

Metropolitan Areas of Epidemiologic Interest for Enhanced Air Quality Monitoring

Appendix A

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Table A-1. Identification Numbers for STN Monitors, Nearest Co-Pollutant Monitors, and Weather Bureau Network (WBN) Stations: 49 STN Monitors, 2001-2005

CBSA	EPA Monitor Identification Number						NWS Coop Station
	STN	CO	NO ₂	O ₃	SO ₂	PM ₁₀	
Birmingham, AL	010730023	010736004	132230003	01736002	010731003	(1)	010831
Phoenix, AZ	040139997	(1)	(1)	(1)	(1)	(1)	026481
Bakersfield, CA	060290014	(1)	(1)	(1)	060831025	(1)	040442
Fresno, CA	060190008	(1)	(1)	(1)	060131002	(1)	043257
Oxnard, CA	061112002	(1)	(1)	(1)	060371002	(1)	048261
Riverside, CA	060658001	(1)	(1)	(1)	(1)	(1)	047470
Sacramento, CA	060670006	(1)	(1)	(1)	(1)	(1)	049781
San Diego, CA	060730003	060730001	(1)	(1)	060730001	(1)	042706
San Jose, CA	060850005	(1)	(1)	(1)	060870003	(1)	047821
Denver, CO	080010006	080130001	080130001	080130001	080130001	(1)	052220
Washington, DC	110010043	110010023	110010041	(1)	110010041	110010041	448906
Miami, FL	120861016	120864002	120864002	120860027	120860019	(1)	087205
Tampa, FL	120571075	120571070	120571065	120571035	120570095	120571070	085663
Atlanta, GA	130890002	(1)	(1)	(1)	131210055	131150005	090451
Boise City, ID	160270004	160270006	490570002	160010030	160050004	160270002	102444
Chicago, IL	170310076	170314002	(1)	(1)	(1)	170313301	111577
Indianapolis, IN	180970078	180970073	180970073	180970073	180970057	180970083	124286
Baton Rouge, LA	220330009	(1)	(1)	(1)	(1)	221210001	160549
Boston, MA	250250042	(1)	(1)	(1)	(1)	(1)	185718
Springfield, MA	250130008	250130016	(1)	(1)	250130016	250154002	190770
Baltimore, MD	240052001	(1)	(1)	(1)	(1)	(1)	14703 ⁽²⁾
Detroit, MI	261630001	261630001	261630016	(1)	261630015	(1)	202103
Minneapolis, MN	270530963	270530954	270370423	270031002	270530954	270530966	215435
Gulfport, MS	280470008	220710012	280450001	(1)	280470007	280590006	223666
Kansas City, MO	202090021	(1)	(1)	(1)	(1)	(1)	234359
St Louis, MO	295100085	(1)	295100086	(1)	295100086	(1)	237455
Missoula, MT	300630024	300630005	300870762	300298001	301110066	(1)	245745
Omaha, NE	310550019	310550035	191530058	310550028	310550053	(1)	256255
Reno, NV	320310016	(1)	(1)	(1)	060670002	(1)	266779
Rockingham, NH	330150014	330110020	(1)	(1)	(1)	(1)	172602
Edison, NJ	340230006	(1)	(1)	(1)	(1)	(1)	286055
Newark, NJ	340390004	340390003	(1)	340170006	(1)	(1)	286026
New York, NY	360050083	(1)	(1)	(1)	(1)	360470122	305811
Charlotte, NC	371190041	(1)	(1)	(1)	(1)	371190003	311690
Cleveland, OH	390350060	390350048	(1)	390350034	(1)	(1)	331657
Tulsa, OK	401431127	401430191	(1)	(1)	401430501	401430191	348992
Portland, OR	410510080	(1)	(1)	(1)	(1)	(1)	356751
Philadelphia, PA	421010004	(1)	(1)	(1)	(1)	(1)	366886
Pittsburgh, PA	420030008	420030038	(1)	(1)	420030010	420030031	362574
Providence, RI	440070022	440071009	(1)	440071010	440071009	(1)	376698
Charleston, SC	450190049	450190005	450190003	450150002	450190003	450190047	381544
Memphis, TN	471570047	471570036	471570024	471570021	471570046	471570016	405954
Dallas, TX	481130069	(1)	(1)	(1)	(1)	481130057	412244
El Paso, TX	481410044	(1)	(1)	(1)	481410037	(1)	412797
Houston, TX	482011039	(1)	(1)	(1)	(1)	(1)	414307
Salt Lake City, UT	490353006	(1)	(1)	(1)	490350012	(1)	427598
Burlington, VT	500070012	(1)	(1)	(1)	(1)	(1)	431081
Seattle, WA	530330080	(1)	(1)	(1)	(1)	(1)	457473
Milwaukee, WI	550790026	(1)	(1)	(1)	(1)	550790064	475479

(1) Collocated with STN monitor

(2) Weather Bureau/Army/Navy (WBAN) station identification number

Table A-2. Core-Based Statistical Areas (CBSA) with a Speciation Trends Network (STN) Monitor Along with Population on April 1, 2000 and Federal Information Processing Standard (FIPS) Codes for Constituent Counties: 49 STN Monitors, 2001-2005

STN	Core Based Statistical Area			Core County				Other Counties in CBSA				
	CBSA	Name	2000 Pop	FIPS	Name	2000 Pop	%	FIPS				
01-073-0023	13820	<u>Birmingham</u> -Hoover, AL	1,051,300	01073	Jefferson	662,062	63%	01007	01009	01021	01115	01117
								01127				
04-013-9997	38060	<u>Phoenix</u> -Mesa-Scottsdale, AZ	3,251,888	04013	Maricopa	3,072,168	94%	04021				
06-019-0008	260	<u>Fresno</u> -Madera, CA	921,930	06019	Fresno	798,821	87%	06039				
06-029-0014	12540	<u>Bakersfield</u> , CA	661,649	06029	Kern	661,649	100%					
06-065-8001	40140	<u>Riverside</u> -San Bernardino-Ontario, CA	3,254,817	06065	Riverside	1,545,374	47%	06071				
06-067-0006	40900	<u>Sacramento</u> -Arden-Arcade-Roseville, CA	1,796,852	06067	Sacramento	1,223,497	68%	06017	06061	06113		
06-073-0003	41740	<u>San Diego</u> -Carlsbad-San Marcos, CA	2,813,834	06073	San Diego	2,813,834	100%					
06-085-0004	41940	<u>San Jose</u> -Sunnyvale-Santa Clara, CA	1,735,818	06085	Santa Clara	1,682,584	97%	06069				
06-111-2002	37100	<u>Oxnard</u> -Thousand Oaks-Ventura, CA	753,186	06111	Ventura	753,186	100%					
08-001-0006	19740	<u>Denver</u> -Aurora, CO	2,179,343	08031	Denver	553,691	25%	08001	08005	08014	08019	08035
								08039	08047	08059	08093	
11-001-0043	47894	<u>Washington</u> -Arlington-Alexandria, DC-VA-MD-WV	3,727,452	11001	District of Columbia	572,055	15%	24009	24017	24033	51013	51043
								51059	51061	51107	51153	51177
								51179	51187	51510	51600	51610
								51630	51683	51685	54037	
12-057-3002	45300	<u>Tampa</u> -St. Petersburg-Clearwater, FL	2,396,014	12057	Hillsborough	998,943	42%	12053	12101	12103		
12-086-1016	33124	<u>Miami</u> -Miami Beach-Kendall, FL (one county with two FIPS codes)	2,253,786	12086	Miami-Dade	2,253,786	100%	12025				
13-089-0002	12060	<u>Atlanta</u> -Sandy Springs-Marietta, GA	4,248,021	13121	Fulton	815,827	19%	13013	13015	13035	13045	13057
								13063	13067	13077	13085	13089
								13097	13133	13117	13135	13143
								13149	13151	13159	13171	13199
								13217	13223	13227	13231	13247
								13255	13297			

Table A-2. Continued

STN	Core Based Statistical Area			Core County				Other Counties in CBSA				
	CBSA	Name	2000 Pop	FIPS	Name	2000 Pop	%	FIPS				
16-027-0004	14260	<u>Boise City</u> -Nampa, ID	464,842	16001	Ada	300,906	65%	16015	16027	16045	16073	
17-031-0076	16974	<u>Chicago</u> -Naperville-Joliet, IL	7,628,496	17031	Cook	5,376,837	70%	17037	17043	17063	17089	17093
								17111	17197			
18-097-0078	26900	<u>Indianapolis</u> -Carmel, IN	1,525,103	18097	Marion	860,457	56%	18011	18013	18057	18059	18063
								18081	18109	18133	18145	
20-209-0021	28140	<u>Kansas City</u> , MO-KS	1,836,425	20209	Wyandotte	157,879	9%	20059	20091	20103	20107	20121
								29013	29025	29037	29047	29049
								29095	29107	29165	29177	
22-033-0009	12940	<u>Baton Rouge</u> , LA	705,962	22033	East Baton Rouge	412,854	58%	22005	22037	22047	22063	22077
								22091	22121	22125		
24-005-3001	12580	<u>Baltimore</u> -Towson, MD	2,553,022	24005	Baltimore City	651,154	26%	24003	24013	24025	24027	24035
								24510				
25-013-0008	44140	<u>Springfield</u> , MA	680,016	25013	Hampden	456,226	67%	25011	25015			
25-025-0042	14484	<u>Boston</u> -Quincy, MA	1,812,937	25025	Suffolk	689,809	38%	25021	25023			
26-163-0001	19804	<u>Detroit</u> -Livonia-Dearborn, MI	2,061,161	26163	Wayne	2,061,161	100%					
27-053-0963	33460	<u>Minneapolis</u> -St. Paul-Bloomington, MN-WI	2,968,812	27053	Hennepin	1,116,037	38%	27003	27019	27025	27037	27027
								27123	27139	27141	27163	27171
								55093	55109			
28-047-0008	274	<u>Gulfport</u> -Biloxi-Pascagoula, MS	246,197	28047	Harrison	189,606	77%	28039	28045	28059	28131	
29-510-0085	41180	<u>St. Louis</u> , MO-IL	2,698,664	29510	St. Louis City	348,189	13%	17005	17013	17027	17083	17117
								17119	17133	17163	29055	29017
								29099	29113	29183	29189	29219
30-063-0024	33540	<u>Missoula</u> , MT	95,799	30063	Missoula	95,799	100%					
31-055-0019	36540	<u>Omaha</u> -Council Bluffs, NE-IA	767,144	31055	Douglas	463,585	60%	19085	19129	19155	31025	31153
								31155	31177			
32-031-0016	39900	<u>Reno</u> -Sparks, NV	342,885	32031	Washoe	339,486	99%	32029				
33-015-0014	40484	<u>Rockingham</u> -Stafford, NH Division of Boston-Cambridge-Quincy, MA-NH	389,595	33015	Rockingham	277,357	71%	33017				
34-023-0006	20764	<u>Edison</u> -New Brunswick, NJ Division of New York, NY	2,173,876	34023	Middlesex	750,167	35%	34025	34029	34035		
34-039-0004	35084	<u>Newark</u> -Union, NJ-PA Division of New York, NY	2,097,523	34013	Essex	792,313	38%	34019	34027	34037	34039	42103

Table A-2. Continued

STN	Core Based Statistical Area			Core County			Other Counties in CBSA					
	CBSA	Name	2000 Pop	FIPS	Name	2000 Pop	%	FIPS				
36-005-0083	35644	<u>New York</u> -White Plains-Wayne, NY-NJ Division of New York, NY	11,298,122	36005	Bronx	1,332,652	12%	34003	34017	34031	36047	36061
								36079	36081	36085	36087	36119
37-119-0041	16740	<u>Charlotte</u> -Gastonia-Concord, NC-SC	1,330,552	37119	Mecklenburg	913,639	69%	37007	37025	37071	37179	45091
39-035-0060	17460	<u>Cleveland</u> -Elyria-Mentor, OH	2,148,017	39035	Cuyahoga	1,393,848	65%	39055	39085	39093	39103	
40-143-1127	46140	<u>Tulsa</u> , OK	859,533	40143	Tulsa	563,302	66%	40037	40111	40113	40117	40131
								40145				
41-051-0080	38900	<u>Portland</u> -Vancouver-Beaverton, OR-WA	1,927,883	41051	Multnomah	660,486	34%	41005	41009	41067	41071	53011
								53059				
42-003-0008	38300	<u>Pittsburgh</u> , PA	2,431,086	42003	Alleghany	1,281,665	53%	42005	42007	42019	42051	42125
								42129				
42-101-0004	37964	<u>Philadelphia</u> -Camden-Wilmington, PA-NJ-DE-MD	5,687,158	42101	Philadelphia	1,517,542	27%	42017	42029	42045	42091	
44-007-0022	39300	<u>Providence</u> -New Bedford-Fall River, RI-MA	1,582,997	44007	Providence	621,595	39%	25005	44001	44003	44005	44009
45-019-0049	16700	<u>Charleston</u> -North Charleston-Summerville, SC	548,974	45019	Charleston	310,099	56%	45015	45035			
47-157-0024	32820	<u>Memphis</u> , TN-MS-AR	1,205,196	47157	Shelby	897,472	74%	05035	28033	28093	28137	28143
								47047	47167			
48-113-0069	19124	<u>Dallas</u> -Plano-Irving, TX	3,451,204	48113	Dallas	2,218,792	64%	48085	48119	48121	48139	48231
								48257	48397			
48-141-0044	21340	<u>El Paso</u> , TX	679,622	48141	El Paso	679,622	100%					
48-201-1039	26420	<u>Houston</u> -Sugar Land-Baytown, TX	4,715,417	48201	Harris	3,400,590	72%	48015	48039	48071	48157	48167
								48291	48339	48407	48473	
49-035-3006	41620	<u>Salt Lake City</u> , UT	968,883	49035	Salt Lake	898,412	93%	49043	49045			
50-007-0012	15540	<u>Burlington</u> -South Burlington, VT	198,892	50007	Chittenden	146,572	74%	50011	50013			
53-033-0080	42644	<u>Seattle</u> -Tacoma-Bellevue, WA	3,043,897	53033	King	1,737,047	57%	53061				
55-079-0026	33340	<u>Milwaukee</u> -Waukesha-West Allis, WI	1,500,743	55079	Milwaukee	940,165	63%	55089	55131	55133		

Table A-3. Mean Concentrations of Criteria Air Pollutants for Annual, Winter, and Summer: 49 STN Monitors, 2001-2005

CBSA	PM _{2.5} (µg/m ³)			PM ₁₀ (µg/m ³)			O ₃ (ppb)			CO (pphm)			NO ₂ (ppb)			SO ₂ (ppb)		
	Annual	Winter	Summer	Annual	Winter	Summer	Annual	Winter	Summer	Annual	Winter	Summer	Annual	Winter	Summer	Annual	Winter	Summer
Birmingham, AL	18.2	14.8	21.4	35.2	25.2	39.5	21.2	13.0	25.5	9.27	10.50	7.28	NA	NA	NA	4.1	5.01	3.53
Phoenix, AZ	10.1	14.4	7.9	30.6	29.7	31.2	22.9	11.6	32.8	10.02	14.80	6.13	23.2	28.8	17.6	1.7	1.91	1.57
Bakersfield, CA	19.6	31.6	12.6	43.6	38.2	44.5	29.2	11.5	45.6	5.08	7.25	3.29	19.8	22.3	15.8	NA	NA	NA
Fresno, CA	18.3	30.9	10.7	35.9	37.1	30.6	30.6	11.6	48.3	4.99	7.76	2.68	18.7	22.8	12.7	NA	NA	NA
Oxnard, CA	13.4	10.7	15.7	28.7	20.0	34.6	30.6	20.7	38.6	7.46	11.07	4.86	15.9	17.2	14.9	2.0	1.73	2.12
Riverside, CA	25.3	21.2	25.5	57.1	43.2	66.5	28.2	15.2	40.1	7.18	9.01	5.25	21.5	23.1	18.7	2.5	1.49	3.99
Sacramento, CA	14.4	20.4	7.8	20.6	17.6	21.3	29.2	17.7	38.8	5.41	6.66	3.82	13.6	16.0	9.3	1.5	1.31	1.81
San Diego, CA	14.2	17.3	12.6	32.8	33.9	30.6	24.1	13.9	28.4	6.97	9.85	4.38	19.9	25.6	15.8	3.3	3.64	3.18
San Jose, CA	14.4	17.7	8.7	24.3	24.9	20.8	18.4	11.4	22.7	7.40	10.69	4.20	21.1	26.4	14.2	1.3	1.24	1.21
Denver, CO	10.3	13.0	9.6	37.1	40.2	37.8	19.4	11.0	27.4	5.57	7.70	4.23	21.8	26.9	19.4	2.6	2.75	2.55
Washington, DC	15.0	13.4	20.2	28.7	25.2	33.2	23.1	12.8	34.7	9.19	9.70	8.31	22.6	26.4	19.9	6.6	7.77	6.67
Miami, FL	9.5	10.2	9.4	25.7	26.6	27.9	30.7	31.0	22.1	7.28	8.31	7.63	13.9	17.7	12.1	1.4	1.55	1.30
Tampa, FL	10.6	11.2	10.2	27.9	25.4	29.1	24.4	20.0	21.2	10.39	11.45	9.93	9.7	12.7	8.2	2.8	2.57	3.06
Atlanta, GA	15.7	13.4	18.9	25.5	17.5	32.0	23.7	NA	25.9	5.84	5.82	5.60	15.1	20.6	10.8	3.0	4.04	2.53
Boise City, ID	9.2	15.9	6.6	29.1	21.2	36.8	30.4	NA	34.0	10.88	11.55	9.98	NA	NA	NA	NA	NA	NA
Chicago, IL	15.5	17.5	16.4	28.9	28.2	31.3	21.4	10.8	31.2	7.44	8.09	6.47	21.1	23.9	18.6	5.1	6.31	4.40
Indianapolis, IN	15.6	15.4	18.1	20.7	18.3	24.7	32.7	NA	34.3	4.87	5.67	4.55	16.3	18.6	14.3	5.3	6.19	4.63
Baton Rouge, LA	13.2	12.2	13.0	31.1	28.4	31.7	22.9	17.0	23.9	6.22	6.31	6.23	16.4	19.9	13.5	3.7	5.16	2.26
Baltimore, MD	15.2	15.5	19.7	22.2	21.8	25.4	25.4	12.0	36.1	5.38	7.22	3.48	17.1	20.9	14.4	6.6	7.77	6.67
Boston, MA	11.9	12.4	14.4	20.2	19.4	22.9	19.7	12.0	27.1	3.99	4.95	3.38	21.6	25.9	18.0	4.9	7.30	3.62
Springfield, MA	10.6	11.3	13.2	11.8	9.2	17.2	28.7	21.3	34.3	5.57	7.84	4.16	12.3	16.6	10.0	5.7	9.46	3.33
Detroit, MI	15.7	16.8	17.4	23.6	20.8	29.7	26.4	NA	28.2	3.48	3.53	3.38	21.0	23.6	18.7	6.5	5.71	6.59
Minneapolis, MN	10.4	12.2	10.0	25.1	27.4	25.9	25.8	18.0	29.9	4.30	4.75	4.19	7.8	10.7	5.6	2.9	3.50	2.31
Gulfport, MS	12.1	10.9	12.0	NA	NA	NA	33.9	NA	31.2	NA	NA	NA	NA	NA	NA	1.8	2.04	1.43
Kansas City, MO	13.4	14.9	13.7	28.6	25.2	31.0	24.0	14.2	34.0	5.89	7.03	5.14	17.0	18.2	15.9	3.1	3.67	2.90
St. Louis, MO	14.8	14.7	17.3	27.6	24.1	31.2	28.9	NA	34.7	4.67	5.11	3.91	18.5	21.2	15.4	4.7	5.21	4.49
Missoula, MT	10.8	16.8	9.6	20.1	18.9	23.0	NA	NA	NA	NA	13.41	NA	NA	NA	NA	NA	NA	NA
Omaha, NE	10.3	11.7	10.9	40.6	33.8	48.5	30.3	NA	33.2	3.98	4.31	3.63	NA	NA	NA	2.0	2.17	1.50
Reno, NV	8.7	12.5	8.0	29.9	35.1	30.6	25.5	13.2	37.7	5.51	8.36	3.82	12.0	14.6	10.4	NA	NA	NA

Table A-3. Continued

CBSA	PM _{2.5} (µg/m ³)			PM ₁₀ (µg/m ³)			O ₃ (ppb)			CO (pphm)			NO ₂ (ppb)			SO ₂ (ppb)		
	Annual	Winter	Summer	Annual	Winter	Summer	Annual	Winter	Summer	Annual	Winter	Summer	Annual	Winter	Summer	Annual	Winter	Summer
Rockingham, NH	9.5	9.7	12.7	16.7	20.2	20.0	31.4	NA	32.0	NA	NA	NA	7.6	11.2	5.8	3.5	5.61	2.47
Edison, NJ	12.4	11.2	17.7	0.0	0.0	0.0	25.4	15.5	37.4	6.17	7.58	5.35	17.5	23.6	12.6	4.5	7.06	2.99
Newark, NJ	15.4	15.2	19.2	31.3	27.2	37.2	21.4	11.1	33.1	10.44	11.61	9.39	34.9	34.2	35.2	8.0	10.23	6.70
New York, NY	13.7	14.1	17.4	19.2	15.0	26.0	17.4	9.1	26.7	6.37	6.58	6.59	27.1	29.6	24.9	9.1	16.03	4.72
Charlotte, NC	14.5	12.5	17.9	25.1	21.0	27.4	32.1	NA	35.6	5.30	6.47	4.22	15.4	20.5	11.9	3.3	4.55	2.94
Cleveland, OH	17.6	16.4	20.4	31.8	23.6	38.9	26.3	NA	31.2	6.54	7.36	6.28	22.3	21.0	23.0	6.6	7.50	5.98
Tulsa, OK	11.5	10.5	13.6	23.4	18.6	27.1	26.0	17.3	33.7	6.14	6.60	6.05	9.5	11.2	8.4	5.4	6.04	4.99
Portland, OR	8.7	9.8	6.2	15.5	14.9	14.0	19.1	NA	19.8	6.06	5.86	NA	12.0	N.A	10.7	NA	NA	NA
Philadelphia, PA	14.8	15.3	18.8	23.7	21.8	29.9	16.8	8.0	26.8	4.60	6.41	3.24	23.7	28.8	19.7	4.9	7.83	3.80
Pittsburgh, PA	15.7	13.7	21.6	23.5	18.8	30.1	20.9	11.6	32.0	5.08	5.71	4.20	18.8	22.3	16.5	8.7	10.43	8.75
Providence, RI	11.2	12.0	13.4	18.7	18.0	22.9	33.1	NA	35.6	7.06	8.45	5.58	18.6	23.9	13.6	4.8	8.03	2.78
Charleston, SC	11.5	11.4	12.2	19.6	16.4	20.7	25.3	21.1	24.8	3.60	4.16	3.31	10.2	13.8	7.0	2.7	4.05	1.73
Memphis, TN	13.9	12.6	17.1	26.3	21.1	30.8	29.0	NA	31.4	5.37	5.50	5.18	20.5	20.4	19.5	3.8	4.29	3.55
Dallas, TX	12.4	11.6	13.7	30.8	29.0	32.8	24.8	14.1	32.8	3.73	4.36	3.11	17.8	20.6	14.9	1.4	1.55	1.24
El Paso, TX	9.9	10.4	9.7	63.7	63.7	NA	25.8	15.9	34.3	6.72	9.13	4.72	17.9	21.7	14.3	1.4	1.74	1.09
Houston, TX	8.7	7.1	10.1	16.3	12.3	20.3	26.5	19.7	27.2	3.36	3.63	3.12	11.4	15.1	8.0	5.4	6.25	5.14
Salt Lake City, UT	12.0	23.5	7.8	27.7	39.3	24.5	34.1	NA	36.5	8.45	13.28	4.83	25.3	36.6	18.1	4.0	4.30	3.92
Burlington, VT	9.6	10.3	12.0	14.0	12.8	18.7	35.1	32.8	35.7	4.31	5.19	3.60	12.6	16.0	10.1	1.4	1.86	1.18
Seattle, WA	8.3	9.4	7.4	14.4	14.1	16.0	19.2	NA	19.3	4.63	5.94	3.73	18.6	21.0	16.4	3.1	3.08	3.27
Milwaukee, WI	12.5	14.4	13.2	23.6	21.8	25.7	26.9	14.8	33.3	3.56	3.93	3.11	16.4	19.6	14.2	3.3	3.66	2.86

