

Supplementary Information

Table S1. 2022-adjusted mean 24-hour total PM_{2.5} concentration by location and month.

Monitoring Location	January			February			March			April		
	Mean	LCL	UCL	Mean	LCL	UCL	Mean	LCL	UCL	Mean	LCL	UCL
Arlington Municipal Airport	5.5	5.0	6.1	5.9	5.2	6.7	6.2	5.6	6.9	6.6	6.0	7.2
Convention Center	6.4	5.8	7.0	6.9	6.0	7.8	7.2	6.5	8.0	7.6	6.9	8.4
Dallas Bexar Street	6.4	5.5	7.4	6.9	5.8	8.1	7.2	6.2	8.4	7.6	6.6	8.8
Dallas Hinton	6.0	5.4	6.6	6.4	5.7	7.3	6.8	6.1	7.5	7.1	6.5	7.8
Denton Airport South	5.2	4.7	5.7	5.6	4.9	6.4	5.9	5.3	6.5	6.2	5.6	6.8
Fort Worth California Parkway North	6.1	5.5	6.6	6.5	5.8	7.4	6.9	6.2	7.6	7.2	6.6	7.9
Fort Worth Northwest	6.2	5.6	6.9	6.7	5.9	7.6	7.1	6.4	7.8	7.4	6.8	8.2
Haws Athletic Center	6.0	5.5	6.6	6.5	5.7	7.4	6.8	6.2	7.5	7.2	6.5	7.9
Italy	5.4	4.9	5.9	5.8	5.1	6.6	6.1	5.5	6.7	6.4	5.8	7.0
Kaufman	5.0	4.5	5.5	5.4	4.8	6.1	5.7	5.1	6.3	6.0	5.4	6.6
Midlothian OFW	5.7	5.2	6.3	6.2	5.4	7.0	6.5	5.8	7.1	6.8	6.2	7.5
Monitoring Location	May			June			July			August		
	Mean	LCL	UCL	Mean	LCL	UCL	Mean	LCL	UCL	Mean	LCL	UCL
Arlington Municipal Airport	6.7	5.9	7.6	8.2	7.3	9.4	9.6	8.5	10.8	8.4	7.4	9.6
Convention Center	7.8	6.9	8.8	9.5	8.4	10.9	11.1	9.8	12.5	9.8	8.5	11.2
Dallas Bexar Street	7.8	6.6	9.2	9.6	7.9	11.6	11.1	9.5	13.1	9.8	8.1	11.9
Dallas Hinton	7.3	6.4	8.2	8.9	7.9	10.1	10.4	9.2	11.7	9.1	8.0	10.5
Denton Airport South	6.3	5.6	7.2	7.8	6.9	8.8	9.0	8.0	10.2	8.0	7.0	9.1
Fort Worth California Parkway North	7.4	6.6	8.3	9.1	8.0	10.3	10.5	9.4	11.8	9.3	8.2	10.6
Fort Worth Northwest	7.6	6.8	8.6	9.4	8.3	10.6	10.9	9.6	12.2	9.6	8.3	11.0
Haws Athletic Center	7.4	6.5	8.3	9.0	8.0	10.2	10.5	9.3	11.8	9.2	8.1	10.6
Italy	6.5	5.8	7.4	8.0	7.1	9.1	9.3	8.3	10.5	8.2	7.2	9.4
Kaufman	6.1	5.4	6.9	7.5	6.6	8.5	8.7	7.7	9.8	7.7	6.7	8.8
Midlothian OFW	7.0	6.2	7.9	8.6	7.6	9.7	9.9	8.8	11.2	8.8	7.7	10.0
Monitoring	September			October			November			December		
	Mean	LCL	UCL	Mean	LCL	UCL	Mean	LCL	UCL	Mean	LCL	UCL

