



# POLLUTED CITIES



# HAMPSHIRE

Like many towns and cities across the South East, urban areas in Hampshire are also blighted by Britain's toxic air crisis. Whilst Southampton's issues are well documented, other areas in Hampshire tend to be overlooked. This leaflet on Portsmouth and Winchester aims to redress the balance. It examines the latest available air pollution monitoring data and offers some insight into potential solutions.

## AIR QUALITY LIMITS

Local authorities that experience poor air quality must designate air quality management areas (AQMA) and are mandated to collect and report on pollution levels.<sup>1</sup> Legal limits of exposure have been set by the EU (informed by the World Health Organization (WHO)). For Nitrogen Dioxide ( $\text{NO}_2$ ) – which inflames the lining of the lungs and makes them more susceptible to illnesses such as bronchitis, and in the UK, is linked to the premature deaths of more than 20,000 people every year<sup>2</sup> – there are both hourly average targets and annual average targets. Within any given year, a local authority has exceeded the hourly average limit if levels of pollutants go above  $200\mu\text{g}/\text{m}^3$  more than 18 times for an hour or longer over the course of the year. And if the annual average is higher than  $40\mu\text{g}/\text{m}^3$  at any monitoring station, it has broken the safe, legal limit.

## PORTSMOUTH

Portsmouth is a port city on the South coast, home to 205,400 people. As the UK's second busiest port, it handles three million passengers a year.

Portsmouth City Council (PCC) declared 13 AQMAs in 2005, eight of these were revoked in 2010 and just five remain.<sup>3</sup> Two AQMAs cover wards in the UK's 10% most deprived areas.<sup>4</sup>

The city's main air quality issue is road traffic. Some sites breach  $\text{NO}_2$  safe annual levels and Portsmouth also exceeds EU legal limits on  $\text{NO}_2$  pollution.<sup>5</sup> Almost 100 premature deaths of Portsmouth's over 25s a year are attributed to  $\text{PM}_{2.5}$  pollution, with over 1000 associated life years lost.<sup>6</sup> PCC has plans to start measuring  $\text{PM}_{2.5}$ .

PCC's latest available data reports that  $\text{NO}_2$  was monitored at 39 sites in 2016. Six sites (or 15%) exceed the annual legal limits of  $40\mu\text{g}/\text{m}^3$ . Pollution at five sites has increased on previous levels. An additional seven sites saw 'borderline exceedances' of over  $36\mu\text{g}/\text{m}^3$ . Two of the sites over the annual limit are not in an AQMA. Reliability of  $\text{PM}_{10}$  monitoring is an issue, with some sites having data capture of just 60%.<sup>7</sup> There is a danger that the problems are more severe than reported.

### THE AREAS OF PORTSMOUTH EXPERIENCING THE WORST AIR POLLUTION

Site	Annual mean ( $\text{NO}_2\mu\text{g}/\text{m}^3$ )	Over safe/legal limit	Highest monthly recording ( $\text{NO}_2\mu\text{g}/\text{m}^3$ )	Over safe/legal limit
The Tap, London Road	49.2	123%	61.9*	155%
Kingston Road	43.7	109%	48.8	122%
Lord Montgomery Way	43.5	109%	48.8	122%

*\*This was the highest monthly level recorded at any site in Portsmouth.*

Portsmouth's 2017 Air Quality Strategy is similar to the national plan, which has been ruled as unlawful by the High Court. Portsmouth residents still await consultation on a draft action plan, which was due at the end of 2017.

**#LetPompeyBreathe** is a new joint initiative involving Portsmouth Green Party, Portsmouth Friends of The Earth, Milton Neighbourhood Forum and other groups concerned with Portsmouth's dangerous air quality. The campaign calls for a joined-up approach to tackle the city's air pollution and, in accordance with the High Court ruling, is pushing for a feasibility study of a Clean Air Zone in Portsmouth.