Table A-4. Coefficients of Variation for Criteria Air Pollutants for Annual, Winter, and Summer: 49 STN Monitors, 2001-2005

CBSA	PM _{2.5} (%)			PM ₁₀ (%)			O ₃ (%)			CO (%)			NO ₂ (%)			SO ₂ (%)		
	Annual	Winter	Summer	Annual	Winter	Summer	Annual	Winter	Summer	Annual	Winter	Summer	Annual	Winter	Summer	Annual	Winter	Summer
Birmingham, AL	52	48	48	63	62	51	45	45	35	137	145	106	NA	NA	NA	103	113	84
Phoenix, AZ	56	56	34	45	51	46	49	51	25	52	39	31	36	27	40	54	50	50
Bakersfield, CA	82	66	44	52	77	25	53	56	16	54	47	28	40	32	37	NA	NA	NA
Fresno, CA	51	62	51	49	73	30	41	55	18	52	61	16	46	29	37	37	NA	NA
Oxnard, CA	85	79	37	57	60	30	55	42	21	76	57	37	45	47	35	NA	74	45
Riverside, CA	63	67	44	46	52	28	47	52	24	55	49	44	47	41	45	95	53	82
Sacramento, CA	89	73	44	47	54	33	43	50	26	68	62	58	53	37	50	73	67	67
San Diego, CA	78	53	32	51	44	26	48	47	24	64	42	31	45	35	36	46	39	44
San Jose, CA	68	79	42	55	65	45	36	59	28	65	53	40	44	33	41	67	41	41
Denver, CO	50	56	32	49	50	41	52	61	29	55	51	30	48	40	42	69	68	64
Washington, DC	56	49	51	49	45	45	55	58	31	35	39	28	35	34	34	61	54	61
Miami, FL	42	46	42	37	32	45	34	27	28	44	42	41	48	40	44	47	42	45
Tampa, FL	49	46	55	32	33	34	41	33	41	35	36	31	55	53	45	100	91	92
Atlanta, GA	46	43	44	61	44	51	37	NA	35	50	61	36	54	42	49	86	82	79
Boise City, ID	100	88	52	63	68	45	30	NA	22	47	53	42	NA	NA	NA	NA	NA	NA
Chicago, IL	55	55	50	42	42	39	56	55	33	42	40	43	40	35	43	55	56	46
Indianapolis, IN	53	49	52	47	43	43	29	NA	27	45	45	43	38	37	35	81	76	84
Baton Rouge, LA	45	43	45	47	68	37	44	37	43	46	55	32	41	38	35	83	67	64
Baltimore, MD	58	54	55	52	52	49	51	55	30	54	48	33	42	34	41	61	54	61
Boston, MA	61	52	60	47	33	45	56	57	43	51	48	47	35	31	31	72	61	59
Springfield, MA	70	62	75	70	49	65	42	47	33	60	53	46	64	61	49	74	53	66
Detroit, MI	60	61	57	52	54	47	39	NA	40	46	58	38	40	38	41	116	102	108
Minneapolis, MN	62	59	61	48	53	41	43	45	32	50	50	47	52	44	41	182	230	120
Gulfport, MS	51	44	54	NA	NA	NA	31	NA	33	NA	NA	NA	NA	NA	NA	99	98	48
Kansas City, MO	50	47	47	39	38	39	50	52	29	59	52	51	39	39	35	68	61	85
St. Louis, MO	53	51	49	44	42	46	41	NA	31	54	50	39	39	35	37	67	70	62
Missoula, MT	97	78	125	71	58	93	NA	NA	NA	39	36	NA	NA	NA	NA	NA	NA	NA
Omaha, NE	60	58	53	61	69	52	37	NA	32	48	48	36	NA	NA	NA	161	160	71
Reno, NV	79	78	80	51	50	56	51	65	21	74	64	62	55	54	42	NA	NA	NA

Table A-4. Continued

CBSA	PM _{2.5} (%)			PM ₁₀ (%)			O ₃ (%)			CO (%)			NO ₂ (%)			SO ₂ (%)		
	Annual	Winter	Summer	Annual	Winter	Summer	Annual	Winter	Summer	Annual	Winter	Summer	Annual	Winter	Summer	Annual	Winter	Summer
Rockingham, NH	67	61	67	52	48	48	31	NA	30	NA	NA	NA	65	54	44	84	71	69
Edison, NJ	59	56	64	53	56	65	58	52	33	45	40	32	33	43	39	52	57	53
Newark, NJ	70	55	56	66	48	57	53	71	31	40	53	41	50	32	34	71	49	43
New York, NY	62	49	63	55	48	60	61	61	39	36	39	26	34	25	32	76	48	58
Charlotte, NC	47	42	45	42	39	37	36	NA	31	48	50	29	44	33	40	73	60	86
Cleveland, OH	54	54	51	56	52	50	44	NA	39	44	39	47	37	34	36	67	71	66
Tulsa, OK	54	53	48	42	47	36	41	42	25	53	52	56	57	52	60	97	98	82
Portland, OR	65	66	46	52	63	36	37	NA	34	54	56	NA	40	NA	37	NA	NA	NA
Philadelphia, PA	62	53	60	55	56	51	63	67	36	56	49	27	37	29	31	88	72	78
Pittsburgh, PA	56	46	50	59	58	49	55	56	28	60	67	44	41	35	39	55	53	49
Providence, RI	63	55	67	53	39	58	36	NA	37	44	42	40	40	31	31	76	56	53
Charleston, SC	50	42	59	39	40	36	38	34	41	42	49	28	49	37	45	79	67	65
Memphis, TN	51	46	48	42	43	38	33	NA	28	58	59	49	40	35	44	74	99	49
Dallas, TX	49	49	45	44	51	42	49	47	36	45	49	26	43	38	39	45	53	25
El Paso, TX	69	62	43	48	44	NA	45	45	21	36	58	40	57	43	41	68	52	18
Houston, TX	57	60	65	44	40	49	42	37	49	63	44	24	48	45	53	56	69	59
Salt Lake City, UT	105	82	43	72	64	41	25	NA	20	61	43	32	46	35	31	62	67	48
Burlington, VT	76	60	83	69	48	76	31	22	33	50	57	31	46	44	35	70	78	42
Seattle, WA	59	59	45	42	54	36	38	NA	32	49	46	40	35	29	42	65	63	62
Milwaukee, WI	66	60	67	55	53	53	46	52	35	43	43	32	43	34	42	77	81	53

Table A-5. Coefficients of Determination for Criteria Air Pollutants with PM_{2.5} for Annual, Winter, and Summer: 49 STN Monitors, 2001-2005

CBSA	PM ₁₀ (%)			O ₃ (%)			CO (%)			NO ₂ (%)			SO ₂ (%)		
	Annual	Winter	Summer	Annual	Winter	Summer	Annual	Winter	Summer	Annual	Winter	Summer	Annual	Winter	Summer
Birmingham, AL	79.2	72.4	79.3	9.3	14.8	44.7	1.6	4.5	9.2	N/A	N/A	N/A	3.8	3.2	11.3
Phoenix, AZ	41.7	61.4	53.3	29.2	44.5	1.8	39.7	57.1	6.8	37.9	38.4	5.1	12.8	13.9	0.0
Bakersfield, CA	10.0	45.4	48.5	24.1	27.7	17.2	40.1	24.5	9.1	39.2	18.5	36.4	N/A	N/A	N/A
Fresno, CA	43.6	91.9	75.7	28.3	25.7	37.9	61.5	41.5	29.9	58.8	35.1	47.2	N/A	N/A	N/A
Oxnard, CA	61.0	57.5	32.5	0.9	46.7	19.9	3.0	26.2	2.5	16.8	52.0	0.4	0.5	0.3	1.5
Riverside, CA	46.8	52.6	16.0	0.4	35.9	15.1	16.2	51.6	4.4	13.5	35.6	0.2	0.1	0.3	6.4
Sacramento, CA	25.2	75.1	32.9	32.9	28.6	36.4	43.0	60.3	0.8	45.0	50.2	14.5	0.4	11.0	0.3
San Diego, CA	53.0	63.2	32.9	7.1	32.5	0.3	13.9	39.4	6.1	32.6	37.8	17.8	5.4	4.7	10.4
San Jose, CA	79.2	89.6	76.6	46.2	61.1	5.4	53.5	63.9	2.3	54.2	57.1	50.9	0.2	1.4	0.0
Denver, CO	34.2	21.6	48.2	18.5	35.9	0.1	29.8	25.1	20.6	22.1	18.2	6.5	8.8	6.8	4.0
Washington, DC	27.7	17.6	45.3	0.0	41.1	0.0	3.1	10.9	6.0	11.9	46.6	6.7	10.7	12.3	8.6
Miami, FL	51.9	43.2	74.4	0.4	3.6	1.4	6.1	13.1	8.4	22.7	46.7	8.3	0.2	5.9	0.3
Tampa, FL	25.1	18.4	33.2	7.5	1.1	23.5	3.0	8.8	1.6	7.9	18.7	3.1	5.9	10.6	6.3
Atlanta, GA	42.9	37.1	38.3	15.8	N/A	34.4	31.4	31.4	35.4	4.8	30.2	22.9	0.4	1.8	6.1
Boise City, ID	21.4	45.5	47.9	0.4	N/A	5.7	14.6	27.6	1.0	N/A	N/A	N/A	N/A	N/A	N/A
Chicago, IL	39.4	43.5	39.1	0.5	32.2	29.6	5.6	15.1	0.2	15.1	28.1	10.9	17.3	42.6	3.4
Indianapolis, IN	80.2	83.6	93.5	19.8	N/A	26.5	7.5	5.6	4.5	14.0	36.4	10.5	30.6	29.4	35.3
Baton Rouge, LA	29.5	31.3	55.5	13.2	5.9	54.7	5.9	9.7	1.0	11.4	28.9	10.8	2.0	5.1	3.3
Baltimore, MD	69.5	62.5	85.8	2.5	39.9	30.9	6.7	39.5	2.8	20.8	43.9	18.4	15.2	18.9	9.7
Boston, MA	61.6	29.2	83.9	0.2	47.9	33.4	6.6	24.6	3.0	17.0	29.8	10.2	11.5	36.9	3.0
Springfield, MA	50.4	51.0	77.0	0.6	48.1	39.9	9.6	30.0	4.5	31.7	59.6	19.9	13.2	60.7	10.7
Detroit, MI	53.1	40.6	77.8	22.4	N/A	36.2	12.1	22.0	3.5	34.7	49.7	27.8	22.0	26.9	21.4
Minneapolis, MN	43.4	35.9	55.0	2.2	6.1	25.5	4.2	0.1	6.4	6.5	10.2	0.6	3.0	4.8	0.6
Gulfport, MS	N/A	N/A	NA	20.6	N/A	42.1	N/A	N/A	N/A	N/A	N/A	N/A	4.7	0.5	10.6
Kansas City, MO	25.7	13.6	64.1	0.0	15.1	29.2	2.4	2.1	4.5	17.5	30.9	12.7	1.0	1.0	0.9
St. Louis, MO	54.9	51.7	66.9	17.4	N/A	32.9	5.0	10.6	2.4	11.2	24.9	6.3	20.7	21.4	16.3
Missoula, MT	46.3	49.5	74.1	N/A	N/A	NA	32.0	44.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Omaha, NE	19.0	31.9	37.7	21.7	N/A	32.1	0.0	2.2	0.5	N/A	N/A	N/A	1.0	3.6	0.2
Reno, NV	60.4	61.4	65.9	20.3	77.4	6.7	32.7	54.2	1.1	19.5	33.6	6.0	N/A	N/A	N/A

Table A-5. Continued

CBSA	PM ₁₀ (%)			O ₃ (%)			CO (%)			NO ₂ (%)			SO ₂ (%)		
	Annual	Winter	Summer	Annual	Winter	Summer	Annual	Winter	Summer	Annual	Winter	Summer	Annual	Winter	Summer
Rockingham, NH	44.2	23.0	65.3	12.6	N/A	33.3	N/A	N/A	N/A	16.1	52.6	15.4	2.0	4.6	0.0
Edison, NJ	55.9	56.7	83.4	1.5	44.2	36.2	13.5	36.2	15.7	7.5	47.5	0.2	10.2	47.4	7.0
Newark, NJ	55.9	43.4	87.0	0.6	22.7	22.2	8.2	23.9	1.0	32.0	47.6	17.1	34.9	62.2	19.4
New York, NY	54.4	50.5	85.8	0.9	51.3	22.0	37.9	42.1	29.4	50.8	60.0	42.5	20.2	67.4	39.4
Charlotte, NC	67.0	60.0	90.0	23.0	N/A	37.0	7.4	25.9	16.8	5.5	25.6	26.1	2.4	7.8	13.8
Cleveland, OH	50.7	20.9	75.3	16.0	N/A	33.7	17.4	19.9	17.6	33.4	29.7	24.4	8.2	10.0	8.6
Tulsa, OK	40.6	9.9	57.4	6.6	14.2	25.3	0.8	0.2	3.8	7.8	18.5	8.9	8.7	4.3	2.7
Portland, OR	64.4	77.5	46.8	0.1	N/A	10.5	42.6	41.7	N/A	38.7	N/A	32.0	N/A	N/A	N/A
Philadelphia, PA	71.4	65.8	91.7	0.1	45.1	30.0	19.0	46.3	15.1	31.6	55.1	28.1	37.9	47.6	40.9
Pittsburgh, PA	60.9	42.4	70.6	2.0	40.0	21.0	13.2	25.9	12.8	21.2	45.8	25.9	18.0	29.6	22.9
Providence, RI	69.5	57.5	81.7	23.4	N/A	39.3	9.0	28.4	3.2	17.3	55.3	9.2	15.9	53.5	9.5
Charleston, SC	58.0	59.7	75.1	5.0	3.5	38.5	2.6	7.5	1.0	6.5	25.9	8.5	8.2	17.7	14.8
Memphis, TN	50.2	45.3	57.6	8.5	N/A	38.5	4.9	10.6	2.6	7.1	4.9	9.6	0.0	0.8	0.5
Dallas, TX	41.9	13.4	65.2	4.0	15.0	27.2	4.8	6.4	7.1	6.2	9.2	13.5	7.7	8.3	12.5
El Paso, TX	100.0	100.0	N/A	3.6	30.6	0.2	27.1	66.8	6.5	19.6	38.9	9.7	16.0	36.7	2.7
Houston, TX	36.3	29.4	49.4	8.3	1.0	12.6	2.3	6.1	3.1	0.5	7.5	3.6	2.3	3.5	1.9
Salt Lake City, UT	56.5	85.1	38.0	6.9	N/A	9.1	33.4	52.1	1.7	46.4	76.6	7.6	8.7	19.1	1.9
Burlington, VT	78.2	78.0	90.0	10.8	5.3	53.0	16.1	25.9	11.4	18.0	44.9	8.8	22.8	23.7	18.1
Seattle, WA	73.1	87.3	67.9	7.0	N/A	2.2	32.5	53.0	19.4	50.5	48.0	56.9	42.8	38.7	45.6
Milwaukee, WI	62.3	61.1	69.1	4.2	39.9	49.5	13.4	20.5	8.6	30.4	46.3	16.7	26.9	24.5	24.7

Table A-6. Mean Concentrations of Selected PM_{2.5} Constituents for Annual, Winter, and Summer: 49 STN Monitors, 2001-2005

CBSA	Se (ng/m ³)			SO ₄ (μg/m ³)			NO ₃ (μg/m ³)			EC (ng/m ³)			OC (ng/m ³)			Br (ng/m ³)		
	Annual	Winter	Summer	Annual	Winter	Summer	Annual	Winter	Summer	Annual	Winter	Summer	Annual	Winter	Summer	Annual	Winter	Summer
Birmingham, AL	1.6	1.6	1.6	4.9	3.2	6.7	1.1	1.8	0.6	1.37	1.27	1.26	6.5	6.1	6.6	4.62	4.83	3.07
Phoenix, AZ	0.9	1.0	0.8	1.2	0.8	1.5	1.2	2.7	0.4	0.95	1.71	0.50	5.5	7.9	4.2	3.58	3.37	3.66
Bakersfield, CA	1.4	1.5	1.3	1.9	1.8	2.1	6.5	12.2	1.4	1.00	1.37	0.71	6.7	8.4	5.9	5.43	5.68	5.13
Fresno, CA	1.7	1.8	1.6	1.6	1.4	1.8	6.0	10.2	1.4	0.92	1.40	0.52	7.8	12.6	5.4	4.06	4.61	3.75
Oxnard, CA	1.4	1.2	1.6	2.5	0.9	4.4	3.4	3.0	4.0	0.69	0.77	0.62	4.7	4.3	5.2	3.97	2.81	4.99
Riverside, CA	1.3	1.3	1.3	3.0	1.1	4.7	9.9	6.7	11.5	1.33	1.72	0.99	6.7	6.7	7.0	5.63	4.37	6.66
Sacramento, CA	1.3	1.3	1.3	1.2	0.8	1.6	2.5	5.4	0.9	0.81	1.33	0.38	6.5	10.2	4.3	2.74	2.95	2.36
San Diego, CA	1.3	1.2	1.3	2.8	1.1	4.3	3.6	3.8	3.1	0.83	1.37	0.52	5.3	7.9	4.1	4.04	4.19	3.75
San Jose, CA	1.5	1.6	1.4	1.4	1.1	1.8	2.8	4.2	1.8	0.94	1.49	0.51	5.6	7.8	4.0	3.31	3.69	2.63
Denver, CO	1.4	1.4	1.4	1.4	1.4	1.5	1.7	3.0	0.9	1.18	1.63	0.96	4.5	5.8	4.6	2.28	2.62	2.37
Washington, DC	2.0	2.3	2.4	5.2	3.0	8.4	1.7	2.8	0.8	0.69	0.73	0.62	4.4	3.9	5.3	4.21	4.94	3.49
Miami, FL	1.3	1.4	1.3	2.5	2.6	1.9	0.7	1.0	0.5	1.50	1.65	1.37	3.4	4.3	3.0	3.04	4.15	2.06
Tampa, FL	1.4	1.4	1.3	3.4	2.8	3.3	0.7	0.9	0.5	0.54	0.73	0.43	3.8	4.6	3.2	3.40	4.47	2.07
Atlanta, GA	1.3	1.4	1.4	4.7	2.6	6.9	0.8	1.6	0.4	1.01	1.04	0.93	5.1	5.1	5.3	3.25	3.72	2.36
Boise City, ID	1.3	1.3	1.3	1.0	1.5	0.7	2.2	5.3	0.5	0.48	0.56	0.38	4.4	4.5	4.9	1.90	2.34	1.85
Chicago, IL	1.2	1.2	1.2	3.0	2.4	3.8	1.9	3.1	1.0	0.40	0.33	0.47	2.3	1.8	3.0	3.20	3.56	2.94
Indianapolis, IN	2.0	2.2	1.9	4.9	3.0	7.0	2.7	4.8	1.1	0.65	0.58	0.66	4.4	3.9	5.2	3.14	3.2	2.64
Baton Rouge, LA	0.7	0.8	0.7	4.2	3.2	4.7	0.7	1.2	0.4	0.63	0.63	0.61	3.3	3.2	3.1	3.38	4.18	2.25
Baltimore, MD	1.7	1.8	2.0	5.2	3.3	8.1	2.0	3.2	0.9	0.75	0.98	0.64	5.0	5.6	5.7	4.46	5.64	3.85
Boston, MA	1.1	1.2	1.1	3.1	2.5	4.4	1.2	1.8	0.7	0.79	0.83	0.71	4.1	3.8	5.4	2.52	2.88	2.21
Springfield, MA	1.2	1.3	1.2	2.9	2.3	4.6	0.9	1.4	0.5	0.37	0.47	0.33	3.0	3.2	3.9	2.26	2.79	1.95
Detroit, MI	1.9	1.7	1.9	4.0	2.8	5.6	3.0	4.9	1.5	0.78	0.70	0.89	4.2	4.0	5.1	3.20	3.11	3.05
Minneapolis, MN	1.4	1.4	1.4	2.3	2.6	2.3	2.3	4.5	0.6	0.49	0.48	0.47	3.8	3.7	4.5	2.22	2.37	1.95
Gulfport, MS	1.3	1.3	1.4	4.0	2.9	4.4	0.6	1.0	0.4	0.42	0.56	0.34	3.8	4.0	3.7	2.76	3.15	1.99
Kansas City, MO	1.4	1.3	1.4	2.8	2.2	3.4	2.2	4.3	0.6	0.66	0.70	0.68	5.7	6.0	6.1	3.51	4.27	3.67
St. Louis, MO	1.6	1.5	1.7	4.2	2.8	6.0	2.5	4.6	0.9	0.84	0.77	0.85	4.6	4.3	5.3	3.84	4.31	2.80
Missoula, MT	1.3	1.3	1.3	0.9	1.2	0.7	1.2	2.9	0.4	0.61	0.88	0.49	6.5	7.4	7.7	1.49	1.56	1.52
Omaha, NE	1.4	1.3	1.4	2.5	1.9	3.1	2.1	4.4	0.7	0.44	0.54	0.38	3.4	2.9	3.9	2.02	1.95	2.05
Reno, NV	1.3	1.3	1.3	0.7	0.5	0.8	1.0	2.7	0.3	0.93	1.36	0.69	5.4	6.2	6.2	1.84	2.13	1.77

Table A-6. Continued

CBSA	Se (ng/m ³)			SO ₄ (μg/m ³)			NO ₃ (μg/m ³)			EC (ng/m ³)			OC (ng/m ³)			Br (ng/m ³)		
	Annual	Winter	Summer	Annual	Winter	Summer	Annual	Winter	Summer	Annual	Winter	Summer	Annual	Winter	Summer	Annual	Winter	Summer
Rockingham, NH	0.8	1.0	0.8	2.6	2.2	3.7	0.7	1.1	0.5	0.46	0.63	0.40	3.5	3.7	4.5	2.55	2.85	2.52
Edison, NJ	1.6	1.9	1.6	4.1	2.9	6.7	1.6	2.8	0.8	0.63	0.72	0.55	3.5	3.3	4.2	3.08	3.55	2.95
Newark, NJ	1.8	1.9	1.9	4.4	3.2	6.5	2.1	3.3	1.3	1.75	1.55	1.89	5.5	5.6	6.3	3.71	4.71	3.05
New York, NY	1.7	1.9	1.6	4.0	3.3	6.0	2.0	3.0	1.1	1.27	1.67	1.02	4.4	4.3	5.5	3.28	4.01	3.06
Charlotte, NC	1.8	2.2	1.7	4.9	2.8	6.9	1.0	1.9	0.5	0.61	0.79	0.46	5.0	5.2	5.4	3.62	4.57	2.75
Cleveland, OH	2.8	3.1	2.5	4.9	3.3	6.7	2.9	4.7	1.5	1.07	0.76	1.27	4.5	3.9	5.4	4.58	4.87	3.97
Tulsa, OK	1.8	1.7	2.0	3.2	2.2	4.1	1.4	2.9	0.5	0.49	0.54	0.42	4.3	3.8	4.8	2.54	2.61	1.97
Portland, OR	1.9	1.6	1.4	1.4	1.3	1.4	1.1	1.5	0.6	0.74	0.94	0.40	4.6	5.2	3.5	1.80	1.79	1.59
Philadelphia, PA	1.8	1.8	1.8	4.3	3.0	7.6	2.3	3.8	1.2	0.85	0.95	0.77	4.6	4.5	5.9	4.30	4.72	3.51
Pittsburgh, PA	6.8	5.6	7.2	5.9	3.4	9.4	1.6	3.0	0.8	0.83	0.73	0.86	4.5	4.1	5.5	4.49	5.22	3.65
Providence, RI	0.9	1.0	0.8	3.3	2.8	4.8	1.1	1.9	0.6	0.58	0.68	0.48	3.8	3.4	5.1	2.63	2.95	2.27
Charleston, SC	1.5	1.7	1.4	4.0	3.0	4.5	0.7	1.1	0.4	0.43	0.59	0.30	3.8	4.5	3.5	3.29	4.22	2.50
Memphis, TN	0.9	0.9	1.0	4.1	2.8	5.9	1.5	2.8	0.6	0.97	0.86	1.04	4.8	4.1	5.6	3.13	3.42	2.62
Dallas, TX	0.9	1.0	0.9	3.5	2.4	4.0	1.2	2.4	0.5	0.58	0.65	0.47	3.3	3.2	3.4	3.34	3.22	2.49
El Paso, TX	0.5	0.5	0.5	1.3	0.9	1.6	0.5	1.2	0.2	0.76	1.24	0.48	2.9	3.9	2.7	3.37	4.82	2.66
Houston, TX	0.8	0.8	0.7	3.6	2.9	3.6	0.8	1.4	0.5	0.38	0.41	0.33	2.4	2.3	2.2	3.31	3.63	2.10
Salt Lake City, UT	1.6	2.6	1.3	1.2	2.1	1.1	3.0	8.7	0.3	0.81	1.26	0.55	4.7	6.5	4.7	4.94	9.07	4.39
Burlington, VT	1.4	1.4	1.4	2.5	1.9	3.7	1.3	2.4	0.5	0.37	0.39	0.35	3.7	3.4	4.9	2.08	2.36	1.86
Seattle, WA	0.9	0.7	0.9	1.6	1.2	2.0	0.9	1.1	0.6	0.57	0.69	0.49	2.3	2.5	2.2	2.27	2.20	2.05
Milwaukee, WI	1.5	1.5	1.5	3.0	2.5	3.8	2.9	5.1	1.1	0.55	0.51	0.56	3.9	3.6	4.7	3.54	2.57	5.81

