ATTACHMENT E

1999 Ratio of $PM_{2.5}$ to PM_{10} Concentrations for Co-located Monitors

Attachment E contains a map and data summary tables that show the ratio of $PM_{2.5}$ to PM_{10} at various sites where both $PM_{2.5}$ and PM_{10} monitors were operating. Only sites with a minimum of 7 samples per quarter (equivalent to 50% completeness for a 1 in 6 day sample schedule) were paired. Daily average $PM_{2.5}$ concentrations were compared to daily average PM_{10} concentrations where they were matched for location, time and conditions.[1] The annual means were calculated as the mean of each quarterly mean.

The ratios were calculated for each site using data from days where both measurements were taken. The annual mean was calculated as

$$R = \frac{\sum_{i=1}^{n} \frac{PM_{2.5_i}}{PM_{10_i}}}{n}$$

where i is the ith 24-hour average value, and n is the number of observation pairs. Figure E-1 shows the ratio of annual mean $PM_{2.5}$ to PM_{10} in the form of pies for each set of co-located monitors. The relative size of the pies is proportional to the magnitude of the annual mean PM_{10} concentration. Table E-1 shows the mean and distribution of the ratio of 24-hour average $PM_{2.5}$ to PM_{10}, summarized by HEI region. In some cases it is possible for the ratio of the 24-hour average $PM_{2.5}$ to PM_{10} to be greater than 1.00. The most likely reasons for these results are measurement imprecision and the fact that the $PM_{2.5}$ and PM_{10} monitors do not use identical monitoring protocols. Regardless of monitoring protocol, when the fine fraction is a large percentage of PM_{10} and differences are calculated based on two independent measurements, one would expect $PM_{2.5}$ to occasionally be greater than PM_{10}. If this never occurred, the measurement systems could be suspected of having systematic bias. In this analysis it should be noted that the sites where $PM_{2.5}$ concentrations exceed PM_{10} concentrations generally have very few data points upon which to base the comparison. Nevertheless, they do reveal a high ratio of fine to PM_{10} in these cases. Table E-2 provides a tabular summary of the data used to generate Figure E-1.

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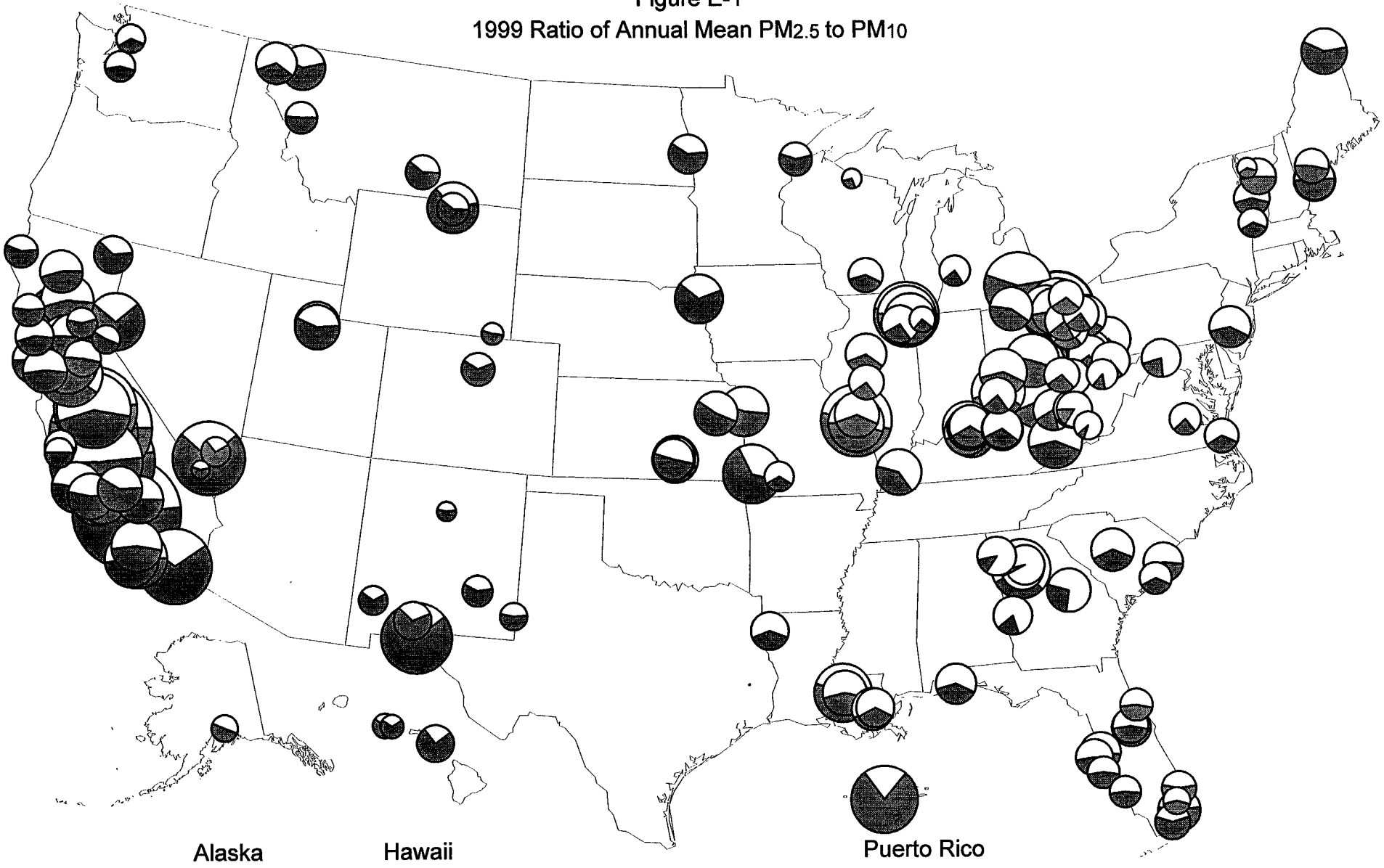
[1] See Attachment A or Attachment D for a discussion of atmospheric pressure and temperature adjustments to PM_{10} data. No effort was made to account for differences in sampling instruments or protocols between the co-located PM_{10} and $PM_{2.5}$ monitors.

Figure E-1
1999 Ratio of Annual Mean $PM_{2.5}$ to PM_{10}



Fine (2.5) proportion
Coarse (2.5- 10) proportion
Diameter proportional to PM_{10} annual mean

Ratios computed only for sites with at least 7 samples in each quarter (50% of 1 in 6 day sampling for the year).

