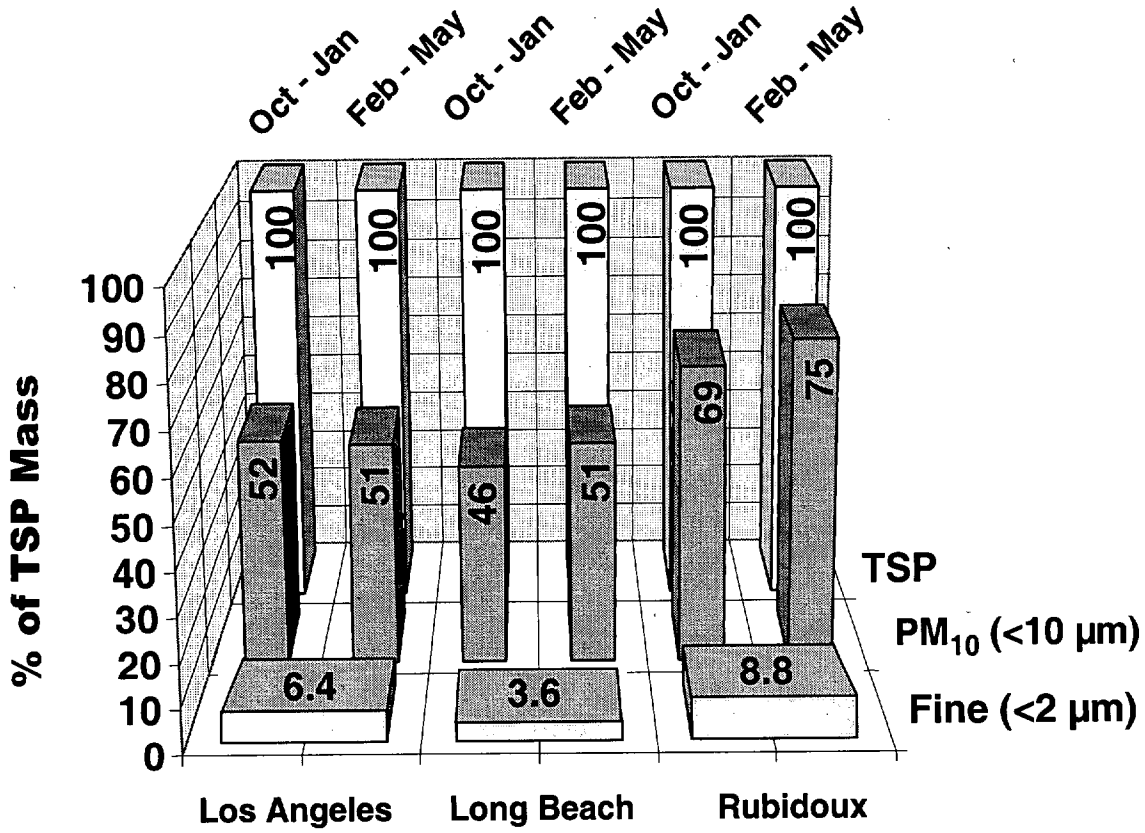

Figure S1. Size distribution of paved road dust at Los Angeles, Long Beach and Rubidoux during two time periods. TSP –Total suspended particulate matter; PM_{10} – particles with an aerodynamic diameter $\leq$ 10 µm; Fine – particles with an aerodynamic diameter $\leq$ 2 µm.

Table S1. Chemical composition of the TSP, PM_{10} and PM_2 Components of Size-fractionated Paved Road Dust Source Samples from Los Angeles, Long Beach and Rubidoux, CA 1995 – 1996.

