TABLE 1.1 SUMMARY 2005 MASSACHUSETTS STATEWIDE EMISSIONS

VOC, NOx, CO, SO2, NH3, PM10 AND PM2.5

TONS PER YEAR (TPY), SUMMER DAY (TPSD), WINTER DAY (TPWD)

ks/2.inv.2005/summ-2005 sep-11/2008

						VOC With Biogenics:		
VOC (Figures 1 and 2)		**VOC TPY**	**TPY %**	**TPSD**	**TPSD %**	**VOC TPY**	**TPSD**	**TPSD %**
1	STATIONARY POINT	6,038	2.3%	17.3	2.6%	6,038	17.3	1.2%
2	STATIONARY AREA	162,704	63.2%	330.0	49.8%	162,704	330.0	22.7%
3	ON-ROAD MOBILE6.2	37,029	14.4%	111.8	16.9%	37,029	111.8	7.7%
4	OFF-ROAD MOBILE	51,532	20.0%	203.0	30.7%	51,532	203.0	14.0%
5	*BIOGENICS (BEIS-3)*					*113,957*	*790.3*	*54.4%*
	TOTAL	**257,303**	100%	**662.1**	100.0%	*371,260*	*1,452.4*	*100.0%*
						NOx With Biogenics:		
NOx (Figure 3)		**NOX TPY**	**TPY %**	**TPSD**	**TPSD %**	**NOx TPY**	**TPSD**	
1	STATIONARY POINT	36,865	15.3%	105.3	16.2%	36,865	105.3	
2	STATIONARY AREA	36,422	15.1%	41.6	6.4%	36,422	41.6	
3	ON-ROAD MOBILE6.2	125,702	52.2%	362.1	55.8%	125,702	362.1	
4	OFF-ROAD MOBILE	41,890	17.4%	139.6	21.5%	41,890	139.6	
5	*BIOGENICS (BEIS-3)*					*1,257*	*5.5*	
	TOTAL	**240,879**	100%	**648.6**	100.0%	*242,137*	*654.1*	
CO (Figures 4 and 5)		**CO TPY**	**TPY %**	**TPSD**	**TPSD %**	**TPWD**	**TPWD %**	
1	STATIONARY POINT	15,697	1.1%	43.3	1.1%	43.3	0.9%	
2	STATIONARY AREA	142,562	9.9%	69.8	1.8%	1,067.6	22.8%	
3	ON-ROAD MOBILE6.2	802,797	55.8%	1,618.6	42.2%	2,777.1	59.3%	
4	OFF-ROAD MOBILE	478,507	33.2%	2,101.0	54.8%	796.9	17.0%	
	Anthropogenic Total	**1,439,564**	100%	**3,832.7**	100.0%	**4,684.9**	100.0%	
5	*BIOGENICS (BEIS-3)*	*11,594*		*71.6*		*6.4*		
	TOTAL with Biogenics	*1,451,158*		*3,904.3*		*4,691.3*		
REGIONAL HAZE POLLUTANTS: (Figures 6 to 9)								
		SO2 TPY	**TPY %**		**NH3 TPY**	**TPY %**		
1	STATIONARY POINT	92,149	72.8%		427	1.9%		
2	STATIONARY AREA	26,952	21.3%		17,047	74.1%		
3	ON-ROAD MOBILE6.2	2,936	2.3%		5,493	23.9%		
4	OFF-ROAD MOBILE	4,471	3.5%		28	0.1%		
	TOTAL	**126,509**	100%		**22,996**	100.0%		
		PM10 TPY	**TPY %**		**PM2.5 TPY**	**TPY %**		
1	STATIONARY POINT	1,429	0.7%		157	0.3%		
2	STATIONARY AREA	29,093	14.4%		26,117	52.1%		
3	ON-ROAD MOBILE6.2	3,247	1.6%		2,248	4.5%		
4	OFF-ROAD MOBILE	3,349	1.7%		3,143	6.3%		
5	FUG.DUST (Roads, Constr	165,436	81.7%		18,474	36.8%		
	TOTAL	**202,553**	100%		**50,139**	100.0%		

TABLE 1

SUMMARY 2005 MASSACHUSETTS PERIODIC YEAR EMISSION INVENTORIES

VOC, NOx & CO TPSD TOGETHER WITH PM2.5 IN TPY

ks/inv2005/2.sum-2005/graphs/June-23/2008

VOLATILE ORGANIC COMPOUNDS

	ANTHROPOGENIC TPSD	%		WITH BIOGENICS TPSD	%
1 POINT	17.3	2.6%	POINT	17.3	1.2%
2 AREA	330.0	49.8%	AREA	330.0	22.7%
3 ON-ROAD	111.8	16.9%	ON-ROAD	111.8	7.7%
4 OFF-ROAD	203.0	30.7%	OFF-ROAD	203.0	14.0%
5 BIOGENICS			BIOGENICS	790.3	54.4%
TOTAL	662.1	100.0%	TOTAL	1452.4	100%

NITROGEN OXIDES (NOx)

	TPSD	%
1 POINT	105.3	16.5%
2 AREA	41.6	6.5%
3 ON-ROAD	362.1	56.6%
4 OFF-ROAD	130.4	20.4%
TOTAL	639.4	100%

CARBON MONOXIDE (CO)

SUMMER	TPSD	%	WINTER	TPWD	%
1 POINT	43	42.2%	ON-ROAD	2777	59.3%
3 ON-ROAD	1619	1.1%	ST. POINT	43	0.9%
2 AREA	70	1.8%	AREA	1068	22.8%
4 OFF-ROAD	2101	54.8%	OFF-ROAD	797	17.0%
TOTAL	3833	100.0%	TOTAL	4685	100.0%

SULFUR DIOXIDE

	TPY	%	NH3	TPY	%
2 AREA	26952	21.3%	OTHER AREA	817	3.6%
4 ON-ROAD	2936	2.3%	AREA LIVESTOCK	16230	70.6%
1 POINT	92149	72.8%	OFF-ROAD	28	0.1%
5 OFF-ROAD	4471	3.5%	ON-ROAD	5493	23.9%
TOTAL	126508	100.0%	POINT	427	1.9%
			TOTAL	22995	100.0%

PARTICULATE MATTER

	PM10 TPY	%	PM2.5	TPY	%
POINT	1429	0.7%	POINT	157	0.3%
OTH.AREA	29093	14.4%	AREA	26117	52.1%
RD.C	6092	3.0%	OFF-ROAD	3143	6.3%
OFF-RD	3349	1.7%	ON-ROAD	2248	4.5%
PAVED RD	38617	19.1%	FUG.DUST (Roads,C	18474	36.8%
ON-RD	3247	1.6%			
UNPAVED RD	100847	49.8%	TOTAL	50139	100.0%
OTH F.DUST	19880	9.8%			
TOTAL	202554	100.0%			