Table E-1. Ratio of 24-hour Average $PM_{2.5}$ to PM_{10} by HEI Region: Sites with a Minimum of 7 Samples per Quarter

HEI Region	Mean	Sites	Total values	Percentiles						
				95	90	75	50	25	10	5
Northeast	0.67	25	225	1.02	0.88	0.75	0.64	0.55	0.48	0.45
Southeast	0.68	56	717	1.20	0.87	0.73	0.64	0.56	0.52	0.45
Industrial Midwest	0.71	65	848	1.10	0.93	0.78	0.68	0.61	0.54	0.47
Upper Midwest	0.49	24	345	0.65	0.64	0.59	0.49	0.43	0.34	0.31
Southwest	0.38	12	146	0.51	0.49	0.48	0.39	0.29	0.23	0.23
Northwest	0.51	50	755	0.69	0.67	0.57	0.49	0.46	0.40	0.37
Southern California	0.47	23	291	0.56	0.55	0.51	0.48	0.45	0.33	0.31

Table E-2. PM Data for Figure E-1

State	MSA	County	Site	PM_{10} Annual mean	$PM_{2.5}$ annual mean	Annual mean of daily ratios	Samples per year	Min. Samples in lowest quarter [1]
ALABAMA	DOTHAN, AL	HOUSTON	10690002	30.6	17.5	0.65	8	0
ALABAMA	MOBILE, AL	MOBILE	10970002	25.6	15.8	0.66	12	0
ALABAMA	MOBILE, AL	MOBILE	10972005	19.2	13.3	0.77	14	0
ALABAMA	MONTGOMERY, AL	MONTGOMERY	11010007	21.1	15.9	0.76	15	0
ALABAMA	DECATUR, AL	MORGAN	11030010	18.4	16.2	0.88	8	0
ALABAMA	COLUMBUS, GA-AL	RUSSELL	11130001	24.5	18.9	0.78	13	0
ALABAMA	NOT IN AN MSA	TALLADEGA	11210002	24.3	15.3	0.61	13	0
ALABAMA	TUSCALOOSA, AL	TUSCALOOSA	11250003	25.9	16.6	0.84	12	0
ALABAMA	NOT IN AN MSA	WALKER	11270002	19.8	13.9	0.78	12	0
ALASKA	ANCHORAGE, AK	ANCHORAGE	20200018	18.1	7.5	0.55	27	0
ALASKA	ANCHORAGE, AK	ANCHORAGE	20200044	22.8	6.5	0.33	28	0
ALASKA	NOT IN AN MSA	MATANUSKA-SUSITNA	21700008	15.5	7.8	0.62	84	16
ARIZONA	NOT IN AN MSA	SANTA CRUZ	40230004	59.7	20.6	0.48	12	0
CALIFORNIA	OAKLAND, CA	ALAMEDA	60011001	26.0	13.9	0.53	51	8
CALIFORNIA	CHICO-PARADISE, CA	BUTTE	60070002	31.0	17.2	0.52	55	12
CALIFORNIA	NOT IN AN MSA	CALAVERAS	60090001	21.4	11.3	0.57	54	12
CALIFORNIA	NOT IN AN MSA	COLUSA	60111002	36.2	11.5	0.44	41	7
CALIFORNIA	OAKLAND, CA	CONTRA COSTA	60130002	18.8	10.2	0.57	41	3
CALIFORNIA	SACRAMENTO, CA	EL DORADO	60170011	16.6	7.8	0.62	52	10
CALIFORNIA	FRESNO, CA	FRESNO	60190008	43.5	25.1	0.56	54	12
CALIFORNIA	FRESNO, CA	FRESNO	60195001	49.0	21.7	0.46	48	9
CALIFORNIA	NOT IN AN MSA	HUMBOLDT	60231002	19.4	8.2	0.47	50	11
CALIFORNIA	NOT IN AN MSA	IMPERIAL	60250003	44.1	13.3	0.31	35	1

(continued) Table E-2. PM Data for Figure E-1

State	MSA	County	Site	PM_{10} Annual mean	$PM_{2.5}$ annual mean	Annual mean of daily ratios	Samples per year	Min. Samples in lowest quarter [1]
CALIFORNIA	NOT IN AN MSA	IMPERIAL	60250005	71.7	17.5	0.24	31	5
CALIFORNIA	NOT IN AN MSA	IMPERIAL	60251003	43.1	13.2	0.32	52	12
CALIFORNIA	NOT IN AN MSA	INYO	60271003	8.0	5.5	0.70	2	0
CALIFORNIA	BAKERSFIELD, CA	KERN	60290010	61.6	27.4	0.45	53	11
CALIFORNIA	BAKERSFIELD, CA	KERN	60290011	18.7	8.6	0.48	37	5
CALIFORNIA	BAKERSFIELD, CA	KERN	60290014	48.5	23.8	0.47	93	15
CALIFORNIA	NOT IN AN MSA	KINGS	60310004	51.8	22.7	0.46	52	12
CALIFORNIA	NOT IN AN MSA	LAKE	60333001	10.2	4.3	0.44	42	6
CALIFORNIA	LOS ANGELES-LONG BEACH, CA	LOS ANGELES	60370002	40.2	28.5	0.70	17	0
CALIFORNIA	LOS ANGELES-LONG BEACH, CA	LOS ANGELES	60374002	34.5	22.8	0.69	14	0
CALIFORNIA	LOS ANGELES-LONG BEACH, CA	LOS ANGELES	60379002	26.3	10.7	0.49	52	12
CALIFORNIA	NOT IN AN MSA	MENDOCINO	60450006	18.6	8.6	0.47	54	13
CALIFORNIA	MERCED, CA	MERCED	60472510	51.1	24.2	0.44	34	0
CALIFORNIA	NOT IN AN MSA	MODOC	60490001	22.5	8.1	0.48	53	12
CALIFORNIA	NOT IN AN MSA	NEVADA	60570005	17.7	7.7	0.42	47	10
CALIFORNIA	NOT IN AN MSA	NEVADA	60571001	18.9	7.5	0.40	6	0
CALIFORNIA	ORANGE COUNTY, CA	ORANGE	60590001	53.1	26.2	0.57	25	0
CALIFORNIA	ORANGE COUNTY, CA	ORANGE	60592022	28.7	16.3	0.56	29	0
CALIFORNIA	SACRAMENTO, CA	PLACER	60610006	26.9	13.4	0.51	58	14
CALIFORNIA	NOT IN AN MSA	PLUMAS	60631006	20.6	10.7	0.46	19	1
CALIFORNIA	NOT IN AN MSA	PLUMAS	60631008	25.0	12.8	0.52	4	0
CALIFORNIA	SACRAMENTO, CA	SACRAMENTO	60670006	22.0	11.3	0.56	28	0
CALIFORNIA	SACRAMENTO, CA	SACRAMENTO	60670010	30.0	16.7	0.55	50	12
CALIFORNIA	SACRAMENTO, CA	SACRAMENTO	60674001	25.2	13.0	0.52	41	6

(continued) Table E-2. PM Data for Figure E-1

State	MSA	County	Site	PM_{10} Annual mean	$PM_{2.5}$ annual mean	Annual mean of daily ratios	Samples per year	Min. Samples in lowest quarter [1]
CALIFORNIA	RIVERSIDE-SAN BERNARDINO, CA	SAN BERNARDINO	60710014	27.7	11.8	0.50	52	10
CALIFORNIA	RIVERSIDE-SAN BERNARDINO, CA	SAN BERNARDINO	60710025	63.7	27.3	0.47	43	8
CALIFORNIA	SAN DIEGO, CA	SAN DIEGO	60730001	31.5	16.7	0.53	40	6
CALIFORNIA	SAN DIEGO, CA	SAN DIEGO	60730003	34.4	17.2	0.50	53	13
CALIFORNIA	SAN DIEGO, CA	SAN DIEGO	60731002	29.6	16.0	0.55	34	7
CALIFORNIA	SAN DIEGO, CA	SAN DIEGO	60731007	31.4	17.1	0.56	47	10
CALIFORNIA	SAN FRANCISCO, CA	SAN FRANCISCO	60750005	27.8	13.6	0.49	45	7
CALIFORNIA	STOCKTON-LODI, CA	SAN JOAQUIN	60771002	36.9	19.0	0.49	55	13
CALIFORNIA	SAN LUIS OBISPO-ATASCADERO-PASO ROBLES,CA	SAN LUIS OBISPO	60792002	16.9	8.3	0.49	46	9
CALIFORNIA	SAN LUIS OBISPO-ATASCADERO-PASO ROBLES,CA	SAN LUIS OBISPO	60798001	18.3	9.6	0.54	55	12
CALIFORNIA	SAN FRANCISCO, CA	SAN MATEO	60811001	28.1	13.0	0.44	47	5
CALIFORNIA	SANTA BARBARA-SANTA MARIA-LOMPOC, CA	SANTA BARBARA	60830010	29.5	13.3	0.46	52	11
CALIFORNIA	SANTA BARBARA-SANTA MARIA-LOMPOC, CA	SANTA BARBARA	60831007	24.2	10.2	0.44	14	0
CALIFORNIA	SAN JOSE, CA	SANTA CLARA	60852003	27.9	15.6	0.54	42	5
CALIFORNIA	SANTA CRUZ-WATSONVILLE, CA	SANTA CRUZ	60870007	18.0	9.7	0.57	24	0
CALIFORNIA	REDDING, CA	SHASTA	60890004	25.1	13.5	0.49	51	11
CALIFORNIA	VALLEJO-FAIRFIELD-NAPA, CA	SOLANO	60950004	21.1	15.2	0.67	42	4
CALIFORNIA	SANTA ROSA, CA	SONOMA	60970003	22.3	12.5	0.53	40	7

