

Air Quality Report

Produced by AQDM on behalf of Lancaster

LANCASTER CABLE STREET 2020

These data have been fully ratified by AQDM to the LAQM (TG16) standards

Site Environment and Description

[Map](#)

[Photo](#)

[Dashboard](#)

ROADSIDE: Cable Street, Lancaster

Statistical Summary Report

This 2020 report contains all the statistics required for the LAQM reporting.

The Volatile Correction Model (VCM) has been run on the TEOM data to calculate the *EU Reference Equivalent* PM₁₀ required for the LAQM reports. This uses data from nearby FDMS instruments <http://www.volatile-correction-model.info>.

First table – Air Quality Statistics

The TEOM and FIDAS gravimetric PM₁₀ is shown in the 2nd column. The uncorrected PM₁₀ is in the 3rd column.

The top four lines show the duration within the bands of the Daily Air Quality Index (DAQI). This was introduced by Defra in January 2012 and revised April 2013. The number of occasions within each band is summarised as follows.

DAQI Pollutant	Moderate	High	Very High
Gravimetric PM ₁₀	0 days	0	0
Gravimetric PM _{2.5}	0 days	0	0
NO ₂	0 hours	0	0

Data Captures

The annual data captures are shown on the bottom line.

These were above the 85% target for NO₂ and below for PM₁₀ and PM_{2.5}.

Percentiles are included where the annual data capture was less than 85%.

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Second table – Air Quality Exceedences

Gravimetric PM₁₀ – annual data capture was 81.7 %

The maximum daily mean was $49\mu\text{g m}^{-3}$ so the daily mean limit value of $50\mu\text{g m}^{-3}$ was not exceeded. The annual allowance is 35 days so this Objective was not exceeded.

The annual mean was $17\mu\text{g m}^{-3}$ which did not exceed the $40\mu\text{g m}^{-3}$ Objective.

Gravimetric PM_{2.5} – annual data capture was 21.7 %

The annual mean was $8\mu\text{g m}^{-3}$ which did not exceed the $25\mu\text{g m}^{-3}$ Objective. Note, however, that the PM_{2.5} standard is not set in the regulations.

There should be a 15% cut in urban background exposure (annual mean) for all Local Authorities from 2010 to 2020.

NO₂ – annual data capture was 90.8 %

The annual mean was $28\mu\text{g m}^{-3}$ which did not exceed the $40\mu\text{g m}^{-3}$ Objective.

The maximum hourly mean was $109\mu\text{g m}^{-3}$ so there were no exceedences of the NO₂ hourly limit of $200\mu\text{g m}^{-3}$. There is an annual allowance of 18 hours so this Objective was not exceeded.

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Air Quality Statistics

Pollutant	PM ₁₀ ⁺	PM ₁₀ [*]	PM _{2.5} [~]	PM ₁ [§]	NO ₂	NO	NO _x
Number Very High #	0	-	0	-	0	-	-
Number High #	0	-	0	-	0	-	-
Number Moderate #	0	-	0	-	0	-	-
Number Low #	297	-	79	-	7972	-	-
Maximum 15-min mean	-	439 µg m ⁻³	-	39 µg m ⁻³	138 µg m ⁻³	490 µg m ⁻³	828 µg m ⁻³
Maximum hourly mean	250 µg m ⁻³	254 µg m ⁻³	34 µg m ⁻³	34 µg m ⁻³	109 µg m ⁻³	428 µg m ⁻³	732 µg m ⁻³
Maximum running 8-hr mean	73 µg m ⁻³	69 µg m ⁻³	28 µg m ⁻³	27 µg m ⁻³	93 µg m ⁻³	287 µg m ⁻³	496 µg m ⁻³
Maximum running 24-hr mean	53 µg m ⁻³	48 µg m ⁻³	26 µg m ⁻³	24 µg m ⁻³	62 µg m ⁻³	180 µg m ⁻³	322 µg m ⁻³
Maximum daily mean	49 µg m ⁻³	39 µg m ⁻³	25 µg m ⁻³	24 µg m ⁻³	57 µg m ⁻³	169 µg m ⁻³	301 µg m ⁻³
90.4 th percentile of daily means [†]	27 µg m ⁻³	-	-	-	-	-	-
90 th percentile of daily means [†]	27 µg m ⁻³	-	-	-	-	-	-
98.1 st percentile of daily means [†]	38 µg m ⁻³	-	-	-	-	-	-
Average	17 µg m ⁻³	17 µg m ⁻³	8 µg m ⁻³	6 µg m ⁻³	28 µg m ⁻³	30 µg m ⁻³	74 µg m ⁻³
Data capture	81.7 %	81.7 %	21.7 %	21.7 %	90.8 %	90.8 %	90.8 %