FIGURE 1.1

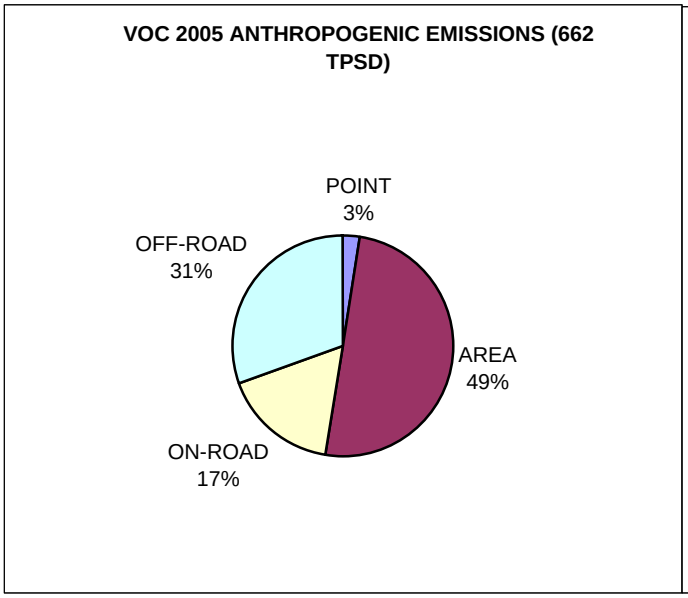


FIGURE 1.2

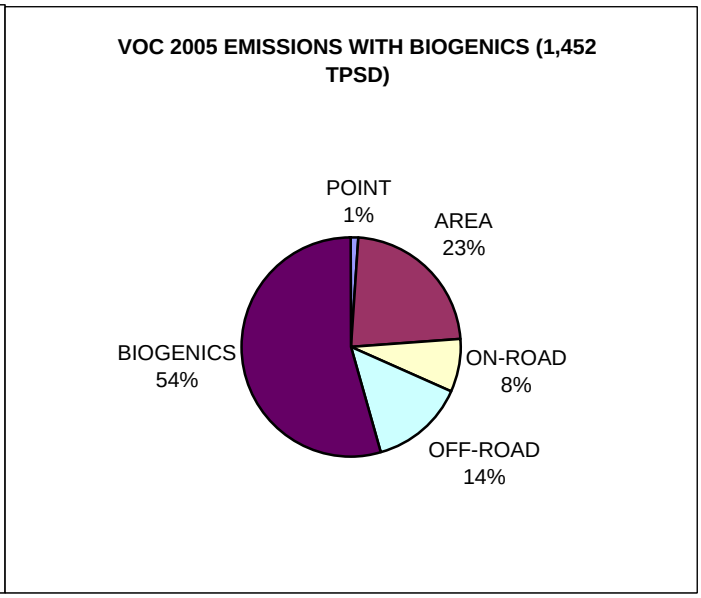


FIGURE 1.3

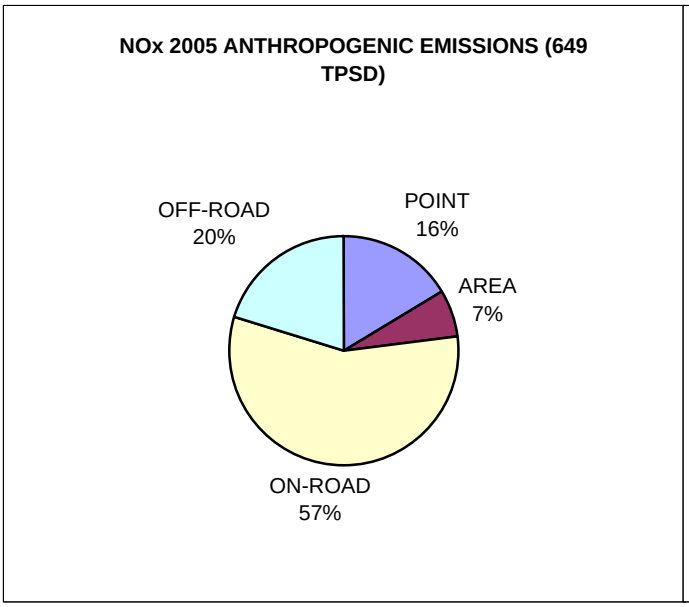


FIGURE 1.4

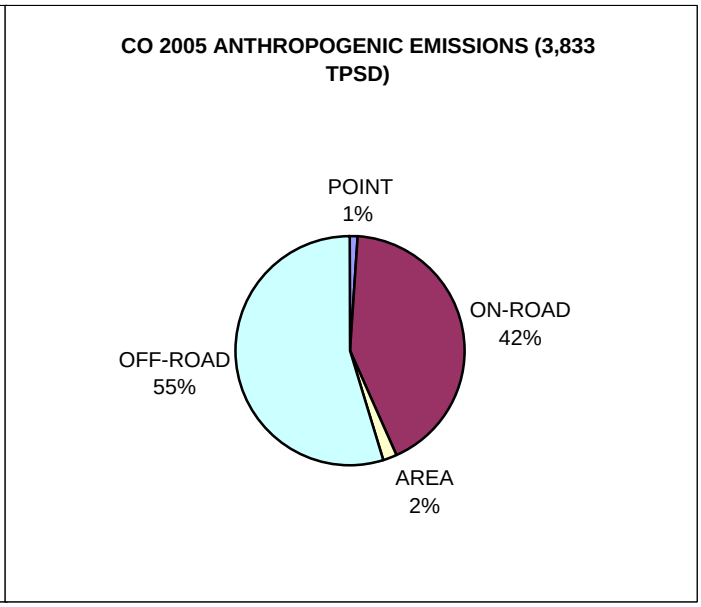


FIGURE 1.5

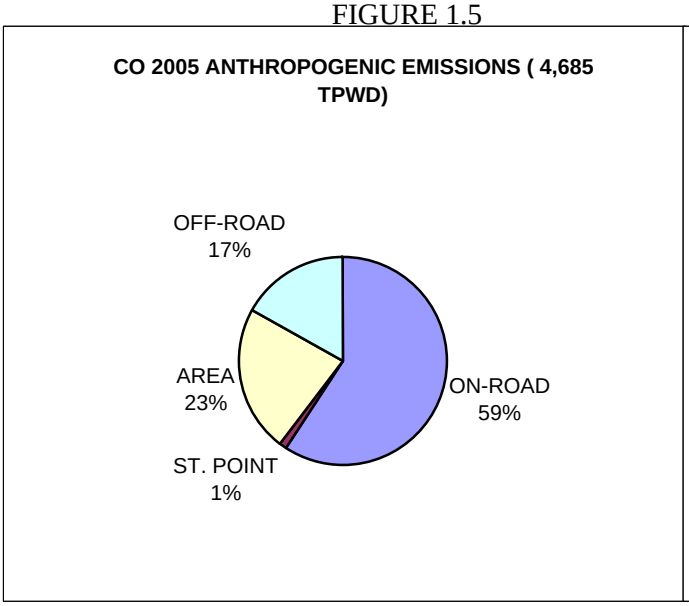


FIGURE 1.6

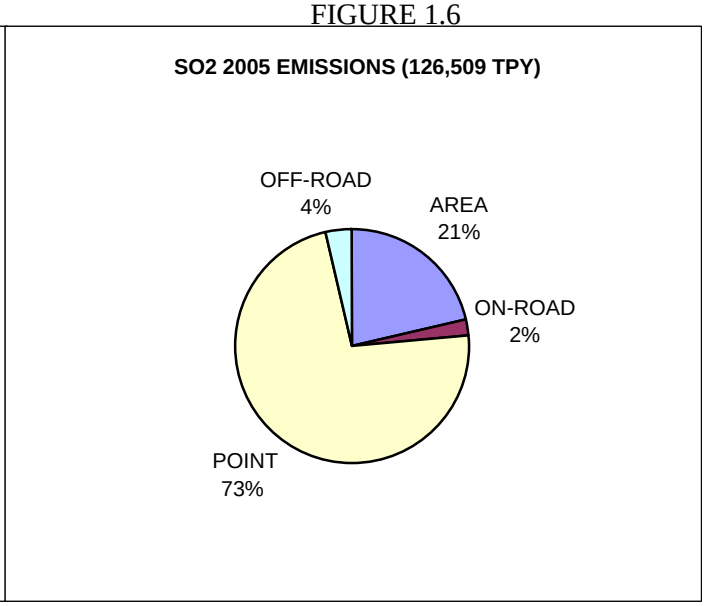


FIGURE 1.7

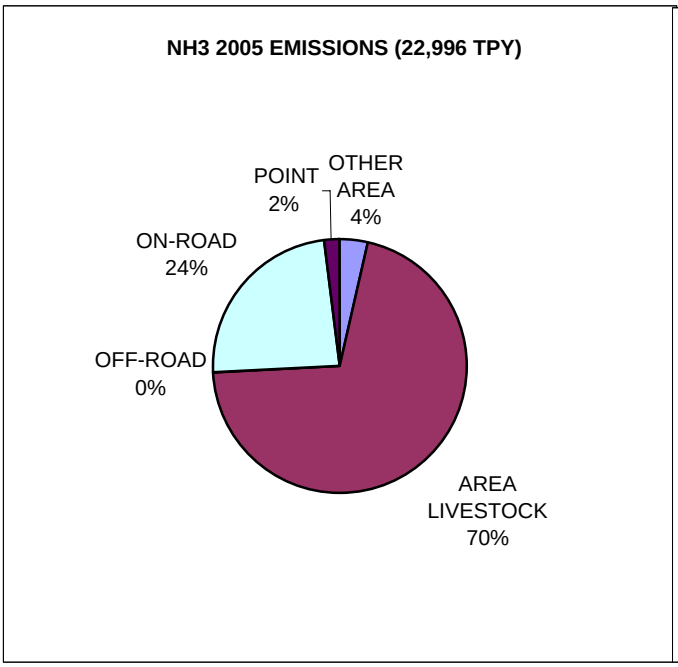


FIGURE 1. 8

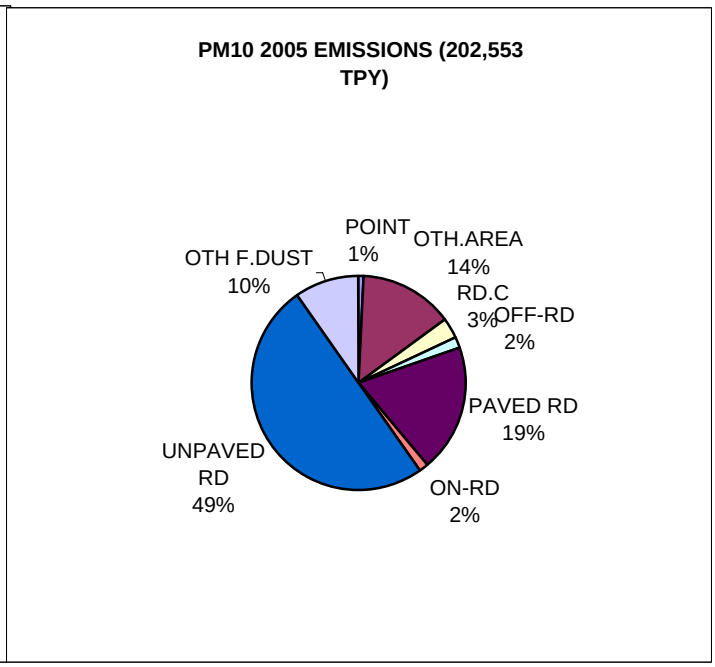
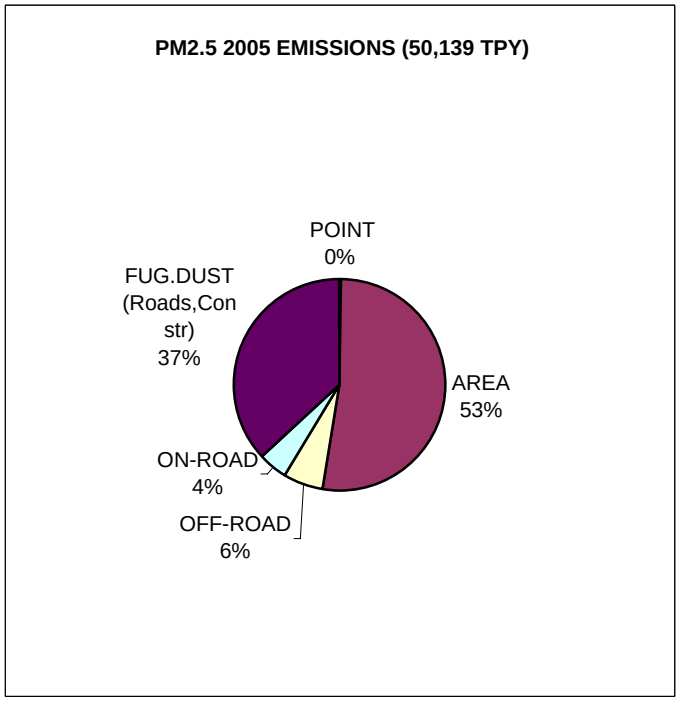


FIGURE 1. 9



ks/2.inv-2005/summ-2005/graphics sep-11/2008

TABLE 1.2 MA 2005 VOC & NOx EMISSIONS BY CATEGORIES - Tons per Year (TPY) and Summer Day (TPSD)