KEITH TAYLOR, GREEN PARTY MEP FOR THE SOUTH EAST

- 1 Local authorities are required to report annually on the levels of pollution and can remove an AQMA if the average annual levels fall back within the legal limit
- 2 Defra (2015) Valuing impacts on air quality: Updates in valuing changes in emissions of Oxides of Nitrogen (NO<sub>x</sub>) and concentrations of Nitrogen Dioxide (NO<sub>2</sub>). [https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/460401/air-quality-econanalysis-nitrogen-interim-guidance.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/460401/air-quality-econanalysis-nitrogen-interim-guidance.pdf)
- 3 Details on the locations and extent of Portsmouth's current AQMAs can be found here: [https://uk-air.defra.gov.uk/aqma/local-authorities?la\\_id=198](https://uk-air.defra.gov.uk/aqma/local-authorities?la_id=198)
- 4 Portsmouth City Council, Air Quality Strategy 2017-2027. <https://www.portsmouth.gov.uk/ext/documents-external/env-air-quality-strategy-proof-9a.pdf>
- 5 World Health Organization, (2016) WHO Global Urban Ambient Air Pollution Database (update 2016). [http://www.who.int/phe/health\\_topics/outdoorair/databases/cities/en/](http://www.who.int/phe/health_topics/outdoorair/databases/cities/en/)
- 6 Public Health England, Estimating local mortality burdens associated with particulate air pollution, 10 April 2014. [https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/332854/PHE\\_CRCE\\_010.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/332854/PHE_CRCE_010.pdf)
- 7 Portsmouth City Council, 2016 Air Quality Annual Status Report, September 2017. <https://www.portsmouth.gov.uk/ext/documents-external/env-air-quality-2016-annual-status-report.pdf>
- 8 Winchester City Council, 2017 Air Quality Annual Status Report, July 2017. [http://www.winchester.gov.uk/assets/attach/11953/Winchester\\_ASR\\_2017\\_final.pdf](http://www.winchester.gov.uk/assets/attach/11953/Winchester_ASR_2017_final.pdf)
- 9 Public Health England, Estimating local mortality burdens associated with particulate air pollution, 10 April 2014. [https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/332854/PHE\\_CRCE\\_010.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/332854/PHE_CRCE_010.pdf)
- 10 Winchester City Council, 2017 Air Quality Annual Status Report, July 2017. [http://www.winchester.gov.uk/assets/attach/11953/Winchester\\_ASR\\_2017\\_final.pdf](http://www.winchester.gov.uk/assets/attach/11953/Winchester_ASR_2017_final.pdf)
- 11 Winchester City Council, 2017 Air Quality Annual Status Report, July 2017, [http://www.winchester.gov.uk/assets/attach/11953/Winchester\\_ASR\\_2017\\_final.pdf](http://www.winchester.gov.uk/assets/attach/11953/Winchester_ASR_2017_final.pdf)
- 12 Winchester City Council, Index of Multiple Deprivation 2015. <http://www.winchester.gov.uk/data/index-of-multiple-deprivation-2010>
- 13 Winchester Green Party, Improving air quality in Winchester. <https://winchester.greenparty.org.uk/home/campaign-improving-air-quality-in-winchester.html>



## WINCHESTER

At the edge of the South Downs, Winchester is Hampshire's county town and 116,000 people live in the wider District. Its narrow medieval streets cannot cope with high traffic levels, so a one-way system is in place, but this ultimately results in more vehicle miles travelled.

Winchester's main pollutant of concern is NO<sub>2</sub>, which breaches annual mean air quality limits in parts of the city. The main source of pollution is road traffic.

Winchester City Council (WCC) declared an AQMA in 2003 around the one-way system and feeder roads. Both NO<sub>2</sub> and PM<sub>10</sub> are measured.<sup>8</sup> However, since 2013, hourly PM<sub>10</sub> monitoring has ceased, a move heavily criticised by Winchester Greens. Whilst PM<sub>2.5</sub> is not monitored, over 50 deaths of the over 25s a year in the District are attributed to PM<sub>2.5</sub> pollution, with 520 associated life years lost in Winchester.<sup>9</sup> For the c.4000 people living in the AQMA, the local Green Party estimates premature loss of six lives and 63 years of life annually from PM pollution.