(continued) Table E-2. PM Data for Figure E-1

State	MSA	County	Site	PM_{10} Annual mean	$PM_{2.5}$ annual mean	Annual mean of daily ratios	Samples per year	Min. Samples in lowest quarter [1]
CALIFORNIA	MODESTO, CA	STANISLAUS	60990005	38.0	24.5	0.69	115	25
CALIFORNIA	YUBA CITY, CA	SUTTER	61010003	39.0	17.3	0.51	47	9
CALIFORNIA	VISALIA-TULARE-PORTERVILLE, CA	TULARE	61072002	58.1	28.7	0.50	54	11
CALIFORNIA	VENTURA, CA	VENTURA	61110007	29.9	12.4	0.45	48	12
CALIFORNIA	VENTURA, CA	VENTURA	61112002	29.1	14.6	0.52	43	8
CALIFORNIA	VENTURA, CA	VENTURA	61113001	26.7	12.3	0.48	43	8
CALIFORNIA	YOLO, CA	YOLO	61131003	30.1	12.9	0.47	45	5
COLORADO	BOULDER-LONGMONT, CO	BOULDER	80130012	19.6	6.9	0.38	38	7
COLORADO	DENVER, CO	DENVER	80310002	25.9	8.9	0.36	18	0
COLORADO	FORT COLLINS-LOVELAND, CO	LARIMER	80690009	22.8	8.8	0.45	22	0
COLORADO	GRAND JUNCTION, CO	MESA	80770003	17.0	6.3	0.40	35	0
COLORADO	PUEBLO, CO	PUEBLO	81010012	22.6	7.2	0.36	43	0
CONNECTICUT	BRIDGEPORT, CT	FAIRFIELD	90010010	21.1	15.0	0.70	31	0
CONNECTICUT	BRIDGEPORT, CT	FAIRFIELD	90019003	17.0	13.1	0.75	20	0
CONNECTICUT	NEW HAVEN-MERIDEN, CT	NEW HAVEN	90090018	27.4	18.2	0.65	37	0
CONNECTICUT	NEW HAVEN-MERIDEN, CT	NEW HAVEN	90091123	19.6	14.1	0.70	32	0
CONNECTICUT	WATERBURY, CT	NEW HAVEN	90092123	20.8	14.6	0.67	37	0
CONNECTICUT	NEW LONDON-NORWICH, CT-RI	NEW LONDON	90113002	17.4	12.0	0.68	21	0
DELAWARE	WILMINGTON-NEWARK, DE-MD	NEW CASTLE	100031003	22.1	14.8	0.70	38	6
DELAWARE	WILMINGTON-NEWARK, DE-MD	NEW CASTLE	100032004	26.3	16.3	0.66	30	0
FLORIDA	FORT LAUDERDALE, FL	BROWARD	120111002	15.7	9.1	0.58	54	12
FLORIDA	FORT LAUDERDALE, FL	BROWARD	120113002	16.1	8.1	0.50	29	0
FLORIDA	MIAMI, FL	DADE	120251016	24.5	11.2	0.46	45	7
FLORIDA	MIAMI, FL	DADE	120256001	20.3	8.2	0.40	50	9

(continued) Table E-2. PM Data for Figure E-1

State	MSA	County	Site	PM_{10} Annual mean	$PM_{2.5}$ annual mean	Annual mean of daily ratios	Samples per year	Min. Samples in lowest quarter [1]
FLORIDA	PENSACOLA, FL	ESCAMBIA	120330004	23.7	14.6	0.64	54	12
FLORIDA	TAMPA-ST. PETERSBURG-CLEARWATER, FL	HILLSBOROUGH	120570030	23.5	12.6	0.54	56	13
FLORIDA	FORT MYERS-CAPE CORAL, FL	LEE	120710005	18.2	9.7	0.53	50	8
FLORIDA	ORLANDO, FL	ORANGE	120951004	22.7	11.6	0.52	57	14
FLORIDA	ORLANDO, FL	ORANGE	120952002	20.5	11.4	0.56	58	14
FLORIDA	WEST PALM BEACH-BOCA RATON, FL	PALM BEACH	120992003	19.9	8.9	0.45	50	12
FLORIDA	TAMPA-ST. PETERSBURG-CLEARWATER, FL	PINELLAS	121030018	21.6	11.9	0.55	53	12
FLORIDA	SARASOTA-BRADENTON, FL	SARASOTA	121150013	18.7	10.2	0.54	51	10
FLORIDA	ORLANDO, FL	SEMINOLE	121171002	18.3	9.7	0.52	27	0
FLORIDA	DAYTONA BEACH, FL	VOLUSIA	121275002	18.8	10.3	0.56	52	12
GEORGIA	MACON, GA	BIBB	130210007	27.9	19.2	1.27	43	3
GEORGIA	ATLANTA, GA	DE KALB	130892001	23.0	22.0	1.34	48	10
GEORGIA	ALBANY, GA	DOUGHERTY	130950007	25.3	17.8	0.99	42	5
GEORGIA	NOT IN AN MSA	FLOYD	131150005	22.6	19.8	1.18	38	8
GEORGIA	ATLANTA, GA	FULTON	131210032	25.1	21.5	1.38	49	9
GEORGIA	ATLANTA, GA	FULTON	131210039	34.4	24.0	0.74	47	8
GEORGIA	NOT IN AN MSA	GLYNN	131270004	28.0	17.2	0.62	20	0
GEORGIA	COLUMBUS, GA-AL	MUSCOGEE	132150011	22.7	18.4	0.90	46	10
GEORGIA	AUGUSTA-AIKEN, GA-SC	RICHMOND	132450091	24.1	18.6	1.06	33	4
GEORGIA	NOT IN AN MSA	WASHINGTON	133030001	25.3	18.4	1.04	52	9
HAWAII	HONOLULU, HI	HONOLULU	150030010	14.2	4.3	0.31	97	15
HAWAII	HONOLULU, HI	HONOLULU	150031001	13.5	4.4	0.32	317	70