Los Angeles

Chemical Species	TSP Oct - Jan	TSP Feb - May	PM_{10} Oct - Jan	PM_{10} Feb - May	PM_2 Oct - May
	Weight % of Particle Mass (Average ± Std)				
Al	**5.02 ± 1.47**	**4.20 ± 1.23**	**8.34 ± 2.44**	**9.01 ± 2.64**	**4.12 ± 0.08**
Si	**15.21 ± 4.75**	**13.97 ± 4.37**	**25.04 ± 7.83**	**27.64 ± 8.64**	**13.75 ± 0.08**
P	**0.05 ± 0.02**	**0.04 ± 0.02**	**0.09 ± 0.04**	**0.10 ± 0.05**	**0.12 ± 0.02**
S	**0.24 ± 0.02**	**0.33 ± 0.02**	**0.42 ± 0.03**	**0.70 ± 0.03**	**0.81 ± 0.04**
Cl	0.00 ± 0.03	0.02 ± 0.03	0.00 ± 0.04	**0.13 ± 0.04**	**0.08 ± 0.02**
K	**1.07 ± 0.21**	**0.97 ± 0.19**	**1.68 ± 0.32**	**1.91 ± 0.37**	**1.22 ± 0.03**
Ca	**1.47 ± 0.24**	**1.58 ± 0.25**	**2.29 ± 0.37**	**3.05 ± 0.49**	**2.06 ± 0.03**
Ti	**0.26 ± 0.03**	**0.26 ± 0.03**	**0.42 ± 0.03**	**0.44 ± 0.04**	**0.34 ± 0.08**
V	0.01 ± 0.02	0.01 ± 0.02	0.02 ± 0.02	0.01 ± 0.03	0.00 ± 0.05
Cr	**0.01 ± 0.00**	**0.01 ± 0.00**	**0.01 ± 0.00**	**0.01 ± 0.00**	**0.02 ± 0.01**
Mn	**0.04 ± 0.00**	**0.04 ± 0.00**	**0.07 ± 0.00**	**0.07 ± 0.00**	**0.06 ± 0.01**
Fe	**3.45 ± 0.01**	**3.19 ± 0.01**	**5.54 ± 0.01**	**6.09 ± 0.01**	**5.86 ± 0.02**
Co	0.00 ± 0.05	0.01 ± 0.05	0.00 ± 0.09	0.00 ± 0.09	0.00 ± 0.09
Ni	0.00 ± 0.00	0.00 ± 0.00	**0.01 ± 0.00**	**0.01 ± 0.00**	**0.01 ± 0.00**
Cu	**1.10 ± 0.00**	**1.01 ± 0.00**	**1.84 ± 0.01**	**2.07 ± 0.01**	**2.43 ± 0.01**
Zn	**0.52 ± 0.00**	**0.49 ± 0.00**	**0.86 ± 0.00**	**0.99 ± 0.00**	**1.14 ± 0.01**
Ga	0.00 ± 0.01	0.00 ± 0.01	0.00 ± 0.01	0.00 ± 0.01	0.00 ± 0.02
As	0.00 ± 0.09	0.00 ± 0.09	0.00 ± 0.16	0.00 ± 0.18	0.00 ± 0.20
Se	0.00 ± 0.00	0.00 ± 0.00	0.00 ± 0.00	0.00 ± 0.01	0.00 ± 0.01
Br	0.00 ± 0.00	0.00 ± 0.00	0.00 ± 0.01	0.00 ± 0.01	0.00 ± 0.01