The latest available WCC data reports that NO<sub>2</sub> was monitored at 26 city sites and another eight in the District in 2016. Four city sites (or 15%) exceed the annual legal limits of 40µg/m<sup>3</sup>. An additional 10 sites registered 'borderline exceedances' of over 36µg/m<sup>3</sup>. Whilst none of the District sites exceeded legal limits, seven registered higher levels than in previous years, suggesting the problem is worsening in the wider District.<sup>10</sup>

But considering annual mean alone is insufficient. Of the areas that, on average, didn't breach annual legal limits in 2016, residents in 17 (or 77%) experienced at least one month of illegally toxic air. For example, Upper Brook St – technically within legal limits – was over the limit for seven months, in excess of 45µg/m<sup>3</sup> for two of these.<sup>11</sup>

### THE AREAS OF WINCHESTER EXPERIENCING THE WORST AIR POLLUTION

Site	Annual mean (NO <sub>2</sub> µg/m <sup>3</sup> )	Over safe/legal limit	Highest monthly recording (NO <sub>2</sub> µg/m <sup>3</sup> )	Over safe/legal limit
Romsey Road	56.6	142%	65.5*	164%
St. Georges St. Bed	49.8	124%	60.4	151%
St. Georges St. Lad	48.9	122%	56.7	142%

*\*This was the highest monthly level recorded at any site in Winchester.*

Both St. Georges St. sites were missing one month of data. St. Georges St. Bed saw two months over 60µg/m<sup>3</sup>, and five months over 50µg/m<sup>3</sup>. St. Georges St. Lad saw eight months over 50µg/m<sup>3</sup>, so actual exposure here is likely to be higher. This area is in the 50% least deprived areas in the UK, but on the living environment index it is in the top 30%.<sup>12</sup>

Winchester Green Party has a longstanding air quality campaign. In 2012, I delivered a formal complaint from them and Winchester Friends of the Earth to the European Commission, over WCC's failure to improve air quality.<sup>13</sup> In the face of continued inaction, Winchester Greens are calling for:

- A reduction in road traffic across the city
- A town centre free from cars
- Improved public transport
- Promotion of walking and cycling

KEITH TAYLOR, GREEN PARTY MEP FOR THE SOUTH EAST

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Rob White (centre), Green Councillor, Reading Borough Council

**Reading, like many towns and cities across the South East of England, is blighted by Britain's toxic air crisis. Here we look at the latest available air quality data and set out recommendations on how to clean up our air in our town.**

## AIR QUALITY LIMITS

Local authorities that experience poor air quality must designate air quality management areas (AQMA) and are mandated to collect and report on pollution levels.<sup>1</sup> Legal limits of exposure have been set by the EU (informed by the World Health Organization (WHO)). For Nitrogen Dioxide ( $\text{NO}_2$ ) – which inflames the lining of the lungs and makes them more susceptible to illnesses such as bronchitis, and in the UK, is linked to the premature deaths of more than 20,000 people every year<sup>2</sup> – there are both hourly average targets and annual average targets. Within any given year, a local authority has exceeded the hourly average limit if levels of pollutants go above  $200\mu\text{g}/\text{m}^3$  more than 18 times for an hour or longer over the course of the year. And if the annual average is higher than  $40\mu\text{g}/\text{m}^3$  at any monitoring station, it has broken the safe, legal limit.



