



Office for  
National Statistics

## Road transport emissions in the United Kingdom, 1990 to 2019

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[Road transport emissions](#)      Road transport emissions by pollutant, 1990 to 2019

Contact: [Environment.Accounts@ons.gov.uk](mailto:Environment.Accounts@ons.gov.uk)

Source: *Ricardo Energy and Environment, Office for National Statistics*

## Road transport<sup>1</sup> emissions by pollutant, 1990 to 2019

UK resident basis

Pollutant	1990	1991	1992	1993	1994
<b>Greenhouse gases</b>	<b>111,382.6</b>	<b>110,628.1</b>	<b>112,134.4</b>	<b>113,407.3</b>	<b>114,114.2</b>
Carbon dioxide	108,824.0	108,107.3	109,603.4	110,838.9	111,492.4
Methane	1,242.0	1,224.7	1,202.2	1,132.0	1,026.3
Nitrous oxide	1,316.6	1,296.2	1,328.9	1,436.5	1,595.5
<b>Acid rain precursors</b>	<b>933.0</b>	<b>922.8</b>	<b>905.7</b>	<b>863.7</b>	<b>829.6</b>
Sulphur dioxide	62.5	57.4	61.4	58.5	62.8
Nitrogen Oxides as NO <sub>2</sub>	868.8	863.6	841.4	799.2	757.1
Ammonia	1.6	1.8	2.9	6.0	9.7
PM <sub>10</sub>	35.2	37.2	38.1	39.4	40.0
PM <sub>2.5</sub>	29.8	31.8	32.7	33.9	34.5
Carbon monoxide	4,778.3	4,855.3	4,681.7	4,510.9	4,239.4
Non Methane VOC	858.1	858.3	828.4	779.9	722.0
Benzene	41.7	42.0	40.4	37.9	34.7
1,3-Butadiene	8.8	8.9	8.6	8.0	7.3
Cadmium	0.1	0.1	0.1	0.1	0.1
Lead	2,176.6	1,948.3	1,737.1	1,533.9	1,302.9
Mercury	0.3	0.3	0.3	0.3	0.3

### Notes

- Emissions from fuel sources which are used by road vehicles across industry groups.
- Greenhouse gases are made up of carbon dioxide, methane and nitrous oxide. Weight in carbon dioxide is expressed as CO<sub>2</sub>.
- Acid rain precursors are made of sulphur dioxide, nitrogen oxides and ammonia. Weight in sulphur dioxide is expressed as SO<sub>2</sub>.
- All figures are reported to 1 decimal place. Total figures are based on raw data and therefore may differ from the totals of the individual components.

Source: Ricardo Energy and Environment, Office for National Statistics

<b>1995</b>	<b>1996</b>	<b>1997</b>	<b>1998</b>	<b>1999</b>	<b>2000</b>	<b>2001</b>
<b>113,102.8</b>	<b>117,323.4</b>	<b>119,200.1</b>	<b>118,738.1</b>	<b>119,647.6</b>	<b>118,780.9</b>	<b>118,187.3</b>
110,370.5	114,786.9	116,753.7	116,412.1	117,400.1	116,634.2	116,233.3
924.6	879.0	811.3	737.4	681.4	616.8	540.3
1,807.8	1,657.5	1,635.0	1,588.6	1,566.1	1,529.9	1,413.7
<b>779.7</b>	<b>740.2</b>	<b>695.2</b>	<b>657.2</b>	<b>612.4</b>	<b>570.4</b>	<b>539.5</b>
50.7	37.4	27.5	22.6	13.6	5.9	3.4
715.6	685.8	645.8	608.3	568.5	520.3	495.0
13.4	17.1	21.8	26.3	30.3	44.2	41.1
40.4	41.3	40.3	39.5	39.0	35.0	34.2
34.7	35.5	34.4	33.5	32.9	28.9	28.1
4,019.1	4,016.1	3,525.4	3,237.1	2,877.7	2,420.2	2,451.7
672.3	644.7	572.2	517.4	457.5	386.6	351.4
32.0	30.6	26.5	23.7	20.7	8.7	9.7
6.7	6.3	5.5	4.9	4.2	3.5	3.1
0.1	0.1	0.1	0.1	0.1	0.1	0.1
1,074.2	917.4	808.0	601.2	329.7	30.0	29.9
0.3	0.3	0.3	0.3	0.3	0.3	0.3

dioxide equivalent.

r dioxide equivalent.

not sum due to rounding.