Table A-6. Continued

CBSA	Si (ng/m ³)			Al (ng/m ³)			Fe (ng/m ³)			Ti (ng/m ³)			Ca (ng/m ³)			K (ng/m ³)		
	Annual	Winter	Summer	Annual	Winter	Summer	Annual	Winter	Summer	Annual	Winter	Summer	Annual	Winter	Summer	Annual	Winter	Summer
Birmingham, AL	235	131	316	49	22	85	207	156	231	8.5	5.6	11.9	145	96	164	110	99	124
Phoenix, AZ	431	280	459	132	104	131	216	233	171	15.5	15.2	13.8	165	121	170	131	150	144
Bakersfield, CA	243	96	311	65	25	85	145	115	147	10.3	6.2	13.2	85	43	110	142	138	208
Fresno, CA	176	61	206	51	14	58	111	86	106	7.9	4.6	9.0	51	30	58	136	197	116
Oxnard, CA	102	66	99	25	21	27	84	75	84	6.0	4.6	6.2	49	31	51	60	55	68
Riverside, CA	201	164	194	58	48	58	174	177	154	11.7	10.0	12.9	164	175	126	117	106	178
Sacramento, CA	115	47	117	36	19	37	84	73	72	5.9	4.3	6.7	39	24	48	108	155	104
San Diego, CA	112	103	79	33	33	24	103	122	79	7.2	7.6	6.2	54	49	45	79	123	65
San Jose, CA	128	96	105	33	29	23	131	153	90	8.0	8.4	6.5	78	65	73	89	117	77
Denver, CO	271	185	330	73	39	90	139	143	140	9.4	7.7	11.0	115	86	137	73	62	105
Washington, DC	82	50	106	18	11	20	93	79	90	5.2	3.8	6.4	42	33	44	67	64	94
Miami, FL	183	42	507	73	21	209	148	117	244	10.3	7.5	20.9	111	117	128	116	255	91
Tampa, FL	156	64	339	47	14	121	64	43	113	6.8	4.0	13.5	59	53	72	94	103	143
Atlanta, GA	107	52	164	28	12	42	83	76	87	5.7	4.1	7.5	33	26	34	61	70	56
Boise City, ID	168	58	272	41	17	62	61	32	86	5.8	3.0	9.7	58	21	94	92	60	159
Chicago, IL	99	70	131	25	12	36	96	80	111	4.1	3.3	5.3	62	56	69	73	52	124
Indianapolis, IN	92	55	125	27	15	38	78	59	94	5.6	3.4	9.2	55	37	64	106	62	215
Baton Rouge, LA	136	66	228	31	10	59	58	43	81	4.8	3.7	7.4	85	59	73	74	98	69
Baltimore, MD	77	57	109	17	15	21	105	104	110	6.7	6.1	9.2	48	44	57	110	156	125
Boston, MA	72	52	94	19	14	25	86	76	96	4.9	4.1	5.8	41	34	47	46	44	65
Springfield, MA	41	41	39	15	12	11	37	36	39	2.8	2.7	3.1	18	21	16	47	64	46
Detroit, MI	94	59	128	24	14	34	119	97	145	5.7	4.5	7.9	62	44	82	69	53	106
Minneapolis, MN	101	57	145	26	18	36	64	50	80	5.0	3.5	7.3	71	48	97	76	49	135
Gulfport, MS	128	48	238	42	14	87	62	40	103	7.2	5.0	11.8	36	24	44	67	80	63
Kansas City, MO	107	70	179	31	19	56	90	92	104	6.1	5.1	9.3	109	89	134	130	117	180
St. Louis, MO	114	61	187	32	17	57	183	169	221	6.1	4.2	9.3	105	72	141	82	60	133
Missoula, MT	119	69	146	33	19	39	60	54	61	4.6	3.8	5.7	49	60	48	193	265	189
Omaha, NE	184	70	240	44	18	59	89	66	102	7.0	3.8	9.5	181	85	245	77	47	119
Reno, NV	176	133	176	52	33	46	105	100	98	14.2	16.0	11.2	57	46	57	53	58	55

Table A-6. Continued

CBSA	Si (ng/m ³)			Al (ng/m ³)			Fe (ng/m ³)			Ti (ng/m ³)			Ca (ng/m ³)			K (ng/m ³)		
	Annual	Winter	Summer	Annual	Winter	Summer	Annual	Winter	Summer	Annual	Winter	Summer	Annual	Winter	Summer	Annual	Winter	Summer
Rockingham, NH	58	47	73	14	10	18	37	36	43	2.9	2.7	3.9	41	61	30	54	63	76
Edison, NJ	63	46	76	20	14	26	76	74	78	4.7	3.9	5.7	28	27	27	46	46	59
Newark, NJ	80	62	101	25	20	24	135	106	150	6.2	4.7	7.9	45	40	50	49	50	63
New York, NY	77	65	82	22	19	23	107	101	113	5.9	5.4	6.7	65	78	52	48	50	54
Charlotte, NC	85	49	113	26	15	30	69	63	69	5.6	4.2	7.2	30	22	34	69	81	78
Cleveland, OH	137	89	173	26	16	35	281	177	306	8.4	5.5	10.1	110	57	138	119	90	131
Tulsa, OK	141	71	249	41	23	81	90	81	111	6.3	4.1	10.5	80	64	91	83	56	130
Portland, OR	68	38	89	23	13	28	76	61	79	5.5	4.1	7.1	33	21	40	79	70	93
Philadelphia, PA	75	55	91	22	16	27	94	87	92	5.3	4.3	6.4	41	31	40	56	52	79
Pittsburgh, PA	141	67	255	30	18	37	132	106	143	6.5	4.7	8.1	48	35	57	75	69	93
Providence, RI	70	48	92	15	9	17	60	50	61	3.8	2.9	4.5	29	24	32	51	46	68
Charleston, SC	104	47	189	33	15	65	60	46	81	5.6	3.6	9.4	54	34	54	64	106	56
Memphis, TN	115	59	192	26	11	53	104	82	118	6.1	4.0	9.4	68	55	73	105	88	143
Dallas, TX	153	61	327	39	9	102	79	63	116	5.7	3.0	11.0	72	58	87	67	55	74
El Paso, TX	384	292	415	92	69	112	123	123	114	9.9	7.8	10.4	241	218	224	82	85	85
Houston, TX	219	86	526	63	16	181	76	46	156	7.2	3.0	17.4	60	46	89	73	60	90
Salt Lake City, UT	155	90	167	43	27	37	101	116	82	7.4	6.1	8.8	93	55	117	75	62	137
Burlington, VT	55	37	67	18	17	19	38	29	46	4.0	3.1	4.6	33	27	38	45	53	48
Seattle, WA	54	37	67	17	11	23	63	65	67	3.3	3.1	4.0	31	26	36	54	53	67
Milwaukee, WI	75	56	96	21	14	31	91	81	99	4.4	3.5	5.8	46	39	53	66	52	105

Table A-6. Continued

CBSA	Cu (ng/m ³)			Mn (ng/m ³)			Zn (ng/m ³)			V (ng/m ³)			Ni (ng/m ³)			Cl (ng/m ³)		
	Annual	Winter	Summer	Annual	Winter	Summer	Annual	Winter	Summer	Annual	Winter	Summer	Annual	Winter	Summer	Annual	Winter	Summer
Birmingham, AL	8.2	6.8	8.6	14.9	12.1	13.7	111	95	107	2.05	2.21	2.16	1.5	1.4	1.6	38	62	13
Phoenix, AZ	6.4	10.2	3.4	4.0	4.1	3.8	11	16	7	2.46	3.12	2.06	1.3	1.1	1.0	32	21	62
Bakersfield, CA	12.6	12.0	19.8	2.7	2.2	2.7	11	19	7	1.67	1.73	1.84	1.4	1.9	1.3	37	81	26
Fresno, CA	5.8	6.1	7.1	2.3	1.9	2.2	12	21	5	1.65	1.40	1.85	2.9	1.8	2.8	50	126	21
Oxnard, CA	4.6	4.8	4.3	1.7	1.6	1.6	4	5	3	4.26	2.74	6.35	1.8	1.4	2.4	28	32	18
Riverside, CA	7.4	7.1	9.6	3.8	3.8	3.2	27	44	15	5.23	3.06	7.12	2.1	1.4	2.8	74	91	41
Sacramento, CA	6.6	7.1	6.6	2.1	1.8	1.9	6	10	3	1.77	1.55	2.10	5.7	7.2	9.4	47	50	66
San Diego, CA	6.3	8.0	5.2	2.7	2.5	2.5	7	10	6	4.16	3.42	4.92	2.0	1.8	2.2	78	95	34
San Jose, CA	5.2	7.1	4.8	2.4	2.7	1.8	8	12	3	2.19	2.19	2.45	11.0	13.1	9.2	217	167	215
Denver, CO	4.8	5.0	5.7	3.1	3.2	2.9	24	38	19	1.60	1.57	1.69	1.1	1.2	1.2	27	66	13
Washington, DC	3.9	3.5	4.9	1.8	1.8	1.7	11	13	10	2.35	2.52	2.35	1.1	1.4	1.2	27	58	7
Miami, FL	4.8	8.3	4.5	2.4	2.2	3.3	8	11	6	5.46	5.88	6.21	2.5	2.5	2.9	268	259	305
Tampa, FL	4.1	5.1	5.2	1.8	1.5	2.3	5	6	4	3.14	2.98	3.70	4.0	9.5	2.5	47	59	27
Atlanta, GA	4.6	4.1	5.3	1.5	1.2	1.6	9	12	7	1.05	1.08	1.08	0.4	0.4	0.4	5	8	4
Boise City, ID	2.7	2.8	4.3	1.8	1.4	1.9	4	6	2	1.55	1.49	1.83	1.0	1.1	1.0	15	24	18
Chicago, IL	3.8	3.4	5.2	2.5	2.4	2.8	25	23	29	1.04	0.88	1.45	0.5	0.6	0.5	46	138	10
Indianapolis, IN	6.4	5.2	10.1	2.8	2.4	3.1	13	15	12	1.57	1.54	1.88	1.6	1.4	1.8	15	26	14
Baton Rouge, LA	2.7	3.4	2.5	1.4	1.4	1.6	9	12	9	3.23	2.68	3.78	1.4	1.4	1.4	13	9	7
Baltimore, MD	4.6	7.5	4.7	2.9	3.3	2.9	22	34	17	3.28	3.71	3.18	1.7	2.1	1.7	35	86	7
Boston, MA	5.8	6.0	7.0	1.5	1.5	1.5	19	26	18	4.45	5.55	3.75	3.6	5.4	2.2	64	114	19
Springfield, MA	2.1	2.3	2.1	1.5	1.8	1.4	9	15	5	2.76	4.05	2.46	2.3	3.3	2.3	12	21	6
Detroit, MI	6.5	4.0	9.5	3.8	3.5	4.2	23	21	25	1.98	1.60	2.21	1.5	1.5	1.6	20	46	8
Minneapolis, MN	3.7	3.7	5.6	2.3	1.8	2.7	9	12	8	2.72	6.19	1.77	1.9	3.7	1.5	15	30	14
Gulfport, MS	2.6	2.8	3.2	2.1	1.9	2.5	5	8	4	2.37	2.54	2.58	1.7	1.5	2.7	44	28	32
Kansas City, MO	8.5	10.6	7.6	3.7	4.7	2.8	14	19	12	1.65	1.74	1.84	1.3	1.4	1.4	15	29	12
St. Louis, MO	14.3	13.3	16.6	9.2	8.7	11.3	32	33	27	1.82	1.66	2.21	1.4	1.5	1.2	38	88	8
Missoula, MT	2.5	3.3	2.5	3.5	5.3	2.8	14	32	5	1.65	2.18	1.65	1.3	1.3	1.1	31	95	9
Omaha, NE	3.2	3.4	4.1	3.4	3.1	3.0	13	14	12	1.55	1.51	1.66	4.6	2.2	5.4	11	20	11
Reno, NV	3.4	4.6	3.1	2.9	2.5	2.5	6	11	4	1.92	2.56	1.51	1.4	1.5	1.4	9	19	6

Table A-6. Continued

CBSA	Cu (ng/m ³)			Mn (ng/m ³)			Zn (ng/m ³)			V (ng/m ³)			Ni (ng/m ³)			Cl (ng/m ³)		
	Annual	Winter	Summer	Annual	Winter	Summer	Annual	Winter	Summer	Annual	Winter	Summer	Annual	Winter	Summer	Annual	Winter	Summer
Rockingham, NH	5.8	6.5	4.3	1.1	1.0	1.1	15	27	5	3.37	5.07	3.02	1.6	2.6	1.3	59	81	23
Edison, NJ	4.9	6.0	4.7	3.1	3.0	2.9	14	16	11	2.97	3.64	2.72	3.2	4.6	3.1	20	39	9
Newark, NJ	6.4	5.3	7.4	2.9	2.7	3.0	20	21	15	7.30	4.99	7.93	5.7	6.7	5.5	46	87	12
New York, NY	4.6	5.4	4.7	2.7	3.1	2.4	33	49	20	6.51	9.30	4.80	21.7	35.4	12.9	29	54	10
Charlotte, NC	2.9	3.1	3.6	2.0	1.9	2.0	8	12	6	2.01	2.50	1.93	1.4	1.7	1.3	9	11	8
Cleveland, OH	7.5	7.9	7.6	8.6	6.1	8.3	55	46	46	2.07	1.86	2.24	2.5	2.8	2.4	86	169	19
Tulsa, OK	3.3	3.8	4.0	2.7	2.3	2.9	10	12	8	1.72	1.70	1.86	1.5	2.2	1.2	12	11	21
Portland, OR	7.2	6.0	8.7	7.5	7.0	4.9	12	13	7	2.96	2.87	2.96	2.4	2.4	2.0	50	38	43
Philadelphia, PA	5.5	5.2	6.3	2.5	2.7	2.3	15	19	11	4.59	4.98	4.44	6.8	8.3	7.9	30	64	12
Pittsburgh, PA	5.5	6.5	5.8	7.6	5.9	7.2	29	32	24	1.50	1.58	1.51	2.0	2.0	2.1	16	35	7
Providence, RI	2.5	2.1	2.9	1.2	1.2	1.1	10	12	7	7.75	8.48	4.84	4.9	6.0	2.7	43	72	17
Charleston, SC	2.4	3.4	2.2	1.9	1.6	1.9	11	13	8	3.90	4.34	3.42	2.1	2.1	2.2	68	45	52
Memphis, TN	3.3	2.9	3.5	2.1	1.8	2.1	13	15	11	1.22	1.29	1.30	0.4	0.5	0.4	9	11	5
Dallas, TX	3.1	3.4	2.9	1.5	1.6	1.5	9	10	7	1.20	1.06	1.51	0.6	0.6	0.4	7	6	7
El Paso, TX	6.8	9.0	5.8	3.7	5.0	3.0	16	18	15	1.55	1.44	1.86	0.4	0.5	0.4	43	97	21
Houston, TX	3.6	3.0	3.8	1.5	1.3	2.2	9	11	6	4.16	4.62	4.00	1.8	2.2	1.6	77	79	60
Salt Lake City, UT	5.0	7.5	5.2	3.0	4.3	2.3	9	20	4	1.59	1.54	1.94	1.2	1.6	1.0	45	134	25
Burlington, VT	2.4	2.8	3.0	1.8	1.8	1.8	8	11	5	1.93	2.60	1.80	1.8	2.5	2.0	13	30	7
Seattle, WA	3.5	4.1	3.9	3.8	4.2	4.2	10	13	8	4.44	2.81	7.02	2.1	1.4	3.1	42	57	17
Milwaukee, WI	4.4	3.8	5.5	7.5	7.2	8.0	17	18	16	1.43	1.48	1.49	1.9	2.0	2.2	17	40	7

Table A-7. Coefficients of Variation for Selected PM_{2.5} Constituents for Annual, Winter, and Summer: 49 STN Monitors, 2001-2005

CBSA	Se (%)			SO ₄ (%)			NO ₃ (%)			EC (%)			OC (%)			Br (%)		
	Annual	Winter	Summer	Annual	Winter	Summer	Annual	Winter	Summer	Annual	Winter	Summer	Annual	Winter	Summer	Annual	Winter	Summer
Birmingham, AL	53	50	46	65	48	56	83	67	45	78	89	69	52	63	40	116	87	99
Phoenix, AZ	42	53	33	47	44	34	133	78	41	81	60	43	51	49	27	55	54	58
Bakersfield, CA	42	44	32	53	72	40	128	78	55	66	65	47	47	45	38	60	68	47
Fresno, CA	67	80	61	52	68	38	118	81	65	80	60	53	84	77	44	64	67	57
Oxnard, CA	41	25	49	82	83	40	105	124	66	55	62	34	41	54	23	65	92	49
Riverside, CA	36	32	31	74	88	36	83	100	53	64	58	44	43	52	26	54	69	35
Sacramento, CA	30	23	30	60	61	45	139	87	55	99	79	53	87	79	43	86	79	64
San Diego, CA	32	27	37	71	92	38	84	93	46	70	55	40	54	47	32	57	59	51
San Jose, CA	46	56	31	66	98	45	106	103	63	89	74	79	65	63	33	71	79	61
Denver, CO	44	60	44	62	85	28	118	92	94	69	62	49	49	50	39	68	81	57
Washington, DC	104	70	138	78	48	66	102	71	70	57	57	45	47	51	42	63	69	47
Miami, FL	36	34	35	65	73	67	69	71	35	56	56	59	49	49	53	68	58	77
Tampa, FL	41	45	38	61	51	64	49	46	41	59	63	45	49	54	43	67	64	61
Atlanta, GA	70	67	73	67	50	54	91	65	37	71	74	68	41	49	35	55	56	45
Boise City, ID	34	39	34	124	118	59	164	103	65	68	62	60	53	59	40	85	91	61
Chicago, IL	80	87	69	79	61	76	89	67	87	73	78	66	46	52	32	60	56	64
Indianapolis, IN	63	64	55	84	56	73	90	56	70	55	56	51	45	50	37	67	67	63
Baton Rouge, LA	63	66	61	59	53	57	100	84	52	49	59	38	52	57	45	64	66	52
Baltimore, MD	70	56	78	80	51	70	95	69	77	66	62	48	66	52	75	77	86	55
Boston, MA	69	61	67	85	49	93	95	70	70	53	47	46	51	36	59	69	60	63
Springfield, MA	44	48	41	98	52	98	106	82	84	69	75	49	66	53	75	73	73	68
Detroit, MI	82	85	74	92	65	88	98	77	100	50	62	41	45	51	38	65	69	61
Minneapolis, MN	42	40	46	78	59	84	121	80	81	60	53	47	41	45	36	69	72	56
Gulfport, MS	53	49	38	67	48	63	85	79	64	60	62	46	54	56	50	70	75	55
Kansas City, MO	36	24	39	71	54	67	115	65	51	68	60	96	49	54	34	197	230	240
St. Louis, MO	67	85	55	82	63	73	105	64	88	55	58	41	41	46	33	97	90	64
Missoula, MT	30	26	30	65	71	39	151	100	137	83	62	128	111	57	159	65	77	62
Omaha, NE	42	36	44	77	68	72	116	71	65	101	164	44	43	40	33	60	60	50
Reno, NV	32	30	28	59	94	37	174	115	87	67	59	51	59	54	69	71	88	63

Table A-7. Continued

CBSA	Se (%)			SO ₄ (%)			NO ₃ (%)			EC (%)			OC (%)			Br (%)		
	Annual	Winter	Summer	Annual	Winter	Summer	Annual	Winter	Summer	Annual	Winter	Summer	Annual	Winter	Summer	Annual	Winter	Summer
Rockingham, NH	80	91	67	90	53	101	98	81	64	69	76	52	55	51	55	69	69	68
Edison, NJ	52	58	44	89	50	80	96	67	72	62	71	41	46	49	40	66	57	62
Newark, NJ	63	67	58	83	48	76	93	66	75	60	72	54	55	47	66	78	65	67
New York, NY	66	70	65	82	44	80	94	69	75	53	45	43	59	47	69	74	75	66
Charlotte, NC	62	67	59	65	51	52	96	69	62	58	53	49	39	41	34	70	69	86
Cleveland, OH	75	78	61	79	54	74	93	73	83	53	52	44	44	52	36	62	62	60
Tulsa, OK	96	81	86	68	62	59	129	80	51	50	50	41	44	40	33	78	80	56
Portland, OR	241	89	53	58	67	47	87	85	49	64	58	45	54	55	37	69	76	60
Philadelphia, PA	71	60	65	88	53	72	92	68	67	68	63	41	65	53	78	180	73	61
Pittsburgh, PA	174	108	99	83	44	70	88	55	61	52	59	42	45	52	38	63	55	56
Providence, RI	133	71	62	89	53	91	88	56	78	61	51	52	71	35	87	79	66	67
Charleston, SC	46	58	39	63	45	72	71	58	49	63	62	56	47	48	48	68	67	69
Memphis, TN	70	80	63	76	64	66	106	71	66	54	63	42	40	41	35	63	74	52
Dallas, TX	67	73	61	71	70	62	117	82	43	60	56	46	45	40	44	63	54	50
El Paso, TX	30	36	24	64	62	49	138	97	43	86	75	49	56	64	35	96	104	60
Houston, TX	51	57	44	64	57	66	94	82	44	58	59	50	64	61	73	64	52	61
Salt Lake City, UT	156	189	31	106	115	46	181	94	43	68	55	44	52	52	30	138	135	59
Burlington, VT	40	36	44	112	60	118	129	83	97	52	51	50	57	48	60	74	74	68
Seattle, WA	168	158	144	66	81	47	75	66	59	84	71	85	55	55	43	59	62	62
Milwaukee, WI	53	53	42	99	97	98	112	77	87	56	53	50	42	38	35	131	71	138