(continued) Table E-2. PM Data for Figure E-1

State	MSA	County	Site	PM_{10} Annual mean	$PM_{2.5}$ annual mean	Annual mean of daily ratios	Samples per year	Min. Samples in lowest quarter [1]
HAWAII	NOT IN AN MSA	MAUI	150090006	21.7	5.4	0.30	85	15
IDAHO	BOISE CITY, ID	ADA	160010011	21.5	8.4	0.41	34	0
IDAHO	POCATELLO, ID	BANNOCK	160050006	16.6	8.0	0.49	26	0
IDAHO	POCATELLO, ID	BANNOCK	160050015	17.7	7.3	0.43	45	0
IDAHO	NOT IN AN MSA	BONNER	160170001	21.2	9.0	0.47	65	0
IDAHO	NOT IN AN MSA	NEZ PERCE	160690009	24.9	14.5	0.56	12	0
IDAHO	NOT IN AN MSA	SHOSHONE	160790017	22.1	13.6	0.63	16	0
ILLINOIS	CHICAGO, IL	COOK	170311016	37.9	21.8	0.71	58	14
ILLINOIS	CHICAGO, IL	COOK	170312001	29.6	17.4	0.61	54	12
ILLINOIS	CHICAGO, IL	COOK	170313301	34.2	17.2	0.53	56	13
ILLINOIS	ST. LOUIS, MO-IL	MADISON	171190023	41.9	21.1	0.58	52	9
ILLINOIS	ST. LOUIS, MO-IL	MADISON	171193007	26.2	16.2	0.63	50	10
ILLINOIS	PEORIA-PEKIN, IL	PEORIA	171430037	24.0	15.9	0.70	47	10
ILLINOIS	ST. LOUIS, MO-IL	ST CLAIR	171630010	32.8	17.9	0.60	51	11
ILLINOIS	SPRINGFIELD, IL	SANGAMON	171670012	20.6	15.5	0.81	44	9
ILLINOIS	CHICAGO, IL	WILL	171971002	21.8	16.0	0.81	48	8
INDIANA	FORT WAYNE, IN	ALLEN	180030004	14.7	10.0	0.72	30	5
INDIANA	LOUISVILLE, KY-IN	CLARK	180190005	27.9	14.6	0.55	41	6
INDIANA	INDIANAPOLIS, IN	MADISON	180950009	19.3	11.9	0.56	19	0
INDIANA	INDIANAPOLIS, IN	MARION	180970043	22.8	14.9	0.67	18	0
INDIANA	INDIANAPOLIS, IN	MARION	180970066	19.5	14.1	0.74	16	0
INDIANA	INDIANAPOLIS, IN	MARION	180970083	16.1	14.5	0.93	19	0
INDIANA	GARY, IN	PORTER	181270024	14.8	10.9	0.71	41	8
INDIANA	SOUTH BEND, IN	ST JOSEPH	181412004	24.3	11.2	0.51	34	0

(continued) Table E-2. PM Data for Figure E-1

State	MSA	County	Site	PM_{10} Annual mean	$PM_{2.5}$ annual mean	Annual mean of daily ratios	Samples per year	Min. Samples in lowest quarter [1]
INDIANA	EVANSVILLE-HENDERSON, IN-KY	VANDERBURGH	181630006	28.9	15.7	0.54	31	0
INDIANA	TERRE HAUTE, IN	VIGO	181670018	24.6	12.5	0.51	42	3
IOWA	WATERLOO-CEDAR FALLS, IA	BLACK HAWK	190130008	26.0	11.4	0.45	18	0
IOWA	CEDAR RAPIDS, IA	LINN	191130037	25.9	11.1	0.46	44	0
IOWA	OMAHA, NE-IA	POTTAWATTAMIE	191550009	23.3	12.8	0.50	5	0
IOWA	DAVENPORT-MOLINE-ROCK ISLAND, IA-IL	SCOTT	191630018	25.2	11.1	0.46	11	0
IOWA	SIOUX CITY, IA-NE	WOODBURY	191930017	28.3	9.7	0.39	107	19
KANSAS	WICHITA, KS	SEDGWICK	201730008	27.2	11.9	0.61	92	20
KANSAS	WICHITA, KS	SEDGWICK	201730009	23.7	11.6	0.57	98	19
KANSAS	WICHITA, KS	SEDGWICK	201730010	24.5	12.2	0.60	96	20
KANSAS	TOPEKA, KS	SHAWNEE	201770010	25.4	11.7	0.62	47	9
KANSAS	TOPEKA, KS	SHAWNEE	201770012	33.3	12.9	0.55	44	0
KENTUCKY	LOUISVILLE, KY-IN	BULLITT	210290006	26.2	15.2	0.62	50	11
KENTUCKY	LEXINGTON, KY	FAYETTE	210670012	23.3	15.8	0.71	100	18
KENTUCKY	LEXINGTON, KY	FAYETTE	210670014	24.2	16.7	0.86	55	10
KENTUCKY	NOT IN AN MSA	HARDIN	210930005	21.3	14.5	0.70	39	1
KENTUCKY	LOUISVILLE, KY-IN	JEFFERSON	211110043	29.4	16.4	0.57	54	11
KENTUCKY	LOUISVILLE, KY-IN	JEFFERSON	211110044	25.5	16.1	0.63	51	10
KENTUCKY	LOUISVILLE, KY-IN	JEFFERSON	211110048	24.4	16.3	0.67	46	10
KENTUCKY	LOUISVILLE, KY-IN	JEFFERSON	211110051	26.1	16.0	0.63	45	8
KENTUCKY	CINCINNATI, OH-KY-IN	KENTON	211170007	21.1	16.1	0.80	92	15
KENTUCKY	NOT IN AN MSA	MC CRACKEN	211451004	26.6	16.3	0.81	41	9

(continued) Table E-2. PM Data for Figure E-1

State	MSA	County	Site	PM_{10} Annual mean	$PM_{2.5}$ annual mean	Annual mean of daily ratios	Samples per year	Min. Samples in lowest quarter [1]
KENTUCKY	LEXINGTON, KY	MADISON	211510003	27.2	15.7	0.64	47	5
KENTUCKY	NOT IN AN MSA	PIKE	211950002	31.2	18.6	0.62	52	7
LOUISIANA	SHREVEPORT-BOSSIER CITY, LA	CADDO	220171002	22.4	13.8	0.61	57	13
LOUISIANA	BATON ROUGE, LA	EAST BATON ROUGE	220330002	26.2	14.9	0.56	48	9
LOUISIANA	NEW ORLEANS, LA	ORLEANS	220710010	24.4	15.4	0.63	56	13
LOUISIANA	NEW ORLEANS, LA	ORLEANS	220710012	22.4	14.6	0.65	46	10
LOUISIANA	BATON ROUGE, LA	WEST BATON ROUGE	221210001	34.1	14.5	0.46	54	12
MAINE	LEWISTON-AUBURN, ME	ANDROSCOGGIN	230010011	19.8	10.5	0.56	42	8
MAINE	NOT IN AN MSA	AROOSTOOK	230030013	26.5	10.8	0.45	49	10
MAINE	PORTLAND, ME	CUMBERLAND	230050015	23.4	11.8	0.48	49	8
MAINE	PORTLAND, ME	CUMBERLAND	230050027	24.2	11.0	0.44	46	8
MARYLAND	BALTIMORE, MD	BALTIMORE	240053001	17.7	18.6	1.04	15	0
MARYLAND	WASHINGTON, DC-MD-VA-WV	PRINCE GEORGES	240338001	23.7	17.6	0.74	18	0
MARYLAND	BALTIMORE, MD	BALTIMORE (CITY)	245100006	22.7	18.5	0.81	19	0
MARYLAND	BALTIMORE, MD	BALTIMORE (CITY)	245100035	34.4	19.7	0.62	5	0
MARYLAND	BALTIMORE, MD	BALTIMORE (CITY)	245100040	28.3	19.2	0.68	16	0
MARYLAND	BALTIMORE, MD	BALTIMORE (CITY)	245100052	20.1	19.3	0.95	20	0
MICHIGAN	FLINT, MI	GENESEE	260490021	20.2	12.7	0.60	34	6
MICHIGAN	GRAND RAPIDS-MUSKEGON-HOLLAND, MI	KENT	260810020	17.9	13.7	0.82	52	12
MICHIGAN	DETROIT, MI	WAYNE	261630001	32.9	17.3	0.57	33	0
MICHIGAN	DETROIT, MI	WAYNE	261630015	39.1	16.9	0.45	39	4
MICHIGAN	DETROIT, MI	WAYNE	261630025	23.4	14.7	0.67	13	0

