

Additional file 3. Sensitivity of the association between the air pollution metrics and birth outcomes to adjustment for hospital, county and time of conception

Low birth weight			Reference model (a), further adjusted for hospital					Reference model (a), further adjusted for county				Reference model (a), further adjusted for year and month of conception			
	Air pollution metrics	Interquartile range (IQR) in air pollution metrics (b)	Number of subjects	Odds ratio (c)	95% confidence interval	p value		Odds ratio (c)	95% confidence interval	p value		Odds ratio (c)	95% confidence interval	p value	
Monitoring station measurements (d)	NO ₂	11.87	68303	0.85	0.75	0.97	0.02	0.86	0.76	0.98	0.02	0.82	0.71	0.94	< 0.01
	NO _x	27.71	68303	0.95	0.87	1.04	0.31	0.96	0.87	1.05	0.32	0.92	0.83	1.02	0.11
	NO	17.90	68303	0.98	0.91	1.06	0.67	0.98	0.91	1.06	0.68	0.96	0.87	1.05	0.37
	CO	0.48	68303	0.98	0.90	1.07	0.71	0.98	0.90	1.07	0.72	0.97	0.88	1.07	0.6
	PM ₁₀	6.76	68303	0.94	0.87	1.02	0.17	0.95	0.88	1.03	0.22	0.94	0.85	1.04	0.25
	PM _{2.5}	5.10	61623	0.94	0.85	1.05	0.26	0.95	0.86	1.05	0.36	0.86	0.74	0.99	0.04
	O ₃	11.50	68303	1.09	0.96	1.23	0.17	1.09	0.96	1.24	0.17	1.16	1.02	1.31	0.02
LUR	NO ₂	9.34	68303	0.94	0.86	1.02	0.16	0.94	0.87	1.02	0.15	0.95	0.85	1.07	0.39
	NO _x	25.24	68303	0.98	0.91	1.06	0.65	0.98	0.91	1.05	0.57	1.01	0.91	1.12	0.78
CALINE4	NO _x	5.65	67043	0.97	0.90	1.05	0.48	0.98	0.91	1.05	0.56	0.98	0.91	1.06	0.64
	CO	0.08	67043	0.97	0.90	1.05	0.45	0.98	0.91	1.05	0.53	0.98	0.91	1.06	0.64
	PM _{2.5}	1.36	67043	0.99	0.92	1.06	0.70	0.99	0.93	1.06	0.82	0.98	0.92	1.05	0.66
Traffic density (e)	50 m	12.93	68303	1.00	1.00	1.01	0.56	1.00	1.00	1.01	0.53	1.00	1.00	1.01	0.56
	75 m	35.91	68303	1.01	0.99	1.02	0.26	1.01	0.99	1.02	0.24	1.01	0.99	1.02	0.26
	100 m	53.91	68303	1.02	1.00	1.05	0.06	1.02	1.00	1.05	0.06	1.02	1.00	1.05	0.06
	150 m	74.30	68303	1.05	1.01	1.08	0.01	1.05	1.01	1.08	< 0.01	1.04	1.01	1.08	0.01
	200 m	84.35	68303	1.05	1.01	1.09	0.01	1.05	1.01	1.09	0.01	1.05	1.01	1.09	0.01
	250 m	81.34	68303	1.04	1.00	1.08	0.05	1.04	1.00	1.08	0.05	1.04	1.00	1.08	0.06
	300 m	76.58	68303	1.02	0.99	1.06	0.20	1.03	0.99	1.06	0.19	1.02	0.99	1.06	0.21
Distance to the nearest road	Freeways	1766.81	68303	1.04	0.95	1.14	0.36	1.04	0.95	1.13	0.38	1.04	0.96	1.14	0.35
	Major roads	253.05	68303	0.93	0.87	1.00	0.05	0.93	0.87	1.00	0.05	0.94	0.87	1.01	0.07

a) adjusted for maternal age, length of gestation and poverty using smoothing splines and race/ethnicity, insurance, gender and parity as categorical variables : see results in table 3

b) the units are parts per million for CO, parts per billion for NO, NO₂, NO_x, and O₃, and µg.m⁻³ for PM₁₀ and PM_{2.5}. Concentrations are averages, across the pregnancy period, derived from daily 24h- mean concentrations for NO₂, NO, NO_x, CO, PM₁₀ and PM_{2.5} and from daily mean concentrations from 10 am to 6 pm for O₃. The unit for traffic density is vehicle number per day/meter. The unit for distance to road is meters

c) for an interquartile range increase in air pollution metrics

d) nearest station approach without distance restrictions

e) within buffers of different distances around roads

Additional file 3 (continued). Sensitivity of the association between the air pollution metrics and birth outcomes to adjustment for hospital, county and time of conception