Table A-7. Continued

CBSA	Si (%)			Al (%)			Fe (%)			Ti (%)			Ca (%)			K (%)		
	Annual	Winter	Summer	Annual	Winter	Summer	Annual	Winter	Summer	Annual	Winter	Summer	Annual	Winter	Summer	Annual	Winter	Summer
Birmingham, AL	96	92	81	175	99	168	86	92	67	88	74	77	93	96	81	134	153	176
Phoenix, AZ	83	90	66	89	106	83	60	67	49	63	76	56	66	84	46	104	127	107
Bakersfield, CA	83	92	44	111	185	87	64	77	39	84	70	87	73	93	40	235	85	298
Fresno, CA	90	78	51	124	89	86	63	60	45	78	68	76	67	77	41	135	90	238
Oxnard, CA	86	112	67	120	112	123	53	59	41	65	72	49	118	70	43	68	70	76
Riverside, CA	78	75	55	112	104	106	64	62	47	83	66	106	97	82	57	269	91	337
Sacramento, CA	189	137	101	220	164	160	112	89	90	115	115	95	125	134	122	189	110	327
San Diego, CA	104	96	65	182	124	141	66	67	47	80	92	60	157	97	44	77	61	94
San Jose, CA	126	103	105	166	151	121	86	78	68	85	76	82	89	88	68	129	97	245
Denver, CO	77	74	66	108	115	93	66	63	55	83	69	78	80	72	70	144	64	182
Washington, DC	103	66	111	194	115	276	62	75	52	100	84	127	67	66	52	204	108	261
Miami, FL	184	72	100	217	289	118	76	62	65	137	206	90	59	78	48	687	622	191
Tampa, FL	162	68	122	257	108	176	111	57	103	148	89	125	71	73	74	308	175	382
Atlanta, GA	112	52	97	177	102	154	68	77	62	81	73	77	66	51	57	86	119	84
Boise City, ID	138	90	115	142	110	113	109	92	82	140	71	130	134	94	100	237	89	261
Chicago, IL	122	53	155	267	107	321	79	81	72	98	55	126	71	77	77	241	63	262
Indianapolis, IN	136	74	161	275	84	352	76	61	90	235	66	269	82	65	72	490	53	470
Baton Rouge, LA	108	60	95	218	166	183	77	68	75	142	274	100	109	99	74	167	222	179
Baltimore, MD	130	106	124	216	124	254	79	93	65	124	142	117	77	76	71	235	232	258
Boston, MA	113	72	112	181	90	203	52	52	50	75	59	86	73	56	61	118	44	155
Springfield, MA	93	85	95	125	91	81	78	84	74	65	68	55	68	69	56	79	57	108
Detroit, MI	89	49	99	174	87	201	63	82	55	100	158	95	63	53	61	140	49	165
Minneapolis, MN	112	103	101	194	104	237	70	82	67	130	77	155	104	137	84	357	51	386
Gulfport, MS	154	74	119	207	89	154	117	69	107	104	115	80	78	58	73	95	117	115
Kansas City, MO	145	72	165	275	85	301	102	130	88	113	84	126	77	62	61	106	75	126
St. Louis, MO	179	58	198	374	164	405	90	91	89	126	78	143	84	61	91	293	51	359
Missoula, MT	88	87	68	117	103	98	96	72	51	76	89	73	81	99	53	106	96	113
Omaha, NE	291	90	106	248	94	164	158	82	82	206	73	109	201	91	169	252	50	268
Reno, NV	73	84	44	113	107	84	70	74	42	150	189	112	65	74	40	73	72	84

Table A-7. Continued

CBSA	Si (%)			Al (%)			Fe (%)			Ti (%)			Ca (%)			K (%)		
	Annual	Winter	Summer	Annual	Winter	Summer	Annual	Winter	Summer	Annual	Winter	Summer	Annual	Winter	Summer	Annual	Winter	Summer
Rockingham, NH	103	75	117	168	108	207	77	81	73	101	87	113	97	98	61	216	139	289
Edison, NJ	114	71	132	161	70	201	77	74	104	79	60	87	78	77	67	129	81	172
Newark, NJ	100	78	118	220	107	222	68	70	73	77	68	78	80	97	80	134	69	180
New York, NY	102	60	110	154	177	183	62	84	44	75	75	71	72	73	53	92	51	133
Charlotte, NC	128	63	100	180	88	145	72	63	51	95	70	86	109	56	129	152	125	224
Cleveland, OH	95	70	114	178	73	232	83	85	71	90	99	86	91	81	72	87	63	112
Tulsa, OK	131	64	120	226	180	205	85	120	78	106	83	100	93	65	105	316	52	387
Portland, OR	114	81	100	197	91	157	94	129	75	155	79	115	76	74	66	215	94	352
Philadelphia, PA	118	68	132	177	111	204	71	86	54	80	71	85	79	68	55	135	72	180
Pittsburgh, PA	541	49	538	213	79	271	72	77	61	84	72	86	77	59	74	116	54	155
Providence, RI	137	78	86	250	95	129	86	53	48	100	68	75	91	45	76	142	45	185
Charleston, SC	166	74	126	225	124	177	84	70	85	114	106	98	125	67	62	297	379	87
Memphis, TN	106	53	106	174	105	154	58	66	52	109	90	119	58	67	55	185	59	270
Dallas, TX	179	70	146	314	181	217	96	59	108	153	78	138	69	63	75	91	52	108
El Paso, TX	147	210	95	188	272	122	96	108	72	137	196	88	93	106	72	111	118	105
Houston, TX	178	78	125	286	237	177	141	78	113	176	85	121	87	95	87	82	66	90
Salt Lake City, UT	114	77	64	151	110	106	62	59	39	130	68	183	88	74	53	359	69	388
Burlington, VT	100	71	99	150	133	159	86	70	95	101	63	70	83	65	75	77	62	102
Seattle, WA	99	85	66	212	130	240	77	88	70	90	103	98	63	68	65	202	84	312
Milwaukee, WI	123	76	159	218	58	272	80	84	77	94	62	108	79	100	78	252	56	303

Table A-7. Continued

CBSA	Cu (%)			Mn (%)			Zn (%)			V (%)			Ni (%)			Cl (%)		
	Annual	Winter	Summer	Annual	Winter	Summer	Annual	Winter	Summer	Annual	Winter	Summer	Annual	Winter	Summer	Annual	Winter	Summer
Birmingham, AL	122	99	73	141	140	146	163	150	143	127	201	89	168	169	166	280	275	259
Phoenix, AZ	88	78	64	66	76	62	82	77	61	65	74	50	457	109	167	165	111	126
Bakersfield, CA	136	177	100	75	88	58	155	154	131	81	75	109	164	223	78	236	153	358
Fresno, CA	108	75	131	79	65	66	138	107	127	101	67	133	248	267	261	260	173	345
Oxnard, CA	68	75	63	62	65	51	97	103	79	78	92	52	75	79	57	206	223	154
Riverside, CA	164	70	235	78	78	64	135	122	86	74	86	50	74	78	55	163	155	147
Sacramento, CA	170	119	251	103	77	77	151	148	101	83	83	97	569	503	549	286	187	321
San Diego, CA	86	79	72	107	80	76	85	71	78	72	83	66	93	84	109	213	153	160
San Jose, CA	113	88	174	103	101	78	114	95	78	89	86	109	252	339	164	166	187	165
Denver, CO	84	68	94	83	87	78	165	99	177	86	59	73	92	78	89	241	161	193
Washington, DC	129	89	171	81	96	86	67	74	50	94	110	92	107	130	91	336	255	150
Miami, FL	425	488	112	97	93	107	98	92	93	98	111	91	166	139	239	144	208	97
Tampa, FL	173	131	209	77	56	90	100	85	96	96	92	87	815	697	154	222	209	217
Atlanta, GA	100	90	94	82	73	92	76	63	65	82	93	94	64	57	63	166	154	134
Boise City, ID	212	112	246	89	60	66	106	96	102	79	51	96	85	102	73	366	277	510
Chicago, IL	118	90	133	102	101	92	99	83	99	180	62	237	114	114	135	376	226	578
Indianapolis, IN	173	102	193	78	73	84	65	67	64	127	72	186	191	87	230	321	207	529
Baton Rouge, LA	130	173	102	82	81	80	65	59	69	102	101	95	114	100	71	397	209	144
Baltimore, MD	188	170	208	108	111	127	135	144	91	90	97	87	97	93	107	488	370	228
Boston, MA	158	157	142	76	81	72	129	131	136	78	64	67	84	67	72	260	171	280
Springfield, MA	99	99	95	93	95	65	102	80	75	82	74	75	102	92	104	277	236	107
Detroit, MI	112	86	91	76	88	71	90	85	91	86	90	91	118	114	135	314	243	117
Minneapolis, MN	238	132	283	75	64	74	84	78	86	167	130	107	161	122	220	338	257	491
Gulfport, MS	129	89	154	92	76	90	114	95	152	116	142	132	236	96	280	269	225	227
Kansas City, MO	146	112	113	206	222	106	226	90	293	80	90	75	86	88	90	228	174	339
St. Louis, MO	114	117	106	145	136	151	100	96	83	111	87	137	173	130	133	302	198	140
Missoula, MT	137	102	127	101	99	68	151	107	92	127	161	93	267	121	58	387	248	280
Omaha, NE	149	107	181	181	112	81	143	108	181	74	67	80	425	132	334	270	181	405
Reno, NV	120	103	116	103	97	74	106	81	117	123	136	75	307	151	303	183	181	56

Table A-7. Continued

CBSA	Cu (%)			Mn (%)			Zn (%)			V (%)			Ni (%)			Cl (%)		
	Annual	Winter	Summer	Annual	Winter	Summer	Annual	Winter	Summer	Annual	Winter	Summer	Annual	Winter	Summer	Annual	Winter	Summer
Rockingham, NH	332	278	430	78	82	79	157	97	71	92	80	103	97	86	87	287	259	211
Edison, NJ	148	208	113	121	116	120	140	107	111	87	97	68	152	115	227	312	254	95
Newark, NJ	95	94	92	89	83	85	373	89	72	107	94	95	127	112	165	262	183	130
New York, NY	91	107	72	88	97	83	68	49	51	69	55	67	90	42	168	300	226	121
Charlotte, NC	116	100	135	71	63	74	84	61	68	101	113	122	93	94	85	104	119	85
Cleveland, OH	88	96	59	88	100	77	108	116	97	78	62	86	111	82	155	253	184	164
Tulsa, OK	178	135	240	82	87	72	118	111	90	80	71	86	277	386	73	692	129	781
Portland, OR	120	122	141	178	217	119	105	124	75	104	110	119	114	113	129	235	271	284
Philadelphia, PA	90	93	98	75	76	77	86	83	79	107	111	77	248	160	386	287	235	142
Pittsburgh, PA	100	143	68	102	114	73	81	94	67	58	64	58	110	81	96	257	213	134
Providence, RI	92	86	102	89	71	77	122	60	60	183	136	88	188	118	85	275	224	246
Charleston, SC	141	165	108	80	71	77	136	115	164	89	105	76	92	96	86	295	316	192
Memphis, TN	148	121	168	71	85	75	63	63	59	102	98	110	88	74	71	273	143	125
Dallas, TX	78	70	84	90	89	95	60	56	62	83	84	88	140	82	66	186	122	135
El Paso, TX	93	95	90	152	155	147	123	105	110	96	98	92	109	169	60	231	185	140
Houston, TX	148	92	97	99	81	102	117	100	98	70	83	60	141	155	141	312	382	245
Salt Lake City, UT	127	84	187	86	81	70	118	75	99	132	77	195	101	98	74	347	182	658
Burlington, VT	105	108	95	63	63	66	97	73	116	76	78	66	110	91	134	251	198	100
Seattle, WA	120	105	161	126	148	121	76	78	55	131	147	98	137	144	118	283	281	390
Milwaukee, WI	145	105	125	125	125	118	106	103	91	57	56	60	212	150	304	295	237	91

Table A-8. Coefficients of Determination for Selected PM_{2.5} Constituents with PM_{2.5} for Annual, Winter, and Summer: 49 STN Monitors, 2001-2005

CBSA	Se (%)			SO ₄ (%)			NO ₃ (%)			EC (%)			OC (%)			Br (%)		
	Annual	Winter	Summer	Annual	Winter	Summer	Annual	Winter	Summer	Annual	Winter	Summer	Annual	Winter	Summer	Annual	Winter	Summer
Birmingham, AL	14.4	15.7	17.1	57.3	35.3	78.9	1.5	15.1	10.6	44.2	54.9	25.1	66.6	69.6	67.5	28.3	56.2	37.1
Phoenix, AZ	0.3	0.6	0.0	1.0	12.0	20.8	31.4	52.0	29.0	46.3	70.0	14.5	51.5	71.9	22.8	28.1	47.5	32.7
Bakersfield, CA	4.7	3.5	0.5	23.2	55.6	44.6	62.3	89.4	31.2	56.1	39.9	41.5	66.4	58.0	53.6	49.7	65.9	60.6
Fresno, CA	5.9	11.4	1.4	12.6	44.1	60.0	76.7	80.1	43.7	73.7	61.7	60.1	78.6	65.2	69.9	44.2	52.8	52.0
Oxnard, CA	0.2	1.0	11.1	60.0	59.7	60.0	72.7	77.4	59.1	20.3	62.4	4.9	54.1	69.9	24.9	53.4	45.0	41.2
Riverside, CA	2.6	2.1	0.3	49.3	58.4	56.3	87.5	88.8	85.0	15.2	48.4	0.4	51.5	77.1	6.3	63.0	76.8	26.9
Sacramento, CA	0.8	1.1	0.8	0.9	27.0	22.1	46.7	52.6	17.9	55.0	62.3	17.9	71.0	73.0	43.2	36.5	41.2	22.4
San Diego, CA	0.8	5.3	0.9	15.4	27.4	51.4	62.1	77.9	31.0	37.3	47.4	20.1	40.3	64.5	23.4	34.9	47.9	17.5
San Jose, CA	1.6	4.1	2.2	21.5	51.3	47.2	77.6	82.9	73.4	60.9	79.8	37.1	71.3	85.1	54.9	49.6	66.2	27.0
Denver, CO	1.2	3.8	7.0	21.8	26.2	7.0	19.0	53.7	0.4	34.7	32.1	27.5	48.7	41.2	50.1	15.2	10.0	19.6
Washington, DC	31.2	50.1	22.8	68.9	50.6	77.6	6.7	66.6	8.1	30.8	60.0	22.0	63.1	73.2	61.4	44.7	69.2	53.1
Miami, FL	0.1	0.2	0.5	48.8	53.7	39.4	43.5	69.6	35.9	18.5	44.0	8.7	43.8	77.9	21.2	26.2	36.1	16.9
Tampa, FL	0.0	0.1	0.0	46.2	25.2	51.3	20.4	32.3	24.0	14.8	30.2	14.9	31.6	43.4	19.6	19.6	21.9	10.2
Atlanta, GA	12.3	14.1	25.4	61.5	24.4	81.4	0.3	15.3	6.7	29.9	37.0	25.6	58.4	50.9	58.5	24.0	53.4	58.3
Boise City, ID	0.5	0.3	0.4	49.6	76.6	39.7	50.6	87.7	24.6	51.9	44.3	39.7	60.1	52.1	68.4	27.2	32.5	22.2
Chicago, IL	43.3	42.7	42.8	69.8	61.5	82.8	31.0	85.1	29.1	24.5	40.5	15.1	43.6	56.6	52.9	51.1	47.6	56.9
Indianapolis, IN	9.8	8.6	12.4	70.1	45.3	91.1	8.8	79.2	17.7	29.8	35.4	36.0	43.5	53.2	49.7	25.2	22.8	26.4
Baton Rouge, LA	20.1	15.8	18.4	69.5	44.8	89.3	5.5	39.9	5.2	11.0	27.5	1.3	62.4	41.6	78.3	20.5	44.3	27.0
Baltimore, MD	27.9	25.1	23.0	61.4	48.0	63.0	13.5	55.0	16.3	27.1	53.3	24.6	58.9	71.0	52.7	45.1	62.6	35.6
Boston, MA	11.8	12.0	18.9	60.6	52.1	61.4	38.0	55.6	24.1	21.6	30.7	12.3	47.1	48.8	47.9	34.7	25.7	45.6
Springfield, MA	0.2	3.2	0.1	59.8	69.3	66.1	39.0	67.7	41.8	33.7	51.6	19.8	49.4	55.2	51.4	30.8	48.0	26.0
Detroit, MI	28.4	29.3	26.3	68.2	49.3	85.2	37.9	75.8	41.3	18.3	27.2	16.9	44.7	49.4	49.6	40.4	30.2	40.0
Minneapolis, MN	0.0	1.5	0.0	54.0	35.9	60.5	34.5	75.0	22.4	15.1	12.2	11.1	29.2	20.6	38.8	9.0	1.2	3.7
Gulfport, MS	0.0	0.8	0.6	61.6	33.9	78.2	2.4	31.6	0.4	13.2	36.2	6.2	43.0	38.8	61.2	18.1	31.3	15.6
Kansas City, MO	0.0	0.6	0.0	47.4	43.1	56.1	15.7	60.8	15.6	19.7	29.2	12.6	37.6	42.1	38.9	19.3	23.6	12.0
St. Louis, MO	9.6	11.7	10.0	67.7	61.2	88.0	15.5	74.8	26.3	26.2	33.4	31.2	38.4	37.2	54.2	33.7	39.4	27.1
Missoula, MT	1.3	4.1	4.4	42.4	69.1	32.3	50.8	78.5	39.9	58.3	71.6	38.1	78.4	87.2	80.8	10.6	25.3	16.3
Omaha, NE	0.4	5.9	0.6	57.2	39.6	79.2	21.1	86.3	15.6	9.7	7.1	10.6	23.7	16.6	45.3	16.9	15.3	12.9
Reno, NV	0.5	0.0	1.5	11.5	51.9	26.4	43.0	89.9	21.6	53.1	72.8	32.7	71.3	81.3	64.9	20.8	31.3	23.6

Table A-8. Continued

CBSA	Se (%)			SO ₄ (%)			NO ₃ (%)			EC (%)			OC (%)			Br (%)		
	Annual	Winter	Summer	Annual	Winter	Summer	Annual	Winter	Summer	Annual	Winter	Summer	Annual	Winter	Summer	Annual	Winter	Summer
Rockingham, NH	16.0	14.2	22.9	71.6	61.5	80.9	39.6	61.6	30.3	32.0	44.1	29.2	57.7	64.8	60.0	42.3	34.9	62.9
Edison, NJ	6.2	7.0	11.7	73.9	64.2	82.6	27.9	68.7	30.7	17.7	41.3	9.0	52.2	47.2	39.5	40.1	38.9	52.1
Newark, NJ	6.1	14.7	3.9	73.7	69.3	77.6	42.4	74.8	40.8	38.8	51.1	18.5	64.1	75.3	46.0	39.4	57.7	46.0
New York, NY	7.1	16.7	8.0	79.9	80.3	81.5	48.3	85.3	36.9	34.4	37.4	44.6	64.9	77.9	53.8	43.5	47.9	40.4
Charlotte, NC	3.8	14.4	8.4	68.6	45.9	89.2	2.8	60.8	3.7	11.2	26.4	31.2	52.0	44.2	64.9	24.1	42.4	39.3
Cleveland, OH	18.2	4.0	34.4	66.9	52.3	84.5	25.5	71.5	30.3	29.0	32.4	14.7	60.8	60.4	60.8	51.5	44.7	55.7
Tulsa, OK	0.5	4.2	1.0	65.7	46.2	83.1	7.8	70.1	4.0	11.4	11.8	9.2	46.2	21.7	55.6	20.3	21.7	13.7
Portland, OR	0.6	2.9	0.0	43.1	62.9	56.0	59.5	60.6	39.9	49.6	55.4	15.0	70.7	64.0	62.7	19.2	27.9	14.7
Philadelphia, PA	8.5	14.7	9.4	70.2	69.4	83.3	40.9	78.0	31.1	35.8	54.1	26.5	55.9	70.5	44.1	39.5	57.6	29.9
Pittsburgh, PA	23.7	24.6	23.8	77.9	56.1	89.5	1.7	58.7	13.3	43.6	57.6	42.8	62.0	69.9	53.1	27.3	66.1	41.1
Providence, RI	7.4	18.2	6.6	73.7	69.3	77.3	39.3	71.1	31.4	31.9	47.2	18.5	54.2	59.7	62.1	42.3	28.9	58.7
Charleston, SC	4.6	7.8	2.5	70.6	36.5	90.4	16.4	52.6	18.9	13.3	46.2	4.5	50.6	62.4	62.2	27.2	41.7	28.8
Memphis, TN	12.8	9.5	16.7	61.3	38.1	85.8	1.9	49.1	2.9	21.9	13.3	18.8	45.4	23.7	58.8	25.9	29.7	34.2
Dallas, TX	18.0	28.5	19.7	60.4	41.3	69.1	8.1	67.5	8.6	9.4	14.3	10.0	48.1	48.0	48.6	36.6	51.7	25.3
El Paso, TX	3.3	1.6	2.6	7.3	18.0	25.5	10.5	44.7	1.4	21.5	56.8	4.7	42.9	69.4	29.4	47.8	45.2	36.2
Houston, TX	10.5	16.3	10.0	33.0	33.3	32.3	6.7	27.2	9.2	8.4	14.6	7.0	19.0	17.6	17.0	15.1	30.5	20.8
Salt Lake City, UT	1.6	8.8	0.8	35.8	69.1	20.9	33.1	91.8	6.0	42.2	58.9	13.3	53.0	78.3	50.8	28.0	61.3	31.1
Burlington, VT	0.5	1.3	2.2	70.4	67.1	79.0	35.9	88.0	28.2	31.7	44.1	18.4	48.8	66.5	55.6	20.2	13.0	26.8
Seattle, WA	6.3	19.3	3.6	54.6	75.5	60.2	63.0	73.4	51.8	53.5	60.8	46.8	75.7	78.8	69.3	62.6	61.5	71.1
Milwaukee, WI	3.8	6.3	3.1	68.1	62.2	82.8	51.7	87.1	48.2	32.5	29.1	35.5	39.0	43.1	45.3	31.1	28.9	34.7

Table A-8. Continued

CBSA	Si (%)			Al (%)			Fe (%)			Ti (%)			Ca (%)			K (%)		
	Annual	Winter	Summer	Annual	Winter	Summer	Annual	Winter	Summer	Annual	Winter	Summer	Annual	Winter	Summer	Annual	Winter	Summer
Birmingham, AL	39.8	41.3	4.8	6.4	5.6	0.6	37.6	46.4	12.1	28.3	21.3	2.5	38.4	35.5	18.6	41.6	59.8	19.4
Phoenix, AZ	8.9	18.1	39.7	8.5	13.1	15.6	35.9	36.4	37.6	27.0	28.0	40.7	12.0	21.1	44.6	46.8	67.2	53.1
Bakersfield, CA	2.9	4.0	12.8	0.8	0.2	5.1	4.5	14.1	19.0	0.0	2.8	20.2	1.7	0.7	12.9	29.4	31.4	19.9
Fresno, CA	0.3	28.5	36.7	0.6	2.2	17.6	20.6	49.0	50.2	1.6	11.6	25.2	0.4	22.4	30.9	59.0	58.6	41.8
Oxnard, CA	3.5	8.4	5.3	0.3	0.1	1.5	16.8	32.5	1.7	11.8	19.3	5.7	4.6	11.4	6.2	21.7	61.3	0.4
Riverside, CA	1.7	4.2	9.6	0.0	0.0	2.6	9.3	26.2	8.4	7.7	16.8	1.0	1.1	5.4	12.9	15.7	46.7	0.1
Sacramento, CA	0.2	10.1	10.4	0.0	0.0	4.3	18.3	31.1	12.7	2.6	19.0	7.5	0.2	10.0	8.6	61.0	68.2	29.7
San Diego, CA	14.0	17.5	16.6	2.5	2.9	0.5	28.4	28.1	15.1	15.6	14.1	8.1	10.1	17.8	19.5	24.3	55.8	22.2
San Jose, CA	17.7	27.8	14.7	5.9	5.7	5.7	48.4	58.0	30.0	21.6	26.3	15.0	17.4	21.7	38.8	64.6	73.0	72.6
Denver, CO	7.3	4.0	28.1	2.9	0.8	11.1	21.8	16.3	40.7	7.3	5.6	22.1	11.6	8.0	33.6	25.4	18.5	49.6
Washington, DC	15.1	17.7	9.7	0.4	3.6	0.6	35.8	59.4	24.3	20.4	25.8	9.3	25.0	37.0	21.5	41.2	69.7	25.2
Miami, FL	6.2	24.7	32.2	3.0	2.2	27.9	17.4	30.2	49.3	13.1	21.7	35.7	27.8	30.4	55.6	38.7	52.7	53.3
Tampa, FL	2.3	3.8	9.4	0.2	0.0	3.5	10.1	14.2	12.6	2.4	1.6	8.9	7.5	7.9	15.2	21.2	31.4	25.6
Atlanta, GA	19.0	16.0	2.6	3.0	19.8	2.2	28.8	33.7	13.2	19.5	25.2	3.4	16.9	16.6	12.8	24.2	63.4	13.4
Boise City, ID	2.9	4.1	35.6	1.9	0.4	18.1	10.8	18.0	34.6	1.9	1.2	18.4	3.2	12.5	31.1	48.1	53.4	55.0
Chicago, IL	18.7	13.4	33.4	0.2	0.5	3.4	22.8	28.3	24.5	8.4	13.1	12.8	10.0	8.3	19.2	39.0	47.1	30.4
Indianapolis, IN	10.7	14.2	16.1	1.5	0.5	3.8	35.9	36.9	46.6	9.5	3.2	9.8	16.1	9.8	24.2	28.2	42.5	21.2
Baton Rouge, LA	7.5	26.3	0.4	0.2	0.9	1.7	7.9	31.0	0.6	1.3	7.3	1.5	9.1	13.4	18.9	21.4	45.0	13.7
Baltimore, MD	16.7	26.5	24.4	0.8	0.2	1.2	36.1	52.6	30.3	18.7	25.2	11.9	27.0	48.7	25.7	32.5	57.5	24.7
Boston, MA	11.7	1.7	10.4	1.0	4.2	0.1	21.2	16.0	11.1	7.1	4.1	9.7	16.4	13.3	5.5	37.0	34.5	24.3
Springfield, MA	12.8	20.7	4.0	0.1	1.1	5.8	30.8	43.1	35.8	6.0	6.7	1.7	28.8	37.8	29.2	37.5	67.7	21.3
Detroit, MI	20.9	18.9	32.3	0.8	1.7	0.0	12.8	18.4	10.0	10.3	14.0	12.3	15.5	19.3	17.5	33.0	49.8	12.7
Minneapolis, MN	4.9	3.7	23.8	0.2	0.4	1.5	6.0	5.0	13.8	5.5	0.5	18.2	4.3	1.3	21.3	18.5	10.3	19.0
Gulfport, MS	3.6	6.9	2.0	0.2	0.4	7.4	7.4	19.8	0.3	2.0	7.6	0.5	2.3	9.4	0.0	26.4	42.1	10.0
Kansas City, MO	3.4	7.5	12.4	0.0	0.1	0.3	10.6	13.1	20.5	6.2	1.6	24.7	6.7	3.9	30.0	18.3	29.3	15.1
St. Louis, MO	7.7	4.9	12.0	0.5	0.2	0.0	7.3	8.6	13.9	9.6	10.7	13.0	12.1	4.4	25.6	29.4	34.9	21.2
Missoula, MT	6.9	9.6	38.8	3.9	0.2	19.1	31.2	40.6	50.4	2.3	4.3	11.5	40.8	53.9	45.8	58.1	65.2	54.5
Omaha, NE	0.4	3.4	4.5	0.4	5.4	1.4	0.0	0.0	7.6	2.3	1.1	20.6	0.1	0.6	6.2	9.7	21.1	11.0
Reno, NV	15.5	27.5	23.4	7.1	11.4	10.9	34.2	48.2	22.1	17.3	41.6	8.8	16.6	32.2	13.2	53.4	61.8	41.7

