

Source apportionment calculations for PM and status of roadside monitoring sites

Table A7.1 Source apportionment calculations by CERC for three London sites for PM₁₀ in (a) 1999 and (b) 2010 and PM_{2.5} in (c)1999 and (d) 2010.

(a) 1999 PM₁₀ concentration (gravimetric equivalent)		Traffic	Stationary	Secondary background	Other	Total
Marylebone Road	Concentration ($\mu\text{g m}^{-3}$)	25.0	1.4	13.7	9.9	49.8
	Percentage (%)	50.1	2.7	27.4	19.8	—
Bloomsbury	Concentration ($\mu\text{g m}^{-3}$)	3.9	1.4	13.7	9.9	28.9
	Percentage (%)	13.5	4.7	47.5	34.3	—
North Kensington	Concentration ($\mu\text{g m}^{-3}$)	2.0	1.4	13.7	9.9	27.0
	Percentage (%)	7.3	5.3	50.7	36.7	—

(b) 2010 PM₁₀ concentration (gravimetric equivalent)		Traffic	Stationary	Secondary background	Other	Total
Marylebone Road	Concentration ($\mu\text{g m}^{-3}$)	7.7	1.0	9.1	9.9	27.7
	Percentage (%)	27.8	3.6	32.9	35.7	—
Bloomsbury	Concentration ($\mu\text{g m}^{-3}$)	1.1	1.0	9.1	9.9	21.2
	Percentage (%)	5.4	4.9	43.0	46.8	—
North Kensington	Concentration ($\mu\text{g m}^{-3}$)	0.7	1.1	9.1	9.9	20.8
	Percentage (%)	3.4	5.3	43.8	47.6	—

(c) 1999 PM_{2.5} concentration (gravimetric equivalent)		Traffic	Stationary	Secondary background	Other	Total
Marylebone Road	Concentration ($\mu\text{g m}^{-3}$)	21.45	0.96	11.47	2.97	36.85
	Percentage (%)	58.2	2.6	31.1	8.1	—
Bloomsbury	Concentration ($\mu\text{g m}^{-3}$)	3.33	0.98	11.47	2.97	18.75
	Percentage (%)	17.8	5.2	61.2	15.8	—
North Kensington	Concentration ($\mu\text{g m}^{-3}$)	1.66	1.01	11.47	2.97	17.11
	Percentage (%)	9.7	5.9	67.0	17.4	—

(d) 2010 PM_{2.5} concentration (gravimetric equivalent) $\mu\text{g}/\text{m}^3$		Traffic	Stationary	Secondary background	Other	Total
Marylebone Road	Concentration ($\mu\text{g m}^{-3}$)	6.58	0.67	7.65	2.97	17.87
	Percentage (%)	36.8	3.7	42.8	16.6	—
Bloomsbury	Concentration ($\mu\text{g m}^{-3}$)	0.96	0.68	7.65	2.97	12.26
	Percentage (%)	7.8	5.5	62.4	24.2	—
North Kensington	Concentration ($\mu\text{g m}^{-3}$)	0.57	0.75	7.65	2.97	11.94
	Percentage (%)	4.8	6.3	64.1	24.9	—

Note: The attribution to 'traffic' and 'stationary' is from modelling of emissions covered in the London inventory, including brakes and tyre wear as well as exhaust emissions in traffic, whereas 'other' includes additional possible traffic-related components such as resuspension of road dust within the 'residual' fraction.

Table A7.2 Status of PM₁₀ monitoring sites in 2002: TEOM concentrations * 1.3 are shown. (R, roadside; K, kerbside; Other, all other classifications. Percentages are shown in brackets.)

Country	Site type	Total number of sites	No. sites annual mean >40 $\mu\text{g m}^{-3}$	No. sites annual mean >20 $\mu\text{g m}^{-3}$	No. sites annual mean >23 $\mu\text{g m}^{-3}$ (London)	No. sites annual mean >18 $\mu\text{g m}^{-3}$ (Scotland)	No. sites >35 days >50 $\mu\text{g m}^{-3}$ daily mean	No. sites >7 days >50 $\mu\text{g m}^{-3}$ daily mean	No. sites >10 days >50 $\mu\text{g m}^{-3}$ daily mean (London)
Scotland	R and K	2	0	2 (100)	—	2 (100)	0	2 (100)	—
	Other	2	0	1 (50)	—	2 (100)	0	2 (100)	—
Wales	R and K	1	0	1 (100)	—	—	0	1 (100)	—
	Other	5	0	3 (60)	—	—	0	2 (40)	—
Northern Ireland	R and K	1	0	1 (100)	—	—	1 (100)	1 (100)	—
	Other	7	0	5 (71)	—	—	0	6 (86)	—
London	R and K	33	3 (9)	33 (100)	33 (100)	—	13 (39)	30 (91)	33 (100)
	Other	28	0	28 (100)	26 (93)	—	4 (14)	22 (79)	28 (100)
Rest of England	R and K	30	2 (7)	29 (97)	—	—	4 (13)	22 (73)	—
	Other	66	1 (2)	50 (76)	—	—	4 (6)	27 (41)	—
UK	R and K	67	5 (7)	66 (99)	—	—	18 (27)	56 (84)	—
	Other	108	1 (1)	87 (81)	—	—	8 (7)	59 (55)	—