ks/2.inv.2005/summ-2005/voc-nox-cat-05 june 30/2008

SOURCE CATEGORY	SCC	VOC 2002 TPY STATE	VOC 2002 TPSD STATE	VOC 2002 TPSD E.MA	VOC 2002 TPSD W.MA	VOC 2002-08 GR.FAC STATE	VOC 2002-05 GR.FAC STATE	VOC 2005 TPY STATE	VOC 2005 TPSD STATE	VOC 2005 TPSD E.MA	VOC 2005 TPSD W.MA	NOx 2002 TPY STATE	NOx 2002 TPSD STATE	NOx 2002 TPSD E.MA	NOx 2002 TPSD W.MA	NOx 2002-08 GR.FAC STATE	NOx 2002-05 GR.FAC STATE	NOx 2005 TPY STATE	NOx 2005 TPSD STATE	NOx 2005 TPSD E.MA	NOx 2005 TPSD W.MA	GROWTH FACTOR SOURCE
TOTAL POINT SOURCES		**5647.0**	**16.00**	**13.63**	**2.37**	n/a	n/a	**6038.0**	**17.27**	**14.95**	**2.32**	**45590.0**	**129.60**	**116.64**	**12.96**	n/a	n/a	**36865.0**	**105.25**	**92.34**	**12.91**	SSEIS Actual 2005
AREA SOURCES																						
Waste Treatment																						
1. POTW's	2630020000	511.4	1.40	0.97	0.43	1.064	1.032	527.8	1.44	1.00	0.44											MA DET-employment
2. HW TSDF	2640000000	84.1	0.23	0.08	0.15	1.064	1.032	86.8	0.24	0.08	0.15											MA DET-employment
3. MSW Landfills	2620030000	1497.2	4.10	2.99	1.12	1.015	1.008	1508.5	4.13	3.01	1.13											Population -US Census
Total Waste Management		**2092.7**	**5.73**	**4.04**	**1.70**			**2123.1**	**5.81**	**4.10**	**1.73**											
Gasoline Distribution																						
1. Tank Truck Unl. (Stage 1)	2501060051	2081.4	6.72	5.65	1.08	1.020	1.010	2102.2	6.79	5.71	1.09											MassHighway VMT
2. Vehicle Refuel. (Stage 11)		In On-Road Mobile category								0.00	0.00											MassHighway VMT
3. Underground Tank Breath.	2501060201	1425.6	3.91	3.28	0.62	1.020	1.010	1439.9	3.95	3.31	0.63											MassHighway VMT
4. Transit Losses	2505030120	213.3	0.69	0.58	0.11	1.020	1.010	215.4	0.70	0.59	0.11											MassHighway VMT
5. Aircraft Refuel.	2275900101	275.8	0.76	0.73	0.03	1.020	1.010	278.6	0.77	0.74	0.03											MassHighway VMT
6. Petro Vessel Unload.	2505020000	459.0	1.25	1.25	0.00	1.020	1.010	463.6	1.26	1.26	0.00											MassHighway VMT
7. Portable Fuel Contain Resident	2501011000	5534.3	15.16	13.03	2.13	1.015	1.008	5576.1	15.27	13.13	2.15											Population -US Census
8. Portable Fuel Contain Commerc	2501012000	1054.2	2.89	2.48	0.41	1.015	1.008	1062.2	2.91	2.50	0.41											Population -US Census
Total Gasoline Distribution		**11043.6**	**31.38**	**27.00**	**4.38**			**11137.9**	**31.65**	**27.23**	**4.42**											
Stationary Source Solvent Evap.																						
1. Dry Cleaning	2420000000	9.0	0.03	0.03	0.00	1.037	1.018	9.2	0.03	0.03	0.00											MA DET-employment
2. Surface Clean -Degrease	2415000000	8477.6	32.61	28.24	4.37	0.959	0.980	8303.8	31.94	27.66	4.28											MA DET-employment
3. Comm/Consum Solvents	2465000000	22690.1	62.16	54.26	7.91	1.015	1.008	22861.4	62.63	54.67	7.97											Population -US Census
4. Graphic Arts:	2425000000	3683.1	14.17	12.28	1.89	1.013	1.007	3707.0	14.26	12.36	1.90											MA DET-employment
5. Industrial Adhesives -Point	402007XXXX	347.4	0.95	0.81	0.14	1.364	1.182	410.6	1.12	0.95	0.17											
6. Indus/comm Adhesives-Area	2440020000	3526.9	9.66	8.21	1.45	1.325	1.163	4100.0	11.23	9.55	1.68											
Total Solvent Evaporation		**38734.1**	**119.58**	**103.83**	**15.76**			**39392.1**	**121.22**	**105.22**	**16.01**											
Non-Indus. Surface Coating:																						
1. Auto. Refinish	2401005000	2380.5	9.16	7.84	1.31	1.020	1.010	2404.3	9.25	7.92	1.32											MA DET-employment
2. AIM Architect. Coating	2401001000	11827.2	42.12	36.77	5.36	1.020	1.010	11945.5	42.54	37.14	5.41											MA DET & population
3. AIM Traffic Marking	2401008000	1285.6	4.58	4.00	0.58	1.020	1.010	1298.5	4.63	4.04	0.59											MassHighway VMT
3.AIM High Perf. Maintenance	2401100000	2056.9	7.33	6.39	0.93	0.949	0.975	2004.4	7.14	6.23	0.91											MA DET-metals& plasti
4. AIM Oth. Specity Purp Coat	2401200000	2056.9	7.33	6.39	0.93	0.957	0.979	2012.7	7.17	6.25	0.91											MA DET-metals& plasti
Total Auto Ref & AIM Coating		**19607.1**	**70.52**	**61.39**	**9.11**			**19665.4**	**70.73**	**61.58**	**9.14**											
Industrial Coating:																						
1. Furniture & Fixtures	2401020000	2560.4	9.85	8.42	1.43	1.000	1.000	2560.4	9.85	8.42	1.43											MA DET-employment
2. Metal Containers	2401040000	201.6	0.78	0.61	0.16	0.963	0.982	197.9	0.77	0.60	0.16											MA DET-employment
3. Motor Vehicles New	2401070000	121.1	0.47	0.41	0.05	1.060	1.030	124.7	0.48	0.42	0.05											MA DET-employment
4. Machinery & Equip.	2401055000	3687.4	14.18	12.22	1.96	0.966	0.983	3624.7	13.94	12.01	1.93											MA DET painting,coat
5. Appliances	2401060000	863.9	3.32	2.85	0.47	0.895	0.948	818.5	3.15	2.70	0.45											MA DET-employment
6. Other Transportation Equip.	2401990000	439.1	1.69	1.42	0.26	1.060	1.030	452.3	1.74	1.46	0.27											MA DET-employment
7. Metal Sheet, Strip,Coil	2401045000	956.3	3.68	3.30	0.37	0.954	0.977	934.3	3.60	3.22	0.36											MA DET metal & plastic
8. Factory Finished Wood	2401015000	2736.6	10.53	9.13	1.39	1.000	1.000	2736.6	10.53	9.13	1.39											MA DET-employment
9. Electric Insulation	2401065000	820.7	3.16	2.73	0.43	0.900	0.950	779.7	3.00	2.59	0.41											MA DET-employment
