

**Table III-1
ASM2525 Emissions Concentrations**

ASM2525 Emissions Concentrations by Model-Year for Vehicles Tested on Roadside After a BAR97 ASM Smog Check Inspection*				ASM2525 Emissions Concentrations by Model-Year for Vehicles Tested on Roadside Before a BAR97 ASM Smog Check Inspection				EMFAC2000 Travel Fraction Numbers		
Model-Year	# tested	HC mean (ppm)	NOx mean (ppm)	CO mean (%)	# tested	HC mean (ppm)	NOx mean (ppm)	CO mean (%)	Avg Annual VMT per Vehicle	Number of Vehicles
1966	24	255 +/- 53	843 +/- 236	3.09 +/- 1.08	24	255 +/- 53	843 +/- 236	3.09 +/- 1.08	4,747	37,769
1967	20	347 +/- 255	1017 +/- 345	2.80 +/- 0.91	20	347 +/- 255	1017 +/- 345	2.80 +/- 0.91	4,882	39,927
1968	29	303 +/- 265	980 +/- 290	2.02 +/- 0.85	29	303 +/- 265	980 +/- 290	2.02 +/- 0.85	5,097	47,016
1969	17	316 +/- 256	1424 +/- 462	2.11 +/- 0.94	17	316 +/- 256	1424 +/- 462	2.11 +/- 0.94	5,406	56,399
1970	30	230 +/- 92	1133 +/- 321	1.90 +/- 0.64	30	230 +/- 92	1133 +/- 321	1.90 +/- 0.64	5,581	56,508
1971	22	169 +/- 43	1104 +/- 263	1.78 +/- 0.89	22	169 +/- 43	1104 +/- 263	1.78 +/- 0.89	5,858	55,812
1972	32	362 +/- 426	973 +/- 300	2.20 +/- 0.89	32	362 +/- 426	973 +/- 300	2.20 +/- 0.89	6,182	70,668
1973	62	307 +/- 176	801 +/- 134	1.95 +/- 0.51	62	307 +/- 176	801 +/- 134	1.95 +/- 0.51	6,419	78,455
1974	16	272 +/- 341	1284 +/- 533	0.97 +/- 0.46	29	386 +/- 330	1205 +/- 343	1.82 +/- 0.79	6,709	58,940
1975	19	144 +/- 110	863 +/- 398	0.93 +/- 0.69	21	119 +/- 43	912 +/- 361	1.61 +/- 1.05	6,809	46,928
1976	22	123 +/- 47	954 +/- 352	1.83 +/- 0.93	32	440 +/- 551	890 +/- 302	1.09 +/- 0.47	6,838	74,696
1977	57	194 +/- 201	859 +/- 149	1.15 +/- 0.54	71	329 +/- 241	837 +/- 133	1.39 +/- 0.54	6,877	116,232
1978	57	114 +/- 68	870 +/- 168	0.92 +/- 0.44	78	313 +/- 176	1045 +/- 207	1.34 +/- 0.52	7,058	143,266
1979	81	186 +/- 82	768 +/- 144	1.09 +/- 0.42	91	208 +/- 147	858 +/- 150	1.23 +/- 0.45	7,221	174,446
1980	71	171 +/- 137	724 +/- 162	1.68 +/- 0.67	89	125 +/- 23	920 +/- 178	1.94 +/- 0.58	7,372	143,796
1981	71	93 +/- 20	856 +/- 159	1.11 +/- 0.47	102	151 +/- 44	799 +/- 152	1.74 +/- 0.49	7,588	184,956
1982	102	181 +/- 100	756 +/- 136	1.18 +/- 0.42	130	126 +/- 22	760 +/- 152	1.56 +/- 0.42	7,838	236,938
1983	134	87 +/- 23	856 +/- 139	0.80 +/- 0.33	186	161 +/- 65	1008 +/- 132	1.22 +/- 0.30	8,076	307,808
1984	222	86 +/- 11	735 +/- 94	0.79 +/- 0.22	288	153 +/- 52	779 +/- 89	1.39 +/- 0.28	8,438	522,740
1985	322	93 +/- 12	690 +/- 77	0.86 +/- 0.21	403	137 +/- 45	737 +/- 79	0.95 +/- 0.19	8,707	651,438
1986	388	62 +/- 7	622 +/- 63	0.48 +/- 0.13	454	80 +/- 9	658 +/- 65	0.66 +/- 0.13	9,068	762,626
1987	372	84 +/- 23	583 +/- 66	0.61 +/- 0.15	416	81 +/- 11	674 +/- 73	0.75 +/- 0.17	9,268	850,454
1988	352	55 +/- 9	472 +/- 66	0.40 +/- 0.14	376	82 +/- 22	592 +/- 76	0.52 +/- 0.15	9,516	854,834
1989	381	52 +/- 19	390 +/- 52	0.19 +/- 0.05	454	50 +/- 8	412 +/- 48	0.32 +/- 0.10	9,815	931,888
1990	330	37 +/- 6	324 +/- 49	0.18 +/- 0.07	398	44 +/- 7	328 +/- 48	0.23 +/- 0.09	10,095	836,952
1991	334	26 +/- 3	247 +/- 42	0.09 +/- 0.02	409	32 +/- 5	285 +/- 40	0.17 +/- 0.06	10,485	814,010
1992	72	34 +/- 9	235 +/- 62	0.25 +/- 0.22	119	46 +/- 12	297 +/- 91	0.23 +/- 0.17	10,831	696,644
1993	64	29 +/- 10	150 +/- 50	0.11 +/- 0.05	125	24 +/- 5	146 +/- 36	0.10 +/- 0.03	11,220	783,582
1994	107	22 +/- 5	145 +/- 48	0.10 +/- 0.05	132	18 +/- 4	147 +/- 32	0.06 +/- 0.02	11,600	707,320
1995	55	16 +/- 5	104 +/- 40	0.05 +/- 0.04	225	23 +/- 5	149 +/- 39	0.09 +/- 0.07	11,962	1,260,918
1996	232	15 +/- 4	77 +/- 18	0.03 +/- 0.01	232	15 +/- 4	77 +/- 18	0.03 +/- 0.01	12,393	769,451
1997	61	19 +/- 7	67 +/- 30	0.02 +/- 0.01	61	19 +/- 7	67 +/- 30	0.02 +/- 0.01	12,838	154,191
1998	64	17 +/- 7	44 +/- 24	0.02 +/- 0.01	64	17 +/- 7	44 +/- 24	0.02 +/- 0.01	13,338	160,378
1999	11	11 +/- 6	19 +/- 28	0.01 +/- 0.02	11	11 +/- 6	19 +/- 28	0.01 +/- 0.02	13,871	178,387
Wt										
Avg:	4,233	54 +/- 4	366 +/- 14	0.36 +/- 0.03	5,232	67 +/- 5	404 +/- 14	0.46 +/- 0.03		12,866,372

