



2014

USEPA Annual Report (I/M Rule Section 51.366)



7/31/2015



Air Resources Board



Matthew Rodriguez
Secretary for
Environmental Protection

Mary D. Nichols, Chairman
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Edmund G. Brown Jr.
Governor

July 31, 2015

Mr. Jeffrey Buss
Environmental Protection Specialist, Air Division
Environmental Protection Agency
75 Hawthorne Street (AIR-2)
San Francisco, California 94105

Dear Mr. Buss:

Enclosed is a compilation of data for 2014 prepared by the Bureau of Automotive Repair (BAR) to comply with the requirements of the Code of Federal Regulations section 51.366 (a-d). This section requires BAR to annually submit summary statistics for the enforcement mechanism, the quality assurance system, the quality control program and testing elements of California's Smog Check Program.

Health and Safety Code section 44024.5, as amended by Assembly Bill 2289 (AB 2289), (Eng, Chapter 258, Statutes of 2010), requires BAR, in cooperation with the California Air Resources Board to perform various analyses of the Smog Check Program and report the results to the public on an annual basis. For your information, a copy of the 2015 Smog Check Performance Report will be forwarded to your attention when it becomes available.

If you have any questions or comments regarding this submittal, please contact Mr. John Urkov at (626) 575-6720 or via email at John.Urkov@arb.ca.gov.

Sincerely,

Alberto Ayala, Ph.D., M.S.E.
Deputy Executive Office

Enclosure

cc: Pat Dorais, Chief
Bureau of Automotive Repair

The energy challenge facing California is real. Every Californian needs to take immediate action to reduce energy consumption. For a list of simple ways you can reduce demand and cut your energy costs, see our website: <http://www.arb.ca.gov>.

California Environmental Protection Agency

**I/M RULE SECTION 51.366 DATA ANALYSIS AND REPORTING
CALIFORNIA BUREAU OF AUTOMOTIVE REPAIR
CALENDAR YEAR 2014**

(a)	Test data report. The program shall submit to EPA by July of each year a report providing basic statistics on the testing program for January through December of the previous year, including:	Data	Clarification
(1)	The number of vehicles tested by model year and vehicle type;	Attachment A	
(2)	By model year and vehicle type, the number and percentage of vehicles:		
i	Failing initially, per test type;	Attachment A	
ii	Failing the first retest per test type;	Attachment A	
iii	Passing the first retest per test type;	Attachment A	
iv	Initially failed vehicles passing the second or subsequent retest per test type;	Attachment A	
v	Initially failed vehicles receiving a waiver; and	Attachment A	
vi	Vehicles with no known final Outcome (regardless of reason);	Attachment A	
xi	Passing the on-board diagnostic check;	Attachment A	
xii	Failing the on-board diagnostic check;	Attachment A	
xiii	Failing the on-board diagnostic check and passing the tailpipe test (if applicable);	Attachment A	
xiv	Failing the on-board diagnostic check and failing the tailpipe test (if applicable);	Attachment A	
xv	Passing the on-board diagnostic check and failing the I/M gas cap evaporative system test (if applicable);	Attachment A	
xvi	Failing the on-board diagnostic check and passing the I/M gas cap evaporative system test (if applicable);	Attachment A	
xvii	Passing both the on-board diagnostic check and I/M gas cap evaporative system test (if applicable);	Attachment A	
xviii	Failing both the on-board diagnostic check and I/M gas cap evaporative system test (if applicable);	Attachment A	
xix	MIL is commanded on and no codes are stored;	Attachment A	
xx	MIL is not commanded on and codes are stored;	Attachment A	
xxi	MIL is commanded on and codes are stored;	Attachment A	
xxii	MIL is not commanded on and codes are not stored;	Attachment A	
xxiii	Readiness status indicates the evaluation not complete for any module supported by on-board diagnostic systems;	Attachment A	OBDDII readiness monitor threshold changed from 2 to 1 for model year 2001 and newer beginning July 6, 2010.
(3)	The initial test volume by model year and test station;	Attachment A	
(4)	The initial test failure rate by model year and test station; and	Attachment A	

**I/M RULE SECTION 51.366 DATA ANALYSIS AND REPORTING
CALIFORNIA BUREAU OF AUTOMOTIVE REPAIR
CALENDAR YEAR 2014**

(5)	The average increase or decrease in tailpipe emission levels for HC, CO, and NOX (if applicable) after repairs by model year and vehicle type for vehicles receiving a mass emissions test.	N/A	Mass emissions testing is not performed in California's Smog Check program.
(b)	Quality assurance report. The program shall submit to EPA by July of each year a report providing basic statistics on the quality assurance program for January through December of the previous year, including:		
(1)	The number of inspection stations and lanes:		
	i Operating throughout the year; and	Attachment B	
	ii Operating for only part of the year;	N/A	
(2)	The number of inspection stations and lanes operating throughout the year:		
	i Receiving overt performance audits in the year;	Attachment B	
	ii Not receiving overt performance audits in the year;	Attachment B	
	iii Receiving covert performance audits in the year;	Attachment B	
	iv Not receiving covert performance audits in the year; and	Attachment B	
	v That have been shut down as a result of overt performance audits;	Attachment B	
(3)	The number of covert audits:		
	i Conducted with the vehicle set to fail per test type;	Attachment B	
	ii Conducted with the vehicle set to fail any combination of two or more test types;	Attachment B	
	iii Resulting in a false pass per test type;	Attachment B	
	iv Resulting in a false pass for any combination of two or more test types;	Attachment B	
(4)	The number of inspectors and stations:		
	i That were suspended, fired, or otherwise prohibited from testing as a result of covert audits;	Attachment B	
	ii That were suspended, fired, or otherwise prohibited from testing for other causes; and	Attachment B	
	iii That received fines;	Attachment B	
(5)	The number of inspectors licensed or certified to conduct testing;	Attachment B	

**I/M RULE SECTION 51.366 DATA ANALYSIS AND REPORTING
CALIFORNIA BUREAU OF AUTOMOTIVE REPAIR
CALENDAR YEAR 2014**

(6)	The number of hearings:		
	i Held to consider adverse actions against inspectors and stations; and	Attachment B	
	ii Resulting in adverse actions against inspectors and stations;	Attachment B	
(7)	The total amount collected in fines from inspectors and stations by type of violation;	Attachment B	
(8)	The total number of covert vehicles available for undercover audits over the year; and	Attachment B	
(9)	The number of covert auditors available for undercover audits.	Attachment B	
(c)	Quality control report. The program shall submit to EPA by July of each year a report providing basic statistics on the quality control program for January through December of the previous year, including:		
(1)	The number of emission testing sites and lanes in use in the program;	Attachment B	
(2)	The number of equipment audits by station and lane;	Attachment B	
(3)	The number and percentage of stations that have failed equipment audits; and	Attachment B	
(4)	Number and percentage of stations and lanes shut down as a result of equipment audits.	Attachment B	
(d)	Enforcement report.		
(1)	All varieties of enforcement programs shall, at a minimum, submit to EPA by July of each year a report providing basic statistics on the enforcement program for January through December of the previous year, including:		
	An estimate of the number of vehicles subject to the inspection program, including the results of an analysis of the registration data base;	23,888,994	This is ARB's estimate of the number of vehicles subject to the Smog Check program. The estimate includes all 1976 and newer gasoline powered vehicles, excluding motorcycles, along with all 1998 and newer diesel powered vehicles with GVWR less than 14,001 pounds.
	ii The percentage of motorist compliance based upon a comparison of the number of valid final tests with the number of subject vehicles;		
	iii The total number of compliance documents issued to inspection stations;	11,432,350	Total certificates purchased and issued to Smog Check stations.
	iv The number of missing compliance documents;	N/A	Certificate sales are handled electronically by the contractor for the state's centralized database and electronic communication system. Certain rules apply pertaining to skipped certificate numbers, refunds, etc. to ensure certificate issuance compliance.
	v The number of time extensions and other exemptions granted to motorists; and	606 waivers 82 limited parts exemptions	A one-time waiver is issued if a vehicle fails the Smog Check test, has not been tampered and it is determined by a state contractor (Referee) that repairs would exceed the repair cost limit of \$450.

**I/M RULE SECTION 51.366 DATA ANALYSIS AND REPORTING
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	The number of compliance surveys conducted, number of vehicles surveyed in each, and the compliance rates found. vi		N/A No compliance survey conducted in calendar year 2012.
(2)	Registration denial based enforcement programs shall provide the following additional information:		
	A report of the program's efforts and actions to prevent motorists from falsely registering vehicles out of the program area or falsely changing fuel type or weight class on the vehicle registration, and the results of special studies to investigate the frequency of such activity; and i		
	The number of registration file audits, number of registrations reviewed, and compliance rates found in such audits. ii	BAR continually monitors program data and works with the Department of Motor Vehicles (DMV) on efforts to prevent motorists from falsely registering vehicles.	
(3)	Computer-matching based enforcement programs shall provide the following additional information:	N/A	
	The number and percentage of subject vehicles that were tested by the initial deadline, and by other milestones in the cycle; i	N/A	
	A report on the program's efforts to detect and enforce against motorists falsely changing vehicle classifications to circumvent program requirements, and the frequency of this type of activity; and ii	N/A	
	The number of enforcement system audits, and the error rate found during those audits. iii	N/A	
(4)	Sticker-based enforcement systems shall provide the following additional information:	N/A	
	A report on the program's efforts to prevent, detect, and enforce against sticker theft and counterfeiting, and the frequency of this type of activity; i	N/A	
	A report on the program's efforts to detect and enforce against motorists falsely changing vehicle classifications to circumvent program requirements, and the frequency of this type of activity; and ii	N/A	
	The number of parking lot sticker audits conducted, the number of vehicles surveyed in each, and the noncompliance rate found during those audits. iii	N/A	
(e)	Additional reporting requirements. In addition to the annual reports in paragraphs (a) through (d) of this section, programs shall submit to EPA by July of every other year, biennial reports addressing:		
(1)	Any changes made in program design, funding, personnel levels, procedures, regulations, and legal authority, with detailed discussion and evaluation of the impact on the program of all such changes; and		
(2)	Any weaknesses or problems identified in the program within the two-year reporting period, what steps have already been taken to correct those problems, the results of those steps, and any future efforts planned.	Attachment C	

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EPA REPORT 51.366 a.1

State of California - Bureau of Automotive Repair

Vehicles Tested by Model Year and Type (Initial Tests)

REPORT a.1 Year: 2014	ALL VEHICLES	PASSENGER CARS		LIGHT DUTY TRUCK		MEDIUM DUTY VEHICLE		HEAVY DUTY VEHICLE	
VEHICLE MODEL YEAR	VEHICLES TESTED	COUNT	PERCENT OF ALL VEHICLES	COUNT	PERCENT OF ALL VEHICLES	COUNT	PERCENT OF ALL VEHICLES	COUNT	PERCENT OF ALL VEHICLES
1976	8,523	3,831	44.95%	1,560	18.30%	2,203	25.85%	929	10.90%
1977	11,299	4,408	39.01%	2,039	18.05%	3,444	30.48%	1,408	12.46%
1978	12,921	5,414	41.90%	2,776	21.48%	2,911	22.53%	1,820	14.09%
1979	14,144	6,404	45.28%	3,256	23.02%	2,686	18.99%	1,798	12.71%
1980	8,223	3,789	46.08%	2,526	30.72%	853	10.37%	1,055	12.83%
1981	9,368	4,307	45.98%	3,126	33.37%	576	6.15%	1,359	14.51%
1982	10,687	4,783	44.76%	3,838	35.91%	648	6.06%	1,418	13.27%
1983	13,871	6,425	46.32%	4,777	34.44%	884	6.37%	1,785	12.87%
1984	24,715	10,912	44.15%	8,985	36.35%	1,587	6.42%	3,231	13.07%
1985	33,581	14,840	44.19%	12,914	38.46%	2,119	6.31%	3,708	11.04%
1986	47,647	19,147	40.19%	21,758	45.66%	2,734	5.74%	4,008	8.41%
1987	53,818	23,812	44.25%	22,498	41.80%	3,394	6.31%	4,114	7.64%
1988	64,763	28,784	44.45%	25,399	39.22%	5,175	7.99%	5,405	8.35%
1989	90,828	41,318	45.49%	34,319	37.78%	7,080	7.79%	8,111	8.93%
1990	112,996	62,283	55.12%	33,876	29.98%	8,652	7.66%	8,185	7.24%
1991	138,310	78,674	56.88%	44,794	32.39%	8,390	6.07%	6,452	4.66%
1992	141,763	81,529	57.51%	42,049	29.66%	11,316	7.98%	6,869	4.85%
1993	176,951	99,244	56.09%	56,618	32.00%	14,192	8.02%	6,897	3.90%
1994	238,435	131,101	54.98%	73,209	30.70%	25,031	10.50%	9,094	3.81%
1995	262,601	151,405	57.66%	72,830	27.73%	26,844	10.22%	11,522	4.39%
1996	337,900	192,437	56.95%	97,237	28.78%	34,859	10.32%	13,367	3.96%
1997	365,059	201,196	55.11%	111,019	30.41%	39,714	10.88%	13,130	3.60%
1998	542,482	294,250	54.24%	171,549	31.62%	60,649	11.18%	16,034	2.96%
1999	502,227	255,406	50.85%	136,526	27.18%	81,900	16.31%	28,395	5.65%
2000	908,038	468,268	51.57%	258,734	28.49%	147,451	16.24%	33,585	3.70%
2001	573,697	300,252	52.34%	143,278	24.97%	103,557	18.05%	26,610	4.64%
2002	1,054,408	514,503	48.80%	299,244	28.38%	205,050	19.45%	35,611	3.38%
2003	562,326	287,861	51.19%	134,236	23.87%	111,161	19.77%	29,068	5.17%
2004	1,198,229	552,386	46.10%	338,013	28.21%	262,819	21.93%	45,011	3.76%
2005	516,952	268,097	51.86%	128,587	24.87%	90,543	17.51%	29,725	5.75%
2006	1,292,433	671,398	51.95%	339,842	26.29%	228,794	17.70%	52,398	4.05%
2007	439,029	240,525	54.79%	95,776	21.82%	81,879	18.65%	20,848	4.75%
2008	1,088,911	617,101	56.67%	250,856	23.04%	184,634	16.96%	36,320	3.34%
2009	136,560	90,941	66.59%	24,057	17.62%	16,599	12.16%	4,963	3.63%
2010	142,096	91,053	64.08%	25,782	18.14%	20,089	14.14%	5,172	3.64%
2011	99,060	59,305	59.87%	18,365	18.54%	15,553	15.70%	5,837	5.89%
2012	104,975	65,405	62.31%	14,697	14.00%	15,136	14.42%	9,737	9.28%
2013	93,780	62,078	66.20%	15,438	16.46%	12,725	13.57%	3,539	3.77%
2014	45,485	22,744	50.00%	9,544	20.98%	8,974	19.73%	4,223	9.28%
2015	4,069	1,392	34.21%	860	21.14%	802	19.71%	1,015	24.94%
TOTAL	11,483,160	6,039,008	52.59%	3,086,787	26.88%	1,853,607	16.14%	503,756	4.39%

EPA REPORT 51.366 a.2.i

State of California - Bureau of Automotive Repair

Initial Failures (Passenger Cars and Light Duty Trucks)

a.2.i Vehicle Types P & L	PASSENGER CARS									LIGHT DUTY TRUCKS								
	ASM TESTS			TSI TESTS			OBD TESTS			ASM TESTS			TSI TESTS			OBD TESTS		
	VEHICLES TESTED	COUNT	PERCENT OF TESTED	VEHICLES TESTED	COUNT	PERCENT OF TESTED	VEHICLES TESTED	COUNT	PERCENT OF TESTED	VEHICLES TESTED	COUNT	PERCENT OF TESTED	VEHICLES TESTED	COUNT	PERCENT OF TESTED	VEHICLES TESTED	COUNT	PERCENT OF TESTED
1976	3,363	1,207	35.89%	468	128	27.35%	0	0	.	1,235	427	34.57%	325	82	25.23%	0	0	.
1977	3,944	1,376	34.89%	464	101	21.77%	0	0	.	1,686	590	34.99%	353	98	27.76%	0	0	.
1978	4,822	1,683	34.90%	592	132	22.30%	0	0	.	2,258	815	36.09%	518	134	25.87%	0	0	.
1979	5,624	1,911	33.98%	780	193	24.74%	0	0	.	2,627	939	35.74%	629	143	22.73%	0	0	.
1980	3,370	1,051	31.19%	419	67	15.99%	0	0	.	2,003	706	35.25%	523	123	23.52%	0	0	.
1981	3,849	1,387	36.04%	458	102	22.27%	0	0	.	2,563	1,024	39.95%	563	136	24.16%	0	0	.
1982	4,245	1,549	36.49%	538	124	23.05%	0	0	.	3,038	1,169	38.48%	800	226	28.25%	0	0	.
1983	5,609	2,013	35.89%	816	194	23.77%	0	0	.	3,804	1,468	38.59%	973	215	22.10%	0	0	.
1984	9,536	3,339	35.01%	1,375	292	21.24%	0	0	.	7,203	2,863	39.75%	1,782	492	27.61%	0	0	.
1985	12,937	4,597	35.53%	1,903	363	19.08%	0	0	.	10,399	4,012	38.58%	2,515	672	26.72%	0	0	.
1986	16,680	5,380	32.25%	2,467	497	20.15%	0	0	.	17,598	6,421	36.49%	4,160	1,040	25.00%	0	0	.
1987	20,800	7,371	35.44%	3,012	575	19.09%	0	0	.	18,310	6,380	34.84%	4,187	997	23.81%	0	0	.
1988	25,132	8,720	34.70%	3,652	706	19.33%	0	0	.	20,794	6,928	33.32%	4,605	1,051	22.82%	0	0	.
1989	36,269	11,818	32.58%	5,049	879	17.41%	0	0	.	28,310	9,040	31.93%	6,009	1,240	20.64%	0	0	.
1990	54,275	17,980	33.13%	8,008	1,415	17.67%	0	0	.	27,874	8,360	29.99%	6,002	1,092	18.19%	0	0	.
1991	67,771	22,556	33.28%	10,903	2,005	18.39%	0	0	.	37,196	10,225	27.49%	7,598	1,263	16.62%	0	0	.
1992	69,745	23,193	33.25%	11,784	2,113	17.93%	0	0	.	34,964	9,549	27.31%	7,085	1,074	15.16%	0	0	.
1993	85,168	29,908	35.12%	14,074	2,555	18.15%	0	0	.	46,101	14,767	32.03%	10,517	1,633	15.53%	0	0	.
1994	112,940	33,963	30.07%	18,161	2,681	14.76%	0	0	.	59,841	18,712	31.27%	13,368	2,038	15.25%	0	0	.
1995	129,802	38,463	29.63%	21,601	3,203	14.83%	0	0	.	59,847	19,027	31.79%	12,983	1,990	15.33%	0	0	.
1996	161,229	38,475	23.86%	24,933	3,634	14.58%	6,274	809	12.89%	76,742	17,640	22.99%	17,371	2,166	12.47%	3,124	464	14.85%
1997	163,928	38,099	23.24%	31,034	3,979	12.82%	6,234	908	14.57%	83,779	19,668	23.48%	23,964	3,108	12.97%	3,276	473	14.44%
1998	238,978	39,601	16.57%	44,270	4,661	10.53%	11,002	1,172	10.65%	132,737	24,270	18.28%	32,989	3,344	10.14%	5,823	639	10.97%
1999	200,362	31,513	15.73%	45,228	5,124	11.33%	9,816	1,174	11.96%	102,022	16,663	16.33%	29,574	2,706	9.15%	4,930	564	11.44%
2000	286,979	34,403	11.99%	49,213	4,096	8.32%	132,076	14,127	10.70%	149,182	18,799	12.60%	35,424	2,708	7.64%	74,128	7,284	9.83%
2001	174,005	25,522	14.67%	34,468	3,780	10.97%	91,779	11,867	12.93%	75,359	11,394	15.12%	22,967	2,535	11.04%	44,952	5,637	12.54%
2002	301,128	30,219	10.04%	60,210	4,689	7.79%	153,165	15,498	10.12%	151,860	14,645	9.64%	53,594	4,023	7.51%	93,790	9,011	9.61%
2003	161,904	16,581	10.24%	35,877	2,829	7.89%	90,080	8,744	9.71%	62,517	6,453	10.32%	26,441	1,797	6.80%	45,278	4,073	9.00%
2004	333,824	20,995	6.29%	63,263	3,501	5.53%	155,299	11,221	7.23%	159,761	9,738	6.10%	70,717	3,042	4.30%	107,535	6,816	6.34%
2005	153,936	10,226	6.64%	32,954	1,747	5.30%	81,207	5,686	7.00%	57,466	3,839	6.68%	25,897	1,113	4.30%	45,224	2,820	6.24%
2006	391,133	14,492	3.71%	85,701	3,049	3.56%	194,564	10,283	5.29%	157,451	6,214	3.95%	61,916	1,910	3.08%	120,475	5,740	4.76%
2007	131,838	4,548	3.45%	33,978	993	2.92%	74,709	3,279	4.39%	40,091	1,527	3.81%	20,576	511	2.48%	35,109	1,495	4.26%
2008	341,297	7,974	2.34%	97,733	1,749	1.79%	178,071	6,273	3.52%	108,987	2,174	1.99%	51,584	681	1.32%	90,285	2,819	3.12%
2009	42,704	802	1.88%	13,616	240	1.76%	34,621	1,133	3.27%	8,439	137	1.62%	4,322	59	1.37%	11,296	361	3.20%
2010	50,490	833	1.65%	15,225	219	1.44%	25,338	975	3.85%	11,523	188	1.63%	6,508	85	1.31%	7,751	338	4.36%
2011	29,919	478	1.60%	11,355	186	1.64%	18,031	835	4.63%	6,836	108	1.58%	4,748	59	1.24%	6,781	305	4.50%
2012	32,382	452	1.40%	9,710	136	1.40%	23,313	685	2.94%	5,392	59	1.09%	4,334	47	1.08%	4,971	204	4.10%
2013	31,011	352	1.14%	10,306	145	1.41%	20,761	656	3.16%	5,216	60	1.15%	4,570	47	1.03%	5,652	202	3.57%
2014	8,161	137	1.68%	4,527	67	1.48%	10,056	442	4.40%	2,333	25	1.07%	2,514	22	0.88%	4,697	155	3.30%
2015	160	12	7.50%	331	4	1.21%	901	96	10.65%	31	2	6.45%	174	5	2.87%	655	18	2.75%
TOTAL	3,911,249	535,179	13.68%	810,456	63,153	7.79%	1,317,297	95,863	7.28%	1,785,375	277,025	15.52%	585,679	45,707	7.80%	715,732	49,418	6.90%