Daily Air Quality Index (DAQI) as defined by COMEAP January 2012 and revised April 2013

† Percentile required for annual data capture < 85%

+ PM₁₀ instruments:

FIDAS using 1 gravimetric factor from 18 August 2020

TEOM using the VCM for Indicative Gravimetric Equivalent from 1 January 2020 to 18 August 2020

* PM₁₀ instruments:

FIDAS from 18 August 2020

TEOM from 1 January 2020 to 18 August 2020

~ PM_{2.5} as measured by a FIDAS using 0.94 gravimetric factor

§ PM₁ as measured by a FIDAS

Mass units for the gases are at 20°C and 1013mb

NO_x mass units are NO_x as NO₂ µg m⁻³

Air Quality Exceedences

Pollutant	Air Quality (England) Regulations 2000 & (Amendment) Regulations 2002	Max Conc	Number	Days	Allowed	Exceeded
PM ₁₀ Particulate Matter (Gravimetric)	Daily mean > 50 µg m ⁻³	49 µg m ⁻³	0	0	35 days	No
PM ₁₀ Particulate Matter (Gravimetric)	Annual mean > 40 µg m ⁻³	17 µg m ⁻³	0	-	-	No
PM _{2.5} Particulate Matter (Gravimetric) *	Annual mean > 25 µg m ⁻³	8 µg m ⁻³	0	-	-	No
Nitrogen Dioxide	Annual mean > 40 µg m ⁻³	28 µg m ⁻³	0	-	-	No
Nitrogen Dioxide	Hourly mean > 200 µg m ⁻³	109 µg m ⁻³	0	0	18 hours	No

* Not set in regulations

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Monthly Data Captures %

Pollutant	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
PM ₁₀	91.4	93.2	100.0	98.3	93.1	88.5	99.6	55.8	0.0	59.8	100.0	100.0
PM _{2.5}	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	59.8	100.0	100.0
PM ₁	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	59.8	100.0	100.0
Nitrogen Dioxide	97.3	97.0	97.3	97.2	97.3	96.9	97.0	99.5	53.2	59.0	98.5	98.7