EMFAC2000 vehicle populations are used for model years 1966 to 1973 and 1996 to 1999; BAR vehicle populations, based on actual smog certificates sold, were used for model years 1974 to 1995.

For 1966 - 1973 and 1996 - 1999 vehicles, all of the vehicles from the "Before" dataset were used for the averages.

For MY '74-'95, 2235 vehicles received their smog inspection when NOx cut points were at gross polluter+30%; 1394 vehicles received their smog inspection when NOx cut points were at gross polluter; current NOx cut points are even lower; therefore, the "After" fleet emission rate is higher than would be the case if all the roadside tested vehicles had received their smog inspection at current cut points.

*The 1973 and older, and the 1996 and newer vehicles were exempt from inspection requirements. Thus, the "Before" and "After" emission rates for these model years are the same.

Predicted FTP Emission Rates by Model-Year for
Vehicles Tested on Roadside After a BAR97 ASM Smog

+/- 2 Sigma

Variances

Travel Fraction Wtd

Model-Year	Number of vehicles	NOx			HC TF Weighted	CO TF Weighted	NOx TF Weighted	+/- 2 Sigma			Variances			Travel Fraction Wtd		
		HC (g/mi)	CO (g/mi)	(g/mi)				HC	CO	Nox	HC	CO	Nox	HC	CO	Nox
1966	24	254.5	3.09	842.9	0.355059	0.004311	1.175948	52.6	1.08	236.2	720.21	0.30	14522.71	0.001402	5.91E-07	0.028267
1967	20	346.8	2.8	1016.7	0.526066	0.004247	1.542246	255.1	0.91	345.4	16939.82	0.22	31055.07	0.038979	4.96E-07	0.071459
1968	29	303.1	2.02	979.9	0.565284	0.003767	1.827522	265.4	0.85	289.7	18335.37	0.19	21846.65	0.063775	6.54E-07	0.075988
1969	17	315.7	2.11	1424.1	0.749039	0.005006	3.378862	256.1	0.94	462.4	17072.89	0.23	55657.48	0.09611	1.29E-06	0.313317
1970	30	229.7	1.9	1132.6	0.563735	0.004663	2.779655	91.8	0.64	321.2	2193.68	0.11	26855.85	0.013213	6.42E-07	0.161759
1971	22	168.9	1.78	1104.3	0.429736	0.004529	2.809694	43	0.89	263.3	481.31	0.21	18046.36	0.003116	1.33E-06	0.116824
1972	32	361.6	2.2	972.6	1.229262	0.007479	3.306361	425.6	0.89	300	47151.02	0.21	23427.74	0.544908	2.38E-06	0.270746
1973	62	306.8	1.95	800.9	1.202259	0.007641	3.138492	176.4	0.51	133.7	8100.00	0.07	4653.19	0.124386	1.04E-06	0.071456
1974	16	272.3	0.97	1283.9	0.837876	0.002985	3.950605	341.4	0.46	532.9	30339.95	0.06	73922.95	0.287263	5.22E-07	0.699913
1975	19	144.1	0.93	863.2	0.358315	0.002313	2.146407	109.5	0.69	398.3	3121.16	0.12	41296.05	0.019298	7.66E-07	0.255335
1976	22	123.4	1.83	954.4	0.490519	0.007274	3.793769	46.9	0.93	352.2	572.58	0.23	32289.89	0.009047	3.56E-06	0.510208
1977	57	194	1.15	858.5	1.206672	0.007153	5.339834	201.4	0.54	148.6	10558.61	0.08	5748.12	0.40849	2.94E-06	0.222382
1978	57	113.5	0.92	870.1	0.893107	0.007239	6.846627	68.1	0.44	167.7	1207.21	0.05	7320.72	0.074748	3.12E-06	0.453282
