695	0.2153
2005 Total		37	0.16%	4.1731	23.3166	2.3020	650	2.86%	1.3440	20.0936	2.4911	721	3.17%	0.1240	1.8084	0.2657
2006	LDGT1	6	0.08%	1.6326	13.8095	3.3368	164	2.08%	0.9097	21.1833	2.5177	205	2.60%	0.1008	2.0317	0.2012
	LDGT2	3	0.09%	1.8292	18.0264	6.9574	132	3.93%	1.4063	20.8373	2.6505	97	2.89%	0.1218	1.9691	0.2724
	LDGV	6	0.07%	0.8918	12.6806	2.9738	252	2.95%	1.6634	14.3077	2.3984	195	2.28%	0.0858	2.0458	0.1920
2006 Total		15	0.08%	1.3756	14.2013	3.9157	548	2.77%	1.3759	17.9382	2.4948	497	2.51%	0.0990	2.0251	0.2115
2007	LDGT1	10	0.10%	1.5377	26.2083	2.8934	128	1.25%	1.1531	30.6115	2.6868	240	2.34%	0.0594	1.8120	0.1360
	LDGT2	3	0.08%	6.1670	85.0679	2.9406	94	2.37%	1.4049	22.3897	2.8216	149	3.75%	0.0953	1.4125	0.1584
	LDGV	5	0.05%	0.5411	13.6966	2.3256	192	1.83%	1.7911	19.2951	2.2430	173	1.65%	0.0664	1.4492	0.1496
2007 Total		18	0.07%	2.0324	32.5428	2.7435	414	1.67%	1.5061	23.4965	2.5116	562	2.27%	0.0711	1.5944	0.1461
2008	LDGT1	7	0.09%	1.1991	45.0399	2.4393	102	1.29%	0.8432	25.8103	2.5343	161	2.03%	0.0662	1.6093	0.1331
	LDGT2	2	0.06%	5.8303	111.5569	5.4080	82	2.53%	1.8414	22.6433	2.5524	135	4.17%	0.1203	2.0764	0.1934
	LDGV	3	0.04%	0.4611	13.9457	1.3639	162	1.99%	1.7234	22.0905	2.4259	147	1.80%	0.0882	1.7564	0.1364
2008 Total		12	0.06%	1.7865	48.3525	2.6652	346	1.79%	1.4919	23.3181	2.4878	443	2.29%	0.0900	1.8005	0.1526
2009	LDGT1	1	0.02%	1.9878	11.7459	5.4472	38	0.89%	0.9746	26.6866	2.5472	88	2.07%	0.0563	2.3141	0.1242
	LDGT2	2	0.12%	0.5070	16.4205	1.2461	30	1.77%	1.0043	22.5511	2.0442	61	3.61%	0.1092	2.0908	0.1530
	LDGV	4	0.07%	6.1971	18.8763	3.6354	83	1.42%	1.9487	14.2179	1.9844	106	1.81%	0.0758	1.7110	0.1839
2009 Total		7	0.06%	3.9700	17.1560	3.2116	151	1.28%	1.5159	19.0113	2.1379	255	2.16%	0.0771	2.0100	0.1560
2010	LDGT1	1	0.01%	0.9183	13.5853	3.4270	41	0.44%	0.8310	28.0585	1.8796	137	1.47%	0.0652	1.6631	0.1492
	LDGT2	4	0.11%	1.0788	32.4728	2.7163	46	1.22%	0.9681	27.0038	2.0219	109	2.88%	0.0868	2.1142	0.1513
	LDGV	1	0.01%	0.6664	7.0707	3.1559	94	1.00%	1.8069	18.9498	2.3570	145	1.55%	0.0754	1.6858	0.1274
2010 Total		6	0.03%	0.9834	25.0912	2.9080	181	0.81%	1.3727	23.0599	2.1637	391	1.74%	0.0750	1.7973	0.1417
2011	LDGT1	0	0.00%	0.0000	0.0000	0.0000	17	2.87%	1.0179	32.5806	1.7081	14	2.36%	0.0824	2.6603	0.1528
	LDGT2	0	0.00%	0.0000	0.0000	0.0000	6	1.82%	1.6927	31.6253	3.3617	13	3.94%	0.0502	1.5737	0.1657
	LDGV	1	0.17%	3.1410	9.6359	4.2816	21	3.65%	1.7429	19.1863	2.4125	6	1.04%	0.1317	1.6461	0.1049
2011 Total		1	0.07%	3.1410	9.6359	4.2816	44	2.94%	1.4559	26.0576	2.2698	33	2.20%	0.0786	2.0478	0.1492
2012	LDGT1	0	0.00%	0.0000	0.0000	0.0000	7	0.87%	0.5140	27.2443	0.7100	17	2.10%	0.0277	1.5499	0.0913
	LDGT2	0	0.00%	0.0000	0.0000	0.0000	5	1.10%	2.6788	46.7990	0.5750	27	5.92%	0.0319	0.8733	0.0465
	LDGV	2	0.20%	1.0630	43.5244	3.4557	19	1.87%	1.9879	17.3896	1.7039	27	2.66%	0.1428	2.5987	0.1851
2012 Total		2	0.09%	1.0630	43.5244	3.4557	31	1.36%	1.7665	24.3583	1.2974	71	3.12%	0.0731	1.6915	0.1099
2013	LDGT1	0	0.00%	0.0000	0.0000	0.0000	5	1.46%	0.6557	18.4764	1.7486	4	1.17%	0.0565	2.3046	0.0349
	LDGT2	0	0.00%	0.0000	0.0000	0.0000	2	0.87%	1.1421	12.1050	2.1859	9	3.90%	0.1136	2.3321	0.2142
	LDGV	1	0.17%	0.6810	6.3363	2.1825	18	3.01%	1.5225	21.7844	2.6312	13	2.17%	0.0344	1.7643	0.0796
2013 Total		1	0.09%	0.6810	6.3363	2.1825	25	2.13%	1.3187	20.3485	2.4191	26	2.22%	0.0652	2.0440	0.1193
2014	LDGT1	1	0.16%	0.3550	37.9360	0.1223	6	0.93%	0.7682	16.4907	2.3150	7	1.09%	0.0479	2.3560	0.1544

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	1	0.17%	0.6461	17.3195	0.0851	7	1.20%	1.7021	19.2162	3.1492	15	2.57%	0.0654	2.2249	0.0866
	LDGV	1	0.12%	0.3110	0.7625	2.6828	25	3.06%	1.4967	19.1051	3.4792	8	0.98%	0.0704	3.1525	0.1423
2014 Total		3	0.15%	0.4374	18.6727	0.9634	38	1.86%	1.4195	18.7127	3.2346	30	1.47%	0.0627	2.5029	0.1173
2015	LDGT1	0	0.00%	0.0000	0.0000	0.0000	1	0.83%	0.1128	19.5081	0.1644	3	2.48%	0.0707	4.2307	0.0632
	LDGT2	1	1.20%	1.2600	12.2017	2.5102	0	0.00%	0.0000	0.0000	0.0000	1	1.20%	0.0228	0.5915	0.0366
	LDGV	0	0.00%	0.0000	0.0000	0.0000	5	3.16%	2.4617	22.1528	3.6588	2	1.27%	0.0541	0.5771	0.0881
2015 Total		1	0.28%	1.2600	12.2017	2.5102	6	1.66%	2.0702	21.7120	3.0764	6	1.66%	0.0572	2.4063	0.0671
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	1	2.04%	0.0179	1.5149	0.0416
2016 Total		0	0.00%	0.0000	0.0000	0.0000	0	0.00%	0.0000	0.0000	0.0000	1	0.93%	0.0179	1.5149	0.0416
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
	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
2017 Total		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
2018	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	33.33%	2.6954	25.9583	2.5104	0	0.00%	0.0000	0.0000	0.0000
2018 Total		0	0.00%	0.0000	0.0000	0.0000	1	9.09%	2.6954	25.9583	2.5104	0	0.00%	0.0000	0.0000	0.0000
2019	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
2019 Total		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
2020	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
	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
2020 Total		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
2021	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
	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
2021 Total		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
Grand Total		1,143	0.35%	3.6209	39.8014	2.6854	14,053	4.36%	2.0713	26.1391	2.4051	11,493	3.56%	0.3544	4.2165	0.7654

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	489	0.38%	3.8176	45.3555	2.7927	5,218	4.00%	1.9064	29.4478	2.5312	4,811	3.69%	0.3917	4.7287	0.8631	
LDGT2	308	0.53%	3.3846	35.8436	3.1076	3,403	5.84%	2.4043	26.9213	2.8109	2,538	4.36%	0.4585	5.0933	0.9536	
LDGV	346	0.26%	3.5532	35.4750	2.1580	5,432	4.05%	2.0209	22.4709	2.0298	4,144	3.09%	0.2473	3.0849	0.5368	
Grand Total		1,143	0.35%	3.6209	39.8014	2.6854	14,053	4.36%	2.0713	26.1391	2.4051	11,493	3.56%	0.3544	4.2165	0.7654

Appendix B3

I/M240 Initial Exhaust Failure Report

Date
Between 1/1/2021 and 1/1/2022

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	11	78.57%	11.6290	123.5840	1.1837	10	71.43%	11.7115	136.6840	0.9901	2	14.29%	1.1677	18.5580	5.6221
	LDGT1	10	45.45%	13.5134	148.0841	1.6511	20	90.91%	7.6313	131.3153	1.4108	1	4.55%	0.1655	0.2218	8.7821
	LDGT2	7	77.78%	12.6461	135.5029	2.6682	7	77.78%	11.2559	148.2435	2.5400	1	11.11%	10.2322	52.5330	6.5730
1982 Total		28	62.22%	12.5563	135.3138	1.7218	37	82.22%	9.4198	135.9689	1.5107	4	8.89%	3.1833	22.4677	6.6499
1983	LDGV	16	57.14%	8.7490	126.7403	1.3018	23	82.14%	6.5562	117.6023	1.2819	2	7.14%	0.6865	9.0703	5.8911
	LDGT1	13	59.09%	10.7844	128.6807	1.5834	17	77.27%	8.4176	124.3744	1.2983	4	18.18%	3.1641	37.9076	7.5512
	LDGT2	3	23.08%	9.1595	71.1190	2.5022	9	69.23%	4.2531	114.8288	1.0869	2	15.38%	2.8989	24.1240	6.4593
1983 Total		32	50.79%	9.6144	122.3141	1.5288	49	77.78%	6.7790	119.4424	1.2518	8	12.70%	2.4784	27.2523	6.8632
1984	LDGV	33	73.33%	9.3647	92.9627	1.5349	33	73.33%	8.0524	101.5464	1.4538	4	8.89%	5.7216	55.0331	6.0857
	LDGT1	16	53.33%	10.3485	137.0240	1.4523	26	86.67%	7.2934	118.9487	1.6274	3	10.00%	2.5958	14.3722	7.0267
	LDGT2	12	40.00%	8.7186	134.7751	3.0400	25	83.33%	4.9112	122.9674	2.1613	6	20.00%	3.5291	35.0942	7.3097
1984 Total		61	58.10%	9.4956	112.7452	1.8093	84	80.00%	6.8826	113.3081	1.7181	13	12.38%	3.9884	36.4472	6.8678
1985	LDGV	35	59.32%	8.0028	70.7027	1.9356	43	72.88%	6.3587	69.1320	1.3177	12	20.34%	2.0728	9.0465	5.3171
	LDGT1	21	41.18%	7.8477	113.3107	1.7605	37	72.55%	4.9471	106.8556	1.3002	9	17.65%	2.4715	18.9972	6.9265
	LDGT2	10	41.67%	9.6430	95.6070	3.6032	20	83.33%	5.0413	100.5133	2.4645	3	12.50%	9.2168	25.5770	8.7339
1985 Total		66	49.25%	8.2019	88.0332	2.1325	100	74.63%	5.5729	89.3660	1.5406	24	17.91%	3.1153	14.8443	6.3477
1986	LDGV	38	63.33%	5.2269	61.4752	2.3336	46	76.67%	4.3005	65.2138	1.5350	10	16.67%	3.1174	14.9811	5.3298
	LDGT1	27	42.19%	7.9711	106.8293	2.1835	51	79.69%	5.2941	94.9700	1.4486	9	14.06%	1.7041	11.3156	6.6129
	LDGT2	19	57.58%	9.1130	107.7108	2.3648	29	87.88%	6.7184	105.0847	2.0439	3	9.09%	2.7727	15.2983	7.2843
1986 Total		84	53.50%	6.9880	86.5114	2.2924	126	80.25%	5.2592	86.4346	1.6171	22	14.01%	2.4923	13.5249	6.1213
1987	LDGV	47	71.21%	6.3803	53.7348	1.8462	47	71.21%	3.9403	62.0529	1.3230	8	12.12%	3.2213	17.7225	4.4392
	LDGT1	35	43.21%	7.9271	127.9371	1.3337	67	82.72%	5.0770	94.5501	1.2672	12	14.81%	2.0297	12.3856	6.6988
	LDGT2	11	40.74%	10.1180	114.4460	1.6443	17	62.96%	7.0388	99.3784	2.2418	8	29.63%	1.6094	15.3383	6.5904
1987 Total		93	53.45%	7.4045	88.8413	1.6294	131	75.29%	4.9238	83.5174	1.4137	28	16.09%	2.2501	14.7541	6.0222
1988	LDGV	52	77.61%	6.3786	47.9652	1.6837	44	65.67%	5.2782	60.0122	1.4593	7	10.45%	2.1069	10.7949	4.9305
	LDGT1	35	40.70%	5.7724	56.4118	2.2689	52	60.47%	4.0118	57.4055	1.6178	25	29.07%	1.9927	12.3662	6.2677
	LDGT2	24	57.14%	6.6645	82.3122	2.7380	30	71.43%	5.3137	82.7596	2.5371	11	26.19%	2.3806	29.2098	6.4034
1988 Total		111	56.92%	6.2493	58.0549	2.0962	126	64.62%	4.7640	64.3525	1.7813	43	22.05%	2.1105	16.4192	6.0847
1989	LDGV	49	65.33%	4.3678	45.6356	1.5820	49	65.33%	3.2911	57.2229	1.1554	4	5.33%	1.2352	7.7049	4.6987
	LDGT1	55	43.65%	8.9214	95.0101	2.3372	86	68.25%	5.6083	78.9109	1.9949	33	26.19%	2.7427	15.3594	6.5867
	LDGT2	18	40.00%	8.9803	78.5886	2.9511	27	60.00%	5.6984	67.8872	2.6317	15	33.33%	5.4156	17.2213	6.2191
1989 Total		122	49.59%	7.1012	72.7565	2.1245	162	65.85%	4.9224	70.5137	1.8471	52	21.14%	3.3978	15.3077	6.3354
1990	LDGV	40	56.34%	3.7407	37.6010	2.1404	39	54.93%	2.8828	54.4471	1.5001	24	33.80%	1.6625	12.7153	4.2431
	LDGT1	63	52.07%	7.7109	85.9016	1.9621	86	71.07%	5.4031	81.5594	1.5772	21	17.36%	2.5849	13.5617	6.2197
	LDGT2	19	50.00%	6.5077	56.8474	2.7070	22	57.89%	5.0082	63.2375	2.4067	14	36.84%	2.4383	16.1409	5.9030
1990 Total		122	53.04%	6.2218	65.5405	2.1366	147	63.91%	4.6753	71.6243	1.6809	59	25.65%	2.1749	13.8294	5.3405
1991	LDGV	101	70.63%	4.4813	33.6741	2.0224	76	53.15%	4.0938	48.5450	1.4017	39	27.27%	2.8014	13.9868	4.3066
	LDGT1	63	58.88%	5.4676	59.2535	2.0080	72	67.29%	4.4283	64.9183	1.6468	22	20.56%	2.0814	17.4655	5.5149
	LDGT2	47	65.28%	6.5196	52.8350	2.8186	39	54.17%	6.4864	66.4487	2.3311	26	36.11%	2.0403	13.3402	5.7741

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)
1991 Total		211	65.53%	5.2298	45.5796	2.1955	187	58.07%	4.7216	58.5831	1.6899	87	27.02%	2.3919	14.6733	5.0507
1992	LDGV	105	71.92%	4.3294	55.2052	1.9187	103	70.55%	3.9073	60.6538	1.3576	31	21.23%	2.2341	11.5922	4.4280
	LDGT1	49	53.85%	4.4896	55.1240	2.2810	61	67.03%	3.3226	58.7396	1.6399	21	23.08%	2.0491	15.4108	5.3811
	LDGT2	65	58.04%	7.1383	49.6285	2.8393	67	59.82%	6.4651	54.6368	2.5163	40	35.71%	3.5379	21.9593	6.0505
1992 Total		219	62.75%	5.1990	53.5319	2.2730	231	66.19%	4.4948	58.4031	1.7682	92	26.36%	2.7587	16.9713	5.3510
1993	LDGV	121	62.05%	3.6477	41.6070	1.8509	120	61.54%	2.9531	47.0503	1.4227	55	28.21%	1.5301	9.5226	4.4396
	LDGT1	76	51.35%	4.9680	52.5216	2.1939	86	58.11%	3.7248	61.0479	1.5805	46	31.08%	1.9518	16.4232	5.3692
	LDGT2	59	52.68%	7.0728	50.4293	2.2597	57	50.89%	6.0537	63.1463	2.1478	40	35.71%	3.0569	21.0396	5.8098
1993 Total		256	56.26%	4.8290	46.8805	2.0469	263	57.80%	3.8774	55.1160	1.6315	141	30.99%	2.1008	15.0411	5.1316
1994	LDGV	114	64.04%	3.5597	28.1819	1.8777	89	50.00%	3.0503	39.7090	1.5803	65	36.52%	1.8643	10.0167	4.1938
	LDGT1	100	44.05%	4.2972	31.6684	2.9507	123	54.19%	3.1393	39.5796	2.2611	86	37.89%	1.7271	14.9192	4.8525
	LDGT2	127	59.35%	4.2783	34.9897	2.6129	108	50.47%	3.7518	46.3367	2.5215	80	37.38%	2.1741	17.3711	5.3924
1994 Total		341	55.09%	4.0436	31.7398	2.4662	320	51.70%	3.3213	41.8961	2.1597	231	37.32%	1.9205	14.3888	4.8541
1995	LDGV	171	68.40%	3.5093	33.1458	1.6483	119	47.60%	3.4197	50.1147	1.1281	94	37.60%	1.8191	11.0497	3.6282
	LDGT1	117	48.55%	4.8588	55.4714	2.7171	130	53.94%	3.9006	60.1202	1.8538	107	44.40%	2.3373	14.1344	5.1921
	LDGT2	174	58.00%	4.6676	36.4377	2.7516	184	61.33%	3.9107	40.0149	2.3682	109	36.33%	2.0512	17.0896	5.3913
1995 Total		462	58.41%	4.2873	40.0395	2.3345	433	54.74%	3.7727	48.8268	1.8729	310	39.19%	2.0796	14.2381	4.7879
1996	LDGV	121	58.74%	3.2402	29.5211	1.5239	91	44.17%	2.7465	43.8464	1.2905	95	46.12%	1.4927	9.4747	2.9476
	LDGT1	117	57.92%	3.6483	39.3338	2.9066	112	55.45%	3.4600	45.4269	2.4560	98	48.51%	1.4615	11.8796	4.5528
	LDGT2	93	62.00%	2.9181	31.8865	2.4991	91	60.67%	2.5488	35.5711	2.2651	46	30.67%	1.5056	12.8704	4.4203
1996 Total		331	59.32%	3.2940	33.6542	2.2866	294	52.69%	2.9571	41.8871	2.0362	239	42.83%	1.4824	11.1143	3.8892
1997	LDGV	112	46.09%	3.8836	31.5952	1.4572	117	48.15%	2.6091	40.4093	1.1614	109	44.86%	1.5722	9.9603	2.9649
	LDGT1	176	45.95%	2.7230	33.5578	2.8096	203	53.00%	1.9756	37.0628	2.0910	194	50.65%	1.0831	11.0722	4.1184
	LDGT2	127	51.84%	2.8096	26.2518	2.7379	144	58.78%	2.2300	29.3537	2.6183	110	44.90%	1.2737	14.3599	4.3453
1997 Total		415	47.65%	3.0628	30.7923	2.4227	464	53.27%	2.2143	35.5142	2.0202	413	47.42%	1.2630	11.6544	3.8744
1998	LDGV	172	41.25%	3.0387	28.6356	1.3731	169	40.53%	1.9233	37.8553	1.0031	218	52.28%	0.8639	7.8453	2.5864
	LDGT1	158	35.67%	3.1692	37.3067	3.0471	176	39.73%	2.4989	39.4808	2.3417	308	69.53%	0.9605	10.6260	3.6889
	LDGT2	119	46.67%	4.4886	30.6335	3.0546	123	48.24%	3.4419	33.5247	2.5759	164	64.31%	1.8966	13.1529	3.7908
1998 Total		449	40.27%	3.4689	32.2164	2.4078	468	41.97%	2.5389	37.3284	1.9199	690	61.88%	1.1525	10.3481	3.3648
1999	LDGV	161	40.15%	4.2659	28.8141	1.7227	147	36.66%	3.1723	37.6729	1.1566	244	60.85%	1.2974	8.6637	2.5421
	LDGT1	131	25.69%	3.7668	55.0357	2.0172	172	33.73%	2.6042	51.1740	1.5609	365	71.57%	0.6949	9.0777	2.9810
	LDGT2	153	40.91%	3.5934	28.1241	2.7538	136	36.36%	3.4302	34.0082	2.4130	286	76.47%	1.5089	11.6934	3.0673
1999 Total		445	34.63%	3.8878	36.2960	2.1639	455	35.41%	3.0346	41.6812	1.6850	895	69.65%	1.1193	9.8007	2.8889
2000	LDGV	144	38.40%	3.7468	39.6447	1.5398	156	41.60%	2.4684	45.2654	1.0322	227	60.53%	1.0733	8.9422	2.6597
	LDGT1	137	31.93%	3.4690	44.7703	2.5519	163	38.00%	2.4551	45.4996	1.7106	302	70.40%	0.8284	9.5488	3.2742
	LDGT2	69	37.91%	4.3859	43.3649	2.6523	71	39.01%	3.5211	47.9247	1.9980	131	71.98%	1.4236	11.9463	3.3150
2000 Total		350	35.50%	3.7641	42.3844	2.1553	390	39.55%	2.6545	45.8474	1.4916	660	66.94%	1.0308	9.8160	3.0710
2001	LDGV	134	36.51%	3.0761	24.7961	1.7234	130	35.42%	2.0301	35.7859	0.8674	226	61.58%	0.9874	7.3798	2.7614
	LDGT1	85	25.22%	4.4595	47.8399	1.8160	174	51.63%	1.9596	38.6838	1.0500	182	54.01%	0.8539	10.4863	3.5437
	LDGT2	86	34.26%	4.8905	39.4465	2.4423	90	35.86%	3.9745	45.1491	1.9616	180	71.71%	1.4450	10.6351	3.3839
2001 Total		305	31.94%	3.9732	35.3491	1.9519	394	41.26%	2.4431	39.2045	1.1980	588	61.57%	1.0862	9.3379	3.1941
2002	LDGV	163	38.00%	2.8329	27.3592	2.1978	151	35.20%	1.9891	36.9983	1.4307	303	70.63%	1.0484	8.7933	3.0050
	LDGT1	146	33.33%	3.7975	51.1121	2.3085	227	51.83%	2.2519	45.4804	1.4536	256	58.45%	1.1613	10.9476	3.8037