(continued) Table E-2. PM Data for Figure E-1

State	MSA	County	Site	PM_{10} Annual mean	$PM_{2.5}$ annual mean	Annual mean of daily ratios	Samples per year	Min. Samples in lowest quarter [1]
MICHIGAN	DETROIT, MI	WAYNE	261630033	39.3	16.6	0.44	72	9
MINNESOTA	NOT IN AN MSA	FREEBORN	270475401	21.8	11.4	0.50	9	0
MINNESOTA	MINNEAPOLIS-ST. PAUL, MN-WI	HENNEPIN	270530960	22.7	10.0	0.44	92	0
MINNESOTA	MINNEAPOLIS-ST. PAUL, MN-WI	HENNEPIN	270531007	25.7	9.5	0.39	21	0
MINNESOTA	MINNEAPOLIS-ST. PAUL, MN-WI	HENNEPIN	270532006	20.3	9.6	0.50	28	0
MINNESOTA	NOT IN AN MSA	LAKE	270757608	16.0	11.4	0.92	6	0
MINNESOTA	NOT IN AN MSA	MC LEOD	270854301	15.7	13.4	0.84	3	0
MINNESOTA	NOT IN AN MSA	OTTER TAIL	271112012	15.9	10.1	0.65	8	0
MINNESOTA	MINNEAPOLIS-ST. PAUL, MN-WI	RAMSEY	271230021	24.6	11.5	0.47	78	0
MINNESOTA	MINNEAPOLIS-ST. PAUL, MN-WI	RAMSEY	271230866	37.4	11.7	0.44	20	0
MINNESOTA	MINNEAPOLIS-ST. PAUL, MN-WI	RAMSEY	271230868	22.4	10.3	0.47	19	1
MINNESOTA	MINNEAPOLIS-ST. PAUL, MN-WI	RAMSEY	271230871	15.5	9.9	0.64	23	0
MINNESOTA	MINNEAPOLIS-ST. PAUL, MN-WI	RAMSEY	271230873	20.3	9.8	0.49	92	0
MINNESOTA	DULUTH-SUPERIOR, MN-WI	ST LOUIS	271377001	22.1	8.4	0.41	17	0
MINNESOTA	DULUTH-SUPERIOR, MN-WI	ST LOUIS	271377550	10.7	7.2	0.66	9	0
MINNESOTA	MINNEAPOLIS-ST. PAUL, MN-WI	WASHINGTON	271630301	18.8	16.9	0.90	4	0
MINNESOTA	MINNEAPOLIS-ST. PAUL, MN-WI	WRIGHT	271713201	22.0	20.8	0.92	2	0
MISSISSIPPI	JACKSON, MS	HINDS	280490018	26.9	16.9	0.64	46	0
MISSISSIPPI	BILOXI-GULFPORT-PASCAGOULA, MS	JACKSON	280590006	12.5	13.6	1.22	23	3
MISSISSIPPI	NOT IN AN MSA	JONES	280670002	8.0	17.2	2.19	2	0
MISSISSIPPI	NOT IN AN MSA	LEE	280810005	14.5	14.9	1.27	21	1
MISSOURI	SPRINGFIELD, MO	GREENE	290770032	17.3	11.5	0.67	59	14
MISSOURI	KANSAS CITY, MO-KS	JACKSON	290952002	28.9	13.5	0.53	58	14

(continued) Table E-2. PM Data for Figure E-1

State	MSA	County	Site	PM_{10} Annual mean	$PM_{2.5}$ annual mean	Annual mean of daily ratios	Samples per year	Min. Samples in lowest quarter [1]
MISSOURI	JOPLIN, MO	JASPER	290970003	34.3	12.5	0.58	94	20
MISSOURI	NOT IN AN MSA	MONROE	291370001	14.1	10.4	0.81	47	6
MISSOURI	ST. LOUIS, MO-IL	ST LOUIS (CITY)	295100086	22.8	12.3	0.54	6	0
MONTANA	NOT IN AN MSA	FLATHEAD	300290039	26.0	10.1	0.44	45	7
MONTANA	NOT IN AN MSA	FLATHEAD	300290043	21.1	9.7	0.50	34	0
MONTANA	NOT IN AN MSA	FLATHEAD	300290047	19.1	8.5	0.48	52	0
MONTANA	NOT IN AN MSA	LEWIS AND CLARK	300490018	15.5	6.1	0.39	35	3
MONTANA	NOT IN AN MSA	LINCOLN	300530018	24.2	15.8	0.70	80	15
MONTANA	NOT IN AN MSA	MISSOULA	300630024	19.8	7.7	0.48	4	0
MONTANA	NOT IN AN MSA	MISSOULA	300630031	18.6	9.0	0.49	42	8
MONTANA	BILLINGS, MT	YELLOWSTONE	301111065	19.9	7.9	0.52	107	23
NEBRASKA	OMAHA, NE-IA	CASS	310250002	56.1	9.8	0.24	36	5
NEVADA	LAS VEGAS, NV-AZ	CLARK	320030022	17.0	4.8	0.33	112	27
NEVADA	LAS VEGAS, NV-AZ	CLARK	320030560	42.4	11.6	0.28	275	39
NEVADA	LAS VEGAS, NV-AZ	CLARK	320031019	10.6	4.5	0.45	87	9
NEVADA	LAS VEGAS, NV-AZ	CLARK	320032002	51.5	10.7	0.22	67	3
NEVADA	NOT IN AN MSA	DOUGLAS	320050008	6.0	1.0	0.17	1	0
NEVADA	RENO, NV	WASHOE	320310016	33.4	9.5	0.29	54	13
NEVADA	RENO, NV	WASHOE	320312002	14.3	6.3	0.44	3	0
NEW JERSEY	PHILADELPHIA, PA-NJ	CAMDEN	340070003	20.1	14.1	0.73	46	5
NEW JERSEY	PHILADELPHIA, PA-NJ	CAMDEN	340071007	24.0	14.6	0.65	46	7
NEW JERSEY	NEWARK, NJ	ESSEX	340130011	37.5	17.8	0.50	34	5
NEW JERSEY	JERSEY CITY, NJ	HUDSON	340171003	27.6	16.7	0.62	38	4
NEW JERSEY	TRENTON, NJ	MERCER	340210008	21.2	13.7	0.75	48	6