Table A-8. Continued

CBSA	Si (%)			Al (%)			Fe (%)			Ti (%)			Ca (%)			K (%)		
	Annual	Winter	Summer	Annual	Winter	Summer	Annual	Winter	Summer	Annual	Winter	Summer	Annual	Winter	Summer	Annual	Winter	Summer
Rockingham, NH	18.6	20.1	13.3	3.1	3.1	0.6	38.7	41.3	36.3	23.1	17.1	22.2	13.9	15.3	14.9	54.8	61.6	47.0
Edison, NJ	13.0	24.1	15.4	1.8	2.7	0.0	26.1	45.1	19.5	11.7	10.1	12.8	20.8	34.9	20.8	42.5	59.9	35.3
Newark, NJ	24.7	26.6	21.9	3.0	2.0	8.4	39.0	50.2	17.6	14.5	19.0	9.9	32.5	31.8	14.9	44.5	63.3	35.3
New York, NY	19.6	30.7	15.8	1.5	0.9	3.6	43.3	56.9	44.2	13.9	26.6	18.3	18.4	17.6	37.3	46.9	52.0	45.6
Charlotte, NC	6.4	11.0	0.5	0.8	0.0	0.1	17.6	15.4	14.4	7.7	2.9	1.7	11.8	5.1	19.3	27.3	51.8	22.4
Cleveland, OH	24.3	16.5	30.6	4.3	7.0	0.1	35.7	35.4	28.8	17.3	17.8	13.3	28.7	29.1	30.1	31.5	25.7	26.4
Tulsa, OK	9.2	5.3	2.0	1.4	0.0	0.0	9.8	3.2	9.8	7.9	0.2	3.2	8.7	2.2	10.2	37.8	28.2	22.8
Portland, OR	6.7	27.9	12.3	0.6	0.2	3.5	22.3	36.3	16.1	4.1	14.0	23.0	9.7	27.9	21.9	62.3	65.4	47.4
Philadelphia, PA	16.0	25.0	12.7	1.1	2.0	2.7	34.6	49.2	36.2	12.1	12.0	15.2	16.9	28.2	23.1	46.8	63.3	31.9
Pittsburgh, PA	27.9	24.4	24.4	0.9	5.3	0.0	35.9	42.1	28.4	24.9	18.9	25.6	34.0	39.9	38.0	35.3	65.4	18.5
Providence, RI	10.7	1.6	11.5	0.7	0.0	3.8	26.1	26.8	21.1	5.9	0.1	1.7	24.4	7.2	19.5	42.2	47.0	25.0
Charleston, SC	2.2	6.0	0.0	1.1	3.7	0.6	13.8	30.6	1.0	2.8	5.3	0.1	2.7	7.0	0.4	33.8	61.1	21.4
Memphis, TN	4.3	3.7	0.2	0.2	3.4	3.8	19.3	15.6	12.5	12.4	15.9	0.6	12.5	9.0	13.7	7.6	9.0	5.3
Dallas, TX	10.0	4.0	7.2	0.0	0.5	0.4	10.1	5.2	12.0	4.0	2.2	1.0	7.5	0.2	15.8	35.4	26.6	30.3
El Paso, TX	28.1	32.1	38.2	7.5	7.3	33.2	48.7	60.8	35.7	25.4	27.0	17.6	50.3	54.3	42.3	54.0	62.0	51.3
Houston, TX	12.6	4.5	13.0	1.1	0.0	0.8	13.9	7.6	12.8	5.1	1.1	6.3	12.0	6.6	17.3	23.6	20.9	25.4
Salt Lake City, UT	1.6	37.5	8.3	0.9	13.0	3.0	30.0	48.7	9.2	3.9	23.8	2.7	2.2	18.1	14.7	33.4	40.8	43.1
Burlington, VT	15.3	24.0	14.9	2.8	9.5	0.2	30.9	43.3	32.9	5.3	3.2	9.6	23.3	27.2	23.2	55.9	61.4	47.9
Seattle, WA	38.0	55.1	52.5	9.5	8.8	19.5	49.6	56.2	47.0	30.7	42.5	33.4	31.8	30.2	61.8	68.5	78.9	51.2
Milwaukee, WI	15.1	13.8	24.1	1.3	0.7	2.1	29.1	23.2	37.5	8.8	2.9	16.5	23.4	12.9	40.9	47.4	39.9	45.9

Table A-8. Continued

CBSA	Cu (%)			Mn (%)			Zn (%)			V (%)			Ni (%)			Cl (%)		
	Annual	Winter	Summer	Annual	Winter	Summer	Annual	Winter	Summer	Annual	Winter	Summer	Annual	Winter	Summer	Annual	Winter	Summer
Birmingham, AL	18.0	18.6	8.9	25.9	31.9	11.5	20.4	32.0	7.2	3.3	3.2	0.1	0.1	3.8	0.0	1.5	19.6	0.6
Phoenix, AZ	32.6	46.4	3.1	22.4	27.9	25.8	36.7	50.8	8.4	23.3	33.2	13.2	0.7	0.0	0.7	8.7	49.9	4.5
Bakersfield, CA	1.9	8.3	3.9	2.7	9.7	5.2	44.1	49.4	13.8	0.1	0.3	1.8	0.6	6.0	0.3	14.4	19.7	0.2
Fresno, CA	12.7	6.3	19.8	5.0	5.0	13.4	55.2	63.2	16.2	2.6	0.1	1.8	0.1	8.1	0.6	24.3	33.8	1.3
Oxnard, CA	4.9	10.7	0.2	3.3	11.1	0.1	17.9	35.2	2.9	43.2	24.3	19.1	27.6	9.4	14.7	5.2	13.7	7.2
Riverside, CA	8.0	30.5	2.6	6.5	6.0	0.2	11.1	20.2	0.5	38.0	42.4	3.1	27.1	16.5	2.5	19.9	45.1	22.5
Sacramento, CA	15.4	8.4	2.5	1.1	0.4	2.0	38.8	56.0	3.5	0.0	0.4	0.7	0.1	0.6	0.7	5.7	25.1	0.1
San Diego, CA	5.5	3.7	2.1	11.1	7.4	0.2	41.8	40.2	22.4	21.7	24.2	13.9	14.7	7.3	10.2	0.1	4.8	0.0
San Jose, CA	27.0	36.4	8.5	9.2	9.9	1.6	42.8	56.6	22.0	12.2	16.1	0.4	3.5	2.9	1.2	0.0	0.4	16.0
Denver, CO	11.0	14.7	2.8	10.6	5.3	18.2	21.9	31.6	15.1	0.2	0.0	0.1	0.3	7.5	0.2	10.1	15.2	5.1
Washington, DC	23.2	49.0	10.5	10.9	14.9	9.6	34.9	63.3	31.6	23.2	29.7	5.6	12.9	36.1	3.2	2.0	12.2	1.0
Miami, FL	3.5	11.9	1.4	3.1	6.4	14.3	27.7	49.3	10.6	4.4	4.1	5.4	0.7	1.4	0.0	18.5	34.3	0.9
Tampa, FL	2.4	4.6	1.0	1.9	0.7	9.9	15.8	28.9	9.7	3.7	2.1	19.0	2.2	1.6	6.7	5.5	2.2	1.1
Atlanta, GA	8.4	15.4	2.7	11.0	16.5	4.9	22.5	50.0	41.2	8.8	5.5	5.4	0.2	1.6	1.2	1.0	6.5	0.9
Boise City, ID	0.6	0.8	0.5	4.4	0.7	9.0	31.0	45.1	6.9	0.4	4.5	0.5	0.2	0.2	1.4	8.6	10.2	1.4
Chicago, IL	7.9	8.4	5.1	11.9	27.2	7.9	22.6	43.2	8.8	8.5	13.7	5.3	2.6	2.0	2.0	6.5	11.9	3.4
Indianapolis, IN	3.3	3.6	0.7	10.8	8.6	14.7	34.8	55.0	23.8	0.4	0.1	0.1	2.5	1.8	2.1	1.2	2.8	0.7
Baton Rouge, LA	3.2	14.7	0.3	4.1	10.5	2.8	21.1	46.5	22.2	0.9	0.0	0.0	1.1	1.8	0.0	0.0	2.6	4.9
Baltimore, MD	16.5	24.1	11.4	20.8	35.8	14.1	30.0	38.9	28.7	21.0	29.7	11.2	15.2	20.1	5.8	2.1	24.2	1.6
Boston, MA	9.0	10.0	1.7	8.6	5.0	15.9	14.8	13.3	16.1	19.8	24.0	15.3	12.4	25.5	13.0	0.0	1.1	2.4
Springfield, MA	8.6	16.6	4.6	5.7	16.8	5.4	33.2	67.9	36.7	24.3	43.3	18.8	22.1	40.1	27.1	4.7	25.0	2.5
Detroit, MI	5.6	15.4	5.0	9.3	14.8	9.8	18.8	38.9	11.7	6.4	4.8	7.1	7.0	9.8	3.9	3.8	7.1	0.9
Minneapolis, MN	4.8	6.6	5.1	0.2	0.0	4.2	17.2	16.2	9.5	0.7	0.8	0.4	1.1	2.3	0.3	3.5	0.4	2.6
Gulfport, MS	2.2	2.5	4.2	1.5	3.8	0.5	19.2	32.0	19.1	0.8	0.0	0.0	0.5	0.0	3.1	3.0	5.3	13.6
Kansas City, MO	3.0	4.6	0.5	2.6	5.8	7.1	17.0	22.2	9.0	0.7	1.4	0.0	1.4	0.5	5.5	4.1	5.5	3.7
St. Louis, MO	8.1	14.0	6.3	2.8	4.3	5.9	22.0	35.7	16.4	5.3	4.5	1.5	1.3	2.9	0.6	2.5	19.2	0.8
Missoula, MT	5.1	14.6	0.3	28.6	52.2	17.4	51.6	80.1	37.6	1.3	3.5	0.8	0.2	0.0	0.0	11.7	41.1	2.6
Omaha, NE	0.3	2.3	0.1	0.3	0.4	0.9	5.1	22.6	0.0	0.0	6.3	0.6	0.2	1.8	4.2	2.6	2.0	0.2
Reno, NV	9.1	21.2	2.3	11.9	6.4	8.6	30.7	62.1	7.4	0.5	5.2	0.6	0.7	5.4	0.4	8.0	12.1	6.2

Table A-8. Continued

CBSA	Cu (%)			Mn (%)			Zn (%)			V (%)			Ni (%)			Cl (%)		
	Annual	Winter	Summer	Annual	Winter	Summer	Annual	Winter	Summer	Annual	Winter	Summer	Annual	Winter	Summer	Annual	Winter	Summer
Rockingham, NH	11.8	21.0	6.4	8.8	10.6	17.4	14.8	30.1	47.3	27.8	27.6	27.0	30.3	29.8	40.6	4.8	0.3	16.4
Edison, NJ	10.4	21.0	6.9	8.9	14.6	3.6	27.3	55.5	18.4	19.2	27.1	13.0	11.4	23.8	2.1	2.8	4.8	0.3
Newark, NJ	16.7	28.4	3.4	14.3	20.6	10.4	46.9	67.5	26.2	22.7	20.2	5.8	21.1	26.2	3.6	4.8	10.5	0.8
New York, NY	19.1	21.6	14.0	9.1	15.8	14.2	16.5	40.7	35.3	31.2	40.3	25.5	8.1	24.2	11.6	4.7	8.2	1.5
Charlotte, NC	3.4	0.7	4.8	1.6	4.8	2.0	17.4	38.9	36.9	3.6	7.5	1.4	0.2	3.7	2.1	0.2	6.2	0.2
Cleveland, OH	13.8	10.7	9.3	34.4	38.0	29.4	33.5	34.5	30.1	1.6	0.0	4.4	3.3	0.3	10.8	4.7	23.8	1.5
Tulsa, OK	0.6	0.8	1.9	1.9	0.6	0.7	10.8	16.0	8.4	1.1	1.5	1.1	0.4	3.0	1.2	2.3	4.5	0.3
Portland, OR	9.8	24.0	8.1	8.8	17.3	0.6	44.6	50.1	19.0	15.9	24.4	19.7	9.0	21.1	0.0	0.1	2.1	0.6
Philadelphia, PA	10.2	20.4	1.8	8.2	11.8	7.3	31.7	54.7	24.9	37.3	42.8	20.9	26.8	31.3	16.4	2.6	11.0	2.0
Pittsburgh, PA	21.8	28.6	17.9	19.9	24.9	9.6	21.9	51.3	16.3	4.1	4.4	1.8	9.9	13.6	9.1	0.8	12.0	0.1
Providence, RI	15.6	14.1	12.6	6.3	4.8	6.2	37.8	52.1	32.5	20.0	21.8	22.8	17.1	21.0	19.8	1.6	11.2	0.1
Charleston, SC	1.7	10.5	0.0	3.2	6.9	0.8	13.2	18.0	19.2	5.5	3.7	2.3	4.7	9.9	2.2	11.8	0.2	24.3
Memphis, TN	6.5	5.8	7.8	11.2	5.9	13.4	24.8	32.7	35.4	3.0	2.0	0.6	0.0	0.2	0.7	0.4	0.1	1.3
Dallas, TX	1.5	7.4	2.9	3.6	7.8	1.9	21.6	42.2	16.9	7.8	6.2	4.1	0.7	6.6	0.0	2.2	6.2	6.6
El Paso, TX	14.7	27.8	2.1	4.5	15.3	1.1	22.9	30.3	5.0	7.1	23.6	0.5	0.1	3.2	1.8	23.9	41.0	3.4
Houston, TX	5.6	3.3	7.0	6.9	9.4	7.7	9.7	10.7	24.3	11.7	32.5	12.3	4.4	25.7	1.8	0.6	3.7	3.2
Salt Lake City, UT	17.5	35.1	0.1	23.1	45.2	4.8	44.9	70.7	11.6	0.5	0.2	4.1	1.1	6.5	5.9	16.6	47.4	4.2
Burlington, VT	3.5	5.4	2.2	4.7	1.1	12.2	40.5	70.2	38.2	12.1	22.7	9.5	12.8	21.8	9.7	1.8	0.2	7.6
Seattle, WA	36.2	45.5	34.9	18.2	28.1	12.9	60.3	65.7	52.1	35.5	47.0	47.0	26.6	26.3	50.2	0.0	0.4	0.1
Milwaukee, WI	16.4	8.6	16.1	17.5	16.7	15.8	42.8	46.4	40.5	1.2	0.5	0.7	4.0	0.5	4.1	3.8	4.0	0.3

Table A-9. Coefficients of Determination for Within-Source PM_{2.5} Constituents for All Days: 49 STN Monitors, 2001-2005

City	Se/SO ₄	NO ₃ /EC	NO ₃ /OC	EC/OC	Mn/Ni	Mn/V	Ni/V	K/Br	Si/Al	Si/Ti	Si/Ca	Al/Ti	Al/Ca	Ti/Ca	Fe/Zn	Fe/Cu	Zn/Cu	Na/Cl
Birmingham, AL	9.1	6.1	7.0	60.7	0.8	0.9	2.3	32.4	20.5	52.8	62.0	17.7	13.7	42.7	62.8	43.3	36.6	1.2
Phoenix, AZ	0.3	34.5	28.0	68.6	2.2	22.6	0.0	42.9	58.3	69.7	91.1	53.0	53.9	72.9	43.1	39.5	45.7	11.2
Bakersfield, CA	1.1	37.6	34.5	72.8	0.3	4.0	1.0	37.2	52.4	66.3	84.6	45.9	41.6	61.6	10.8	11.5	1.7	1.3
Fresno, CA	3.5	57.9	53.0	76.2	0.8	0.0	0.4	37.9	53.9	55.7	70.6	41.8	39.0	51.3	10.9	17.0	11.7	0.3
Oxnard, CA	0.3	13.5	31.9	57.2	2.5	0.1	24.5	20.3	19.8	22.9	63.6	9.2	17.5	33.0	31.3	20.3	15.4	12.4
Riverside, CA	2.2	6.5	36.8	51.9	2.8	7.1	39.1	30.4	43.0	62.9	72.8	36.4	30.9	54.5	54.3	31.2	24.5	0.8
Sacramento, CA	0.0	27.2	25.5	70.7	3.4	4.4	3.0	26.2	26.9	35.7	58.0	19.5	21.6	36.0	20.1	23.1	17.3	7.8
San Diego, CA	0.1	12.2	11.3	68.2	7.8	5.1	18.8	11.9	20.4	40.2	53.0	11.3	16.4	39.6	37.6	13.9	9.9	5.6
San Jose, CA	1.0	34.8	45.9	65.6	10.4	0.5	0.0	37.9	17.0	47.0	68.5	17.3	14.6	45.5	50.2	40.2	37.3	31.1
Denver, CO	0.4	2.8	3.9	57.1	1.1	2.3	4.6	13.5	50.5	55.2	84.4	36.6	41.3	57.1	25.4	20.5	8.1	7.7
Washington, DC	17.7	15.5	1.5	42.7	3.7	7.1	40.6	45.8	14.6	16.6	51.5	8.5	13.5	39.0	57.2	49.1	27.4	12.1
Miami, FL	0.2	4.4	42.5	31.2	0.0	0.5	23.0	19.4	31.0	29.4	22.5	27.5	8.4	24.6	8.5	6.8	11.9	28.5
Tampa, FL	0.0	20.2	20.7	25.4	5.3	0.0	6.6	12.0	20.0	25.1	33.0	13.7	7.2	24.0	3.7	5.8	6.6	12.9
Atlanta, GA	14.1	0.3	1.6	50.8	0.7	1.4	0.1	35.9	30.1	35.9	52.1	27.8	19.6	50.2	48.3	15.8	13.6	2.7
Boise City, ID	0.1	37.0	15.6	50.7	0.5	8.7	0.3	18.5	37.4	44.6	83.1	27.8	33.2	46.1	2.2	0.3	2.8	13.9
Chicago, IL	40.4	3.9	0.8	58.3	0.3	6.8	0.7	36.0	8.5	27.0	42.1	10.4	9.0	34.8	56.2	25.5	19.5	0.5
Indianapolis, IN	8.8	0.5	0.1	50.1	1.7	1.4	2.4	17.4	7.3	16.2	44.5	5.4	8.6	24.8	33.5	9.3	3.1	10.1
Baton Rouge, LA	14.1	7.3	4.5	18.8	0.0	0.0	36.4	21.6	12.3	27.4	26.2	5.3	4.6	12.9	11.1	4.7	2.5	9.8
Baltimore, MD	21.1	18.7	11.0	43.1	12.7	16.3	49.7	42.6	2.4	18.7	40.2	6.4	7.6	36.4	52.2	28.2	22.5	7.5
Boston, MA	11.1	22.8	12.0	29.2	0.9	2.8	52.6	45.8	14.5	28.7	50.8	15.7	12.4	23.8	37.8	14.3	2.7	16.7
Springfield, MA	0.5	40.5	33.6	46.7	11.5	5.6	31.5	33.8	2.1	3.9	26.0	8.2	4.5	12.9	32.8	8.4	11.3	11.6
Detroit, MI	30.1	3.4	9.2	40.4	2.0	2.6	2.1	36.0	13.5	24.8	51.5	11.9	13.7	32.6	57.0	16.0	10.9	1.6
Minneapolis, MN	0.0	7.1	2.2	36.6	0.3	2.6	0.5	10.7	12.4	25.9	61.0	6.8	15.5	27.3	14.0	15.1	7.9	7.8
Gulfport, MS	0.5	13.0	1.6	25.7	3.5	1.4	0.7	18.5	18.2	36.9	47.2	11.9	14.3	28.3	5.8	1.9	4.9	26.6
Kansas City, MO	0.1	1.4	0.0	38.5	0.1	0.2	0.3	11.2	9.7	13.7	40.6	2.4	2.8	25.9	19.0	8.5	7.4	8.6
St. Louis, MO	10.1	2.2	0.1	38.8	6.7	0.2	1.5	21.8	11.8	25.2	43.1	9.2	7.9	38.2	14.3	16.4	11.2	6.9
Missoula, MT	0.0	45.8	37.1	54.2	0.3	0.1	3.3	11.0	35.8	32.6	35.0	19.9	13.6	18.7	9.6	5.6	7.9	23.5
Omaha, NE	1.2	4.7	0.5	23.9	2.8	0.2	0.3	9.6	31.0	19.6	59.5	7.1	17.2	27.3	7.3	9.1	3.3	11.5
Reno, NV	0.7	45.2	19.0	41.9	2.3	7.9	2.5	13.9	49.0	35.9	76.0	24.8	36.8	40.5	23.5	7.3	15.6	12.8
Rockingham, NH	16.8	24.6	22.7	41.2	7.0	5.0	58.8	42.6	25.5	28.5	21.1	12.1	7.3	21.1	11.6	14.4	8.5	20.7
Edison, NJ	4.1	23.4	8.4	30.8	13.9	9.0	27.4	32.3	1.5	21.0	35.3	3.0	5.4	28.6	40.5	28.8	24.6	17.7
Newark, NJ	2.6	14.2	28.1	37.3	8.1	8.3	50.1	34.2	5.9	17.7	36.2	2.6	4.2	23.2	48.3	36.7	20.1	10.3
New York City, NY	6.7	34.5	24.6	25.3	4.0	10.2	42.1	36.8	4.7	10.3	8.3	3.5	6.7	18.6	13.5	28.7	9.6	12.5
Charlotte, NC	1.3	11.4	5.5	25.9	1.1	0.7	0.6	24.0	10.3	20.3	40.1	6.6	10.2	26.0	26.3	14.8	12.5	9.9
Cleveland, OH	21.5	1.9	6.4	38.7	0.9	0.7	1.5	36.3	16.8	17.7	54.4	8.6	18.3	35.1	62.9	19.7	10.6	2.7
Tulsa, OK	0.7	6.4	0.2	30.4	1.5	2.3	0.0	16.7	28.9	31.9	54.5	16.1	16.3	33.9	17.7	8.8	5.4	7.6
Portland, OR	0.1	37.3	41.2	51.9	7.8	10.3	1.4	16.0	6.9	23.2	45.2	7.6	7.8	25.4	41.0	26.3	22.6	14.2
Philadelphia, PA	3.1	31.8	18.7	43.6	11.4	8.4	38.3	38.5	4.6	18.6	38.2	4.3	5.8	29.9	42.9	25.7	20.7	10.3