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	62	28.57%	4.3460	33.6517	2.4104	73	33.64%	2.9522	35.3896	1.9956	163	75.12%	1.1700	10.9346	3.1210
2002 Total		371	34.23%	3.4654	37.7583	2.2769	451	41.61%	2.2773	41.0072	1.5336	722	66.61%	1.1159	10.0406	3.3144
2003	LDGV	135	35.71%	3.5394	25.1248	1.8839	137	36.24%	2.3146	32.8424	1.2187	249	65.87%	1.1061	8.8377	2.8834
	LDGT1	128	32.65%	3.1937	51.3932	2.2704	198	50.51%	1.6761	46.8432	1.3843	225	57.40%	0.8878	11.0908	3.5987
	LDGT2	69	37.30%	4.3493	35.2045	3.1811	79	42.70%	3.4631	37.1480	2.7098	137	74.05%	1.4238	13.3229	3.7510
2003 Total		332	34.76%	3.5744	37.3472	2.3025	414	43.35%	2.2284	40.3600	1.5824	611	63.98%	1.0969	10.6731	3.3413
2004	LDGV	128	33.68%	4.0688	32.3188	1.9876	137	36.05%	2.4264	39.8830	1.4158	259	68.16%	0.8693	8.7720	2.9976
	LDGT1	126	33.78%	6.1312	57.0379	2.1787	189	50.67%	3.4062	51.0904	1.2827	209	56.03%	1.0648	9.6644	3.5297
	LDGT2	74	35.07%	4.6071	56.5914	2.8208	106	50.24%	3.2097	49.1635	2.3070	143	67.77%	1.0745	14.8939	3.9283
2004 Total		328	34.02%	4.9825	47.2907	2.2490	432	44.81%	3.0472	47.0634	1.5762	611	63.38%	0.9842	10.5100	3.3974
2005	LDGV	99	34.26%	3.5257	32.6453	2.2468	101	34.95%	1.8880	41.8737	1.1571	198	68.51%	0.9544	8.5333	3.2935
	LDGT1	66	26.61%	3.4454	39.9130	2.3734	103	41.53%	1.8842	40.2194	1.2508	157	63.31%	0.6748	8.4532	3.6871
	LDGT2	60	40.00%	4.0717	40.3139	3.0354	97	64.67%	2.5096	34.0218	2.4297	102	68.00%	1.4756	17.1339	3.5515
2005 Total		225	32.75%	3.6478	36.8221	2.4942	301	43.81%	2.0870	38.7772	1.5993	457	66.52%	0.9747	10.4254	3.4863
2006	LDGV	86	33.33%	4.0545	21.7431	2.6024	96	37.21%	2.7742	29.4142	1.8712	192	74.42%	1.3483	9.2888	3.1469
	LDGT1	37	21.76%	2.8781	42.3302	2.8759	79	46.47%	1.3521	38.4996	1.1882	103	60.59%	0.7048	9.0842	3.9319
	LDGT2	53	39.26%	2.7516	31.2337	3.1564	68	50.37%	1.8344	33.0793	2.2636	95	70.37%	1.3604	14.2013	3.6397
2006 Total		176	31.26%	3.4148	28.9290	2.8267	243	43.16%	2.0489	33.3935	1.7589	390	69.27%	1.1813	10.4314	3.4743
2007	LDGV	64	32.49%	4.6541	37.0628	2.3322	74	37.56%	2.3507	42.3728	1.1993	134	68.02%	1.2309	8.0028	3.2048
	LDGT1	40	28.99%	3.2791	70.7457	2.1672	63	45.65%	1.8759	60.9452	1.1024	84	60.87%	0.6678	8.1568	4.2066
	LDGT2	30	30.93%	3.7074	50.8233	3.1064	49	50.52%	2.3361	40.3135	2.3049	70	72.16%	1.0713	12.6575	3.6609
2007 Total		134	31.02%	4.0317	50.1981	2.4563	186	43.06%	2.1861	48.1209	1.4577	288	66.67%	1.0279	9.1791	3.6079
2008	LDGV	72	43.64%	3.3796	35.9885	2.5186	74	44.85%	2.2718	42.8530	2.0404	114	69.09%	1.0719	10.8278	3.3346
	LDGT1	33	30.28%	2.0442	59.1624	2.3152	51	46.79%	1.1775	52.6218	1.0666	68	62.39%	0.7309	9.1378	3.8905
	LDGT2	25	29.76%	5.3452	42.1068	3.9939	56	66.67%	2.3621	32.8775	2.2290	48	57.14%	1.4268	18.5348	4.1262
2008 Total		130	36.31%	3.4186	43.0477	2.7507	181	50.56%	1.9914	42.5192	1.8243	230	64.25%	1.0452	11.9365	3.6642
2009	LDGV	37	42.53%	4.4709	17.9765	1.9357	38	43.68%	1.9141	26.8369	1.9555	54	62.07%	1.1501	11.2413	3.1013
	LDGT1	11	28.21%	2.6537	57.0237	2.7519	19	48.72%	1.3307	48.8896	0.9702	23	58.97%	0.6367	9.0868	4.1748
	LDGT2	9	28.13%	2.0435	21.8321	2.6977	22	68.75%	1.0354	28.3566	1.8701	17	53.13%	1.1384	16.2846	3.1788
2009 Total		57	36.08%	3.7369	26.1207	2.2135	79	50.00%	1.5291	32.5639	1.6947	94	59.49%	1.0224	11.6262	3.3779
2010	LDGV	46	48.42%	3.2487	23.2876	2.8835	49	51.58%	2.1167	31.1593	2.0384	64	67.37%	1.8100	13.1923	3.3661
	LDGT1	8	19.05%	2.8273	71.5712	0.6514	21	50.00%	0.9868	50.6622	0.5248	21	50.00%	0.4700	6.0233	3.6919
	LDGT2	14	28.00%	2.2449	54.7139	3.0174	33	66.00%	1.1111	36.9087	1.4902	26	52.00%	1.1940	16.2755	3.5342
2010 Total		68	36.36%	2.9924	35.4381	2.6484	103	55.08%	1.5641	36.9777	1.5542	111	59.36%	1.4122	12.5582	3.4671
2011	LDGV	12	54.55%	2.7318	22.4426	3.0723	13	59.09%	1.7863	26.2006	2.6274	14	63.64%	1.7827	16.5011	3.6673
	LDGT1	5	29.41%	2.2950	66.5321	1.1295	11	64.71%	1.3491	46.5164	0.6521	7	41.18%	0.7595	9.3106	3.6887
	LDGT2	4	66.67%	2.3173	38.9739	4.2406	4	66.67%	1.9750	40.9051	3.5837	5	83.33%	2.0203	33.5967	4.0241
2011 Total		21	46.67%	2.5489	36.0889	2.8322	28	62.22%	1.6415	36.2824	1.9880	26	57.78%	1.5529	17.8528	3.7417
2012	LDGV	8	38.10%	4.0941	11.9931	2.9537	11	52.38%	0.7773	30.9834	1.6041	11	52.38%	1.2791	13.8085	3.4575
	LDGT1	0	0.00%	0.0000	0.0000	0.0000	6	85.71%	0.5292	30.2265	0.2052	1	14.29%	0.4234	9.3516	3.7386
	LDGT2	2	40.00%	5.6275	57.3504	0.0816	4	80.00%	3.3061	57.8144	0.1907	1	20.00%	0.1694	2.7375	2.1122
2012 Total		10	30.30%	4.4007	21.0645	2.3793	21	63.64%	1.1881	35.8778	0.9352	13	39.39%	1.1279	12.6140	3.3757
2013	LDGV	12	63.16%	2.1142	22.6375	3.6929	15	78.95%	1.5759	24.2289	2.6087	13	68.42%	1.9601	20.4033	3.6343

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	4	80.00%	0.6505	20.8601	1.2271	2	40.00%	0.7544	13.2798	4.1999
	LDGT2	0	0.00%	0.0000	0.0000	0.0000	0	0.00%	0.0000	0.0000	0.0000	2	100.00%	1.1421	12.1050	2.1859
2013 Total		12	46.15%	2.1142	22.6375	3.6929	19	73.08%	1.3810	23.5197	2.3179	17	65.38%	1.7220	18.5889	3.5304
2014	LDGV	15	57.69%	2.1128	23.9396	4.0502	16	61.54%	1.8939	24.9658	3.6636	23	88.46%	1.5042	16.9828	3.8088
	LDGT1	1	14.29%	2.5295	20.3703	4.0934	5	71.43%	0.7147	22.7809	1.5193	4	57.14%	1.1009	15.4490	3.2496
	LDGT2	4	50.00%	2.3940	20.1081	4.3466	5	62.50%	1.5674	23.3716	2.3922	5	62.50%	2.1373	17.8642	4.1367
2014 Total		20	48.78%	2.1899	22.9949	4.1116	26	63.41%	1.6043	24.2390	3.0068	32	78.05%	1.5527	16.9288	3.7901
2015	LDGV	5	100.00%	2.4617	22.1528	3.6588	3	60.00%	2.1828	27.8039	3.8628	5	100.00%	2.4617	22.1528	3.6588
	LDGT1	0	0.00%	0.0000	0.0000	0.0000	1	100.00%	0.1128	19.5081	0.1644	0	0.00%	0.0000	0.0000	0.0000
	LDGT2	1	100.00%	1.2600	12.2017	2.5102	0	0.00%	0.0000	0.0000	0.0000	1	100.00%	1.2600	12.2017	2.5102
2015 Total		6	85.71%	2.2614	20.4943	3.4674	4	57.14%	1.6653	25.7300	2.9382	6	85.71%	2.2614	20.4943	3.4674
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
2016 Total		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	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
2017 Total		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
2018	LDGV	1	100.00%	2.6954	25.9583	2.5104	1	100.00%	2.6954	25.9583	2.5104	1	100.00%	2.6954	25.9583	2.5104
	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
2018 Total		1	100.00%	2.6954	25.9583	2.5104	1	100.00%	2.6954	25.9583	2.5104	1	100.00%	2.6954	25.9583	2.5104
2019	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
2019 Total		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
2020	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
2020 Total		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
2021	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
2021 Total		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
Grand Total		6,394	42.08%	4.3014	43.0743	2.2892	7,350	48.37%	3.1155	48.2449	1.7047	8,208	54.01%	1.2712	11.0562	3.5970

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	2,660	46.04%	3.9644	35.2508	1.8993	2,567	44.43%	2.9054	44.5412	1.3501	3,110	53.82%	1.2389	9.4073	3.0971
LDGT1	2,085	36.53%	4.4632	54.3681	2.4030	2,891	50.66%	2.9827	53.3783	1.6083	3,008	52.71%	1.0648	10.6557	3.8802
LDGT2	1,649	44.44%	4.6404	41.4142	2.7742	1,892	50.98%	3.6035	45.4259	2.3330	2,090	56.32%	1.6163	14.0862	3.9331
Grand Total	6,394	42.08%	4.3014	43.0743	2.2892	7,350	48.37%	3.1155	48.2449	1.7047	8,208	54.01%	1.2712	11.0562	3.5970

Appendix B4

I/M240 Initial Failure for Other Report

Vehicle Type	Visual Overall					CAT				AIS				O2				Gas Cap				Opacity			
	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	58,277	55,431	95.12	2,846	4.88	6,098	99.12	54	0.09	2,733	97.78	62	2.22	5,804	99.69	18	0.31	53,310	95.20	2,685	4.80	58,203	99.87	74	0.13
LDGV	133,985	129,495	96.65	4,490	3.35	12,514	99.44	71	0.05	2,662	97.65	64	2.35	12,272	99.51	61	0.49	128,377	96.83	4,203	3.17	133,839	99.89	146	0.11
Grand Total	322,633	309,997	96.08	12,636	3.92	30,748	99.33	206	0.06	9,528	97.44	250	2.56	29,584	99.60	120	0.40	305,682	96.26	11,877	3.74	322,273	99.89	360	0.11

Appendix B5

I/M240 Retest Pass Reduction Report

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)	
	LDGT2	145	3.0299	32.7141	3.5090	77	53.10%	1.2032	12.4569	2.4759	1.4603	54.83%	11.3534	47.68%	0.8101	24.65%	206.67
1991 Total		747	2.6495	31.9113	2.4167	404	54.08%	0.9945	10.1304	1.7842	1.1899	54.47%	14.6417	59.11%	0.4146	18.85%	573.27
1992	LDGV	298	2.3497	29.7426	1.9041	148	49.66%	0.7260	6.2355	1.4495	1.1224	60.72%	18.6563	74.95%	0.2079	12.54%	558.00
	LDGT1	179	2.6881	33.7264	2.2180	121	67.60%	1.1528	11.4150	1.9300	1.3267	53.51%	15.2693	57.22%	0.3629	15.83%	0.00
	LDGT2	260	3.9894	34.8679	2.9816	123	47.31%	1.4041	12.8628	2.1229	1.6393	53.86%	17.2225	57.25%	0.5444	20.41%	47.50
1992 Total		737	3.0103	32.5183	2.3605	392	53.19%	1.0705	9.9137	1.8091	1.3476	55.73%	17.1609	63.38%	0.3613	16.65%	353.80
1993	LDGV	366	2.4936	31.0049	2.0665	192	52.46%	0.6599	6.5474	1.5607	1.1064	62.64%	17.4483	72.71%	0.3245	17.21%	427.80
	LDGT1	368	2.6468	33.9004	2.6136	212	57.61%	1.1055	10.5065	2.0587	1.1448	50.87%	17.4928	62.48%	0.2841	12.13%	306.25
	LDGT2	261	2.9569	29.8006	3.0763	146	55.94%	1.3253	13.0747	2.1093	1.2374	48.29%	12.4383	48.75%	0.8017	27.54%	324.00
1993 Total		995	2.6718	31.7599	2.5337	550	55.28%	1.0083	9.8062	1.8983	1.1560	53.41%	16.1355	62.20%	0.4356	18.67%	353.87
1994	LDGV	370	2.7640	19.7907	2.0010	208	56.22%	0.5236	5.1984	1.2650	1.0853	67.46%	11.6618	69.17%	0.4724	27.19%	925.00
	LDGT1	545	2.8412	26.3758	2.6654	298	54.68%	0.8688	8.8627	1.8910	0.8606	49.76%	9.3701	51.39%	0.5911	23.81%	325.25
	LDGT2	536	2.7064	25.4764	3.0364	243	45.34%	1.0179	9.9461	1.9980	0.9073	47.13%	10.4189	51.16%	0.7018	26.00%	457.00
1994 Total		1451	2.7717	24.3644	2.6330	749	51.62%	0.8213	8.1966	1.7519	0.9381	53.32%	10.3468	55.80%	0.5940	25.32%	451.10
1995	LDGV	509	2.1238	22.4648	1.6935	276	54.22%	0.4920	4.8778	1.0642	0.9806	66.59%	12.4787	71.90%	0.3358	23.99%	1706.50
	LDGT1	520	1.8459	27.8627	2.6171	301	57.88%	0.7783	8.4371	1.7625	0.8714	52.82%	12.7922	60.26%	0.4894	21.73%	676.00
	LDGT2	745	3.0334	25.3960	2.9661	353	47.38%	0.9291	9.8449	1.8883	1.2714	57.78%	11.4010	53.66%	0.7462	28.32%	653.57
1995 Total		1774	2.4244	25.2780	2.4986	930	52.42%	0.7506	7.9151	1.6030	1.0556	58.45%	12.1711	60.59%	0.5413	25.24%	743.19
1996	LDGV	384	1.4506	17.2230	1.5750	237	61.72%	0.4273	4.4862	0.9379	0.6806	61.43%	8.2257	64.71%	0.3293	25.99%	356.86
	LDGT1	542	1.6415	19.6049	2.5952	337	62.18%	0.4273	4.9522	1.4772	0.7113	62.47%	10.0549	67.00%	0.6904	31.85%	286.50
	LDGT2	381	1.4717	17.4244	2.3428	221	58.01%	0.5218	6.2230	1.4408	0.5133	49.58%	9.3641	60.08%	0.5187	26.47%	398.50
1996 Total		1307	1.5359	18.2695	2.2219	795	60.83%	0.4536	5.1666	1.3063	0.6471	58.79%	9.3175	64.33%	0.5350	29.06%	349.20
1997	LDGV	580	1.2872	15.7203	1.3968	397	68.45%	0.4071	4.6069	0.8618	0.5948	59.36%	6.8833	59.91%	0.2374	21.60%	340.33
	LDGT1	975	1.1721	16.7752	2.4056	599	61.44%	0.4285	5.7230	1.4455	0.4368	50.48%	7.0238	55.10%	0.5467	27.44%	204.88
	LDGT2	508	1.7942	19.9344	2.4399	270	53.15%	0.4562	5.8721	1.3726	0.6433	58.51%	8.0420	57.80%	0.6616	32.52%	360.17
1997 Total		2063	1.3576	17.2565	2.1304	1266	61.37%	0.4277	5.4049	1.2469	0.5304	55.36%	7.1969	57.11%	0.4742	27.55%	283.59
1998	LDGV	812	1.0836	12.7588	1.4083	517	63.67%	0.3275	4.0294	0.7025	0.6211	65.47%	7.4606	64.93%	0.3603	33.90%	956.00
	LDGT1	921	1.1040	13.6290	2.4515	572	62.11%	0.3903	4.7408	1.2757	0.5006	56.19%	8.1157	63.13%	0.7358	36.58%	727.56
	LDGT2	524	2.0384	17.8527	2.6590	268	51.15%	0.4349	5.2710	1.2804	0.6356	59.37%	6.6622	55.83%	0.8534	39.99%	1071.00
1998 Total		2257	1.3136	14.2965	2.1244	1357	60.12%	0.3752	4.5745	1.0582	0.5732	60.44%	7.5791	62.36%	0.6159	36.79%	867.33
1999	LDGV	868	1.0960	11.8613	1.4661	552	63.59%	0.2755	3.5572	0.6551	0.5997	68.52%	5.7797	61.90%	0.4048	38.19%	357.40
	LDGT1	1116	1.0465	16.5660	2.0518	675	60.48%	0.3161	4.2202	1.0148	0.4621	59.38%	8.9596	67.98%	0.6123	37.63%	1123.00
	LDGT2	782	1.5437	14.1632	2.2029	406	51.92%	0.3814	4.2758	1.0881	0.7270	65.59%	6.8728	61.65%	0.6795	38.44%	1222.45
1999 Total		2766	1.2026	14.4103	1.9107	1633	59.04%	0.3186	4.0099	0.9114	0.5745	64.32%	7.3659	64.75%	0.5589	38.01%	998.73
2000	LDGV	707	1.0569	13.6313	1.5850	420	59.41%	0.2646	3.8330	0.6296	0.6113	69.79%	8.2534	68.29%	0.4888	43.71%	972.50
	LDGT1	841	1.0406	17.3433	2.0862	474	56.36%	0.3061	4.1909	0.9421	0.5104	62.51%	9.6511	69.72%	0.6790	41.89%	834.00
	LDGT2	406	1.2013	13.9459	2.3218	211	51.97%	0.3158	4.0175	0.9931	0.4521	58.88%	7.3421	64.63%	0.5507	35.67%	474.50
2000 Total		1954	1.0799	15.2943	1.9538	1105	56.55%	0.2922	4.0218	0.8331	0.5376	64.79%	8.6789	68.33%	0.5822	41.14%	778.75
2001	LDGV	783	0.8136	10.4664	1.5214	506	64.62%	0.2151	3.3263	0.5008	0.4413	67.23%	5.4406	62.06%	0.6297	55.70%	275.36
	LDGT1	798	0.9219	15.8577	1.4809	537	67.29%	0.2215	4.1258	0.6600	0.4071	64.76%	6.3508	60.62%	0.4762	41.91%	494.67
	LDGT2	502	1.0696	12.9780	2.0738	302	60.16%	0.3127	3.9033	0.8841	0.4448	58.72%	6.0877	60.93%	0.6064	40.68%	323.00