<b>2002</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>
<b>120,468.2</b>	<b>120,046.3</b>	<b>120,772.6</b>	<b>121,495.2</b>	<b>121,807.8</b>	<b>123,481.7</b>	<b>119,476.7</b>
118,632.6	118,363.0	119,199.5	120,009.6	120,416.4	122,152.0	118,352.7
486.9	429.0	384.8	353.2	319.0	289.0	258.0
1,348.7	1,254.2	1,188.3	1,132.4	1,072.5	1,040.7	866.0
<b>508.8</b>	<b>478.7</b>	<b>456.2</b>	<b>432.8</b>	<b>415.7</b>	<b>398.4</b>	<b>370.8</b>
3.0	3.0	2.7	2.4	2.1	1.7	1.1
467.3	440.6	420.7	400.2	385.6	371.0	347.0
38.5	35.1	32.8	30.1	28.1	25.7	22.8
33.1	32.4	31.7	30.8	30.0	29.1	27.7
26.9	26.1	25.3	24.4	23.5	22.5	21.2
2,232.6	2,031.4	1,845.7	1,644.0	1,467.0	1,282.8	1,146.6
301.7	256.6	218.8	186.3	161.2	138.2	121.5
9.0	8.2	7.4	6.7	6.0	5.3	4.8
2.7	2.3	1.9	1.6	1.4	1.2	1.1
0.1	0.1	0.1	0.1	0.1	0.1	0.1
30.4	30.6	30.9	30.8	31.1	31.0	30.5
0.3	0.3	0.3	0.3	0.3	0.3	0.2

<b>2009</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>
<i>Mass of air emissions per an</i>						
<b>115,724.6</b>	<b>114,894.5</b>	<b>113,204.8</b>	<b>112,513.5</b>	<b>112,050.6</b>	<b>113,878.5</b>	<b>115,386.7</b>
114,722.6	113,897.8	112,198.9	111,487.8	110,998.9	112,782.7	114,247.3
187.7	165.4	149.1	134.3	119.5	113.3	107.9
814.3	831.3	856.8	891.4	932.2	982.6	1,031.6
<i>Mass of air emissions per an</i>						
<b>304.2</b>	<b>287.9</b>	<b>271.7</b>	<b>259.1</b>	<b>249.7</b>	<b>243.4</b>	<b>235.8</b>
0.5	0.5	0.5	0.5	0.4	0.4	0.5
282.0	268.1	254.5	244.2	236.9	232.0	225.4
21.8	19.3	16.8	14.4	12.4	11.0	9.9
26.4	25.9	24.3	23.4	22.4	21.8	21.4
20.1	19.6	18.0	17.1	16.1	15.3	14.7
867.9	748.5	618.8	548.9	466.8	392.4	348.5
81.8	69.7	58.3	50.6	43.6	38.9	36.2
2.9	2.4	1.9	1.6	1.3	1.1	1.0
0.7	0.6	0.5	0.4	0.3	0.3	0.2
0.1	0.1	0.1	0.1	0.1	0.1	0.2
29.9	29.8	29.8	29.7	29.9	30.9	31.5
0.2	0.2	0.2	0.2	0.2	0.2	0.2

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2016	2017	2018	2019
<i>num in thousand tonnes of carbon dioxide equivalent</i>			
<b>117,979.9</b>	<b>118,167.9</b>	<b>117,682.7</b>	<b>116,620.2</b>
116,793.6	116,960.1	116,465.9	115,383.7
100.3	94.7	90.8	94.9
1,086.0	1,113.1	1,126.1	1,141.6
<i>num in thousand tonnes of sulphur dioxide equivalent</i>			
<b>225.6</b>	<b>214.7</b>	<b>206.5</b>	<b>202.2</b>
0.5	0.5	0.5	0.5
215.6	205.2	197.2	193.0
9.4	9.1	8.8	8.7
<i>Mass of air emissions per annum in thousand tonnes</i>			
20.8	20.3	20.2	20.2
14.0	13.4	13.1	13.0
297.5	259.2	235.9	231.9
33.3	31.1	30.1	30.4
0.8	0.7	0.7	0.7
0.2	0.2	0.2	0.2
<i>Mass of air emissions per annum in thousand tonnes</i>			
0.2	0.2	0.2	0.2
32.1	32.7	33.1	33.7
0.2	0.2	0.2	0.2