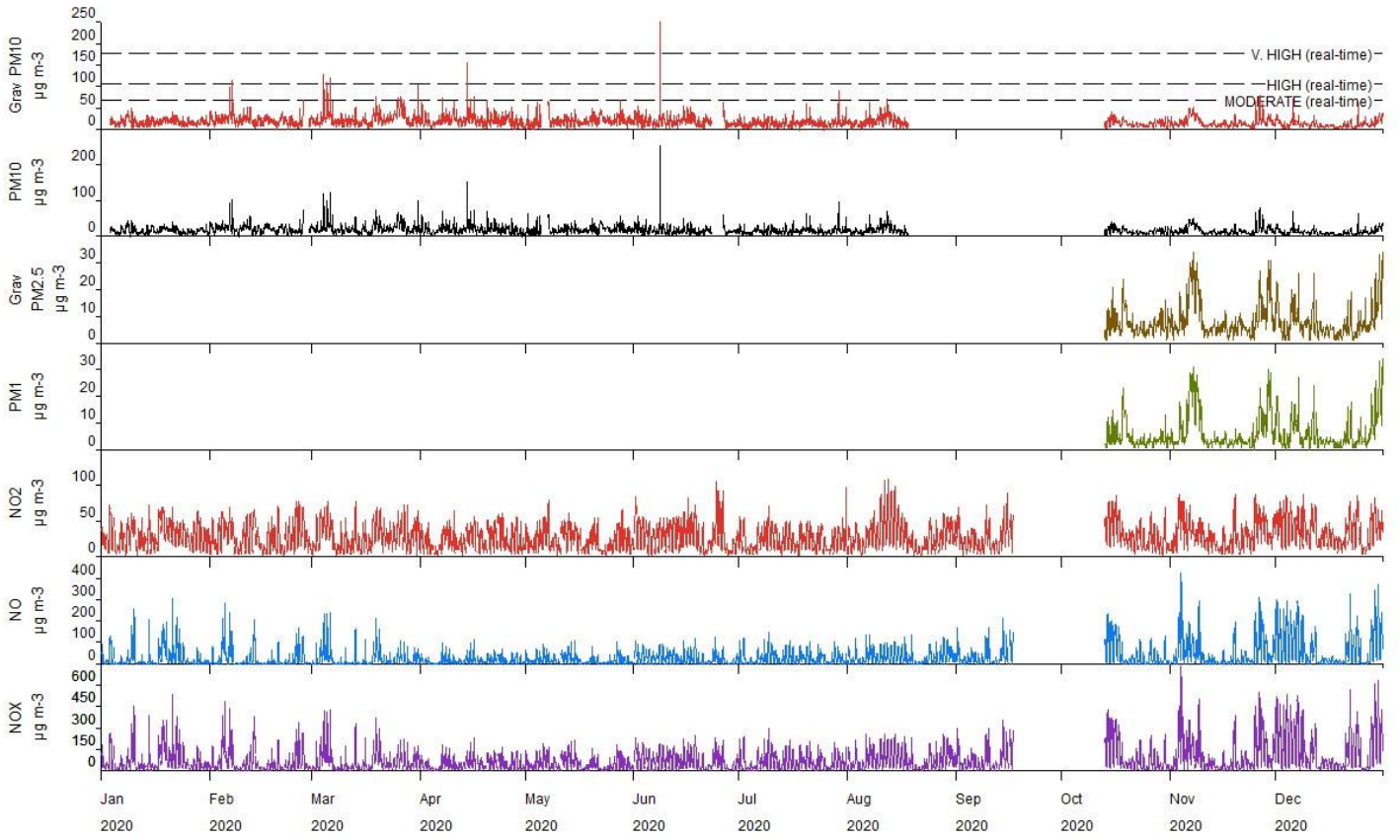
Monthly Means

Pollutant	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
PM ₁₀ µg m ⁻³	16	21	24	20	18	19	14	19	-	13	16	11
PM _{2.5} µg m ⁻³	-	-	-	-	-	-	-	-	-	7	9	8
PM ₁ µg m ⁻³	-	-	-	-	-	-	-	-	-	5	7	6
Nitrogen Dioxide µg m ⁻³	29	28	29	23	22	30	24	31	25	28	29	35

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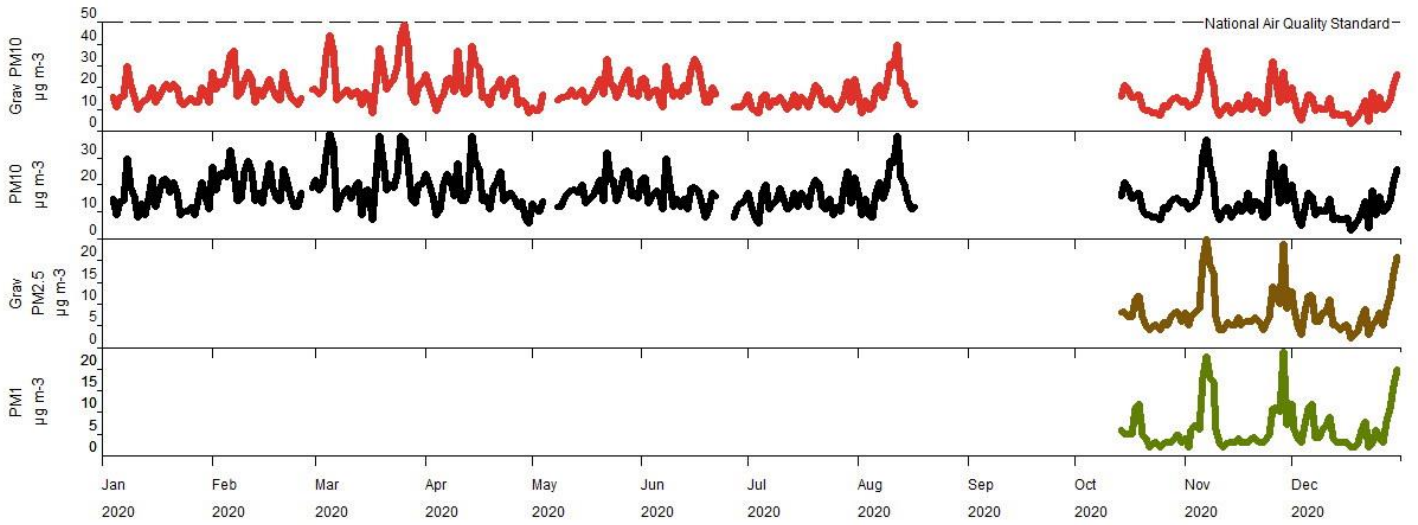
Hourly Means