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)	
2001 Total		2083	0.9168	13.1371	1.6390	1345	64.57%	0.2395	3.7750	0.6504	0.4284	64.14%	5.9493	61.18%	0.5632	46.41%	322.50
2002	LDGV	793	0.8411	10.8028	1.6073	511	64.44%	0.2003	3.4263	0.4566	0.4489	69.15%	6.1061	64.06%	0.6591	59.07%	676.75
	LDGT1	904	0.8546	16.9732	1.8379	566	62.61%	0.2089	4.0129	0.6196	0.5011	70.58%	9.8829	71.12%	0.6258	50.25%	509.67
	LDGT2	444	1.1709	10.1942	2.0316	276	62.16%	0.2942	3.7605	0.9602	0.3542	54.62%	3.7469	49.91%	0.5917	38.13%	0.00
2002 Total		2141	0.9152	13.2819	1.7927	1353	63.19%	0.2230	3.7399	0.6275	0.4514	66.93%	7.2048	65.83%	0.6314	50.15%	576.50
2003	LDGV	843	0.8069	8.5597	1.3744	573	67.97%	0.1490	2.5366	0.3743	0.4068	73.19%	4.5254	64.08%	0.5044	57.40%	1058.60
	LDGT1	971	0.8656	16.1614	1.5179	670	69.00%	0.1803	3.2192	0.5484	0.4207	70.00%	7.6756	70.45%	0.4763	46.48%	833.25
	LDGT2	427	1.1347	12.5706	1.9118	279	65.34%	0.2450	3.4734	0.7118	0.4733	65.89%	6.3291	64.57%	0.5851	45.11%	383.67
2003 Total		2241	0.8948	12.6177	1.5390	1522	67.92%	0.1804	3.0088	0.5128	0.4251	70.21%	6.2428	67.48%	0.5068	49.71%	814.75
2004	LDGV	784	1.0528	10.9294	1.4769	502	64.03%	0.1633	2.7732	0.3825	0.6573	80.10%	6.3018	69.44%	0.6523	63.04%	555.00
	LDGT1	879	1.1308	17.6099	1.4481	583	66.33%	0.1615	3.1506	0.4252	0.5748	78.06%	8.6902	73.39%	0.5243	55.22%	304.50
	LDGT2	426	0.9946	15.7385	1.7986	274	64.32%	0.1961	3.6210	0.5718	0.5428	73.46%	7.7663	68.20%	0.6053	51.42%	0.00
2004 Total		2089	1.0737	14.7211	1.5304	1359	65.06%	0.1691	3.1061	0.4390	0.5988	77.98%	7.6217	71.05%	0.5879	57.25%	411.86
2005	LDGV	710	0.8211	11.8111	1.2455	495	69.72%	0.1295	2.1991	0.3199	0.4421	77.34%	6.0598	73.37%	0.4808	60.05%	157.00
	LDGT1	644	0.7661	12.4001	1.6627	428	66.46%	0.1738	2.7581	0.4170	0.2460	58.60%	6.0715	68.76%	0.6565	61.15%	475.71
	LDGT2	333	1.5388	16.4814	2.0860	189	56.76%	0.2371	3.7350	0.5974	0.4496	65.47%	5.5773	59.89%	0.8511	58.76%	0.00
2005 Total		1687	0.9417	12.9579	1.5707	1112	65.92%	0.1649	2.6753	0.4044	0.3679	69.06%	5.9823	69.10%	0.6114	60.18%	404.89
2006	LDGV	473	0.9984	9.3117	1.4841	314	66.38%	0.1361	2.4503	0.3014	0.3425	71.57%	4.3599	64.02%	0.7667	71.78%	19.00
	LDGT1	384	0.4357	11.0306	1.2372	287	74.74%	0.1327	2.6735	0.3154	0.1837	58.06%	5.8248	68.54%	0.4914	60.91%	505.00
	LDGT2	282	0.9317	12.1299	2.0200	164	58.16%	0.1807	3.2390	0.4890	0.4993	73.42%	6.2743	65.95%	0.6588	57.40%	919.50
2006 Total		1139	0.7922	10.5890	1.5335	765	67.16%	0.1444	2.7031	0.3469	0.3165	68.68%	5.3199	66.31%	0.6403	64.86%	476.40
2007	LDGV	416	0.8422	11.5925	1.3921	279	67.07%	0.1168	2.1853	0.2560	0.5491	82.46%	6.1637	73.83%	0.6766	72.55%	495.50
	LDGT1	432	0.8795	17.9956	1.1864	307	71.06%	0.0829	2.3063	0.2275	0.2232	72.91%	6.6620	74.28%	0.5607	71.14%	0.00
	LDGT2	258	0.6187	9.3931	1.3402	212	82.17%	0.1682	2.2309	0.3492	0.3090	64.75%	6.1968	73.53%	0.5475	61.05%	20.00
2007 Total		1106	0.8046	13.5804	1.2997	798	72.15%	0.1174	2.2440	0.2698	0.3599	75.40%	6.3642	73.93%	0.5977	68.90%	400.40
2008	LDGV	308	0.9859	12.7462	1.2866	213	69.16%	0.0989	1.8732	0.2175	0.5722	85.26%	7.2508	79.47%	0.5966	73.29%	0.00
	LDGT1	311	0.4464	12.1860	1.3080	230	73.95%	0.0917	2.3620	0.2399	0.2232	70.89%	5.8181	71.13%	0.6170	72.00%	538.00
	LDGT2	268	1.6539	16.9607	1.3971	181	67.54%	0.1434	3.1918	0.2782	0.7434	83.83%	5.0244	61.15%	0.5353	65.80%	0.00
2008 Total		887	0.9986	13.8232	1.3275	624	70.35%	0.1091	2.4358	0.2434	0.4932	81.88%	6.0769	71.39%	0.5863	70.67%	538.00
2009	LDGV	192	0.8904	10.4786	1.1793	143	74.48%	0.1083	2.5385	0.2359	0.6976	86.56%	4.8541	65.66%	0.5186	68.73%	1639.00
	LDGT1	143	0.6189	16.5556	1.0366	112	78.32%	0.0850	2.9303	0.1730	0.1444	62.94%	6.1541	67.74%	0.4087	70.25%	0.00
	LDGT2	107	0.3918	8.5608	0.9433	71	66.36%	0.1143	2.3467	0.1898	0.1281	52.85%	3.3142	58.55%	0.2905	60.49%	1988.00
2009 Total		442	0.6819	11.9804	1.0760	326	73.76%	0.1016	2.6313	0.2043	0.3835	79.05%	4.9654	65.36%	0.4312	67.85%	1813.50
2010	LDGV	228	0.7637	9.0691	1.0323	180	78.95%	0.1098	2.2194	0.1692	0.3911	78.08%	3.7759	62.98%	0.4328	71.89%	834.67
	LDGT1	177	0.2671	9.5593	0.5682	155	87.57%	0.0771	2.1343	0.1645	0.1097	58.71%	3.7098	63.48%	0.1778	51.95%	15.00
	LDGT2	154	0.2996	10.5233	0.7034	132	85.71%	0.0860	2.3841	0.1625	0.1425	62.36%	5.9916	71.54%	0.2824	63.47%	325.00
2010 Total		559	0.4786	9.6249	0.7947	467	83.54%	0.0922	2.2377	0.1658	0.2274	71.15%	4.3803	66.19%	0.3057	64.84%	476.50
2011	LDGV	24	1.1970	10.9456	1.9236	19	79.17%	0.1173	2.4029	0.2207	1.0131	89.62%	8.0500	77.01%	1.3323	85.79%	0.00
	LDGT1	33	0.4524	14.4791	0.9244	25	75.76%	0.1298	3.6706	0.2955	0.3552	73.23%	11.2906	75.47%	0.3143	51.54%	0.00
	LDGT2	15	0.5589	16.9242	0.7500	13	86.67%	0.0630	2.4030	0.1847	0.1772	73.77%	7.8776	76.63%	0.0673	26.69%	0.00
2011 Total		72	0.7228	13.8107	1.2211	57	79.17%	0.1104	2.9589	0.2453	0.5339	82.86%	9.4320	76.12%	0.5973	70.89%	0.00

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	48	0.9764	10.8120	1.1431	38	79.17%	0.1073	2.7854	0.2336	0.8394	88.66%	5.0832	64.60%	0.4595	66.30%	755.00
	LDGT1	23	0.1215	6.5859	0.1080	21	91.30%	0.0590	2.1478	0.0773	0.0527	47.15%	3.1057	59.12%	0.0386	33.29%	13.00
	LDGT2	30	0.1743	5.4271	0.2630	28	93.33%	0.0396	1.3075	0.0628	0.0609	60.60%	3.6822	73.80%	0.0022	3.43%	0.00
2012 Total		101	0.5435	8.2501	0.6460	87	86.14%	0.0739	2.1558	0.1409	0.3989	84.38%	4.1550	65.84%	0.2107	59.93%	384.00
2013	LDGV	38	0.6723	12.0960	1.2953	21	55.26%	0.1215	2.8785	0.1894	0.1727	58.71%	4.6249	61.64%	0.3607	65.58%	0.00
	LDGT1	9	0.4223	9.5096	1.3141	7	77.78%	0.0461	0.9571	0.0382	0.3035	86.81%	8.7149	90.10%	0.5557	93.56%	0.00
	LDGT2	12	0.1803	2.9256	0.3452	11	91.67%	0.1329	2.7988	0.2794	0.0609	31.41%	0.3488	11.08%	0.0971	25.79%	0.00
2013 Total		59	0.5341	9.8363	1.1049	39	66.10%	0.1112	2.5112	0.1876	0.1646	59.69%	4.1529	62.32%	0.3214	63.14%	0.00
2014	LDGV	25	1.8810	10.9698	2.4752	15	60.00%	0.1199	2.2621	0.2980	0.4532	79.08%	6.2775	73.51%	1.6772	84.91%	0.00
	LDGT1	16	0.9014	10.2202	2.2733	9	56.25%	0.0636	2.4987	0.0805	0.3830	85.76%	3.2948	56.87%	1.2065	93.74%	0.00
	LDGT2	26	0.6374	6.6715	1.3973	18	69.23%	0.0871	1.9708	0.1400	0.0330	27.50%	0.4944	20.06%	0.1199	46.14%	0.00
2014 Total		67	1.1644	9.1228	2.0087	42	62.69%	0.0938	2.1880	0.1837	0.2581	73.35%	3.1599	59.09%	0.9089	83.19%	0.00
2015	LDGV	6	1.5009	14.6940	1.9800	3	50.00%	0.0609	1.2591	0.0511	1.1199	94.84%	3.8101	75.16%	1.2892	96.19%	0.00
	LDGT1	4	0.0812	8.0500	0.0885	3	75.00%	0.0235	1.2015	0.0406	0.0472	66.75%	3.0291	71.60%	0.0226	35.73%	0.00
	LDGT2	1	0.0228	0.5915	0.0366	1	100.00%	0.0307	0.4384	0.0367	-0.0079	-34.65%	0.1531	25.88%	-0.0001	-0.27%	0.00
2015 Total		11	0.8503	10.9959	1.1155	7	63.64%	0.0406	1.1172	0.0445	0.4990	92.48%	2.9530	72.55%	0.5622	92.66%	0.00
2016	LDGV	1	0.0179	1.5149	0.0416	1	100.00%	0.0195	0.8376	0.0412	-0.0016	-8.94%	0.6773	44.71%	0.0004	0.96%	0.00
2016 Total		1	0.0179	1.5149	0.0416	1	100.00%	0.0195	0.8376	0.0412	-0.0016	-8.94%	0.6773	44.71%	0.0004	0.96%	0.00
2018	LDGV	1	2.6954	25.9583	2.5104	1	100.00%	0.0276	0.3891	0.0144	2.6678	98.98%	25.5692	98.50%	2.4960	99.43%	0.00
2018 Total		1	2.6954	25.9583	2.5104	1	100.00%	0.0276	0.3891	0.0144	2.6678	98.98%	25.5692	98.50%	2.4960	99.43%	0.00
Grand Total		33836	1.6155	20.2345	1.9166	20622	60.95%	0.4270	5.1753	0.9387	0.6626	60.81%	9.1588	63.90%	0.5241	35.83%	605.16

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	11905	1.4574	16.6906	1.5516	7460	62.66%	0.3279	3.9601	0.6826	0.6947	67.93%	8.2722	67.63%	0.4730	40.93%	569.96	
LDGT1	13455	1.5115	22.7673	1.9775	8405	62.47%	0.4499	5.6514	1.0288	0.5927	56.85%	10.1819	64.31%	0.5182	33.50%	615.29	
LDGT2	8476	2.0028	21.1917	2.3325	4757	56.12%	0.5420	6.2398	1.1811	0.7359	57.59%	8.7414	58.35%	0.6146	34.23%	623.93	
Grand Total		33836	1.6155	20.2345	1.9166	20622	60.95%	0.4270	5.1753	0.9387	0.6626	60.81%	9.1588	63.90%	0.5241	35.83%	605.16

Appendix B6

I/M240 Retest Frequency Report

Date
Between 1/1/2021 and 1/1/2022

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	29	1.7	18	62.07%	10	55.56%	6	20.69%	3	50.00%	2	6.90%	1	50.00%	0	0.00%	0	0.00%	3	10.34%	1	33.33%
	LDGT1	46	1.2	35	76.09%	24	68.57%	6	13.04%	2	33.33%	2	4.35%	0	0.00%	3	6.52%	1	33.33%	0	0.00%	0	0.00%
	LDGT2	11	1.4	8	72.73%	3	37.50%	3	27.27%	2	66.67%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%
1982 Total		86	1.4	61	70.93%	37	60.66%	15	17.44%	7	46.67%	4	4.65%	1	25.00%	3	3.49%	1	33.33%	3	3.49%	1	33.33%
1983	LDGV	71	1.5	43	60.56%	19	44.19%	16	22.54%	5	31.25%	8	11.27%	3	37.50%	2	2.82%	0	0.00%	2	2.82%	1	50.00%
	LDGT1	56	1.4	38	67.86%	28	73.68%	11	19.64%	4	36.36%	4	7.14%	1	25.00%	1	1.79%	0	0.00%	2	3.57%	2	100.00%
	LDGT2	26	2.1	14	53.85%	8	57.14%	6	23.08%	3	50.00%	3	11.54%	1	33.33%	1	3.85%	1	100.00%	2	7.69%	1	50.00%
1983 Total		153	1.6	95	62.09%	55	57.89%	33	21.57%	12	36.36%	15	9.80%	5	33.33%	4	2.61%	1	25.00%	6	3.92%	4	66.67%
1984	LDGV	115	1.8	56	48.70%	30	53.57%	21	18.26%	6	28.57%	16	13.91%	5	31.25%	6	5.22%	1	16.67%	16	13.91%	4	25.00%
	LDGT1	82	1.6	46	56.10%	33	71.74%	14	17.07%	5	35.71%	7	8.54%	2	28.57%	4	4.88%	0	0.00%	11	13.41%	3	27.27%
	LDGT2	70	2.3	34	48.57%	14	41.18%	13	18.57%	5	38.46%	10	14.29%	2	20.00%	7	10.00%	4	57.14%	6	8.57%	2	33.33%
1984 Total		267	1.8	136	50.94%	77	56.62%	48	17.98%	16	33.33%	33	12.36%	9	27.27%	17	6.37%	5	29.41%	33	12.36%	9	27.27%
1985	LDGV	139	1.9	64	46.04%	34	53.13%	31	22.30%	11	35.48%	15	10.79%	4	26.67%	15	10.79%	7	46.67%	14	10.07%	3	21.43%
	LDGT1	119	1.6	73	61.34%	49	67.12%	19	15.97%	6	31.58%	12	10.08%	2	16.67%	5	4.20%	4	80.00%	10	8.40%	2	20.00%
	LDGT2	77	2.5	35	45.45%	16	45.71%	14	18.18%	6	42.86%	6	7.79%	0	0.00%	6	7.79%	2	33.33%	16	20.78%	4	25.00%
1985 Total		335	1.9	172	51.34%	99	57.56%	64	19.10%	23	35.94%	33	9.85%	6	18.18%	26	7.76%	13	50.00%	40	11.94%	9	22.50%
1986	LDGV	85	1.7	56	65.88%	39	69.64%	11	12.94%	3	27.27%	6	7.06%	2	33.33%	5	5.88%	4	80.00%	7	8.24%	4	57.14%
	LDGT1	174	2.0	83	47.70%	48	57.83%	38	21.84%	13	34.21%	20	11.49%	4	20.00%	14	8.05%	3	21.43%	19	10.92%	9	47.37%
	LDGT2	81	1.8	38	46.91%	20	52.63%	17	20.99%	7	41.18%	11	13.58%	1	9.09%	6	7.41%	4	66.67%	9	11.11%	1	11.11%
1986 Total		340	1.9	177	52.06%	107	60.45%	66	19.41%	23	34.85%	37	10.88%	7	18.92%	25	7.35%	11	44.00%	35	10.29%	14	40.00%
1987	LDGV	113	1.6	68	60.18%	39	57.35%	27	23.89%	15	55.56%	9	7.96%	0	0.00%	6	5.31%	3	50.00%	3	2.65%	2	66.67%
	LDGT1	170	1.7	96	56.47%	61	63.54%	36	21.18%	14	38.89%	15	8.82%	3	20.00%	8	4.71%	0	0.00%	15	8.82%	7	46.67%
	LDGT2	78	1.4	49	62.82%	33	67.35%	7	8.97%	2	28.57%	7	8.97%	0	0.00%	6	7.69%	2	33.33%	9	11.54%	2	22.22%
1987 Total		361	1.6	213	59.00%	133	62.44%	70	19.39%	31	44.29%	31	8.59%	3	9.68%	20	5.54%	5	25.00%	27	7.48%	11	40.74%
1988	LDGV	146	1.5	88	60.27%	54	61.36%	24	16.44%	10	41.67%	14	9.59%	2	14.29%	6	4.11%	2	33.33%	14	9.59%	3	21.43%
	LDGT1	178	1.6	103	57.87%	62	60.19%	32	17.98%	10	31.25%	16	8.99%	9	56.25%	5	2.81%	1	20.00%	22	12.36%	3	13.64%
	LDGT2	83	1.7	47	56.63%	25	53.19%	16	19.28%	7	43.75%	9	10.84%	4	44.44%	5	6.02%	0	0.00%	6	7.23%	3	50.00%
1988 Total		407	1.6	238	58.48%	141	59.24%	72	17.69%	27	37.50%	39	9.58%	15	38.46%	16	3.93%	3	18.75%	42	10.32%	9	21.43%
1989	LDGV	162	1.4	121	74.69%	85	70.25%	29	17.90%	18	62.07%	6	3.70%	2	33.33%	3	1.85%	2	66.67%	3	1.85%	3	100.00%
	LDGT1	322	1.7	173	53.73%	98	56.65%	72	22.36%	24	33.33%	33	10.25%	11	33.33%	21	6.52%	8	38.10%	23	7.14%	7	30.43%
	LDGT2	118	1.5	65	55.08%	40	61.54%	24	20.34%	11	45.83%	11	9.32%	3	27.27%	6	5.08%	3	50.00%	12	10.17%	1	8.33%
1989 Total		602	1.6	359	59.63%	223	62.12%	125	20.76%	53	42.40%	50	8.31%	16	32.00%	30	4.98%	13	43.33%	38	6.31%	11	28.95%
1990	LDGV	183	1.5	113	61.75%	79	69.91%	32	17.49%	10	31.25%	21	11.48%	10	47.62%	8	4.37%	4	50.00%	9	4.92%	3	33.33%
	LDGT1	266	1.8	147	55.26%	96	65.31%	46	17.29%	21	45.65%	20	7.52%	7	35.00%	16	6.02%	5	31.25%	37	13.91%	10	27.03%
	LDGT2	99	1.7	52	52.53%	29	55.77%	22	22.22%	7	31.82%	13	13.13%	6	46.15%	4	4.04%	1	25.00%	8	8.08%	2	25.00%

Appendix B7

I/M240 Fleet Characterization Summary Report

Initial Inspection Component

Appendix B8

I/M240 Fleet Characterization Summary Report

Final Inspection Component

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	231	0.0783	1.5076	0.1438	11	4.76%	0.1329	2.7988	0.2794	0	0.00%	0.0000	0.0000	0.0000
2013 Total		1160	0.0553	1.7697	0.0970	39	3.36%	0.1112	2.5112	0.1876	0	0.00%	0.0000	0.0000	0.0000
2014	LDGV	798	0.0468	1.5328	0.0882	15	1.88%	0.1199	2.2621	0.2980	0	0.00%	0.0000	0.0000	0.0000
	LDGT1	638	0.0350	1.6847	0.0715	9	1.41%	0.0636	2.4987	0.0805	0	0.00%	0.0000	0.0000	0.0000
	LDGT2	578	0.0667	1.3271	0.0930	18	3.11%	0.0871	1.9708	0.1400	0	0.00%	0.0000	0.0000	0.0000
2014 Total		2014	0.0488	1.5219	0.0843	42	2.09%	0.0938	2.1880	0.1837	0	0.00%	0.0000	0.0000	0.0000
2015	LDGV	154	0.0507	1.5274	0.0875	3	1.95%	0.0609	1.2591	0.0511	0	0.00%	0.0000	0.0000	0.0000
	LDGT1	120	0.0406	1.8285	0.0771	3	2.50%	0.0235	1.2015	0.0406	0	0.00%	0.0000	0.0000	0.0000
	LDGT2	82	0.0774	1.3489	0.0847	1	1.22%	0.0307	0.4384	0.0367	0	0.00%	0.0000	0.0000	0.0000
2015 Total		356	0.0535	1.5878	0.0834	7	1.97%	0.0406	1.1172	0.0445	0	0.00%	0.0000	0.0000	0.0000
2016	LDGV	49	0.0379	1.3743	0.0673	1	2.04%	0.0195	0.8376	0.0412	0	0.00%	0.0000	0.0000	0.0000
	LDGT1	39	0.0285	1.8560	0.0808	0	0.00%	0.0000	0.0000	0.0000	0	0.00%	0.0000	0.0000	0.0000
	LDGT2	20	0.0799	1.7018	0.0722	0	0.00%	0.0000	0.0000	0.0000	0	0.00%	0.0000	0.0000	0.0000
2016 Total		108	0.0423	1.6089	0.0731	1	0.93%	0.0195	0.8376	0.0412	0	0.00%	0.0000	0.0000	0.0000
2017	LDGV	18	0.0286	0.9987	0.0560	0	0.00%	0.0000	0.0000	0.0000	0	0.00%	0.0000	0.0000	0.0000
	LDGT1	15	0.0280	1.3484	0.0645	0	0.00%	0.0000	0.0000	0.0000	0	0.00%	0.0000	0.0000	0.0000
	LDGT2	5	0.0390	1.1874	0.0363	0	0.00%	0.0000	0.0000	0.0000	0	0.00%	0.0000	0.0000	0.0000
2017 Total		38	0.0297	1.1616	0.0568	0	0.00%	0.0000	0.0000	0.0000	0	0.00%	0.0000	0.0000	0.0000
2018	LDGV	3	0.0214	0.3593	0.0327	1	33.33%	0.0276	0.3891	0.0144	0	0.00%	0.0000	0.0000	0.0000
	LDGT1	5	0.0152	0.5271	0.0442	0	0.00%	0.0000	0.0000	0.0000	0	0.00%	0.0000	0.0000	0.0000
	LDGT2	3	0.0607	0.9638	0.0454	0	0.00%	0.0000	0.0000	0.0000	0	0.00%	0.0000	0.0000	0.0000
2018 Total		11	0.0293	0.6004	0.0414	1	9.09%	0.0276	0.3891	0.0144	0	0.00%	0.0000	0.0000	0.0000
2019	LDGV	3	0.0128	0.3382	0.0442	0	0.00%	0.0000	0.0000	0.0000	0	0.00%	0.0000	0.0000	0.0000
	LDGT1	2	0.0160	0.4367	0.0407	0	0.00%	0.0000	0.0000	0.0000	0	0.00%	0.0000	0.0000	0.0000
	LDGT2	1	0.0165	0.2540	0.0372	0	0.00%	0.0000	0.0000	0.0000	0	0.00%	0.0000	0.0000	0.0000
2019 Total		6	0.0145	0.3570	0.0419	0	0.00%	0.0000	0.0000	0.0000	0	0.00%	0.0000	0.0000	0.0000
2020	LDGV	1	0.2077	2.6611	0.0722	0	0.00%	0.0000	0.0000	0.0000	0	0.00%	0.0000	0.0000	0.0000
	LDGT1	1	0.0120	0.4167	0.0406	0	0.00%	0.0000	0.0000	0.0000	0	0.00%	0.0000	0.0000	0.0000
2020 Total		2	0.1098	1.5389	0.0564	0	0.00%	0.0000	0.0000	0.0000	0	0.00%	0.0000	0.0000	0.0000
2021	LDGV	1	0.0110	0.3286	0.0426	0	0.00%	0.0000	0.0000	0.0000	0	0.00%	0.0000	0.0000	0.0000
	LDGT1	1	0.0192	0.5174	0.0532	0	0.00%	0.0000	0.0000	0.0000	0	0.00%	0.0000	0.0000	0.0000
2021 Total		2	0.0151	0.4230	0.0479	0	0.00%	0.0000	0.0000	0.0000	0	0.00%	0.0000	0.0000	0.0000
Grand Total		316812	0.2384	3.2208	0.5630	20622	6.51%	0.4270	5.1753	0.9387	246	0.08%	2.0991	28.8340	2.6839