(continued) Table E-2. PM Data for Figure E-1

State	MSA	County	Site	PM_{10} Annual mean	$PM_{2.5}$ annual mean	Annual mean of daily ratios	Samples per year	Min. Samples in lowest quarter [1]
NEW JERSEY	NEWARK, NJ	UNION	340390004	33.9	17.2	0.55	49	6
NEW MEXICO	ALBUQUERQUE, NM	BERNALILLO	350010023	22.6	7.1	0.35	32	0
NEW MEXICO	NOT IN AN MSA	CHAVES	350050005	17.8	7.2	0.45	47	8
NEW MEXICO	LAS CRUCES, NM	DONA ANA	350130017	41.6	10.9	0.29	50	8
NEW MEXICO	LAS CRUCES, NM	DONA ANA	350131006	22.2	7.1	0.38	49	10
NEW MEXICO	NOT IN AN MSA	GRANT	350171002	16.7	5.4	0.34	35	7
NEW MEXICO	NOT IN AN MSA	LEA	350250007	16.1	7.4	0.48	43	9
NEW MEXICO	NOT IN AN MSA	SAN JUAN	350450006	15.1	5.9	0.42	36	4
NEW MEXICO	SANTA FE, NM	SANTA FE	350490020	11.3	5.1	0.47	62	13
NEW YORK	NEW YORK, NY	BRONX	360050110	12.8	11.9	0.96	5	0
NEW YORK	JAMESTOWN, NY	CHAUTAUQUA	360130011	13.7	12.6	1.17	19	0
NEW YORK	NOT IN AN MSA	ESSEX	360310003	11.3	9.6	1.22	16	0
NEW YORK	NEW YORK, NY	KINGS	360470011	24.1	17.8	0.81	15	0
NEW YORK	NASSAU-SUFFOLK, NY	NASSAU	360590005	18.2	14.5	0.81	21	0
NEW YORK	NEW YORK, NY	NEW YORK	360610010	21.2	18.1	0.87	15	0
NEW YORK	BUFFALO-NIAGARA FALLS, NY	NIAGARA	360632008	21.7	15.5	0.68	14	0
NEW YORK	NEW YORK, NY	RICHMOND	360850067	16.3	12.6	0.89	16	0
NORTH CAROLINA	CHARLOTTE-GASTONIA-ROCK HILL, NC-SC	CABARRUS	370250004	24.1	16.9	0.71	33	0
NORTH CAROLINA	HICKORY-MORGANTON-LENOIR, NC	CATAWBA	370350004	26.3	17.8	0.67	37	0
NORTH CAROLINA	FAYETTEVILLE, NC	CUMBERLAND	370510009	23.3	17.1	0.73	38	0
NORTH CAROLINA	RALEIGH-DURHAM-CHAPEL HILL, NC	DURHAM	370630001	24.0	15.2	0.63	41	0

(continued) Table E-2. PM Data for Figure E-1

State	MSA	County	Site	PM_{10} Annual mean	$PM_{2.5}$ annual mean	Annual mean of daily ratios	Samples per year	Min. Samples in lowest quarter [1]
NORTH CAROLINA	ROCKY MOUNT, NC	EDGECOMBE	370650003	19.6	13.7	0.69	24	0
NORTH CAROLINA	GREENSBORO--WINSTON-SALEM--HIGH POINT, NC	FORSYTH	370670022	18.0	13.9	0.77	63	0
NORTH CAROLINA	CHARLOTTE-GASTONIA-ROCK HILL, NC-SC	GASTON	370710016	24.8	18.2	0.74	38	0
NORTH CAROLINA	GREENSBORO--WINSTON-SALEM--HIGH POINT, NC	GUILFORD	370810009	28.0	19.4	0.68	35	0
NORTH CAROLINA	GREENSBORO--WINSTON-SALEM--HIGH POINT, NC	GUILFORD	370811005	27.3	17.5	0.63	23	0
NORTH CAROLINA	NOT IN AN MSA	MC DOWELL	371110004	22.2	15.7	0.71	29	0
NORTH CAROLINA	CHARLOTTE-GASTONIA-ROCK HILL, NC-SC	MECKLENBURG	371190010	29.0	18.6	0.65	43	0
NORTH CAROLINA	NOT IN AN MSA	MITCHELL	371210001	26.5	16.0	0.58	39	0
NORTH CAROLINA	WILMINGTON, NC	NEW HANOVER	371290009	17.1	12.0	0.69	55	0
NORTH CAROLINA	JACKSONVILLE, NC	ONSLOW	371330005	17.2	11.1	0.65	49	0
NORTH CAROLINA	NOT IN AN MSA	PASQUOTANK	371390002	20.8	13.1	0.60	31	0
NORTH CAROLINA	GREENVILLE, NC	PITT	371470005	21.6	13.5	0.61	37	0
NORTH CAROLINA	NOT IN AN MSA	SWAIN	371730002	20.7	14.6	0.69	33	0

(continued) Table E-2. PM Data for Figure E-1

State	MSA	County	Site	PM_{10} Annual mean	$PM_{2.5}$ annual mean	Annual mean of daily ratios	Samples per year	Min. Samples in lowest quarter [1]
NORTH CAROLINA	RALEIGH-DURHAM-CHAPEL HILL, NC	WAKE	371830014	22.8	15.9	0.70	197	0
NORTH CAROLINA	GOLDSBORO, NC	WAYNE	371910005	23.7	14.9	0.63	42	0
NORTH DAKOTA	NOT IN AN MSA	BURKE	380130002	19.9	6.2	0.37	32	0
NORTH DAKOTA	FARGO-MOORHEAD, ND-MN	CASS	380171004	22.8	9.0	0.47	51	10
OHIO	NOT IN AN MSA	ATHENS	390090003	20.5	14.9	0.76	47	8
OHIO	HAMILTON-MIDDLETOWN, OH	BUTLER	390170003	24.4	16.7	0.78	40	5
OHIO	CLEVELAND-LORAIN-ELYRIA, OH	CUYAHOGA	390350013	41.6	17.9	0.47	107	20
OHIO	CLEVELAND-LORAIN-ELYRIA, OH	CUYAHOGA	390350027	34.6	19.2	0.57	44	7
OHIO	CLEVELAND-LORAIN-ELYRIA, OH	CUYAHOGA	390350038	42.8	21.1	0.50	286	58
OHIO	CLEVELAND-LORAIN-ELYRIA, OH	CUYAHOGA	390350045	26.3	14.4	0.63	3	0
OHIO	CLEVELAND-LORAIN-ELYRIA, OH	CUYAHOGA	390350060	45.5	19.5	0.47	45	5
OHIO	CLEVELAND-LORAIN-ELYRIA, OH	CUYAHOGA	390350065	36.6	18.3	0.50	47	6
OHIO	CLEVELAND-LORAIN-ELYRIA, OH	CUYAHOGA	390351002	26.8	15.0	0.57	45	7
OHIO	COLUMBUS, OH	FRANKLIN	390490024	31.7	16.2	0.60	40	8
OHIO	CINCINNATI, OH-KY-IN	HAMILTON	390610014	31.1	19.8	0.68	47	10

