

## Supplementary Online Content

Franklin M, Yin X, McConnell R, Fruin S. Association of the built environment with childhood psychosocial stress. *JAMA Netw Open*. 2020;3(10):e2017634. doi:10.1001/jamanetworkopen.2020.17634

**eTable 1.** Spearman Correlations Between Environmental Factors at Residences of Study Participants

**eTable 2.** Estimated Associations Between PSS-4 and Environmental Factors From the Multipollutant Model Including Regional PM<sub>2.5</sub>

**eTable 3.** Estimated Associations Between Stress and Environmental Factors From the Multi-Exposure Model Including Sleep Duration

**eFigure.** Boxplots of Environmental Factors, Outcome and Modifier by Community

This supplementary material has been provided by the authors to give readers additional information about their work.

**eTable 1. Spearman correlations between environmental factors at residences of study participants.**

	Freeway NRP	Non-Freeway NRP	Total NRP	Regional PM <sub>2.5</sub>	Noise	NDVI	EVI	ALAN VIIRS	ALAN World Atlas
Freeway NRP <sup>a</sup>	1	0.44	0.96	0.19	0.60	-0.52	-0.53	0.58	0.59
Non-Freeway NRP <sup>a</sup>		1	0.65	-0.03	0.45	-0.46	-0.52	0.70	0.57
Total NRP <sup>a</sup>			1	0.15	0.66	-0.57	-0.59	0.68	0.64
Regional PM <sub>2.5</sub> <sup>b</sup>				1	-0.16	-0.31	-0.11	0.01	0.40
Noise					1	-0.29	-0.39	0.49	0.21
NDVI <sup>c</sup>						1	0.95	-0.66	-0.66
EVI <sup>d</sup>							1	-0.72	-0.72
ALAN VIIRS <sup>e</sup>								1	0.71
ALAN World Atlas <sup>f</sup>									1

<sup>a</sup> near-roadway pollution, nitrogen oxides (NOx); <sup>b</sup> particulate matter with aerodynamic diameter < 2.5µm; <sup>c</sup> Normalized Difference Vegetation Index; <sup>d</sup> Enhanced Vegetation Index; <sup>e</sup> Artificial light at night from the Visible Infrared Imaging Radiometer Suite; <sup>f</sup> Artificial light at night from the World Atlas of Artificial Night Light

**eTable 2. Estimated associations between PSS-4 and environmental factors from the multipollutant model including regional PM<sub>2.5</sub>**