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	131602	0.1870	2.6656	0.4312	7460	5.67%	0.3279	3.9601	0.6826	79	0.06%	1.5882	22.4500	2.2542	
LDGT1	128363	0.2528	3.5017	0.6154	8405	6.55%	0.4499	5.6514	1.0288	105	0.08%	2.3821	31.9114	2.8253	
LDGT2	56847	0.3248	3.8720	0.7499	4757	8.37%	0.5420	6.2398	1.1811	62	0.11%	2.2707	31.7568	2.9921	
Grand Total		316812	0.2384	3.2208	20622	6.51%	0.4270	5.1753	0.9387	246	0.08%	2.0991	28.8340	2.6839	

Appendix B9

I/M240 Fleet Characterization Summary Report

Emissions Reduction Component

Appendix C1

Idle Initial Inspection Report

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
2016	LDGV	1	1.80	0.02	2.10	0.02	1	100.00%	1.80	0.02	2.10	0.02	0	0.00%	0.00	0.00	0.00	0.00
	LDGT	2	8.90	0.06	11.80	0.08	2	100.00%	8.90	0.06	11.80	0.08	0	0.00%	0.00	0.00	0.00	0.00
	HDGT	244	19.39	0.04	21.34	0.08	244	100.00%	19.39	0.04	21.34	0.08	0	0.00%	0.00	0.00	0.00	0.00
2016 Total		247	19.23	0.04	21.18	0.08	247	100.00%	19.23	0.04	21.18	0.08	0	0.00%	0.00	0.00	0.00	0.00
2017	LDGT	2	21.75	0.02	20.20	0.04	2	100.00%	21.75	0.02	20.20	0.04	0	0.00%	0.00	0.00	0.00	0.00
	HDGT	198	19.66	0.05	20.57	0.10	198	100.00%	19.66	0.05	20.57	0.10	0	0.00%	0.00	0.00	0.00	0.00
2017 Total		200	19.68	0.05	20.56	0.09	200	100.00%	19.68	0.05	20.56	0.09	0	0.00%	0.00	0.00	0.00	0.00
2018	HDGT	72	13.45	0.02	16.23	0.05	72	100.00%	13.45	0.02	16.23	0.05	0	0.00%	0.00	0.00	0.00	0.00
2018 Total		72	13.45	0.02	16.23	0.05	72	100.00%	13.45	0.02	16.23	0.05	0	0.00%	0.00	0.00	0.00	0.00
2019	LDGV	1	1.50	0.00	1.40	0.00	1	100.00%	1.50	0.00	1.40	0.00	0	0.00%	0.00	0.00	0.00	0.00
	HDGT	77	15.22	0.04	16.25	0.06	77	100.00%	15.22	0.04	16.25	0.06	0	0.00%	0.00	0.00	0.00	0.00
2019 Total		78	15.04	0.04	16.06	0.06	78	100.00%	15.04	0.04	16.06	0.06	0	0.00%	0.00	0.00	0.00	0.00
2020	HDGT	10	37.51	0.03	42.32	0.07	10	100.00%	37.51	0.03	42.32	0.07	0	0.00%	0.00	0.00	0.00	0.00
2020 Total		10	37.51	0.03	42.32	0.07	10	100.00%	37.51	0.03	42.32	0.07	0	0.00%	0.00	0.00	0.00	0.00
2021	HDGT	7	23.61	0.00	24.77	0.06	7	100.00%	23.61	0.00	24.77	0.06	0	0.00%	0.00	0.00	0.00	0.00
2021 Total		7	23.61	0.00	24.77	0.06	7	100.00%	23.61	0.00	24.77	0.06	0	0.00%	0.00	0.00	0.00	0.00
2022	HDGT	1	3.10	0.00	3.80	0.00	1	100.00%	3.10	0.00	3.80	0.00	0	0.00%	0.00	0.00	0.00	0.00
2022 Total		1	3.10	0.00	3.80	0.00	1	100.00%	3.10	0.00	3.80	0.00	0	0.00%	0.00	0.00	0.00	0.00
Grand Total		41,407	76.36	0.32	70.85	0.40	38748	93.58%	43.32	0.16	42.01	0.24	2,659	6.42%	557.94	2.69	491.13	2.69

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	2,329	228.67	1.12	220.82	1.43	1686	72.39%	88.07	0.33	103.01	0.70	643	27.61%	597.34	3.20	529.71	3.34
LDGT	2,183	159.45	0.79	155.17	1.02	1648	75.49%	65.88	0.21	73.00	0.48	535	24.51%	447.69	2.60	408.28	2.68
HDGT	36,895	61.83	0.24	56.40	0.30	35414	95.99%	40.13	0.15	37.67	0.21	1481	4.01%	580.65	2.50	504.31	2.40
Overall Total	41,407	76.36	0.32	70.85	0.40	38748	93.58%	43.32	0.16	42.01	0.24	2659	6.42%	557.94	2.69	491.13	2.69

Appendix C2

Idle Initial Failure Report

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
2018 Total		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
2019	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
	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
2019 Total		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
2020	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
2020 Total		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
2021	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
2021 Total		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
2022	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
2022 Total		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
Grand Total		209	0.50%	792.24	3.85	680.99	3.79	2,062	4.98%	614.15	2.95	539.42	2.88	387	0.93%	132.96	0.68	132.22	1.03

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	56	0.16%	932.89	3.45	836.63	3.38	1,062	2.94%	601.67	2.45	532.87	2.35	181	0.50%	118.74	0.57	127.71	0.84	
LDGT1	44	3.10%	558.69	3.69	501.05	3.54	277	19.53%	557.04	3.21	507.51	3.19	51	3.60%	90.99	0.34	106.76	0.85	
LDGT2	44	2.84%	882.07	4.45	695.20	4.57	205	13.23%	711.55	3.94	564.49	3.55	95	6.13%	193.68	1.30	157.08	1.53	
LDGV	65	2.79%	768.36	3.90	659.08	3.79	518	22.24%	631.71	3.45	559.99	3.55	60	2.58%	115.36	0.32	128.15	0.98	
Grand Total		209	0.50%	792.24	3.85	680.99	3.79	2,062	4.98%	614.15	2.95	539.42	2.88	387	0.93%	132.96	0.68	132.22	1.03

Appendix C3

Idle Initial Exhaust Failure Report

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
2006 Total		19	70.37%	679.69	2.11	584.09	1.45	18	94.74%	672.61	1.54	585.39	1.18	5	26.32%	705.18	4.18	579.38	2.45
2007	LDGV	1	100.00%	178.40	3.39	167.70	4.55	0	0.00%	0.00	0.00	0.00	0.00	1	100.00%	178.40	3.39	167.70	4.55
	LDGT	1	33.33%	175.40	1.38	193.30	1.36	0	0.00%	0.00	0.00	0.00	0.00	1	100.00%	175.40	1.38	193.30	1.36
	HDGT	8	100.00%	455.07	2.16	346.16	0.59	7	87.50%	522.41	1.57	454.76	0.52	3	37.50%	297.93	3.52	92.77	0.75
2007 Total		10	83.33%	408.71	2.19	318.55	0.99	7	70.00%	522.41	1.57	454.76	0.52	5	50.00%	249.52	3.06	127.86	1.63
2008	LDGV	1	50.00%	2000.00	12.85	2000.00	12.95	1	100.00%	2000.00	12.85	2000.00	12.95	1	100.00%	2000.00	12.85	2000.00	12.95
	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	9	75.00%	710.44	1.24	712.01	1.35	7	77.78%	864.01	0.83	857.10	0.93	2	22.22%	172.95	2.66	204.20	2.82
2008 Total		10	55.56%	944.91	3.35	946.19	3.46	8	80.00%	1006.01	2.33	999.96	2.43	3	30.00%	781.97	6.05	802.80	6.19
2009	LDGV	2	66.67%	321.50	0.31	332.10	0.30	1	50.00%	321.50	0.31	332.10	0.30	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	9	90.00%	672.21	3.53	616.80	3.89	8	88.89%	658.15	2.59	569.41	2.83	4	44.44%	700.33	5.40	711.58	6.00
2009 Total		11	73.33%	645.23	3.28	594.90	3.61	9	81.82%	620.74	2.34	543.04	2.55	4	36.36%	700.33	5.40	711.58	6.00
2010	LDGV	1	33.33%	322.40	0.44	336.60	0.43	1	100.00%	322.40	0.44	336.60	0.43	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	4	57.14%	736.76	5.26	646.78	5.12	3	75.00%	838.63	3.98	691.20	3.79	2	50.00%	583.95	7.18	580.15	7.11
2010 Total		5	45.45%	667.70	4.46	595.08	4.34	4	80.00%	709.58	3.09	602.55	2.95	2	40.00%	583.95	7.18	580.15	7.11
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	5	83.33%	1049.84	0.83	855.60	0.88	4	80.00%	1271.70	0.30	1026.68	0.38	1	20.00%	162.40	2.95	171.30	2.88
2011 Total		5	62.50%	1049.84	0.83	855.60	0.88	4	80.00%	1271.70	0.30	1026.68	0.38	1	20.00%	162.40	2.95	171.30	2.88
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	8	53.33%	456.13	3.13	403.82	3.02	6	75.00%	477.50	2.59	429.95	2.66	5	62.50%	430.48	3.78	372.46	3.45
2012 Total		8	47.06%	456.13	3.13	403.82	3.02	6	75.00%	477.50	2.59	429.95	2.66	5	62.50%	430.48	3.78	372.46	3.45
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	2	100.00%	142.60	3.84	120.85	3.32	0	0.00%	0.00	0.00	0.00	0.00	2	100.00%	142.60	3.84	120.85	3.32
2013 Total		2	50.00%	142.60	3.84	120.85	3.32	0	0.00%	0.00	0.00	0.00	0.00	2	100.00%	142.60	3.84	120.85	3.32
2014	LDGV	3	100.00%	541.43	3.66	483.60	3.77	1	33.33%	238.00	0.55	254.10	0.55	2	66.67%	693.15	5.22	598.35	5.39
	LDGT	1	100.00%	288.80	1.08	202.10	1.46	1	100.00%	288.80	1.08	202.10	1.46	0	0.00%	0.00	0.00	0.00	0.00
	HDGT	8	88.89%	234.55	2.38	178.59	2.29	3	37.50%	380.70	0.29	262.50	0.59	5	62.50%	146.86	3.64	128.24	3.31
2014 Total		12	92.31%	315.79	2.59	256.80	2.59	5	41.67%	333.78	0.50	248.74	0.76	7	58.33%	302.94	4.09	262.56	3.90
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	2	66.67%	313.75	0.47	204.25	0.46	2	100.00%	313.75	0.47	204.25	0.46	0	0.00%	0.00	0.00	0.00	0.00
2015 Total		2	50.00%	313.75	0.47	204.25	0.46	2	100.00%	313.75	0.47	204.25	0.46	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
2016 Total		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	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
2017 Total		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		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
2018	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
2018 Total		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
2019	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
2019 Total		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
2020	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
2020 Total		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
2021	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
2021 Total		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
2022	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
2022 Total		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
Grand Total		2,271	85.41%	718.75	3.62	616.42	3.44	1,410	62.09%	855.14	2.71	734.58	2.74	1,383	60.90%	579.70	4.55	495.95	4.16

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	583	90.67%	786.72	4.21	678.74	4.10	299	51.29%	992.69	3.67	827.66	3.62	426	73.07%	642.15	4.58	574.22	4.44
LDGT	446	83.36%	624.59	3.69	541.55	3.55	231	51.79%	799.12	2.91	688.56	3.02	304	68.16%	491.98	4.29	429.85	3.95
HDGT	1,242	83.86%	719.47	3.32	613.07	3.09	880	70.85%	823.12	2.33	715.03	2.36	653	52.58%	579.79	4.65	475.66	4.08
Grand Total	2,271	85.41%	718.75	3.62	616.42	3.44	1,410	62.09%	855.14	2.71	734.58	2.74	1,383	60.90%	579.70	4.55	495.95	4.16

Appendix C4

Idle Initial Failure for Other Report

Date
Between 1/1/2021 and 1/1/2022

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	57	57	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	57	100.00	0	0.00
	LDGT1	157	155	98.73	2	3.45	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	155	98.73	2	1.27
	LDGT2	129	128	99.22	1	1.72	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	128	99.22	1	0.78
	LDGV	386	383	99.22	3	2.16	0	0.00	0	0.00	1	100.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	383	99.22	3	0.78
1974 Total		729	723	99.18	6	2.23	0	0.00	0	0.00	1	100.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	723	99.18	6	0.82
1975	HDGV	18	17	94.44	1	5.56	2	100.00	0	0.00	1	100.00	0	0.00	0	0.00	0	0.00	11	91.67	1	8.33	18	100.00	0	0.00
	LDGT1	8	7	87.50	1	12.50	2	100.00	0	0.00	1	100.00	0	0.00	0	0.00	0	0.00	5	83.33	1	16.67	8	100.00	0	0.00
	LDGT2	25	24	96.00	1	4.00	2	100.00	0	0.00	1	100.00	0	0.00	0	0.00	0	0.00	10	90.91	1	9.09	25	100.00	0	0.00
	LDGV	29	26	89.66	3	10.34	16	100.00	0	0.00	9	90.00	1	10.00	1	100.00	0	0.00	18	94.74	1	5.26	28	96.55	1	3.45
1975 Total		80	74	92.50	6	7.50	22	100.00	0	0.00	12	92.31	1	7.69	1	100.00	0	0.00	44	91.67	4	8.33	79	98.75	1	1.25
1976	HDGV	47	43	91.49	4	8.51	2	100.00	0	0.00	5	71.43	2	28.57	2	100.00	0	0.00	24	100.00	0	0.00	45	95.74	2	4.26
	LDGT1	69	65	94.20	4	5.80	26	96.30	1	1.45	23	92.00	2	8.00	4	100.00	0	0.00	49	96.08	2	3.92	69	100.00	0	0.00
	LDGT2	151	130	86.09	21	13.91	12	75.00	4	2.65	8	100.00	0	0.00	3	100.00	0	0.00	66	80.49	16	19.51	150	99.34	1	0.66
	LDGV	122	111	90.98	11	9.02	63	92.65	5	4.10	40	90.91	4	9.09	2	100.00	0	0.00	78	95.12	4	4.88	122	100.00	0	0.00
1976 Total		389	349	89.72	40	10.28	103	91.15	10	2.57	76	90.48	8	9.52	11	100.00	0	0.00	217	90.79	22	9.21	386	99.23	3	0.77
1977	HDGV	67	63	94.03	4	5.97	2	66.67	1	1.49	3	100.00	0	0.00	1	100.00	0	0.00	32	94.12	2	5.88	66	98.51	1	1.49
	LDGT1	82	74	90.24	8	9.76	46	95.83	2	2.44	34	97.14	1	2.86	4	100.00	0	0.00	56	88.89	7	11.11	82	100.00	0	0.00
	LDGT2	199	180	90.45	19	9.55	8	80.00	2	1.01	16	94.12	1	5.88	0	0.00	0	0.00	84	84.85	15	15.15	197	98.99	2	1.01
	LDGV	192	175	91.15	17	8.85	124	94.66	7	3.65	77	96.25	3	3.75	4	100.00	0	0.00	137	93.84	9	6.16	192	100.00	0	0.00
1977 Total		540	492	91.11	48	8.89	180	93.75	12	2.22	130	96.30	5	3.70	9	100.00	0	0.00	309	90.35	33	9.65	537	99.44	3	0.56
1978	HDGV	72	68	94.44	4	5.56	1	100.00	0	0.00	5	83.33	1	16.67	0	0.00	0	0.00	34	94.44	2	5.56	71	98.61	1	1.39
	LDGT1	115	100	86.96	15	13.04	55	87.30	8	6.96	48	88.89	6	11.11	3	100.00	0	0.00	74	90.24	8	9.76	114	99.13	1	0.87
	LDGT2	280	246	87.86	34	12.14	22	88.00	3	1.07	19	100.00	0	0.00	3	100.00	0	0.00	146	83.43	29	16.57	276	98.57	4	1.43
	LDGV	207	186	89.86	21	10.14	150	96.15	6	2.90	101	97.12	3	2.88	6	100.00	0	0.00	137	91.33	13	8.67	207	100.00	0	0.00
1978 Total		674	600	89.02	74	10.98	228	93.06	17	2.52	173	94.54	10	5.46	12	100.00	0	0.00	391	88.26	52	11.74	668	99.11	6	0.89
1979	HDGV	69	66	95.65	3	4.35	7	100.00	0	0.00	28	96.55	1	3.45	2	100.00	0	0.00	35	94.59	2	5.41	69	100.00	0	0.00
	LDGT1	138	121	87.68	17	12.32	90	96.77	3	2.17	74	94.87	4	5.13	4	100.00	0	0.00	97	88.18	13	11.82	138	100.00	0	0.00
	LDGT2	163	141	86.50	22	13.50	110	94.02	7	4.29	78	91.76	7	8.24	4	100.00	0	0.00	110	89.43	13	10.57	162	99.39	1	0.61
	LDGV	215	200	93.02	15	6.98	155	98.73	2	0.93	99	95.19	5	4.81	14	100.00	0	0.00	150	93.75	10	6.25	214	99.53	1	0.47
1979 Total		585	528	90.26	57	9.74	362	96.79	12	2.05	279	94.26	17	5.74	24	100.00	0	0.00	392	91.16	38	8.84	583	99.66	2	0.34
1980	HDGV	29	25	86.21	4	13.79	3	100.00	0	0.00	13	86.67	2	13.33	0	0.00	0	0.00	17	89.47	2	10.53	29	100.00	0	0.00
	LDGT1	120	107	89.17	13	10.83	81	97.59	2	1.67	73	93.59	5	6.41	5	100.00	0	0.00	87	87.88	12	12.12	119	99.17	1	0.83
	LDGT2	65	61	93.85	4	6.15	45	100.00	0	0.00	37	94.87	2	5.13	5	100.00	0	0.00	42	95.45	2	4.55	65	100.00	0	0.00
	LDGV	168	149	88.69	19	11.31	128	95.52	6	3.57	98	93.33	7	6.67	38	97.44	1	2.56	124	92.54	10	7.46	168	100.00	0	0.00
1980 Total		382	342	89.53	40	10.47	257	96.98	8	2.09	221	93.25	16	6.75	48	97.96	1	2.04	270	91.22	26	8.78	381	99.74	1	0.26
1981	HDGV	71	64	90.14	7	9.86	5	100.00	0	0.00	49	92.45	4	7.55	1	100.00	0	0.00	3	100.00	0	0.00	68	95.77	3	4.23
	LDGT1	114	101	88.60	13	11.40	89	97.80	2	1.75	71	93.42	5	6.58	18	94.74	1	5.26	84	91.30	8	8.70	113	99.12	1	0.88
	LDGT2	54	48	88.89	6	11.11	40	97.56	1	1.85	30	88.24	4	11.76	2	100.00	0	0.00	37	94.87	2	5.13	54	100.00	0	0.00
	LDGV	145	133	91.72	12	8.28	114	97.44	3	2.07	74	94.87	4	5.13	75	97.40	2	2.60	101	96.19	4	3.81	145	100.00	0	0.00
1981 Total		384	346	90.10	38	9.90	248	97.64	6	1.56	224	92.95	17	7.05	96	96.97	3	3.03	225	94.14	14	5.86	380	98.96	4	1.04
1982	HDGV	54	48	88.89	6	11.11	4	80.00	1	1.85	34	87.18	5	12.82	2	100.00	0	0.00	1	100.00	0	0.00	54	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	0	0.00	0	0.00	1	100.00	0	0.00
	LDGT2	1	1	100.00	0	0.00	0	0.00	0	0.00	1	100.00	0	0.00	0	0.00	0	0.00	1	100.00	0	0.00	1	100.00	0	0.00
	LDGV	5	5	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	5	100.00	0	0.00
1982 Total		61	55	90.16	6	9.84	6	85.71	1	1.64	35	87.50	5	12.50	4	100.00	0	0.00								