10. Other Prod. Coating	2401090000	1928.3	7.42	6.47	0.94	0.957	0.979	1886.8	7.26	6.33	0.92											MA DET assembl,fabric
11. Marine Coatings	2401080000	242.1	0.93	0.81	0.12	1.060	1.030	249.4	0.96	0.83	0.12											MA DET-riggers,mecha
Total Industrial Coating		**14557.5**	**56.01**	**48.37**	**7.58**			**14365.3**	**55.27**	**47.73**	**7.48**											
Miscelleneous Solvents:																						
1. Cutback Asphalt	2461022000	328.5	3.64	3.18	0.46	1.020	1.010	331.8	3.68	3.21	0.46											MA DET-employment
2. Emulsified Asphalt	2461021000	434.4	4.79	4.18	0.61	1.020	1.010	438.7	4.84	4.22	0.62											MA DET-employment
3. Pesticide Use	2461800000	910.7	4.26	2.97	1.29	1.019	1.010	919.4	4.30	3.00	1.30											MA DET-employment
4. Bakeries	2302050000	648.3	1.78	1.61	0.16	1.060	1.030	667.7	1.83	1.66	0.16											MA DET-employment
5. Breweries/Wineries	2302070001	86.8	0.24	0.21	0.03	1.018	1.009	87.6	0.24	0.21	0.03											Population -US Census
6. Petroleum Spills	2830000000	327.3	0.90	0.73	0.17	1.020	1.010	330.6	0.91	0.74	0.17											MassHighway VMT
7. Asphalt Roofing	2461023000	536.7	2.41	1.95	0.46	1.015	1.008	540.7	2.43	1.96	0.46	10.4	0.05	0.04	0.01	1.015	1.008	10.5	0.05	0.04	0.01	MA DET-employment
8. Leaking USTs	2660000000	6.1	0.02	0.01	0.00	1.015	1.008	6.1	0.02	0.01	0.00											Population -US Census
Total Miscellaneous Solvents		**3278.8**	**18.04**	**14.84**	**3.18**			**3322.7**	**18.25**	**15.02**	**3.22**	**10.40**	**0.05**	**0.04**	**0.01**			**10.5**	**0.05**	**0.04**	**0.01**	
Small Statonary Fuel Combustion																						
1. Residential Coal	2104002000	10.0	0.00	0.00	0.00	1.071	1.036	10.4	0.00	0.00	0.00	3.0	0.00	0.00	0.00	1.071	1.036	3.1	0.00	0.00	0.00	MANE-VU & EIA
2. Residential D.Oil	2104004000	330.4	0.32	0.28	0.04	1.074	1.037	342.6	0.33	0.29	0.04	8340.9	8.16	7.12	1.04	1.074	1.037	8649.5	8.46	7.38	1.08	MANE-VU & EIA
3. Residential N.Gas	2104006000	300.5	0.29	0.25	0.04	1.118	1.059	318.2	0.31	0.26	0.04	5136.1	5.02	4.38	0.64	1.118	1.059	5439.1	5.32	4.64	0.68	MANE-VU & EIA
4. Residential Wood-burning	2104008000	66217.0	15.14	13.01	2.13	1.064	1.032	68335.9	15.62	13.43	2.20	1332.0	0.17	0.15	0.02	1.064	1.032	1374.6	0.18	0.15	0.02	MANE-VU & EIA
5. Residential Kerosene	2104011000	2.0	0.00	0.00	0.00	1.739	1.370	2.7	0.00	0.00	0.00	51.6	0.05	0.04	0.01	1.739	1.370	70.7	0.07	0.05	0.01	MANE-VU & EIA
6. Residential LPG	2104007000	18.5	0.02	0.02	0.00	1.019	1.010	18.7	0.02	0.02	0.00	863.6	0.85	0.74	0.11	1.019	1.010	871.8	0.86	0.75	0.11	MANE-VU & EIA
Total Residential Fuel		**66878.4**	**15.77**	**13.56**	**2.21**			**69028.6**	**16.3**	**14.00**	**2.28**	**15727.2**	**14.25**	**12.43**	**1.82**			**16408.8**	**14.88**	**12.98**	**1.90**	
1. Commercial/Instit Coal	2103001000	0.0	0.00	0.00	0.00	1.045	1.023	0.0	0.00	0.00	0.00	0.0	0.00	0.00	0.00	1.045	1.023	0.0	0.00	0.00	0.00	MANE-VU & EIA
2. Commercial/Instit D.Oil	2103004000	26.6	0.03	0.02	0.01	1.225	1.113	29.6	0.03	0.02	0.01	1566.6	1.81	1.57	0.24	1.225	1.113	1742.8	2.01	1.75	0.27	MANE-VU & EIA
3. Commercial/Instit R.Oil	2103005000	0.7	0.00	0.00	0.00	1.676	1.338	0.9	0.00	0.00	0.00	34.5	0.04	0.03	0.01	1.676	1.338	46.2	0.05	0.04	0.01	MANE-VU & EIA
4. Commercial/Instit N.Gas	2103006000	168.2	0.19	0.16	0.03	1.103	1.052	176.9	0.20	0.17	0.03	3059.0	3.53	3.06	0.47	1.103	1.052	3216.5	3.71	3.22	0.49	MANE-VU & EIA
5. Commercial/Instit Kerosene	2103011000	0.5	0.00	0.00	0.00	1.332	1.166	0.6	0.00	0.00	0.00	32.0	0.04	0.03	0.01	1.332	1.166	37.3	0.05	0.03	0.01	MANE-VU & EIA
6. Commercial/Instit LPG	2103007000	3.3	0.00	0.00	0.00	1.082	1.041	3.4	0.00	0.00	0.00	152.3	0.18	0.16	0.02	1.082	1.041	158.5	0.19	0.17	0.02	MANE-VU & EIA
7. Commercial/Instit Wood & Prod	2103081000	15.3	0.02	0.02	0.00	1.000	1.000	15.3	0.02	0.02	0.00	198.0	0.23	0.20	0.03	1.000	1.000	198.0	0.23	0.20	0.03	MANE-VU & EIA
Total Commercial/Instit Fuel		**214.6**	**0.24**	**0.20**	**0.04**			**226.7**	**0.25**	**0.21**	**0.04**	**5042.4**	**5.83**	**5.05**	**0.78**			**5399.4**	**6.24**	**5.41**	**0.84**	
1. Small Industrial Coal	2102001000	0.1	0.00	0.00	0.00	0.951	0.976	0.1	0.00	0.00	0.00	11.8	0.02	0.02	0.00	0.951	0.976	11.5	0.02	0.02	0.00	MANE-VU & EIA
2. Small Industrial D.Oil	2102004000	22.0	0.03	0.02	0.01	1.018	1.009	22.2	0.03	0.02	0.01	388.7	0.54	0.47	0.07	1.018	1.009	392.2	0.54	0.47	0.07	MANE-VU & EIA
3. Small Industrial R.Oil	2102005000	0.0	0.00	0.00	0.00	0.956	0.978	0.0	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.956	0.978	0.0	0.00	0.00	0.00	MANE-VU & EIA
4. Small Industrial N.Gas	2102006000	443.3	0.61	0.53	0.08	1.163	1.082	479.4	0.66	0.57	0.09	8060.6	11.16	9.66	1.50	1.163	1.082	8717.5	12.07	10.45	1.62	MANE-VU & EIA
5. Small Industrial Kerosene	2102011000	0.1	0.00	0.00	0.00	1.000	1.000	0.1	0.00	0.00	0.00	2.9	0.00	0.00	0.00	1.000	1.000	2.9	0.00	0.00	0.00	MANE-VU & EIA
6. Small Industrial LPG	2102001000	6.1	0.01	0.01	0.00	1.014	1.007	6.1	0.01	0.01	0.00	283.5	0.39	0.33	0.06	1.014	1.007	285.5	0.39	0.33	0.06	MANE-VU & EIA
7. Small Industrial Wood-Products	2102008000	362.1	0.50	0.43	0.07	1.149	1.075	389.1	0.54	0.46	0.08	4686.0	6.49	5.58	0.91	1.149	1.075	5035.1	6.97	6.00	0.98	MANE-VU & EIA