**KEITH TAYLOR, GREEN PARTY MEP FOR THE SOUTH EAST**

# POLLUTED CITIES



# READING

Reading is a major commercial centre and the Borough has a population of over 162,000. Despite its proximity to London, Reading has a net inward commuter flow, with more than 42,000 people commuting into the town daily.<sup>3</sup>

Reading is heavily built up, and at peak times congestion is a big issue. There is currently one large air quality management area (AQMA) in Reading covering all the major arterial roads in and out of the town as well as the central area.<sup>4</sup>

The main air quality issue identified in Reading is vehicle emissions.  $\text{NO}_2$  is the only pollutant in the town which is exceeding EU legal limits. But particulate matter pollution ( $\text{PM}_{10}$  and  $\text{PM}_{2.5}$ ) is also an issue due to its negative health impacts. Despite not exceeding the current legal limits set in Reading, two of Reading's four sites monitoring  $\text{PM}_{10}$  were at the WHO recommended maximum limit of  $20\mu\text{g}/\text{m}^3$  and a further site was at  $19\mu\text{g}/\text{m}^3$ . It is clear that even low levels of PM are damaging. Indeed, some 62 deaths of the over 25s in the town are attributed to  $\text{PM}_{2.5}$  pollution every year, and over 700 associated life years lost in Reading.<sup>5</sup>

The latest available data from Reading Borough Council reports that  $\text{NO}_2$  was monitored at 56 sites in 2016. Nineteen sites (or 34%) exceed the annual legal limits of  $40\mu\text{g}/\text{m}^3$ . An additional 16 sites registered 'borderline exceedances' of over  $36\mu\text{g}/\text{m}^3$ . But considering just the annual mean doesn't tell the whole story. Of the areas that, on average, didn't breach annual legal limits in 2016, residents in 35 (or 62%) experienced at least one month of illegally toxic emissions. To take one site as an example, Reading Station was technically within safe, legal limits, but it was over the limit for 10 months of the year – for half of these the levels were over  $50\mu\text{g}/\text{m}^3$ .

## THE AREAS OF READING EXPERIENCING THE WORST AIR POLLUTION

Site	Annual mean ( $\text{NO}_2\mu\text{g}/\text{m}^3$ )	Over safe/legal limit	Highest monthly recording ( $\text{NO}_2\mu\text{g}/\text{m}^3$ )	Over safe/legal limit
Friar Street	50.1	125%	63.5	159%
Prospect Street	47.8	119%	68.2*	171%
Oxford Road	46.1	115%	58.3	146%

*\*This was the highest monthly level recorded at any site in Reading.*



“ It is very worrying that air pollution at various locations across Reading, including Cemetery Junction, continues to exceed EU legal limits. Toxic air in Reading is having hugely negative effects on people’s health. Reading Council has been promising a Low Emissions Zone in the city for the last nine years – but has failed to make any progress. Greens care about the health of our residents and believe real action can and must be taken urgently.