EPA REPORT 51.366 a.2.i

State of California - Bureau of Automotive Repair

Initial Test Failures (Medium and Heavy Duty Vehicles)

a.2.i Vehicle Types M & H	MEDIUM DUTY VEHICLES									HEAVY DUTY VEHICLES								
	ASM TESTS			TSI TESTS			OBD TESTS			ASM TESTS			TSI TESTS			OBD TESTS		
	VEHICLE MODEL YEAR	VEHICLES TESTED	COUNT	PERCENT OF TESTED	VEHICLES TESTED	COUNT	PERCENT OF TESTED	VEHICLES TESTED	COUNT	PERCENT OF TESTED	VEHICLES TESTED	COUNT	PERCENT OF TESTED	VEHICLES TESTED	COUNT	PERCENT OF TESTED	VEHICLES TESTED	COUNT	PERCENT OF TESTED
1976	1,595	447	28.03%	608	143	23.52%	0	0	.	75	13	17.33%	854	242	28.34%	0	0	.
1977	2,545	715	28.09%	899	208	23.14%	0	0	.	97	25	25.77%	1,311	398	30.36%	0	0	.
1978	2,184	628	28.75%	727	198	27.24%	0	0	.	192	47	24.48%	1,628	429	26.35%	0	0	.
1979	2,029	776	38.25%	657	162	24.66%	0	0	.	215	65	30.23%	1,583	448	28.30%	0	0	.
1980	679	261	38.44%	174	43	24.71%	0	0	.	225	63	28.00%	830	232	27.95%	0	0	.
1981	446	187	41.93%	130	24	18.46%	0	0	.	326	107	32.82%	1,033	267	25.85%	0	0	.
1982	501	193	38.52%	147	36	24.49%	0	0	.	316	82	25.95%	1,102	260	23.59%	0	0	.
1983	708	289	40.82%	176	30	17.05%	0	0	.	421	122	28.98%	1,364	327	23.97%	0	0	.
1984	1,261	533	42.27%	326	84	25.77%	0	0	.	629	188	29.89%	2,602	657	25.25%	0	0	.
1985	1,699	685	40.32%	420	109	25.95%	0	0	.	974	303	31.11%	2,734	652	23.85%	0	0	.
1986	2,113	841	39.80%	621	149	23.99%	0	0	.	1,190	339	28.49%	2,818	688	24.41%	0	0	.
1987	2,676	913	34.12%	718	167	23.26%	0	0	.	1,116	293	26.25%	2,996	701	23.40%	0	0	.
1988	4,046	1,327	32.80%	1,129	221	19.57%	0	0	.	1,293	303	23.43%	4,112	838	20.38%	0	0	.
1989	5,498	1,750	31.83%	1,582	297	18.77%	0	0	.	2,793	739	26.46%	5,318	944	17.75%	0	0	.
1990	6,774	2,025	29.89%	1,878	309	16.45%	0	0	.	2,871	737	25.67%	5,313	872	16.41%	0	0	.
1991	6,102	1,774	29.07%	2,288	378	16.52%	0	0	.	2,304	483	20.96%	4,148	650	15.67%	0	0	.
1992	8,604	2,541	29.53%	2,712	487	17.96%	0	0	.	2,583	561	21.72%	4,286	587	13.70%	0	0	.
1993	10,881	3,031	27.86%	3,311	605	18.27%	0	0	.	2,453	637	25.97%	4,444	515	11.59%	0	0	.
1994	19,426	4,787	24.64%	5,605	905	16.15%	0	0	.	3,282	814	24.80%	5,812	757	13.02%	0	0	.
1995	21,107	5,089	24.11%	5,737	929	16.19%	0	0	.	4,763	1,064	22.34%	6,758	826	12.22%	0	0	.
1996	26,035	3,775	14.50%	7,392	901	12.19%	1,432	133	9.29%	6,472	797	12.31%	6,859	824	12.01%	35	6	17.14%
1997	30,118	4,626	15.36%	8,045	927	11.52%	1,551	216	13.93%	5,749	814	14.16%	7,339	800	10.90%	42	5	11.90%
1998	44,879	5,967	13.30%	13,031	1,387	10.64%	2,739	344	12.56%	6,488	732	11.28%	7,057	766	10.85%	2,489	230	9.24%
1999	57,417	7,881	13.73%	19,973	2,108	10.55%	4,510	495	10.98%	9,144	1,010	11.05%	9,766	963	9.86%	9,485	658	6.94%
2000	64,906	6,106	9.41%	32,426	2,714	8.37%	50,119	4,586	9.15%	12,354	1,010	8.18%	12,775	1,105	8.65%	8,456	498	5.89%
2001	43,821	5,949	13.58%	22,893	2,832	12.37%	36,843	4,663	12.66%	8,041	962	11.96%	7,276	751	10.32%	11,293	800	7.08%
2002	91,803	7,740	8.43%	42,268	3,204	7.58%	70,979	6,508	9.17%	12,629	1,081	8.56%	11,364	839	7.38%	11,618	850	7.32%
2003	48,240	4,617	9.57%	22,085	1,743	7.89%	40,836	3,877	9.49%	7,467	699	9.36%	7,880	540	6.85%	13,721	1,009	7.35%
2004	123,952	6,130	4.95%	46,048	2,265	4.92%	92,819	6,180	6.66%	13,983	928	6.64%	14,049	835	5.94%	16,979	867	5.11%
2005	41,601	2,181	5.24%	18,240	808	4.43%	30,702	2,095	6.82%	5,683	378	6.65%	6,417	385	6.00%	17,625	723	4.10%
2006	96,372	3,265	3.39%	50,797	1,455	2.86%	81,625	4,222	5.17%	14,647	707	4.83%	14,525	524	3.61%	23,226	770	3.32%
2007	33,595	1,156	3.44%	20,731	510	2.46%	27,553	1,615	5.86%	4,286	159	3.71%	4,486	160	3.57%	12,076	308	2.55%
2008	72,671	1,686	2.32%	43,695	794	1.82%	68,268	2,884	4.22%	10,838	262	2.42%	11,050	252	2.28%	14,432	322	2.23%
2009	5,355	118	2.20%	3,998	67	1.68%	7,246	331	4.57%	754	17	2.25%	718	18	2.51%	3,491	58	1.66%
2010	7,825	107	1.37%	5,437	80	1.47%	6,827	387	5.67%	712	16	2.25%	626	14	2.24%	3,834	55	1.43%
2011	4,455	55	1.23%	4,164	62	1.49%	6,934	447	6.45%	328	6	1.83%	488	5	1.02%	5,021	97	1.93%
2012	3,976	46	1.16%	2,989	40	1.34%	8,171	318	3.89%	277	5	1.81%	426	6	1.41%	9,034	102	1.13%
2013	5,032	53	1.05%	3,060	38	1.24%	4,633	153	3.30%	986	12	1.22%	779	9	1.16%	1,774	20	1.13%
2014	2,483	44	1.77%	2,034	34	1.67%	4,457	317	7.11%	410	14	3.41%	1,861	21	1.13%	1,952	48	2.46%
2015	69	1	1.45%	181	3	1.66%	552	73	13.22%	36	1	2.78%	641	3	0.47%	338	19	5.62%
TOTAL	905,479	90,295	9.97%	399,332	27,456	6.88%	548,796	39,844	7.26%	149,402	16,595	11.11%	187,428	20,110	10.73%	166,921	7,445	4.46%

EPA REPORT 51.366 a.2.ii

State of California - Bureau of Automotive Repair

First Re-Test Failures (Passenger Cars and Light Duty Trucks)

a.2.ii Vehicle Types P & L	PASSENGER CARS									LIGHT DUTY TRUCKS								
	ASM TESTS			TSI TESTS			OBD TESTS			ASM TESTS			TSI TESTS			OBD TESTS		
	VEHICLE MODEL YEAR	VEHICLES TESTED	COUNT	PERCENT OF TESTED	VEHICLES TESTED	COUNT	PERCENT OF TESTED	VEHICLES TESTED	COUNT	PERCENT OF TESTED	VEHICLES TESTED	COUNT	PERCENT OF TESTED	VEHICLES TESTED	COUNT	PERCENT OF TESTED	VEHICLES TESTED	COUNT	PERCENT OF TESTED
1976	3,363	334	9.93%	468	15	3.21%	0	0	.	1,235	77	6.23%	325	10	3.08%	0	0	.
1977	3,944	341	8.65%	464	21	4.53%	0	0	.	1,686	121	7.18%	353	12	3.40%	0	0	.
1978	4,822	386	8.00%	592	17	2.87%	0	0	.	2,258	192	8.50%	518	20	3.86%	0	0	.
1979	5,624	431	7.66%	780	25	3.21%	0	0	.	2,627	206	7.84%	629	22	3.50%	0	0	.
1980	3,370	248	7.36%	419	12	2.86%	0	0	.	2,003	130	6.49%	523	9	1.72%	0	0	.
1981	3,849	375	9.74%	458	15	3.28%	0	0	.	2,563	261	10.18%	563	22	3.91%	0	0	.
1982	4,245	393	9.26%	538	10	1.86%	0	0	.	3,038	283	9.32%	800	33	4.13%	0	0	.
1983	5,609	478	8.52%	816	27	3.31%	0	0	.	3,804	402	10.57%	973	35	3.60%	0	0	.
1984	9,536	853	8.95%	1,375	38	2.76%	0	0	.	7,203	781	10.84%	1,782	69	3.87%	0	0	.
1985	12,937	1,122	8.67%	1,903	57	3.00%	0	0	.	10,399	1,034	9.94%	2,515	107	4.25%	0	0	.
1986	16,680	1,281	7.68%	2,467	65	2.63%	0	0	.	17,598	1,630	9.26%	4,160	142	3.41%	0	0	.
1987	20,800	1,956	9.40%	3,012	82	2.72%	0	0	.	18,310	1,535	8.38%	4,187	125	2.99%	0	0	.
1988	25,132	2,154	8.57%	3,652	105	2.88%	0	0	.	20,794	1,555	7.48%	4,605	139	3.02%	0	0	.
1989	36,269	2,858	7.88%	5,049	105	2.08%	0	0	.	28,310	1,999	7.06%	6,009	179	2.98%	0	0	.
1990	54,275	4,323	7.96%	8,008	190	2.37%	0	0	.	27,874	1,768	6.34%	6,002	162	2.70%	0	0	.
1991	67,771	5,547	8.18%	10,903	262	2.40%	0	0	.	37,196	2,157	5.80%	7,598	155	2.04%	0	0	.
1992	69,745	5,642	8.09%	11,784	280	2.38%	0	0	.	34,964	1,991	5.69%	7,085	123	1.74%	0	0	.
1993	85,168	8,003	9.40%	14,074	347	2.47%	0	0	.	46,101	3,533	7.66%	10,517	195	1.85%	0	0	.
1994	112,940	8,609	7.62%	18,161	376	2.07%	0	0	.	59,841	4,493	7.51%	13,368	244	1.83%	0	0	.
1995	129,802	9,630	7.42%	21,601	434	2.01%	0	0	.	59,847	4,807	8.03%	12,983	255	1.96%	0	0	.
1996	161,229	8,223	5.10%	24,933	437	1.75%	6,274	62	0.99%	76,742	3,384	4.41%	17,371	210	1.21%	3,124	44	1.41%
1997	163,928	7,825	4.77%	31,034	449	1.45%	6,234	60	0.96%	83,779	3,712	4.43%	23,964	316	1.32%	3,276	39	1.19%
1998	238,978	7,207	3.02%	44,270	440	0.99%	11,002	91	0.83%	132,737	4,467	3.37%	32,989	282	0.85%	5,823	49	0.84%
1999	200,362	5,222	2.61%	45,228	486	1.07%	9,816	87	0.89%	102,022	2,818	2.76%	29,574	232	0.78%	4,930	43	0.87%
2000	286,979	4,624	1.61%	49,213	368	0.75%	132,076	1,089	0.82%	149,182	2,722	1.82%	35,424	191	0.54%	74,128	523	0.71%
2001	174,005	3,413	1.96%	34,468	328	0.95%	91,779	1,052	1.15%	75,359	1,437	1.91%	22,967	208	0.91%	44,952	436	0.97%
2002	301,128	3,575	1.19%	60,210	339	0.56%	153,165	1,316	0.86%	151,860	1,551	1.02%	53,594	278	0.52%	93,790	652	0.70%
2003	161,904	1,969	1.22%	35,877	195	0.54%	90,080	691	0.77%	62,517	692	1.11%	26,441	130	0.49%	45,278	276	0.61%
2004	333,824	2,081	0.62%	63,263	238	0.38%	155,299	827	0.53%	159,761	940	0.59%	70,717	186	0.26%	107,535	437	0.41%
2005	153,936	1,008	0.65%	32,954	120	0.36%	81,207	393	0.48%	57,466	381	0.66%	25,897	77	0.30%	45,224	152	0.34%
2006	391,133	1,155	0.30%	85,701	208	0.24%	194,564	675	0.35%	157,451	513	0.33%	61,916	112	0.18%	120,475	327	0.27%
2007	131,838	326	0.25%	33,978	61	0.18%	74,709	195	0.26%	40,091	114	0.28%	20,576	29	0.14%	35,109	102	0.29%
2008	341,297	541	0.16%	97,733	101	0.10%	178,071	345	0.19%	108,987	147	0.13%	51,584	19	0.04%	90,285	143	0.16%
2009	42,704	44	0.10%	13,616	16	0.12%	34,621	43	0.12%	8,439	7	0.08%	4,322	0	0.00%	11,296	13	0.12%
2010	50,490	43	0.09%	15,225	13	0.09%	25,338	49	0.19%	11,523	9	0.08%	6,508	3	0.05%	7,751	13	0.17%
2011	29,919	33	0.11%	11,355	7	0.06%	18,031	53	0.29%	6,836	5	0.07%	4,748	4	0.08%	6,781	10	0.15%
2012	32,382	22	0.07%	9,710	4	0.04%	23,313	50	0.21%	5,392	3	0.06%	4,334	0	0.00%	4,971	9	0.18%
2013	31,011	20	0.06%	10,306	5	0.05%	20,761	37	0.18%	5,216	2	0.04%	4,570	0	0.00%	5,652	12	0.21%
2014	8,161	4	0.05%	4,527	6	0.13%	10,056	37	0.37%	2,333	0	0.00%	2,514	0	0.00%	4,697	7	0.15%
2015	160	0	0.00%	331	0	0.00%	901	11	1.22%	31	0	0.00%	174	0	0.00%	655	0	0.00%
TOTAL	3,911,249	102,299	2.62%	810,456	6,304	0.78%	1,317,297	7,163	0.54%	1,785,375	51,859	2.90%	585,679	4,335	0.74%	715,732	3,287	0.46%

EPA REPORT 51.366 a.2.ii

State of California - Bureau of Automotive Repair

First Re-test Failures (Medium and Heavy Duty Vehicles)

a.2.ii Vehicle Types M & H	MEDIUM DUTY VEHICLES									HEAVY DUTY VEHICLES								
	ASM TESTS			TSI TESTS			OBD TESTS			ASM TESTS			TSI TESTS			OBD TESTS		
	VEHICLE MODEL YEAR	VEHICLES TESTED	COUNT	PERCENT OF TESTED	VEHICLES TESTED	COUNT	PERCENT OF TESTED	VEHICLES TESTED	COUNT	PERCENT OF TESTED	VEHICLES TESTED	COUNT	PERCENT OF TESTED	VEHICLES TESTED	COUNT	PERCENT OF TESTED	VEHICLES TESTED	COUNT	PERCENT OF TESTED
1976	1,595	70	4.39%	608	20	3.29%	0	0	.	75	1	1.33%	854	27	3.16%	0	0	.
1977	2,545	142	5.58%	899	25	2.78%	0	0	.	97	1	1.03%	1,311	67	5.11%	0	0	.
1978	2,184	105	4.81%	727	24	3.30%	0	0	.	192	5	2.60%	1,628	68	4.18%	0	0	.
1979	2,029	172	8.48%	657	14	2.13%	0	0	.	215	14	6.51%	1,583	74	4.67%	0	0	.
1980	679	56	8.25%	174	7	4.02%	0	0	.	225	13	5.78%	830	41	4.94%	0	0	.
1981	446	52	11.66%	130	3	2.31%	0	0	.	326	26	7.98%	1,033	37	3.58%	0	0	.
1982	501	47	9.38%	147	2	1.36%	0	0	.	316	17	5.38%	1,102	33	2.99%	0	0	.
1983	708	73	10.31%	176	6	3.41%	0	0	.	421	28	6.65%	1,364	51	3.74%	0	0	.
1984	1,261	137	10.86%	326	16	4.91%	0	0	.	629	42	6.68%	2,602	110	4.23%	0	0	.
1985	1,699	174	10.24%	420	18	4.29%	0	0	.	974	73	7.49%	2,734	98	3.58%	0	0	.
1986	2,113	213	10.08%	621	22	3.54%	0	0	.	1,190	69	5.80%	2,818	105	3.73%	0	0	.
1987	2,676	227	8.48%	718	23	3.20%	0	0	.	1,116	46	4.12%	2,996	112	3.74%	0	0	.
1988	4,046	304	7.51%	1,129	30	2.66%	0	0	.	1,293	58	4.49%	4,112	128	3.11%	0	0	.
1989	5,498	386	7.02%	1,582	35	2.21%	0	0	.	2,793	178	6.37%	5,318	145	2.73%	0	0	.
1990	6,774	431	6.36%	1,878	39	2.08%	0	0	.	2,871	150	5.22%	5,313	128	2.41%	0	0	.
1991	6,102	343	5.62%	2,288	54	2.36%	0	0	.	2,304	89	3.86%	4,148	78	1.88%	0	0	.
1992	8,604	507	5.89%	2,712	76	2.80%	0	0	.	2,583	119	4.61%	4,286	73	1.70%	0	0	.
1993	10,881	665	6.11%	3,311	70	2.11%	0	0	.	2,453	152	6.20%	4,444	54	1.22%	0	0	.
1994	19,426	1,019	5.25%	5,605	115	2.05%	0	0	.	3,282	188	5.73%	5,812	91	1.57%	0	0	.
1995	21,107	980	4.64%	5,737	115	2.00%	0	0	.	4,763	221	4.64%	6,758	102	1.51%	0	0	.
1996	26,035	440	1.69%	7,392	83	1.12%	1,432	5	0.35%	6,472	87	1.34%	6,859	116	1.69%	35	0	0.00%
1997	30,118	486	1.61%	8,045	83	1.03%	1,551	15	0.97%	5,749	100	1.74%	7,339	108	1.47%	42	0	0.00%
1998	44,879	569	1.27%	13,031	128	0.98%	2,739	22	0.80%	6,488	53	0.82%	7,057	96	1.36%	2,489	30	1.21%
1999	57,417	715	1.25%	19,973	179	0.90%	4,510	32	0.71%	9,144	85	0.93%	9,766	106	1.09%	9,485	37	0.39%
2000	64,906	485	0.75%	32,426	201	0.62%	50,119	279	0.56%	12,354	83	0.67%	12,775	127	0.99%	8,456	33	0.39%
2001	43,821	577	1.32%	22,893	247	1.08%	36,843	374	1.02%	8,041	69	0.86%	7,276	74	1.02%	11,293	67	0.59%
2002	91,803	593	0.65%	42,268	238	0.56%	70,979	475	0.67%	12,629	89	0.70%	11,364	81	0.71%	11,618	89	0.77%
2003	48,240	327	0.68%	22,085	123	0.56%	40,836	293	0.72%	7,467	37	0.50%	7,880	38	0.48%	13,721	75	0.55%
2004	123,952	392	0.32%	46,048	124	0.27%	92,819	363	0.39%	13,983	52	0.37%	14,049	77	0.55%	16,979	69	0.41%
2005	41,601	156	0.37%	18,240	51	0.28%	30,702	120	0.39%	5,683	17	0.30%	6,417	27	0.42%	17,625	28	0.16%
2006	96,372	182	0.19%	50,797	94	0.19%	81,625	201	0.25%	14,647	33	0.23%	14,525	26	0.18%	23,226	37	0.16%
2007	33,595	64	0.19%	20,731	20	0.10%	27,553	78	0.28%	4,286	6	0.14%	4,486	8	0.18%	12,076	16	0.13%
2008	72,671	78	0.11%	43,695	33	0.08%	68,268	157	0.23%	10,838	5	0.05%	11,050	20	0.18%	14,432	15	0.10%
2009	5,355	1	0.02%	3,998	2	0.05%	7,246	26	0.36%	754	0	0.00%	718	2	0.28%	3,491	6	0.17%
2010	7,825	4	0.05%	5,437	3	0.06%	6,827	25	0.37%	712	0	0.00%	626	0	0.00%	3,834	3	0.08%
2011	4,455	2	0.04%	4,164	3	0.07%	6,934	44	0.63%	328	1	0.30%	488	0	0.00%	5,021	13	0.26%
2012	3,976	1	0.03%	2,989	0	0.00%	8,171	31	0.38%	277	1	0.36%	426	0	0.00%	9,034	3	0.03%
2013	5,032	3	0.06%	3,060	1	0.03%	4,633	7	0.15%	986	1	0.10%	779	0	0.00%	1,774	2	0.11%
2014	2,483	0	0.00%	2,034	2	0.10%	4,457	29	0.65%	410	0	0.00%	1,861	1	0.05%	1,952	7	0.36%
2015	69	0	0.00%	181	0	0.00%	552	11	1.99%	36	0	0.00%	641	0	0.00%	338	5	1.48%
TOTAL	905,479	11,178	1.23%	399,332	2,329	0.58%	548,796	2,587	0.47%	149,402	2,209	1.48%	187,428	2,529	1.35%	166,921	535	0.32%