Total Small Industrial Fuel		**833.7**	**1.15**	**0.99**	**0.16**			**897.0**	**1.24**	**1.07**	**0.17**	**13433.5**	**18.60**	**16.06**	**2.54**			**14444.7**	**20.00**	**17.27**	**2.73**	
1. Open Burning -M.Solid Waste	2610030000	0.8	0.00	0.00	0.00	1.020	1.010	0.8	0.00	0.00	0.00	1.2	0.00	0.00	0.00	1.020	1.010	1.2	0.00	0.00	0.00	MANE-VU
2. Open Burning -Brush Waste	2610000400	174.3	0.13	0.10	0.03	1.020	1.010	176.0	0.13	0.10	0.03	45.9	0.03	0.02	0.01	1.020	1.010	46.4	0.03	0.02	0.01	MANE-VU
3. Open Burning -Leaf Burning	2610000100	17.3	0.00	0.00	0.00	1.020	1.010	17.5	0.00	0.00	0.00	3.8	0.00	0.00	0.00	1.020	1.010	3.8	0.00	0.00	0.00	MANE-VU
4. Open Burning -Yard Waste	2610040400	142.3	0.11	0.09	0.02	1.020	1.010	143.7	0.11	0.09	0.02	37.5	0.03	0.02	0.01	1.020	1.010	37.9	0.03	0.02	0.01	MANE-VU
Total Open Burning		**334.7**	**0.24**	**0.19**	**0.05**			**338.0**	**0.24**	**0.19**	**0.05**	**88.4**	**0.06**	**0.04**	**0.02**			**89.3**	**0.06**	**0.04**	**0.02**	
1. Wildfires: Forest/Brush	2810001000	345.3	1.69	1.36	0.33	1.000	1.000	345.3	1.69	1.36	0.33	57.2	0.28	0.23	0.05	1.000	1.000	57.2	0.28	0.23	0.05	
2. Structural Fires	2810030000	75.9	0.18	0.15	0.02	1.000	1.000	75.9	0.18	0.15	0.02	9.7	0.02	0.02	0.00	1.000	1.000	9.7	0.02	0.02	0.00	
3. Vehicle Fires	2610000000	17.3	0.05	0.04	0.01	1.000	1.000	17.3	0.05	0.04	0.01	2.2	0.01	0.01	0.00	1.000	1.000	2.2	0.01	0.01	0.00	
4. Food Preparation Backyard Grills	2810025000	374.8	3.26	2.78	0.48	1.015	1.008	377.6	3.28	2.80	0.48	0.0	0.00	0.00	0.00	1.015	1.008	0.0	0.00	0.00	0.00	Population -US Census
5. Food Prep - Commercial Charbroil	2302002000	642.7	1.76	1.53	0.23	1.039	1.020	655.2	1.79	1.56	0.23	0.0	0.00	0.00	0.00	1.039	1.020	0.0	0.00	0.00	0.00	MA DET-employment
6. Food Prep - Comm. Deep Fat Fryi	2302003000	722.1	1.98	1.72	0.26	1.039	1.020	736.2	2.02	1.75	0.27	0.0	0.00	0.00	0.00	1.039	1.020	0.0	0.00	0.00	0.00	MA DET-employment
Total Other Fires and Cooking		**2178.1**	**8.92**	**7.58**	**1.33**			**2207.5**	**9.02**	**7.66**	**1.34**	**69.1**	**0.31**	**0.26**	**0.05**			**69.1**	**0.31**	**0.26**	**0.05**	
TOTAL COMBUSTION		**70439.5**	**26.32**	**22.52**	**3.79**			**72697.9**	**27.04**	**23.13**	**3.89**	**34360.6**	**39.05**	**33.84**	**5.21**			**36411.4**	**41.50**	**35.95**	**5.54**	
TOTAL AREA SOURCE		**159753.3**	**327.58**	**281.99**	**45.50**			**162704.2**	**329.97**	**284.01**	**45.88**	**34371.0**	**39.10**	**33.88**	**5.22**			**36421.8**	**41.55**	**35.99**	**5.55**	
ON-ROAD MOBILE		**57185.5**	**151.89**	**127.41**	**24.47**			**37029.3**	**111.83**	**93.87**	**17.95**	**143367.6**	**453.05**	**381.35**	**71.70**			**125702.4**	**362.13**	**305.05**	**57.09**	
OFF-ROAD MOBILE																						
OFF-HIGHWAY																						
Aircraft -Logan	2275050000	206.5	0.57	0.57	0.00	1.176	1.088	224.7	0.62	0.62	0.00	1294.7	3.55	3.55	0.00	1.176	1.088	1408.63	3.86	3.86	0.00	MASSPORT
Aircraft -Others	2275050000	792.5	2.17	1.73	0.44	1.139	1.070	847.6	2.32	1.85	0.47	1821.1	4.99	1.65	3.34	1.139	1.070	1947.67	5.34	1.76	3.57	MANEVU - CAIR
1. Total Aircraft		999.0	2.74	2.30	0.44			1072.25	2.94	2.47	0.47	3115.8	8.54	5.19	3.34			3356.30	9.20	5.63	3.57	
2. Railroads	2285002000	309.8	0.85	0.59	0.26	0.955	0.978	302.8	0.83	0.58	0.25	7154.0	19.60	13.65	5.95	0.955	0.978	6993.04	19.16	13.34	5.82	MANEVU - CAIR
3. Commercial Marine Vessels	2280020010	432.6	1.19	1.19	0.00	1.016	1.008	436.0	1.20	1.20	0.00	2589.9	7.10	7.10	0.00	1.016	1.008	2610.36	7.16	7.16	0.00	MANEVU - CAIR
Total Off-Highway		**1741.4**	**4.78**	**4.08**	**0.70**			**1811.10**	**4.97**	**4.25**	**0.72**	**12859.7**	**35.24**	**25.94**	**9.29**			**12959.70**	**35.51**	**26.13**	**9.39**	
NONROAD MODEL EQUIPMENT																						
1. Agricultural Equipment			0.25					0.22					1.76					1.68				NONROAD Model
2. Airport Eq			0.06					0.06					0.57					0.55				NONROAD Model
3. Commercial Eq			15.40					14.12					9.13					8.93				NONROAD Model
4. Construction & Mining			7.83					6.66					42.39					40.36				NONROAD Model
5. Industrial Equipment			8.71					7.65					35.32					32.17				NONROAD Model
6. Lawn & Garden -Commercial			53.66					42.41					9.97					9.43				NONROAD Model
7. Lawn & Garden -Residential			34.71					32.44					2.52					2.47				NONROAD Model
8. Logging Eq			0.26					0.22					0.42					0.35				NONROAD Model
9. Pleasure Craft			84.68					76.83					6.47					7.38				NONROAD Model
10.Railroad Eq			0.01					0.01					0.02					0.02				NONROAD Model
11.Recreational Eq			13.47					17.43					0.78					0.77				NONROAD Model
SUBTOTAL NON-ROAD MODEL EQ		**54835.8**	**219.04**	**192.11**	**26.97**			**49720.9**	**198.05**	**172.67**	**25.38**	**30046.7**	**109.35**	**96.15**	**13.13**			**28930.10**	**104.11**	**91.71**	**12.40**	
TOTAL OFF-ROAD MOBILE		**56577.2**	**223.82**	**196.19**	**27.67**			**51532.0**	**203.02**	**176.92**	**26.10**	**42906.4**	**144.59**	**122.09**	**22.42**			**41889.8**	**139.62**	**117.84**	**21.79**	
ANTHROPOGENIC	**TOTAL**	**279163.0**	**719.29**	**619.22**	**100.01**			**257304**	**662.09**	**569.74**	**92.25**	**266235.0**	**766.34**	**653.96**	**112.30**			**240879**	**648.55**	**551.22**	**97.34**	