Location												
Arlington Municipal Airport	7.4	6.6	8.2	5.8	5.2	6.5	5.7	5.0	6.5	6.1	5.4	6.8
Convention Center	8.5	7.7	9.5	6.8	6.0	7.6	6.6	5.7	7.6	7.0	6.2	7.9
Dallas Bexar Street	8.6	7.3	10.0	6.8	5.8	8.0	6.6	5.6	7.9	7.0	6.0	8.3
Dallas Hinton	8.0	7.2	8.9	6.3	5.6	7.1	6.2	5.4	7.1	6.6	5.9	7.4
Denton Airport South	7.0	6.3	7.7	5.5	4.9	6.2	5.4	4.7	6.2	5.7	5.1	6.4
Fort Worth California Parkway North	8.1	7.3	9.0	6.4	5.8	7.2	6.3	5.5	7.2	6.7	6.0	7.4
Fort Worth Northwest	8.4	7.5	9.3	6.6	5.9	7.4	6.5	5.6	7.4	6.9	6.1	7.7
Haws Athletic Center	8.1	7.3	8.9	6.4	5.7	7.1	6.2	5.5	7.1	6.6	5.9	7.4
Italy	7.2	6.5	8.0	5.7	5.1	6.4	5.6	4.8	6.4	5.9	5.3	6.6
Kaufman	6.7	6.0	7.5	5.3	4.7	6.0	5.2	4.5	5.9	5.5	4.9	6.2
Midlothian OFW	7.6	6.9	8.5	6.0	5.4	6.8	5.9	5.2	6.8	6.3	5.6	7.0

LCL = 95% Lower Confidence Limit

UCL = 95% Upper Confidence Limit

Table S2. Spearman correlation matrix of 24-hour total PM_{2.5} concentrations in the Dallas CBSA

Monitoring Location	Arlington Municipal Airport	Convention Center	Dallas Bexar Street	Dallas Hinton	Denton Airport South	Fort Worth California Parkway North	Fort Worth Northwest	Haws Athletic Center	Italy	Kaufman	Midlothian OFW
Arlington Municipal Airport	1.00										
Convention Center	0.83	1.00									
Dallas Bexar Street	NA ¹	0.90	1.00								
Dallas Hinton	0.86	0.91	0.81	1.00							
Denton Airport South	0.87	0.81	0.80	0.79	1.00						
Fort Worth California Parkway North	0.88	0.89	0.80	0.84	0.86	1.00					
Fort Worth Northwest	0.86	0.86	0.80	0.82	0.82	0.90	1.00				
Haws Athletic Center	0.84	0.84	0.82	0.82	0.83	0.90	0.88	1.00			
Italy	0.89	0.81	NA ¹	0.82	0.86	0.85	0.85	0.83	1.00		
Kaufman	0.86	0.82	0.82	0.78	0.83	0.78	0.73	0.77	0.92	1.00	
Midlothian OFW	0.87	0.79	0.85	0.79	0.80	0.78	0.74	0.80	0.91	0.83	1.00

¹ There was no temporal overlap between these monitoring locations.

Table S3. Raw IDW Average Background Dallas CBSA 24-hour PM_{2.5} summary statistics (µg/m³)

Monitoring Location	25 th Percentile	Median	Mean	75 th Percentile	Maximum	Mean Difference ¹
Arlington Municipal Airport	6.1	8.0	8.8	10.4	34.8	0.4
Convention Center	6.0	8.0	8.9	10.8	47.3	-0.6
Dallas Bexar Street	5.8	8.3	8.9	10.0	34.1	-0.7
Dallas Hinton	5.9	7.8	8.5	10.2	47.3	-0.5
Denton Airport South	6.0	7.9	8.7	10.4	48.0	0.9
Fort Worth California Parkway North	6.0	7.8	8.6	10.4	50.0	-0.1
Fort Worth Northwest	5.9	7.9	8.7	10.6	50.9	-0.3
Haws Athletic Center	6.0	7.9	8.7	10.5	49.0	-0.2
Italy	6.0	8.0	8.7	10.6	32.3	0.4
Kaufman	5.9	7.9	8.7	10.4	49.4	1.1
Midlothian OFW	5.8	7.8	8.5	10.3	48.3	0.2

¹ Difference calculated as follows: Difference = Regional – Local. This difference represents the mean difference between a monitoring location's measurement and the inverse distance weighted average at the surrounding monitoring locations. A positive value means that the concentrations at the surrounding monitor locations are on average greater than the concentrations at the monitoring location. A negative value means that the concentrations at the surrounding monitor locations are on average less than the concentrations at the monitoring location.