EPA REPORT 51.366 a.2.iii

State of California - Bureau of Automotive Repair

First Re-Test Passes (Passenger Cars and Light Duty Trucks)

a.2.iii Vehicle Types P & L	PASSENGER CARS									LIGHT DUTY TRUCKS								
	ASM TESTS			TSI TESTS			OBD TESTS			ASM TESTS			TSI TESTS			OBD TESTS		
	VEHICLES TESTED	COUNT	PERCENT OF TESTED	VEHICLES TESTED	COUNT	PERCENT OF TESTED	VEHICLES TESTED	COUNT	PERCENT OF TESTED	VEHICLES TESTED	COUNT	PERCENT OF TESTED	VEHICLES TESTED	COUNT	PERCENT OF TESTED	VEHICLES TESTED	COUNT	PERCENT OF TESTED
1976	3,363	667	19.83%	468	72	15.38%	0	0	.	1,235	270	21.86%	325	49	15.08%	0	0	.
1977	3,944	790	20.03%	464	60	12.93%	0	0	.	1,686	373	22.12%	353	73	20.68%	0	0	.
1978	4,822	1,001	20.76%	592	79	13.34%	0	0	.	2,258	500	22.14%	518	88	16.99%	0	0	.
1979	5,624	1,140	20.27%	780	122	15.64%	0	0	.	2,627	582	22.15%	629	92	14.63%	0	0	.
1980	3,370	604	17.92%	419	46	10.98%	0	0	.	2,003	434	21.67%	523	76	14.53%	0	0	.
1981	3,849	740	19.23%	458	59	12.88%	0	0	.	2,563	570	22.24%	563	76	13.50%	0	0	.
1982	4,245	858	20.21%	538	69	12.83%	0	0	.	3,038	693	22.81%	800	137	17.13%	0	0	.
1983	5,609	1,133	20.20%	816	121	14.83%	0	0	.	3,804	794	20.87%	973	133	13.67%	0	0	.
1984	9,536	1,749	18.34%	1,375	178	12.95%	0	0	.	7,203	1,598	22.19%	1,782	306	17.17%	0	0	.
1985	12,937	2,452	18.95%	1,903	217	11.40%	0	0	.	10,399	2,276	21.89%	2,515	398	15.83%	0	0	.
1986	16,680	2,919	17.50%	2,467	296	12.00%	0	0	.	17,598	3,670	20.85%	4,160	666	16.01%	0	0	.
1987	20,800	3,739	17.98%	3,012	349	11.59%	0	0	.	18,310	3,717	20.30%	4,187	650	15.52%	0	0	.
1988	25,132	4,594	18.28%	3,652	396	10.84%	0	0	.	20,794	4,103	19.73%	4,605	699	15.18%	0	0	.
1989	36,269	6,374	17.57%	5,049	552	10.93%	0	0	.	28,310	5,540	19.57%	6,009	791	13.16%	0	0	.
1990	54,275	9,791	18.04%	8,008	858	10.71%	0	0	.	27,874	5,224	18.74%	6,002	726	12.10%	0	0	.
1991	67,771	12,244	18.07%	10,903	1,237	11.35%	0	0	.	37,196	6,334	17.03%	7,598	864	11.37%	0	0	.
1992	69,745	12,678	18.18%	11,784	1,324	11.24%	0	0	.	34,964	5,903	16.88%	7,085	721	10.18%	0	0	.
1993	85,168	16,008	18.80%	14,074	1,614	11.47%	0	0	.	46,101	8,683	18.83%	10,517	1,121	10.66%	0	0	.
1994	112,940	19,048	16.87%	18,161	1,733	9.54%	0	0	.	59,841	11,191	18.70%	13,368	1,410	10.55%	0	0	.
1995	129,802	21,412	16.50%	21,601	2,022	9.36%	0	0	.	59,847	11,080	18.51%	12,983	1,376	10.60%	0	0	.
1996	161,229	22,779	14.13%	24,933	2,347	9.41%	6,274	682	10.87%	76,742	11,279	14.70%	17,371	1,548	8.91%	3,124	388	12.42%
1997	163,928	23,045	14.06%	31,034	2,679	8.63%	6,234	747	11.98%	83,779	12,435	14.84%	23,964	2,175	9.08%	3,276	405	12.36%
1998	238,978	25,447	10.65%	44,270	3,348	7.56%	11,002	991	9.01%	132,737	16,009	12.06%	32,989	2,486	7.54%	5,823	555	9.53%
1999	200,362	20,495	10.23%	45,228	3,590	7.94%	9,816	879	8.95%	102,022	11,252	11.03%	29,574	1,948	6.59%	4,930	470	9.53%
2000	286,979	23,746	8.27%	49,213	3,121	6.34%	132,076	11,017	8.34%	149,182	13,339	8.94%	35,424	2,113	5.96%	74,128	5,963	8.04%
2001	174,005	17,307	9.95%	34,468	2,826	8.20%	91,779	8,583	9.35%	75,359	8,226	10.92%	22,967	1,886	8.21%	44,952	4,272	9.50%
2002	301,128	21,968	7.30%	60,210	3,670	6.10%	153,165	11,963	7.81%	151,860	11,112	7.32%	53,594	3,222	6.01%	93,790	7,519	8.02%
2003	161,904	11,847	7.32%	35,877	2,247	6.26%	90,080	6,376	7.08%	62,517	4,873	7.79%	26,441	1,420	5.37%	45,278	3,146	6.95%
2004	333,824	16,117	4.83%	63,263	2,876	4.55%	155,299	8,837	5.69%	159,761	7,700	4.82%	70,717	2,516	3.56%	107,535	5,691	5.29%
2005	153,936	7,730	5.02%	32,954	1,401	4.25%	81,207	4,213	5.19%	57,466	3,050	5.31%	25,897	893	3.45%	45,224	2,144	4.74%
2006	391,133	11,947	3.05%	85,701	2,588	3.02%	194,564	8,053	4.14%	157,451	5,189	3.30%	61,916	1,621	2.62%	120,475	4,582	3.80%
2007	131,838	3,631	2.75%	33,978	809	2.38%	74,709	2,413	3.23%	40,091	1,241	3.10%	20,576	417	2.03%	35,109	1,140	3.25%
2008	341,297	6,680	1.96%	97,733	1,497	1.53%	178,071	4,951	2.78%	108,987	1,969	1.81%	51,584	628	1.22%	90,285	2,335	2.59%
2009	42,704	679	1.59%	13,616	200	1.47%	34,621	824	2.38%	8,439	131	1.55%	4,322	64	1.48%	11,296	266	2.35%
2010	50,490	731	1.45%	15,225	199	1.31%	25,338	779	3.07%	11,523	180	1.56%	6,508	85	1.31%	7,751	267	3.44%
2011	29,919	407	1.36%	11,355	155	1.37%	18,031	580	3.22%	6,836	92	1.35%	4,748	55	1.16%	6,781	235	3.47%
2012	32,382	383	1.18%	9,710	120	1.24%	23,313	504	2.16%	5,392	58	1.08%	4,334	46	1.06%	4,971	152	3.06%
2013	31,011	314	1.01%	10,306	129	1.25%	20,761	493	2.37%	5,216	60	1.15%	4,570	47	1.03%	5,652	157	2.78%
2014	8,161	133	1.63%	4,527	49	1.08%	10,056	310	3.08%	2,333	26	1.11%	2,514	20	0.80%	4,697	118	2.51%
2015	160	13	8.13%	331	3	0.91%	901	56	6.22%	31	2	6.45%	174	7	4.02%	655	11	1.68%
TOTAL	3,911,249	335,340	8.57%	810,456	45,258	5.58%	1,317,297	73,251	5.56%	1,785,375	181,758	10.18%	585,679	33,649	5.75%	715,732	39,816	5.56%

EPA REPORT 51.366 a.2.iii

State of California - Bureau of Automotive Repair

First Re-Test Passes (Medium and Heavy Duty Vehicles)

a.2.iii Vehicle Types M & H	MEDIUM DUTY VEHICLES									HEAVY DUTY VEHICLES								
	ASM TESTS			TSI TESTS			OBD TESTS			ASM TESTS			TSI TESTS			OBD TESTS		
	VEHICLE MODEL YEAR	VEHICLES TESTED	COUNT	PERCENT OF TESTED	VEHICLES TESTED	COUNT	PERCENT OF TESTED	VEHICLES TESTED	COUNT	PERCENT OF TESTED	VEHICLES TESTED	COUNT	PERCENT OF TESTED	VEHICLES TESTED	COUNT	PERCENT OF TESTED	VEHICLES TESTED	COUNT	PERCENT OF TESTED
1976	1,595	294	18.43%	608	89	14.64%	0	0	.	75	8	10.67%	854	141	16.51%	0	0	.
1977	2,545	444	17.45%	899	138	15.35%	0	0	.	97	19	19.59%	1,311	247	18.84%	0	0	.
1978	2,184	409	18.73%	727	132	18.16%	0	0	.	192	38	19.79%	1,628	263	16.15%	0	0	.
1979	2,029	456	22.47%	657	97	14.76%	0	0	.	215	40	18.60%	1,583	248	15.67%	0	0	.
1980	679	152	22.39%	174	22	12.64%	0	0	.	225	43	19.11%	830	152	18.31%	0	0	.
1981	446	105	23.54%	130	15	11.54%	0	0	.	326	72	22.09%	1,033	179	17.33%	0	0	.
1982	501	106	21.16%	147	17	11.56%	0	0	.	316	52	16.46%	1,102	171	15.52%	0	0	.
1983	708	155	21.89%	176	17	9.66%	0	0	.	421	74	17.58%	1,364	211	15.47%	0	0	.
1984	1,261	268	21.25%	326	46	14.11%	0	0	.	629	109	17.33%	2,602	395	15.18%	0	0	.
1985	1,699	392	23.07%	420	68	16.19%	0	0	.	974	167	17.15%	2,734	427	15.62%	0	0	.
1986	2,113	465	22.01%	621	89	14.33%	0	0	.	1,190	203	17.06%	2,818	447	15.86%	0	0	.
1987	2,676	511	19.10%	718	102	14.21%	0	0	.	1,116	188	16.85%	2,996	440	14.69%	0	0	.
1988	4,046	794	19.62%	1,129	137	12.13%	0	0	.	1,293	192	14.85%	4,112	556	13.52%	0	0	.
1989	5,498	1,037	18.86%	1,582	185	11.69%	0	0	.	2,793	422	15.11%	5,318	661	12.43%	0	0	.
1990	6,774	1,221	18.02%	1,878	206	10.97%	0	0	.	2,871	483	16.82%	5,313	601	11.31%	0	0	.
1991	6,102	1,136	18.62%	2,288	264	11.54%	0	0	.	2,304	322	13.98%	4,148	469	11.31%	0	0	.
1992	8,604	1,610	18.71%	2,712	313	11.54%	0	0	.	2,583	367	14.21%	4,286	422	9.85%	0	0	.
1993	10,881	1,899	17.45%	3,311	410	12.38%	0	0	.	2,453	391	15.94%	4,444	396	8.91%	0	0	.
1994	19,426	3,047	15.69%	5,605	643	11.47%	0	0	.	3,282	519	15.81%	5,812	557	9.58%	0	0	.
1995	21,107	3,339	15.82%	5,737	628	10.95%	0	0	.	4,763	701	14.72%	6,758	614	9.09%	0	0	.
1996	26,035	2,657	10.21%	7,392	644	8.71%	1,432	118	8.24%	6,472	579	8.95%	6,859	604	8.81%	35	7	20.00%
1997	30,118	3,273	10.87%	8,045	656	8.15%	1,551	150	9.67%	5,749	580	10.09%	7,339	572	7.79%	42	6	14.29%
1998	44,879	4,369	9.74%	13,031	972	7.46%	2,739	228	8.32%	6,488	579	8.92%	7,057	549	7.78%	2,489	182	7.31%
1999	57,417	5,767	10.04%	19,973	1,534	7.68%	4,510	358	7.94%	9,144	767	8.39%	9,766	703	7.20%	9,485	536	5.65%
2000	64,906	4,804	7.40%	32,426	2,063	6.36%	50,119	3,646	7.27%	12,354	782	6.33%	12,775	825	6.46%	8,456	404	4.78%
2001	43,821	4,523	10.32%	22,893	2,115	9.24%	36,843	3,499	9.50%	8,041	748	9.30%	7,276	594	8.16%	11,293	659	5.84%
2002	91,803	6,223	6.78%	42,268	2,564	6.07%	70,979	5,171	7.29%	12,629	886	7.02%	11,364	692	6.09%	11,618	686	5.90%
2003	48,240	3,735	7.74%	22,085	1,350	6.11%	40,836	2,957	7.24%	7,467	574	7.69%	7,880	428	5.43%	13,721	831	6.06%
2004	123,952	5,136	4.14%	46,048	1,882	4.09%	92,819	4,934	5.32%	13,983	804	5.75%	14,049	703	5.00%	16,979	734	4.32%
2005	41,601	1,816	4.37%	18,240	649	3.56%	30,702	1,593	5.19%	5,683	330	5.81%	6,417	331	5.16%	17,625	595	3.38%
2006	96,372	2,843	2.95%	50,797	1,255	2.47%	81,625	3,431	4.20%	14,647	610	4.16%	14,525	453	3.12%	23,226	637	2.74%
2007	33,595	1,023	3.05%	20,731	436	2.10%	27,553	1,172	4.25%	4,286	133	3.10%	4,486	145	3.23%	12,076	274	2.27%
2008	72,671	1,583	2.18%	43,695	726	1.66%	68,268	2,237	3.28%	10,838	251	2.32%	11,050	238	2.15%	14,432	254	1.76%
2009	5,355	102	1.90%	3,998	64	1.60%	7,246	226	3.12%	754	19	2.52%	718	14	1.95%	3,491	39	1.12%
2010	7,825	101	1.29%	5,437	89	1.64%	6,827	283	4.15%	712	12	1.69%	626	14	2.24%	3,834	40	1.04%
2011	4,455	58	1.30%	4,164	67	1.61%	6,934	280	4.04%	328	4	1.22%	488	4	0.82%	5,021	90	1.79%
2012	3,976	46	1.16%	2,989	45	1.51%	8,171	218	2.67%	277	4	1.44%	426	4	0.94%	9,034	99	1.10%
2013	5,032	55	1.09%	3,060	35	1.14%	4,633	120	2.59%	986	11	1.12%	779	9	1.16%	1,774	11	0.62%
2014	2,483	54	2.17%	2,034	30	1.47%	4,457	208	4.67%	410	18	4.39%	1,861	21	1.13%	1,952	46	2.36%
2015	69	1	1.45%	181	9	4.97%	552	41	7.43%	36	2	5.56%	641	4	0.62%	338	15	4.44%
TOTAL	905,479	66,009	7.29%	399,332	20,803	5.21%	548,796	30,870	5.63%	149,402	12,103	8.10%	187,428	14,504	7.74%	166,921	6,145	3.68%

EPA REPORT 51.366 a.2.iv

State of California - Bureau of Automotive Repair

Initially Failed Vehicles Passing Their Second or Subsequent Re-Test (Passenger Cars and Light Duty Vehicles)

a.2.iv Vehicle Types P & L	PASSENGER CARS									LIGHT DUTY TRUCKS								
	ASM TESTS			TSI TESTS			OBD TESTS			ASM TESTS			TSI TESTS			OBD TESTS		
	VEHICLE MODEL YEAR	VEHICLES TESTED	COUNT	PERCENT OF TESTED	VEHICLES TESTED	COUNT	PERCENT OF TESTED	VEHICLES TESTED	COUNT	PERCENT OF TESTED	VEHICLES TESTED	COUNT	PERCENT OF TESTED	VEHICLES TESTED	COUNT	PERCENT OF TESTED	VEHICLES TESTED	COUNT	PERCENT OF TESTED
1976	1,207	266	22.04%	128	14	10.94%	0	0	.	427	69	16.16%	82	8	9.76%	0	0	.
1977	1,376	297	21.58%	101	19	18.81%	0	0	.	590	107	18.14%	98	12	12.24%	0	0	.
1978	1,683	338	20.08%	132	19	14.39%	0	0	.	815	161	19.75%	134	17	12.69%	0	0	.
1979	1,911	376	19.68%	193	20	10.36%	0	0	.	939	174	18.53%	143	25	17.48%	0	0	.
1980	1,051	204	19.41%	67	11	16.42%	0	0	.	706	123	17.42%	123	8	6.50%	0	0	.
1981	1,387	330	23.79%	102	11	10.78%	0	0	.	1,024	220	21.48%	136	21	15.44%	0	0	.
1982	1,549	333	21.50%	124	10	8.06%	0	0	.	1,169	250	21.39%	226	30	13.27%	0	0	.
1983	2,013	416	20.67%	194	23	11.86%	0	0	.	1,468	348	23.71%	215	30	13.95%	0	0	.
1984	3,339	710	21.26%	292	43	14.73%	0	0	.	2,863	682	23.82%	492	58	11.79%	0	0	.
1985	4,597	960	20.88%	363	47	12.95%	0	0	.	4,012	919	22.91%	672	90	13.39%	0	0	.
1986	5,380	1,075	19.98%	497	58	11.67%	0	0	.	6,421	1,409	21.94%	1,040	125	12.02%	0	0	.
1987	7,371	1,623	22.02%	575	71	12.35%	0	0	.	6,380	1,351	21.18%	997	122	12.24%	0	0	.
1988	8,720	1,756	20.14%	706	72	10.20%	0	0	.	6,928	1,357	19.59%	1,051	125	11.89%	0	0	.
1989	11,818	2,373	20.08%	879	97	11.04%	0	0	.	9,040	1,776	19.65%	1,240	176	14.19%	0	0	.
1990	17,980	3,638	20.23%	1,415	171	12.08%	0	0	.	8,360	1,586	18.97%	1,092	138	12.64%	0	0	.
1991	22,556	4,671	20.71%	2,005	238	11.87%	0	0	.	10,225	1,906	18.64%	1,263	142	11.24%	0	0	.
1992	23,193	4,782	20.62%	2,113	259	12.26%	0	0	.	9,549	1,809	18.94%	1,074	97	9.03%	0	0	.
1993	29,908	6,797	22.73%	2,555	333	13.03%	0	0	.	14,767	3,176	21.51%	1,633	189	11.57%	0	0	.
1994	33,963	7,376	21.72%	2,681	340	12.68%	0	0	.	18,712	4,028	21.53%	2,038	199	9.76%	0	0	.
1995	38,463	8,227	21.39%	3,203	385	12.02%	0	0	.	19,027	4,280	22.49%	1,990	226	11.36%	0	0	.
1996	38,475	6,978	18.14%	3,634	358	9.85%	809	129	15.95%	17,640	2,963	16.80%	2,166	190	8.77%	464	53	11.42%
1997	38,099	6,584	17.28%	3,979	376	9.45%	908	132	14.54%	19,668	3,191	16.22%	3,108	287	9.23%	473	63	13.32%
1998	39,601	6,107	15.42%	4,661	388	8.32%	1,172	140	11.95%	24,270	3,996	16.46%	3,344	238	7.12%	639	84	13.15%
1999	31,513	4,328	13.73%	5,124	416	8.12%	1,174	122	10.39%	16,663	2,522	15.14%	2,706	221	8.17%	564	45	7.98%
2000	34,403	3,924	11.41%	4,096	294	7.18%	14,127	1,133	8.02%	18,799	2,382	12.67%	2,708	176	6.50%	7,284	617	8.47%
2001	25,522	2,864	11.22%	3,780	261	6.90%	11,867	928	7.82%	11,394	1,244	10.92%	2,535	182	7.18%	5,637	420	7.45%
2002	30,219	3,143	10.40%	4,689	312	6.65%	15,498	1,155	7.45%	14,645	1,409	9.62%	4,023	242	6.02%	9,011	652	7.24%
2003	16,581	1,660	10.01%	2,829	182	6.43%	8,744	608	6.95%	6,453	596	9.24%	1,797	106	5.90%	4,073	246	6.04%
2004	20,995	1,832	8.73%	3,501	202	5.77%	11,221	751	6.69%	9,738	841	8.64%	3,042	168	5.52%	6,816	435	6.38%
2005	10,226	872	8.53%	1,747	120	6.87%	5,686	345	6.07%	3,839	327	8.52%	1,113	78	7.01%	2,820	135	4.79%
2006	14,492	1,051	7.25%	3,049	192	6.30%	10,283	583	5.67%	6,214	470	7.56%	1,910	103	5.39%	5,740	300	5.23%
2007	4,548	317	6.97%	993	59	5.94%	3,279	150	4.57%	1,527	94	6.16%	511	29	5.68%	1,495	75	5.02%
2008	7,974	516	6.47%	1,749	104	5.95%	6,273	307	4.89%	2,174	143	6.58%	681	23	3.38%	2,819	132	4.68%
2009	802	39	4.86%	240	14	5.83%	1,133	44	3.88%	137	9	6.57%	59	1	1.69%	361	11	3.05%
2010	833	48	5.76%	219	11	5.02%	975	39	4.00%	188	11	5.85%	85	2	2.35%	338	13	3.85%
2011	478	31	6.49%	186	9	4.84%	835	42	5.03%	108	5	4.63%	59	4	6.78%	305	10	3.28%
2012	452	27	5.97%	136	5	3.68%	685	38	5.55%	59	4	6.78%	47	0	0.00%	204	9	4.41%
2013	352	19	5.40%	145	6	4.14%	656	32	4.88%	60	1	1.67%	47	1	2.13%	202	12	5.94%
2014	137	7	5.11%	67	7	10.45%	442	32	7.24%	25	0	0.00%	22	1	4.55%	155	6	3.87%
2015	12	0	0.00%	4	1	25.00%	96	7	7.29%	2	0	0.00%	5	0	0.00%	18	0	0.00%
TOTAL	535,179	86,895	16.24%	63,153	5,558	8.80%	95,863	6,717	7.01%	277,025	45,939	16.58%	45,707	3,890	8.51%	49,418	3,318	6.71%