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 %
	LDGV	2	2	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	2	100.00	0	0.00
1984 Total		159	145	91.19	14	8.81	18	100.00	0	0.00	113	89.68	13	10.32	4	100.00	0	0.00	7	87.50	1	12.50	158	99.37	1	0.63
1985	HDGV	153	146	95.42	7	4.58	13	92.86	1	0.65	110	94.83	6	5.17	8	100.00	0	0.00	1	100.00	0	0.00	153	100.00	0	0.00
	LDGT1	5	5	100.00	0	0.00	4	100.00	0	0.00	2	100.00	0	0.00	2	100.00	0	0.00	5	100.00	0	0.00	5	100.00	0	0.00
	LDGT2	1	1	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	1	100.00	0	0.00
	LDGV	6	6	100.00	0	0.00	5	100.00	0	0.00	2	100.00	0	0.00	3	100.00	0	0.00	5	100.00	0	0.00	6	100.00	0	0.00
1985 Total		165	158	95.76	7	4.24	23	95.83	1	0.61	115	95.04	6	4.96	13	100.00	0	0.00	12	100.00	0	0.00	165	100.00	0	0.00
1986	HDGV	95	88	92.63	7	7.37	6	100.00	0	0.00	68	90.67	7	9.33	5	100.00	0	0.00	1	100.00	0	0.00	95	100.00	0	0.00
	LDGT1	5	5	100.00	0	0.00	5	100.00	0	0.00	5	100.00	0	0.00	2	100.00	0	0.00	5	100.00	0	0.00	5	100.00	0	0.00
	LDGT2	2	1	50.00	1	50.00	1	50.00	1	50.00	1	50.00	1	50.00	0	0.00	0	0.00	2	100.00	0	0.00	2	100.00	0	0.00
	LDGV	6	6	100.00	0	0.00	5	100.00	0	0.00	2	100.00	0	0.00	3	100.00	0	0.00	6	100.00	0	0.00	6	100.00	0	0.00
1986 Total		108	100	92.59	8	7.41	17	94.44	1	0.93	76	90.48	8	9.52	10	100.00	0	0.00	14	100.00	0	0.00	108	100.00	0	0.00
1987	HDGV	127	123	96.85	4	3.15	44	97.78	1	0.79	107	97.27	3	2.73	28	96.55	1	3.45	1	100.00	0	0.00	127	100.00	0	0.00
	LDGT1	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	2	100.00	0	0.00	2	100.00	0	0.00
	LDGT2	1	1	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	1	100.00	0	0.00
	LDGV	11	11	100.00	0	0.00	9	100.00	0	0.00	5	100.00	0	0.00	9	100.00	0	0.00	11	100.00	0	0.00	11	100.00	0	0.00
1987 Total		141	137	97.16	4	2.84	56	98.25	1	0.71	114	97.44	3	2.56	38	97.44	1	2.56	15	100.00	0	0.00	141	100.00	0	0.00
1988	HDGV	217	196	90.32	21	9.68	142	96.60	5	2.30	162	92.05	14	7.95	122	98.39	2	1.61	1	100.00	0	0.00	215	99.08	2	0.92
	LDGT1	5	5	100.00	0	0.00	4	100.00	0	0.00	2	100.00	0	0.00	4	100.00	0	0.00	5	100.00	0	0.00	5	100.00	0	0.00
	LDGT2	3	3	100.00	0	0.00	1	100.00	0	0.00	1	100.00	0	0.00	1	100.00	0	0.00	3	100.00	0	0.00	3	100.00	0	0.00
	LDGV	4	4	100.00	0	0.00	3	100.00	0	0.00	1	100.00	0	0.00	3	100.00	0	0.00	2	100.00	0	0.00	4	100.00	0	0.00
1988 Total		229	208	90.83	21	9.17	150	96.77	5	2.18	166	92.22	14	7.78	130	98.48	2	1.52	11	100.00	0	0.00	227	99.13	2	0.87
1989	HDGV	348	338	97.13	10	2.87	249	98.03	5	1.44	224	98.25	4	1.75	221	99.10	2	0.90	5	83.33	1	16.67	348	100.00	0	0.00
	LDGT1	10	9	90.00	1	10.00	9	100.00	0	0.00	5	83.33	1	16.67	9	100.00	0	0.00	10	100.00	0	0.00	10	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	2	100.00	0	0.00	2	100.00	0	0.00
	LDGV	19	19	100.00	0	0.00	17	100.00	0	0.00	8	100.00	0	0.00	16	100.00	0	0.00	15	100.00	0	0.00	19	100.00	0	0.00
1989 Total		379	368	97.10	11	2.90	277	98.23	5	1.32	238	97.94	5	2.06	247	99.20	2	0.80	32	96.97	1	3.03	379	100.00	0	0.00
1990	HDGV	275	261	94.91	14	5.09	214	97.72	5	1.82	136	95.10	7	4.90	215	99.08	2	0.92	0	0.00	0	0.00	274	99.64	1	0.36
	LDGT1	8	6	75.00	2	25.00	6	100.00	0	0.00	2	100.00	0	0.00	6	100.00	0	0.00	6	75.00	2	25.00	8	100.00	0	0.00
	LDGT2	10	10	100.00	0	0.00	8	100.00	0	0.00	2	100.00	0	0.00	8	100.00	0	0.00	9	100.00	0	0.00	10	100.00	0	0.00
	LDGV	29	28	96.55	1	3.45	22	100.00	0	0.00	6	100.00	0	0.00	22	100.00	0	0.00	24	96.00	1	4.00	29	100.00	0	0.00
1990 Total		322	305	94.72	17	5.28	250	98.04	5	1.55	146	95.42	7	4.58	251	99.21	2	0.79	39	92.86	3	7.14	321	99.69	1	0.31
1991	HDGV	323	317	98.14	6	1.86	260	99.24	2	0.62	166	97.65	4	2.35	264	98.88	3	1.12	7	100.00	0	0.00	323	100.00	0	0.00
	LDGT1	6	6	100.00	0	0.00	6	100.00	0	0.00	1	100.00	0	0.00	6	100.00	0	0.00	5	100.00	0	0.00	6	100.00	0	0.00
	LDGT2	3	1	33.33	2	66.67	2	100.00	0	0.00	0	0.00	0	0.00	1	50.00	1	50.00	1	33.33	2	66.67	3	100.00	0	0.00
	LDGV	27	26	96.30	1	3.70	22	100.00	0	0.00	1	100.00	0	0.00	22	100.00	0	0.00	24	96.00	1	4.00	27	100.00	0	0.00
1991 Total		359	350	97.49	9	2.51	290	99.32	2	0.56	168	97.67	4	2.33	293	98.65	4	1.35	37	92.50	3	7.50	359	100.00	0	0.00
1992	HDGV	412	404	98.06	8	1.94	336	98.82	4	0.97	201	99.50	1	0.50	340	99.13	3	0.87	2	100.00	0	0.00	411	99.76	1	0.24
	LDGT1	11	11	100.00	0	0.00	10	100.00	0	0.00	2	100.00	0	0.00	10	100.00	0	0.00	11	100.00	0	0.00	11	100.00	0	0.00
	LDGT2	6	6	100.00	0	0.00	4	100.00	0	0.00	0	0.00	0	0.00	4	100.00	0	0.00	5	100.00	0	0.00	6	100.00	0	0.00
	LDGV	21	20	95.24	1	4.76	18	100.00	0	0.00	5	100.00	0	0.00	17	94.44	1	5.56	19	100.00	0	0.00	21	100.00	0	0.00
1992 Total		450	441	98.00	9	2.00	368	98.92	4	0.89	208	99.52	1	0.48	371	98.93	4	1.07	37	100.00	0	0.00	449	99.78	1	0.22
1993	HDGV	496	486	97.98	10	2.02	396	99.25	3	0.60	229	98.71	3	1.29	401	99.75	1	0.25	0	0.00	1	100.00	494	99.60	2	0.40
	LDGT1	13	13	100.00	0	0.00	8	100.00	0	0.00	2	100.00	0	0.00	8	100.00	0	0.00	12	100.00	0	0.00	13	100.00	0	0.00
	LDGT2	11	11	100.00	0	0.00	7	100.00	0	0.00	1	100.00	0	0.00	7	100.00	0	0.00	10	100.00	0	0.00	11	100.00	0	0.00
	LDGV	24	21	87.50	3	12.50	20	100.00	0	0.00	2	100.00	0	0.00	19	95.00	1	5.00	22	91.67	2	8.33	24	100.00	0	0.00
1993 Total		544	531	97.61	13	2.39	431	99.31	3	0.55	234	98.73	3	1.27	435	99.54	2	0.46	44	93.62	3	6.38	542	99.63	2	0.37
1994	HDGV	631	625	99.05	6	0.95	496	99.00	5	0.79	277	100.00	0	0.00	511	100.00	0	0.00	2	100.00	0	0.00	630	99.84	1	0.16
	LDGT1	23	22	95.65	1	4.35	18	100.00	0	0.00	2	100.00	0	0.00	17	100.00	0	0.00	22	95.65	1					

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 %
1995 Total		992	975	98.29	17	1.71	771	98.97	8	0.81	414	99.28	3	0.72	815	99.88	1	0.12	83	95.40	4	4.60	989	99.70	3	0.30
1996	HDGV	866	865	99.88	1	0.12	1	100.00	0	0.00	0	0.00	0	0.00	1	100.00	0	0.00	9	90.00	1	10.00	866	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	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
	LDGV	18	16	88.89	2	11.11	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	13	86.67	2	13.33	18	100.00	0	0.00
1996 Total		899	896	99.67	3	0.33	1	100.00	0	0.00	0	0.00	0	0.00	1	100.00	0	0.00	37	92.50	3	7.50	899	100.00	0	0.00
1997	HDGV	1,220	1215	99.59	5	0.41	13	100.00	0	0.00	1	100.00	0	0.00	13	100.00	0	0.00	1	100.00	0	0.00	1215	99.59	5	0.41
	LDGT1	29	27	93.10	2	6.90	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	26	92.86	2	7.14	29	100.00	0	0.00
	LDGT2	22	22	100.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	22	100.00	0	0.00	22	100.00	0	0.00
	LDGV	20	20	100.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	20	100.00	0	0.00	20	100.00	0	0.00
1997 Total		1,291	1284	99.46	7	0.54	13	100.00	0	0.00	1	100.00	0	0.00	13	100.00	0	0.00	69	97.18	2	2.82	1286	99.61	5	0.39
1998	HDGV	837	835	99.76	2	0.24	9	100.00	0	0.00	0	0.00	0	0.00	9	100.00	0	0.00	3	60.00	2	40.00	837	100.00	0	0.00
	LDGT1	25	23	92.00	2	8.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	23	92.00	2	8.00	25	100.00	0	0.00
	LDGT2	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	10	100.00	0	0.00	10	100.00	0	0.00
	LDGV	33	33	100.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	33	100.00	0	0.00	33	100.00	0	0.00
1998 Total		905	901	99.56	4	0.44	9	100.00	0	0.00	0	0.00	0	0.00	9	100.00	0	0.00	69	94.52	4	5.48	905	100.00	0	0.00
1999	HDGV	1,817	1807	99.45	10	0.55	3	100.00	0	0.00	0	0.00	0	0.00	3	100.00	0	0.00	4	33.33	8	66.67	1815	99.89	2	0.11
	LDGT1	35	34	97.14	1	2.86	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	34	97.14	1	2.86	35	100.00	0	0.00
	LDGT2	29	27	93.10	2	6.90	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	27	93.10	2	6.90	29	100.00	0	0.00
	LDGV	50	48	96.00	2	4.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	47	95.92	2	4.08	50	100.00	0	0.00
1999 Total		1,931	1916	99.22	15	0.78	3	100.00	0	0.00	0	0.00	0	0.00	3	100.00	0	0.00	112	89.60	13	10.40	1929	99.90	2	0.10
2000	HDGV	1,776	1765	99.38	11	0.62	12	100.00	0	0.00	1	100.00	0	0.00	12	100.00	0	0.00	46	88.46	6	11.54	1771	99.72	5	0.28
	LDGT1	31	30	96.77	1	3.23	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	30	96.77	1	3.23	31	100.00	0	0.00
	LDGT2	23	23	100.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	22	100.00	0	0.00	23	100.00	0	0.00
	LDGV	24	24	100.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	23	100.00	0	0.00	24	100.00	0	0.00
2000 Total		1,854	1842	99.35	12	0.65	12	100.00	0	0.00	1	100.00	0	0.00	12	100.00	0	0.00	121	94.53	7	5.47	1849	99.73	5	0.27
2001	HDGV	2,147	2144	99.86	3	0.14	10	100.00	0	0.00	2	100.00	0	0.00	10	100.00	0	0.00	33	94.29	2	5.71	2146	99.95	1	0.05
	LDGT1	31	31	100.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	31	100.00	0	0.00	31	100.00	0	0.00
	LDGT2	29	28	96.55	1	3.45	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	27	96.43	1	3.57	29	100.00	0	0.00
	LDGV	44	43	97.73	1	2.27	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	41	97.62	1	2.38	44	100.00	0	0.00
2001 Total		2,251	2246	99.78	5	0.22	10	100.00	0	0.00	2	100.00	0	0.00	10	100.00	0	0.00	132	97.06	4	2.94	2250	99.96	1	0.04
2002	HDGV	1,686	1678	99.53	8	0.47	8	100.00	0	0.00	0	0.00	0	0.00	8	100.00	0	0.00	49	87.50	7	12.50	1685	99.94	1	0.06
	LDGT1	32	30	93.75	2	6.25	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	31	96.88	1	3.13	31	96.88	1	3.13
	LDGT2	26	25	96.15	1	3.85	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	26	100.00	0	0.00	25	96.15	1	3.85
	LDGV	29	28	96.55	1	3.45	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	28	96.55	1	3.45	29	100.00	0	0.00
2002 Total		1,773	1761	99.32	12	0.68	8	100.00	0	0.00	0	0.00	0	0.00	8	100.00	0	0.00	134	93.71	9	6.29	1770	99.83	3	0.17
2003	HDGV	2,108	2102	99.72	6	0.28	20	100.00	0	0.00	0	0.00	0	0.00	20	100.00	0	0.00	44	88.00	6	12.00	2108	100.00	0	0.00
	LDGT1	26	25	96.15	1	3.85	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	25	96.15	1	3.85	26	100.00	0	0.00
	LDGT2	32	29	90.63	3	9.38	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	28	90.32	3	9.68	32	100.00	0	0.00
	LDGV	44	42	95.45	2	4.55	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	41	95.35	2	4.65	44	100.00	0	0.00
2003 Total		2,210	2198	99.46	12	0.54	20	100.00	0	0.00	0	0.00	0	0.00	20	100.00	0	0.00	138	92.00	12	8.00	2210	100.00	0	0.00
2004	HDGV	1,726	1721	99.71	5	0.29	22	100.00	0	0.00	2	100.00	0	0.00	22	100.00	0	0.00	3	50.00	3	50.00	1724	99.88	2	0.12
	LDGT1	43	40	93.02	3	6.98	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	41	95.35	2	4.65	42	97.67	1	2.33
	LDGT2	23	22	95.65	1	4.35	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	22	95.65	1	4.35	23	100.00	0	0.00
	LDGV	33	33	100.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	33	100.00	0	0.00	33	100.00	0	0.00
2004 Total		1,825	1816	99.51	9	0.49	22	100.00	0	0.00	2	100.00	0	0.00	22	100.00	0	0.00	99	94.29	6	5.71	1822	99.84	3	0.16
2005	HDGV	1,846	1841	99.73	5	0.27	18	100.00	0	0.00	3	100.00	0	0.00	18	100.00	0	0.00	6	66.67	3	33.33	1844	99.89	2	0.11
	LDGT1	39	38	97.44	1	2.56	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	38	97.44	1	2.56	39	100.00	0	0.00
	LDGT2	16	14	87.50	2	12.50	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	14	87.50	2	12.50	16	100.00	0	0.00
	LDGV	42	41	97.62	1	2.38	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	40	97.56	1	2.44	42	100.00	0	0.00
2005 Total		1,943	1934	99.54	9	0.46	18	100.00	0	0.00	3	100.00	0	0.00	18	100.00	0	0.00	98	93.33	7	6.67	1941	99.90	2	0.10
2006	HDGV	1,899	1894	99.74	5	0.26	24	100.00	0	0.00	2	100.00	0	0.00	24	100.00	0	0.00	3	42.86	4	57.14	1898	99.95	1	0.05
	LDGT1	34	33	97.06	1	2.94	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	32	96.97	1	3.03	34	100.00	0	0.00
	LDGT2	19	18	94.74	1	5.26	0	0.00	0	0.00	0	0.														

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 %
2019 Total		78	78	100.00	0	0.00	8	100.00	0	0.00	1	100.00	0	0.00	8	100.00	0	0.00	12	100.00	0	0.00	78	100.00	0	0.00
2020	HDGV	10	10	100.00	0	0.00	2	100.00	0	0.00	0	0.00	0	0.00	2	100.00	0	0.00	5	100.00	0	0.00	10	100.00	0	0.00
2020 Total		10	10	100.00	0	0.00	2	100.00	0	0.00	0	0.00	0	0.00	2	100.00	0	0.00	5	100.00	0	0.00	10	100.00	0	0.00
2021	HDGV	7	7	100.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	4	100.00	0	0.00	7	100.00	0	0.00
2021 Total		7	7	100.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	4	100.00	0	0.00	7	100.00	0	0.00
2022	HDGV	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
2022 Total		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
Grand Total		41,407	40811	98.56	596	1.46	5166	97.99	106	0.26	3613	96.01	150	3.99	3,931	99.42	23	0.58	3,938	92.62	314	7.38	41340	99.84	67	0.16

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	36,111	35874	99.34	237	0.66	3435	98.85	40	0.11	2498	96.75	84	3.25	3,405	99.56	15	0.44	459	87.26	67	12.74	36067	99.88	44	0.12	
LDGT1	1,418	1323	93.30	95	7.20	476	96.36	18	1.37	349	93.57	24	6.43	118	99.16	1	0.84	1,033	93.65	70	6.35	1411	99.51	7	0.49	
LDGT2	1,549	1410	91.03	139	9.40	313	94.28	19	1.29	214	93.45	15	6.55	84	98.82	1	1.18	913	89.69	105	10.31	1538	99.29	11	0.71	
LDGV	2,329	2204	94.63	125	6.00	942	97.01	29	1.39	552	95.34	27	4.66	324	98.18	6	1.82	1,533	95.51	72	4.49	2324	99.79	5	0.21	
Grand Total	41,407	40811	98.56	596	1.46	5166	97.99	106	0.26	3613	96.01	150	3.99	3,931	99.42	23	0.58	3,938	92.62	314	7.38	41340	99.84	67	0.16	

