

**Table III-2  
ASM5015 Emissions Concentrations**

ASM5015 Emissions Concentrations by Model-Year for Vehicles Tested on Roadside <u>After</u> a BAR97 ASM Smog Check Inspection*				ASM5015 Emissions Concentrations by Model-Year for Vehicles Tested on Roadside <u>Before</u> 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	265 +/- 53	966 +/- 264	3.00 +/- 1.11	24	265 +/- 53	966 +/- 264	3.00 +/- 1.11	4,747	37,769
1967	20	340 +/- 233	1119 +/- 360	2.85 +/- 0.97	20	340 +/- 233	1119 +/- 360	2.85 +/- 0.97	4,882	39,927
1968	29	299 +/- 250	1108 +/- 306	1.96 +/- 0.81	29	299 +/- 250	1108 +/- 306	1.96 +/- 0.81	5,097	47,016
1969	17	307 +/- 246	1532 +/- 508	2.24 +/- 1.06	17	307 +/- 246	1532 +/- 508	2.24 +/- 1.06	5,406	56,399
1970	30	222 +/- 86	1252 +/- 337	1.74 +/- 0.60	30	222 +/- 86	1252 +/- 337	1.74 +/- 0.60	5,581	56,508
1971	22	177 +/- 44	1202 +/- 282	1.95 +/- 0.95	22	177 +/- 44	1202 +/- 282	1.95 +/- 0.95	5,858	55,812
1972	32	368 +/- 430	1106 +/- 320	2.09 +/- 0.88	32	368 +/- 430	1106 +/- 320	2.09 +/- 0.88	6,182	70,668
1973	62	307 +/- 166	945 +/- 142	1.77 +/- 0.48	62	307 +/- 166	945 +/- 142	1.77 +/- 0.48	6,419	78,455
1974	16	272 +/- 334	1514 +/- 617	0.95 +/- 0.55	29	402 +/- 332	1353 +/- 370	1.75 +/- 0.76	6,709	58,940
1975	19	161 +/- 119	1031 +/- 461	0.85 +/- 0.63	21	136 +/- 43	1031 +/- 409	1.60 +/- 1.06	6,809	46,928
1976	22	129 +/- 45	1103 +/- 394	1.75 +/- 0.91	32	434 +/- 541	1024 +/- 290	1.05 +/- 0.45	6,838	74,696
1977	57	201 +/- 204	1050 +/- 184	1.12 +/- 0.52	71	340 +/- 276	982 +/- 155	1.32 +/- 0.53	6,877	116,232
1978	57	118 +/- 68	1000 +/- 195	0.80 +/- 0.39	78	342 +/- 187	1150 +/- 197	1.30 +/- 0.50	7,058	143,266
1979	81	207 +/- 91	909 +/- 176	1.17 +/- 0.42	91	222 +/- 152	1002 +/- 169	1.28 +/- 0.48	7,221	174,446
1980	71	183 +/- 135	814 +/- 176	1.76 +/- 0.66	89	135 +/- 23	1008 +/- 186	2.01 +/- 0.60	7,372	143,796
1981	71	110 +/- 22	971 +/- 160	1.17 +/- 0.45	102	173 +/- 52	875 +/- 167	1.87 +/- 0.48	7,588	184,956
1982	102	187 +/- 98	848 +/- 152	1.16 +/- 0.40	130	132 +/- 22	916 +/- 169	1.48 +/- 0.40	7,838	236,938
1983	134	96 +/- 25	902 +/- 142	0.85 +/- 0.32	186	172 +/- 65	1147 +/- 149	1.22 +/- 0.29	8,076	307,808
1984	222	97 +/- 11	847 +/- 105	0.80 +/- 0.21	288	168 +/- 55	886 +/- 97	1.40 +/- 0.27	8,438	522,740
1985	322	105 +/- 12	800 +/- 89	0.90 +/- 0.20	403	148 +/- 45	838 +/- 82	0.94 +/- 0.19	8,707	651,438
1986	388	74 +/- 7	708 +/- 72	0.52 +/- 0.13	454	93 +/- 12	743 +/- 70	0.69 +/- 0.13	9,068	762,626
1987	372	95 +/- 23	667 +/- 74	0.60 +/- 0.15	416	91 +/- 11	728 +/- 77	0.78 +/- 0.17	9,268	850,454
1988	352	65 +/- 10	514 +/- 68	0.41 +/- 0.14	376	89 +/- 23	666 +/- 81	0.51 +/- 0.14	9,516	854,834