EPA REPORT 51.366 a.2.iv

State of California - Bureau of Automotive Repair

Initially Failed Vehicles Passing Their Second or Subsequent Re-Test (Medium and Heavy Duty Vehicles)

a.2.iv Vehicle Types M & H	MEDIUM DUTY VEHICLES									HEAVY DUTY VEHICLES								
	ASM TESTS			TSI TESTS			OBD TESTS			ASM TESTS			TSI TESTS			OBD TESTS		
	VEHICLE MODEL YEAR	VEHICLES TESTED	COUNT	PERCENT OF TESTED	VEHICLES TESTED	COUNT	PERCENT OF TESTED	VEHICLES TESTED	COUNT	PERCENT OF TESTED	VEHICLES TESTED	COUNT	PERCENT OF TESTED	VEHICLES TESTED	COUNT	PERCENT OF TESTED	VEHICLES TESTED	COUNT	PERCENT OF TESTED
1976	447	61	13.65%	143	20	13.99%	0	0	.	13	0	0.00%	242	24	9.92%	0	0	.
1977	715	126	17.62%	208	22	10.58%	0	0	.	25	3	12.00%	398	59	14.82%	0	0	.
1978	628	93	14.81%	198	24	12.12%	0	0	.	47	3	6.38%	429	52	12.12%	0	0	.
1979	776	148	19.07%	162	14	8.64%	0	0	.	65	13	20.00%	448	53	11.83%	0	0	.
1980	261	45	17.24%	43	9	20.93%	0	0	.	63	14	22.22%	232	35	15.09%	0	0	.
1981	187	41	21.93%	24	3	12.50%	0	0	.	107	25	23.36%	267	33	12.36%	0	0	.
1982	193	44	22.80%	36	3	8.33%	0	0	.	82	14	17.07%	260	26	10.00%	0	0	.
1983	289	62	21.45%	30	5	16.67%	0	0	.	122	30	24.59%	327	42	12.84%	0	0	.
1984	533	110	20.64%	84	19	22.62%	0	0	.	188	31	16.49%	657	107	16.29%	0	0	.
1985	685	131	19.12%	109	18	16.51%	0	0	.	303	67	22.11%	652	91	13.96%	0	0	.
1986	841	180	21.40%	149	20	13.42%	0	0	.	339	59	17.40%	688	101	14.68%	0	0	.
1987	913	188	20.59%	167	21	12.57%	0	0	.	293	48	16.38%	701	113	16.12%	0	0	.
1988	1,327	263	19.82%	221	26	11.76%	0	0	.	303	53	17.49%	838	115	13.72%	0	0	.
1989	1,750	337	19.26%	297	34	11.45%	0	0	.	739	156	21.11%	944	127	13.45%	0	0	.
1990	2,025	375	18.52%	309	34	11.00%	0	0	.	737	116	15.74%	872	119	13.65%	0	0	.
1991	1,774	311	17.53%	378	51	13.49%	0	0	.	483	79	16.36%	650	71	10.92%	0	0	.
1992	2,541	444	17.47%	487	70	14.37%	0	0	.	561	110	19.61%	587	73	12.44%	0	0	.
1993	3,031	580	19.14%	605	66	10.91%	0	0	.	637	144	22.61%	515	53	10.29%	0	0	.
1994	4,787	940	19.64%	905	105	11.60%	0	0	.	814	164	20.15%	757	79	10.44%	0	0	.
1995	5,089	873	17.15%	929	104	11.19%	0	0	.	1,064	192	18.05%	826	97	11.74%	0	0	.
1996	3,775	382	10.12%	901	75	8.32%	133	8	6.02%	797	67	8.41%	824	102	12.38%	6	0	0.00%
1997	4,626	428	9.25%	927	67	7.23%	216	15	6.94%	814	82	10.07%	800	98	12.25%	5	1	20.00%
1998	5,967	493	8.26%	1,387	103	7.43%	344	19	5.52%	732	56	7.65%	766	93	12.14%	230	20	8.70%
1999	7,881	606	7.69%	2,108	128	6.07%	495	30	6.06%	1,010	73	7.23%	963	94	9.76%	658	38	5.78%
2000	6,106	444	7.27%	2,714	179	6.60%	4,586	243	5.30%	1,010	72	7.13%	1,105	120	10.86%	498	32	6.43%
2001	5,949	514	8.64%	2,832	202	7.13%	4,663	323	6.93%	962	58	6.03%	751	65	8.66%	800	62	7.75%
2002	7,740	547	7.07%	3,204	209	6.52%	6,508	414	6.36%	1,081	86	7.96%	839	83	9.89%	850	80	9.41%
2003	4,617	299	6.48%	1,743	111	6.37%	3,877	227	5.86%	699	37	5.29%	540	40	7.41%	1,009	89	8.82%
2004	6,130	376	6.13%	2,265	107	4.72%	6,180	318	5.15%	928	58	6.25%	835	69	8.26%	867	66	7.61%
2005	2,181	143	6.56%	808	40	4.95%	2,095	99	4.73%	378	17	4.50%	385	25	6.49%	723	28	3.87%
2006	3,265	175	5.36%	1,455	83	5.70%	4,222	190	4.50%	707	30	4.24%	524	31	5.92%	770	34	4.42%
2007	1,156	56	4.84%	510	21	4.12%	1,615	52	3.22%	159	8	5.03%	160	7	4.38%	308	15	4.87%
2008	1,686	81	4.80%	794	33	4.16%	2,884	140	4.85%	262	7	2.67%	252	23	9.13%	322	10	3.11%
2009	118	1	0.85%	67	1	1.49%	331	22	6.65%	17	0	0.00%	18	1	5.56%	58	7	12.07%
2010	107	7	6.54%	80	2	2.50%	387	20	5.17%	16	0	0.00%	14	0	0.00%	55	3	5.45%
2011	55	1	1.82%	62	4	6.45%	447	33	7.38%	6	0	0.00%	5	0	0.00%	97	13	13.40%
2012	46	1	2.17%	40	0	0.00%	318	23	7.23%	5	1	20.00%	6	0	0.00%	102	8	7.84%
2013	53	4	7.55%	38	0	0.00%	153	7	4.58%	12	1	8.33%	9	0	0.00%	20	2	10.00%
2014	44	0	0.00%	34	2	5.88%	317	22	6.94%	14	0	0.00%	21	3	14.29%	48	11	22.92%
2015	1	0	0.00%	3	1	33.33%	73	7	9.59%	1	0	0.00%	3	1	33.33%	19	2	10.53%
TOTAL	90,295	9,910	10.98%	27,456	2,036	7.42%	39,844	2,212	5.55%	16,595	1,974	11.90%	20,110	2,325	11.56%	7,445	521	7.00%

EPA REPORT 51.366 a.2.v

State of California - Bureau of Automotive Repair

Initially Failed Vehicles Receiving a Waiver (Passenger Cars and Light Duty Trucks)

a.2.v Vehicle Types P & L	PASSENGER CARS									LIGHT DUTY TRUCKS								
	ASM TESTS			TSI TESTS			OBD TESTS			ASM TESTS			TSI TESTS			OBD TESTS		
	VEHICLE MODEL YEAR	VEHICLES TESTED	PERCENT OF TESTED															
1976	1,207	0	0.00%	128	0	0.00%	0	0	0	427	0	0.00%	82	0	0.00%	0	0	0
1977	1,376	0	0.00%	101	0	0.00%	0	0	0	590	0	0.00%	98	0	0.00%	0	0	0
1979	1,911	0	0.00%	193	0	0.00%	0	0	0	939	0	0.00%	143	0	0.00%	0	0	0
1980	1,051	2	0.19%	67	0	0.00%	0	0	0	706	0	0.00%	123	0	0.00%	0	0	0
1981	1,387	2	0.14%	102	0	0.00%	0	0	0	1,024	1	0.10%	136	0	0.00%	0	0	0
1982	1,549	1	0.06%	124	0	0.00%	0	0	0	1,169	0	0.00%	226	1	0.44%	0	0	0
1983	2,013	2	0.10%	194	0	0.00%	0	0	0	1,468	0	0.00%	215	0	0.00%	0	0	0
1984	3,339	2	0.06%	292	0	0.00%	0	0	0	2,863	0	0.00%	492	0	0.00%	0	0	0
1985	4,597	3	0.07%	363	0	0.00%	0	0	0	4,012	1	0.02%	672	1	0.15%	0	0	0
1986	5,380	2	0.04%	497	0	0.00%	0	0	0	6,421	0	0.00%	1,040	0	0.00%	0	0	0
1987	7,371	5	0.07%	575	0	0.00%	0	0	0	6,380	3	0.05%	997	0	0.00%	0	0	0
1988	8,720	5	0.06%	706	1	0.14%	0	0	0	6,928	0	0.00%	1,051	0	0.00%	0	0	0
1989	11,818	6	0.05%	879	0	0.00%	0	0	0	9,040	0	0.00%	1,240	0	0.00%	0	0	0
1990	17,980	6	0.03%	1,415	0	0.00%	0	0	0	8,360	2	0.02%	1,092	0	0.00%	0	0	0
1991	22,556	11	0.05%	2,005	0	0.00%	0	0	0	10,225	2	0.02%	1,263	0	0.00%	0	0	0
1992	23,193	4	0.02%	2,113	0	0.00%	0	0	0	9,549	2	0.02%	1,074	0	0.00%	0	0	0
1993	29,908	10	0.03%	2,555	1	0.04%	0	0	0	14,767	6	0.04%	1,633	0	0.00%	0	0	0
1994	33,963	12	0.04%	2,681	1	0.04%	0	0	0	18,712	13	0.07%	2,038	0	0.00%	0	0	0
1995	38,463	20	0.05%	3,203	0	0.00%	0	0	0	19,027	7	0.04%	1,990	0	0.00%	0	0	0
1996	38,475	25	0.06%	3,634	6	0.17%	809	0	0.00%	17,640	8	0.05%	2,166	0	0.00%	464	0	0.00%
1997	38,099	23	0.06%	3,979	1	0.03%	908	0	0.00%	19,668	5	0.03%	3,108	1	0.03%	473	0	0.00%
1998	39,601	18	0.05%	4,661	0	0.00%	1,172	0	0.00%	24,270	17	0.07%	3,344	1	0.03%	639	0	0.00%
1999	31,513	21	0.07%	5,124	2	0.04%	1,174	1	0.09%	16,663	7	0.04%	2,706	0	0.00%	564	0	0.00%
2000	34,403	28	0.08%	4,096	2	0.05%	14,127	8	0.06%	18,799	11	0.06%	2,708	1	0.04%	7,284	1	0.01%
2001	25,522	14	0.05%	3,780	2	0.05%	11,867	8	0.07%	11,394	9	0.08%	2,535	3	0.12%	5,637	3	0.05%
2002	30,219	24	0.08%	4,689	2	0.04%	15,498	10	0.06%	14,645	14	0.10%	4,023	1	0.02%	9,011	3	0.03%
2003	16,581	12	0.07%	2,829	4	0.14%	8,744	5	0.06%	6,453	1	0.02%	1,797	3	0.17%	4,073	2	0.05%
2004	20,995	6	0.03%	3,501	2	0.06%	11,221	12	0.11%	9,738	2	0.02%	3,042	1	0.03%	6,816	5	0.07%
2005	10,226	3	0.03%	1,747	1	0.06%	5,686	3	0.05%	3,839	4	0.10%	1,113	0	0.00%	2,820	1	0.04%
2006	14,492	7	0.05%	3,049	0	0.00%	10,283	7	0.07%	6,214	3	0.05%	1,910	0	0.00%	5,740	4	0.07%
2007	4,548	3	0.07%	993	0	0.00%	3,279	3	0.09%	1,527	0	0.00%	511	0	0.00%	1,495	1	0.07%
2008	7,974	5	0.06%	1,749	0	0.00%	6,273	2	0.03%	2,174	1	0.05%	681	0	0.00%	2,819	0	0.00%
TOTAL	530,430	282	0.05%	62,024	25	0.04%	91,041	59	0.06%	275,631	119	0.04%	45,249	13	0.03%	47,835	20	0.04%

EPA REPORT 51.366 a.2.v

State of California - Bureau of Automotive Repair

Initially Failed Vehicles Receiving a Waiver (Medium and Heavy Duty Vehicles)

a.2.v Vehicle Types M & H	MEDIUM DUTY VEHICLES									HEAVY DUTY VEHICLES								
	ASM TESTS			TSI TESTS			OBD TESTS			ASM TESTS			TSI TESTS			OBD TESTS		
	VEHICLE MODEL YEAR	VEHICLES TESTED	PERCENT OF TESTED	VEHICLES TESTED	PERCENT OF TESTED	VEHICLES TESTED	PERCENT OF TESTED	VEHICLES TESTED	PERCENT OF TESTED	VEHICLES TESTED	PERCENT OF TESTED	VEHICLES TESTED	PERCENT OF TESTED	VEHICLES TESTED	PERCENT OF TESTED	VEHICLES TESTED	PERCENT OF TESTED	
1976	447	1	0.22%	143	0	0.00%	0	0	0	13	0	0.00%	242	0	0.00%	0	0	0
1977	715	2	0.28%	208	0	0.00%	0	0	0	25	0	0.00%	398	0	0.00%	0	0	0
1979	776	0	0.00%	162	0	0.00%	0	0	0	65	0	0.00%	448	1	0.22%	0	0	0
1980	261	0	0.00%	43	0	0.00%	0	0	0	63	0	0.00%	232	0	0.00%	0	0	0
1981	187	0	0.00%	24	0	0.00%	0	0	0	107	0	0.00%	267	0	0.00%	0	0	0
1982	193	0	0.00%	36	0	0.00%	0	0	0	82	0	0.00%	260	1	0.38%	0	0	0
1983	289	0	0.00%	30	0	0.00%	0	0	0	122	0	0.00%	327	0	0.00%	0	0	0
1984	533	0	0.00%	84	0	0.00%	0	0	0	188	0	0.00%	657	0	0.00%	0	0	0
1985	685	1	0.15%	109	0	0.00%	0	0	0	303	0	0.00%	652	0	0.00%	0	0	0
1986	841	1	0.12%	149	0	0.00%	0	0	0	339	0	0.00%	688	0	0.00%	0	0	0
1987	913	0	0.00%	167	0	0.00%	0	0	0	293	0	0.00%	701	2	0.29%	0	0	0
1988	1,327	1	0.08%	221	0	0.00%	0	0	0	303	0	0.00%	838	0	0.00%	0	0	0
1989	1,750	0	0.00%	297	0	0.00%	0	0	0	739	0	0.00%	944	2	0.21%	0	0	0
1990	2,025	0	0.00%	309	0	0.00%	0	0	0	737	0	0.00%	872	0	0.00%	0	0	0
1991	1,774	0	0.00%	378	0	0.00%	0	0	0	483	0	0.00%	650	0	0.00%	0	0	0
1992	2,541	1	0.04%	487	1	0.21%	0	0	0	561	0	0.00%	587	0	0.00%	0	0	0
1993	3,031	0	0.00%	605	0	0.00%	0	0	0	637	0	0.00%	515	0	0.00%	0	0	0
1994	4,787	1	0.02%	905	0	0.00%	0	0	0	814	0	0.00%	757	0	0.00%	0	0	0
1995	5,089	0	0.00%	929	0	0.00%	0	0	0	1,064	0	0.00%	826	0	0.00%	0	0	0
1996	3,775	2	0.05%	901	0	0.00%	133	0	0.00%	797	1	0.13%	824	1	0.12%	6	0	0.00%
1997	4,626	3	0.06%	927	0	0.00%	216	0	0.00%	814	1	0.12%	800	0	0.00%	5	0	0.00%
1998	5,967	3	0.05%	1,387	1	0.07%	344	0	0.00%	732	0	0.00%	766	0	0.00%	230	2	0.87%
1999	7,881	0	0.00%	2,108	1	0.05%	495	0	0.00%	1,010	2	0.20%	963	0	0.00%	658	0	0.00%
2000	6,106	1	0.02%	2,714	1	0.04%	4,586	3	0.07%	1,010	0	0.00%	1,105	0	0.00%	498	0	0.00%
2001	5,949	0	0.00%	2,832	4	0.14%	4,663	2	0.04%	962	0	0.00%	751	1	0.13%	800	0	0.00%
2002	7,740	2	0.03%	3,204	1	0.03%	6,508	4	0.06%	1,081	1	0.09%	839	1	0.12%	850	1	0.12%
2003	4,617	4	0.09%	1,743	1	0.06%	3,877	2	0.05%	699	0	0.00%	540	0	0.00%	1,009	0	0.00%
2004	6,130	1	0.02%	2,265	0	0.00%	6,180	0	0.00%	928	0	0.00%	835	2	0.24%	867	0	0.00%
2005	2,181	0	0.00%	808	1	0.12%	2,095	0	0.00%	378	0	0.00%	385	0	0.00%	723	1	0.14%
2006	3,265	0	0.00%	1,455	1	0.07%	4,222	1	0.02%	707	0	0.00%	524	0	0.00%	770	0	0.00%
2007	1,156	0	0.00%	510	0	0.00%	1,615	0	0.00%	159	0	0.00%	160	0	0.00%	308	0	0.00%
2008	1,686	0	0.00%	794	0	0.00%	2,884	0	0.00%	262	0	0.00%	252	0	0.00%	322	0	0.00%
TOTAL	89,243	24	0.03%	26,934	12	0.04%	37,818	12	0.03%	16,477	5	0.03%	19,605	11	0.06%	7,046	4	0.06%