Table S4. 2022-adjusted mean 24-hour local PM_{2.5} contributions by location and month.

Monitoring Location	January			February			March			April		
	Mean	LCL	UCL	Mean	LCL	UCL	Mean	LCL	UCL	Mean	LCL	UCL
Arlington Municipal Airport	2.8	2.6	3.0	2.8	2.6	3.1	2.9	2.7	3.1	3.0	2.8	3.3
Convention Center	3.6	3.2	4.1	3.7	3.2	4.2	3.8	3.4	4.3	3.9	3.5	4.5
Dallas Bexar Street	3.4	3.0	3.9	3.5	3.0	3.9	3.6	3.2	4.0	3.7	3.3	4.2
Dallas Hinton	3.0	2.8	3.3	3.1	2.8	3.4	3.2	2.9	3.5	3.3	3.0	3.6
Denton Airport South	2.6	2.4	2.8	2.7	2.4	2.9	2.7	2.6	3.0	2.9	2.6	3.1
Fort Worth California Parkway North	3.1	2.8	3.4	3.1	2.8	3.5	3.2	2.9	3.6	3.4	3.0	3.7
Fort Worth Northwest	3.3	3.0	3.6	3.4	3.0	3.7	3.5	3.2	3.8	3.6	3.3	4.0
Haws Athletic Center	3.2	3.0	3.5	3.3	3.0	3.6	3.4	3.2	3.6	3.5	3.3	3.8
Italy	2.8	2.6	3.0	2.8	2.6	3.1	2.9	2.7	3.2	3.0	2.8	3.3
Kaufman	2.6	2.4	2.8	2.6	2.4	2.8	2.7	2.5	2.9	2.8	2.6	3.1
Midlothian OFW	3.2	3.1	3.5	3.3	3.1	3.5	3.4	3.2	3.6	3.5	3.3	3.8
Monitoring Location	May			June			July			August		
	Mean	LCL	UCL	Mean	LCL	UCL	Mean	LCL	UCL	Mean	LCL	UCL
Arlington Municipal Airport	3.0	2.8	3.2	3.1	2.9	3.4	3.2	2.9	3.4	3.1	2.9	3.4
Convention Center	3.9	3.5	4.4	4.0	3.6	4.6	4.1	3.6	4.7	4.1	3.6	4.7
Dallas Bexar Street	3.7	3.2	4.2	3.8	3.4	4.3	3.9	3.3	4.5	3.8	3.3	4.4
Dallas Hinton	3.3	3.0	3.6	3.4	3.1	3.7	3.4	3.1	3.8	3.4	3.1	3.8
Denton Airport South	2.8	2.6	3.1	2.9	2.7	3.2	3.0	2.7	3.3	3.0	2.7	3.2
Fort Worth California Parkway North	3.3	3.0	3.7	3.4	3.1	3.8	3.5	3.1	3.9	3.5	3.1	3.9
Fort Worth Northwest	3.6	3.2	3.9	3.7	3.3	4.1	3.7	3.3	4.2	3.7	3.3	4.2
Haws Athletic Center	3.5	3.2	3.8	3.6	3.3	3.9	3.7	3.4	4.0	3.6	3.4	4.0
Italy	3.0	2.8	3.3	3.1	2.8	3.4	3.2	2.9	3.5	3.1	2.9	3.4
Kaufman	2.8	2.6	3.0	2.9	2.7	3.1	2.9	2.7	3.2	2.9	2.7	3.2
Midlothian OFW	3.5	3.3	3.7	3.6	3.4	3.9	3.7	3.4	4.0	3.7	3.4	3.9
Monitoring Location	September			October			November			December		
	Mean	LCL	UCL	Mean	LCL	UCL	Mean	LCL	UCL	Mean	LCL	UCL
Arlington Municipal Airport	3.1	2.9	3.4	2.9	2.7	3.1	2.9	2.7	3.1	2.9	2.7	3.2
Convention Center	4.1	3.6	4.6	3.7	3.3	4.2	3.8	3.3	4.3	3.8	3.4	4.3

