

	USC METRO		USC on-road			USC METRO		USC on-road	
	average	±	average	±		average	±	average	±
<i>Metals and trace elements (ng/m³)</i>					<i>PAHs* (ng/m³)</i>				
Na	780.5	289.6	591.5	46.2	Pyrene	0.05	-	0.04	0.01
Mg	76.3	6.6	67.5	3.6	Benzo(<i>ghi</i>)fluoranthene	0.04	-	bdl	bdl
Al	133.3	14.3	140.9	9.7	Benzo(<i>a</i>)anthracene	0.03	-	0.01	0.00
S	1412.4	188.9	598.6	38.7	Chrysene	0.18	-	0.05	0.005
K	95.3	10.4	87.6	9.3	Benzo(<i>b</i>)fluoranthene	0.11	-	0.09	0.08
Ca	144.6	30.8	125.4	7.4	Benzo(<i>k</i>)fluoranthene	0.05	-	0.02	0.01
Ti	18.3	1.3	16.3	1.0	Benzo(<i>e</i>)pyrene	0.08	-	0.05	0.06
Cr	3.1	2.2	2.8	0.1	Benzo(<i>a</i>)pyrene	bdl	-	bdl	bdl
Mn	5.2	0.8	4.8	0.2	Indeno(1,2,3- <i>cd</i>)pyrene	0.05	-	0.03	0.002
Fe	236.8	8.1	271.2	12.0	Benzo(<i>ghi</i>)perylene	0.11	-	0.14	0.05
Co	0.12	0.0	0.16	0.0	Coronene	0.06	-	0.02	0.01
Ni	2.9	1.5	1.6	0.2					
Cu	14.6	0.9	13.9	0.5					
Zn	16.3	3.62	14.3	1.16					
Mo	1.06	0.1	0.80	0.1					
Cd	0.09	0.0	0.09	0.0					
Sn	3.5	0.6	3.7	0.1					
Sb	2.4	0.55	2.4	0.09					
Ba	13.5	0.9	14.9	0.8					
Eu	0.011	0.001	0.021	0.001					
Pb	2.9	0.0	4.3	0.2					

bdl denotes below detection limit

*only one sample analyzed for USC METRO for PAHs

Table S1. Average concentrations of metals and trace elements and PAHs at USC site during the two campaigns. (N=2)

	Dates of sampling	Sampling times	Temperature (°C)	RH (%)	Prevailing wind direction	Wind speed (m/s)	NO _x (ppm)	CO (ppm)
METRO campaign	5/3-8/13/10	9:30am - 1:00pm	24.0 ± 3.5	55 ± 9.7	SW	3.2 ± 0.9	0.035 ± 0.016	0.47 ± 0.14
on-road campaign	3/1-5/2/11	6:00am - 5:00pm	19.8 ± 8.1	53.0 ± 35.1	W	3.3 ± 2.4	0.043 ± 0.043	0.58 ± 0.32
p-value (α=0.05)	-	-	0.25	0.82	-	0.22	0.61	0.28

Table S2. Meteorological parameters and gaseous pollutant measurements at South Coast Air Quality Management District (SCAQMD) monitoring site in downtown Los Angeles.

	110	±	710	±	Wilshire/ Sunset	±	METRO Gold line	±	METRO Red line	±
<i>PM components (µg/m³)</i>										
OC	5.0	0.6	6.3	1.3	5.2	0.3	4.0	0.1	4.4	0.2
WSOC	1.6	0.01	1.4	0.1	2.0	0.2	1.8	-	1.2	0.1
EC	1.0	0.2	2.0	0.2	0.6	0.01	1.0	0.2	0.8	0.01
TC	6.1	0.7	8.3	1.3	5.8	0.3	5.1	0.2	5.2	0.2
<i>metals and trace elements (ng/m³)</i>										
Fe	955.6	43.6	865.7	42.0	666.8	30.8	490.5	195.1	10599.2	1723.7
Na	480.9	37.2	400.7	31.2	660.1	50.7	212.5	3.2	288.0	130.8
Mg	98.9	5.3	86.4	5.0	103.5	5.8	30.6	20.7	63.7	29.5
Al	197.4	12.6	182.2	11.7	170.3	11.1	61.7	54.6	150.8	47.5
S	601.3	38.3	423.0	27.3	432.1	28.0	601.2	359.8	802.1	123.1
K	117.5	12.5	89.2	9.4	101.3	11.8	57.6	10.0	62.1	12.0
Ca	220.6	12.9	209.5	12.8	194.7	11.6	74.2	39.4	189.5	61.2
Mn	10.0	0.4	9.2	0.4	7.4	0.3	5.8	2.2	84.9	13.1
Mo	2.6	0.2	2.2	0.1	2.3	0.1	6.3	2.1	155.6	26.9
Ba	81.7	4.5	80.5	4.6	46.4	2.4	18.4	11.5	215.6	33.3
Ti	46.5	2.5	34.4	1.9	28.1	1.6	9.4	3.0	11.8	2.8
Cr	4.1	0.2	3.4	0.2	3.3	0.1	2.1	0.9	23.1	4.7
Co	0.2	0.0	0.2	0.01	0.2	0.01	0.1	0.03	1.2	0.2
Ni	1.7	0.2	1.6	0.2	0.9	0.2	1.4	0.5	11.9	2.6
Cu	60.4	2.2	36.8	1.4	43.3	1.5	37.5	2.5	64.8	11.3
Zn	29.7	2.4	24.2	1.9	20.5	1.6	23.9	5.5	29.7	2.6
Cd	0.2	0.0	0.1	0.0	0.1	0.01	0.1	0.1	1.0	0.1
Sn	7.9	0.3	4.1	0.2	7.5	0.3	3.3	1.4	4.0	0.4
Sb	10.5	0.4	6.5	0.3	7.1	0.3	3.7	1.6	1.8	0.7
Eu	0.1	0.01	0.1	0.01	0.1	0.003	0.01	0.01	0.1	0.02
Pb	4.7	0.3	4.0	0.2	4.9	0.3	2.4	1.1	2.9	0.4
<i>PAHs (ng/m³)</i>										
Pyrene	0.21	0.02	0.83	0.10	0.13	0.05	0.06	-	0.08	0.01
Benzo(GH)fluoranthene	0.22	0.04	0.32	0.09	0.24	0.24	bdl	-	0.06	0.00
Benzo(a)anthracene	0.10	0.03	0.16	0.06	0.06	0.02	bdl	-	0.02	0.00
Chrysene	0.23	0.06	0.25	0.07	0.14	0.01	0.14	-	0.19	0.02
Benzo(b)fluoranthene	0.31	0.05	0.30	0.09	0.23	0.07	0.10	-	0.12	0.01
Benzo(k)fluoranthene	0.10	0.01	0.10	0.07	0.05	0.02	0.05	-	0.04	0.00
Benzo(e)pyrene	0.21	0.01	0.24	0.09	0.15	0.05	0.04	-	0.08	0.05
Benzo(a)pyrene	bdl	-	0.09	0.05	bdl	-	bdl	-	bdl	-
Indeno(1,2,3-cd)pyrene	0.09	0.06	0.04	0.01	0.09	0.09	0.06	-	0.05	0.00
Benzo(GH)perylene	0.45	0.10	0.51	0.16	0.30	0.10	0.12	-	0.10	0.00
Coronene	0.10	0.10	0.17	0.14	0.17	0.03	0.06	-	0.06	0.01

Table S3. Mass concentrations of major PM components, metals and trace elements, and PAHs at the five microenvironments (N=2). Only one sample for PAHs was analyzed for the METRO gold line.