EPA REPORT 51.366 a.2.vi

State of California - Bureau of Automotive Repair

Vehicles with No Known Outcome (Passenger Cars and Light Duty Trucks)

a.2.vi Vehicle Types P & L	PASSENGER CARS									LIGHT DUTY TRUCKS								
	ASM TESTS			TSI TESTS			OBD TESTS			ASM TESTS			TSI TESTS			OBD TESTS		
	VEHICLE MODEL YEAR	VEHICLES TESTED	COUNT	PERCENT OF TESTED	VEHICLES TESTED	COUNT	PERCENT OF TESTED	VEHICLES TESTED	COUNT	PERCENT OF TESTED	VEHICLES TESTED	COUNT	PERCENT OF TESTED	VEHICLES TESTED	COUNT	PERCENT OF TESTED	VEHICLES TESTED	COUNT	PERCENT OF TESTED
1976	3,498	259	7.40%	520	31	5.96%	0	0		1,300	90	6.92%	358	19	5.31%	0	0	
1977	4,267	352	8.25%	517	27	5.22%	0	0		1,625	120	7.38%	410	26	6.34%	0	0	
1978	5,174	368	7.11%	770	44	5.71%	0	0		2,438	182	7.47%	568	31	5.46%	0	0	
1979	6,112	460	7.53%	829	40	4.83%	0	0		2,737	198	7.23%	686	34	4.96%	0	0	
1980	3,708	251	6.77%	439	23	5.24%	0	0		2,151	156	7.25%	571	39	6.83%	0	0	
1981	4,255	421	9.89%	535	22	4.11%	0	0		2,676	261	9.75%	658	45	6.84%	0	0	
1982	4,654	413	8.87%	622	41	6.59%	0	0		3,378	307	9.09%	820	68	8.29%	0	0	
1983	6,353	592	9.32%	939	54	5.75%	0	0		4,135	414	10.01%	987	69	6.99%	0	0	
1984	10,738	984	9.16%	1,537	77	5.01%	0	0		8,131	798	9.81%	1,928	134	6.95%	0	0	
1985	14,674	1,369	9.33%	2,193	123	5.61%	0	0		11,441	991	8.66%	2,684	163	6.07%	0	0	
1986	19,315	1,719	8.90%	2,894	163	5.63%	0	0		19,218	1,472	7.66%	4,523	226	5.00%	0	0	
1987	24,966	2,477	9.92%	3,493	182	5.21%	0	0		20,189	1,498	7.42%	4,719	248	5.26%	0	0	
1988	30,177	2,996	9.93%	4,391	241	5.49%	0	0		22,965	1,539	6.70%	4,870	213	4.37%	0	0	
1989	43,469	3,900	8.97%	5,931	284	4.79%	0	0		31,055	1,913	6.16%	6,294	252	4.00%	0	0	
1990	64,212	5,323	8.29%	9,148	415	4.54%	0	0		30,325	1,602	5.28%	6,460	219	3.39%	0	0	
1991	79,491	6,649	8.36%	12,780	536	4.19%	0	0		41,116	1,950	4.74%	8,466	244	2.88%	0	0	
1992	82,773	6,477	7.83%	13,206	531	4.02%	0	0		39,022	1,867	4.78%	7,704	209	2.71%	0	0	
1993	101,099	8,167	8.08%	16,341	672	4.11%	0	0		51,902	3,141	6.05%	11,783	313	2.66%	0	0	
1994	120,470	8,036	6.67%	19,369	584	3.02%	0	0		60,069	3,322	5.53%	13,727	399	2.91%	0	0	
1995	179,939	9,595	5.33%	28,853	703	2.44%	0	0		82,968	4,019	4.84%	17,009	360	2.12%	0	0	
1996	143,738	7,659	5.33%	22,537	720	3.19%	91	3	3.30%	65,791	2,863	4.35%	15,307	377	2.46%	46	0	0.00%
1997	235,096	8,324	3.54%	41,604	769	1.85%	118	2	1.69%	119,702	3,550	2.97%	32,447	507	1.56%	92	1	1.09%
1998	206,451	6,175	2.99%	38,750	621	1.60%	805	9	1.12%	109,899	3,160	2.88%	27,779	396	1.43%	107	0	0.00%
1999	301,696	5,616	1.86%	66,926	855	1.28%	851	3	0.35%	153,234	2,274	1.48%	44,052	313	0.71%	139	1	0.72%
2000	258,782	5,100	1.97%	45,569	588	1.29%	729	17	2.33%	122,111	2,042	1.67%	30,177	309	1.02%	119	0	0.00%
2001	447,503	5,843	1.31%	82,544	695	0.84%	914	11	1.20%	214,321	2,261	1.05%	63,676	398	0.63%	185	6	3.24%
2002	237,128	3,444	1.45%	49,859	496	0.99%	1,561	18	1.15%	100,503	1,104	1.10%	38,714	288	0.74%	177	3	1.69%
2003	494,153	3,015	0.61%	104,610	453	0.43%	1,888	17	0.90%	217,693	1,010	0.46%	90,959	238	0.26%	208	4	1.92%
2004	207,569	1,479	0.71%	42,365	210	0.50%	929	5	0.54%	83,469	476	0.57%	39,038	149	0.38%	233	1	0.43%
2005	575,954	1,600	0.28%	112,469	270	0.24%	1,381	2	0.14%	242,970	576	0.24%	107,659	134	0.12%	415	2	0.48%
2006	202,749	609	0.30%	45,817	138	0.30%	1,310	5	0.38%	67,682	196	0.29%	27,483	56	0.20%	362	0	0.00%
2007	626,550	712	0.11%	147,426	145	0.10%	467	2	0.43%	207,692	228	0.11%	100,014	62	0.06%	250	2	0.80%
2008	96,642	128	0.13%	27,400	39	0.14%	344	1	0.29%	25,603	30	0.12%	14,088	17	0.12%	160	0	0.00%
2009	60,343	97	0.16%	17,996	15	0.08%	2,348	4	0.17%	11,596	15	0.13%	5,973	4	0.07%	40	0	0.00%
2010	38,832	300	0.77%	11,034	72	0.65%	2,649	2	0.08%	7,686	91	1.18%	5,370	25	0.47%	53	0	0.00%
2011	32,453	430	1.32%	10,165	115	1.13%	7,873	5	0.06%	7,362	154	2.09%	5,351	45	0.84%	155	0	0.00%
2012	44,884	481	1.07%	11,408	167	1.46%	3,662	5	0.14%	6,553	136	2.08%	5,360	61	1.14%	42	0	0.00%
2013	14,899	130	0.87%	7,002	60	0.86%	970	42	4.33%	3,582	42	1.17%	4,103	33	0.80%	20	2	10.00%
2014	480	5	1.04%	657	1	0.15%	56	0	0.00%	151	2	1.32%	410	0	0.00%	11	0	0.00%
TOTAL	5,035,246	111,955	2.22%	1,011,445	11,222	1.11%	28,946	153	0.53%	2,206,441	46,050	2.09%	753,185	6,723	0.89%	2,814	22	0.78%

EPA REPORT 51.366 a.2.vi

State of California - Bureau of Automotive Repair

Vehicles with No Known Outcome (Medium and Heavy Duty Vehicles)

a.2.vi Vehicle Types M & H	MEDIUM DUTY VEHICLES									HEAVY DUTY VEHICLES								
	ASM TESTS			TSI TESTS			OBD TESTS			ASM TESTS			TSI TESTS			OBD TESTS		
	VEHICLE MODEL YEAR	VEHICLES TESTED	COUNT	PERCENT OF TESTED	VEHICLES TESTED	COUNT	PERCENT OF TESTED	VEHICLES TESTED	COUNT	PERCENT OF TESTED	VEHICLES TESTED	COUNT	PERCENT OF TESTED	VEHICLES TESTED	COUNT	PERCENT OF TESTED	VEHICLES TESTED	COUNT	PERCENT OF TESTED
1976	1,781	127	7.13%	621	38	6.12%	0	0		73	0	0.00%	997	77	7.72%	0	0	
1977	2,873	155	5.40%	969	41	4.23%	0	0		110	5	4.55%	1,436	120	8.36%	0	0	
1978	2,348	146	6.22%	806	47	5.83%	0	0		226	10	4.42%	1,737	125	7.20%	0	0	
1979	2,231	219	9.82%	715	40	5.59%	0	0		256	26	10.16%	1,692	109	6.44%	0	0	
1980	773	64	8.28%	205	16	7.80%	0	0		287	25	8.71%	934	37	3.96%	0	0	
1981	518	60	11.58%	155	8	5.16%	0	0		354	31	8.76%	1,214	66	5.44%	0	0	
1982	557	55	9.87%	139	14	10.07%	0	0		344	22	6.40%	1,221	55	4.50%	0	0	
1983	826	77	9.32%	220	7	3.18%	0	0		454	34	7.49%	1,509	62	4.11%	0	0	
1984	1,441	177	12.28%	401	40	9.98%	0	0		720	73	10.14%	2,829	114	4.03%	0	0	
1985	1,828	180	9.85%	517	31	6.00%	0	0		1,090	83	7.61%	3,093	144	4.66%	0	0	
1986	2,358	227	9.63%	686	40	5.83%	0	0		1,350	90	6.67%	3,164	129	4.08%	0	0	
1987	2,947	210	7.13%	811	52	6.41%	0	0		1,156	53	4.58%	3,396	131	3.86%	0	0	
1988	4,526	346	7.64%	1,270	51	4.02%	0	0		1,518	85	5.60%	4,292	157	3.66%	0	0	
1989	6,336	423	6.68%	1,734	63	3.63%	0	0		3,163	161	5.09%	5,844	178	3.05%	0	0	
1990	7,411	415	5.60%	2,052	91	4.43%	0	0		3,151	137	4.35%	5,597	134	2.39%	0	0	
1991	6,580	350	5.32%	2,540	81	3.19%	0	0		2,456	100	4.07%	4,489	88	1.96%	0	0	
1992	9,410	437	4.64%	2,952	104	3.52%	0	0		2,778	105	3.78%	4,575	68	1.49%	0	0	
1993	11,823	517	4.37%	3,578	120	3.35%	0	0		2,737	118	4.31%	4,613	58	1.26%	0	0	
1994	19,095	795	4.16%	5,736	132	2.30%	0	0		3,379	143	4.23%	5,763	101	1.75%	0	0	
1995	28,699	936	3.26%	7,361	152	2.06%	0	0		6,556	168	2.56%	8,297	119	1.43%	0	0	
1996	22,015	531	2.41%	6,224	137	2.20%	28	0	0.00%	5,224	108	2.07%	5,916	102	1.72%	0	0	
1997	41,711	740	1.77%	10,672	158	1.48%	42	2	4.76%	8,447	107	1.27%	9,569	122	1.27%	0	0	
1998	38,419	727	1.89%	11,128	193	1.73%	96	1	1.04%	5,450	81	1.49%	5,958	86	1.44%	2,787	26	0.93%
1999	83,127	992	1.19%	29,902	249	0.83%	335	5	1.49%	14,312	130	0.91%	13,787	100	0.73%	10,750	46	0.43%
2000	50,902	490	0.96%	27,756	266	0.96%	249	0	0.00%	11,029	105	0.95%	9,726	89	0.92%	10,165	34	0.33%
2001	125,314	861	0.69%	62,093	424	0.68%	463	3	0.65%	21,912	167	0.76%	15,647	95	0.61%	14,102	49	0.35%
2002	57,691	390	0.68%	30,041	190	0.63%	445	5	1.12%	9,167	53	0.58%	7,662	71	0.93%	14,582	80	0.55%
2003	168,825	544	0.32%	69,621	205	0.29%	499	7	1.40%	25,006	85	0.34%	19,328	64	0.33%	17,796	68	0.38%
2004	69,655	283	0.41%	29,838	105	0.35%	539	0	0.00%	9,226	39	0.42%	8,162	61	0.75%	20,621	64	0.31%
2005	167,718	271	0.16%	64,988	103	0.16%	639	3	0.47%	19,830	31	0.16%	18,814	44	0.23%	22,619	47	0.21%
2006	48,202	121	0.25%	27,494	59	0.21%	645	1	0.16%	8,029	19	0.24%	7,337	28	0.38%	27,238	28	0.10%
2007	151,888	136	0.09%	84,510	70	0.08%	560	3	0.54%	17,468	24	0.14%	14,062	19	0.14%	16,037	12	0.07%
2008	19,540	22	0.11%	13,434	14	0.10%	412	0	0.00%	2,923	4	0.14%	2,264	3	0.13%	16,028	7	0.04%
2009	7,366	7	0.10%	5,553	3	0.05%	658	0	0.00%	1,373	5	0.36%	717	2	0.28%	4,001	1	0.02%
2010	4,869	29	0.60%	3,740	7	0.19%	653	0	0.00%	435	26	5.98%	376	1	0.27%	2,089	1	0.05%
2011	4,452	54	1.21%	4,201	20	0.48%	2,169	0	0.00%	466	10	2.15%	514	3	0.58%	10,079	5	0.05%
2012	6,112	64	1.05%	3,460	19	0.55%	1,015	0	0.00%	1,386	5	0.36%	1,244	1	0.08%	3,607	1	0.03%
2013	3,851	18	0.47%	3,151	16	0.51%	236	1	0.42%	704	0	0.00%	1,254	4	0.32%	1,268	0	0.00%
2014	204	1	0.49%	319	2	0.63%	24	0	0.00%	34	0	0.00%	471	0	0.00%	133	0	0.00%
TOTAL	1,186,222	12,197	1.03%	521,593	3,408	0.65%	9,707	31	0.32%	194,579	2,468	1.27%	209,500	2,967	1.42%	193,902	469	0.24%

EPA REPORT 51.366 a.2.xi

State of California - Bureau of Automotive Repair

Vehicles Passing the On-board Diagnostic Check (Initial Tests)

REPORT a2xi	ALL VEHICLES			PASSENGER CARS			LIGHT DUTY TRUCKS			MEDIUM DUTY VEHICLES			HEAVY DUTY VEHICLES		
VEHICLE MODEL YEAR	VEHICLES TESTED	COUNT	PERCENT OF TESTED	VEHICLES TESTED	COUNT	PERCENT OF TESTED	VEHICLES TESTED	COUNT	PERCENT OF TESTED	VEHICLES TESTED	COUNT	PERCENT OF TESTED	VEHICLES TESTED	COUNT	PERCENT OF TESTED
1996	333,130	300,881	90.32%	191,341	173,137	90.49%	96,772	86,545	89.43%	34,654	31,682	91.42%	10,363	9,517	91.84%
1997	360,036	323,495	89.85%	200,197	180,822	90.32%	110,509	98,319	88.97%	39,543	35,497	89.77%	9,787	8,857	90.50%
1998	536,690	492,580	91.78%	293,051	270,113	92.17%	170,936	156,562	91.59%	60,252	54,492	90.44%	12,451	11,413	91.66%
1999	494,007	452,225	91.54%	254,080	232,738	91.60%	136,021	125,080	91.96%	81,369	73,490	90.32%	22,537	20,917	92.81%
2000	899,260	833,820	92.72%	466,717	432,001	92.56%	257,891	239,567	92.89%	147,003	136,250	92.69%	27,649	26,002	94.04%
2001	568,074	507,802	89.39%	299,097	267,886	89.56%	142,866	127,266	89.08%	103,185	91,660	88.83%	22,926	20,990	91.56%
2002	1,045,890	970,360	92.78%	513,170	475,069	92.58%	298,636	277,193	92.82%	204,533	190,652	93.21%	29,551	27,446	92.88%
2003	542,237	501,960	92.57%	276,599	255,779	92.47%	133,812	124,142	92.77%	110,626	102,442	92.60%	21,200	19,597	92.44%
2004	1,109,855	1,055,050	95.06%	517,010	490,203	94.81%	325,233	310,136	95.36%	236,759	225,695	95.33%	30,853	29,016	94.05%
2005	421,876	398,715	94.51%	229,907	217,039	94.40%	107,481	101,543	94.48%	66,453	62,915	94.68%	18,035	17,218	95.47%
2006	938,738	902,442	96.13%	487,785	469,462	96.24%	270,870	260,206	96.06%	157,893	151,638	96.04%	22,190	21,136	95.25%
2007	263,524	252,948	95.99%	147,123	141,580	96.23%	63,828	61,327	96.08%	46,872	44,635	95.23%	5,701	5,406	94.83%
2008	717,801	699,555	97.46%	408,014	397,719	97.48%	174,152	170,447	97.87%	124,866	121,054	96.95%	10,769	10,335	95.97%
2009	84,654	82,260	97.17%	56,830	55,312	97.33%	16,688	16,269	97.49%	10,233	9,829	96.05%	903	850	94.13%
2010	75,002	72,497	96.66%	48,289	46,797	96.91%	14,875	14,390	96.74%	11,017	10,535	95.62%	821	775	94.40%
2011	55,566	53,392	96.09%	33,891	32,666	96.39%	11,446	11,061	96.64%	9,217	8,720	94.61%	1,012	945	93.38%
2012	52,950	51,269	96.83%	33,998	32,993	97.04%	8,767	8,502	96.98%	8,656	8,317	96.08%	1,529	1,457	95.29%
2013	52,374	50,950	97.28%	35,185	34,269	97.40%	9,362	9,090	97.09%	7,081	6,879	97.15%	746	712	95.44%
2014	27,308	26,167	95.82%	14,050	13,525	96.26%	6,500	6,323	97.28%	5,907	5,542	93.82%	851	777	91.30%
2015	2,564	2,343	91.38%	1,086	980	90.24%	706	684	96.88%	600	528	88.00%	172	151	87.79%
TOTAL	8,581,536	8,030,711	93.58%	4,507,420	4,220,090	93.63%	2,357,351	2,204,652	93.52%	1,466,719	1,372,452	93.57%	250,046	233,517	93.39%

EPA REPORT 51.366 a.2.xii

State of California - Bureau of Automotive Repair

Vehicles Failing the On-board Diagnostic Check (Initial Tests)

REPORT a2xii	ALL TESTS			PASSENGER CARS			LIGHT DUTY TRUCKS			MEDIUM DUTY VEHICLES			HEAVY DUTY VEHICLES		
VEHICLE MODEL YEAR	VEHICLES TESTED	COUNT	PERCENT OF TESTED	VEHICLES TESTED	COUNT	PERCENT OF TESTED	VEHICLES TESTED	COUNT	PERCENT OF TESTED	VEHICLES TESTED	COUNT	PERCENT OF TESTED	VEHICLES TESTED	COUNT	PERCENT OF TESTED
1996	333,130	32,249	9.68%	191,341	18,204	9.51%	96,772	10,227	10.57%	34,654	2,972	8.58%	10,363	846	8.16%
1997	360,036	36,541	10.15%	200,197	19,375	9.68%	110,509	12,190	11.03%	39,543	4,046	10.23%	9,787	930	9.50%
1998	536,690	44,110	8.22%	293,051	22,938	7.83%	170,936	14,374	8.41%	60,252	5,760	9.56%	12,451	1,038	8.34%
1999	494,007	41,782	8.46%	254,080	21,342	8.40%	136,021	10,941	8.04%	81,369	7,879	9.68%	22,537	1,620	7.19%
2000	899,260	65,440	7.28%	466,717	34,716	7.44%	257,891	18,324	7.11%	147,003	10,753	7.31%	27,649	1,647	5.96%
2001	568,074	60,272	10.61%	299,097	31,211	10.44%	142,866	15,600	10.92%	103,185	11,525	11.17%	22,926	1,936	8.44%
2002	1,045,890	75,530	7.22%	513,170	38,101	7.42%	298,636	21,443	7.18%	204,533	13,881	6.79%	29,551	2,105	7.12%
2003	542,237	40,277	7.43%	276,599	20,820	7.53%	133,812	9,670	7.23%	110,626	8,184	7.40%	21,200	1,603	7.56%
2004	1,109,855	54,805	4.94%	517,010	26,807	5.19%	325,233	15,097	4.64%	236,759	11,064	4.67%	30,853	1,837	5.95%
2005	421,876	23,161	5.49%	229,907	12,868	5.60%	107,481	5,938	5.52%	66,453	3,538	5.32%	18,035	817	4.53%
2006	938,738	36,296	3.87%	487,785	18,323	3.76%	270,870	10,664	3.94%	157,893	6,255	3.96%	22,190	1,054	4.75%
2007	263,524	10,576	4.01%	147,123	5,543	3.77%	63,828	2,501	3.92%	46,872	2,237	4.77%	5,701	295	5.17%
2008	717,801	18,246	2.54%	408,014	10,295	2.52%	174,152	3,705	2.13%	124,866	3,812	3.05%	10,769	434	4.03%
2009	84,654	2,394	2.83%	56,830	1,518	2.67%	16,688	419	2.51%	10,233	404	3.95%	903	53	5.87%
2010	75,002	2,505	3.34%	48,289	1,492	3.09%	14,875	485	3.26%	11,017	482	4.38%	821	46	5.60%
2011	55,566	2,174	3.91%	33,891	1,225	3.61%	11,446	385	3.36%	9,217	497	5.39%	1,012	67	6.62%
2012	52,950	1,681	3.17%	33,998	1,005	2.96%	8,767	265	3.02%	8,656	339	3.92%	1,529	72	4.71%
2013	52,374	1,424	2.72%	35,185	916	2.60%	9,362	272	2.91%	7,081	202	2.85%	746	34	4.56%
2014	27,308	1,141	4.18%	14,050	525	3.74%	6,500	177	2.72%	5,907	365	6.18%	851	74	8.70%
2015	2,564	221	8.62%	1,086	106	9.76%	706	22	3.12%	600	72	12.00%	172	21	12.21%
TOTAL	8,581,536	550,825	6.42%	4,507,420	287,330	6.37%	2,357,351	152,699	6.48%	1,466,719	94,267	6.43%	250,046	16,529	6.61%

EPA REPORT 51.366 a.2.xiii; a.2.xiv
 Comparison of On-board Diagnostic Checks and Tailpipe Tests

PASSENGER CARS - ASM TEST									
REPORT a2xiii, a2xiv, PC_ASM	ON-BOARD DIAGNOSTIC CHECK WITH ASSOCIATED TAILPIPE TEST	PASS ON-BOARD & PASS TAILPIPE		PASS ON-BOARD & FAIL TAILPIPE		FAIL ON-BOARD & PASS TAILPIPE		FAIL ON-BOARD & FAIL TAILPIPE	
VEHICLE MODEL YEAR	VEHICLES TESTED	COUNT	PERCENT OF TESTED	COUNT	PERCENT OF TESTED	COUNT	PERCENT OF TESTED	COUNT	PERCENT OF TESTED
1996	160,367	127,364	79.42%	17,789	11.09%	10,256	6.40%	4,958	3.09%
1997	163,112	130,520	80.02%	16,324	10.01%	11,476	7.04%	4,792	2.94%
1998	238,050	205,368	86.27%	13,580	5.70%	14,522	6.10%	4,580	1.92%
1999	199,479	173,610	87.03%	8,640	4.33%	13,635	6.84%	3,594	1.80%
2000	285,880	257,694	90.14%	6,685	2.34%	17,953	6.28%	3,548	1.24%
2001	173,239	151,353	87.37%	3,304	1.91%	15,956	9.21%	2,626	1.52%
2002	300,233	274,481	91.42%	3,861	1.29%	19,522	6.50%	2,369	0.79%
2003	152,191	138,597	91.07%	2,015	1.32%	10,376	6.82%	1,203	0.79%
2004	302,744	286,102	94.50%	1,548	0.51%	14,083	4.65%	1,011	0.33%
2005	122,737	115,118	93.79%	629	0.51%	6,499	5.30%	491	0.40%
2006	239,194	230,306	96.28%	750	0.31%	7,748	3.24%	390	0.16%
2007	57,146	54,599	95.54%	219	0.38%	2,224	3.89%	104	0.18%
2008	178,872	174,245	97.41%	312	0.17%	4,190	2.34%	125	0.07%
2009	17,977	17,465	97.15%	48	0.27%	451	2.51%	13	0.07%
2010	20,362	19,789	97.19%	40	0.20%	526	2.58%	7	0.03%
2011	13,037	12,691	97.35%	15	0.12%	328	2.52%	3	0.02%
2012	13,044	12,707	97.42%	24	0.18%	310	2.38%	3	0.02%
2013	11,879	11,612	97.75%	16	0.13%	248	2.09%	3	0.03%
2014	3,232	3,115	96.38%	5	0.15%	112	3.47%	0	0.00%
2015	65	55	84.62%	.	.	10	15.38%	.	.
TOTAL	2,652,840	2,396,791	90.35%	75,804	2.86%	150,425	5.67%	29,820	1.12%