Appendix C5

Idle Retest Pass Reduction Report

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	
2005 Total		36	748.44	1.76	720.73	1.50	28	77.78%	66.83	0.25	61.03	0.29	523.19	88.67%	1.01	80.03%	484.35	88.81%	0.84	74.00%	0.00
2006	LDGV	1	357.90	0.44	343.70	0.43	1	100.00%	163.00	0.22	167.30	0.22	194.90	54.46%	0.22	50.00%	176.40	51.32%	0.21	48.84%	0.00
	LDGT	2	117.60	0.34	103.00	0.33	2	100.00%	75.30	0.27	89.35	0.27	42.30	35.97%	0.07	20.90%	13.65	13.25%	0.06	18.18%	0.00
	HDGT	24	591.47	0.91	374.77	0.76	18	75.00%	71.21	0.14	71.90	0.24	425.52	85.67%	0.80	84.76%	307.77	81.06%	0.58	71.05%	0.00
2006 Total		27	547.72	0.85	353.49	0.72	21	77.78%	75.97	0.16	78.10	0.24	378.04	83.27%	0.70	81.54%	273.50	77.79%	0.51	68.22%	0.00
2007	LDGV	1	178.40	3.39	167.70	4.55	1	100.00%	2.60	0.01	2.00	0.01	175.80	98.54%	3.38	99.71%	165.70	98.81%	4.54	99.78%	6.00
	LDGT	3	73.17	0.45	68.00	0.46	3	100.00%	3.60	0.00	4.40	0.01	69.57	95.08%	0.45	99.26%	63.60	93.53%	0.45	97.81%	0.00
	HDGT	6	383.95	2.26	281.35	0.84	5	83.33%	72.96	0.21	34.54	0.07	317.58	81.32%	2.38	91.98%	235.76	87.22%	0.82	92.36%	0.00
2007 Total		10	270.16	1.83	205.98	1.10	9	90.00%	42.02	0.12	20.88	0.04	219.16	83.91%	1.85	94.01%	170.59	89.10%	1.11	96.34%	6.00
2008	LDGV	2	1002.20	6.45	1003.65	6.52	2	100.00%	51.60	0.06	68.15	0.08	950.60	94.85%	6.39	99.15%	935.50	93.21%	6.44	98.77%	0.00
	LDGT	4	21.15	0.05	20.33	0.05	4	100.00%	18.72	0.04	18.55	0.04	2.43	11.47%	0.01	20.00%	1.78	8.73%	0.00	5.56%	11.00
	HDGT	14	451.99	0.79	435.21	0.88	12	85.71%	80.83	0.36	70.61	0.55	379.77	82.45%	0.35	49.48%	372.95	84.08%	0.28	33.57%	0.00
2008 Total		20	420.85	1.21	409.08	1.28	18	90.00%	63.78	0.26	58.77	0.38	359.34	84.93%	0.95	78.74%	352.97	85.73%	0.90	70.19%	11.00
2009	LDGV	5	254.46	0.25	246.00	0.26	3	60.00%	118.97	0.17	123.47	0.16	77.60	39.48%	0.06	26.09%	65.13	34.54%	0.07	30.00%	760.00
	LDGT	2	32.25	0.25	30.55	0.29	2	100.00%	21.55	0.04	20.00	0.02	10.70	33.18%	0.21	85.71%	10.55	34.53%	0.27	92.98%	0.00
	HDGT	10	569.39	2.69	518.21	2.82	6	60.00%	83.60	0.27	101.57	0.23	575.48	87.32%	2.69	90.88%	491.85	82.88%	2.94	92.89%	0.00
2009 Total		17	413.57	1.69	380.78	1.77	11	64.71%	81.96	0.20	92.71	0.17	337.01	80.44%	1.52	88.38%	287.96	75.65%	1.67	90.73%	760.00
2010	LDGV	3	115.40	0.18	115.90	0.18	3	100.00%	59.00	0.03	65.33	0.03	56.40	48.87%	0.15	84.91%	50.57	43.63%	0.15	83.33%	0.00
	LDGT	1	5.00	0.08	5.40	0.07	1	100.00%	2.70	0.03	2.90	0.05	2.30	46.00%	0.05	62.50%	2.50	46.30%	0.02	28.57%	0.00
	HDGT	7	268.90	2.55	255.70	2.43	7	100.00%	70.43	0.33	75.44	0.33	198.47	73.81%	2.22	86.94%	180.26	70.50%	2.10	86.35%	0.00
2010 Total		11	203.05	1.68	194.82	1.60	11	100.00%	61.15	0.22	66.09	0.22	141.89	69.88%	1.46	86.78%	128.73	66.08%	1.38	86.03%	0.00
2011	LDGT	2	6.50	0.04	8.70	0.02	2	100.00%	3.65	0.03	8.55	0.06	2.85	43.85%	0.01	14.29%	0.15	1.72%	-0.04	-200.00%	0.00
	HDGT	3	314.30	1.09	302.73	1.05	3	100.00%	32.80	0.10	35.10	0.10	281.50	89.56%	0.99	91.10%	267.63	88.41%	0.96	90.82%	0.00
2011 Total		5	191.18	0.67	185.12	0.64	5	100.00%	21.14	0.07	24.48	0.08	170.04	88.94%	0.60	89.49%	160.64	86.78%	0.56	87.19%	0.00
2012	LDGV	1	8.10	0.03	6.80	0.04	1	100.00%	4.90	0.03	7.10	0.03	3.20	39.51%	0.00	0.00%	-0.30	-4.41%	0.01	25.00%	0.00
	LDGT	1	5.30	0.00	4.20	0.00	1	100.00%	2.70	0.00	3.20	0.01	2.60	49.06%	0.00		1.00	23.81%	-0.01	0.00%	0.00
	HDGT	16	204.03	0.74	172.60	0.50	14	87.50%	24.56	0.04	31.10	0.09	160.05	86.70%	0.64	93.53%	119.76	79.38%	0.37	81.37%	0.00
2012 Total		18	182.11	0.66	154.03	0.44	16	88.89%	21.96	0.04	27.86	0.08	140.41	86.47%	0.56	93.24%	104.83	79.01%	0.33	80.86%	0.00
2013	LDGT	2	3.55	0.00	5.35	0.00	2	100.00%	4.40	0.00	3.30	0.00	-0.85	-23.94%	0.00		2.05	38.32%	0.00	0.00%	0.00
	HDGT	1	155.90	4.25	167.00	4.48	1	100.00%	31.90	0.45	33.80	0.48	124.00	79.54%	3.80	89.41%	133.20	79.76%	4.00	89.29%	0.00
2013 Total		3	54.33	1.42	59.23	1.49	3	100.00%	13.57	0.15	13.47	0.16	40.77	75.03%	1.27	89.41%	45.77	77.27%	1.33	89.29%	0.00
2014	LDGV	5	653.98	4.40	529.50	4.42	2	40.00%	412.70	0.90	312.45	2.83	61.00	12.88%	1.44	61.46%	10.20	3.16%	-0.53	-23.09%	0.00
	LDGT	1	322.60	2.12	202.10	1.46	1	100.00%	16.60	0.34	54.00	0.45	306.00	94.85%	1.78	83.96%	148.10	73.28%	1.01	69.18%	0.00
	HDGT	7	179.30	2.28	143.43	2.32	5	71.43%	28.72	0.34	23.68	0.27	163.44	85.05%	0.84	71.19%	120.44	83.57%	1.01	78.96%	0.00
2014 Total		13	372.89	3.08	296.43	3.06	8	61.54%	123.20	0.48	99.66	0.93	155.65	55.82%	1.11	69.74%	96.34	49.15%	0.62	40.10%	0.00
2015	LDGT	1	109.40	0.25	89.20	0.18	1	100.00%	57.00	0.11	79.10	0.27	52.40	47.90%	0.14	56.00%	10.10	11.32%	-0.09	-50.00%	0.00
	HDGT	3	217.93	0.34	137.07	0.31	3	100.00%	18.63	0.05	19.27	0.16	199.30	91.45%	0.29	85.15%	117.80	85.94%	0.15	48.94%	0.00
2015 Total		4	190.80	0.32	125.10	0.28	4	100.00%	28.23	0.07	34.23	0.19	162.58	85.21%	0.25	79.37%	90.88	72.64%	0.09	33.04%	0.00
2016	LDGV	1	984.00	0.12	1078.20	0.11	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
2016 Total		1	984.00	0.12	1078.20	0.11	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
Grand Total		3647	642.85	2.93	507.25	2.74	1935	53.06%	143.27	0.66	141.36	0.99	407.45	73.99%	1.85	73.86%	300.12	67.98%	1.38	58.27%	311.93

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	765	632.47	3.16	513.50	3.23	391	51.11%	135.29	0.55	145.81	1.11	367.73	73.10%	2.15	79.64%	268.98	64.85%	1.65	59.79%	335.50
LDGT	709	530.74	2.79	442.35	2.86	332	46.83%	97.13	0.32	114.93	0.77	330.13	77.27%	1.75	84.51%	232.98	66.97%	1.29	62.59%	334.00
HDGT	2173	683.08	2.89	526.22	2.54	1212	55.78%	158.48	0.78	147.17	1.01	441.45	73.58%	1.79	69.55%	328.56	69.06%	1.32	56.64%	300.86
Grand Total	3647	642.85	2.93	507.25	2.74	1935	53.06%	143.27	0.66	141.36	0.99	407.45	73.99%	1.85	73.86%	300.12	67.98%	1.38	58.27%	311.93

Appendix C6

Idle Retest Frequency Report

Date
Between 1/1/2021 and 1/1/2022

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	97	1.3	73	75.26%	42	57.53%	15	15.46%	7	46.67%	7	7.22%	3	42.86%	0	0.00%	0	0.00%	2	2	0	0.00%
	LDGT	45	1.1	29	64.44%	15	51.72%	8	17.78%	1	12.50%	4	8.89%	0	0.00%	3	6.67%	0	0.00%	1	2	0	0.00%
	HDGT	25	1.2	19	76.00%	15	78.95%	5	20.00%	2	40.00%	1	4.00%	1	100.00%	0	0.00%	0	0.00%	0	0	0	0.00%
1974 Total		167	1.2	121	72.46%	72	59.50%	28	16.77%	10	35.71%	12	7.19%	4	33.33%	3	1.80%	0	0.00%	3	2	0	0.00%
1975	LDGV	8	1.2	7	87.50%	5	71.43%	1	12.50%	1	100.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0	0	0.00%
	LDGT	4	1.0	3	75.00%	2	66.67%	0	0.00%	0	0.00%	1	25.00%	0	0.00%	0	0.00%	0	0.00%	0	0	0	0.00%
	HDGT	13	1.5	9	69.23%	6	66.67%	3	23.08%	1	33.33%	0	0.00%	0	0.00%	1	7.69%	1	100.00%	0	0	0	0.00%
1975 Total		25	1.3	19	76.00%	13	68.42%	4	16.00%	2	50.00%	1	4.00%	0	0.00%	1	4.00%	1	100.00%	0	0	0	0.00%
1976	LDGV	52	1.6	35	67.31%	21	60.00%	9	17.31%	3	33.33%	5	9.62%	2	40.00%	3	5.77%	3	100.00%	0	0	0	0.00%
	LDGT	29	1.8	16	55.17%	6	37.50%	8	27.59%	4	50.00%	3	10.34%	1	33.33%	2	6.90%	1	50.00%	0	0	0	0.00%
	HDGT	84	1.6	49	58.33%	30	61.22%	17	20.24%	7	41.18%	10	11.90%	6	60.00%	3	3.57%	1	33.33%	5	6	1	20.00%
1976 Total		165	1.6	100	60.61%	57	57.00%	34	20.61%	14	41.18%	18	10.91%	9	50.00%	8	4.85%	5	62.50%	5	3	1	20.00%
1977	LDGV	129	1.7	65	50.39%	29	44.62%	31	24.03%	10	32.26%	16	12.40%	8	50.00%	4	3.10%	0	0.00%	13	10	2	15.38%
	LDGT	31	1.3	22	70.97%	13	59.09%	5	16.13%	2	40.00%	3	9.68%	1	33.33%	1	3.23%	0	0.00%	0	0	0	0.00%
	HDGT	94	1.4	67	71.28%	46	68.66%	16	17.02%	12	75.00%	6	6.38%	3	50.00%	2	2.13%	1	50.00%	3	3	1	33.33%
1977 Total		254	1.5	154	60.63%	88	57.14%	52	20.47%	24	46.15%	25	9.84%	12	48.00%	7	2.76%	1	14.29%	16	6	3	18.75%
1978	LDGV	92	1.7	55	59.78%	31	56.36%	17	18.48%	6	35.29%	13	14.13%	6	46.15%	5	5.43%	2	40.00%	2	2	2	100.00%
	LDGT	62	1.7	35	56.45%	16	45.71%	12	19.35%	4	33.33%	7	11.29%	4	57.14%	4	6.45%	2	50.00%	4	6	0	0.00%
	HDGT	124	1.6	82	66.13%	60	73.17%	27	21.77%	19	70.37%	8	6.45%	5	62.50%	4	3.23%	4	100.00%	3	2	2	66.67%
1978 Total		278	1.6	172	61.87%	107	62.21%	56	20.14%	29	51.79%	28	10.07%	15	53.57%	13	4.68%	8	61.54%	9	3	4	44.44%
1979	LDGV	110	1.5	69	62.73%	38	55.07%	21	19.09%	10	47.62%	11	10.00%	5	45.45%	3	2.73%	1	33.33%	6	5	1	16.67%
	LDGT	170	1.9	88	51.76%	38	43.18%	39	22.94%	14	35.90%	20	11.76%	10	50.00%	8	4.71%	0	0.00%	15	9	5	33.33%
	HDGT	26	1.7	15	57.69%	8	53.33%	8	30.77%	4	50.00%	3	11.54%	3	100.00%	0	0.00%	0	0.00%	0	0	0	0.00%
1979 Total		306	1.7	172	56.21%	84	48.84%	68	22.22%	28	41.18%	34	11.11%	18	52.94%	11	3.59%	1	9.09%	21	7	6	28.57%
1980	LDGV	75	1.7	44	58.67%	27	61.36%	15	20.00%	9	60.00%	6	8.00%	2	33.33%	3	4.00%	2	66.67%	7	9	1	14.29%
	LDGT	57	1.4	40	70.18%	24	60.00%	13	22.81%	8	61.54%	3	5.26%	1	33.33%	1	1.75%	1	100.00%	0	0	0	0.00%
	HDGT	23	1.6	14	60.87%	8	57.14%	5	21.74%	4	80.00%	2	8.70%	1	50.00%	2	8.70%	1	50.00%	0	0	0	0.00%
1980 Total		155	1.6	98	63.23%	59	60.20%	33	21.29%	21	63.64%	11	7.10%	4	36.36%	6	3.87%	4	66.67%	7	5	1	14.29%
1981	LDGV	78	1.9	38	48.72%	17	44.74%	20	25.64%	7	35.00%	11	14.10%	4	36.36%	6	7.69%	1	16.67%	3	4	3	100.00%
	LDGT	129	2.6	48	37.21%	20	41.67%	28	21.71%	7	25.00%	18	13.95%	7	38.89%	11	8.53%	4	36.36%	24	19	6	25.00%
	HDGT	36	2.3	21	58.33%	11	52.38%	6	16.67%	5	83.33%	1	2.78%	0	0.00%	2	5.56%	0	0.00%	6	17	3	50.00%
1981 Total		243	2.3	107	44.03%	48	44.86%	54	22.22%	19	35.19%	30	12.35%	11	36.67%	19	7.82%	5	26.32%	33	14	12	36.36%
1982	LDGV	5	3.0	3	60.00%	0	0.00%	1	20.00%	0	0.00%	1	20.00%	1	100.00%	0	0.00%	0	0.00%	0	0	0	0.00%
	LDGT	3	1.0	1	33.33%	1	100.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	1	33.33%	0	0.00%	1	33	0	0.00%
	HDGT	17	1.9	9	52.94%	5	55.56%	4	23.53%	2	50.00%	2	11.76%	1	50.00%	1	5.88%	0	0.00%	1	6	1	100.00%
1982 Total		25	1.9	13	52.00%	6	46.15%	5	20.00%	2	40.00%	3	12.00%	2	66.67%	2	8.00%	0	0.00%	2	8	1	50.00%
1983	LDGV	7	2.0	2	28.57%	2	100.00%	1	14.29%	0	0.00%	2	28.57%	0	0.00%	2	28.57%	1	50.00%	0	0	0	0.00%
	LDGT	4	1.0	2	50.00%	1	50.00%	1	25.00%	0	0.00%	1	25.00%	0	0.00%	0	0.00%	0	0.00%	0	0	0	0.00%
	HDGT	28	1.5	19	67.86%	10	52.63%	5	17.86%	2	40.00%	2	7.14%	1	50.00%	2	7.14%	1	50.00%	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%	
1983 Total			39	1.6	23	58.97%	13	56.52%	7	17.95%	2	28.57%	5	12.82%	1	20.00%	4	10.26%	2	50.00%	0	0	0	0.00%
1984	LDGV	5	3.0	1	20.00%	1	100.00%	0	0.00%	0	0.00%	2	40.00%	0	0.00%	1	20.00%	0	0.00%	1	20	1	100.00%	
	LDGT	5	1.5	4	80.00%	1	25.00%	1	20.00%	1	100.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0	0	0.00%	
	HDGT	45	1.4	32	71.11%	21	65.63%	8	17.78%	3	37.50%	4	8.89%	3	75.00%	1	2.22%	1	100.00%	0	0	0	0.00%	
1984 Total			55	1.5	37	67.27%	23	62.16%	9	16.36%	4	44.44%	6	10.91%	3	50.00%	2	3.64%	1	50.00%	1	2	1	100.00%
1985	LDGV	4	2.0	2	50.00%	1	50.00%	1	25.00%	0	0.00%	1	25.00%	1	100.00%	0	0.00%	0	0.00%	0	0	0	0.00%	
	LDGT	3	1.0	2	66.67%	1	50.00%	1	33.33%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0	0	0.00%	
	HDGT	62	1.8	34	54.84%	19	55.88%	14	22.58%	7	50.00%	6	9.68%	1	16.67%	5	8.06%	3	60.00%	3	5	2	66.67%	
1985 Total			69	1.8	38	55.07%	21	55.26%	16	23.19%	7	43.75%	7	10.14%	2	28.57%	5	7.25%	3	60.00%	3	4	2	66.67%
1986	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	8	1.5	6	75.00%	2	33.33%	2	25.00%	2	100.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0	0	0.00%	
	HDGT	40	1.9	23	57.50%	10	43.48%	10	25.00%	5	50.00%	2	5.00%	0	0.00%	1	2.50%	0	0.00%	4	10	2	50.00%	
1986 Total			50	1.8	31	62.00%	14	45.16%	12	24.00%	7	58.33%	2	4.00%	0	0.00%	1	2.00%	0	0.00%	4	8	2	50.00%
1987	LDGV	3	2.0	2	66.67%	2	100.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	1	33.33%	1	100.00%	0	0	0	0.00%	
	LDGT	3	4.0	0	0.00%	0	0.00%	0	0.00%	0	0.00%	2	66.67%	0	0.00%	1	33.33%	1	100.00%	0	0	0	0.00%	
	HDGT	39	1.9	19	48.72%	12	63.16%	7	17.95%	4	57.14%	2	5.13%	1	50.00%	4	10.26%	0	0.00%	7	18	2	28.57%	
1987 Total			45	2.0	21	46.67%	14	66.67%	7	15.56%	4	57.14%	4	8.89%	1	25.00%	6	13.33%	2	33.33%	7	16	2	28.57%
1988	LDGV	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%	
	LDGT	3	3.0	1	33.33%	1	100.00%	0	0.00%	0	0.00%	1	33.33%	0	0.00%	0	0.00%	0	0.00%	1	33	1	100.00%	
	HDGT	65	1.6	38	58.46%	17	44.74%	16	24.62%	10	62.50%	5	7.69%	1	20.00%	5	7.69%	1	20.00%	1	2	1	100.00%	
1988 Total			69	1.7	40	57.97%	19	47.50%	16	23.19%	10	62.50%	6	8.70%	1	16.67%	5	7.25%	1	20.00%	2	3	2	100.00%
1989	LDGV	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%	
	LDGT	16	2.4	9	56.25%	1	11.11%	4	25.00%	2	50.00%	2	12.50%	1	50.00%	1	6.25%	1	100.00%	0	0	0	0.00%	
	HDGT	80	1.8	36	45.00%	23	63.89%	15	18.75%	4	26.67%	10	12.50%	4	40.00%	6	7.50%	2	33.33%	13	16	2	15.38%	
1989 Total			101	1.8	49	48.51%	27	55.10%	20	19.80%	7	35.00%	12	11.88%	5	41.67%	7	6.93%	3	42.86%	13	13	2	15.38%
1990	LDGV	14	1.8	9	64.29%	3	33.33%	3	21.43%	1	33.33%	2	14.29%	2	100.00%	0	0.00%	0	0.00%	0	0	0	0.00%	
	LDGT	12	1.5	8	66.67%	7	87.50%	1	8.33%	0	0.00%	1	8.33%	0	0.00%	1	8.33%	0	0.00%	1	8	1	100.00%	
	HDGT	58	1.6	34	58.62%	24	70.59%	10	17.24%	3	30.00%	6	10.34%	3	50.00%	5	8.62%	2	40.00%	3	5	1	33.33%	
1990 Total			84	1.6	51	60.71%	34	66.67%	14	16.67%	4	28.57%	9	10.71%	5	55.56%	6	7.14%	2	33.33%	4	5	2	50.00%
1991	LDGV	8	1.3	6	75.00%	4	66.67%	2	25.00%	2	100.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0	0	0.00%	
	LDGT	8	1.8	5	62.50%	2	40.00%	2	25.00%	1	50.00%	1	12.50%	1	100.00%	0	0.00%	0	0.00%	0	0	0	0.00%	
	HDGT	74	1.3	55	74.32%	35	63.64%	14	18.92%	9	64.29%	3	4.05%	0	0.00%	2	2.70%	2	100.00%	0	0	0	0.00%	
1991 Total			90	1.4	66	73.33%	41	62.12%	18	20.00%	12	66.67%	4	4.44%	1	25.00%	2	2.22%	2	100.00%	0	0	0	0.00%
1992	LDGV	4	2.0	2	50.00%	1	50.00%	1	25.00%	0	0.00%	1	25.00%	1	100.00%	0	0.00%	0	0.00%	0	0	0	0.00%	
	LDGT	8	3.0	4	50.00%	0	0.00%	2	25.00%	0	0.00%	2	25.00%	1	50.00%	0	0.00%	0	0.00%	0	0	0	0.00%	
	HDGT	81	1.7	50	61.73%	24	48.00%	21	25.93%	12	57.14%	5	6.17%	5	100.00%	1	1.23%	1	100.00%	4	5	1	25.00%	
1992 Total			93	1.8	56	60.22%	25	44.64%	24	25.81%	12	50.00%	8	8.60%	7	87.50%	1	1.08%	1	100.00%	4	4	1	25.00%
1993	LDGV	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%	
	LDGT	7	1.5	4	57.14%	2	50.00%	2	28.57%	2	100.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	1	14	0	0.00%	
	HDGT	108	2.1	52	48.15%	29	55.77%	21	19.44%	8	38.10%	14	12.96%	3	21.43%	9	8.33%	5	55.56%	12	11	4	33.33%	
1993 Total			122	1.9	62	50.82%	36	58.06%	24	19.67%	11	45.83%	14	11.48%	3	21.43%	9	7.38%	5	55.56%	13	11	4	30.77%
1994	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	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%
	LDGT	13	1.7	7	53.85%	4	57.14%	4	30.77%	1	25.00%	2	15.38%	2	100.00%	0	0.00%	0	0.00%	0	0	0	0.00%
	HDGT	161	1.9	87	54.04%	45	51.72%	35	21.74%	11	31.43%	21	13.04%	9	42.86%	9	5.59%	5	55.56%	9	6	4	44.44%
1994 Total		179	1.8	99	55.31%	54	54.55%	39	21.79%	12	30.77%	23	12.85%	11	47.83%	9	5.03%	5	55.56%	9	5	4	44.44%
1995	LDGV	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%
	LDGT	13	1.6	9	69.23%	7	77.78%	2	15.38%	2	100.00%	0	0.00%	0	0.00%	1	7.69%	0	0.00%	1	8	1	100.00%
	HDGT	158	1.9	83	52.53%	44	53.01%	31	19.62%	13	41.94%	17	10.76%	7	41.18%	9	5.70%	2	22.22%	18	11	6	33.33%
1995 Total		174	1.9	95	54.60%	53	55.79%	33	18.97%	15	45.45%	17	9.77%	7	41.18%	10	5.75%	2	20.00%	19	11	7	36.84%
1996	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	76	1.7	46	60.53%	23	50.00%	17	22.37%	8	47.06%	9	11.84%	6	66.67%	3	3.95%	2	66.67%	1	1	0	0.00%
1996 Total		78	1.6	48	61.54%	25	52.08%	17	21.79%	8	47.06%	9	11.54%	6	66.67%	3	3.85%	2	66.67%	1	1	0	0.00%
1997	LDGV	5	1.0	3	60.00%	2	66.67%	1	20.00%	0	0.00%	1	20.00%	0	0.00%	0	0.00%	0	0.00%	0	0	0	0.00%
	LDGT	4	1.3	3	75.00%	3	100.00%	1	25.00%	1	100.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0	0	0.00%
	HDGT	81	2.0	46	56.79%	24	52.17%	14	17.28%	9	64.29%	6	7.41%	2	33.33%	4	4.94%	0	0.00%	11	14	4	36.36%
1997 Total		90	1.9	52	57.78%	29	55.77%	16	17.78%	10	62.50%	7	7.78%	2	28.57%	4	4.44%	0	0.00%	11	12	4	36.36%
1998	LDGV	5	1.0	5	100.00%	4	80.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0	0	0.00%
	LDGT	9	1.5	6	66.67%	3	50.00%	3	33.33%	3	100.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0	0	0.00%
	HDGT	87	1.5	47	54.02%	24	51.06%	22	25.29%	14	63.64%	8	9.20%	0	0.00%	7	8.05%	1	14.29%	3	3	1	33.33%
1998 Total		101	1.5	58	57.43%	31	53.45%	25	24.75%	17	68.00%	8	7.92%	0	0.00%	7	6.93%	1	14.29%	3	3	1	33.33%
1999	LDGV	10	1.3	8	80.00%	4	50.00%	2	20.00%	2	100.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0	0	0.00%
	LDGT	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%
	HDGT	107	1.5	70	65.42%	47	67.14%	22	20.56%	12	54.55%	9	8.41%	5	55.56%	3	2.80%	0	0.00%	3	3	2	66.67%
1999 Total		124	1.4	85	68.55%	58	68.24%	24	19.35%	14	58.33%	9	7.26%	5	55.56%	3	2.42%	0	0.00%	3	2	2	66.67%
2000	LDGV	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%
	LDGT	9	1.2	7	77.78%	5	71.43%	2	22.22%	1	50.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0	0	0.00%
	HDGT	111	1.6	65	58.56%	38	58.46%	23	20.72%	12	52.17%	10	9.01%	2	20.00%	8	7.21%	2	25.00%	5	5	2	40.00%
2000 Total		121	1.5	73	60.33%	44	60.27%	25	20.66%	13	52.00%	10	8.26%	2	20.00%	8	6.61%	2	25.00%	5	4	2	40.00%
2001	LDGV	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%
	LDGT	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%
	HDGT	52	1.3	39	75.00%	26	66.67%	12	23.08%	10	83.33%	1	1.92%	1	100.00%	0	0.00%	0	0.00%	0	0	0	0.00%
2001 Total		55	1.3	42	76.36%	29	69.05%	12	21.82%	10	83.33%	1	1.82%	1	100.00%	0	0.00%	0	0.00%	0	0	0	0.00%
2002	LDGV	3	1.5	2	66.67%	1	50.00%	1	33.33%	1	100.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0	0	0.00%
	LDGT	7	1.0	4	57.14%	3	75.00%	1	14.29%	0	0.00%	1	14.29%	0	0.00%	1	14.29%	0	0.00%	0	0	0	0.00%
	HDGT	38	1.2	30	78.95%	22	73.33%	5	13.16%	3	60.00%	2	5.26%	1	50.00%	1	2.63%	0	0.00%	0	0	0	0.00%
2002 Total		48	1.2	36	75.00%	26	72.22%	7	14.58%	4	57.14%	3	6.25%	1	33.33%	2	4.17%	0	0.00%	0	0	0	0.00%
2003	LDGV	4	1.0	4	100.00%	3	75.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0	0	0.00%
	LDGT	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	0	0.00%
	HDGT	38	1.3	23	60.53%	15	65.22%	7	18.42%	6	85.71%	1	2.63%	0	0.00%	1	2.63%	0	0.00%	6	16	0	0.00%
2003 Total		48	1.2	33	68.75%	24	72.73%	7	14.58%	6	85.71%	1	2.08%	0	0.00%	1	2.08%	0	0.00%	6	13	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	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	0	0.00%
	HDGT	23	1.2	20	86.96%	16	80.00%	3	13.04%	3	100.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	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%	
2004 Total			29	1.1	26	89.66%	22	84.62%	3	10.34%	3	100.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0	0	0.00%
2005	LDGV	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%	
	LDGT	7	1.0	7	100.00%	5	71.43%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0	0	0.00%	
	HDGT	28	1.2	23	82.14%	20	86.96%	2	7.14%	1	50.00%	1	3.57%	0	0.00%	1	3.57%	0	0.00%	1	4	1	100.00%	
2005 Total			36	1.2	31	86.11%	26	83.87%	2	5.56%	1	50.00%	1	2.78%	0	0.00%	1	2.78%	0	0.00%	1	3	1	100.00%
2006	LDGV	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%	
	LDGT	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%	
	HDGT	24	1.3	19	79.17%	15	78.95%	3	12.50%	2	66.67%	1	4.17%	0	0.00%	1	4.17%	1	100.00%	0	0	0	0.00%	
2006 Total			27	1.2	22	81.48%	18	81.82%	3	11.11%	2	66.67%	1	3.70%	0	0.00%	1	3.70%	1	100.00%	0	0	0	0.00%
2007	LDGV	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%	
	LDGT	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	0	0.00%	
	HDGT	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%	
2007 Total			10	1.0	10	100.00%	9	90.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0	0	0.00%
2008	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	4	1.0	4	100.00%	4	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	14	1.2	12	85.71%	11	91.67%	1	7.14%	0	0.00%	1	7.14%	1	100.00%	0	0.00%	0	0.00%	0	0	0	0.00%	
2008 Total			20	1.1	18	90.00%	17	94.44%	1	5.00%	0	0.00%	1	5.00%	1	100.00%	0	0.00%	0	0.00%	0	0	0	0.00%
2009	LDGV	5	1.7	3	60.00%	2	66.67%	1	20.00%	0	0.00%	1	20.00%	1	100.00%	0	0.00%	0	0.00%	0	0	0	0.00%	
	LDGT	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%	
	HDGT	10	1.3	7	70.00%	4	57.14%	3	30.00%	2	66.67%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0	0	0.00%	
2009 Total			17	1.4	12	70.59%	8	66.67%	4	23.53%	2	50.00%	1	5.88%	1	100.00%	0	0.00%	0	0.00%	0	0	0	0.00%
2010	LDGV	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	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	1.0	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%	
2010 Total			11	1.0	11	100.00%	11	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%
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	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%	
	HDGT	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	0	0.00%	
2011 Total			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	0	0.00%
2012	LDGV	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%	
	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	16	1.1	14	87.50%	12	85.71%	2	12.50%	2	100.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0	0	0.00%	
2012 Total			18	1.1	16	88.89%	14	87.50%	2	11.11%	2	100.00%	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%	
	LDGT	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%	
	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%	
2013 Total			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	0	0.00%
2014	LDGV	5	1.5	3	60.00%	1	33.33%	2	40.00%	1	50.00%	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%	4	66.67%	1	14.29%	1	100.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0	0	0.00%	
2014 Total			13	1.3	10	76.92%	6	60.00%	3	23.08%	2	66.67%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0	0	0.00%
2015	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%	