Rb	0.00 ± 0.00	0.00 ± 0.00	**0.01 ± 0.00**	**0.01 ± 0.00**	0.01 ± 0.00
Sr	**0.03 ± 0.00**	**0.05 ± 0.00**	**0.04 ± 0.00**	**0.12 ± 0.00**	**0.05 ± 0.00**
Y	0.00 ± 0.01	0.00 ± 0.01	0.00 ± 0.01	0.00 ± 0.01	0.00 ± 0.01
Zr	**0.01 ± 0.00**	**0.01 ± 0.00**	**0.01 ± 0.00**	**0.01 ± 0.00**	0.01 ± 0.01
Mo	0.00 ± 0.01	0.00 ± 0.01	0.00 ± 0.01	0.00 ± 0.01	0.00 ± 0.01
Pd	0.00 ± 0.02	0.00 ± 0.02	0.00 ± 0.02	0.00 ± 0.02	0.00 ± 0.04
Ag	0.00 ± 0.02	0.00 ± 0.02	0.00 ± 0.02	0.00 ± 0.02	0.00 ± 0.05
Cd	0.00 ± 0.02	0.00 ± 0.02	0.00 ± 0.02	0.00 ± 0.03	0.01 ± 0.05
In	0.00 ± 0.02	0.00 ± 0.03	0.00 ± 0.02	0.00 ± 0.03	0.00 ± 0.06
Sn	**0.05 ± 0.02**	**0.07 ± 0.02**	**0.08 ± 0.02**	**0.11 ± 0.02**	**0.10 ± 0.05**
Sb	0.01 ± 0.03	0.01 ± 0.04	0.00 ± 0.03	0.00 ± 0.04	0.00 ± 0.09
Ba	0.05 ± 0.11	0.02 ± 0.14	0.05 ± 0.12	0.12 ± 0.10	0.18 ± 0.32
La	0.02 ± 0.15	0.02 ± 0.18	0.00 ± 0.15	0.00 ± 0.20	0.05 ± 0.43
Au	0.01 ± 0.02	0.00 ± 0.02	0.00 ± 0.03	0.01 ± 0.04	0.00 ± 0.04
Hg	0.00 ± 0.01	0.00 ± 0.01	0.00 ± 0.01	0.00 ± 0.01	0.00 ± 0.01
Tl	0.00 ± 0.02	0.00 ± 0.02	0.00 ± 0.03	0.00 ± 0.03	0.00 ± 0.04
Pb	**0.57 ± 0.01**	**0.54 ± 0.01**	**1.02 ± 0.01**	**1.14 ± 0.01**	**1.29 ± 0.02**
U	0.00 ± 0.00	0.00 ± 0.01	0.00 ± 0.00	0.00 ± 0.01	0.00 ± 0.01
EC	0.49 ± 0.31	0.71 ± 0.38	**1.51 ± 0.35**	**1.01 ± 0.40**	0.90 ± 0.88
OC	**8.38 ± 0.69**	**11.90 ± 0.91**	**10.95 ± 0.82**	**14.49 ± 1.05**	**15.12 ± 1.58**
Cl-	0.00 ± 0.05	0.02 ± 0.04	0.01 ± 0.04	0.04 ± 0.05	0.00 ± 0.11
NO3-	0.08 ± 0.08	0.08 ± 0.07	**0.09 ± 0.03**	**0.15 ± 0.07**	0.12 ± 0.17
SO4=	**0.27 ± 0.05**	**0.63 ± 0.04**	**0.31 ± 0.04**	**1.10 ± 0.05**	**0.95 ± 0.11**
NH4+	0.00 ± 0.02	0.00 ± 0.02	**0.10 ± 0.02**	**0.09 ± 0.02**	0.00 ± 0.05
Na+	0.05 ± 0.15	**0.42 ± 0.15**	0.27 ± 0.15	0.27 ± 0.15	0.00 ± 0.15