Mean birth weight				Reference model (a), further adjusted for hospital				Reference model (a), further adjusted for county				Reference model (a), further adjusted for year and month of conception			
	Air pollution metrics	Interquartile range (IQR) in air pollution metrics (b)	Number of subjects	Change (c)	95% confidence interval	p value		Change (c)	95% confidence interval	p value		Change (c)	95% confidence interval	p value	
Monitoring station measurements (d)	NO ₂	11.87	68303	33.18	25.79	40.57	< 0.01	31.10	24.08	38.12	< 0.01	30.85	23.61	38.09	< 0.01
	NO _x	27.70	68303	19.42	14.15	24.69	< 0.01	19.83	14.59	25.07	< 0.01	22.49	16.77	28.20	< 0.01
	NO	17.90	68303	14.20	9.65	18.75	< 0.01	14.73	10.16	19.29	< 0.01	17.86	12.74	22.98	< 0.01
	CO	0.48	68303	17.12	11.96	22.29	< 0.01	17.11	12.15	22.07	< 0.01	16.76	11.29	22.23	< 0.01
	PM ₁₀	6.76	68303	17.92	13.31	22.53	< 0.01	17.09	12.88	21.29	< 0.01	14.94	9.47	20.40	< 0.01
	PM _{2.5}	5.10	61623	21.96	15.94	27.97	< 0.01	21.87	16.30	27.45	< 0.01	27.36	19.59	35.13	< 0.01
	O ₃	11.50	68303	-23.48	-30.38	-16.57	< 0.01	-25.55	-32.72	-18.38	< 0.01	-28.84	-35.61	-22.08	< 0.01
LUR	NO ₂	9.34	68303	17.26	12.56	21.96	< 0.01	16.11	11.52	20.70	< 0.01	4.58	-1.51	10.66	0.14
	NO _x	25.24	68303	10.70	6.53	14.89	0.03	10.89	6.71	15.07	0.01	-2.39	-7.95	3.17	0.40
CALINE4	NO _x	5.65	67043	11.42	7.34	15.49	< 0.01	10.82	6.88	14.76	< 0.01	9.25	5.27	13.23	< 0.01
	CO	0.08	67043	12.18	8.07	16.28	< 0.01	11.60	7.63	15.56	< 0.01	9.59	5.54	13.64	< 0.01
	PM _{2.5}	1.36	67043	4.67	0.83	8.51	0.02	4.31	0.67	7.95	0.02	7.33	3.68	10.98	< 0.01
Traffic density (e)	50 m	12.91	68303	0.06	-0.21	0.32	0.68	0.06	-0.21	0.33	0.66	0.09	-0.18	0.35	0.53
	75 m	35.91	68303	-0.21	-1.12	0.70	0.64	-0.20	-1.10	0.71	0.67	-0.10	-1.01	0.80	0.82
	100 m	53.91	68303	-0.56	-2.05	0.92	0.46	-0.52	-2.00	0.96	0.49	-0.36	-1.84	1.12	0.64
	150 m	74.30	68303	-0.60	-2.69	1.49	0.57	-0.52	-2.60	1.57	0.63	-0.18	-2.27	1.90	0.86
	200 m	84.33	68303	-0.36	-2.73	2.01	0.77	-0.26	-2.61	2.10	0.83	0.19	-2.17	2.55	0.87
	250 m	81.34	68303	-0.10	-2.41	2.20	0.93	-0.01	-2.30	2.28	0.99	0.43	-1.86	2.73	0.71
	300 m	76.57	68303	0.24	-1.97	2.45	0.83	0.33	-1.86	2.53	0.77	0.73	-1.46	2.93	0.51
Distance to the nearest road	Freeways	1766.80	68303	-8.68	-13.40	-3.96	< 0.01	-7.24	-11.94	-2.54	< 0.01	-7.19	-11.89	-2.49	< 0.01
	Major roads	253.05	68303	-0.34	-3.83	3.15	0.85	-0.38	-3.86	3.10	0.83	-1.78	-5.24	1.69	0.32

a) adjusted for maternal age, length of gestation and poverty using smoothing splines and race/ethnicity, insurance, gender and parity as categorical variables : see results in table 3

b) the units are parts per million for CO, parts per billion for NO, NO₂, NO_x, and O₃, and µg.m⁻³ for PM₁₀ and PM_{2.5}. Concentrations are averages, across the pregnancy period, derived from daily 24h- mean concentrations for NO₂, NO, NO_x, CO, PM₁₀ and PM_{2.5} and from daily mean concentrations from 10 am to 6 pm for O₃. The unit for traffic density is vehicle number per day/meter. The unit for distance to road is meters

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