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	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	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	0	0.00%
2015 Total		4	1.0	4	100.00%	4	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%
2016	LDGV	1	0.0	0	0.00%	0	0.00%	1	100.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0	0	0.00%
2016 Total		1	0.0	0	0.00%	0	0.00%	1	100.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0	0	0.00%
2018	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%
2018 Total		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%
Overall Total		3,647	1.6	2219	60.84%	1317	59.35%	725	19.88%	350	48.28%	331	9.08%	141	42.60%	167	4.58%	60	35.93%	205	6	67	32.68%

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	765	1.5	475	62.09%	272	57.26%	148	19.35%	62	41.89%	80	10.46%	36	45.00%	28	3.66%	11	39.29%	34	4	10	29.41%	
LDGT	709	1.7	410	57.83%	223	54.39%	142	20.03%	56	39.44%	72	10.16%	29	40.28%	36	5.08%	10	27.78%	49	7	14	28.57%	
HDGT	2,173	1.6	1334	61.39%	822	61.62%	435	20.02%	232	53.33%	179	8.24%	76	42.46%	103	4.74%	39	37.86%	122	6	43	35.25%	
Overall Total		3,647	1.6	2219	60.84%	1317	59.35%	725	19.88%	350	48.28%	331	9.08%	141	42.60%	167	4.58%	60	35.93%	205	6	67	32.68%

Appendix D1

I/M Eligible Vehicle Report

Evaluated Vehicles

Colorado

I/M Eligible Vehicle Report, Evaluated Vehicles

Monday, 11-April-2022

Report Start: Jan, 2021 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								
1982															
	P	2	0	1	0	0	1	Clean:	0	0.00%	0.0000	0.0000	0.0000	0.00	
			0.00%	50.00%	0.00%	0.00%	50.00%	Not Clean:	1	100.00%	0.0000	124.0000	989.0000	0.50	50.00%
	T	14	0	10	0	0	4	Clean:	0	0.00%	0.0000	0.0000	0.0000	0.00	
			0.00%	71.43%	0.00%	0.00%	28.57%	Not Clean:	4	100.00%	1.3750	148.5000	2,849.2500	1.38	28.57%
	U	222	222	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%
Total For 1982		238	222	11	0	0	5	Clean:	0	0.00%	0.0000	0.0000	0.0000	0.00	
			93.28%	4.62%	0.00%	0.00%	2.10%	Not Clean:	5	100.00%	1.1000	143.6000	2,477.2000	1.20	2.10%
1983															
	P	8	0	4	0	0	4	Clean:	2	50.00%	0.0000	72.7500	642.5000	2.25	
			0.00%	50.00%	0.00%	0.00%	50.00%	Not Clean:	2	50.00%	2.0000	163.2500	778.2500	2.00	50.00%
	T	13	0	10	0	0	3	Clean:	0	0.00%	0.0000	0.0000	0.0000	0.00	
			0.00%	76.92%	0.00%	0.00%	23.08%	Not Clean:	3	100.00%	0.8333	87.3333	1,019.1667	0.83	23.08%
	U	381	381	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%
Total For 1983		402	381	14	0	0	7	Clean:	2	28.57%	0.0000	72.7500	642.5000	2.25	
			94.78%	3.48%	0.00%	0.00%	1.74%	Not Clean:	5	71.43%	1.3000	117.7000	922.8000	1.30	1.74%
1984															
	P	11	0	6	0	0	5	Clean:	0	0.00%	0.0000	0.0000	0.0000	0.00	
			0.00%	54.55%	0.00%	0.00%	45.45%	Not Clean:	5	100.00%	2.1000	209.2000	1,167.0000	1.90	45.45%
	T	12	0	9	0	0	3	Clean:	0	0.00%	0.0000	0.0000	0.0000	0.00	
			0.00%	75.00%	0.00%	0.00%	25.00%	Not Clean:	3	100.00%	1.3333	189.1667	1,295.6667	0.67	25.00%
	U	632	631	1	0	0	0	Clean:	0	0.00%	0.0000	0.0000	0.0000	0.00	
			99.84%	0.16%	0.00%	0.00%	0.00%	Not Clean:	0	0.00%	0.0000	0.0000	0.0000	0.00	0.00%
Total For 1984		655	631	16	0	0	8	Clean:	0	0.00%	0.0000	0.0000	0.0000	0.00	
			96.34%	2.44%	0.00%	0.00%	1.22%	Not Clean:	8	100.00%	1.8125	201.6875	1,215.2500	1.44	1.22%

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								
1985															
P	13	13	0	9	0	0	4	Clean:	2	50.00%	0.0000	90.7500	387.0000	-3.25	
			0.00%	69.23%	0.00%	0.00%	30.77%	Not Clean:	2	50.00%	0.0000	58.0000	1,491.2500	0.50	30.77%
T	34	34	0	13	0	0	21	Clean:	1	4.76%	0.0000	60.0000	385.0000	1.50	
			0.00%	38.24%	0.00%	0.00%	61.76%	Not Clean:	20	95.24%	2.6500	717.5000	1,211.5750	1.05	61.76%
U	796	795	795	1	0	0	0	Clean:	0	0.00%	0.0000	0.0000	0.0000	0.00	
			99.87%	0.13%	0.00%	0.00%	0.00%	Not Clean:	0	0.00%	0.0000	0.0000	0.0000	0.00	0.00%
Total For 1985		843	795	23	0	0	25	Clean:	3	12.00%	0.0000	80.5000	386.3333	-1.67	
			94.31%	2.73%	0.00%	0.00%	2.97%	Not Clean:	22	88.00%	2.4091	657.5455	1,237.0000	1.00	2.97%
1986															
P	21	21	0	9	0	1	11	Clean:	2	16.67%	0.0000	23.7500	54.2500	-0.25	
			0.00%	42.86%	0.00%	4.76%	52.38%	Not Clean:	10	83.33%	0.5500	139.7000	1,377.5500	1.20	57.14%
T	58	58	0	36	0	0	22	Clean:	1	4.55%	0.0000	33.5000	108.5000	2.00	
			0.00%	62.07%	0.00%	0.00%	37.93%	Not Clean:	21	95.45%	2.5476	247.5714	1,252.7857	1.05	37.93%
U	812	812	812	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%
Total For 1986		891	812	45	0	1	33	Clean:	3	8.82%	0.0000	27.0000	72.3333	0.50	
			91.13%	5.05%	0.00%	0.11%	3.70%	Not Clean:	31	91.18%	1.9032	212.7742	1,293.0323	1.10	3.82%
1987															
P	27	27	0	10	0	1	16	Clean:	6	35.29%	0.0833	15.9167	186.7500	1.33	
			0.00%	37.04%	0.00%	3.70%	59.26%	Not Clean:	11	64.71%	0.8182	113.8636	1,597.7727	1.45	62.96%
T	66	66	0	40	0	0	26	Clean:	3	11.54%	0.1667	47.6667	261.5000	1.50	
			0.00%	60.61%	0.00%	0.00%	39.39%	Not Clean:	23	88.46%	1.9348	248.1304	1,404.2174	1.39	39.39%
U	1,183	1,183	1,183	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%
Total For 1987		1,276	1,183	50	0	1	42	Clean:	9	20.93%	0.1111	26.5000	211.6667	1.39	
			92.71%	3.92%	0.00%	0.08%	3.29%	Not Clean:	34	79.07%	1.5735	204.6912	1,466.8382	1.41	3.37%
1988															
P	39	39	0	23	0	1	15	Clean:	6	37.50%	0.0833	23.2500	275.6667	1.17	
			0.00%	58.97%	0.00%	2.56%	38.46%	Not Clean:	10	62.50%	1.1500	104.7500	1,520.7000	0.40	41.03%
T	103	103	0	61	0	0	42	Clean:	6	14.29%	0.0833	40.0000	326.5000	1.42	
			0.00%	59.22%	0.00%	0.00%	40.78%	Not Clean:	36	85.71%	0.9167	193.4028	1,392.1667	1.10	40.78%
U	1,346	1,345	1,345	0	0	0	1	Clean:	0	0.00%	0.0000	0.0000	0.0000	0.00	
			99.93%	0.00%	0.00%	0.00%	0.07%	Not Clean:	1	100.00%	3.0000	142.0000	840.0000	1.00	0.07%
Total For 1988		1,488	1,345	84	0	1	58	Clean:	12	20.34%	0.0833	31.6250	301.0833	1.29	
			90.39%	5.65%	0.00%	0.07%	3.90%	Not Clean:	47	79.66%	1.0106	173.4468	1,407.7660	0.95	3.97%

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								
1989															
P	69	0	31	0	4	34	Clean:	13	34.21%	0.0000	22.8462	177.6154	0.46		
			0.00%	44.93%	0.00%	5.80%	49.28%	Not Clean:	25	65.79%	1.1600	126.2400	1,034.6200	0.96	55.07%
T	181	0	95	0	1	85	Clean:	12	13.95%	0.0417	21.8750	364.5000	0.71		
			0.00%	52.49%	0.00%	0.55%	46.96%	Not Clean:	74	86.05%	1.1486	203.6892	1,114.6622	1.28	47.51%
U	2,236	2,236	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%
Total For 1989		2,486	2,236	126	0	5	119	Clean:	25	20.16%	0.0200	22.3800	267.3200	0.58	
			89.94%	5.07%	0.00%	0.20%	4.79%	Not Clean:	99	79.84%	1.1515	184.1313	1,094.4495	1.20	4.99%
1990															
P	74	0	34	0	5	35	Clean:	17	42.50%	0.0882	25.0000	299.2353	0.76		
			0.00%	45.95%	0.00%	6.76%	47.30%	Not Clean:	23	57.50%	0.8261	82.9348	1,090.8913	0.91	54.05%
T	171	0	87	0	1	83	Clean:	12	14.29%	0.0833	43.7917	263.6667	0.96		
			0.00%	50.88%	0.00%	0.58%	48.54%	Not Clean:	72	85.71%	1.2569	196.8889	1,218.3125	1.17	49.12%
U	2,049	2,049	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%
Total For 1990		2,294	2,049	121	0	6	118	Clean:	29	23.39%	0.0862	32.7759	284.5172	0.84	
			89.32%	5.27%	0.00%	0.26%	5.14%	Not Clean:	95	76.61%	1.1526	169.3000	1,187.4632	1.11	5.41%
1991															
P	122	0	62	0	4	56	Clean:	19	31.67%	0.0526	26.7368	261.1053	0.50		
			0.00%	50.82%	0.00%	3.28%	45.90%	Not Clean:	41	68.33%	0.9634	143.5122	1,272.9268	1.89	49.18%
T	227	0	133	0	0	94	Clean:	16	17.02%	0.0938	29.9063	357.4375	1.16		
			0.00%	58.59%	0.00%	0.00%	41.41%	Not Clean:	78	82.98%	1.1154	164.6859	1,193.4808	1.31	41.41%
U	3,095	3,095	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%
Total For 1991		3,444	3,095	195	0	4	150	Clean:	35	22.73%	0.0714	28.1857	305.1429	0.80	
			89.87%	5.66%	0.00%	0.12%	4.36%	Not Clean:	119	77.27%	1.0630	157.3908	1,220.8529	1.51	4.47%
1992															
P	138	0	79	0	5	54	Clean:	19	32.20%	0.0526	22.7895	250.3158	0.18		
			0.00%	57.25%	0.00%	3.62%	39.13%	Not Clean:	40	67.80%	1.3875	175.2500	1,191.0875	1.30	42.75%
T	261	0	103	1	18	139	Clean:	40	25.48%	0.0750	30.2375	172.0625	0.49		
			0.00%	39.46%	0.38%	6.90%	53.26%	Not Clean:	117	74.52%	1.1667	329.0897	1,209.1026	1.03	60.15%
U	2,816	2,816	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%
Total For 1992		3,215	2,816	182	1	23	193	Clean:	59	27.31%	0.0678	27.8390	197.2627	0.39	
			87.59%	5.66%	0.03%	0.72%	6.00%	Not Clean:	157	72.69%	1.2229	289.8949	1,204.5127	1.10	6.72%

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								
1993															
P	194	0	103	0	3	88	Clean:	29	31.87%	0.0517	36.6379	330.4655	1.38		
			0.00%	53.09%	0.00%	1.55%	45.36%	Not Clean:	62	68.13%	0.7500	108.0806	1,200.5565	1.44	46.91%
T	472	0	225	3	21	223	Clean:	57	23.36%	0.0526	26.1404	259.1930	0.79		
			0.00%	47.67%	0.64%	4.45%	47.25%	Not Clean:	187	76.64%	0.8583	139.4492	1,238.5668	1.29	51.69%
U	4,227	4,227	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%
Total For 1993	4,893	4,227	328	3	24	311	Clean:	86	25.67%	0.0523	29.6802	283.2267	0.99		
			86.39%	6.70%	0.06%	0.49%	6.36%	Not Clean:	249	74.33%	0.8313	131.6386	1,229.1024	1.32	6.85%
1994															
P	247	0	125	0	18	104	Clean:	50	40.98%	0.0700	21.9300	221.1800	0.60		
			0.00%	50.61%	0.00%	7.29%	42.11%	Not Clean:	72	59.02%	0.8125	128.4236	954.5278	1.67	49.39%
T	597	0	284	4	13	296	Clean:	68	22.01%	0.0515	28.9412	280.9191	0.91		
			0.00%	47.57%	0.67%	2.18%	49.58%	Not Clean:	241	77.99%	0.7739	160.1826	1,270.6867	1.27	51.76%
U	5,145	5,142	2	0	0	1	Clean:	0	0.00%	0.0000	0.0000	0.0000	0.00		
			99.94%	0.04%	0.00%	0.00%	0.02%	Not Clean:	1	100.00%	1.5000	515.0000	2,584.0000	-8.50	0.02%
Total For 1994	5,989	5,142	411	4	31	401	Clean:	118	27.31%	0.0593	25.9703	255.6059	0.78		
			85.86%	6.86%	0.07%	0.52%	6.70%	Not Clean:	314	72.69%	0.7850	154.0303	1,202.3742	1.33	7.21%
1995															
P	368	0	157	0	47	164	Clean:	104	49.29%	0.0385	13.8029	143.4038	0.90		
			0.00%	42.66%	0.00%	12.77%	44.57%	Not Clean:	107	50.71%	0.7570	139.2570	910.4393	1.38	57.34%
T	922	0	425	7	32	458	Clean:	131	26.73%	0.0534	29.2901	255.5076	0.84		
			0.00%	46.10%	0.76%	3.47%	49.67%	Not Clean:	359	73.27%	0.8830	160.1365	1,271.0669	1.20	53.15%
U	7,259	7,257	1	0	0	1	Clean:	1	100.00%	0.0000	76.0000	72.0000	11.00		
			99.97%	0.01%	0.00%	0.00%	0.01%	Not Clean:	0	0.00%	0.0000	0.0000	0.0000	0.00	0.01%
Total For 1995	8,549	7,257	583	7	79	623	Clean:	236	33.62%	0.0466	22.6631	205.3284	0.91		
			84.89%	6.82%	0.08%	0.92%	7.29%	Not Clean:	466	66.38%	0.8541	155.3423	1,188.2618	1.24	8.21%
1996															
P	416	0	161	0	63	192	Clean:	149	58.43%	0.0268	15.5403	131.5067	0.75		
			0.00%	38.70%	0.00%	15.14%	46.15%	Not Clean:	106	41.57%	0.8632	114.8774	841.4953	1.43	61.30%
T	968	0	342	6	109	511	Clean:	293	47.26%	0.0631	18.0000	169.7440	0.70		
			0.00%	35.33%	0.62%	11.26%	52.79%	Not Clean:	327	52.74%	0.7248	100.1606	1,137.0535	1.26	64.05%
U	6,781	6,779	2	0	0	0	Clean:	0	0.00%	0.0000	0.0000	0.0000	0.00		
			99.97%	0.03%	0.00%	0.00%	0.00%	Not Clean:	0	0.00%	0.0000	0.0000	0.0000	0.00	0.00%
Total For 1996	8,165	6,779	505	6	172	703	Clean:	442	50.51%	0.0509	17.1708	156.8541	0.72		
			83.03%	6.18%	0.07%	2.11%	8.61%	Not Clean:	433	49.49%	0.7587	103.7633	1,064.6998	1.30	10.72%