Dallas Bexar Street	3.8	3.4	4.4	3.5	3.1	4.0	3.6	3.1	4.0	3.6	3.2	4.1
Dallas Hinton	3.4	3.1	3.7	3.1	2.9	3.4	3.2	2.9	3.5	3.2	2.9	3.5
Denton Airport South	2.9	2.7	3.2	2.7	2.5	2.9	2.7	2.5	3.0	2.8	2.5	3.0
Fort Worth California Parkway North	3.5	3.1	3.9	3.2	2.9	3.5	3.2	2.9	3.6	3.3	2.9	3.6
Fort Worth Northwest	3.7	3.3	4.1	3.4	3.1	3.7	3.4	3.1	3.8	3.5	3.2	3.8
Haws Athletic Center	3.6	3.3	3.9	3.3	3.1	3.6	3.4	3.1	3.6	3.4	3.1	3.7
Italy	3.1	2.9	3.4	2.9	2.6	3.1	2.9	2.6	3.2	2.9	2.7	3.2
Kaufman	2.9	2.7	3.2	2.7	2.5	2.9	2.7	2.5	2.9	2.7	2.5	3.0
Midlothian OFW	3.6	3.4	3.9	3.3	3.1	3.6	3.4	3.1	3.6	3.4	3.2	3.7

LCL = 95% Lower Confidence Limit

UCL = 95% Upper Confidence Limit

Table S5. Mean local PM_{2.5} attribution proportions by location and month

Monitoring Location	January	February	March	April
Arlington Municipal Airport	0.51	0.48	0.47	0.46
Convention Center	0.57	0.53	0.53	0.52
Dallas Bexar Street	0.54	0.50	0.49	0.49
Dallas Hinton	0.51	0.48	0.47	0.46
Denton Airport South	0.51	0.47	0.47	0.46
Fort Worth California Parkway North	0.51	0.48	0.47	0.47
Fort Worth Northwest	0.53	0.50	0.49	0.48
Haws Athletic Center	0.54	0.50	0.50	0.49
Italy	0.52	0.49	0.48	0.47
Kaufman	0.52	0.49	0.48	0.47
Midlothian OFW	0.57	0.53	0.53	0.52
Monitoring Location	May	June	July	August
Arlington Municipal Airport	0.45	0.38	0.33	0.37
Convention Center	0.50	0.42	0.37	0.42
Dallas Bexar Street	0.47	0.40	0.35	0.39
Dallas Hinton	0.45	0.38	0.33	0.37
Denton Airport South	0.45	0.38	0.33	0.37
Fort Worth California Parkway North	0.45	0.38	0.33	0.37
Fort Worth Northwest	0.47	0.39	0.34	0.39
Haws Athletic Center	0.47	0.40	0.35	0.39
Italy	0.46	0.39	0.34	0.38
Kaufman	0.46	0.38	0.34	0.38
Midlothian OFW	0.50	0.42	0.37	0.42
Monitoring Location	September	October	November	December
Arlington Municipal Airport	0.42	0.49	0.51	0.48
Convention Center	0.48	0.55	0.57	0.54
Dallas Bexar Street	0.45	0.52	0.54	0.51
Dallas Hinton	0.42	0.49	0.51	0.48
Denton Airport South	0.42	0.49	0.51	0.48
Fort Worth California Parkway North	0.43	0.50	0.51	0.49
Fort Worth Northwest	0.44	0.51	0.53	0.51
Haws Athletic Center	0.45	0.52	0.54	0.51

Italy	0.43	0.50	0.52	0.50
Kaufman	0.43	0.50	0.52	0.49
Midlothian OFW	0.48	0.55	0.57	0.54