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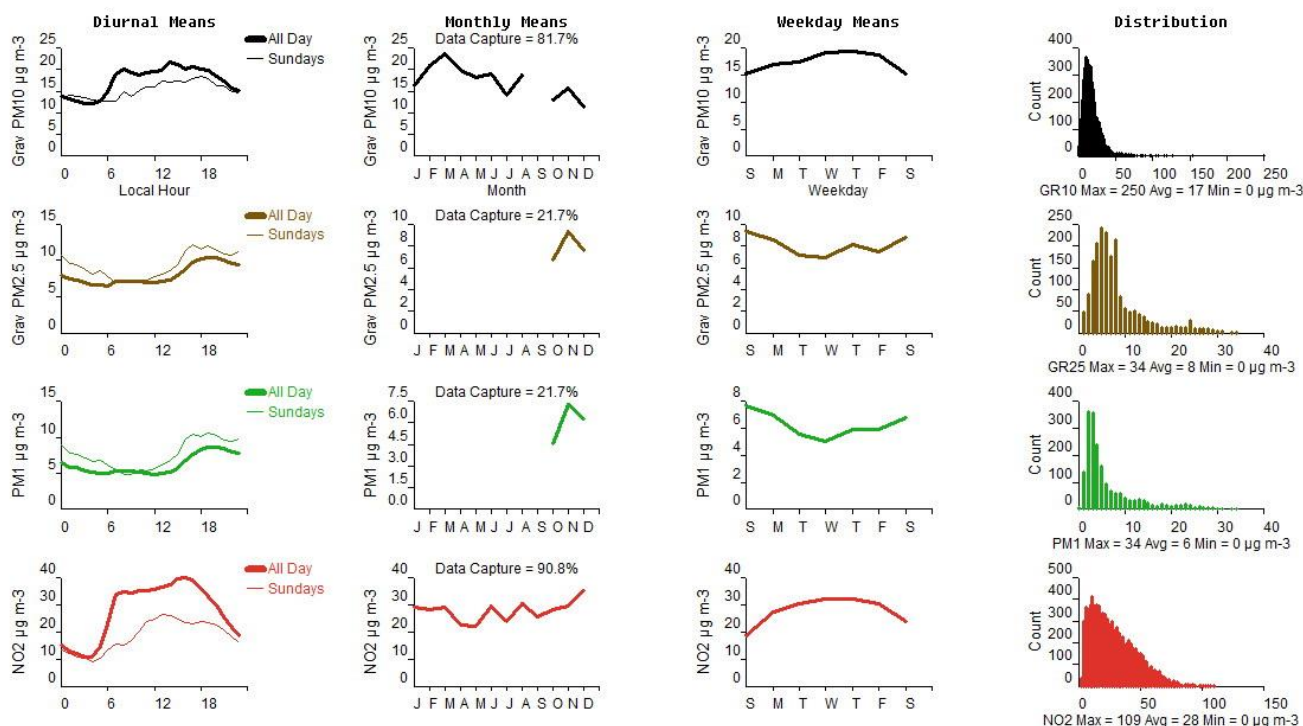
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Daily Means



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Lancaster Cable Street Air Quality Report produced by:

Geoff Broughton

Air Quality Data Management (AQDM)

Tel: 01235 559761

Geoff.Broughton@aqdm.co.uk

<http://www.aqdm.co.uk>

<http://uk.linkedin.com/pub/geoff-broughton/22/187/87/>

<http://www.UKAirQuality.net>