n/a - not applicable

DOE - US Department of Energy

TABLE 1.3 STATEWIDE 2002 AND 2005 CO, S02, PM & NH3 EMISSIONS BY CATEGORIES TPY

ks/2.inv2005/co-so2-pm-sum-02-sep-11/2008

				ANNUAL 2002	SEASON 2002	SEASON 2002	ANNUAL 2005	SEASON 2005	SEASON 2005	ANNUAL 2002	ANNUAL 2005	ANNUAL 2002	ANNUAL 2005	ANNUAL 2002	ANNUAL 2005	2002	2005
		NAICS	2002-05 Growth F	CO TPY	CO TPSD	CO TPWD	CO TPY	CO TPSD	CO TPWD	SO2	SO2	PM10	PM10	PM2.5	PM2.5	NH3	NH3
SOURCE CATEGORY																	
STATIONARY POINT SOURCE *				12104.0	33.3	33.3	15697.0	43.3	43.3	99057.0	92149.0	1286.0	1429.0	141.0	157.0	862.0	427.0
AREA SOURCES																	
Waste Treatment																	
	1. POTW's	2630020000	1.032	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	17.2	17.8
Asphalt Rroofing		2461023000	1.008	34.6	0.16	0.16	34.9	0.2	0.2	7.6	7.7	10.4	10.5	10.4	10.5		0.0
Small Statonary Fuel Combustion													0.0		0.0		0.0
	1. Residential Coal	2104002000	1.036	0.6	0.0	0.0	0.6	0.0	0.0	39.0	40.4	37.5	38.9	3.8	3.9	0.0	0.0
	2. Residential D.Oil	2104004000	1.037	2316.9	2.3	11.8	2402.6	2.4	12.3	19740.2	20470.6	500.5	519.0	384.6	398.8	0.0	0.0
	3. Residential N.Gas	2104006000	1.059	2185.6	2.1	11.2	2314.6	2.2	11.9	32.8	34.7	103.8	109.9	103.8	109.9	0.0	0.0
	4. Residential Wood-burning	2104008000	1.032	104462.0	16.7	836.4	107804.8	17.2	863.2	194.0	200.2	13689.0	14127.0	13689.0	14127.0	753.0	777.1
	5. Residential Kerosene	2104011000	1.370	14.3	0.0	0.1	19.6	0.0	0.1	407.0	557.6	3.1	4.2	2.4	3.3	0.0	0.0
	6. Residential LPG	2104007000	1.010	117.2	0.1	0.6	118.4	0.1	0.6	6.2	6.3	24.7	24.9	0.0	0.0	0.0	0.0
											0.0		0.0		0.0		0.0
	1. Commercial/Instit Coal	2103001000	1.023	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	2. Commercial/Instit D.Oil	2103004000	1.113	391.7	0.5	2.3	436.0	0.5	2.6	3336.9	3714.0	84.6	94.2	65.0	72.3	0.0	0.0
	3. Commercial/Instit R.Oil	2103005000	1.338	3.1	0.0	0.0	4.1	0.0	0.0	28.2	37.7	3.2	4.3	1.2	1.6	0.0	0.0
	4. Commercial/Instit N.Gas	2103006000	1.052	2569.6	3.0	15.2	2703.2	3.2	16.0	18.4	19.4	58.1	61.1	58.1	61.1	0.0	0.0
	5. Commercial/Instit Kerosen	2103011000	1.166	8.0	0.0	0.1	9.3	0.0	0.1	230.7	269.0	1.7	2.0	1.3	1.5	0.0	0.0
	6. Commercial/Instit LPG	2103007000	1.041	20.7	0.0	0.1	21.5	0.0	0.1	1.1	1.1	4.9	5.1	0.0	0.0	0.0	0.0
	7. Commercial/Instit Wood &	2103081000	1.000	540.0	0.6	3.2	540.0	0.6	3.2	22.5	22.5	450.0	450.0	387.0	387.0	0.0	0.0
											0.0		0.0		0.0		0.0
	1. Small Industrial Coal	2102001000	0.976	7.9	0.0	0.1	7.7	0.0	0.1	60.0	58.6	20.8	20.3	6.0	5.9	0.0	0.0
	2. Small Industrial D.Oil	2102004000	1.009	97.2	0.1	0.7	98.1	0.1	0.7	828.0	835.5	21.0	21.2	16.1	16.2	0.0	0.0
	3. Small Industrial R.Oil	2102005000	0.978	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	4. Small Industrial N.Gas	2102006000	1.082	6770.9	9.4	47.9	7326.1	10.1	51.8	48.4	52.4	153.2	165.8	153.2	165.8	0.0	0.0
	5. Small Industrial Kerosene	2102011000	1.000	0.7	0.0	0.0	0.7	0.0	0.0	21.2	21.2	0.2	0.2	0.1	0.1	0.0	0.0
	6. Small Industrial LPG	2102001000	1.007	38.5	0.1	0.3	38.8	0.1	0.3	2.0	2.0	9.1	9.2	0.0	0.0	0.0	0.0
	7. Small Industrial Wood-Proc	2102008000	1.075	12780.0	17.7	90.4	13738.5	19.0	97.2	532.5	572.4	10650.0	11448.8	9159.0	9845.9	0.0	0.0
											0.0		0.0		0.0		0.0
	1. Open Burning -M.Solid Wa	2610030000	1.010	16.3	0.0	0.0	16.5	0.0	0.0	0.2	0.2	3.6	3.6	3.3	3.3	0.0	0.0
	2. Open Burning -Brush Was	2610000400	1.010	1284.1	1.0	2.8	1296.9	1.0	2.9	15.2	15.4	181.0	182.8	139.5	140.9	11.6	11.7
	3. Open Burning -Leaf Burni	2610000100	1.010	69.1	0.0	0.0	69.8	0.0	0.0	0.5	0.5	13.6	13.7	13.6	13.7	0.8	0.8
	4. Open Burning -Yard Wast	2610040400	1.010	1048.9	0.8	2.3	1059.4	0.8	2.3	12.4	12.5	147.8	149.3	114.0	115.1	9.4	9.5
													0.0		0.0		0.0
	Wildfires: Forest/Brush	2810001000	1.000	2018.3	10.97	0.56	2018.3	11.0	0.6		0.0	245.0	245.0	245.0	245.0	0.0	0.0
	Structural Fires	2810030000	1.000	414.2	0.98	1.41	414.2	1.0	1.4		0.0	74.6	74.6	74.6	74.6	0.0	0.0
	Vehicle Fires	2610000000	1.000	67.7	0.19	0.19	67.7	0.2	0.2		0.0	54.1	54.1	54.1	54.1	0.0	0.0
	TOTAL COMBUSTION			**134743.3**	**54.4**	**1025.6**	**142562.3**	**69.8**	**1067.6**	**25577.4**	**26951.7**	**26535.1**	**27839.7**	**24674.7**	**25857.8**	**774.8**	**816.9**
Agricultural & Misc Activities CMU		2805000000	1.008 pop														
	Agricultural Tilling	2801000003	1.008									1232.6	1242.5	246.5	248.5	0.0	0.0
	Dairy Cattle		1.008													1037.5	1045.8
	Beef Cattle		1.008													95.6	96.4
	Swine		1.008													70.2	70.8
	Poultry	2805005000	1.008													158.2	159.5
	Horses		1.008													209.2	210.9
	Sheep		1.008													33.6	33.9
	Goats		1.008													42.1	42.4
	Geese		1.008													1.4	1.4
	Ducks		1.008													5.5	5.5
	Humans		1.008													3115.8	3140.7
	Cats		1.008													1228.9	1238.7
	Dogs		1.008													3415.1	3442.4
	Bears		1.008													6.0	6.0
	Deer		1.008													450.3	453.9
	Misc Animals		1.008													148.8	150.0
	Fertilizers		1.008													411.1	414.4
	Soils		1.008													5654.6	5699.8
TOTAL AREA SOURCE				**137278.1**	**66.7**	**1027.9**	**142562.3**	**69.8**	**1067.6**	**25585.0**	**26951.7**	**27778.1**	**29092.6**	**24931.6**	**26116.7**	**16875.9**	**17047.2**
ON-ROAD MOBILE				**1039100.0**	**2162.7**	**3347.3**	**802797.4**	**1618.6**	**2777.1**	**2,936.4**	**2936.4**	**3407.5**	**3246.7**	**2409.9**	**2248.4**	**5499.1**	**5493.3**
OFF-ROAD MOBILE																	
OFF-HIGHWAY																	
	Aircraft	2275050000	1.080	12024.1	32.94	32.94	12986.0	35.6	35.6	251.0	271.1	163.8	176.9	150.7	162.8	0.0	0.0
	Railroads	2285002000	0.978	727.5	2.00	2.00	711.5	2.0	2.0	589.8	576.8	181.6	177.6	142.4	139.3	0.0	0.0
	Commercial Marine Vessels	2280020010	1.008	1231.3	3.37	3.37	1241.2	3.4	3.4	489.2	493.1	217.0	218.7	199.7	201.3	0.0	0.0
SUBTOTAL OFF-HIGHWAY				**13982.9**	**38.31**	**38.31**	**14938.7**	**40.9**	**40.9**	**1330.0**	**1341.0**	**562.4**	**573.2**	**492.8**	**503.3**	**0.0**	**0.0**
NONROAD MODEL EQUIPMENT																	
	1. Agricultural Equipment				1.9	0.2											
	2. Airport Eq				0.6	0.6											
	3. Commercial Eq				307.8	294.6											
	4. Construction & Mining				61.1	37.5											
	5. Industrial Equipment				137.1	92.2											
	6. Lawn & Garden -Comm				809.9	164.9											
	7. Lawn & Garden -Resid				360.6	65.3											
	8. Logging Eq				1.6	1.6											
	9. Pleasure Craft				167.6	2.3											
	10.Railroad Eq				0.1	0.1											
	11. Recreational Eq				99.0	72.7											
SUBTOTAL NON-ROAD MODEL EQ				**448398.7**	**1947.3**	**732.0**	**463568.5**	**2060.1**	**756.0**	**2428.1**	**3130.4**	**2887.2**	**2775.3**	**2658.8**	**2639.3**	**28.2**	**28.0**
TOTAL OFF-ROAD MOBILE				**462381.6**	**1985.6**	**770.3**	**478507.2**	**2101.0**	**796.9**	**3758.1**	**4471.4**	**3449.6**	**3348.5**	**3151.6**	**3142.6**	**28.2**	**28.0**
FUGITIVE DUST PM CATEGORIES																	
	1. Residential Construction	2311010000	1.028									672.7	691.5	67.3	69.2		
	2. Non-Residential Construct	2311020001	1.018									18649.0	18984.7	1864.9	1898.5		
	3. Road Construction	2311030000	1.018									5984.4	6092.1	598.4	609.2		
	4. Mining	2325000000	1.010									201.8	203.8	20.2	20.4		
	5. Paved Roads (MANEVU)	2294000000	1.010									38234.5	38616.8	5735.2	5792.6		
	6. Unpaved Roads (MANEVU	2296000000	1.010									99848.5	100847.0	9984.8	10084.6		
TOTAL FUGITIVE DUST												**163590.9**	**165436.0**	**18270.8**	**18474.4**		