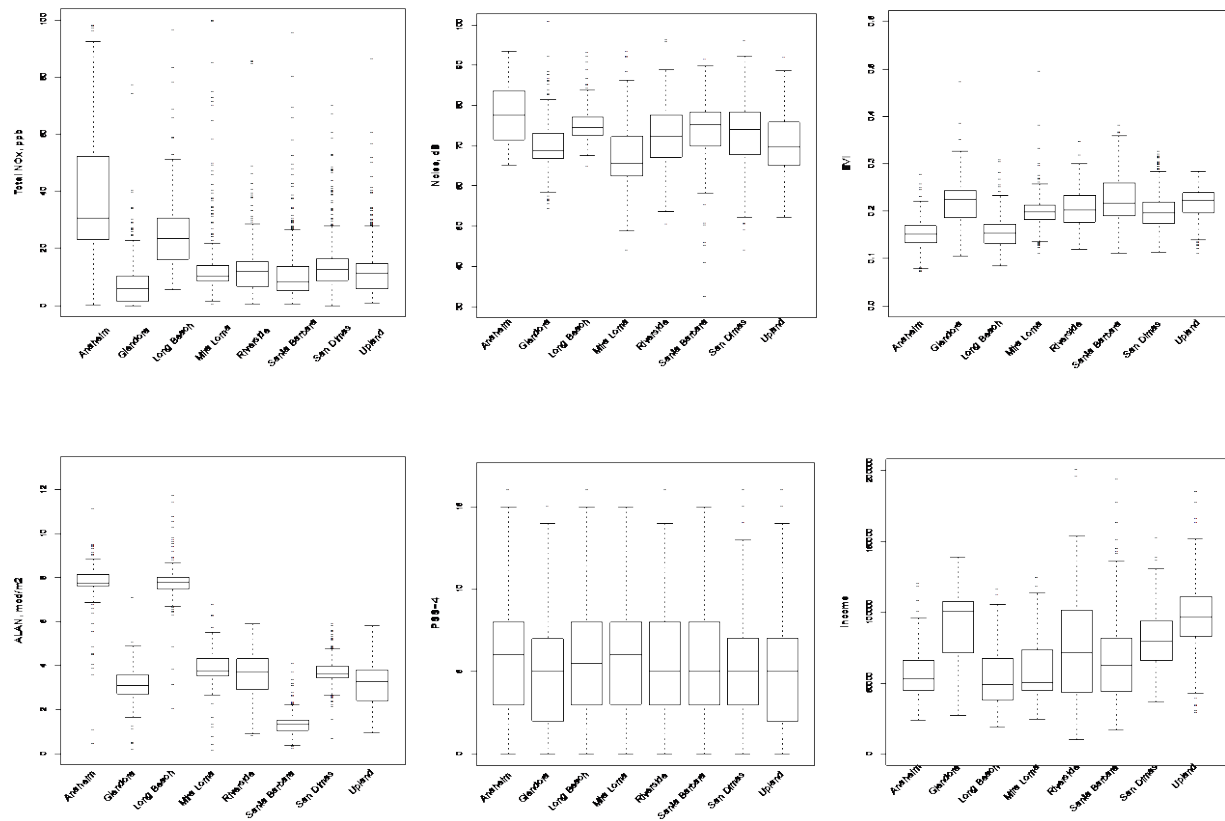
<b>Environmental Factor</b>	<b>Effect Estimate (95% CI)<sup>a</sup></b>
Exposure to Secondhand Smoke	0.85 (0.46, 1.24) <sup>b</sup>
ALANc, World Atlas (piecewise linear) (0 – 3.3 mcd/m <sup>2</sup> )	0.78 (0.04, 1.53) <sup>b</sup>
Total NRP <sup>d</sup> deviation from mean (ppb)	0.11 (0.01, 0.21) <sup>b</sup>
Regional PM <sub>2.5</sub> <sup>e</sup> (ug/m <sup>3</sup> )	0.06 (-0.16, 0.28)
EV <sup>f</sup>	-0.24 (-0.45, -0.04) <sup>b</sup>
Noise (dB)	-0.12 (-0.31, 0.08)

<sup>a</sup> All models adjusted for race, ethnicity, body mass index, height, community; effect estimates are scaled by the IQR; <sup>b</sup> p<0.05; <sup>c</sup> Artificial light at night; <sup>d</sup> near-roadway pollution; <sup>e</sup> particulate matter with aerodynamic diameter < 2.5um; <sup>f</sup> Enhanced Vegetation Index

**eTable 3. Estimated associations between stress and environmental factors from the multi-exposure model including sleep duration**

Environmental Factor	Effect Estimate (95% CI) <sup>a</sup>
Exposure to Secondhand Smoke	0.79 (0.40, 1.18) <sup>a</sup>
ALAN <sup>c</sup> , World Atlas (piecewise linear) (0 – 4.9 mcd/m <sup>2</sup> )	0.47 (0.00, 0.99) <sup>a</sup>
Total NRP <sup>d</sup> (ppb)	0.16 (0.03, 0.30) <sup>a</sup>
EVI <sup>e</sup>	-0.20 (-0.40, 0.00) <sup>a</sup>
Noise (db)	-0.10 (-0.30, 0.09)
Sleep Duration (>8hrs)	-0.99 (-1.23, -0.75) <sup>a</sup>

<sup>a</sup> All models adjusted for race, ethnicity, body mass index, height, community; effect estimates are scaled by the IQR; <sup>b</sup> p<0.05; <sup>c</sup> Artificial light at night; <sup>d</sup> near-roadway pollution; <sup>e</sup> Enhanced Vegetation Index



**eFigure. Boxplots of environmental factors, outcome and modifier by community (Top left to bottom right: near-roadway air pollution (NO<sub>x</sub>, ppb), noise (L<sub>dn</sub>, dB), enhanced vegetation index (EVI), artificial light at night (ALAN) from World Atlas (mcd/m<sup>2</sup>), perceived stress (PSS-4), Median Household Income.**