EPA REPORT 51.366 a.2.xiii; a.2.xiv
 Comparison of On-board Diagnostic Checks and Tailpipe Tests

PASSENGER CARS - TSI TEST									
REPORT a2xiii, a2xiv, PC_TSI	ON-BOARD DIAGNOSTIC CHECK WITH ASSOCIATED TAILPIPE TEST	PASS ON-BOARD & PASS TAILPIPE		PASS ON-BOARD & FAIL TAILPIPE		FAIL ON-BOARD & PASS TAILPIPE		FAIL ON-BOARD & FAIL TAILPIPE	
VEHICLE MODEL YEAR	VEHICLES TESTED	COUNT	PERCENT OF TESTED	COUNT	PERCENT OF TESTED	COUNT	PERCENT OF TESTED	COUNT	PERCENT OF TESTED
1996	24,722	21,664	87.63%	591	2.39%	2,273	9.19%	194	0.78%
1997	30,868	27,636	89.53%	719	2.33%	2,256	7.31%	257	0.83%
1998	44,030	40,328	91.59%	637	1.45%	2,815	6.39%	250	0.57%
1999	44,818	40,940	91.35%	552	1.23%	3,027	6.75%	299	0.67%
2000	48,972	45,612	93.14%	428	0.87%	2,747	5.61%	185	0.38%
2001	34,235	30,948	90.40%	205	0.60%	2,937	8.58%	145	0.42%
2002	59,916	55,845	93.21%	219	0.37%	3,678	6.14%	174	0.29%
2003	34,422	32,030	93.05%	125	0.36%	2,182	6.34%	85	0.25%
2004	59,083	56,136	95.01%	131	0.22%	2,738	4.63%	78	0.13%
2005	26,045	24,680	94.76%	71	0.27%	1,251	4.80%	43	0.17%
2006	54,823	52,821	96.35%	185	0.34%	1,778	3.24%	39	0.07%
2007	15,457	14,831	95.95%	56	0.36%	551	3.56%	19	0.12%
2008	51,326	50,271	97.94%	86	0.17%	954	1.86%	15	0.03%
2009	6,089	5,922	97.26%	10	0.16%	155	2.55%	2	0.03%
2010	6,593	6,427	97.48%	4	0.06%	162	2.46%	0	0.00%
2011	5,493	5,338	97.18%	9	0.16%	145	2.64%	1	0.02%
2012	4,301	4,197	97.58%	4	0.09%	100	2.33%	0	0.00%
2013	4,489	4,378	97.53%	6	0.13%	105	2.34%	0	0.00%
2014	1,889	1,838	97.30%	1	0.05%	50	2.65%	0	0.00%
2015	135	131	97.04%	.	.	4	2.96%	.	.
TOTAL	557,706	521,973	93.59%	4,039	0.72%	29,908	5.36%	1,786	0.32%

EPA REPORT 51.366 a.2.xiii; a.2.xiv
 Comparison of On-board Diagnostic Checks and Tailpipe Tests

LIGHT DUTY TRUCKS - ASM TEST									
REPORT a2xiii, a2xiv, LDT_ASM	ON-BOARD DIAGNOSTIC CHECK WITH ASSOCIATED TAILPIPE TEST	PASS ON-BOARD & PASS TAILPIPE		PASS ON-BOARD & FAIL TAILPIPE		FAIL ON-BOARD & PASS TAILPIPE		FAIL ON-BOARD & FAIL TAILPIPE	
VEHICLE MODEL YEAR	VEHICLES TESTED	COUNT	PERCENT OF TESTED	COUNT	PERCENT OF TESTED	COUNT	PERCENT OF TESTED	COUNT	PERCENT OF TESTED
1996	76,363	61,381	80.38%	6,512	8.53%	6,088	7.97%	2,382	3.12%
1997	83,378	66,490	79.75%	7,099	8.51%	7,075	8.49%	2,714	3.26%
1998	132,225	111,772	84.53%	8,834	6.68%	8,917	6.74%	2,702	2.04%
1999	101,615	87,778	86.38%	5,159	5.08%	6,992	6.88%	1,686	1.66%
2000	148,611	133,054	89.53%	4,616	3.11%	9,386	6.32%	1,555	1.05%
2001	75,077	65,042	86.63%	1,218	1.62%	7,812	10.41%	1,005	1.34%
2002	151,474	139,029	91.78%	1,347	0.89%	10,013	6.61%	1,085	0.72%
2003	62,262	56,738	91.13%	626	1.01%	4,382	7.04%	516	0.83%
2004	151,417	143,285	94.63%	997	0.66%	6,570	4.34%	565	0.37%
2005	43,804	40,750	93.03%	231	0.53%	2,704	6.17%	119	0.27%
2006	106,672	101,912	95.54%	323	0.30%	4,315	4.05%	122	0.11%
2007	20,088	19,078	94.97%	58	0.29%	929	4.62%	23	0.11%
2008	56,432	55,210	97.83%	83	0.15%	1,116	1.98%	23	0.04%
2009	3,517	3,431	97.55%	10	0.28%	76	2.16%	0	0.00%
2010	4,491	4,367	97.24%	6	0.13%	116	2.58%	2	0.04%
2011	2,739	2,664	97.26%	4	0.15%	70	2.56%	1	0.04%
2012	2,078	2,028	97.59%	4	0.19%	46	2.21%	0	0.00%
2013	1,865	1,815	97.32%	1	0.05%	49	2.63%	0	0.00%
2014	885	864	97.63%	1	0.11%	19	2.15%	1	0.11%
2015	6	5	83.33%	.	.	1	16.67%	.	.
TOTAL	1,224,999	1,096,693	89.53%	37,129	3.03%	76,676	6.26%	14,501	1.18%

EPA REPORT 51.366 a.2.xiii; a.2.xiv
 Comparison of On-board Diagnostic Checks and Tailpipe Tests

LIGHT DUTY TRUCKS - TSI TEST									
REPORT a2xiii, a2xiv, LDT_TSI	ON BOARD DIAGNOSTIC CHECK WITH ASSOCIATED TAILPIPE TEST	PASS ON BOARD & PASS TAILPIPE		PASS ON BOARD & FAIL TAILPIPE		FAIL ON BOARD & PASS TAILPIPE		FAIL ON BOARD & FAIL TAILPIPE	
VEHICLE MODEL YEAR	VEHICLES TESTED	COUNT	PERCENT OF TESTED	COUNT	PERCENT OF TESTED	COUNT	PERCENT OF TESTED	COUNT	PERCENT OF TESTED
1996	17,287	15,562	90.02%	269	1.56%	1,308	7.57%	148	0.86%
1997	23,856	21,329	89.41%	432	1.81%	1,884	7.90%	211	0.88%
1998	32,892	30,230	91.91%	334	1.02%	2,151	6.54%	177	0.54%
1999	29,487	27,305	92.60%	289	0.98%	1,752	5.94%	141	0.48%
2000	35,294	33,133	93.88%	157	0.44%	1,884	5.34%	120	0.34%
2001	22,893	20,667	90.28%	111	0.48%	2,038	8.90%	77	0.34%
2002	53,456	50,086	93.70%	95	0.18%	3,161	5.91%	114	0.21%
2003	26,328	24,776	94.11%	62	0.24%	1,426	5.42%	64	0.24%
2004	66,350	63,825	96.19%	61	0.09%	2,395	3.61%	69	0.10%
2005	18,512	17,660	95.40%	19	0.10%	820	4.43%	13	0.07%
2006	43,828	42,287	96.48%	17	0.04%	1,509	3.44%	15	0.03%
2007	8,679	8,345	96.15%	4	0.05%	326	3.76%	4	0.05%
2008	27,561	27,133	98.45%	7	0.03%	420	1.52%	1	0.00%
2009	1,926	1,881	97.66%	1	0.05%	44	2.28%	0	0.00%
2010	2,681	2,612	97.43%	1	0.04%	68	2.54%	0	0.00%
2011	1,979	1,935	97.78%	0	0.00%	43	2.17%	1	0.05%
2012	1,825	1,791	98.14%	0	0.00%	34	1.86%	0	0.00%
2013	1,868	1,829	97.91%	0	0.00%	39	2.09%	0	0.00%
2014	990	971	98.08%	0	0.00%	19	1.92%	0	0.00%
2015	54	49	90.74%	.	.	5	9.26%	.	.
TOTAL	417,746	393,406	94.17%	1,859	0.45%	21,326	5.11%	1,155	0.28%

EPA REPORT 51.366 a.2.xiii; a.2.xiv
 Comparison of On-board Diagnostic Checks and Tailpipe Tests

MEDIUM DUTY VEHICLES - ASM TEST									
REPORT a2xiii, a2xiv, MDV_ASM	ONBOARD DIAGNOSTIC CHECK WITH ASSOCIATED TAILPIPE TEST	PASS ON-BOARD & PASS TAILPIPE		PASS ON-BOARD & FAIL TAILPIPE		FAIL ON-BOARD & PASS TAILPIPE		FAIL ON-BOARD & FAIL TAILPIPE	
VEHICLE MODEL YEAR	VEHICLES TESTED	COUNT	PERCENT OF TESTED	COUNT	PERCENT OF TESTED	COUNT	PERCENT OF TESTED	COUNT	PERCENT OF TESTED
1996	25,890	22,823	88.15%	767	2.96%	1,982	7.66%	318	1.23%
1997	29,984	26,104	87.06%	643	2.14%	2,780	9.27%	457	1.52%
1998	44,584	39,537	88.68%	629	1.41%	3,934	8.82%	484	1.09%
1999	57,022	50,474	88.52%	649	1.14%	5,355	9.39%	544	0.95%
2000	64,658	59,525	92.06%	319	0.49%	4,517	6.99%	297	0.46%
2001	43,634	38,398	88.00%	177	0.41%	4,857	11.13%	202	0.46%
2002	91,575	85,135	92.97%	240	0.26%	5,983	6.53%	217	0.24%
2003	48,006	44,130	91.93%	141	0.29%	3,580	7.46%	155	0.32%
2004	103,230	98,585	95.50%	116	0.11%	4,349	4.21%	180	0.17%
2005	24,835	23,394	94.20%	37	0.15%	1,373	5.53%	31	0.12%
2006	50,006	47,898	95.78%	38	0.08%	2,028	4.06%	42	0.08%
2007	12,957	12,290	94.85%	9	0.07%	646	4.99%	12	0.09%
2008	34,872	33,861	97.10%	10	0.03%	993	2.85%	8	0.02%
2009	1,906	1,819	95.44%	1	0.05%	83	4.35%	3	0.16%
2010	2,906	2,829	97.35%	2	0.07%	75	2.58%	0	0.00%
2011	1,560	1,526	97.82%	0	0.00%	34	2.18%	0	0.00%
2012	1,446	1,413	97.72%	1	0.07%	32	2.21%	0	0.00%
2013	1,674	1,633	97.55%	1	0.06%	40	2.39%	0	0.00%
2014	886	850	95.94%	0	0.00%	36	4.06%	0	0.00%
2015	17	16	94.12%	.	.	1	5.88%	.	.
TOTAL	641,648	592,240	92.30%	3,780	0.59%	42,678	6.65%	2,950	0.46%

EPA REPORT 51.366 a.2.xiii; a.2.xiv
 Comparison of On-board Diagnostic Checks and Tailpipe Tests

MEDIUM DUTY VEHICLES - TSI TEST									
REPORT a2xiii, a2xiv, MDV_TSI	ONBOARD DIAGNOSTIC CHECK WITH ASSOCIATED TAILPIPE TEST	PASS ON-BOARD & PASS TAILPIPE		PASS ON-BOARD & FAIL TAILPIPE		FAIL ON-BOARD & PASS TAILPIPE		FAIL ON-BOARD & FAIL TAILPIPE	
VEHICLE MODEL YEAR	VEHICLES TESTED	COUNT	PERCENT OF TESTED	COUNT	PERCENT OF TESTED	COUNT	PERCENT OF TESTED	COUNT	PERCENT OF TESTED
1996	7,334	6,606	90.07%	135	1.84%	520	7.09%	73	1.00%
1997	8,009	7,271	90.79%	97	1.21%	547	6.83%	94	1.17%
1998	12,941	11,749	90.79%	133	1.03%	941	7.27%	118	0.91%
1999	19,875	18,092	91.03%	150	0.75%	1,529	7.69%	104	0.52%
2000	32,315	29,910	92.56%	103	0.32%	2,193	6.79%	109	0.34%
2001	22,797	20,236	88.77%	46	0.20%	2,449	10.74%	66	0.29%
2002	42,130	39,399	93.52%	56	0.13%	2,633	6.25%	42	0.10%
2003	21,940	20,409	93.02%	45	0.21%	1,442	6.57%	44	0.20%
2004	40,915	39,101	95.57%	22	0.05%	1,767	4.32%	25	0.06%
2005	11,042	10,488	94.98%	9	0.08%	537	4.86%	8	0.07%
2006	26,703	25,754	96.45%	11	0.04%	932	3.49%	6	0.02%
2007	6,726	6,452	95.93%	0	0.00%	272	4.04%	2	0.03%
2008	22,049	21,578	97.86%	1	0.00%	469	2.13%	1	0.00%
2009	1,592	1,547	97.17%	1	0.06%	44	2.76%	0	0.00%
2010	2,083	2,018	96.88%	0	0.00%	65	3.12%	0	0.00%
2011	1,688	1,636	96.92%	1	0.06%	51	3.02%	0	0.00%
2012	1,271	1,242	97.72%	0	0.00%	29	2.28%	0	0.00%
2013	1,140	1,111	97.46%	0	0.00%	29	2.54%	0	0.00%
2014	764	734	96.07%	0	0.00%	30	3.93%	0	0.00%
2015	33	31	93.94%	.	.	2	6.06%	.	.
TOTAL	283,347	265,364	93.65%	810	0.29%	16,481	5.82%	692	0.24%

EPA REPORT 51.366 a.2.xiii; a.2.xiv
 Comparison of On-board Diagnostic Checks and Tailpipe Tests

HEAVY DUTY VEHICLES - ASM TEST									
REPORT a2xiii, a2xiv, HDV_ASM	ONBOARD DIAGNOSTIC CHECK WITH ASSOCIATED TAILPIPE TEST	PASS ON-BOARD & PASS TAILPIPE		PASS ON-BOARD & FAIL TAILPIPE		FAIL ON-BOARD & PASS TAILPIPE		FAIL ON-BOARD & FAIL TAILPIPE	
VEHICLE MODEL YEAR	VEHICLES TESTED	COUNT	PERCENT OF TESTED	COUNT	PERCENT OF TESTED	COUNT	PERCENT OF TESTED	COUNT	PERCENT OF TESTED
1996	6,255	5,658	90.46%	89	1.42%	480	7.67%	28	0.45%
1997	5,549	4,906	88.41%	83	1.50%	524	9.44%	36	0.65%
1998	6,106	5,478	89.72%	54	0.88%	514	8.42%	60	0.98%
1999	8,409	7,616	90.57%	81	0.96%	667	7.93%	45	0.54%
2000	11,987	11,122	92.78%	82	0.68%	738	6.16%	45	0.38%
2001	7,765	6,936	89.32%	28	0.36%	768	9.89%	33	0.42%
2002	12,385	11,429	92.28%	33	0.27%	881	7.11%	42	0.34%
2003	7,231	6,619	91.54%	22	0.30%	575	7.95%	15	0.21%
2004	13,637	12,833	94.10%	25	0.18%	763	5.60%	16	0.12%
2005	4,615	4,323	93.67%	7	0.15%	280	6.07%	5	0.11%
2006	11,098	10,581	95.34%	21	0.19%	485	4.37%	11	0.10%
2007	2,712	2,588	95.43%	6	0.22%	115	4.24%	3	0.11%
2008	5,265	5,111	97.08%	1	0.02%	153	2.91%	0	0.00%
2009	328	314	95.73%	0	0.00%	14	4.27%	0	0.00%
2010	251	239	95.22%	0	0.00%	12	4.78%	0	0.00%
2011	125	121	96.80%	0	0.00%	4	3.20%	0	0.00%
2012	81	77	95.06%	0	0.00%	4	4.94%	0	0.00%
2013	344	336	97.67%	0	0.00%	8	2.33%	0	0.00%
2014	116	103	88.79%	0	0.00%	13	11.21%	0	0.00%
2015	2	1	50.00%	.	.	1	50.00%	.	.
TOTAL	104,261	96,391	92.45%	532	0.51%	6,999	6.71%	339	0.33%

EPA REPORT 51.366 a.2.xiii; a.2.xiv
 Comparison of On-board Diagnostic Checks and Tailpipe Tests

HEAVY DUTY VEHICLES - TSI TEST									
REPORT a2xiii, a2xiv, HDV_TSI	ON-BOARD DIAGNOSTIC CHECK WITH ASSOCIATED TAILPIPE TEST	PASS ON-BOARD & PASS TAILPIPE		PASS ON-BOARD & FAIL TAILPIPE		FAIL ON-BOARD & PASS TAILPIPE		FAIL ON-BOARD & FAIL TAILPIPE	
VEHICLE MODEL YEAR	VEHICLES TESTED	COUNT	PERCENT OF TESTED	COUNT	PERCENT OF TESTED	COUNT	PERCENT OF TESTED	COUNT	PERCENT OF TESTED
1996	4,074	3,642	89.40%	99	2.43%	304	7.46%	29	0.71%
1997	4,197	3,728	88.83%	103	2.45%	316	7.53%	50	1.19%
1998	4,079	3,588	87.96%	149	3.65%	289	7.09%	53	1.30%
1999	5,597	4,996	89.26%	118	2.11%	422	7.54%	61	1.09%
2000	7,967	7,263	91.16%	157	1.97%	482	6.05%	65	0.82%
2001	4,863	4,262	87.64%	41	0.84%	546	11.23%	14	0.29%
2002	6,725	6,116	90.94%	44	0.65%	540	8.03%	25	0.37%
2003	4,975	4,557	91.60%	16	0.32%	399	8.02%	3	0.06%
2004	7,737	7,079	91.50%	19	0.25%	630	8.14%	9	0.12%
2005	3,264	2,982	91.36%	27	0.83%	248	7.60%	7	0.21%
2006	6,519	6,182	94.83%	14	0.21%	319	4.89%	4	0.06%
2007	1,535	1,435	93.49%	2	0.13%	95	6.19%	3	0.20%
2008	2,969	2,829	95.28%	5	0.17%	132	4.45%	3	0.10%
2009	175	162	92.57%	0	0.00%	13	7.43%	0	0.00%
2010	193	183	94.82%	0	0.00%	10	5.18%	0	0.00%
2011	104	103	99.04%	0	0.00%	1	0.96%	0	0.00%
2012	103	97	94.17%	0	0.00%	6	5.83%	0	0.00%
2013	130	121	93.08%	0	0.00%	9	6.92%	0	0.00%
2014	260	241	92.69%	0	0.00%	19	7.31%	0	0.00%
2015	26	24	92.31%	.	.	2	7.69%	.	.
TOTAL	65,492	59,590	90.99%	794	1.21%	4,782	7.30%	326	0.50%

EPA REPORT 51.366 a.2.xv; a.2.xvi; a.2.xvii; a.2.xviii
 Comparison of On-board Diagnostic Checks and Gas Cap Evaporative Tests

PASSENGER CARS									
REPORT a2xv - a2xviii PC	ON-BOARD DIAGNOSTIC CHECK WITH GAS CAP EVAPORATIVE TEST	PASS ON-BOARD & PASS GAS CAP		PASS ON-BOARD & FAIL GAS CAP		FAIL ON-BOARD & PASS GAS CAP		FAIL ON-BOARD & FAIL GAS CAP	
VEHICLE MODEL YEAR	VEHICLES TESTED	COUNT	PERCENT OF TESTED	COUNT	PERCENT OF TESTED	COUNT	PERCENT OF TESTED	COUNT	PERCENT OF TESTED
1996	182,727	163,870	89.68%	1,446	0.79%	16,076	8.80%	1,335	0.73%
1997	191,086	170,975	89.48%	1,639	0.86%	16,937	8.86%	1,535	0.80%
1998	276,846	253,213	91.46%	1,917	0.69%	19,827	7.16%	1,889	0.68%
1999	238,711	217,187	90.98%	1,456	0.61%	18,490	7.75%	1,578	0.66%
TOTAL	889,370	805,245	90.54%	6,458	0.73%	71,330	8.02%	6,337	0.71%

EPA REPORT 51.366 a.2.xv; a.2.xvi; a.2.xvii; a.2.xviii
 Comparison of On-board Diagnostic Checks and Gas Cap Evaporative Tests

LIGHT DUTY TRUCKS									
REPORT a2xv - a2xviii LDT	ON-BOARD DIAGNOSTIC CHECK WITH GAS CAP EVAPORATIVE TEST	PASS ON-BOARD & PASS GAS CAP		PASS ON-BOARD & FAIL GAS CAP		FAIL ON-BOARD & PASS GAS CAP		FAIL ON-BOARD & FAIL GAS CAP	
VEHICLE MODEL YEAR	VEHICLES TESTED	COUNT	PERCENT OF TESTED	COUNT	PERCENT OF TESTED	COUNT	PERCENT OF TESTED	COUNT	PERCENT OF TESTED
1996	92,738	82,050	88.48%	873	0.94%	8,795	9.48%	1,020	1.10%
1997	105,734	93,004	87.96%	1,054	1.00%	10,308	9.75%	1,368	1.29%
1998	162,855	147,808	90.76%	1,328	0.82%	12,371	7.60%	1,348	0.83%
1999	128,608	117,300	91.21%	920	0.72%	9,361	7.28%	1,027	0.80%
TOTAL	489,935	440,162	89.84%	4,175	0.85%	40,835	8.33%	4,763	0.97%