Table S1. (continued)

Long Beach

Chemical Species	TSP Oct - Jan	TSP Feb - May	PM_{10} Oct - Jan	PM_{10} Feb - May	PM_2 Oct - May
	Weight % of Particle Mass (Average ± Std)				
Al	**3.77 ± 1.11**	**2.80 ± 0.82**	**5.05 ± 1.48**	**7.32 ± 2.15**	**4.01 ± 0.06**
Si	**12.46 ± 3.89**	**9.03 ± 2.82**	**16.78 ± 5.25**	**23.98 ± 7.49**	**14.22 ± 0.06**
P	**0.06 ± 0.03**	0.05 ± 0.03	**0.09 ± 0.04**	**0.12 ± 0.05**	**0.15 ± 0.02**
S	**0.20 ± 0.01**	**0.14 ± 0.01**	**0.26 ± 0.01**	**0.38 ± 0.02**	**0.62 ± 0.02**
Cl	**0.05 ± 0.02**	**0.06 ± 0.02**	**0.06 ± 0.02**	**0.11 ± 0.04**	**0.10 ± 0.02**
K	**0.98 ± 0.19**	**0.72 ± 0.14**	**1.22 ± 0.24**	**1.77 ± 0.34**	**1.57 ± 0.02**
Ca	**2.04 ± 0.33**	**1.40 ± 0.23**	**2.53 ± 0.41**	**3.61 ± 0.58**	**4.63 ± 0.03**
Ti	**0.16 ± 0.05**	**0.12 ± 0.05**	**0.22 ± 0.06**	**0.32 ± 0.07**	**0.39 ± 0.06**
V	0.00 ± 0.04	0.00 ± 0.03	0.01 ± 0.03	0.00 ± 0.04	0.02 ± 0.04
Cr	0.00 ± 0.01	0.01 ± 0.01	0.01 ± 0.01	0.01 ± 0.01	**0.02 ± 0.01**
Mn	**0.04 ± 0.00**	**0.03 ± 0.00**	**0.05 ± 0.01**	**0.07 ± 0.01**	**0.10 ± 0.01**
Fe	**2.28 ± 0.01**	**1.68 ± 0.01**	**2.85 ± 0.01**	**4.25 ± 0.02**	**5.40 ± 0.02**
Co	0.00 ± 0.04	0.01 ± 0.03	0.00 ± 0.04	0.01 ± 0.07	0.00 ± 0.08
Ni	0.00 ± 0.00	0.00 ± 0.00	0.01 ± 0.00	0.01 ± 0.00	**0.01 ± 0.00**
Cu	**0.04 ± 0.00**	**0.04 ± 0.00**	**0.16 ± 0.00**	**0.12 ± 0.00**	**0.15 ± 0.00**
Zn	**0.09 ± 0.00**	**0.08 ± 0.00**	**0.18 ± 0.00**	**0.20 ± 0.00**	**0.26 ± 0.00**
Ga	0.00 ± 0.01	0.00 ± 0.01	0.00 ± 0.01	0.00 ± 0.01	0.00 ± 0.01
As	0.00 ± 0.01	0.00 ± 0.01	0.00 ± 0.02	0.00 ± 0.02	0.00 ± 0.02
Se	0.00 ± 0.00	0.00 ± 0.00	0.00 ± 0.00	0.00 ± 0.00	0.00 ± 0.00
Br	0.00 ± 0.00	0.00 ± 0.00	0.00 ± 0.00	0.00 ± 0.00	0.00 ± 0.00
Rb	0.00 ± 0.00	0.00 ± 0.00	0.00 ± 0.00	**0.01 ± 0.00**	**0.01 ± 0.00**
Sr	**0.03 ± 0.00**	**0.02 ± 0.00**	**0.04 ± 0.00**	**0.04 ± 0.00**	**0.05 ± 0.00**
Y	0.00 ± 0.00	0.00 ± 0.00	0.00 ± 0.00	0.00 ± 0.01	0.00 ± 0.00
Zr	0.00 ± 0.00	0.00 ± 0.00	0.01 ± 0.00	**0.01 ± 0.00**	**0.01 ± 0.00**
Mo	0.00 ± 0.01	0.00 ± 0.01	0.00 ± 0.01	0.00 ± 0.01	0.00 ± 0.01
Pd	0.00 ± 0.03	0.00 ± 0.03	0.00 ± 0.03	0.00 ± 0.03	0.01 ± 0.03
Ag	0.00 ± 0.03	0.02 ± 0.03	0.01 ± 0.03	0.00 ± 0.04	0.00 ± 0.03
Cd	0.00 ± 0.03	0.01 ± 0.03	0.02 ± 0.04	0.00 ± 0.04	0.00 ± 0.04
In	0.00 ± 0.04	0.00 ± 0.04	0.00 ± 0.04	0.00 ± 0.05	0.00 ± 0.04
Sn	0.01 ± 0.05	0.00 ± 0.05	0.00 ± 0.05	0.01 ± 0.06	0.00 ± 0.05
Sb	0.00 ± 0.05	0.00 ± 0.06	0.00 ± 0.06	0.00 ± 0.07	0.00 ± 0.06
Ba	0.08 ± 0.19	0.06 ± 0.20	0.03 ± 0.22	0.08 ± 0.26	0.05 ± 0.21
La	0.07 ± 0.26	0.00 ± 0.27	0.00 ± 0.29	0.00 ± 0.35	0.07 ± 0.29
Au	0.00 ± 0.01	0.00 ± 0.01	0.00 ± 0.01	0.00 ± 0.01	0.00 ± 0.01
Hg	0.00 ± 0.01	0.00 ± 0.01	0.00 ± 0.01	0.00 ± 0.01	0.00 ± 0.01
Tl	0.00 ± 0.01	0.00 ± 0.01	0.00 ± 0.01	0.00 ± 0.01	0.00 ± 0.01
Pb	**0.05 ± 0.01**	**0.04 ± 0.01**	**0.09 ± 0.01**	**0.10 ± 0.01**	**0.14 ± 0.01**
U	0.00 ± 0.01	0.00 ± 0.01	0.00 ± 0.01	0.00 ± 0.01	0.00 ± 0.01
EC	**2.81 ± 0.76**	0.70 ± 0.56	1.20 ± 0.71	0.90 ± 0.64	**1.80 ± 0.62**
OC	**9.08 ± 1.10**	**14.73 ± 1.24**	**16.74 ± 1.46**	**12.18 ± 1.20**	**15.26 ± 1.28**
Cl-	0.00 ± 0.06	0.03 ± 0.07	0.01 ± 0.10	0.03 ± 0.07	0.07 ± 0.07
NO3-	0.01 ± 0.10	0.04 ± 0.10	0.00 ± 0.15	0.03 ± 0.11	0.03 ± 0.11
SO4=	**0.21 ± 0.06**	**0.45 ± 0.07**	**0.48 ± 0.10**	**0.51 ± 0.07**	**0.92 ± 0.07**
NH4+	**0.12 ± 0.03**	**0.11 ± 0.03**	**0.21 ± 0.04**	0.00 ± 0.03	0.00 ± 0.03
Na+	0.37 ± 0.15	0.05 ± 0.15	**0.70 ± 0.16**	0.11 ± 0.16	**0.32 ± 0.15**