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								
1997															
P	689	0	207	0	144	338	Clean:	309	64.11%	0.0324	14.1375	140.0663	0.73		
		0.00%	30.04%	0.00%	20.90%	49.06%	Not Clean:	173	35.89%	0.8208	109.3988	871.9393	1.36	69.96%	
T	1,687	0	720	11	134	822	Clean:	482	50.42%	0.0529	15.9865	187.0737	0.82		
		0.00%	42.68%	0.65%	7.94%	48.73%	Not Clean:	474	49.58%	0.6023	108.8998	1,077.4399	1.22	56.67%	
U	11,092	11,089	1	0	0	2	Clean:	1	50.00%	0.0000	7.5000	473.0000	0.00		
		99.97%	0.01%	0.00%	0.00%	0.02%	Not Clean:	1	50.00%	0.0000	8.0000	1,205.0000	0.50	0.02%	
Total For 1997		13,468	11,089	928	11	278	1,162	Clean:	792	55.00%	0.0448	15.2544	169.0947	0.78	
								Not Clean:	648	45.00%	0.6597	108.8773	1,022.7731	1.26	10.69%
1998															
P	758	0	289	0	135	334	Clean:	308	65.67%	0.0325	13.8068	105.2662	0.72		
		0.00%	38.13%	0.00%	17.81%	44.06%	Not Clean:	161	34.33%	0.9037	142.0062	743.0870	1.21	61.87%	
T	1,897	0	735	10	159	993	Clean:	633	54.95%	0.0513	16.3167	196.6817	0.92		
		0.00%	38.75%	0.53%	8.38%	52.35%	Not Clean:	519	45.05%	0.5665	93.2389	1,104.2091	1.37	60.73%	
U	11,203	11,202	1	0	0	0	Clean:	0	0.00%	0.0000	0.0000	0.0000	0.00		
		99.99%	0.01%	0.00%	0.00%	0.00%	Not Clean:	0	0.00%	0.0000	0.0000	0.0000	0.00	0.00%	
Total For 1998		13,858	11,202	1,025	10	294	1,327	Clean:	941	58.05%	0.0452	15.4952	166.7604	0.85	
								Not Clean:	680	41.95%	0.6463	104.7853	1,018.7081	1.34	11.70%
1999															
P	1,152	0	426	0	218	508	Clean:	498	68.60%	0.0181	12.9970	109.0884	0.62		
		0.00%	36.98%	0.00%	18.92%	44.10%	Not Clean:	228	31.40%	1.0154	95.5022	709.3114	1.50	63.02%	
T	3,092	0	1113	13	403	1,563	Clean:	1,321	67.19%	0.0337	13.8425	147.4315	0.84		
		0.00%	36.00%	0.42%	13.03%	50.55%	Not Clean:	645	32.81%	0.6132	84.8860	990.5295	1.31	63.58%	
U	17,593	17,591	0	0	0	2	Clean:	1	50.00%	0.0000	88.5000	424.5000	2.00		
		99.99%	0.00%	0.00%	0.00%	0.01%	Not Clean:	1	50.00%	1.5000	104.5000	562.5000	2.00	0.01%	
Total For 1999		21,837	17,591	1,539	13	621	2,073	Clean:	1,820	67.56%	0.0294	13.6522	137.0920	0.78	
								Not Clean:	874	32.44%	0.7191	87.6779	916.6785	1.36	12.34%
2000															
P	1,476	0	420	0	373	683	Clean:	807	76.42%	0.0217	11.5446	90.8364	0.73		
		0.00%	28.46%	0.00%	25.27%	46.27%	Not Clean:	249	23.58%	1.0100	138.3112	582.8494	1.51	71.54%	
T	3,491	0	1051	34	605	1,801	Clean:	1,677	69.70%	0.0256	12.4174	133.8742	0.79		
		0.00%	30.11%	0.97%	17.33%	51.59%	Not Clean:	729	30.30%	0.5734	95.6344	926.3368	1.29	68.92%	
U	17,479	17,473	4	0	0	2	Clean:	1	50.00%	0.0000	9.5000	201.0000	2.50		
		99.97%	0.02%	0.00%	0.00%	0.01%	Not Clean:	1	50.00%	0.0000	12.0000	1,092.5000	2.50	0.01%	
Total For 2000		22,446	17,473	1,475	34	978	2,486	Clean:	2,485	71.74%	0.0243	12.1328	119.9247	0.77	
								Not Clean:	979	28.26%	0.6839	106.4035	839.1435	1.35	15.43%

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								
2001															
P	1,874	0	429	0	553	892	Clean:	1,143	79.10%	0.0166	10.2283	58.0831	0.63		
			0.00%	22.89%	0.00%	29.51%	47.60%	Not Clean:	302	20.90%	0.9437	102.3228	673.9023	1.57	77.11%
T	4,837	0	978	42	1,305	2,512	Clean:	3,070	80.43%	0.0215	11.3855	92.2759	0.70		
			0.00%	20.22%	0.87%	26.98%	51.93%	Not Clean:	747	19.57%	0.7376	91.2262	741.3681	1.31	78.91%
U	24,682	24,680	1	0	0	1	Clean:	1	100.00%	0.0000	14.0000	85.5000	0.00		
			99.99%	0.00%	0.00%	0.00%	0.00%	Not Clean:	0	0.00%	0.0000	0.0000	0.0000	0.00	0.00%
Total For 2001		31,393	24,680	1,408	42	1,858	3,405	Clean:	4,214	80.07%	0.0202	11.0723	82.9999	0.68	
			78.62%	4.49%	0.13%	5.92%	10.85%	Not Clean:	1,049	19.93%	0.7969	94.4209	721.9452	1.38	16.76%
2002															
P	1,968	0	303	0	689	976	Clean:	1,341	80.54%	0.0172	9.1741	58.8852	0.62		
			0.00%	15.40%	0.00%	35.01%	49.59%	Not Clean:	324	19.46%	0.8704	99.1620	692.4167	1.45	84.60%
T	4,925	0	1039	22	1,312	2,552	Clean:	3,133	81.08%	0.0180	10.5109	97.2341	0.73		
			0.00%	21.10%	0.45%	26.64%	51.82%	Not Clean:	731	18.92%	0.6587	94.9166	787.3215	1.28	78.46%
U	22,380	22,380	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%
Total For 2002		29,273	22,380	1,342	22	2,001	3,528	Clean:	4,474	80.92%	0.0178	10.1102	85.7397	0.70	
			76.45%	4.58%	0.08%	6.84%	12.05%	Not Clean:	1,055	19.08%	0.7237	96.2204	758.1754	1.33	18.89%
2003															
P	2,704	0	253	0	1,124	1,327	Clean:	2,026	82.66%	0.0094	8.1636	46.1009	0.57		
			0.00%	9.36%	0.00%	41.57%	49.08%	Not Clean:	425	17.34%	0.8435	101.6035	671.6882	1.45	90.64%
T	6,678	0	754	23	2,318	3,583	Clean:	4,998	84.70%	0.0150	8.7546	64.8215	0.66		
			0.00%	11.29%	0.34%	34.71%	53.65%	Not Clean:	903	15.30%	0.7492	98.8505	709.3372	1.26	88.36%
U	31,203	31,198	5	0	0	0	Clean:	0	0.00%	0.0000	0.0000	0.0000	0.00		
			99.98%	0.02%	0.00%	0.00%	0.00%	Not Clean:	0	0.00%	0.0000	0.0000	0.0000	0.00	0.00%
Total For 2003		40,585	31,198	1,012	23	3,442	4,910	Clean:	7,024	84.10%	0.0134	8.5841	59.4218	0.63	
			76.87%	2.49%	0.06%	8.48%	12.10%	Not Clean:	1,328	15.90%	0.7794	99.7316	697.2884	1.32	20.58%
2004															
P	2,503	0	175	0	1,113	1,215	Clean:	1,978	84.97%	0.0119	7.3723	37.1246	0.58		
			0.00%	6.99%	0.00%	44.47%	48.54%	Not Clean:	350	15.03%	0.7243	70.5300	670.0200	1.48	93.01%
T	7,057	0	538	31	2,637	3,851	Clean:	5,685	87.62%	0.0134	8.3117	49.0280	0.66		
			0.00%	7.62%	0.44%	37.37%	54.57%	Not Clean:	803	12.38%	0.9197	115.7777	555.6494	1.38	91.94%
U	27,545	27,542	2	0	0	1	Clean:	1	100.00%	0.0000	6.5000	69.5000	1.50		
			99.99%	0.01%	0.00%	0.00%	0.00%	Not Clean:	0	0.00%	0.0000	0.0000	0.0000	0.00	0.00%
Total For 2004		37,105	27,542	715	31	3,750	5,067	Clean:	7,664	86.92%	0.0130	8.0690	45.9585	0.64	
			74.23%	1.93%	0.08%	10.11%	13.66%	Not Clean:	1,153	13.08%	0.8604	102.0425	590.3673	1.41	23.76%

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								
2005															
P	3,861	0	178	0	1,826	1,857	Clean:	3,267	88.70%	0.0101	7.4201	32.9125	0.58		
			0.00%	4.61%	0.00%	47.29%	48.10%	Not Clean:	416	11.30%	0.9423	95.9459	558.9832	1.34	95.39%
T	9,096	0	570	68	3,780	4,678	Clean:	7,618	90.07%	0.0092	7.6707	38.7209	0.64		
			0.00%	6.27%	0.75%	41.56%	51.43%	Not Clean:	840	9.93%	0.8548	91.6399	569.9637	1.28	92.99%
U	39,155	39,149	2	0	0	4	Clean:	3	75.00%	0.0000	21.3333	44.1667	0.50		
			99.98%	0.01%	0.00%	0.00%	0.01%	Not Clean:	1	25.00%	0.5000	16.5000	243.5000	0.00	0.01%
Total For 2005	52,112	39,149	750	68	5,606	6,539	Clean:	10,888	89.65%	0.0095	7.5993	36.9795	0.62		
			75.12%	1.44%	0.13%	10.76%	12.55%	Not Clean:	1,257	10.35%	0.8835	93.0052	566.0700	1.30	23.31%
2006															
P	3,645	0	139	0	1,745	1,761	Clean:	3,111	88.73%	0.0085	6.8824	29.6062	0.58		
			0.00%	3.81%	0.00%	47.87%	48.31%	Not Clean:	395	11.27%	0.9139	87.5494	507.0329	1.59	96.19%
T	8,350	0	266	64	3,534	4,486	Clean:	7,253	90.44%	0.0090	7.7874	38.2531	0.68		
			0.00%	3.19%	0.77%	42.32%	53.72%	Not Clean:	767	9.56%	0.8083	73.5411	565.7979	1.33	96.05%
U	32,852	32,846	4	0	0	2	Clean:	1	50.00%	0.0000	26.5000	472.5000	1.00		
			99.98%	0.01%	0.00%	0.00%	0.01%	Not Clean:	1	50.00%	0.5000	0.0000	49.5000	0.00	0.01%
Total For 2006	44,847	32,846	409	64	5,279	6,249	Clean:	10,365	89.91%	0.0089	7.5176	35.6997	0.65		
			73.24%	0.91%	0.14%	11.77%	13.93%	Not Clean:	1,163	10.09%	0.8439	78.2356	545.3951	1.42	25.71%
2007															
P	5,024	0	178	0	2,483	2,363	Clean:	4,420	91.21%	0.0072	6.9335	25.6379	0.59		
			0.00%	3.54%	0.00%	49.42%	47.03%	Not Clean:	426	8.79%	0.8451	102.4131	437.0434	1.58	96.46%
T	11,810	0	406	66	5,105	6,233	Clean:	10,569	93.22%	0.0075	7.5399	30.9721	0.66		
			0.00%	3.44%	0.56%	43.23%	52.78%	Not Clean:	769	6.78%	0.9499	72.8264	419.1034	1.39	96.00%
U	46,148	46,146	2	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%
Total For 2007	62,982	46,146	586	66	7,588	8,596	Clean:	14,989	92.62%	0.0074	7.3611	29.3992	0.64		
			73.27%	0.93%	0.10%	12.05%	13.65%	Not Clean:	1,195	7.38%	0.9126	83.3736	425.4987	1.46	25.70%
2008															
P	3,997	0	403	0	1,741	1,853	Clean:	3,281	91.29%	0.0090	7.6003	28.6208	0.63		
			0.00%	10.08%	0.00%	43.56%	46.36%	Not Clean:	313	8.71%	0.9617	76.2588	436.1613	1.33	89.92%
T	9,828	0	611	55	3,840	5,322	Clean:	8,310	90.70%	0.0144	7.8781	31.6419	0.71		
			0.00%	6.22%	0.56%	39.07%	54.15%	Not Clean:	852	9.30%	0.8779	58.9442	339.8586	1.35	93.22%
U	34,343	34,343	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%
Total For 2008	48,168	34,343	1,014	55	5,581	7,175	Clean:	11,591	90.87%	0.0129	7.7995	30.7868	0.69		
			71.30%	2.11%	0.11%	11.59%	14.90%	Not Clean:	1,165	9.13%	0.9004	63.5961	365.7322	1.34	26.48%

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								
2009															
P	2,542	0	378	0	960	1,204	Clean:	1,979	91.45%	0.0091	8.3509	27.8423	0.74		
			0.00%	14.87%	0.00%	37.77%	47.36%	Not Clean:	185	8.55%	1.0459	111.9054	393.9189	1.58	85.13%
T	4,413	0	556	29	1,467	2,361	Clean:	3,490	91.17%	0.0106	8.2219	33.8946	0.78		
			0.00%	12.60%	0.66%	33.24%	53.50%	Not Clean:	338	8.83%	1.0148	72.0902	318.6154	1.38	86.74%
U	17,201	17,201	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%
Total For 2009		24,156	17,201	934	29	2,427	3,565	Clean:	5,469	91.27%	0.0101	8.2686	31.7045	0.77	
			71.21%	3.87%	0.12%	10.05%	14.76%	Not Clean:	523	8.73%	1.0258	86.1740	345.2524	1.45	24.81%
2010															
P	5,486	0	572	0	2,370	2,544	Clean:	4,537	92.33%	0.0064	7.2769	23.6569	0.65		
			0.00%	10.43%	0.00%	43.20%	46.37%	Not Clean:	377	7.67%	0.9469	81.3926	225.5464	1.36	89.57%
T	12,486	0	751	45	5,103	6,587	Clean:	10,887	93.13%	0.0084	7.1415	25.1670	0.68		
			0.00%	6.01%	0.36%	40.87%	52.76%	Not Clean:	803	6.87%	1.0529	54.9844	281.3088	1.46	93.62%
U	45,934	45,925	6	0	0	3	Clean:	2	66.67%	0.0000	16.5000	101.5000	0.75		
			99.98%	0.01%	0.00%	0.00%	0.01%	Not Clean:	1	33.33%	1.5000	29.5000	26.0000	1.50	0.01%
Total For 2010		63,906	45,925	1,329	45	7,473	9,134	Clean:	15,426	92.89%	0.0078	7.1825	24.7328	0.67	
			71.86%	2.08%	0.07%	11.69%	14.29%	Not Clean:	1,181	7.11%	1.0195	63.3929	263.2921	1.43	25.99%
2011															
P	2,523	0	390	0	906	1,227	Clean:	1,944	91.14%	0.0131	8.7178	27.7742	0.76		
			0.00%	15.46%	0.00%	35.91%	48.63%	Not Clean:	189	8.86%	1.0767	56.0847	308.3360	1.61	84.54%
T	6,808	0	375	47	2,604	3,782	Clean:	5,848	91.58%	0.0100	7.8149	28.0662	0.71		
			0.00%	5.51%	0.69%	38.25%	55.55%	Not Clean:	538	8.42%	1.0158	62.8894	221.2444	1.42	93.80%
U	20,185	20,181	2	0	0	2	Clean:	2	100.00%	0.0000	1.2500	0.0000	1.50		
			99.98%	0.01%	0.00%	0.00%	0.01%	Not Clean:	0	0.00%	0.0000	0.0000	0.0000	0.00	0.01%
Total For 2011		29,516	20,181	767	47	3,510	5,011	Clean:	7,794	91.47%	0.0108	8.0384	27.9861	0.72	
			68.37%	2.60%	0.16%	11.89%	16.98%	Not Clean:	727	8.53%	1.0316	61.1204	243.8858	1.47	28.87%
2012															
P	8,048	0	996	0	3,246	3,806	Clean:	6,460	91.61%	0.0084	7.8302	23.5034	0.68		
			0.00%	12.38%	0.00%	40.33%	47.29%	Not Clean:	592	8.39%	0.9063	79.6258	203.9240	1.62	87.62%
T	18,137	0	854	165	7,360	9,758	Clean:	15,814	92.38%	0.0077	7.2132	24.7773	0.69		
			0.00%	4.71%	0.91%	40.58%	53.80%	Not Clean:	1,304	7.62%	1.0134	76.7320	199.0426	1.51	94.38%
U	62,130	62,111	8	0	0	11	Clean:	9	81.82%	0.0000	11.3889	88.0556	1.50		
			99.97%	0.01%	0.00%	0.00%	0.02%	Not Clean:	2	18.18%	1.0000	52.2500	747.7500	1.50	0.02%
Total For 2012		88,315	62,111	1,858	165	10,606	13,575	Clean:	22,283	92.15%	0.0079	7.3938	24.4336	0.69	
			70.33%	2.10%	0.19%	12.01%	15.37%	Not Clean:	1,898	7.85%	0.9800	77.6088	201.1433	1.54	27.38%

Model Year	Veh. Type	Emis. Due Veh.	Meet Time and Location Criteria					Total	Percent	CO	HC	NOX	Accel	Emis. Due Veh. Evaluated	
			No		Yes		Clean:								Not Clean:
			0 Hits	1 Hit	2+ Hits	1 Hit									
2013															
P	2,505	0	345	0	955	1,205	Clean:	1,918	88.80%	0.0109	8.4007	25.1382	0.66		
			0.00%	13.77%	0.00%	38.12%	48.10%	Not Clean:	242	11.20%	1.0062	63.6405	313.6074	1.80	86.23%
T	4,915	0	262	20	1,996	2,637	Clean:	4,232	91.34%	0.0098	7.3212	25.6341	0.68		
			0.00%	5.33%	0.41%	40.61%	53.65%	Not Clean:	401	8.66%	1.1047	49.2282	198.9115	1.53	94.26%
U	16,886	16,885	0	0	0	1	Clean:	0	0.00%	0.0000	0.0000	0.0000	0.00		
			99.99%	0.00%	0.00%	0.00%	0.01%	Not Clean:	1	100.00%	0.5000	8.0000	74.0000	0.50	0.01%
Total For 2013	24,306	16,885	607	20	2,951	3,843	Clean:	6,150	90.52%	0.0102	7.6579	25.4794	0.68		
			69.47%	2.50%	0.08%	12.14%	15.81%	Not Clean:	644	9.48%	1.0668	54.5800	241.8175	1.63	27.95%
2014															
P	11,418	0	2230	0	3,771	5,417	Clean:	8,349	90.87%	0.0094	8.3348	25.8366	0.76		
			0.00%	19.53%	0.00%	33.03%	47.44%	Not Clean:	839	9.13%	0.9070	73.5840	266.2992	1.59	80.47%
T	32,402	0	2938	193	11,840	17,431	Clean:	27,219	92.99%	0.0081	7.6136	25.3203	0.74		
			0.00%	9.07%	0.60%	36.54%	53.80%	Not Clean:	2,052	7.01%	1.0599	60.0044	202.3833	1.49	90.34%
U	95,657	95,632	12	0	0	13	Clean:	11	84.62%	0.0455	12.1364	55.1364	1.36		
			99.97%	0.01%	0.00%	0.00%	0.01%	Not Clean:	2	15.38%	0.2500	163.2500	89.0000	1.00	0.01%
Total For 2014	139,477	95,632	5,180	193	15,611	22,861	Clean:	35,579	92.48%	0.0084	7.7842	25.4506	0.75		
			68.56%	3.71%	0.14%	11.19%	16.39%	Not Clean:	2,893	7.52%	1.0150	64.0140	220.8412	1.52	27.58%
Overall Total	832,578	612,544	25,572	959	80,201	113,302	Clean:	171,007	88.37%	0.0109	8.1186	38.0625	0.69		
			73.57%	3.07%	0.12%	9.63%	13.61%	Not Clean:	22,496	11.63%	0.8872	89.9274	565.9502	1.40	23.24%