Table A-9. Continued

City	Se/SO ₄	NO ₃ /EC	NO ₃ /OC	EC/OC	Mn/Ni	Mn/V	Ni/V	K/Br	Si/Al	Si/Ti	Si/Ca	Al/Ti	Al/Ca	Ti/Ca	Fe/Zn	Fe/Cu	Zn/Cu	Na/Cl
Pittsburgh, PA	14.9	3.6	1.3	51.7	15.8	0.0	0.1	30.6	7.5	32.8	50.8	2.7	8.8	40.6	51.8	35.8	21.1	4.0
Providence, RI	6.6	37.6	8.0	24.9	5.5	5.8	76.7	42.1	8.4	16.6	46.5	7.9	5.9	35.0	46.5	36.8	30.4	27.5
Charleston, SC	1.4	28.9	18.7	19.8	3.7	0.3	13.1	24.8	19.0	28.1	28.8	11.5	9.6	17.6	7.2	6.0	7.5	18.6
Memphis, TN	13.9	0.0	0.2	54.4	1.2	0.4	1.0	5.6	30.5	15.1	32.5	14.3	6.3	23.3	23.1	28.2	14.3	12.5
Dallas, TX	17.1	4.1	2.8	42.2	2.2	1.1	0.3	28.6	21.0	37.1	43.7	13.4	9.7	36.4	21.8	9.8	10.9	5.4
El Paso, TX	0.0	25.5	18.1	57.8	0.2	0.5	0.3	34.6	37.0	77.1	76.9	29.6	24.6	61.4	12.9	8.8	13.8	5.2
Houston, TX	15.2	6.2	2.9	60.9	2.4	3.5	34.1	22.3	23.6	45.8	52.3	14.1	16.1	35.2	7.2	7.6	16.9	21.0
Salt Lake City, UT	1.2	37.7	14.2	45.3	3.1	3.1	3.3	17.2	32.2	35.6	73.6	18.4	21.8	36.0	28.7	15.5	30.3	10.6
Burlington, VT	0.2	21.8	6.7	25.7	4.1	0.2	2.9	20.2	2.1	13.4	46.1	3.5	3.8	19.9	21.5	4.9	2.4	15.8
Seattle, WA	14.1	41.1	47.4	68.6	25.2	14.8	69.6	55.0	23.3	50.9	51.5	17.7	18.8	38.5	57.4	42.5	46.2	6.4
Milwaukee, WI	3.0	13.2	5.6	37.6	3.1	0.1	2.1	27.3	3.4	14.7	51.6	1.4	6.1	26.3	55.8	25.8	16.2	9.5

Table A-10. Coefficients of Determination for Within-Source PM_{2.5} Constituents for Winter Days: 49 STN Monitors, 2001-2005

City	Se/SO ₄	NO ₃ /EC	NO ₃ /OC	EC/OC	Mn/Ni	Mn/V	Ni/V	K/Br	Si/Al	Si/Ti	Si/Ca	Al/Ti	Al/Ca	Ti/Ca	Fe/Zn	Fe/Cu	Zn/Cu	Na/Cl
Birmingham, AL	9.6	4.3	11.5	70.2	4.8	0.2	1.7	55.7	2.3	37.7	58.7	2.4	4.3	40.9	74.0	44.0	35.3	2.5
Phoenix, AZ	8.8	23.4	25.6	83.4	1.4	30.4	2.8	45.0	82.7	79.4	93.7	73.5	81.2	84.3	71.2	59.2	54.8	8.0
Bakersfield, CA	2.6	27.7	40.4	70.8	1.2	5.9	0.9	48.0	14.0	41.8	53.8	20.0	13.6	40.1	24.9	8.1	11.4	3.5
Fresno, CA	10.2	30.9	30.5	82.4	1.7	6.3	0.1	42.3	4.4	14.4	31.3	4.1	5.7	17.3	47.5	20.3	7.3	0.6
Oxnard, CA	1.5	46.3	53.3	82.2	9.3	1.7	8.1	29.3	17.5	15.8	52.5	10.2	14.6	25.1	37.7	16.8	17.7	34.4
Riverside, CA	1.5	29.6	57.5	68.5	0.7	1.3	8.6	46.0	43.2	64.2	75.7	45.3	34.8	56.3	53.4	28.5	26.3	9.4
Sacramento, CA	1.4	12.1	16.2	84.0	4.8	16.3	2.7	36.2	0.9	12.0	19.0	6.9	1.8	23.4	42.0	36.7	21.2	0.7
San Diego, CA	2.4	21.8	27.6	82.9	3.1	0.1	19.5	24.3	23.7	58.0	67.7	32.0	17.1	45.7	53.6	8.2	3.0	12.6
San Jose, CA	0.7	56.7	61.4	89.4	5.1	0.5	1.1	53.4	16.3	55.6	72.8	16.2	12.9	51.9	66.0	50.1	49.7	29.5
Denver, CO	0.0	8.8	23.0	67.2	0.1	3.9	0.1	10.3	25.1	45.3	76.1	28.9	20.4	49.5	55.8	18.1	12.2	12.2
Washington, DC	29.1	38.6	43.5	73.6	7.1	13.0	33.5	66.1	11.9	10.3	50.9	18.9	17.0	24.3	69.3	70.5	53.5	12.4
Miami, FL	0.3	17.5	64.2	47.2	0.3	1.8	27.2	28.2	0.1	1.7	25.3	4.2	0.0	7.8	33.1	19.5	15.3	23.8
Tampa, FL	0.0	15.8	23.5	49.8	4.4	0.3	5.9	26.8	0.0	4.0	14.2	1.5	0.2	7.4	15.0	17.4	15.3	15.0
Atlanta, GA	27.4	0.3	0.0	62.9	0.3	0.0	0.2	44.9	15.7	22.6	46.7	32.8	17.2	42.5	70.5	23.9	17.6	4.5
Boise City, ID	0.0	20.7	30.3	70.5	2.5	18.8	0.5	19.1	2.9	4.6	37.0	5.5	7.7	15.7	19.5	5.8	2.5	0.9
Chicago, IL	30.6	23.8	48.9	63.2	4.9	8.0	2.0	39.0	1.6	30.6	49.4	4.0	2.5	37.4	58.2	44.1	20.3	0.8
Indianapolis, IN	14.3	16.6	33.6	61.2	3.5	4.3	0.9	23.4	0.2	3.7	38.4	1.3	3.8	5.9	45.5	10.5	5.4	16.7
Baton Rouge, LA	6.6	12.4	30.8	55.4	0.9	0.1	46.1	43.2	0.1	19.8	38.1	0.0	0.0	17.4	49.0	16.0	11.9	8.7
Baltimore, MD	16.7	21.7	29.3	60.8	26.4	30.9	60.0	51.7	1.0	12.7	45.2	1.9	4.2	33.7	61.4	40.9	24.8	4.0
Boston, MA	17.5	37.9	59.6	54.9	4.7	4.0	71.9	50.0	1.2	30.0	43.2	5.4	3.7	24.0	56.2	14.3	5.0	25.8
Springfield, MA	5.1	51.8	53.6	67.7	21.3	12.7	69.2	39.6	1.8	10.3	33.4	16.6	7.1	23.1	50.3	10.8	19.9	12.4
Detroit, MI	26.6	21.9	45.9	39.0	3.2	2.0	8.6	42.6	7.6	13.7	39.0	2.5	6.9	28.4	50.2	29.0	19.4	5.1
Minneapolis, MN	1.2	11.6	20.4	36.0	0.2	1.5	48.4	18.7	6.1	4.8	29.4	0.2	7.0	6.8	16.3	14.3	9.8	6.8
Gulfport, MS	1.4	29.8	30.8	71.6	0.7	1.3	6.4	25.1	0.6	7.5	42.8	1.2	1.2	14.1	36.6	4.7	1.3	21.6
Kansas City, MO	0.0	5.9	5.9	61.9	0.0	1.5	0.5	8.4	2.0	11.8	44.5	4.6	2.5	20.0	47.4	20.0	18.6	14.1
St. Louis, MO	12.0	11.4	14.8	51.8	14.1	0.2	2.8	23.6	1.1	14.1	28.7	3.7	0.8	24.3	6.2	20.9	12.7	8.0
Missoula, MT	0.4	46.2	76.0	75.8	0.2	1.6	2.6	24.2	7.5	11.8	15.3	7.2	2.6	13.4	43.3	18.4	15.0	38.5
Omaha, NE	0.4	6.8	12.7	39.9	3.6	0.9	0.1	9.3	6.6	1.6	48.9	0.4	6.7	8.1	19.2	17.0	2.3	15.5
Reno, NV	1.8	49.3	60.5	79.5	1.7	6.5	0.0	19.5	31.0	46.7	73.8	20.9	28.7	53.6	59.8	33.4	32.0	2.7
Rockingham, NH	29.0	37.6	58.1	62.7	6.8	2.9	73.0	47.8	15.1	30.7	17.1	9.0	1.6	23.5	22.1	21.5	12.7	18.5
Edison, NJ	6.3	32.6	34.7	57.3	18.7	12.5	48.4	43.8	0.7	17.8	37.5	11.9	3.4	20.7	52.2	32.9	31.3	15.0
Newark, NJ	5.3	20.7	53.7	53.4	11.6	9.5	46.9	53.7	6.2	30.2	17.4	7.0	1.0	28.8	65.5	48.9	36.5	9.5
New York City, NY	12.4	21.2	64.8	29.5	1.9	16.3	38.2	42.3	0.5	8.3	0.2	1.4	1.4	17.7	47.0	29.2	15.8	9.4
Charlotte, NC	9.3	5.6	12.1	65.9	1.1	0.1	0.0	32.2	0.1	14.3	35.0	0.0	1.6	7.9	48.5	18.8	8.6	10.5
Cleveland, OH	17.5	23.1	53.3	37.4	0.7	0.4	6.6	45.1	8.1	12.1	30.4	4.1	15.9	24.1	66.2	25.5	7.5	7.1
Tulsa, OK	8.1	0.6	2.5	61.6	2.6	2.4	0.1	21.6	6.8	7.1	50.9	10.1	8.0	19.0	30.8	17.0	12.3	4.9
Portland, OR	0.7	17.8	31.7	61.7	20.7	10.3	9.9	20.4	0.3	14.0	34.4	0.5	0.4	16.3	53.1	34.5	33.2	23.3
Philadelphia, PA	9.4	43.5	57.0	64.8	20.5	16.0	52.4	55.3	3.0	15.3	45.3	4.5	9.8	25.5	62.2	31.9	32.9	8.1

Table A-10. Continued

City	Se/SO ₄	NO ₃ /EC	NO ₃ /OC	EC/OC	Mn/Ni	Mn/V	Ni/V	K/Br	Si/Al	Si/Ti	Si/Ca	Al/Ti	Al/Ca	Ti/Ca	Fe/Zn	Fe/Cu	Zn/Cu	Na/Cl
Pittsburgh, PA	15.7	15.1	37.4	57.4	15.9	0.8	0.1	49.2	4.9	25.8	33.0	7.2	13.2	26.8	47.6	43.6	23.1	9.1
Providence, RI	12.6	42.4	56.7	57.4	6.9	9.1	82.6	50.0	0.0	15.6	32.1	6.3	1.0	20.5	62.8	23.8	14.3	28.2
Charleston, SC	0.1	37.8	37.4	58.9	7.7	2.7	24.4	37.1	0.3	7.1	19.2	0.9	0.6	3.6	39.0	16.5	10.2	29.2
Memphis, TN	9.1	4.2	8.3	61.9	1.4	0.0	2.9	5.1	7.9	4.1	30.0	13.1	2.1	13.1	37.8	31.6	11.4	12.7
Dallas, TX	27.4	3.8	25.5	59.9	8.0	0.2	0.1	32.7	7.5	25.1	47.6	2.9	4.2	21.4	42.9	27.3	17.3	8.0
El Paso, TX	8.6	39.5	53.3	87.4	0.1	3.5	0.4	47.9	59.6	69.4	88.0	45.8	48.8	60.6	44.0	28.0	27.0	6.6
Houston, TX	9.1	19.5	23.5	59.6	3.8	3.7	58.7	40.4	13.0	23.3	37.8	4.8	13.1	19.4	46.1	24.5	28.9	33.7
Salt Lake City, UT	4.8	45.4	70.7	71.8	6.4	2.8	3.1	29.5	5.6	40.0	60.6	14.7	4.4	40.8	72.6	47.0	40.0	4.2
Burlington, VT	0.5	31.5	52.9	48.1	0.8	0.0	18.2	26.6	2.3	8.0	32.3	2.6	0.3	2.7	41.0	8.2	3.0	22.7
Seattle, WA	29.5	33.9	48.3	74.6	40.3	27.5	54.4	57.3	6.2	50.8	44.8	8.7	6.2	35.3	70.4	47.9	53.0	11.1
Milwaukee, WI	5.0	24.3	38.3	36.5	2.1	0.0	0.6	23.2	0.4	8.3	37.5	2.4	2.7	12.3	45.5	23.1	16.6	6.6

Table A-11. Coefficients of Determination for Within-Source PM_{2.5} Constituents for Summer Days: 49 STN Monitors, 2001-2005

City	Se/SO ₄	NO ₃ /EC	NO ₃ /OC	EC/OC	Mn/Ni	Mn/V	Ni/V	K/Br	Si/Al	Si/Ti	Si/Ca	Al/Ti	Al/Ca	Ti/Ca	Fe/Zn	Fe/Cu	Zn/Cu	Na/Cl
Birmingham, AL	14.3	19.0	16.2	37.7	0.1	0.3	8.0	22.8	27.1	38.7	43.6	31.0	9.6	27.2	43.3	27.2	28.7	1.8
Phoenix, AZ	0.3	5.7	8.8	18.5	0.3	17.0	0.3	50.6	44.5	78.4	80.8	47.3	36.5	72.3	23.6	15.7	11.6	8.1
Bakersfield, CA	0.1	7.3	10.1	62.8	0.8	3.8	8.3	16.3	35.1	40.0	70.8	34.3	17.0	30.0	12.8	1.8	0.9	9.1
Fresno, CA	0.6	31.5	21.7	58.2	3.1	1.9	5.2	22.8	49.0	53.0	68.9	39.1	28.2	39.8	20.5	21.2	14.7	7.6
Oxnard, CA	8.8	0.1	2.9	34.9	0.7	0.2	20.0	7.4	25.0	3.2	59.2	8.3	19.5	10.7	11.2	17.6	4.5	1.5
Riverside, CA	0.3	0.3	6.3	37.5	0.4	2.3	15.2	6.7	28.3	43.8	77.7	31.4	22.4	40.0	45.6	13.9	10.6	2.3
Sacramento, CA	0.5	1.2	3.3	34.6	4.6	4.4	7.4	7.3	28.5	33.2	58.7	20.6	20.1	27.0	10.6	7.5	9.6	23.2
San Diego, CA	0.1	10.9	9.6	29.2	2.5	5.2	17.4	17.7	0.7	15.3	34.3	0.0	1.9	23.1	16.6	22.6	8.7	12.4
San Jose, CA	1.7	20.6	36.3	35.1	8.4	3.0	2.3	36.9	4.1	35.1	55.2	1.3	5.1	26.3	26.1	20.5	19.7	57.6
Denver, CO	0.1	3.6	2.9	39.9	6.6	3.7	24.0	19.9	52.5	62.4	81.1	44.1	34.3	57.1	22.1	12.2	1.8	8.3
Washington, DC	27.0	10.1	3.1	27.0	1.2	8.1	38.0	14.7	2.5	8.7	40.7	1.7	2.3	30.8	51.6	18.3	4.6	11.3
Miami, FL	2.2	0.3	12.2	30.6	1.9	2.2	22.5	6.1	72.2	85.8	64.1	69.1	46.7	63.5	1.9	1.6	6.8	27.4
Tampa, FL	0.3	13.3	19.8	20.7	5.8	1.1	10.5	1.9	46.1	54.9	56.2	43.3	23.6	41.8	0.2	0.6	1.2	4.4
Atlanta, GA	30.7	1.6	15.2	23.7	0.1	2.6	0.1	5.4	22.3	36.6	56.3	23.8	11.6	54.1	38.7	2.7	8.0	4.2
Boise City, ID	3.4	31.4	17.8	39.2	0.1	3.4	0.1	13.4	46.8	37.8	87.3	37.4	30.9	28.5	1.6	0.0	11.2	25.0
Chicago, IL	47.4	13.5	14.7	45.5	1.2	3.1	1.1	32.7	6.0	20.8	33.5	14.1	6.4	23.9	47.7	12.0	15.2	0.1
Indianapolis, IN	15.5	14.2	4.8	35.9	3.9	0.0	4.8	10.5	3.9	12.1	39.8	3.8	5.0	7.3	29.2	3.4	2.0	8.3
Baton Rouge, LA	19.7	4.8	0.5	1.6	0.6	2.0	19.0	1.4	26.7	54.0	25.3	20.8	3.9	15.0	1.0	0.1	0.1	5.3
Baltimore, MD	34.1	15.8	8.6	34.4	5.9	9.3	36.6	23.7	1.1	12.5	36.0	9.5	4.0	20.8	48.4	14.3	9.0	6.9
Boston, MA	17.9	8.0	0.3	9.8	0.6	2.5	42.8	25.4	12.1	20.7	47.4	20.9	10.8	17.4	40.8	6.6	2.2	7.8
Springfield, MA	3.3	26.5	24.6	33.3	7.0	4.1	19.8	28.3	0.1	6.6	13.5	1.7	0.2	5.1	42.3	4.7	4.8	0.1
Detroit, MI	27.7	12.4	21.1	30.7	7.1	0.9	1.5	27.1	11.1	20.7	47.5	11.4	14.5	27.7	61.3	7.6	7.5	0.3
Minneapolis, MN	0.3	9.1	7.1	23.2	2.2	0.0	18.7	7.6	20.2	26.1	60.8	13.2	14.7	24.3	24.4	18.9	9.0	8.5
Gulfport, MS	0.1	7.4	3.9	7.6	2.1	0.5	0.0	3.2	39.6	52.5	66.3	29.8	33.3	41.8	0.7	1.6	5.1	14.2
Kansas City, MO	0.1	10.8	6.5	9.2	3.0	0.0	3.6	10.9	13.8	18.3	40.2	6.7	0.9	27.4	7.3	4.6	4.8	8.0
St. Louis, MO	9.8	26.1	8.6	22.2	0.5	0.3	4.4	19.1	9.3	36.3	47.0	6.9	5.9	41.7	27.5	9.3	12.2	12.3
Missoula, MT	0.0	25.5	30.2	38.8	0.1	0.0	2.5	13.1	41.5	36.5	57.8	26.4	19.9	22.3	31.8	0.8	1.7	17.9
Omaha, NE	0.4	7.9	7.9	18.1	1.9	0.4	0.9	7.1	32.5	18.9	46.4	13.3	11.3	17.2	2.5	4.9	1.1	7.8
Reno, NV	0.2	11.7	11.8	27.7	1.7	19.5	4.2	9.1	48.9	22.6	60.2	15.9	27.4	18.6	17.5	0.2	3.3	15.8
Rockingham, NH	20.8	6.5	7.1	35.4	16.8	14.1	33.7	39.7	18.6	21.8	28.6	8.0	7.7	29.3	35.8	8.3	8.7	8.8
Edison, NJ	10.1	12.9	6.1	15.5	11.2	6.1	10.8	17.5	0.3	22.0	27.4	0.0	0.5	34.0	29.1	12.8	22.3	12.7
Newark, NJ	3.8	19.3	13.1	10.0	5.9	5.9	51.6	17.8	6.8	13.9	44.1	2.7	6.7	20.3	33.3	27.1	6.1	3.9
New York City, NY	11.4	26.1	13.7	34.4	5.8	5.1	21.3	22.4	2.3	14.7	18.8	0.9	4.5	24.3	30.6	21.0	9.6	11.3
Charlotte, NC	7.5	1.0	2.3	18.9	0.1	2.5	11.5	19.4	13.2	19.0	35.8	12.2	10.4	33.1	18.6	8.1	19.4	5.3
Cleveland, OH	32.7	14.9	17.0	20.1	8.3	2.5	0.1	35.3	9.7	6.1	41.3	6.3	7.6	23.0	58.2	18.0	18.0	3.7
Tulsa, OK	0.7	0.9	0.8	11.8	3.5	1.2	7.8	3.8	40.8	50.4	57.8	22.5	17.8	41.3	3.6	2.2	6.4	4.6
Portland, OR	1.9	13.8	27.7	23.7	0.0	1.9	2.9	2.2	8.7	26.7	57.7	13.7	11.3	24.5	38.9	19.8	18.7	7.6
Philadelphia, PA	8.4	30.1	8.8	28.7	2.2	2.6	26.7	17.4	5.9	9.2	22.5	3.1	3.4	20.8	29.5	11.2	12.7	7.7

Table A-11. Continued

City	Se/SO ₄	NO ₃ /EC	NO ₃ /OC	EC/OC	Mn/Ni	Mn/V	Ni/V	K/Br	Si/Al	Si/Ti	Si/Ca	Al/Ti	Al/Ca	Ti/Ca	Fe/Zn	Fe/Cu	Zn/Cu	Na/Cl
Pittsburgh, PA	14.3	20.3	18.4	45.3	15.4	0.2	3.5	13.3	2.7	18.7	36.1	0.0	2.3	34.0	54.7	29.9	14.0	6.1
Providence, RI	10.8	14.2	5.1	20.3	4.3	5.1	71.7	24.9	7.5	10.1	46.2	2.5	2.7	30.4	43.6	23.6	46.4	10.4
Charleston, SC	3.9	5.7	7.3	4.9	1.8	0.8	6.1	9.5	39.9	39.8	32.6	22.5	12.0	25.2	0.3	0.6	4.9	5.5
Memphis, TN	18.3	5.4	2.1	32.5	4.7	10.2	3.8	2.5	40.1	20.4	23.1	23.7	2.3	24.3	8.6	4.8	7.4	8.2
Dallas, TX	25.5	0.0	0.2	32.3	1.2	4.0	0.1	5.7	37.5	69.1	63.7	33.2	22.0	58.8	5.9	0.1	4.6	7.0
El Paso, TX	1.2	3.9	5.9	25.7	0.1	0.0	0.2	36.5	40.4	73.9	75.2	30.0	28.7	61.0	2.4	0.3	1.3	3.7
Houston, TX	26.9	0.1	1.1	67.6	2.2	10.2	9.6	10.0	30.9	89.3	78.6	31.6	19.8	72.9	0.8	0.8	15.3	4.9
Salt Lake City, UT	0.3	1.6	7.0	19.0	0.3	2.5	7.6	12.7	36.6	26.4	62.8	14.7	18.9	22.4	13.6	3.3	10.7	6.4
Burlington, VT	2.5	15.4	14.4	13.3	3.7	2.2	0.0	14.6	0.2	12.6	51.2	2.0	1.7	21.2	23.9	5.6	6.2	10.3
Seattle, WA	5.6	43.2	41.1	60.2	14.4	6.4	67.2	47.7	27.3	40.0	58.9	20.1	32.6	43.2	59.3	32.6	45.3	6.3
Milwaukee, WI	3.1	23.4	9.8	28.1	3.9	0.8	7.2	15.9	4.4	10.9	56.2	0.2	4.1	27.6	62.2	18.9	8.4	14.7

Table A-12. Coefficients of Determination for Elemental Carbon and Selected Pollutants: 49 STN Monitors, 2001-2005