1979	81	186.3	1.09	768.4	1.826129	0.010684	7.531924	82.4	0.42	144.4	1767.43	0.05	5427.78	0.169816	4.41E-06	0.521506
1980	71	171	1.68	723.5	1.410678	0.013859	5.968568	137	0.67	162	4885.72	0.12	6831.53	0.3325	7.95E-06	0.464923
1981	71	92.6	1.11	855.6	1.011302	0.012123	9.344167	20.2	0.47	158.9	106.22	0.06	6572.58	0.012669	6.86E-06	0.783926
1982	102	181	1.18	755.7	2.615752	0.017053	10.92113	100.1	0.42	136.1	2608.29	0.05	4821.74	0.544744	9.59E-06	1.007025
1983	134	86.6	0.8	856	1.675333	0.015477	16.55987	22.6	0.33	139	132.96	0.03	5029.41	0.049759	1.06E-05	1.882279
1984	222	86.3	0.79	735.2	2.962155	0.027116	25.23495	11.4	0.22	94.2	33.83	0.01	2309.88	0.039856	1.48E-05	2.721344
1985	322	92.8	0.86	690.3	4.095969	0.037958	30.46818	11.8	0.21	77.4	36.25	0.01	1559.44	0.07061	2.24E-05	3.037996
1986	388	62.1	0.48	621.6	3.341864	0.025831	33.45093	6.7	0.13	63.4	11.69	0.00	1046.32	0.03384	1.27E-05	3.030126
1987	372	83.9	0.61	583.4	5.146135	0.037415	35.78373	22.7	0.15	66.3	134.13	0.01	1144.23	0.504636	2.2E-05	4.304803
1988	352	55.3	0.4	472.4	3.500774	0.025322	29.90535	9.3	0.14	66.1	22.51	0.01	1137.34	0.090226	2.04E-05	4.55794
1989	381	52.4	0.19	390.3	3.729858	0.013524	27.78175	18.5	0.05	52.1	89.09	0.00	706.58	0.451392	3.3E-06	3.58002
1990	330	36.5	0.18	324.2	2.399987	0.011836	21.31715	5.8	0.07	48.5	8.76	0.00	612.31	0.03786	5.51E-06	2.647302
1991	334	26.4	0.09	246.5	1.753384	0.005977	16.37156	3.1	0.02	42.3	2.50	0.00	465.77	0.011035	4.59E-07	2.054541
1992	72	33.7	0.25	234.9	1.9787	0.014679	13.79218	9	0.22	62	21.08	0.01	1000.62	0.07269	4.34E-05	3.449621
1993	64	28.7	0.11	149.6	1.963492	0.007526	10.23479	10.4	0.05	50.3	28.15	0.00	658.60	0.13178	3.05E-06	3.082607
1994	107	22	0.1	144.9	1.404659	0.006385	9.251595	5.3	0.05	47.9	7.31	0.00	597.25	0.029808	2.65E-06	2.434755
1995	55	15.8	0.05	103.5	1.854583	0.005869	12.14869	5	0.04	40.2	6.51	0.00	420.67	0.089662	5.74E-06	5.795868
1996	232	14.9	0.03	77.1	1.105675	0.002226	5.721312	3.5	0.01	18.3	3.19	0.00	87.17	0.017559	1.43E-07	0.480035
1997	61	18.5	0.02	67.4	0.284971	0.000308	1.038219	6.8	0.01	30	12.04	0.00	234.28	0.002856	6.18E-09	0.055589
1998	64	17	0.02	43.6	0.282986	0.000333	0.725776	6.6	0.01	24	11.34	0.00	149.94	0.003142	7.21E-09	0.041547
1999	11	10.8	0.01	19.2	0.207967	0.000193	0.369719	6.2	0.02	27.9	10.01	0.00	202.63	0.00371	3.86E-08	0.075134

Weighted

Averageb : 4,233 53.95928 0.360301 365.9576

a 1966 through 1973 vehicles are not subject to the Smog Check Program and the first four model-years (1996 through 1999 vehicles) were not subject to biennial Smog Check inspection requirements. Therefore, the predicted FTP emissions from the roadside sample after November 11, 1998 were used for these model-years.

b Weighted by May 1999 model-year travel fraction table.

Variances 4.384883 0.000216 49.25982
+/- 2 sigma: 4.104262 0.028774 13.75633