EPA REPORT 51.366 a.2.xv; a.2.xvi; a.2.xvii; a.2.xviii
 Comparison of On-board Diagnostic Checks and Gas Cap Evaporative Tests

MEDIUM DUTY VEHICLES									
REPORT a2xv - a2xviii MDV	ON-BOARD DIAGNOSTIC CHECK WITH GAS CAP EVAPORATIVE TEST	PASS -ONBOARD & PASS GAS CAP		PASS ON-BOARD & FAIL GAS CAP		FAIL ON-BOARD & PASS GAS CAP		FAIL ON-BOARD & FAIL GAS CAP	
VEHICLE MODEL YEAR	VEHICLES TESTED	COUNT	PERCENT OF TESTED	COUNT	PERCENT OF TESTED	COUNT	PERCENT OF TESTED	COUNT	PERCENT OF TESTED
1996	32,837	29,745	90.58%	240	0.73%	2,553	7.77%	299	0.91%
1997	37,405	33,362	89.19%	226	0.60%	3,447	9.22%	370	0.99%
1998	56,529	50,887	90.02%	257	0.45%	4,941	8.74%	444	0.79%
1999	75,322	67,602	89.75%	358	0.48%	6,799	9.03%	563	0.75%
TOTAL	202,093	181,596	89.86%	1,081	0.53%	17,740	8.78%	1,676	0.83%

EPA REPORT 51.366 a.2.xv; a.2.xvi; a.2.xvii; a.2.xviii
 Comparison of On-board Diagnostic Checks and Gas Cap Evaporative Tests

HEAVY DUTY VEHICLES									
REPORT a2xv - a2xviii HDV	ON-BOARD DIAGNOSTIC CHECK WITH GAS CAP EVAPORATIVE TEST	PASS ON-BOARD & PASS GAS CAP		PASS ON-BOARD & FAIL GAS CAP		FAIL ON-BOARD & PASS GAS CAP		FAIL ON-BOARD & FAIL GAS CAP	
VEHICLE MODEL YEAR	VEHICLES TESTED	COUNT	PERCENT OF TESTED	COUNT	PERCENT OF TESTED	COUNT	PERCENT OF TESTED	COUNT	PERCENT OF TESTED
1996	10,195	9,315	91.37%	53	0.52%	743	7.29%	84	0.82%
1997	9,500	8,540	89.89%	57	0.60%	819	8.62%	84	0.88%
1998	9,901	8,966	90.56%	42	0.42%	806	8.14%	87	0.88%
1999	13,403	12,177	90.85%	78	0.58%	1,039	7.75%	109	0.81%
TOTAL	42,999	38,998	90.70%	230	0.53%	3,407	7.92%	364	0.85%

EPA REPORT 51.366 a.2.xix; a.2.xx; a.2.xxi; a.2.xxii
 Comparison of MIL Status and Stored Diagnostic Trouble Codes

PASSENGER CARS									
REPORT a2xix - a2xxii PC	ONBOARD DIAGNOSTIC CHECKS	MIL COMMANDED ON AND NO CODES STORED		MIL COMMANDED OFF AND CODES STORED		MIL COMMANDED ON AND CODES STORED		MIL COMMANDED OFF AND NO CODES STORED	
VEHICLE MODEL YEAR	VEHICLES TESTED	COUNT	PERCENT OF TESTED	COUNT	PERCENT OF TESTED	COUNT	PERCENT OF TESTED	COUNT	PERCENT OF TESTED
1996	191,341	241	0.13%	14,276	7.46%	9,928	5.19%	166,896	87.22%
1997	200,197	244	0.12%	16,710	8.35%	9,981	4.99%	173,262	86.55%
1998	293,051	372	0.13%	26,409	9.01%	12,325	4.21%	253,945	86.66%
1999	254,080	358	0.14%	23,752	9.35%	11,230	4.42%	218,740	86.09%
2000	466,717	457	0.10%	39,994	8.57%	19,723	4.23%	406,543	87.11%
2001	299,097	328	0.11%	32,075	10.72%	13,327	4.46%	253,367	84.71%
2002	513,170	495	0.10%	50,905	9.92%	17,523	3.41%	444,247	86.57%
2003	276,599	146	0.05%	24,670	8.92%	8,909	3.22%	242,874	87.81%
2004	517,010	141	0.03%	38,988	7.54%	11,637	2.25%	466,244	90.18%
2005	229,907	36	0.02%	16,185	7.04%	5,152	2.24%	208,534	90.70%
2006	487,785	33	0.01%	30,118	6.17%	8,271	1.70%	449,363	92.12%
2007	147,123	31	0.02%	8,493	5.77%	2,077	1.41%	136,522	92.79%
2008	408,014	32	0.01%	15,480	3.79%	4,455	1.09%	388,047	95.11%
2009	56,830	11	0.02%	1,640	2.89%	284	0.50%	54,895	96.60%
2010	48,289	3	0.01%	1,191	2.47%	173	0.36%	46,922	97.17%
2011	33,891	1	0.00%	827	2.44%	105	0.31%	32,958	97.25%
2012	33,998	.	.	701	2.06%	66	0.19%	33,231	97.74%
2013	35,185	1	0.00%	582	1.65%	56	0.16%	34,546	98.18%
2014	14,050	.	.	163	1.16%	11	0.08%	13,876	98.76%
2015	1,086	.	.	14	1.29%	1	0.09%	1,071	98.62%
TOTAL	4,507,420	2,930	0.07%	343,173	7.61%	135,234	3.00%	4,026,083	89.32%

EPA REPORT 51.366 a.2.xix; a.2.xx; a.2.xxi; a.2.xxii
 Comparison of MIL Status and Stored Diagnostic Trouble Codes

LIGHT DUTY TRUCKS									
REPORT a2xix - a2xxii LDT	ONBOARD DIAGNOSTIC CHECKS	MIL COMMANDED ON AND NO CODES STORED		MIL NOT COMMANDED ON AND CODES STORED		MIL COMMANDED ON AND CODES STORED		MIL NOT COMMANDED ON AND NO CODES STORED	
VEHICLE MODEL YEAR	VEHICLES TESTED	COUNT	PERCENT OF TESTED	COUNT	PERCENT OF TESTED	COUNT	PERCENT OF TESTED	COUNT	PERCENT OF TESTED
1996	96,772	43	0.04%	10,554	10.91%	5,202	5.38%	80,973	83.67%
1997	110,509	43	0.04%	12,696	11.49%	5,986	5.42%	91,784	83.06%
1998	170,936	47	0.03%	16,176	9.46%	6,843	4.00%	147,870	86.51%
1999	136,021	53	0.04%	12,032	8.85%	5,235	3.85%	118,701	87.27%
2000	257,891	63	0.02%	30,157	11.69%	9,497	3.68%	218,174	84.60%
2001	142,866	99	0.07%	10,936	7.65%	6,414	4.49%	125,417	87.79%
2002	298,636	216	0.07%	29,649	9.93%	9,758	3.27%	259,013	86.73%
2003	133,812	72	0.05%	12,327	9.21%	4,087	3.05%	117,326	87.68%
2004	325,233	39	0.01%	31,276	9.62%	7,243	2.23%	286,675	88.14%
2005	107,481	23	0.02%	7,403	6.89%	2,268	2.11%	97,787	90.98%
2006	270,870	38	0.01%	18,159	6.70%	4,794	1.77%	247,879	91.51%
2007	63,828	6	0.01%	3,784	5.93%	911	1.43%	59,127	92.63%
2008	174,152	8	0.00%	6,260	3.59%	1,388	0.80%	166,496	95.60%
2009	16,688	0	0.00%	371	2.22%	73	0.44%	16,244	97.34%
2010	14,875	0	0.00%	316	2.12%	44	0.30%	14,515	97.58%
2011	11,446	0	0.00%	190	1.66%	22	0.19%	11,234	98.15%
2012	8,767	0	0.00%	145	1.65%	17	0.19%	8,605	98.15%
2013	9,362	0	0.00%	108	1.15%	9	0.10%	9,245	98.75%
2014	6,500	0	0.00%	86	1.32%	8	0.12%	6,406	98.55%
2015	706	0	0.00%	5	0.71%	0	0.00%	701	99.29%
TOTAL	2,357,351	750	0.03%	202,630	8.60%	69,799	2.96%	2,084,172	88.41%

EPA REPORT 51.366 a.2.xix; a.2.xx; a.2.xxi; a.2.xxii
 Comparison of MIL Status and Stored Diagnostic Trouble Codes

MEDIUM DUTY VEHICLES									
REPORT a2xix - a2xxii MDV	ONBOARD DIAGNOSTIC CHECKS	MIL COMMANDED ON AND NO CODES STORED		MIL NOT COMMANDED ON AND CODES STORED		MIL COMMANDED ON AND CODES STORED		MIL NOT COMMANDED ON AND NO CODES STORED	
VEHICLE MODEL YEAR	VEHICLES TESTED	COUNT	PERCENT OF TESTED	COUNT	PERCENT OF TESTED	COUNT	PERCENT OF TESTED	COUNT	PERCENT OF TESTED
1996	34,654	15	0.04%	3,698	10.67%	1,628	4.70%	29,313	84.59%
1997	39,543	18	0.05%	3,255	8.23%	2,136	5.40%	34,134	86.32%
1998	60,252	30	0.05%	5,507	9.14%	2,743	4.55%	51,972	86.26%
1999	81,369	54	0.07%	6,188	7.60%	3,532	4.34%	71,595	87.99%
2000	147,003	67	0.05%	9,953	6.77%	4,993	3.40%	131,990	89.79%
2001	103,185	59	0.06%	7,134	6.91%	3,561	3.45%	92,431	89.58%
2002	204,533	68	0.03%	13,467	6.58%	5,463	2.67%	185,535	90.71%
2003	110,626	175	0.16%	8,281	7.49%	3,068	2.77%	99,102	89.58%
2004	236,759	32	0.01%	12,692	5.36%	3,961	1.67%	220,074	92.95%
2005	66,453	9	0.01%	4,222	6.35%	1,087	1.64%	61,135	92.00%
2006	157,893	19	0.01%	10,397	6.58%	2,517	1.59%	144,960	91.81%
2007	46,872	8	0.02%	2,735	5.84%	761	1.62%	43,368	92.52%
2008	124,866	7	0.01%	5,592	4.48%	1,533	1.23%	117,734	94.29%
2009	10,233	0	0.00%	490	4.79%	65	0.64%	9,678	94.58%
2010	11,017	0	0.00%	354	3.21%	28	0.25%	10,635	96.53%
2011	9,217	1	0.01%	360	3.91%	45	0.49%	8,811	95.60%
2012	8,656	.	.	249	2.88%	27	0.31%	8,380	96.81%
2013	7,081	0	0.00%	106	1.50%	7	0.10%	6,968	98.40%
2014	5,907	.	.	81	1.37%	11	0.19%	5,815	98.44%
2015	600	.	.	9	1.50%	0	0.00%	591	98.50%
TOTAL	1,466,719	562	0.04%	94,770	6.46%	37,166	2.53%	1,334,221	90.97%

EPA REPORT 51.366 a.2.xix; a.2.xx; a.2.xxi; a.2.xxii
 Comparison of MIL Status and Stored Diagnostic Trouble Codes

HEAVY DUTY VEHICLES									
REPORT a2xix - a2xxii HDV	ONBOARD DIAGNOSTIC CHECKS	MIL COMMANDED ON AND NO CODES STORED		MIL NOT COMMANDED ON AND CODES STORED		MIL COMMANDED ON AND CODES STORED		MIL NOT COMMANDED ON AND NO CODES STORED	
VEHICLE MODEL YEAR	VEHICLES TESTED	COUNT	PERCENT OF TESTED	COUNT	PERCENT OF TESTED	COUNT	PERCENT OF TESTED	COUNT	PERCENT OF TESTED
1996	10,363	5	0.05%	908	8.76%	466	4.50%	8,984	86.69%
1997	9,787	3	0.03%	682	6.97%	438	4.48%	8,664	88.53%
1998	12,451	14	0.11%	1,659	13.32%	538	4.32%	10,240	82.24%
1999	22,537	23	0.10%	2,016	8.95%	892	3.96%	19,606	86.99%
2000	27,649	18	0.07%	2,274	8.22%	831	3.01%	24,526	88.70%
2001	22,926	27	0.12%	1,988	8.67%	653	2.85%	20,258	88.36%
2002	29,551	21	0.07%	2,559	8.66%	689	2.33%	26,282	88.94%
2003	21,200	669	3.16%	1,948	9.19%	632	2.98%	17,951	84.67%
2004	30,853	10	0.03%	2,588	8.39%	564	1.83%	27,691	89.75%
2005	18,035	3	0.02%	1,593	8.83%	289	1.60%	16,150	89.55%
2006	22,190	4	0.02%	1,507	6.79%	417	1.88%	20,262	91.31%
2007	5,701	2	0.04%	312	5.47%	93	1.63%	5,294	92.86%
2008	10,769	1	0.01%	609	5.66%	155	1.44%	10,004	92.90%
2009	903	0	0.00%	57	6.31%	17	1.88%	829	91.81%
2010	821	0	0.00%	61	7.43%	7	0.85%	753	91.72%
2011	1,012	0	0.00%	107	10.57%	9	0.89%	896	88.54%
2012	1,529	.	.	123	8.04%	6	0.39%	1,400	91.56%
2013	746	0	0.00%	12	1.61%	2	0.27%	732	98.12%
2014	851	.	.	29	3.41%	3	0.35%	819	96.24%
2015	172	.	.	2	1.16%	0	0.00%	170	98.84%
TOTAL	250,046	800	0.32%	21,034	8.41%	6,701	2.68%	221,511	88.59%

EPA REPORT 51.366 a.2.xxiii

State of California - Bureau of Automotive Repair

Readiness Status Incomplete for any Supported OBD II Monitor

REPORT a2xxiii	ALL VEHICLES			PASSENGER CARS			LIGHT DUTY TRUCKS			MEDIUM DUTY VEHICLES			HEAVY DUTY VEHICLES		
VEHICLE MODEL YEAR	VEHICLES TESTED	COUNT	PERCENT OF TESTED	VEHICLES TESTED	COUNT	PERCENT OF TESTED	VEHICLES TESTED	COUNT	PERCENT OF TESTED	VEHICLES TESTED	COUNT	PERCENT OF TESTED	VEHICLES TESTED	COUNT	PERCENT OF TESTED
1996	333,130	111,229	33.39%	191,341	64,181	33.54%	96,772	34,178	35.32%	34,654	10,460	30.18%	10,363	2,410	23.26%
1997	360,036	123,196	34.22%	200,197	62,689	31.31%	110,509	42,794	38.72%	39,543	14,847	37.55%	9,787	2,866	29.28%
1998	536,690	148,889	27.74%	293,051	72,429	24.72%	170,936	51,933	30.38%	60,252	20,801	34.52%	12,451	3,726	29.93%
1999	494,007	141,518	28.65%	254,080	61,191	24.08%	136,021	40,192	29.55%	81,369	33,122	40.71%	22,537	7,013	31.12%
2000	899,260	214,801	23.89%	466,717	103,176	22.11%	257,891	58,093	22.53%	147,003	43,544	29.62%	27,649	9,988	36.12%
2001	568,074	138,866	24.45%	299,097	66,045	22.08%	142,866	34,238	23.97%	103,185	32,103	31.11%	22,926	6,480	28.26%
2002	1,045,890	169,446	16.20%	513,170	78,285	15.26%	298,636	46,009	15.41%	204,533	37,547	18.36%	29,551	7,605	25.74%
2003	542,237	110,450	20.37%	276,599	47,388	17.13%	133,812	24,936	18.64%	110,626	31,952	28.88%	21,200	6,174	29.12%
2004	1,109,855	136,616	12.31%	517,010	56,609	10.95%	325,233	33,644	10.34%	236,759	38,073	16.08%	30,853	8,290	26.87%
2005	421,876	64,183	15.21%	229,907	30,912	13.45%	107,481	17,069	15.88%	66,453	11,385	17.13%	18,035	4,817	26.71%
2006	938,738	88,645	9.44%	487,785	36,027	7.39%	270,870	27,687	10.22%	157,893	20,266	12.84%	22,190	4,665	21.02%
2007	263,524	29,612	11.24%	147,123	14,189	9.64%	63,828	6,626	10.38%	46,872	7,534	16.07%	5,701	1,263	22.15%
2008	717,801	38,879	5.42%	408,014	20,403	5.00%	174,152	7,676	4.41%	124,866	9,494	7.60%	10,769	1,306	12.13%
2009	84,654	8,134	9.61%	56,830	5,287	9.30%	16,688	1,329	7.96%	10,233	1,372	13.41%	903	146	16.17%
2010	75,002	8,397	11.20%	48,289	5,275	10.92%	14,875	1,550	10.42%	11,017	1,433	13.01%	821	139	16.93%
2011	55,566	7,565	13.61%	33,891	4,375	12.91%	11,446	1,217	10.63%	9,217	1,667	18.09%	1,012	306	30.24%
2012	52,950	6,200	11.71%	33,998	3,392	9.98%	8,767	945	10.78%	8,656	1,494	17.26%	1,529	369	24.13%
2013	52,374	4,459	8.51%	35,185	2,785	7.92%	9,362	823	8.79%	7,081	772	10.90%	746	79	10.59%
2014	27,308	4,157	15.22%	14,050	1,660	11.81%	6,500	1,028	15.82%	5,907	1,047	17.72%	851	422	49.59%
2015	2,564	759	29.60%	1,086	288	26.52%	706	139	19.69%	600	227	37.83%	172	105	61.05%
TOTAL	8,581,536	1,556,001	18.13%	4,507,420	736,586	16.34%	2,357,351	432,106	18.33%	1,466,719	319,140	21.76%	250,046	68,169	27.26%

EPA REPORT 51.366 a.3

State of California - Bureau of Automotive Repair

Initial Tests by Model Year and Station Type

REPORT a.3	ALL VEHICLES	STAR		NON-STAR		REFEREE		GOVERNMENT FLEET		PERMANENT FLEET REGISTERED		BUSINESS FLEET	
VEHICLE MODEL YEAR	VEHICLES TESTED	COUNT	PERCENT OF TESTED	COUNT	PERCENT OF TESTED	COUNT	PERCENT OF TESTED	COUNT	PERCENT OF TESTED	COUNT	PERCENT OF TESTED	COUNT	PERCENT OF TESTED
1976	8,523	6,758	79.29%	1,699	19.93%	63	0.74%	3	0.04%	0	0.00%	0	0.00%
1977	11,299	8,987	79.54%	2,256	19.97%	49	0.43%	7	0.06%	0	0.00%	0	0.00%
1978	12,921	10,299	79.71%	2,562	19.83%	57	0.44%	3	0.02%	0	0.00%	0	0.00%
1979	14,144	11,299	79.89%	2,800	19.80%	34	0.24%	10	0.07%	1	0.01%	0	0.00%
1980	8,223	6,623	80.54%	1,555	18.91%	32	0.39%	12	0.15%	1	0.01%	0	0.00%
1981	9,368	7,621	81.35%	1,697	18.11%	39	0.42%	11	0.12%	0	0.00%	0	0.00%
1982	10,687	8,651	80.95%	1,987	18.59%	40	0.37%	8	0.07%	1	0.01%	0	0.00%
1983	13,871	11,275	81.28%	2,549	18.38%	37	0.27%	10	0.07%	0	0.00%	0	0.00%
1984	24,715	20,023	81.02%	4,627	18.72%	51	0.21%	14	0.06%	0	0.00%	0	0.00%
1985	33,581	27,515	81.94%	5,955	17.73%	80	0.24%	29	0.09%	1	0.00%	1	0.00%
1986	47,647	39,267	82.41%	8,253	17.32%	86	0.18%	36	0.08%	5	0.01%	0	0.00%
1987	53,818	43,994	81.75%	9,179	17.06%	100	0.19%	545	1.01%	0	0.00%	0	0.00%
1988	64,763	52,227	80.64%	10,941	16.89%	106	0.16%	1,488	2.30%	0	0.00%	0	0.00%
1989	90,828	74,328	81.83%	14,952	16.46%	110	0.12%	1,436	1.58%	0	0.00%	1	0.00%
1990	112,996	93,145	82.43%	18,426	16.31%	136	0.12%	1,286	1.14%	1	8.85E-06	1	8.85E-06
1991	138,310	114,585	82.85%	21,529	15.57%	133	0.10%	2,062	1.49%	0	0.00%	1	7.23E-06
1992	141,763	117,734	83.05%	22,132	15.61%	150	0.11%	1,747	1.23%	0	0.00%	0	0.00%
1993	176,951	148,070	83.68%	27,160	15.35%	157	0.09%	1,564	0.88%	0	0.00%	0	0.00%
1994	238,435	201,123	84.35%	35,812	15.02%	187	0.08%	1,313	0.55%	0	0.00%	0	0.00%
1995	262,601	221,667	84.41%	40,432	15.40%	229	0.09%	272	0.10%	0	0.00%	0	0.00%
1996	337,900	289,470	85.67%	47,811	14.15%	315	0.09%	304	0.09%	0	0.00%	0	0.00%
1997	365,059	308,057	84.39%	56,209	15.40%	273	0.07%	502	0.14%	17	0.00%	1	2.74E-06
1998	542,482	468,316	86.33%	72,936	13.44%	334	0.06%	887	0.16%	8	0.00%	1	1.84E-06
1999	502,227	423,830	84.39%	77,015	15.33%	240	0.05%	1,121	0.22%	20	0.00%	0	0.00%
2000	908,038	737,229	81.19%	168,514	18.56%	315	0.03%	1,963	0.22%	1	1.10E-06	9	9.91E-06
2001	573,697	462,415	80.60%	108,345	18.89%	260	0.05%	2,677	0.47%	0	0.00%	0	0.00%
2002	1,054,408	843,615	80.01%	208,590	19.78%	280	0.03%	1,866	0.18%	43	0.00%	3	2.85E-06
2003	562,326	429,287	76.34%	130,209	23.16%	203	0.04%	2,607	0.46%	15	0.00%	1	1.78E-06
2004	1,198,229	922,475	76.99%	273,801	22.85%	276	0.02%	1,608	0.13%	40	0.00%	9	7.51E-06
2005	516,952	371,680	71.90%	142,855	27.63%	160	0.03%	2,210	0.43%	42	0.01%	1	1.93E-06
2006	1,292,433	978,705	75.73%	311,016	24.06%	224	0.02%	2,298	0.18%	147	0.01%	19	0.00%
2007	439,029	295,926	67.40%	139,807	31.84%	111	0.03%	3,149	0.72%	34	0.01%	0	0.00%
2008	1,088,911	805,696	73.99%	278,858	25.61%	185	0.02%	4,017	0.37%	115	0.01%	24	0.00%
2009	136,560	78,734	57.66%	57,608	42.19%	33	0.02%	184	0.13%	0	0.00%	0	0.00%
2010	142,096	70,289	49.47%	71,661	50.43%	41	0.03%	105	0.07%	0	0.00%	0	0.00%
2011	99,060	44,970	45.40%	54,004	54.52%	36	0.04%	48	0.05%	0	0.00%	0	0.00%
2012	104,975	52,231	49.76%	52,665	50.17%	38	0.04%	39	0.04%	0	0.00%	1	9.53E-06
2013	93,780	43,516	46.40%	50,158	53.48%	69	0.07%	34	0.04%	3	0.00%	0	0.00%
2014	45,485	23,842	52.42%	21,495	47.26%	71	0.16%	36	0.08%	41	0.09%	0	0.00%
2015	4,069	2,909	71.49%	1,147	28.19%	3	0.07%	0	0.00%	10	0.25%	0	0.00%
TOTAL	11,483,160	8,878,383	77.32%	2,561,207	22.30%	5,343	0.05%	37,511	0.33%	546	0.00%	73	0.00%