City	EC/Cu	EC/K	EC/Zn	EC/Ti	EC/Al	EC/Cl	EC/SO ₄	EC/Fe	EC/Ni	EC/Si	EC/V
Birmingham, AL	12.9	40.8	19.6	23.1	4.9	6.5	7.4	35.7	0.0	30.6	1.6
Phoenix, AZ	54.7	15.4	56.5	10.6	0.5	2.0	8.0	26.0	0.8	0.1	19.8
Bakersfield, CA	5.8	38.8	45.5	6.5	1.0	8.0	4.7	26.9	0.3	1.0	0.0
Fresno, CA	20.9	60.4	57.4	4.5	0.0	20.1	3.6	30.9	0.3	0.0	1.9
Oxnard, CA	17.2	20.8	32.2	11.0	1.6	1.0	2.1	34.7	4.1	4.2	5.4
Riverside, CA	29.1	29.7	66.1	34.6	10.9	4.0	0.2	65.2	3.1	25.8	7.4
Sacramento, CA	19.9	52.9	42.6	2.9	0.0	4.4	6.6	24.9	0.0	0.1	0.8
San Diego, CA	16.3	32.4	45.5	17.3	6.7	0.0	4.7	48.4	3.5	17.4	2.5
San Jose, CA	31.4	47.9	57.7	28.7	6.4	0.0	0.0	56.5	2.4	17.6	6.8
Denver, CO	12.4	21.4	16.0	12.9	2.7	0.4	9.2	28.1	0.8	10.5	5.0
Washington, DC	32.9	26.7	49.5	18.1	2.4	4.8	9.6	56.2	13.5	10.7	19.9
Miami, FL	7.4	0.0	36.9	3.3	0.4	6.7	0.3	21.9	0.2	0.5	0.7
Tampa, FL	8.2	12.8	24.2	0.0	0.2	1.6	4.1	5.1	0.0	0.1	1.2
Atlanta, GA	16.4	21.8	59.2	23.4	6.3	2.9	3.2	65.3	0.2	11.3	6.6
Boise City, ID	0.1	36.3	25.7	1.2	1.5	9.5	17.4	12.6	0.0	2.6	0.1
Chicago, IL	11.0	33.5	31.6	12.3	1.4	0.9	16.3	47.2	1.5	10.0	12.3
Indianapolis, IN	4.5	45.2	39.2	10.3	4.8	1.6	13.1	56.1	0.0	13.0	0.0
Baton Rouge, LA	5.3	8.4	22.6	1.9	0.2	0.3	0.6	26.6	6.7	1.8	3.9
Baltimore, MD	26.8	39.4	40.4	11.7	3.9	8.3	6.8	39.1	9.6	9.6	12.2
Boston, MA	3.4	10.6	29.0	11.1	0.4	0.1	15.6	35.4	14.7	11.1	14.6
Springfield, MA	8.7	39.7	46.9	1.0	0.7	9.9	22.8	33.5	20.6	5.6	20.4
Detroit, MI	16.2	28.3	48.1	19.3	6.5	16.8	0.2	51.7	0.7	17.4	1.4
Minneapolis, MN	3.5	21.6	24.7	10.5	0.4	3.6	1.2	22.2	0.5	7.5	0.9
Gulfport, MS	0.9	11.7	22.7	0.9	0.3	1.3	2.5	2.6	0.0	0.2	0.4
Kansas City, MO	6.7	20.7	30.9	10.2	0.7	2.5	2.6	39.9	0.2	7.8	0.0
St. Louis, MO	16.0	21.4	39.0	14.3	2.2	1.9	12.9	18.8	0.5	6.5	3.7
Missoula, MT	4.7	37.5	53.6	0.6	1.4	11.8	19.5	23.9	0.0	2.3	1.7
Omaha, NE	0.3	11.8	15.2	2.9	0.5	1.5	1.1	10.3	0.7	2.6	0.2
Reno, NV	11.0	29.1	46.9	19.3	5.0	6.7	0.4	33.8	0.7	10.2	0.9
Rockingham, NH	13.4	31.9	30.2	15.8	3.9	1.1	19.5	29.9	23.7	11.3	27.4
Edison, NJ	20.4	11.3	35.7	7.6	0.3	4.5	9.8	38.1	17.7	7.9	16.6
Newark, NJ	18.6	9.6	43.2	16.2	1.7	4.6	20.3	56.4	22.8	22.0	25.2
New York City, NY	13.2	27.4	56.2	5.0	2.7	4.3	24.3	25.8	43.9	9.1	36.9
Charlotte, NC	5.1	27.0	37.0	3.8	0.9	1.2	0.0	33.1	0.1	3.4	1.3
Cleveland, OH	10.7	15.2	22.0	28.1	7.6	1.8	17.3	34.1	0.9	21.2	2.3
Tulsa, OK	4.7	15.0	27.4	1.8	0.3	2.0	0.5	19.5	0.5	2.3	0.0
Portland, OR	7.8	35.6	48.5	1.0	0.0	0.2	8.7	19.1	11.7	1.5	7.7
Philadelphia, PA	17.1	30.1	49.8	8.8	1.6	4.6	19.7	48.6	27.7	12.5	28.8

Table A-12. Continued

City	EC/Cu	EC/K	EC/Zn	EC/Ti	EC/Al	EC/Cl	EC/SO ₄	EC/Fe	EC/Ni	EC/Si	EC/V
Pittsburgh, PA	27.1	36.9	47.3	20.8	1.7	3.0	23.8	59.2	12.6	23.2	1.6
Providence, RI	26.2	26.5	52.2	10.6	7.4	3.8	17.6	40.2	14.5	14.4	11.0
Charleston, SC	3.3	11.9	20.0	0.4	0.2	0.9	1.7	4.4	4.3	0.5	6.7
Memphis, TN	27.7	10.0	25.2	12.3	0.6	0.0	3.4	55.9	0.3	7.0	3.9
Dallas, TX	15.7	6.1	44.0	1.4	0.3	0.6	0.0	30.7	0.1	0.0	0.2
El Paso, TX	27.8	5.5	42.6	0.0	0.1	21.1	0.3	10.6	0.5	0.0	2.7
Houston, TX	15.8	2.7	46.9	0.5	0.1	8.1	3.6	7.9	9.4	0.8	10.3
Salt Lake City, UT	25.4	11.1	55.1	3.1	0.0	8.1	9.8	35.3	1.4	0.3	0.0
Burlington, VT	1.5	29.4	31.1	1.5	2.3	0.3	14.6	21.5	7.0	10.7	4.0
Seattle, WA	36.9	33.1	63.6	23.0	3.5	0.4	17.9	54.1	23.6	21.1	24.9
Milwaukee, WI	19.1	41.6	55.3	14.5	1.9	3.0	17.6	54.2	3.3	25.4	0.1

Table A-13. Coefficients of Determination for Organic Carbon and Selected Pollutants: 49 STN Monitors, 2001-2005

City	OC/Cu	OC/K	OC/Zn	OC/Ti	OC/Al	OC/Cl	OC/SO ₄	OC/Fe	OC/Ni	OC/Si	OC/V
Birmingham, AL	15.1	48.2	16.2	23.0	2.5	3.2	21.8	30.7	0.2	28.4	1.2
Phoenix, AZ	44.4	20.7	40.9	11.5	0.6	2.0	2.3	23.9	0.3	0.0	14.4
Bakersfield, CA	7.3	50.8	40.6	6.6	0.9	8.5	15.0	21.4	0.2	1.1	0.1
Fresno, CA	14.6	61.6	46.3	2.9	0.3	21.6	7.4	24.4	0.0	0.0	1.0
Oxnard, CA	12.9	33.2	28.6	16.2	1.4	3.0	23.3	36.1	12.9	6.9	22.5
Riverside, CA	22.4	48.1	34.1	30.0	5.4	6.3	15.8	44.4	17.7	19.7	30.3
Sacramento, CA	17.8	61.8	38.3	3.8	0.2	5.2	2.1	23.3	0.1	0.6	1.0
San Diego, CA	12.3	44.6	36.1	13.5	4.7	0.0	3.8	38.3	1.4	12.0	1.9
San Jose, CA	27.4	52.8	39.9	22.3	4.7	0.7	2.8	46.0	1.1	14.5	7.6
Denver, CO	14.5	31.1	30.0	15.9	4.9	12.8	5.4	34.3	1.2	13.5	0.3
Washington, DC	30.5	45.4	31.4	26.3	1.0	2.1	33.7	45.0	9.5	21.3	18.2
Miami, FL	7.5	13.6	36.9	1.9	0.2	35.8	19.6	6.3	0.0	0.0	0.5
Tampa, FL	3.5	17.3	19.0	0.2	0.1	2.2	9.0	2.4	0.2	0.1	0.0
Atlanta, GA	8.1	37.1	38.5	23.9	3.9	2.8	16.2	45.4	0.6	13.2	5.6
Boise City, ID	0.2	59.5	19.8	5.6	5.2	7.4	25.8	26.7	0.1	12.7	0.4
Chicago, IL	14.4	51.0	20.9	12.0	0.4	2.0	32.2	36.4	2.6	18.0	14.0
Indianapolis, IN	4.7	46.5	32.4	16.6	1.7	0.6	22.2	53.2	0.7	19.7	0.0
Baton Rouge, LA	4.4	21.4	28.1	0.2	2.3	1.0	21.3	5.1	0.2	1.0	1.0
Baltimore, MD	29.0	51.1	40.1	21.6	1.9	3.3	21.9	42.7	14.4	15.9	19.7
Boston, MA	12.2	35.5	13.8	15.1	3.0	2.2	30.9	37.2	3.3	21.4	10.9
Springfield, MA	8.5	47.2	31.3	4.8	0.2	13.8	32.1	31.6	21.4	3.0	24.6
Detroit, MI	12.1	46.9	18.8	16.1	1.2	2.2	29.1	20.8	3.4	20.1	3.9
Minneapolis, MN	9.5	42.9	16.4	13.3	0.9	1.8	6.6	25.5	0.2	15.3	0.0
Gulfport, MS	2.1	14.2	31.8	0.3	1.2	6.9	18.2	3.4	0.2	0.4	0.5
Kansas City, MO	2.6	58.6	16.9	12.9	0.2	3.7	6.8	30.9	0.0	18.0	0.8
St. Louis, MO	7.3	46.5	14.0	19.9	1.7	0.1	22.2	6.9	0.0	19.1	4.4
Missoula, MT	4.5	53.8	40.6	3.8	4.5	9.7	28.8	32.9	0.1	9.8	1.1
Omaha, NE	0.0	27.6	2.9	14.0	1.9	0.1	15.8	13.3	2.3	12.8	0.0
Reno, NV	7.1	40.0	18.9	13.8	3.4	7.8	7.8	27.5	0.3	9.9	0.1
Rockingham, NH	14.5	46.3	11.7	22.0	4.0	3.5	33.5	37.0	18.4	16.6	21.3
Edison, NJ	15.6	42.5	18.6	16.4	1.5	3.7	28.0	29.5	6.4	6.4	10.4
Newark, NJ	19.8	41.5	42.4	14.4	1.4	6.3	37.8	38.1	15.8	22.4	15.2
New York City, NY	19.1	39.8	11.8	18.7	1.4	2.8	49.9	44.5	5.5	19.7	25.5
Charlotte, NC	4.9	39.4	26.4	10.4	1.9	0.7	15.5	27.3	0.1	10.9	1.8
Cleveland, OH	10.7	33.0	34.6	27.3	7.6	2.1	37.8	41.3	0.4	30.3	1.0
Tulsa, OK	2.3	44.1	16.6	16.3	3.7	1.5	18.6	30.1	0.3	21.0	0.0
Portland, OR	8.2	55.6	39.0	2.9	0.2	0.2	24.9	18.6	10.6	6.5	8.8
Philadelphia, PA	14.2	50.3	28.0	17.7	1.7	1.9	38.7	41.0	26.0	20.0	39.2

Table A-13. Continued

City	OC/Cu	OC/K	OC/Zn	OC/Ti	OC/Al	OC/Cl	OC/SO ₄	OC/Fe	OC/Ni	OC/Si	OC/V
Pittsburgh, PA	22.1	44.5	32.8	24.3	0.3	2.0	34.6	39.3	12.9	23.3	2.1
Providence, RI	19.6	38.6	21.4	10.8	1.3	0.0	34.5	25.3	1.9	19.0	4.5
Charleston, SC	3.0	28.6	12.3	0.8	0.2	11.4	19.1	4.3	0.7	0.7	0.8
Memphis, TN	16.7	14.4	16.0	17.2	2.7	0.0	13.3	44.2	0.0	15.0	5.2
Dallas, TX	10.2	23.0	38.2	2.4	0.0	0.8	11.2	18.8	0.2	3.2	0.1
El Paso, TX	23.0	20.6	29.4	4.1	2.0	22.9	3.2	19.5	0.1	4.6	4.8
Houston, TX	23.5	6.4	52.6	0.7	0.3	8.4	11.4	4.8	13.1	1.2	7.3
Salt Lake City, UT	21.2	28.0	33.3	5.9	0.3	14.2	25.2	24.3	1.7	2.6	0.0
Burlington, VT	1.9	41.0	16.6	7.6	2.3	0.4	24.2	28.3	5.4	18.1	4.6
Seattle, WA	32.4	53.6	57.7	24.5	5.6	0.6	32.5	46.7	25.5	27.9	31.0
Milwaukee, WI	19.3	51.0	31.4	15.4	2.2	1.4	23.3	31.4	2.0	19.3	0.5

Table A-14. Coefficients of Determination for Copper and Potassium, and Selected Pollutants: 49 STN Monitors, 2001-2005

City	Cu/K	Cu/Ti	Cu/Al	Cu/Cl	Cu/NO ₃	Cu/SO ₄	Cu/Ni	Cu/Si	Cu/V	K/Zn	K/Ti	K/Al	K/Cl	K/NO ₃	K/SO ₄	K/Fe	K/Ni	K/Si	K/V
Birmingham, AL	16.2	17.6	3.0	3.8	0.4	4.7	2.5	20.1	2.5	25.0	34.0	10.5	9.3	4.2	8.8	45.3	0.0	50.0	3.9
Phoenix, AZ	17.2	22.6	5.3	0.5	11.4	1.9	0.9	3.0	26.1	25.5	53.9	34.1	21.6	5.6	5.1	55.4	0.0	45.7	29.2
Bakersfield, CA	9.7	11.1	5.3	0.0	0.2	3.7	1.6	8.5	0.8	35.6	17.4	8.4	7.4	7.5	6.0	34.8	0.1	13.0	0.6
Fresno, CA	14.0	6.0	0.9	0.2	9.4	4.1	0.0	2.0	10.5	49.7	8.9	1.5	23.8	39.5	3.5	31.6	0.0	1.7	3.2
Oxnard, CA	12.9	9.4	1.1	0.7	0.9	0.7	2.3	5.8	3.9	22.4	14.1	4.3	6.1	7.0	7.9	33.1	4.3	21.1	11.0
Riverside, CA	16.6	22.4	7.2	0.0	5.3	1.8	5.3	14.1	10.6	20.1	35.8	15.6	3.2	6.6	4.8	42.4	3.9	32.0	15.8
Sacramento, CA	24.0	8.9	1.9	0.5	2.5	1.4	0.6	2.2	0.9	46.1	6.5	1.8	15.2	25.4	1.9	29.6	0.1	2.4	0.0
San Diego, CA	6.4	5.3	3.8	0.9	1.1	1.0	1.0	4.3	0.7	25.7	8.8	7.8	6.7	2.9	5.6	21.1	0.4	10.9	1.3
San Jose, CA	26.6	20.9	11.3	0.1	15.0	0.2	1.2	13.4	8.7	40.0	28.5	10.9	4.7	36.6	3.1	50.2	5.7	23.9	8.0
Denver, CO	10.1	7.2	1.9	0.0	0.0	4.7	5.4	3.9	10.6	34.1	15.2	5.9	3.0	1.2	21.1	28.0	1.8	24.2	9.4
Washington, DC	27.8	19.9	3.3	0.4	5.9	8.0	5.2	11.2	12.4	44.1	20.8	9.0	7.6	14.3	15.6	45.3	8.0	23.6	20.6
Miami, FL	0.3	1.6	0.0	6.4	3.4	0.2	1.7	0.0	0.1	6.3	15.6	11.0	1.1	39.6	14.8	11.4	0.0	17.3	1.3
Tampa, FL	2.1	2.5	1.5	3.6	1.5	0.7	0.5	0.1	1.2	17.1	8.3	6.8	0.0	16.4	3.6	21.1	0.2	11.6	4.0
Atlanta, GA	5.1	5.7	1.8	0.0	0.0	2.1	0.8	5.1	5.4	26.8	21.4	15.0	3.3	8.3	1.7	32.6	0.6	20.9	12.9
Boise City, ID	0.2	0.2	0.1	1.9	0.1	0.0	8.3	0.3	16.4	19.0	22.4	19.0	6.1	6.5	22.7	52.3	0.0	36.6	1.0
Chicago, IL	13.6	10.6	0.4	0.2	3.3	2.5	8.7	8.6	5.0	23.2	17.1	3.7	1.4	6.8	26.8	47.0	0.4	25.6	18.4
Indianapolis, IN	2.7	1.8	2.7	1.2	0.0	2.2	0.8	0.6	10.3	24.8	14.9	7.7	2.6	0.1	12.8	45.9	0.0	20.2	1.7
Baton Rouge, LA	1.1	2.6	1.4	9.5	3.8	0.6	0.4	6.4	0.7	10.5	1.8	0.1	3.6	12.6	3.4	9.7	0.7	7.2	2.2
Baltimore, MD	27.2	14.7	1.6	2.1	5.0	3.4	5.8	9.2	6.3	47.0	17.0	5.9	11.3	17.3	6.8	46.0	13.1	8.7	22.4
Boston, MA	5.4	4.4	2.1	0.0	2.7	4.8	0.9	1.3	3.3	21.3	13.8	10.7	5.8	17.2	22.2	26.9	5.4	30.3	13.8
Springfield, MA	11.3	8.3	1.6	1.4	9.4	3.6	6.4	2.1	4.0	50.9	6.7	1.9	11.4	45.7	19.9	23.3	26.3	7.8	32.0
Detroit, MI	11.6	8.9	3.3	0.2	0.0	0.5	1.6	9.0	11.1	14.0	47.9	36.5	7.4	10.0	2.3	74.1	0.1	70.8	2.4
Minneapolis, MN	8.7	3.6	1.8	0.1	0.9	2.3	1.1	2.1	6.8	25.7	22.2	11.8	3.5	2.0	3.4	34.5	0.3	23.0	0.9
Gulfport, MS	0.4	0.4	0.1	3.8	1.6	0.6	3.0	0.1	1.2	12.8	11.4	6.1	1.1	15.6	6.1	22.1	0.5	17.1	6.3
Kansas City, MO	2.2	2.2	0.4	0.0	1.0	0.0	0.7	0.0	12.2	8.5	15.4	2.6	3.0	0.2	1.8	26.0	0.1	17.9	2.8
St. Louis, MO	4.4	4.4	0.6	0.2	0.9	5.2	6.3	0.7	3.8	15.8	25.7	8.2	0.5	0.1	17.1	6.2	0.2	28.8	9.1
Missoula, MT	6.4	0.9	0.0	0.7	3.2	2.5	2.6	0.1	15.8	50.2	3.9	3.0	10.8	30.6	36.9	33.1	0.0	8.0	4.4
Omaha, NE	0.5	1.0	0.1	1.7	0.5	0.8	3.4	0.0	15.0	5.3	24.9	12.1	1.6	0.0	2.8	27.2	4.2	35.1	1.0
Reno, NV	5.0	5.0	0.2	0.5	7.2	0.0	6.3	1.0	9.2	21.0	22.2	19.9	6.7	17.9	12.2	45.7	0.6	37.9	0.3
Rockingham, NH	11.0	11.5	0.9	1.7	5.5	5.4	4.9	5.9	2.8	26.2	23.9	7.9	0.0	37.9	31.9	36.5	23.5	21.7	22.5
Edison, NJ	11.3	13.8	0.5	0.0	10.1	5.1	9.7	6.4	7.1	29.1	15.6	9.4	5.6	19.7	22.3	31.8	4.4	16.1	13.1
Newark, NJ	13.2	11.8	2.1	0.2	7.9	7.1	20.4	12.9	15.5	35.9	11.2	6.7	7.8	28.9	26.0	27.4	10.8	22.3	11.1
New York City, NY	15.9	7.6	1.5	0.1	10.9	10.9	2.5	10.3	9.6	29.3	14.5	7.3	7.6	28.2	31.0	37.9	9.8	17.9	29.7
Charlotte, NC	4.8	2.8	1.4	1.5	0.1	0.1	2.6	1.4	5.3	32.0	5.8	5.9	2.1	15.3	2.9	27.4	0.1	10.2	7.9
Cleveland, OH	25.8	8.2	2.2	2.8	3.4	10.1	21.3	10.0	12.5	49.6	16.1	13.0	8.2	2.1	25.0	64.8	6.1	35.4	4.4
Tulsa, OK	1.3	2.0	0.2	0.0	0.3	0.0	3.0	0.2	6.7	15.3	14.8	9.5	4.3	2.3	17.0	26.1	0.6	23.0	2.7
Portland, OR	20.8	6.3	4.4	0.5	2.8	8.4	3.5	4.6	19.7	51.1	7.8	4.9	1.1	26.6	23.0	29.1	6.0	10.0	22.8
Philadelphia, PA	13.3	7.6	0.7	0.1	9.4	4.2	9.0	6.4	5.5	30.6	18.8	5.6	6.7	19.4	26.8	41.5	22.5	26.8	37.0

Table A-14. Continued

City	Cu/K	Cu/Ti	Cu/Al	Cu/Cl	Cu/NO ₃	Cu/SO ₄	Cu/Ni	Cu/Si	Cu/V	K/Zn	K/Ti	K/Al	K/Cl	K/NO ₃	K/SO ₄	K/Fe	K/Ni	K/Si	K/V
Pittsburgh, PA	23.9	19.9	4.7	0.2	3.8	11.1	14.1	20.1	9.0	29.5	19.5	8.1	4.8	7.0	13.5	34.2	7.2	21.7	5.4
Providence, RI	16.6	17.7	2.0	1.7	10.4	8.7	7.3	14.7	8.4	36.1	13.7	9.1	7.4	20.1	23.0	29.2	10.7	20.8	15.5
Charleston, SC	1.5	0.3	0.0	5.6	2.5	0.8	5.0	0.0	2.4	8.5	6.4	7.5	0.8	22.6	9.9	21.4	1.3	11.1	3.7
Memphis, TN	3.6	7.6	0.0	1.2	0.2	0.6	1.1	1.3	4.0	4.6	7.5	2.5	0.1	0.5	0.5	13.8	0.0	8.7	2.8
Dallas, TX	0.6	2.8	0.1	3.2	3.0	0.7	0.6	1.2	2.3	12.1	10.1	4.9	2.9	4.5	12.2	21.4	0.5	20.6	11.5
El Paso, TX	5.3	0.6	0.2	5.2	13.3	0.9	1.3	1.3	0.9	6.8	54.5	23.5	23.2	2.5	1.5	74.1	0.0	71.2	6.0
Houston, TX	0.5	1.4	1.7	12.9	0.3	3.4	1.7	5.5	0.1	4.6	10.0	5.1	4.7	8.1	8.7	27.6	0.0	26.4	6.8
Salt Lake City, UT	5.8	2.8	0.3	1.4	18.5	7.0	5.1	0.1	4.9	15.4	19.8	10.8	9.3	1.8	16.6	36.6	0.2	27.8	0.1
Burlington, VT	2.8	4.4	5.0	2.3	0.7	1.5	4.9	1.0	6.1	49.3	6.4	4.8	1.9	29.3	25.3	36.0	7.7	19.1	10.3
Seattle, WA	25.3	31.1	17.4	1.0	27.6	23.1	21.8	30.4	24.2	42.8	17.3	9.2	2.5	49.7	28.6	26.6	8.9	22.4	16.6
Milwaukee, WI	18.7	9.4	3.0	0.2	6.5	11.3	8.1	8.5	3.4	47.1	16.8	3.9	4.0	14.8	25.3	43.2	2.1	27.2	2.8

Table A-15. Coefficients of Determination for Zinc and Titanium, and Selected Pollutants: 49 STN Monitors, 2001-2005