(continued) Table E-2. PM Data for Figure E-1

State	MSA	County	Site	PM_{10} Annual mean	$PM_{2.5}$ annual mean	Annual mean of daily ratios	Samples per year	Min. Samples in lowest quarter [1]
OHIO	CINCINNATI, OH-KY-IN	HAMILTON	390610040	21.7	15.8	0.72	21	0
OHIO	CINCINNATI, OH-KY-IN	HAMILTON	390618001	35.6	18.8	0.58	23	1
OHIO	STEUBENVILLE-WEIRTON, OH-WV	JEFFERSON	390810016	34.7	20.2	0.64	50	10
OHIO	STEUBENVILLE-WEIRTON, OH-WV	JEFFERSON	390811001	34.7	19.0	0.56	85	13
OHIO	CLEVELAND-LORAIN-ELYRIA, OH	LAKE	390851001	20.0	14.1	0.72	50	11
OHIO	HUNTINGTON-ASHLAND, WV-KY-OH	LAWRENCE	390870010	26.1	19.4	0.77	17	0
OHIO	CLEVELAND-LORAIN-ELYRIA, OH	LORAIN	390932003	28.5	14.3	0.57	46	11
OHIO	TOLEDO, OH	LUCAS	390950024	25.0	14.4	0.69	176	29
OHIO	YOUNGSTOWN-WARREN, OH	MAHONING	390990005	24.7	16.4	0.68	56	13
OHIO	DAYTON-SPRINGFIELD, OH	MONTGOMERY	391130014	27.7	16.9	0.64	42	8
OHIO	NOT IN AN MSA	SCIOTO	391450013	32.3	22.3	0.76	50	10
OHIO	CANTON-MASSILLON, OH	STARK	391510017	23.7	18.0	0.75	51	10
OHIO	CANTON-MASSILLON, OH	STARK	391510020	23.0	17.3	0.78	43	10
OHIO	AKRON, OH	SUMMIT	391530017	22.9	17.9	0.85	307	69
OHIO	YOUNGSTOWN-WARREN, OH	TRUMBULL	391550007	20.9	15.9	0.81	54	13
OKLAHOMA	NOT IN AN MSA	CUSTER	400390852	21.2	8.4	0.40	35	0
OKLAHOMA	NOT IN AN MSA	KAY	400710602	21.7	8.6	0.42	30	0
OKLAHOMA	OKLAHOMA CITY, OK	OKLAHOMA	401090035	23.0	8.7	0.38	31	0
OKLAHOMA	NOT IN AN MSA	PITTSBURG	401210415	26.2	10.9	0.43	27	0
OKLAHOMA	TULSA, OK	TULSA	401430110	21.2	9.2	0.44	22	0

(continued) Table E-2. PM Data for Figure E-1

State	MSA	County	Site	PM_{10} Annual mean	$PM_{2.5}$ annual mean	Annual mean of daily ratios	Samples per year	Min. Samples in lowest quarter [1]
OREGON	NOT IN AN MSA	DESCHUTES	410170113	27.4	9.5	0.37	12	0
OREGON	MEDFORD-ASHLAND, OR	JACKSON	410291001	11.9	8.1	0.66	55	0
OREGON	NOT IN AN MSA	KLAMATH	410350004	22.2	14.0	0.62	14	0
OREGON	NOT IN AN MSA	LAKE	410370001	16.3	9.8	0.54	12	0
OREGON	EUGENE-SPRINGFIELD, OR	LANE	410390060	12.8	6.7	0.52	29	0
OREGON	EUGENE-SPRINGFIELD, OR	LANE	410392013	20.8	16.9	0.79	89	0
OREGON	PORTLAND-VANCOUVER, OR-WA	MULTNOMAH	410510080	17.1	12.3	0.65	71	0
OREGON	NOT IN AN MSA	UMATILLA	410590121	16.8	10.9	0.67	9	0
OREGON	NOT IN AN MSA	UNION	410610006	23.5	10.4	0.46	14	0
PENNSYLVANIA	PITTSBURGH, PA	ALLEGHENY	420030021	25.4	18.3	0.71	18	0
PENNSYLVANIA	PITTSBURGH, PA	ALLEGHENY	420030064	25.8	18.7	0.75	180	37
PENNSYLVANIA	PITTSBURGH, PA	ALLEGHENY	420030067	22.2	16.1	0.73	27	0
PENNSYLVANIA	PITTSBURGH, PA	ALLEGHENY	420030093	15.0	10.5	0.67	10	0
PENNSYLVANIA	PITTSBURGH, PA	ALLEGHENY	420030095	24.3	17.1	0.68	14	0
PENNSYLVANIA	PITTSBURGH, PA	ALLEGHENY	420030097	18.1	15.0	0.86	12	0
PENNSYLVANIA	PITTSBURGH, PA	ALLEGHENY	420030116	25.3	17.9	0.72	28	2
PENNSYLVANIA	PITTSBURGH, PA	ALLEGHENY	420031301	35.2	21.0	0.60	29	1
PENNSYLVANIA	PITTSBURGH, PA	ALLEGHENY	420039002	20.7	16.7	0.83	32	6
PENNSYLVANIA	PHILADELPHIA, PA-NJ	PHILADELPHIA	421010004	24.9	14.7	0.77	24	1
PENNSYLVANIA	PHILADELPHIA, PA-NJ	PHILADELPHIA	421010136	28.5	14.1	0.60	7	0
PENNSYLVANIA	PITTSBURGH, PA	WASHINGTON	421255001	29.3	14.3	0.49	37	4
RHODE ISLAND	PROVIDENCE-FALL RIVER-WARWICK, RI-MA	KENT	440030002	15.2	9.7	0.64	45	0

(continued) Table E-2. PM Data for Figure E-1

State	MSA	County	Site	PM_{10} Annual mean	$PM_{2.5}$ annual mean	Annual mean of daily ratios	Samples per year	Min. Samples in lowest quarter [1]
RHODE ISLAND	PROVIDENCE-FALL RIVER-WARWICK, RI-MA	PROVIDENCE	440070020	27.6	15.3	0.55	38	0
RHODE ISLAND	PROVIDENCE-FALL RIVER-WARWICK, RI-MA	PROVIDENCE	440071005	24.2	13.5	0.54	40	0
SOUTH CAROLINA	CHARLESTON-NORTH CHARLESTON, SC	CHARLESTON	450190046	18.5	11.9	0.63	46	8
SOUTH CAROLINA	NOT IN AN MSA	GEORGETOWN	450430009	22.9	12.3	0.53	43	9
SOUTH CAROLINA	COLUMBIA, SC	LEXINGTON	450630005	31.4	14.3	0.60	34	0
SOUTH CAROLINA	COLUMBIA, SC	RICHLAND	450790019	24.8	15.6	0.62	50	11
SOUTH DAKOTA	NOT IN AN MSA	BROOKINGS	460110002	17.3	5.3	0.44	6	0
SOUTH DAKOTA	SIOUX FALLS, SD	MINNEHAHA	460990006	25.7	9.7	0.44	19	0
SOUTH DAKOTA	RAPID CITY, SD	PENNINGTON	461030014	44.4	7.4	0.23	15	0
SOUTH DAKOTA	RAPID CITY, SD	PENNINGTON	461030015	18.8	4.9	0.31	14	0
SOUTH DAKOTA	RAPID CITY, SD	PENNINGTON	461030017	12.0	5.6	0.49	11	0
SOUTH DAKOTA	RAPID CITY, SD	PENNINGTON	461031001	22.1	7.0	0.34	11	0
TEXAS	SAN ANTONIO, TX	BEXAR	480290034	18.3	10.6	0.61	4	0
TEXAS	DALLAS, TX	DALLAS	481130020	22.3	12.2	0.55	26	2
TEXAS	DALLAS, TX	DALLAS	481130035	28.6	11.9	0.43	21	3
TEXAS	DALLAS, TX	DALLAS	481130050	24.6	12.7	0.51	15	1
TEXAS	DALLAS, TX	DALLAS	481130057	26.1	11.9	0.49	14	1
TEXAS	EL PASO, TX	EL PASO	481410002	49.3	11.0	0.29	48	0
TEXAS	EL PASO, TX	EL PASO	481410010	20.8	4.6	0.31	5	0