Table S1. (continued)

Rubidoux

Chemical Species	TSP Oct - Jan	TSP Feb - May	PM_{10} Oct - Jan	PM_{10} Feb - May	PM_2 Oct - May
	Weight % of Particle Mass (Average ± Std)				
Al	**5.98 ± 1.76**	**6.38 ± 1.87**	**11.35 ± 3.33**	**11.03 ± 3.24**	**5.02 ± 0.07**
Si	**17.90 ± 5.59**	**19.20 ± 6.00**	**32.56 ± 10.18**	**32.32 ± 10.10**	**15.49 ± 0.06**
P	**0.10 ± 0.05**	**0.14 ± 0.07**	**0.18 ± 0.08**	**0.17 ± 0.08**	**0.12 ± 0.01**
S	**0.16 ± 0.02**	**0.18 ± 0.02**	**0.24 ± 0.02**	**0.23 ± 0.02**	**0.32 ± 0.01**
Cl	**0.06 ± 0.03**	0.04 ± 0.07	**0.10 ± 0.04**	**0.10 ± 0.04**	**0.07 ± 0.02**
K	**1.47 ± 0.28**	**1.54 ± 0.30**	**2.73 ± 0.53**	**2.61 ± 0.50**	**1.83 ± 0.02**
Ca	**2.57 ± 0.41**	**2.58 ± 0.42**	**4.42 ± 0.71**	**4.37 ± 0.70**	**3.96 ± 0.03**
Ti	**0.32 ± 0.09**	**0.27 ± 0.12**	**0.50 ± 0.08**	**0.54 ± 0.10**	**0.43 ± 0.05**
V	0.02 ± 0.05	0.00 ± 0.09	0.00 ± 0.05	0.03 ± 0.06	0.00 ± 0.03
Cr	0.01 ± 0.01	0.00 ± 0.03	**0.02 ± 0.01**	0.02 ± 0.01	**0.03 ± 0.01**
Mn	**0.10 ± 0.01**	**0.10 ± 0.01**	**0.17 ± 0.01**	**0.17 ± 0.01**	**0.17 ± 0.01**
Fe	**3.72 ± 0.02**	**3.78 ± 0.02**	**6.74 ± 0.02**	**6.41 ± 0.02**	**6.34 ± 0.02**
Co	0.01 ± 0.06	0.01 ± 0.06	0.00 ± 0.11	0.00 ± 0.10	0.01 ± 0.10
Ni	0.00 ± 0.01	0.00 ± 0.01	0.00 ± 0.01	0.00 ± 0.01	**0.01 ± 0.00**
Cu	**0.02 ± 0.01**	**0.03 ± 0.01**	**0.11 ± 0.00**	**0.05 ± 0.01**	**0.09 ± 0.00**
Zn	**0.06 ± 0.01**	**0.07 ± 0.01**	**0.16 ± 0.01**	**0.12 ± 0.01**	**0.16 ± 0.00**
Ga	0.00 ± 0.01	0.00 ± 0.01	0.00 ± 0.01	0.00 ± 0.01	0.00 ± 0.01
As	0.00 ± 0.01	0.00 ± 0.02	0.00 ± 0.02	0.00 ± 0.02	0.00 ± 0.02
Se	0.00 ± 0.01	0.00 ± 0.01	0.00 ± 0.01	0.00 ± 0.01	0.00 ± 0.00
Br	0.00 ± 0.01	0.00 ± 0.01	0.00 ± 0.01	0.00 ± 0.01	0.00 ± 0.00
Rb	0.00 ± 0.00	0.01 ± 0.01	**0.01 ± 0.00**	0.01 ± 0.00	**0.01 ± 0.00**