1989	381	64 +/- 22	450 +/- 57	0.26 +/- 0.07	454	58 +/- 8	470 +/- 53	0.33 +/- 0.10	9,815	931,888
1990	330	43 +/- 5	358 +/- 53	0.22 +/- 0.08	398	51 +/- 7	371 +/- 55	0.25 +/- 0.08	10,095	836,952
1991	334	33 +/- 4	276 +/- 47	0.11 +/- 0.04	409	39 +/- 6	324 +/- 46	0.20 +/- 0.07	10,485	814,010
1992	72	37 +/- 10	274 +/- 71	0.15 +/- 0.08	119	50 +/- 12	298 +/- 85	0.31 +/- 0.22	10,831	696,644
1993	64	28 +/- 11	160 +/- 53	0.10 +/- 0.05	125	27 +/- 5	191 +/- 55	0.10 +/- 0.03	11,220	783,582
1994	107	22 +/- 5	145 +/- 54	0.07 +/- 0.03	132	21 +/- 6	146 +/- 35	0.07 +/- 0.03	11,600	707,320
1995	55	17 +/- 5	110 +/- 47	0.04 +/- 0.03	225	22 +/- 5	159 +/- 44	0.11 +/- 0.09	11,962	1,260,918
1996	232	13 +/- 2	92 +/- 21	0.03 +/- 0.01	232	13 +/- 2	92 +/- 21	0.03 +/- 0.01	12,393	769,451
1997	61	15 +/- 5	74 +/- 35	0.01 +/- 0.00	61	15 +/- 5	74 +/- 35	0.01 +/- 0.00	12,838	154,191
1998	64	13 +/- 5	42 +/- 30	0.01 +/- 0.01	64	13 +/- 5	42 +/- 30	0.01 +/- 0.01	13,338	160,378
1999	11	8 +/- 5	2 +/- 2	0.01 +/- 0.01	11	8 +/- 5	2 +/- 2	0.01 +/- 0.01	13,871	178,387
Wt Avg:	4,233	59 +/- 4	412 +/- 15	0.36 +/- 0.03	5,232	73 +/- 6	452 +/- 15	0.47 +/- 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 1974-95, 2235 vehicles received their smog inspection when NOx cut points were at gross polluter+50%, 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)	NOx (g/mi)				HC	CO	Nox	HC	CO	Nox	HC	CO	Nox
1966	24	264.7	3	965.8	0.369289	0.004185	1.347409	52.5	1.11	263.5	717.47	0.32	18073.78	0.001396	6.24E-07	0.035178
1967	20	340.3	2.85	1119.2	0.516206	0.004323	1.697729	233.1	0.97	359.8	14144.01	0.24	33698.47	0.032546	5.64E-07	0.077541
1968	29	298.6	1.96	1107.5	0.556892	0.003655	2.065497	250	0.81	306	16269.26	0.17	24374.22	0.056589	5.94E-07	0.08478
1969	17	306.9	2.24	1532	0.72816	0.005315	3.634869	246.3	1.06	508.4	15791.26	0.29	67282.01	0.088895	1.65E-06	0.378756
1970	30	222	1.74	1251.7	0.544838	0.00427	3.071953	86.4	0.6	336.9	1943.19	0.09	29545.40	0.011704	5.64E-07	0.177958
1971	22	177.1	1.95	1201.7	0.450599	0.004961	3.057511	43.8	0.95	281.7	499.39	0.23	20656.73	0.003233	1.52E-06	0.133723
1972	32	367.5	2.09	1106.1	1.249319	0.007105	3.760195	429.7	0.88	319.9	48063.85	0.20	26638.90	0.555457	2.33E-06	0.307857
1973	62	306.5	1.77	945.2	1.201084	0.006936	3.703962	165.5	0.48	142.3	7129.91	0.06	5271.06	0.109489	9.21E-07	0.080944
1974	16	272.3	0.95	1514	0.837876	0.002923	4.65863	333.9	0.55	617	29021.56	0.08	99096.47	0.27478	7.46E-07	0.938259
1975	19	160.9	0.85	1030.9	0.400089	0.002114	2.563405	118.9	0.63	461.4	3680.03	0.10	55417.00	0.022754	6.39E-07	0.342645
1976	22	128.5	1.75	1103	0.510791	0.006956	4.384458	44.9	0.91	393.6	524.78	0.22	40327.20	0.008292	3.41E-06	0.637205