(continued) Table E-2. PM Data for Figure E-1

State	MSA	County	Site	PM_{10} Annual mean	$PM_{2.5}$ annual mean	Annual mean of daily ratios	Samples per year	Min. Samples in lowest quarter [1]
TEXAS	EL PASO, TX	EL PASO	481410037	44.1	8.6	0.23	91	0
TEXAS	EL PASO, TX	EL PASO	481410038	25.0	3.8	0.15	1	0
TEXAS	EL PASO, TX	EL PASO	481410043	37.2	10.7	0.32	27	5
TEXAS	EL PASO, TX	EL PASO	481410044	28.3	6.2	0.23	18	0
TEXAS	EL PASO, TX	EL PASO	481410045	22.4	8.3	0.40	15	1
TEXAS	GALVESTON-TEXAS CITY, TX	GALVESTON	481670053	27.7	18.1	0.59	7	0
TEXAS	HOUSTON, TX	HARRIS	482010062	31.3	16.5	0.52	16	0
TEXAS	HOUSTON, TX	HARRIS	482011035	41.8	15.5	0.42	33	0
TEXAS	HOUSTON, TX	HARRIS	482011037	31.6	12.1	0.41	15	0
TEXAS	HOUSTON, TX	HARRIS	482011039	18.0	8.5	0.50	3	0
TEXAS	LUBBOCK, TX	LUBBOCK	483030001	15.0	6.4	0.51	11	0
TEXAS	AUSTIN-SAN MARCOS, TX	TRAVIS	484530021	27.5	12.8	0.51	8	0
TEXAS	LAREDO, TX	WEBB	484790016	30.1	11.2	0.42	11	0
UTAH	SALT LAKE CITY-OGDEN, UT	SALT LAKE	490350003	25.9	10.9	0.48	98	21
UTAH	SALT LAKE CITY-OGDEN, UT	SALT LAKE	490353006	25.9	10.2	0.42	285	68
VERMONT	NOT IN AN MSA	BENNINGTON	500030005	16.7	10.6	0.61	49	11
VERMONT	NOT IN AN MSA	CHITTENDEN	500070007	11.5	7.4	0.59	47	9
VERMONT	BURLINGTON, VT	CHITTENDEN	500070012	15.0	9.3	0.60	22	0
VERMONT	NOT IN AN MSA	RUTLAND	500210002	20.7	12.1	0.58	46	8
VERMONT	NOT IN AN MSA	WASHINGTON	500230005	20.6	10.9	0.51	50	10
VIRGINIA	NORFOLK-VIRGINIA BEACH-NEWPORT NEWS,VA-NC	CHESAPEAKE	515500012	19.6	12.8	0.63	40	7
VIRGINIA	NORFOLK-VIRGINIA BEACH-NEWPORT NEWS,VA-NC	HAMPTON	516500004	18.4	13.1	0.69	32	5

(continued) Table E-2. PM Data for Figure E-1

State	MSA	County	Site	PM_{10} Annual mean	$PM_{2.5}$ annual mean	Annual mean of daily ratios	Samples per year	Min. Samples in lowest quarter [1]
VIRGINIA	NORFOLK-VIRGINIA BEACH-NEWPORT NEWS,VA-NC	NORFOLK	517100024	19.2	12.9	0.64	32	2
VIRGINIA	RICHMOND-PETERSBURG, VA	RICHMOND (CITY)	517600020	18.2	13.8	0.78	45	9
WASHINGTON	RICHLAND-KENNEWICK-PASCO, WA	BENTON	530050002	18.3	6.1	0.61	45	0
WASHINGTON	PORTLAND-VANCOUVER, OR-WA	CLARK	530110013	16.1	10.0	0.61	44	6
WASHINGTON	SEATTLE-BELLEVUE-EVERETT, WA	KING	530330024	17.6	12.2	0.67	22	0
WASHINGTON	TACOMA, WA	PIERCE	530531018	17.8	10.0	0.58	59	14
WASHINGTON	SEATTLE-BELLEVUE-EVERETT, WA	SNOHOMISH	530611007	16.8	10.8	0.63	50	11
WASHINGTON	SPOKANE, WA	SPOKANE	530630047	17.7	8.8	0.63	30	5
WASHINGTON	YAKIMA, WA	YAKIMA	530770012	20.3	8.9	0.41	51	0
WEST VIRGINIA	WASHINGTON, DC-MD-VA-WV	BERKELEY	540030003	22.6	17.8	0.97	42	7
WEST VIRGINIA	STEUBENVILLE-WEIRTON, OH-WV	BROOKE	540090005	27.9	17.9	0.67	110	24
WEST VIRGINIA	HUNTINGTON-ASHLAND, WV-KY-OH	CABELL	540110006	23.7	18.9	0.93	51	10
WEST VIRGINIA	STEUBENVILLE-WEIRTON, OH-WV	HANCOCK	540290011	26.7	16.9	0.64	114	26
WEST VIRGINIA	STEUBENVILLE-WEIRTON, OH-WV	HANCOCK	540291004	31.6	17.9	0.60	48	10
WEST VIRGINIA	NOT IN AN MSA	HARRISON	540330003	17.9	15.5	0.94	52	11
WEST VIRGINIA	CHARLESTON, WV	KANAWHA	540390009	20.6	17.3	1.18	47	9
WEST VIRGINIA	CHARLESTON, WV	KANAWHA	540391005	22.1	18.7	0.99	51	11

State	MSA	County	Site	PM_{10} Annual mean	$PM_{2.5}$ annual mean	Annual mean of daily ratios	Samples per year	Min. Samples in lowest quarter [1]
WEST VIRGINIA	WHEELING, WV-OH	MARSHALL	540511002	23.7	17.6	0.78	59	14
WEST VIRGINIA	NOT IN AN MSA	MONONGALIA	540610003	22.2	15.8	0.79	53	11
WEST VIRGINIA	WHEELING, WV-OH	OHIO	540690008	25.3	17.0	0.69	50	10
WEST VIRGINIA	NOT IN AN MSA	RALEIGH	540810002	16.3	14.9	1.11	43	9
WEST VIRGINIA	NOT IN AN MSA	SUMMERS	540890001	14.4	12.9	1.09	35	6
WEST VIRGINIA	PARKERSBURG-MARIETTA, WV-OH	WOOD	541071002	21.9	18.8	1.27	42	9
WISCONSIN	MADISON, WI	DANE	550250025	20.2	12.4	0.64	53	11
WISCONSIN	DULUTH-SUPERIOR, MN-WI	DOUGLAS	550310025	19.3	8.1	0.43	54	12
WISCONSIN	NOT IN AN MSA	VILAS	551250001	11.4	8.4	0.88	51	12
WYOMING	CHEYENNE, WY	LARAMIE	560210001	12.9	6.0	0.53	49	11
WYOMING	NOT IN AN MSA	SHERIDAN	560330001	19.0	7.6	0.52	52	11
WYOMING	NOT IN AN MSA	SHERIDAN	560330002	30.0	10.1	0.44	81	14
PUERTO RICO	SAN JUAN-BAYAMON, PR	FAJARDO	720530003	29.4	6.9	0.24	133	0
PUERTO RICO	PONCE, PR	PONCE	721130004	39.1	8.3	0.22	41	8
VIRGIN ISLANDS	NOT IN AN MSA	ST CROIX	780010012	18.2	10.8	0.70	19	1

[1] "Min. samples in lowest quarter" refers to the number of samples pairs in the quarter with the fewest sample pairs. If it is less than 7 then the data was deemed too incomplete to be plotted in Figure E-1.