**Rob White, Green Councillor,  
Reading Borough Council**

- 1 Local authorities are required to report annually on the levels of pollution and can remove an AQMA if the average annual levels fall back within the legal limit
- 2 Defra (2015) Valuing impacts on air quality: Updates in valuing changes in emissions of Oxides of Nitrogen (NO<sub>x</sub>) and concentrations of Nitrogen Dioxide (NO<sub>2</sub>). [https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/460401/air-quality-econanalysis-nitrogen-interim-guidance.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/460401/air-quality-econanalysis-nitrogen-interim-guidance.pdf)
- 3 Office for National Statistics; National Records of Scotland; Northern Ireland Statistics and Research Agency (2016): 2011 Census aggregate data. UK Data Service (Edition: June 2016). DOI: <http://dx.doi.org/10.5257/census/aggregate-2011-1>
- 4 Reading Borough Council, 2017 Air Quality Annual Status Report (ASR), June 2017. [http://www.reading.gov.uk/media/6388/Air-Quality-Annual-Status-Report/pdf/Reading\\_2017\\_Annual\\_Status\\_Report.pdf](http://www.reading.gov.uk/media/6388/Air-Quality-Annual-Status-Report/pdf/Reading_2017_Annual_Status_Report.pdf)
- 5 Public Health England, Estimating local mortality burdens associated with particulate air pollution, 10 April 2014. [https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/332854/PHE\\_CRCE\\_010.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/332854/PHE_CRCE_010.pdf)
- 6 Reading Borough Council, (2018) Air Quality. <http://www.reading.gov.uk/article/9439/Air-Quality>
- 7 Reading Borough Council, 2017 Air Quality Annual Status Report (ASR), June 2017. [http://www.reading.gov.uk/media/6388/Air-Quality-Annual-Status-Report/pdf/Reading\\_2017\\_Annual\\_Status\\_Report.pdf](http://www.reading.gov.uk/media/6388/Air-Quality-Annual-Status-Report/pdf/Reading_2017_Annual_Status_Report.pdf)
- 8 Reading Borough Council (2015) Index of Multiple Deprivation 2015. <http://www.reading.gov.uk/media/3777/Deprivation-Map/pdf/IMD.pdf>
- 9 Reading Borough Council (2016) Living Environment, Index of Multiple Deprivation 2015. [http://www.reading.gov.uk/media/5596/LivingEnvironment/pdf/Living\\_Environment.pdf](http://www.reading.gov.uk/media/5596/LivingEnvironment/pdf/Living_Environment.pdf)
- 10 Reading Borough Council/LGA (Undated) Basic facts about Park Ward. [http://www.reading.gov.uk/media/7661/Basic-facts-about-Park-Ward-LG-Inform-Census-profile/pdf/Basic\\_facts\\_about\\_Park\\_Ward\\_LG\\_Inform\\_Census\\_profile.pdf](http://www.reading.gov.uk/media/7661/Basic-facts-about-Park-Ward-LG-Inform-Census-profile/pdf/Basic_facts_about_Park_Ward_LG_Inform_Census_profile.pdf)

## CEMETERY JUNCTION

Despite recording no data for the first five months of 2016, the monitoring station at Wycliffe Church near Cemetery Junction on London Road, still saw ‘annual’ levels over the legal limit at 44.1µg/m<sup>3</sup>, with exceedances of over 50µg/m<sup>3</sup> for four of the remaining months, so the actual exposure at this site is likely to be much more severe than reported.

Although sites are clearly over the safe levels, there are larger issues in this part of town. They have to do with poor monitoring.

This lack of information is a major issue for tackling the problem. Not only has the monitoring network not been changed since 2013<sup>6</sup>, the Council’s Annual Status Report reveals that in 2016, the London Road capture rate for NO<sub>2</sub> was just 75% and for PM<sub>10</sub> it was only 64%<sup>7</sup>, and despite techniques to calculate an annual estimate, by looking at the rest of the data across all the other sites in Reading, it is very clear that there are such large scale changes month-to-month, it would be very difficult to accurately account for the damage being done when the pollution in the air is not being monitored. This means that levels could really be much worse than reported.

The Council needs to rectify these issues as a priority. Not having data may mask the severity of the issue, meaning that certain areas might be neglected despite suffering severe problems. This will place people’s lives at further risk.

London Road and Cemetery Junction are in Park Ward. Whilst not one of the most deprived areas of Reading<sup>8</sup>, in terms of quality of the living environment, it was ranked as one of the worst areas, in the bottom 5-10%<sup>9</sup>.

Given that Park has a younger population than the Reading average, and more than double the Asian/British Asian population compared to the rest of the town<sup>10</sup>, in this instance it is clear that the effects of air pollution are not felt evenly by people in Reading; some communities are impacted more than others.



Urgent action is needed to tackle the bad air quality in Reading. Despite intentions to establish a Clean Air Zone dating back to 2009, and continued pressure from the local Green party to progress the plans to limit traffic, Reading Council has been slow to act.

Green Councillors in the town have been long campaigning to cut congestion and pollution. They oppose the plans for new roads to be built on green spaces along the river. They are calling for:

- **More walking and cycling provision**
- **The introduction of more 20mph zones across the town**
- **More charging points for electric cars**
- **A reduction in public transport fares**

Reading Greens also look to initiatives implemented by other European countries, such as diverting traffic and providing free bus travel on days when pollution levels are especially high.

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