TABLE 1.4 1990 TO 2005 VOC, NOx, CO & SO2 EMISSIONS TRENDS

TPSD for VOC, NOx & CO AND TPY for SO2

ks/2.inv-2005//summ-2005/ trend-90-2005 Sep.11/2008

VOC TPSD (See Figure 1.10)

	1990	1993	1996	1999	2002	2005	%Change 1990-2005	Emissions Change 1990-2005	2005 E.MA	2005 W.MA
POINT	64	61	43	28	16	**17**	-73%	-47	15	2
AREA	398	360	321	325	328	**330**	-17%	-68	284	46
MOBILE6.2	357	308	258	217	152	**112**	-69%	-245	94	18
OFF-ROAD	249	280	278	240	224	**203**	-18%	-46	177	26
TOTAL	1,068	1,009	900	810	719	**662**	-38%	-406	570	92

NOx TPSD (See Figure 1.11)

	1990	1993	1996	1999	2002	2005	%Change 1990-2005	Emissions Change 1990-2005	2005 E.MA	2005 W.MA
POINT	318	298	171	180	130	**105**	-67%	-213	92	13
AREA	33	36	46	33	39	**42**	26%	9	36	6
MOBILE6.2	451	500	549	545	453	**362**	-20%	-89	305	57
OFF-ROAD	109	131	128	146	145	**140**	28%	31	118	22
TOTAL	911	965	894	904	766	**649**	-29%	-262	551	97

CO TPSD (See Figure 1.12)

	1990	1993	1996	1999	2002	2005	%Change 1990-2005	Emissions Change 1990-2005
POINT	40	29	40	35	33	**43**	8%	3
AREA	53	48	62	57	67	**70**	32%	17
MOBILE6.2	4,712	3,496	3,209	2,891	2,163	**1,619**	-66%	-3093
OFF-ROAD	1,652	1,815	1,941	1,896	1,986	**2,101**	27%	449
TOTAL	6,457	5,388	5,252	4,880	4,248	**3,833**	-41%	-2624

SO2 TPY (See Figure 1.13)

	1990	1993	1996	1999	2002	2005	%Change 1990-2005	Emissions Change 1990-2005
POINT	272,419	210,610	125,373	161,459	99,057	**92,149**	-66%	-180270
AREA	80,305	81,652	76,966	64,888	25,585	**26,952**	-66%	-53353
MOBILE6.2	10,514	10,608	12,116	12,770	4,399	**2,936**	-72%	-7578
OFF-ROAD	4,658	4,943	5,284	5,740	3,758	**4,471**	-4%	-187
TOTAL TPY	367,896	307,813	219,739	244,857	132,799	**126,508**	-66%	-241388
TOTAL TPD	1,007.9	843.3	602.0	670.8	363.8	**346.6**	-66%	-661