EPA REPORT 51.366 a.4

State of California - Bureau of Automotive Repair

Initial Test Failures by Model Year and Station Type

REPORT a.4	STAR			NON-STAR			REFEREE			GOVERNMENT FLEET			PERMANENT FLEET REGISTERED			BUSINESS FLEET		
	VEHICLES TESTED	COUNT	PERCENT OF TESTED	VEHICLES TESTED	COUNT	PERCENT OF TESTED	VEHICLES TESTED	COUNT	PERCENT OF TESTED	VEHICLES TESTED	COUNT	PERCENT OF TESTED	VEHICLES TESTED	COUNT	PERCENT OF TESTED	VEHICLES TESTED	COUNT	PERCENT OF TESTED
1976	6,758	2,305	34.11%	1,699	337	19.84%	63	46	73.02%	3	1	33.33%	0	0		0	0	
1977	8,987	3,020	33.60%	2,256	451	19.99%	49	38	77.55%	7	2	28.57%	0	0		0	0	
1978	10,299	3,463	33.62%	2,562	561	21.90%	57	41	71.93%	3	1	33.33%	0	0		0	0	
1979	11,299	3,979	35.22%	2,800	629	22.46%	34	27	79.41%	10	2	20.00%	1	0	0.00%	0	0	
1980	6,623	2,205	33.29%	1,555	314	20.19%	32	25	78.13%	12	2	16.67%	1	0	0.00%	0	0	
1981	7,621	2,817	36.96%	1,697	391	23.04%	39	26	66.67%	11	0	0.00%	0	0		0	0	
1982	8,651	3,130	36.18%	1,987	479	24.11%	40	30	75.00%	8	0	0.00%	1	0	0.00%	0	0	
1983	11,275	4,085	36.23%	2,549	547	21.46%	37	26	70.27%	10	0	0.00%	0	0		0	0	
1984	20,023	7,293	36.42%	4,627	1,111	24.01%	51	42	82.35%	14	3	21.43%	0	0		0	0	
1985	27,515	9,952	36.17%	5,955	1,386	23.27%	80	52	65.00%	29	3	10.34%	1	0	0.00%	1	0	0.00%
1986	39,267	13,476	34.32%	8,253	1,816	22.00%	86	55	63.95%	36	8	22.22%	5	0	0.00%	0	0	
1987	43,994	15,188	34.52%	9,179	2,050	22.33%	100	56	56.00%	545	106	19.45%	0	0		0	0	
1988	52,227	17,438	33.39%	10,941	2,385	21.80%	106	61	57.55%	1,488	210	14.11%	0	0		0	0	
1989	74,328	23,459	31.56%	14,952	2,962	19.81%	110	61	55.45%	1,436	225	15.67%	0	0		1	0	0.00%
1990	93,145	28,980	31.11%	18,426	3,542	19.22%	136	84	61.76%	1,286	185	14.39%	1	0	0.00%	1	0	0.00%
1991	114,585	34,762	30.34%	21,529	4,198	19.50%	133	84	63.16%	2,062	290	14.06%	0	0		1	0	0.00%
1992	117,734	35,600	30.24%	22,132	4,154	18.77%	150	99	66.00%	1,747	252	14.42%	0	0		0	0	
1993	148,070	47,789	32.27%	27,160	5,356	19.72%	157	101	64.33%	1,564	407	26.02%	0	0		0	0	
1994	201,123	57,854	28.77%	35,812	6,411	17.90%	187	122	65.24%	1,313	270	20.56%	0	0		0	0	
1995	221,667	63,167	28.50%	40,432	7,255	17.94%	229	138	60.26%	272	34	12.50%	0	0		0	0	
1996	289,470	62,380	21.55%	47,811	7,053	14.75%	315	162	51.43%	304	31	10.20%	0	0		0	0	
1997	308,057	65,315	21.20%	56,209	8,145	14.49%	273	127	46.52%	502	36	7.17%	17	0	0.00%	1	0	0.00%
1998	468,316	74,232	15.85%	72,936	8,678	11.90%	334	159	47.60%	887	44	4.96%	8	0	0.00%	1	0	0.00%
1999	423,830	62,457	14.74%	77,015	8,237	10.70%	240	103	42.92%	1,121	61	5.44%	20	1	5.00%	0	0	
2000	737,229	84,158	11.42%	168,514	13,077	7.76%	315	120	38.10%	1,963	81	4.13%	1	0	0.00%	9	0	0.00%
2001	462,415	65,447	14.15%	108,345	10,974	10.13%	260	126	48.46%	2,677	145	5.42%	0	0		0	0	
2002	843,615	83,688	9.92%	208,590	14,405	6.91%	280	101	36.07%	1,866	111	5.95%	43	2	4.65%	3	0	0.00%
2003	429,287	43,484	10.13%	130,209	9,267	7.12%	203	73	35.96%	2,607	136	5.22%	15	0	0.00%	1	0	0.00%
2004	922,475	59,646	6.47%	273,801	12,726	4.65%	276	69	25.00%	1,608	76	4.73%	40	1	2.50%	9	0	0.00%
2005	371,680	25,014	6.73%	142,855	6,868	4.81%	160	56	35.00%	2,210	63	2.85%	42	0	0.00%	1	0	0.00%
2006	978,705	42,401	4.33%	311,016	10,132	3.26%	224	38	16.96%	2,298	56	2.44%	147	3	2.04%	19	1	5.26%
2007	295,926	11,963	4.04%	139,807	4,169	2.98%	111	32	28.83%	3,149	97	3.08%	34	0	0.00%	0	0	
2008	805,696	21,617	2.68%	278,858	6,082	2.18%	185	28	15.14%	4,017	130	3.24%	115	12	10.43%	24	1	4.17%
2009	78,734	2,084	2.65%	57,608	1,245	2.16%	33	8	24.24%	184	4	2.17%	0	0		0	0	
2010	70,289	1,788	2.54%	71,661	1,498	2.09%	41	9	21.95%	105	2	1.90%	0	0		0	0	
2011	44,970	1,357	3.02%	54,004	1,278	2.37%	36	6	16.67%	48	2	4.17%	0	0		0	0	
2012	52,231	1,102	2.11%	52,665	985	1.87%	38	10	26.32%	39	3	7.69%	0	0		1	0	0.00%
2013	43,516	813	1.87%	50,158	907	1.81%	69	25	36.23%	34	2	5.88%	3	0	0.00%	0	0	
2014	23,842	728	3.05%	21,495	551	2.56%	71	45	63.38%	36	2	5.56%	41	0	0.00%	0	0	
2015	2,909	171	5.88%	1,147	66	5.75%	3	0	0.00%	0	0		10	0	0.00%	0	0	
TOTAL	8,878,383	1,089,807	12.27%	2,561,207	172,678	6.74%	5,343	2,511	47.00%	37,511	3,083	8.22%	546	19	3.48%	73	2	2.74%

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Smog Check License Information

Smog Check Station Licenses Issued	1,047
Licensed Smog Check Stations as of 12/31/2014	7,444
Licensed Smog Check Inspectors as of 12/31/2014	27,717

Overt Performance Audits

Initial Inspections	1,533
Quality Assurance (QA) Inspections	377
Consumer Assistance Program (CAP) Inspections	21
Equipment Audit Inspections	2,582
Other Inspections	5,879
Total Inspections	10,392

Covert Performance Audits

Undercover Runs Conducted	1,516
Positive Undercover Runs	581
Percentage of Positive Runs	38%
Smog Check Stations	1,236

Citations Issued

Station Citations	476
Station Citation Fines	\$654,600
Inspector Citations	474
Inspector Training Hours Required	4,128



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Administrative Disciplinary Filings

Hearings	33
Stipulated Settlements	81
Default Decisions	48
Total Cases Adjudicated	129
Licenses Revoked	118
Interim Suspension Orders/Penal Code 23 Proceedings*	32
Probation Ordered	22
Probation/Suspension Ordered	23
Total Licenses Disciplined*	163

** ISO/PC 23 Proceedings are not included in total since they are counted in "Licenses Revoked" section.*

Equipment Gas Audits

Number of Inspections	2,374
Stations Audited	2,205
Stations Failing Gas Audit	690
BAR-97 Emissions Inspection Systems (EIS) Audited	2,340
BAR-97 EIS Failing Gas Audit	711



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Equipment Tamper Audits

Number of Audits	2,582
Total Failing Tamper Audits	326
Stations Audited	2,208
Stations Failing Tamper Audit	296
BAR-97 Emissions Inspection Systems (EIS) Audited	2,345
BAR-97 EIS Failing Tamper Audit	308

All Equipment Audits

Total Audits*	2,582
Stations Locked Out	275
BAR-97 EIS Locked Out	279

*Note: Some stations may receive more than one audit, but only one equipment lockout done per visit.

Resources for Program Audits

Vehicles Available for Audits	500
Staff Performing Audits	340

Inspections (Overt):

Below is a list of inspections performed in the Smog Check Program.

Initial Inspection: These inspections are performed prior to issuing a new Smog Check station license to determine compliance with requirements for station equipment and technician competence. This includes follow-up inspections to verify correction of any identified deficiencies.

Quality Assurance (QA) Inspection: These inspections are performed to ensure stations meet equipment, manual and signage requirements, inspect invoice and inspection reports, and assess technician testing, diagnosis and repair skills. This includes follow-up inspections to verify correction of any identified deficiencies.



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Consumer Assistance Program (CAP) Inspection: Performed to review repairs comply with CAP regulations. Includes paperwork requirements, pricing and repair effectiveness. This includes follow-up inspections to verify correction of any identified deficiencies.

Equipment Audit Inspection: BAR inspectors visit Smog Check stations to audit the BAR- 97 Emissions Inspection System (EIS) for compliance with specifications adopted in regulations. Equipment audits include analyzer gas audits, analyzer tamper audits, and dynamometer audits. The BAR-97 EIS tamper inspection focuses on identifying disabled or bypassed tamper detection systems and unauthorized modifications. The gas analyzer and dynamometer audits focus on verifying their in-use accuracies. This includes follow-up inspections to verify correction of any identified deficiencies.

Other Inspection: Inspections classified as “other” are performed when a station inspection is deemed necessary that does not fit any of the other categories.

Undercover Runs (Covert Station Audits)

The Bureau of Automotive Repair performs periodic covert audits on Smog Check stations suspected of performing inspections that are not in compliance with BAR laws and regulations, as determined by a review of the Vehicle Information Database (VID) data, consumer complaints, and/or anonymous tips.

Citations

Citations are issued against Smog Check stations for a monetary penalty ranging from \$1,000 to \$5,000. Smog Check inspectors are issued citations, which require completion of an 8-hour or 68-hour training course. Subsequent violations may lead to a monetary penalty for inspectors.

Administrative Disciplinary Filings

Administrative disciplinary cases are filed with the Attorney General’s Office. Each case filing may include multiple licenses as follows: Automotive Repair Dealer registration; Smog Check station license; brake and/or lamp station license; and Smog Check technician license. In instances where the violations are sufficiently egregious and/or impacts public safety to the point that immediate action is necessary, BAR will direct the Attorney General to seek the suspension of the Smog Check station license through an ISO (Interim Suspension Order) or to prohibit the station from performing Smog Check inspections through a PC 23 (Penal Code Section 23) filing in Superior Court in conjunction with a criminal proceeding filed by a local District Attorney’s Office.

Cases are presented before an Administrative Law Judge, who issues a proposed decision that must be adopted by the director of the Department of Consumer Affairs. Licenses can be revoked outright, or the revocation may be stayed with the license placed on probation (usually for a period of 1 to 5 years). The suspension of a license for a specific number of days or months can also be included with probation. A percentage of cases are resolved through a stipulated settlement, or through a default decision resulting in the aforementioned penalties.



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Resources for Undercover Runs (Covert Station Audits)

BAR's Enforcement Division has as many as 500 undercover vehicles at its disposal for use to perform covert audits on automotive repair stations, auto body shops, Smog Check stations, and any other facility registered with the Bureau of Automotive Repair.

Field Operations staff classified as Program Representatives are assigned to perform overt audits, covert audits, complaint mediation, and investigations, among other duties.



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(e) Additional reporting requirements

Below are descriptions of each Smog Check Program improvement authorized by AB 2289 (Eng, Chapter 258, Statutes of 2010), important implementation milestones, and the current status of the improvements. Other program revisions made in conjunction with the AB 2289 program improvements are also mentioned.

AB 2289 Program Improvements

1. Station Performance Standards

Changes to Health and Safety Code (HSC) sections 44014.2 and 44014.5 require licensed Smog Check Test-Only and Test-and-Repair stations to meet inspection-based performance standards in order to inspect likely high-emitting vehicles (“directed vehicles”) pursuant to HSC sections 44010.5 and 44014.7.

BAR established the STAR Program, whereby stations interested in inspecting directed vehicles must apply for STAR certification. BAR grants certification if the station meets various inspection-based performance standards based on each calendar quarter’s performance. In addition to the performance measures, stations must also be in compliance with enforcement-related standards of the STAR Program. This includes a review of citations and/or administrative actions associated with the station and its technicians.

Failure of STAR-certified stations to meet the performance standards may result in decertification and termination of their ability to inspect directed vehicles. STAR Program information as well as station and technician report cards may be viewed on BAR’s Web site, http://www.bar.ca.gov/Industry/STAR_Program/index.html.

Status: STAR Program regulations were adopted November 1, 2011 and implemented on January 1, 2013.

BAR is currently working on updates to the existing STAR Program regulations.

2. Directed Vehicles

HSC section 44010.5 now includes a more detailed description of the types of vehicles to be included in the biennial directed vehicle population. Directed vehicles are those most likely to fail their next biennial inspection and are identified by BAR for inspection and certification at a STAR station.

BAR designates the following vehicle groups as directed vehicles:

- I. The first group includes all 1976 to 1999 model-year gasoline-powered vehicles.
- II. The second group includes vehicles with emissions-related problems that may not be adequately detected by the vehicle’s OBD II system. As these vehicles are jointly identified by BAR and ARB, they will be included in the directed vehicle population. To date, no vehicles have been identified in this group.



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- III. The third group includes any other vehicles for which direction is necessary to meet the emissions reduction standards established by the United States Environmental Protection Agency (U.S. EPA).

Status: Implemented in January 2014.

3. Citation Process

Amendments to HSC sections 44050, 44052, and 44055 were made to expand BAR's authority to issue citations for violations of the Smog Check Program. The citation may contain an order of abatement, which may include a training requirement, the assessment of an administrative fine, or both. The maximum administrative fine against Smog Check stations was increased from \$2,500 to \$5,000 per vehicle inspection or repair. This provision also provides BAR new authority to cite and fine technicians up to \$5,000 per incident, require them to complete prescribed training, or both. Previously, technicians only received prescribed training as discipline. Regulations specify penalty ranges and establish a framework for determining fine amounts.

The cited licensee may comply with the requirements contained in the citation or file an appeal of the citation within 30 days of issuance. Failure to do so may result in the Bureau taking action against the license; including suspension of the license, denial of license renewal, and/or revocation of the license.

Status: These regulations became effective on July 10, 2012.

4. Inspection Procedure and Equipment Changes

Revisions to HSC section 44012 required BAR to implement testing using on-board diagnostic systems (OBD II), in lieu of loaded-mode dynamometer or two-speed idle testing, on model-year 2000 and newer OBD II-equipped vehicles, beginning no earlier than January 1, 2013. Earlier model year vehicles and those without OBD II systems continue to receive a dynamometer or two-speed idle tailpipe based test. All model years continue to receive a visual inspection of required emissions control components.

Status: Regulations were adopted on July 1, 2013.

A. Hardware Specifications

BAR developed specifications for the Data Acquisition Device (DAD). A BAR- certified DAD is used to interrogate the vehicle's on-board diagnostic (OBD II) system for the purposes of retrieving emissions related data from a vehicle's on-board computers. The DAD passes the data to a computer, which in turn relays the information to BAR's central database. Ancillary BAR-OIS equipment includes a computer, bar code scanner, and printer. These can be off-the-shelf type devices and do not require BAR certification.

Status: On July 2, 2013 BAR began certification testing of devices. To date, BAR has certified three DADs. Annual recertification is required in the DAD specification.



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(e) Additional reporting requirements

B. Software Development

In parallel with the hardware development, BAR worked closely with its central database contractor, SGS Testcom, to develop the client and back-end BAR-OIS software, web connectivity capability, and expanded central database storage capabilities. Standardization, flexibility, and no-cost-to-station OIS software goals were achieved with a web-based table-driven design.

Status: BAR-OIS software was implemented on December 4, 2013.

C. Revised Inspection Procedures

BAR modified the inspection procedures and equipment requirements in an updated Smog Check Manual to require a BAR-OIS to inspect gasoline vehicles 2000 model-year and newer, and diesel vehicles 1998 model-year and newer. All STAR-certified Smog Check stations are required to own and operate both a BAR-97 and BAR-OIS system.

Status: Statewide use of BAR-OIS equipment and procedures were implemented on March 9, 2015.

D. Hybrid Vehicle Testing

Before the BAR-OIS, hybrid-powered vehicles were excepted from Smog Check due to their incompatibility with a dynamometer or two-speed idle emissions test. Now these vehicles require a biennial and change-of-ownership inspection on the BAR-OIS. The first four model year change-of-ownership and first six model year biennial exemptions apply, exactly like gasoline vehicles.

Status: Hybrid vehicle testing was implemented on April 1, 2015.

E. OBD II Pass/Fail Standards

BAR implemented new pass/fail criteria¹ for the OBD II portion of the Smog Check inspection. These criteria are supported by the ARB and federal EPA guidance and made possible by the enhanced data collection capability of the BAR-OIS. One of the main changes with the new criteria was a reduced number of allowed incomplete readiness monitors. This change allows better utilization of the vehicle's OBD II system by requiring a greater number of self-tests to be complete at the time of the Smog Check inspection. More completed self-tests will result in increased detection of broken emissions control components. The revised readiness monitor pass/fail standards are as follows:

- Gasoline-powered vehicles model-years 1996 through 1999 may not have more than one (1) incomplete monitor;
- Gasoline-powered vehicles model-years 2000 and newer may not have any incomplete monitors, excluding the evaporative system monitor;
- Diesel-powered vehicles model-years 1998 through 2006 may not have any incomplete monitors;

¹ Details may be found in Title 16, California Code of Regulations section 3340.42.2.



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(e) Additional reporting requirements

- Diesel-powered vehicles model-years 2007 and newer may not have any incomplete monitors, excluding the particulate filter system monitor. Note: Until more data is collected, these vehicles are allowed up to two (2) incomplete monitors.

Status: The new readiness monitor standards were implemented May 4, 2015.

5. Referee Network

HSC sections 44014 and 44017 delineate the circumstances when Referee services apply and the types of vehicles that receive a Referee inspection. The Referee issues Smog Check repair cost waivers and provides inspections for consumers disputing a Smog Check inspection, or consumers with vehicles that cannot be tested at a licensed Smog Check station. Referee inspections include third-party evaluations, engine changes, specialty constructed vehicles/kit cars, grey market vehicles, alternative fuel conversions, inspection incompatibilities, limited parts exemptions, and law enforcement citations related to emissions controls tampering or excessive noise level.

Status: Regulations implementing these changes were adopted on July 1, 2013. In calendar year 2014, Referee facilities performed 17,216 inspections, and 9,383 inspections from January-June 2015.