Sr	**0.05 ± 0.00**	**0.04 ± 0.01**	**0.08 ± 0.00**	**0.07 ± 0.00**	**0.07 ± 0.00**
Y	0.00 ± 0.01	0.00 ± 0.01	**0.01 ± 0.00**	0.00 ± 0.01	0.00 ± 0.00
Zr	0.01 ± 0.01	0.00 ± 0.01	0.01 ± 0.01	0.01 ± 0.01	0.01 ± 0.00
Mo	0.00 ± 0.02	0.00 ± 0.02	0.00 ± 0.01	0.00 ± 0.02	0.00 ± 0.01
Pd	0.00 ± 0.04	0.01 ± 0.06	0.00 ± 0.04	0.00 ± 0.05	0.00 ± 0.03
Ag	0.01 ± 0.05	0.00 ± 0.07	0.00 ± 0.05	0.00 ± 0.06	0.00 ± 0.03
Cd	0.00 ± 0.05	0.00 ± 0.07	0.00 ± 0.05	0.02 ± 0.06	0.00 ± 0.03
In	0.00 ± 0.06	0.00 ± 0.08	0.00 ± 0.06	0.00 ± 0.07	0.01 ± 0.04
Sn	0.02 ± 0.08	0.00 ± 0.10	0.01 ± 0.07	0.03 ± 0.09	0.01 ± 0.05
Sb	0.00 ± 0.09	0.01 ± 0.12	0.00 ± 0.08	0.00 ± 0.11	0.00 ± 0.06
Ba	0.00 ± 0.34	0.16 ± 0.43	0.19 ± 0.29	0.00 ± 0.38	0.15 ± 0.20
La	0.00 ± 0.45	0.17 ± 0.58	0.00 ± 0.39	0.00 ± 0.51	0.01 ± 0.27
Au	0.01 ± 0.02	0.00 ± 0.02	0.01 ± 0.02	0.01 ± 0.02	0.00 ± 0.01
Hg	0.00 ± 0.01	0.00 ± 0.02	0.00 ± 0.01	0.00 ± 0.02	0.00 ± 0.01
Tl	0.00 ± 0.01	0.00 ± 0.02	0.00 ± 0.01	0.00 ± 0.01	0.00 ± 0.01
Pb	**0.03 ± 0.01**	**0.04 ± 0.02**	**0.08 ± 0.01**	**0.07 ± 0.01**	**0.09 ± 0.01**
U	0.00 ± 0.01	0.00 ± 0.02	0.00 ± 0.01	0.00 ± 0.01	0.00 ± 0.01
EC	**2.70 ± 1.03**	0.49 ± 1.40	0.27 ± 0.65	0.45 ± 0.98	0.37 ± 0.53
OC	**7.53 ± 1.38**	**8.04 ± 1.83**	**8.12 ± 1.02**	**8.65 ± 1.42**	**10.30 ± 1.02**
Cl-	0.00 ± 0.13	0.00 ± 0.16	0.00 ± 0.09	0.00 ± 0.12	0.05 ± 0.07
NO3-	0.09 ± 0.20	0.14 ± 0.29	0.06 ± 0.13	0.05 ± 0.18	0.14 ± 0.10
SO4=	0.09 ± 0.13	0.15 ± 0.16	0.04 ± 0.09	0.23 ± 0.12	**0.54 ± 0.07**
NH4+	0.00 ± 0.06	0.00 ± 0.08	0.00 ± 0.04	0.00 ± 0.05	0.00 ± 0.03
Na+	0.00 ± 0.15	0.00 ± 0.15	0.00 ± 0.15	0.05 ± 0.15	0.26 ± 0.15

Species whose concentration are greater than zero by at least two standard deviations of the analytical methods used to make the measurements are shown in bold face.