Table A7.3 Status of PM₁₀ monitoring sites in 2003: TEOM concentrations * 1.3 are shown. (R, roadside; K, kerbside; Other, all other classifications. Percentages are shown in brackets.)

Country	Site type	Total number of sites	No. sites annual mean >40 µg m ⁻³	No. sites annual mean >20 µg m ⁻³	No. sites annual mean >23 µg m ⁻³ (London)	No. sites annual mean >18 µg m ⁻³ (Scotland)	No. sites >35 days >50 µg m ⁻³ daily mean	No. sites >7 days >50 µg m ⁻³ daily mean	No. sites >10 days >50 µg m ⁻³ daily mean (London)
Scotland	R and K	3	0	2 (67)	—	2 (67)	1 (35)	3 (100)	—
	Other	4	0	3 (75)	—	4 (100)	0	4 (100)	—
Wales	R and K	1	0	0	—	—	1 (100)	1 (100)	—
	Other	6	0	1 (17)	—	—	3 (50)	5 (83)	—
Northern Ireland	R and K	2	0	2 (100)	—	—	1 (50)	2 (100)	—
	Other	9	1 (11)	8 (89)	—	—	3 (33)	8 (89)	—
London	R and K	32	8 (25)	32 (100)	32 (100)	—	23 (72)	32 (100)	32 (100)
	Other	28	0	28 (100)	28 (100)	—	7 (25)	28 (100)	28 (100)
Rest of England	R and K	38	5 (13)	38 (100)	—	—	19 (50)	37 (97)	—
	Other	64	1 (2)	60 (94)	—	—	7 (11)	59 (92)	—
UK	R and K	76	13 (17)	74 (97)	—	—	45 (59)	75 (99)	—
	Other	111	2 (2)	100 (90)	—	—	20 (18)	104 (94)	—

Table A7.4 Status of PM_{2.5} monitoring sites in 2002 (gravimetric measurements only).

Country	Site type	Total number of sites	Annual mean >20 $\mu\text{g m}^{-3}$	Number of sites Annual mean >16 $\mu\text{g m}^{-3}$	Annual mean >12 $\mu\text{g m}^{-3}$	Percentage of sites		
						Annual mean >20 $\mu\text{g m}^{-3}$	Annual mean >16 $\mu\text{g m}^{-3}$	Annual mean >12 $\mu\text{g m}^{-3}$
Wales		—	—	—	—	—	—	—
Northern Ireland	Other	1	0	1	1	0%	100%	100%
London	R and K	1	1	1	1	100%	100%	100%
	Other	1	0	1	1	0%	100%	100%
Rest of England	R and K	1	0	0	1	0%	0%	100%
	Other	2	0	1	2	0%	50%	100%
UK	R and K	2	1	1	2	50%	50%	100%
	Other	4	0	3	4	0%	75%	100%

Table A7.5 Status of PM_{2.5} monitoring sites in 2003 (gravimetric measurements only).

Country	Site type	Total number of sites	Annual mean >20 $\mu\text{g m}^{-3}$	Number of sites Annual mean >16 $\mu\text{g m}^{-3}$	Annual mean >12 $\mu\text{g m}^{-3}$	Percentage of sites		
						Annual mean >20 $\mu\text{g m}^{-3}$	Annual mean >16 $\mu\text{g m}^{-3}$	Annual mean >12 $\mu\text{g m}^{-3}$
Wales		1	0	1	1	0%	100%	100%
Northern Ireland	Other	1	0	1	1	0%	100%	100%
London	R and K	1	1	1	1	100%	100%	100%
	Other	1	1	1	1	100%	100%	100%
Rest of England	R and K	1	0	0	1	0%	0%	100%
	Other	3	1	3	3	33%	100%	100%
UK	R and K	3	1	2	3	33%	67%	100%
	Other	5	2	5	5	40%	100%	100%