1977	57	201.4	1.12	1050	1.2527	0.006966	6.530956	204.4	0.52	183.9	10875.51	0.07	8803.42	0.42075	2.72E-06	0.340586
1978	57	118	0.8	1000	0.928516	0.006295	7.868781	67.8	0.39	194.6	1196.60	0.04	9857.65	0.07409	2.45E-06	0.610363
1979	81	206.5	1.17	908.8	2.024131	0.011468	8.908137	90.8	0.42	176.3	2146.15	0.05	8090.82	0.206204	4.41E-06	0.777373
1980	71	183.4	1.76	813.8	1.512972	0.014519	6.713505	134.8	0.66	176.2	4730.07	0.11	8081.64	0.321907	7.72E-06	0.55
1981	71	109.6	1.17	971.3	1.196862	0.012778	10.60775	22.4	0.45	159.7	130.61	0.05	6638.92	0.015578	6.29E-06	0.79184
1982	102	186.5	1.16	848	2.695237	0.016764	12.25502	98.4	0.4	151.7	2520.45	0.04	5990.44	0.526398	8.7E-06	1.251109
1983	134	95.7	0.85	902.1	1.851378	0.016444	17.45171	25	0.32	142.4	162.69	0.03	5278.47	0.060898	9.98E-06	1.975488
1984	222	97.1	0.8	846.6	3.332853	0.027459	29.05863	11.4	0.21	105.2	33.83	0.01	2880.84	0.039856	1.35E-05	3.394011
1985	322	105.2	0.9	800.2	4.643275	0.039724	35.31891	12.3	0.2	88.7	39.38	0.01	2048.02	0.076721	2.03E-05	3.989812
1986	388	73.5	0.52	708.1	3.955346	0.027983	38.10586	7.1	0.13	71.7	13.12	0.00	1338.22	0.038001	1.27E-05	3.875436
1987	372	94.8	0.6	667.4	5.814703	0.036802	40.936	23.1	0.15	73.5	138.90	0.01	1406.25	0.522577	2.2E-05	5.290551
1988	352	64.9	0.41	514.4	4.108503	0.025955	32.56416	10.1	0.14	67.8	26.55	0.01	1196.60	0.106416	2.04E-05	4.795403
1989	381	63.7	0.26	449.8	4.534198	0.018507	32.01699	21.5	0.07	57.3	120.33	0.00	854.67	0.609659	6.46E-06	4.330312
1990	330	42.7	0.22	358.2	2.807657	0.014466	23.55275	5.2	0.08	53.3	7.04	0.00	739.51	0.030432	7.2E-06	3.197234
1991	334	32.9	0.11	275.6	2.185088	0.007306	18.30427	4.2	0.04	47.1	4.59	0.00	577.47	0.020255	1.84E-06	2.547275
1992	72	37.1	0.15	273.9	2.178331	0.008807	16.08207	10.1	0.08	70.8	26.55	0.00	1304.83	0.091544	5.74E-06	4.498363
1993	64	28	0.1	159.8	1.915602	0.006841	10.93261	10.6	0.05	53.3	29.25	0.00	739.51	0.136897	3.05E-06	3.461279
1994	107	22.3	0.07	144.8	1.423813	0.004469	9.24521	4.9	0.03	53.9	6.25	0.00	756.25	0.025479	9.55E-07	3.082917
1995	55	16.8	0.04	110.2	1.971962	0.004695	12.93513	4.5	0.03	47.2	5.27	0.00	579.93	0.072626	3.23E-06	7.990066
1996	232	12.6	0.03	91.8	0.935	0.002226	6.812146	2.3	0.01	20.9	1.38	0.00	113.71	0.007583	1.43E-07	0.626128
1997	61	14.5	0.01	73.8	0.223356	0.000154	1.136804	5	0	34.7	6.51	0.00	313.43	0.001544	0	0.074371
1998	64	12.7	0.01	42.2	0.211407	0.000166	0.702471	5	0.01	30.3	6.51	0.00	238.99	0.001803	7.21E-09	0.066222
1999	11	8	0.01	1.9	0.15405	0.000193	0.036587	4.8	0.01	1.7	6.00	0.00	0.75	0.002224	9.65E-09	0.000279

Weighted

4,233 59,22218 0.363733 412.0221

Average b :  
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 4.574568 0.000173 60.71126  
+/- 2 sigma: 4.192095 0.025816 15.27182