City	Zn/Ti	Zn/Al	Zn/Cl	Zn/NO ₃	Zn/SO ₄	Zn/Ni	Zn/Si	Zn/V	Ti/Cl	Ti/NO ₃	Ti/SO ₄	Ti/Fe	Ti/Ni	Ti/V
Birmingham, AL	22.0	3.5	10.9	0.3	3.2	0.3	32.8	2.0	1.1	0.1	9.7	42.6	0.1	8.1
Phoenix, AZ	25.5	5.8	3.3	17.8	1.7	0.7	5.7	21.9	9.6	0.2	2.4	82.3	0.6	30.2
Bakersfield, CA	0.8	0.4	11.0	35.5	2.8	0.1	0.1	1.7	6.4	4.2	3.6	57.7	0.1	0.2
Fresno, CA	0.1	2.8	20.3	56.1	1.8	0.7	2.3	1.6	2.4	0.0	6.8	55.8	4.2	2.8
Oxnard, CA	12.7	0.2	0.0	9.0	4.1	3.5	6.7	11.1	0.0	3.9	9.4	32.6	4.9	11.0
Riverside, CA	30.1	12.0	3.6	5.1	0.0	2.6	26.7	6.8	0.6	3.5	3.1	67.2	5.7	14.2
Sacramento, CA	2.3	0.3	2.3	24.7	1.3	0.0	0.2	1.3	0.7	1.4	1.9	36.6	1.6	0.8
San Diego, CA	14.2	1.3	0.2	18.1	0.5	8.8	13.1	14.5	1.8	3.8	1.9	45.1	6.5	5.3
San Jose, CA	25.2	3.1	0.7	27.3	0.6	2.1	16.4	10.4	0.1	17.2	2.8	56.4	17.8	5.6
Denver, CO	7.1	3.0	6.4	10.9	10.1	3.4	13.2	10.3	0.1	0.2	11.2	20.1	2.3	6.7
Washington, DC	17.3	2.5	4.2	28.8	10.9	15.3	10.9	24.1	1.6	0.5	14.9	39.4	3.9	5.2
Miami, FL	0.8	2.5	21.3	19.2	7.8	0.1	0.0	0.8	0.0	3.3	0.1	42.5	1.1	4.3
Tampa, FL	1.4	1.3	4.5	13.2	6.1	0.0	0.2	2.0	0.0	0.0	1.6	33.0	2.5	9.0
Atlanta, GA	11.6	3.6	1.1	9.2	1.2	0.9	5.3	5.3	0.0	2.0	6.3	55.2	0.7	5.8
Boise City, ID	0.6	0.5	0.3	26.1	16.7	0.1	0.1	5.1	0.0	3.2	0.5	41.6	0.1	1.4
Chicago, IL	8.7	1.4	1.3	18.8	10.0	1.5	5.0	6.7	5.0	0.2	6.5	25.7	0.2	9.3
Indianapolis, IN	3.6	0.3	1.1	12.2	13.5	0.9	4.4	0.4	1.1	2.3	11.4	24.7	2.1	0.2
Baton Rouge, LA	0.0	0.2	0.4	8.9	5.6	3.2	0.0	1.8	0.7	0.0	0.3	27.8	1.0	0.3
Baltimore, MD	12.2	2.3	9.7	21.0	10.0	22.0	6.0	24.2	1.5	0.0	10.8	35.5	9.4	10.1
Boston, MA	11.4	1.1	3.8	14.2	8.7	16.0	16.6	13.8	0.9	1.2	3.2	38.2	0.1	1.2
Springfield, MA	4.7	0.3	3.6	49.7	23.7	25.9	10.7	36.9	0.2	1.2	3.7	10.5	5.1	5.3
Detroit, MI	9.9	1.6	27.7	4.3	0.0	0.0	5.7	2.4	2.4	4.0	0.4	53.2	2.8	0.2
Minneapolis, MN	4.5	0.5	1.1	17.8	3.3	0.1	1.1	1.5	0.3	0.1	4.3	33.6	0.0	0.0
Gulfport, MS	1.4	3.5	7.4	8.1	4.0	0.0	0.0	0.1	0.0	0.2	1.0	38.5	0.9	3.9
Kansas City, MO	2.4	2.2	2.2	10.5	1.0	0.0	0.2	0.8	0.8	2.4	4.4	22.8	0.9	1.7
St. Louis, MO	8.0	0.7	8.0	13.7	10.3	1.8	4.0	3.5	5.4	1.5	9.1	18.9	0.5	3.1
Missoula, MT	0.3	0.9	11.9	61.3	30.0	0.7	0.4	4.3	0.7	0.2	1.9	26.9	1.3	0.1
Omaha, NE	1.1	1.0	0.0	12.0	0.0	0.0	0.4	1.9	2.0	4.9	2.8	21.1	4.5	1.7
Reno, NV	9.3	0.1	0.5	31.1	0.1	0.0	4.7	5.6	2.2	3.2	5.3	46.4	0.8	6.3
Rockingham, NH	6.1	0.0	0.8	26.0	10.0	20.1	3.4	20.2	5.2	5.9	16.4	44.6	10.7	8.2
Edison, NJ	6.4	0.6	3.7	39.0	16.5	21.7	8.4	30.0	0.0	1.4	9.5	26.0	1.5	6.1
Newark, NJ	12.3	3.1	6.6	37.0	22.6	32.7	21.6	25.5	0.0	2.3	10.7	24.3	6.1	11.5
New York City, NY	2.5	1.8	2.5	31.6	10.0	58.7	1.6	43.8	0.5	2.6	8.4	26.8	0.6	6.1
Charlotte, NC	2.2	0.0	0.0	17.1	1.0	0.4	2.1	7.1	0.3	1.1	5.0	23.2	0.2	2.2
Cleveland, OH	15.8	9.8	11.1	7.1	23.0	2.1	22.3	1.5	0.1	0.4	12.8	24.7	0.7	0.3
Tulsa, OK	1.6	0.0	0.1	6.5	1.1	0.4	0.7	0.4	0.3	3.9	6.7	31.5	0.7	0.5
Portland, OR	6.6	1.2	0.0	24.4	18.0	9.7	8.0	22.9	0.0	0.2	7.7	24.7	2.6	6.9
Philadelphia, PA	5.8	0.1	5.3	40.1	11.8	34.0	10.5	28.3	0.0	1.8	9.6	24.6	5.7	9.9

Table A-15. Continued

City	Zn/Ti	Zn/Al	Zn/Cl	Zn/NO ₃	Zn/SO ₄	Zn/Ni	Zn/Si	Zn/V	Ti/Cl	Ti/NO ₃	Ti/SO ₄	Ti/Fe	Ti/Ni	Ti/V
Pittsburgh, PA	10.6	2.9	4.5	12.1	6.6	10.8	8.6	1.8	0.1	0.1	21.0	30.8	7.9	1.9
Providence, RI	12.7	2.9	2.1	37.3	20.4	26.7	8.4	23.6	2.4	0.9	6.2	35.5	2.5	2.4
Charleston, SC	1.8	1.6	6.8	17.7	5.9	5.0	2.4	14.4	0.4	0.8	1.1	18.8	0.0	0.0
Memphis, TN	1.8	0.6	0.5	14.6	4.7	0.3	0.0	0.8	9.8	2.1	5.6	32.8	2.6	0.4
Dallas, TX	1.7	0.5	0.5	11.5	1.6	2.1	0.3	0.1	1.7	2.1	1.6	37.3	0.2	1.6
El Paso, TX	1.4	1.7	18.9	7.5	1.1	0.0	1.6	6.1	3.8	0.4	1.7	60.6	0.1	1.8
Houston, TX	0.3	0.1	14.5	10.4	6.1	6.8	1.9	6.1	0.0	0.5	0.1	42.4	0.9	0.1
Salt Lake City, UT	1.9	0.3	6.8	46.2	11.1	0.5	0.2	0.7	0.8	0.5	3.6	34.1	5.6	0.5
Burlington, VT	3.7	0.8	0.2	46.2	20.1	8.7	9.2	9.6	1.7	0.0	3.8	18.7	2.1	3.8
Seattle, WA	27.8	9.1	0.0	51.4	24.4	23.7	25.0	26.6	3.5	15.2	30.9	50.8	25.3	25.5
Milwaukee, WI	12.5	1.5	2.8	22.1	21.3	2.2	20.9	1.6	0.1	0.9	8.8	18.0	2.0	0.4

Table A-16. Coefficients of Determination for Aluminum, Chlorine, and Nitrate, and Selected Pollutants: 49 STN Monitors, 2001-2005

City	Al/Cl	Al/NO ₃	Al/SO ₄	Al/Fe	Al/Ni	Al/V	Cl/NO ₃	Cl/SO ₄	Cl/Fe	Cl/Ni	Cl/Si	Cl/V	NO ₃ /SO ₄	NO ₃ /Fe	NO ₃ /Ni	NO ₃ /Si	NO ₃ /V
Birmingham, AL	0.0	2.6	1.5	14.8	0.9	5.8	4.3	1.6	8.9	7.9	5.7	0.0	0.1	0.2	2.3	0.1	0.9
Phoenix, AZ	9.7	1.2	1.9	42.8	0.2	20.5	0.0	0.1	11.2	2.1	9.5	10.1	4.2	2.3	3.2	4.6	2.5
Bakersfield, CA	2.6	6.9	2.6	36.7	0.4	1.4	14.7	0.0	0.4	0.0	6.9	0.1	6.1	0.0	0.5	15.4	0.0
Fresno, CA	8.0	3.6	4.7	33.6	1.2	3.3	25.7	0.1	0.1	0.2	9.2	0.3	10.2	9.4	0.0	3.0	0.8
Oxnard, CA	0.1	0.2	1.4	11.2	2.8	1.4	3.4	0.3	0.7	3.4	0.8	0.6	51.8	3.2	25.2	0.1	32.6
Riverside, CA	1.1	0.8	0.1	30.4	0.1	1.3	14.1	1.8	0.0	0.6	0.7	0.5	61.5	3.6	31.8	0.1	42.1
Sacramento, CA	1.2	3.4	1.2	18.0	4.1	0.2	5.2	0.8	1.8	0.6	0.0	0.2	2.4	0.3	0.6	7.8	0.4
San Diego, CA	0.0	0.5	0.3	19.5	1.2	0.0	0.1	4.4	1.0	0.1	0.1	0.3	33.6	10.8	12.4	4.7	21.9
San Jose, CA	2.2	3.3	0.5	21.2	9.5	1.8	1.8	0.8	0.6	2.6	2.0	1.2	33.9	30.2	1.9	12.3	14.3
Denver, CO	0.6	0.0	1.0	7.6	0.2	6.4	6.2	0.4	2.3	3.0	0.0	0.0	20.1	1.3	3.9	1.9	1.6
Washington, DC	1.4	0.5	0.1	8.4	0.0	0.2	8.9	0.4	2.5	7.0	0.8	10.4	0.1	9.3	13.7	0.0	12.1
Miami, FL	1.3	0.4	0.0	21.2	0.0	0.6	17.4	25.1	0.1	1.1	0.9	2.2	29.9	2.6	1.0	1.1	2.3
Tampa, FL	0.6	0.5	0.0	20.2	0.2	0.7	0.0	10.3	1.0	0.7	0.1	0.1	11.7	2.8	2.7	0.0	2.8
Atlanta, GA	0.1	3.0	0.6	21.1	1.0	4.8	2.8	1.2	2.3	1.4	0.1	2.4	6.0	0.2	1.7	6.6	0.0
Boise City, ID	2.9	2.3	1.0	33.4	0.6	1.4	6.3	5.5	0.7	0.1	0.2	2.5	31.7	1.0	0.3	5.6	0.0
Chicago, IL	3.7	0.5	0.1	6.1	3.2	6.5	11.0	0.7	0.0	4.3	2.5	0.7	10.2	5.7	3.6	0.3	0.4
Indianapolis, IN	1.8	0.1	2.3	8.4	0.1	1.8	2.6	0.1	0.9	0.2	0.6	0.2	0.3	0.0	3.1	0.8	0.4
Baton Rouge, LA	1.3	0.6	0.3	5.4	0.1	0.1	0.3	0.0	0.1	0.3	0.0	8.3	1.7	0.0	4.1	0.8	0.5
Baltimore, MD	3.7	0.1	0.0	7.6	1.4	3.8	20.7	1.7	1.3	6.4	1.1	9.6	2.8	2.8	11.3	0.1	9.8
Boston, MA	0.1	0.0	0.1	13.8	0.4	0.0	3.3	0.3	0.0	3.2	0.1	3.7	43.9	6.9	34.5	2.1	33.5
Springfield, MA	7.6	1.2	0.1	5.4	1.4	0.1	13.3	2.6	4.4	10.4	0.2	12.6	36.6	26.1	32.2	7.6	29.2
Detroit, MI	2.6	6.4	0.3	35.8	3.6	2.0	2.2	0.0	11.4	1.1	2.1	0.4	14.6	2.0	0.0	10.9	0.2
Minneapolis, MN	4.1	0.0	0.0	17.7	1.7	2.8	4.5	0.7	3.5	0.6	2.3	0.2	23.4	0.4	2.9	2.5	0.2
Gulfport, MS	7.5	0.0	0.0	17.2	0.6	0.9	1.4	2.3	0.4	2.0	1.0	0.8	0.6	0.8	2.1	0.0	1.9
Kansas City, MO	3.0	0.3	0.2	5.9	0.6	0.0	5.4	0.0	1.0	0.6	1.0	0.2	3.3	1.8	1.2	8.2	1.0
St. Louis, MO	0.0	1.8	1.0	2.7	0.6	1.9	15.7	1.4	0.4	0.8	2.3	0.9	1.2	1.3	1.1	4.7	0.5
Missoula, MT	1.6	0.1	0.8	25.3	1.4	1.3	13.3	11.7	2.9	0.4	0.1	1.2	40.1	4.6	0.2	0.2	0.0
Omaha, NE	2.8	1.8	0.0	14.9	14.3	0.9	2.0	0.1	0.1	0.3	1.1	2.2	5.4	4.3	0.4	13.0	0.2
Reno, NV	3.9	0.4	5.3	35.8	3.1	1.6	6.4	0.0	3.2	0.4	1.5	1.3	0.0	6.7	0.7	0.4	0.2
Rockingham, NH	0.0	1.3	2.7	20.3	1.2	1.3	0.1	6.3	4.1	1.4	0.1	0.5	38.1	14.9	30.1	7.5	27.1
Edison, NJ	1.3	0.1	0.7	6.8	0.0	0.8	6.6	0.7	1.5	1.5	0.5	6.3	18.0	16.3	21.9	5.0	16.8
Newark, NJ	0.4	1.6	1.1	5.1	0.3	0.1	10.4	0.7	3.5	9.3	0.7	5.5	29.6	14.5	25.0	9.1	15.2
New York City, NY	2.4	0.7	0.9	7.2	0.5	1.0	8.3	1.6	3.1	4.0	2.2	7.3	38.6	15.9	27.9	8.1	40.9
Charlotte, NC	2.6	0.9	0.0	10.9	0.4	1.7	0.7	0.1	1.3	0.2	0.4	1.6	0.4	0.1	1.4	1.2	0.7
Cleveland, OH	1.8	0.0	2.5	13.2	0.0	0.0	19.7	0.0	6.6	3.1	3.7	0.6	5.4	1.1	1.9	0.9	0.2
Tulsa, OK	4.2	1.3	1.2	15.9	0.7	0.1	1.7	0.8	2.4	0.7	0.5	0.2	0.3	1.3	0.9	5.3	0.1
Portland, OR	0.3	0.1	0.6	7.3	0.1	3.0	0.0	0.3	0.1	0.2	0.0	0.0	38.1	6.8	11.6	1.4	4.3
Philadelphia, PA	1.6	0.1	0.3	4.8	1.1	3.2	7.3	0.1	3.2	6.7	1.3	5.8	19.8	16.2	28.1	4.5	17.2

Table A-16. Continued

City	Al/Cl	Al/NO ₃	Al/SO ₄	Al/Fe	Al/Ni	Al/V	Cl/NO ₃	Cl/SO ₄	Cl/Fe	Cl/Ni	Cl/Si	Cl/V	NO ₃ /SO ₄	NO ₃ /Fe	NO ₃ /Ni	NO ₃ /Si	NO ₃ /V
Pittsburgh, PA	0.2	0.0	0.2	7.5	0.2	5.5	7.7	0.1	2.0	8.0	0.6	1.0	0.4	1.8	2.8	0.2	0.6
Providence, RI	2.3	4.0	0.5	8.1	0.6	0.8	5.5	1.0	0.0	2.2	0.9	5.0	31.8	15.2	21.3	4.7	17.9
Charleston, SC	0.4	0.0	0.7	19.8	0.1	0.1	1.1	12.9	0.0	0.0	0.1	0.6	6.0	2.8	4.7	0.4	10.9
Memphis, TN	0.5	1.6	0.1	7.5	0.0	0.0	3.9	2.7	0.1	0.0	0.0	3.7	0.1	0.5	0.2	6.1	0.3
Dallas, TX	0.0	4.1	0.0	8.7	1.5	1.9	0.7	0.3	0.6	0.0	0.6	6.2	0.1	0.0	6.8	5.8	0.2
El Paso, TX	8.0	0.1	2.7	22.7	0.2	0.1	4.7	0.8	20.3	0.4	8.3	1.5	1.5	3.0	3.1	0.5	0.3
Houston, TX	1.2	2.7	0.4	20.3	1.9	0.1	0.6	1.2	0.0	0.3	0.0	0.6	6.2	0.7	8.4	0.0	13.6
Salt Lake City, UT	1.5	0.7	1.4	15.0	1.4	1.7	11.0	8.6	6.3	3.1	1.2	1.4	10.6	7.2	3.4	7.8	0.0
Burlington, VT	1.8	0.8	0.9	6.7	0.1	5.7	3.6	0.8	0.1	0.0	0.1	0.0	24.6	6.9	8.8	2.0	8.2
Seattle, WA	0.1	5.8	10.7	17.0	7.0	11.5	0.0	4.5	1.1	3.7	7.2	4.8	27.8	30.3	13.5	19.4	21.7
Milwaukee, WI	1.5	0.7	0.1	2.8	0.5	2.0	8.1	0.3	2.1	0.6	2.6	0.3	27.0	9.7	2.5	3.7	0.3

Table A-17. Coefficients of Determination for Sulfate, Iron, Nickel, Silicon, and Vanadium: 49 STN Monitors, 2001-2005

City	SO ₄ /Fe	SO ₄ /Ni	SO ₄ /Si	SO ₄ /V	Fe/Ni	Fe/Si	Fe/V	Ni/Si	Ni/V	Si/V
Birmingham, AL	8.6	0.1	13.6	1.6	1.1	60.8	4.8	0.2	2.3	3.4
Phoenix, AZ	0.2	0.7	10.6	0.0	0.7	56.2	38.8	0.1	0.0	15.9
Bakersfield, CA	5.4	0.4	3.3	0.0	0.5	64.8	1.2	0.1	1.0	0.5
Fresno, CA	14.1	2.5	11.8	3.5	2.9	52.4	7.9	5.3	0.4	3.6
Oxnard, CA	7.3	32.2	3.8	51.9	7.8	43.9	14.6	2.6	24.5	2.5
Riverside, CA	0.4	38.7	0.7	55.5	7.6	69.7	14.2	3.8	39.1	8.5
Sacramento, CA	0.3	0.9	5.2	3.4	1.7	41.1	0.8	0.7	3.0	0.1
San Diego, CA	0.2	14.6	0.6	30.1	12.9	48.4	10.9	5.7	18.8	3.0
San Jose, CA	3.1	2.5	6.4	14.4	21.3	55.8	9.5	22.9	0.0	2.1
Denver, CO	0.0	1.5	0.4	1.9	4.3	23.6	14.7	1.8	2.1	7.4
Washington, DC	15.0	4.4	12.6	9.6	11.4	27.6	22.9	2.6	40.6	2.5
Miami, FL	0.1	1.6	0.0	3.9	1.7	32.9	4.7	0.0	23.0	0.9
Tampa, FL	4.9	3.2	2.5	5.9	6.9	46.1	7.2	3.6	6.6	5.2
Atlanta, GA	3.6	0.0	13.7	4.3	0.1	36.2	8.4	0.2	0.1	9.9
Boise City, ID	4.2	0.1	1.2	0.0	0.2	73.6	0.4	0.0	0.3	0.8
Chicago, IL	12.0	0.8	21.9	6.2	1.4	25.9	17.6	0.0	0.7	10.9
Indianapolis, IN	24.0	2.2	9.6	0.5	3.9	26.5	0.1	0.6	2.4	1.4
Baton Rouge, LA	0.8	4.3	4.8	4.3	1.9	40.3	4.0	1.4	36.4	2.0
Baltimore, MD	17.4	6.0	13.4	10.9	14.3	23.5	21.4	3.1	49.7	2.9
Boston, MA	14.2	8.9	9.4	17.4	3.2	45.9	7.6	0.3	52.6	1.3
Springfield, MA	30.0	19.4	9.9	20.2	27.1	18.8	16.2	4.3	31.5	4.4
Detroit, MI	9.5	6.9	23.4	6.8	1.2	72.2	3.5	0.8	4.6	0.4
Minneapolis, MN	1.6	5.6	3.0	2.5	0.2	50.6	0.0	0.0	0.5	2.1
Gulfport, MS	3.8	1.4	2.8	2.5	6.8	49.0	1.0	1.0	0.7	1.1
Kansas City, MO	2.7	0.6	3.3	0.6	2.5	24.3	1.7	0.0	0.3	0.2
St. Louis, MO	3.7	0.5	9.8	6.5	6.7	10.4	0.0	0.0	1.5	0.4
Missoula, MT	11.2	0.4	1.8	0.2	1.5	57.6	1.5	1.0	3.3	2.8
Omaha, NE	0.0	0.1	0.0	0.0	16.0	37.3	2.3	8.2	0.3	0.3
Reno, NV	8.6	0.4	14.5	0.6	1.9	67.3	0.2	0.8	2.5	0.5
Rockingham, NH	29.4	27.8	14.6	24.8	22.6	48.5	17.6	7.5	58.8	5.7
Edison, NJ	14.8	5.4	12.8	13.6	21.0	23.1	19.7	4.0	27.4	4.5
Newark, NJ	18.6	10.2	19.6	14.4	32.6	29.9	34.0	7.8	50.1	11.5
New York City, NY	28.6	4.7	11.4	23.7	4.2	28.8	17.8	4.6	42.1	5.2
Charlotte, NC	3.6	0.2	3.9	0.6	3.1	25.7	3.7	0.9	0.6	0.0
Cleveland, OH	26.6	4.3	19.6	2.4	2.8	32.8	4.4	1.6	1.5	0.6
Tulsa, OK	2.7	0.3	5.8	2.4	4.1	35.0	0.5	1.0	0.0	0.0
Portland, OR	22.3	5.4	16.5	16.8	8.9	35.1	21.6	1.3	1.4	3.1
Philadelphia, PA	20.4	15.3	10.1	20.8	33.0	30.1	29.6	10.1	38.3	12.0

Table A-17. Continued

City	SO ₄ /Fe	SO ₄ /Ni	SO ₄ /Si	SO ₄ /V	Fe/Ni	Fe/Si	Fe/V	Ni/Si	Ni/V	Si/V
Pittsburgh, PA	21.6	4.8	25.7	2.3	17.5	33.5	1.8	4.3	0.1	2.7
Providence, RI	20.5	13.8	11.0	19.6	15.5	35.7	14.8	1.8	76.7	3.2
Charleston, SC	7.8	4.2	1.3	4.2	12.9	26.4	7.4	0.0	13.1	0.1
Memphis, TN	2.9	0.0	1.3	2.8	0.1	23.6	9.4	0.0	1.0	1.8
Dallas, TX	0.0	0.3	8.1	9.8	0.0	36.9	3.0	0.1	0.3	5.1
El Paso, TX	0.0	0.1	1.7	7.5	0.1	73.5	5.3	0.3	0.3	2.2
Houston, TX	0.2	10.1	1.1	17.3	0.1	63.7	1.2	1.3	34.1	0.0
Salt Lake City, UT	10.9	3.6	3.5	0.1	3.3	37.5	0.1	0.8	3.3	2.3
Burlington, VT	22.6	8.5	13.8	6.8	12.7	41.8	4.3	3.0	2.9	0.0
Seattle, WA	32.2	42.8	52.3	53.0	43.1	54.0	36.5	35.8	69.6	39.1
Milwaukee, WI	18.6	2.7	9.6	1.0	12.6	34.6	1.2	3.3	2.1	1.4