FIGURE 1.10

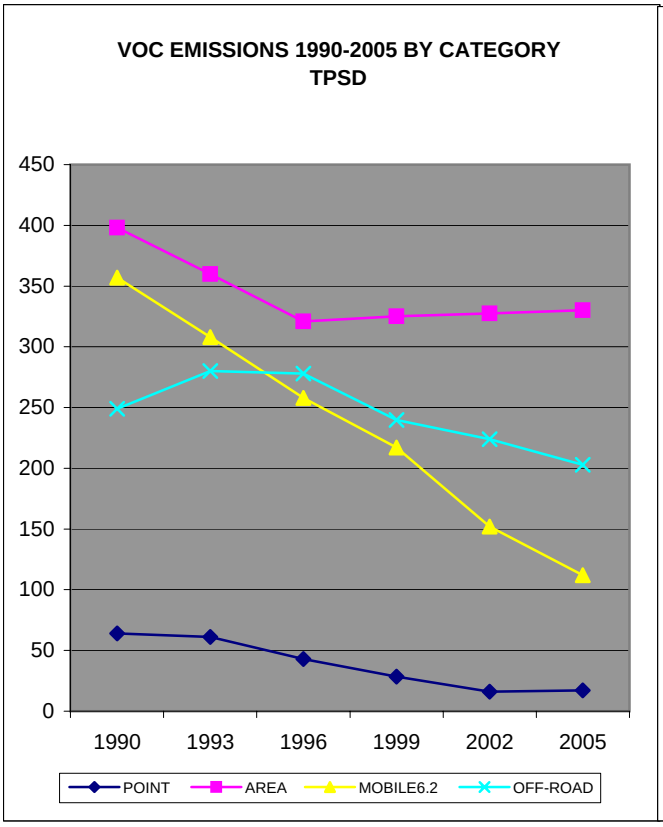


FIGURE 1.11

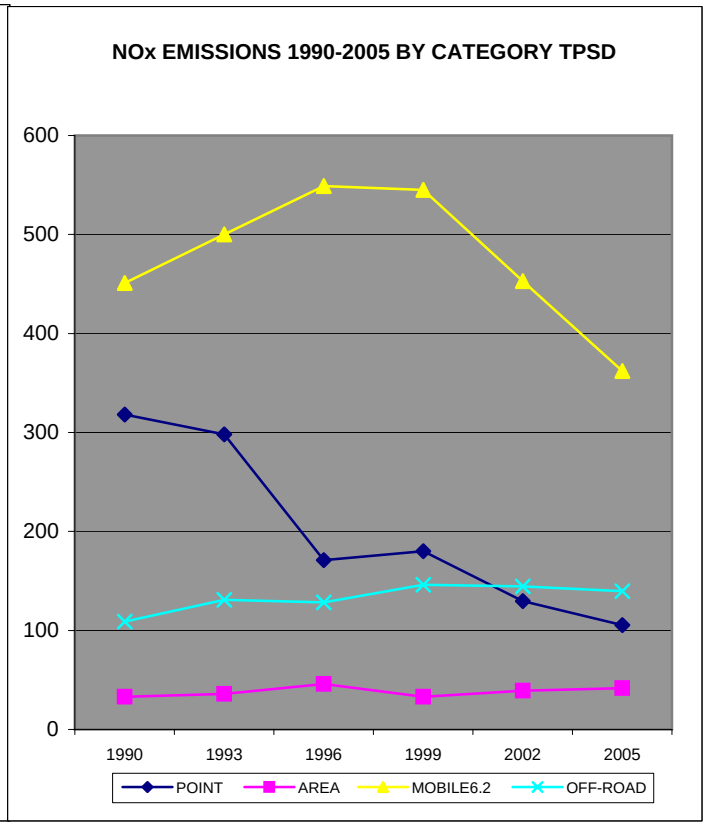


FIGURE 1.12

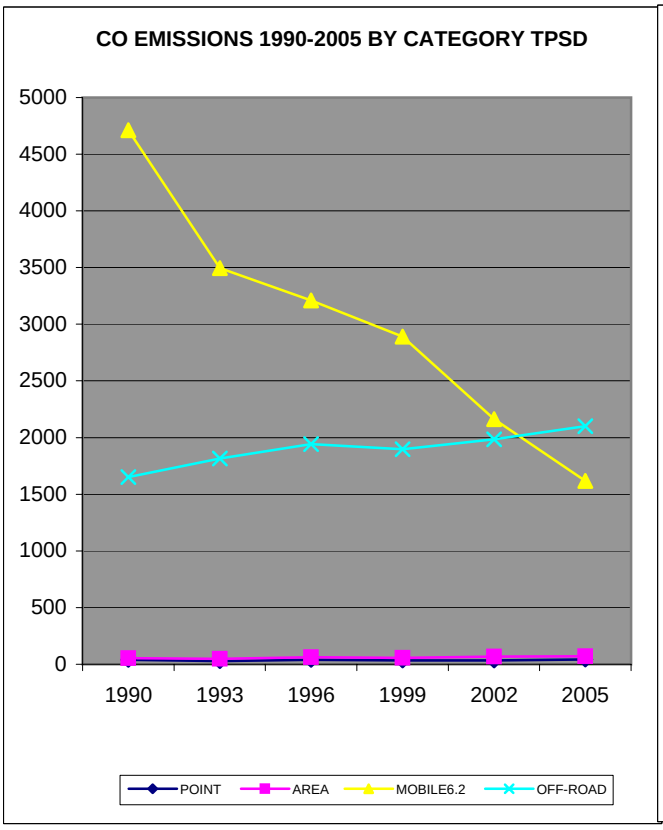


FIGURE 1.13

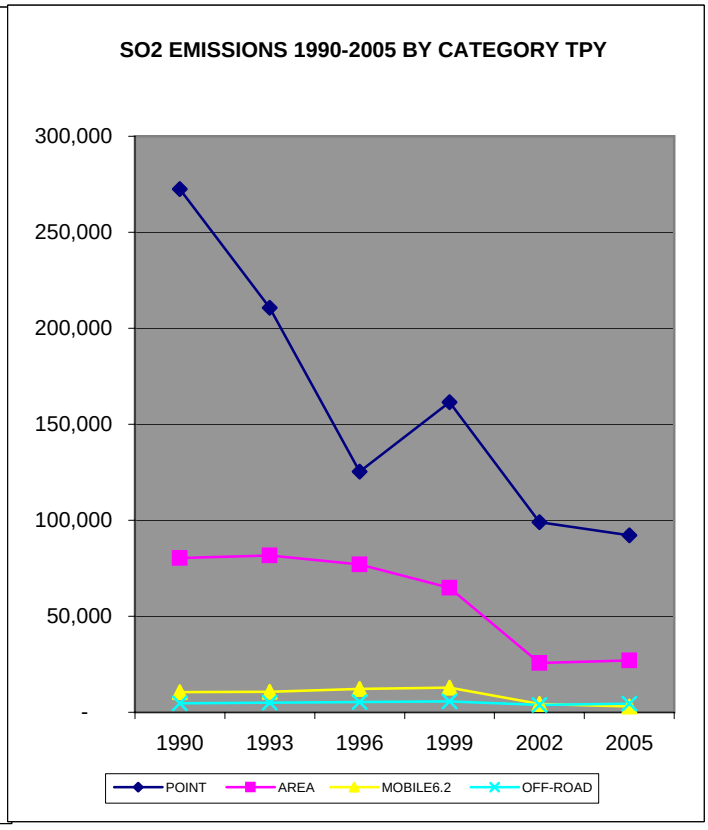


TABLE 1.5 SO2 ANNUAL 1979-2005 EMISSIONS WITH 1979-82 CAP AND TRIGGER LEVEL IN THOUSAND (K) TONS

so2trigger05 June 12, 2008

1979-82 4-YEAR CAP = 412 K TONS, TRIGGER = 402 K TONS

YEAR	EMISS K TONS	DIFFERENCE: EMISS & TRIGGER* (402 K) TONS	4-YEAR AVERAGE PERIOD	4-YEAR AVERAGE EMISSIONS K TONS	DIFFERENCE: 4YR AVG & SO2 CAP (412 K) TONS
1979	433	31			
1980	412	10			
1981	384	-18			
1982	420	18	1979-82	412	0
1983	404	2	1980-83	405	-7
1984	381	-21	1981-84	397	-15
1985	379	-23	1982-85	396	-16
1986	399	-3	1983-86	391	-21
1987	390	-12	1984-87	387	-25
1988	409	7	1985-88	394	-18
1989	422	20	1986-89	405	-7
1990	370	-32	1987-90	398	-14
1991	365	-37	1988-91	392	-21
1992	345	-57	1989-92	376	-37
1993	310	-92	1990-93	348	-65
1994	245	-157	1991-94	316	-96
1995	215	-187	1992-95	279	-133
1996	222	-180	1993-96	248	-164
1997	261	-141	1994-97	236	-176
1998	269	-133	1995-98	242	-170
1999	247	-155	1996-99	250	-162
2000	223	-179	1997-00	250	-162
2001	185	-217	1998-01	231	-181
2002	133	-269	1999-02	197	-215
2005	127	-275	2002-05	130	-282

* TRIGGER LEVEL 402,000 TONS (10,000 TONS LESS THAN CAP)

1979-82 CAP AND TRIGGER LEVEL REVISED IN 1987 TO REFLECT NEW EMISSION METHODOLOGIES. PREVIOUS CAP WAS ESTIMATED IN 1982 AT 417 K TONS