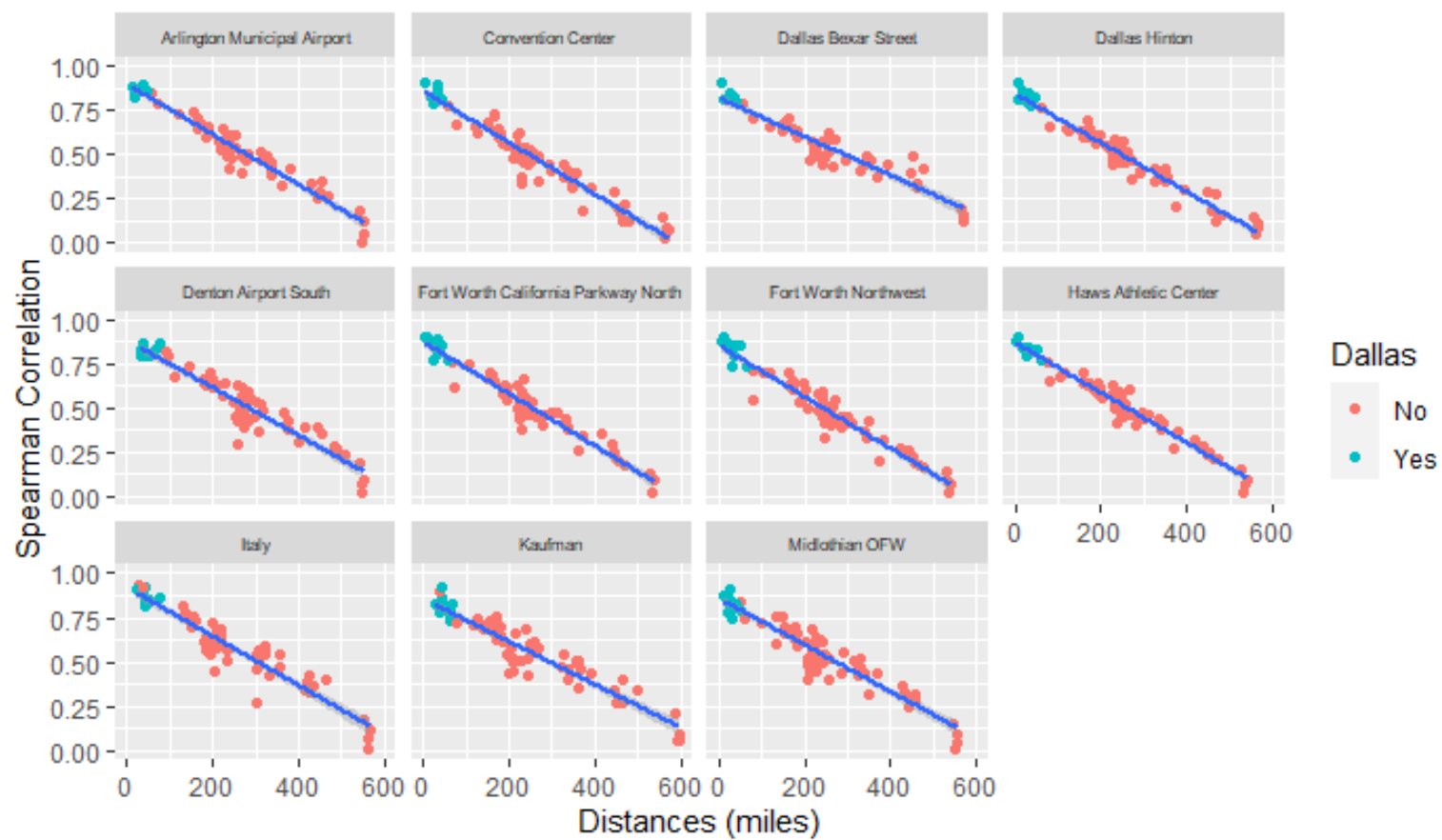


Figure S1. Pairwise Spearman correlations between Dallas monitoring locations and other Texas monitoring locations.

