

# London Borough Camden Air Quality Annual Status Report for 2021

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This report provides a detailed overview of air quality in the **London Borough of Camden** during 2021. It has been produced to meet the requirements of the London Local Air Quality Management (LLAQM) statutory process<sup>1</sup>.

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<sup>1</sup> LLAQM Policy and Technical Guidance 2019 (LLAQM.TG(19))

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## Abbreviations

Abbreviation	Description
AQAP	Air Quality Action Plan
AQMA	Air Quality Management Area
AQO	Air Quality Objective
BEB	Buildings Emission Benchmark
CAB	Cleaner Air Borough
CAAP	Camden's Clean Air Action Plan 2019-2022
CCCA	Camden Climate Change Alliance
EV	Electric Vehicle
GLA	Greater London Authority
LAEI	London Atmospheric Emissions Inventory
LAQM	Local Air Quality Management
LLAQM	London Local Air Quality Management
NRMM	Non-Road Mobile Machinery
PM <sub>10</sub>	Particulate matter less than 10 micron in diameter
PM <sub>2.5</sub>	Particulate matter less than 2.5 micron in diameter
TEB	Transport Emissions Benchmark
TfL	Transport for London
WHO	World Health Organization

**Table A. Summary of National Air Quality Standards and Objectives**

Pollutant	Standard / Objective (UK)	Averaging Period	Date <sup>(1)</sup>
Nitrogen dioxide (NO <sub>2</sub> )	200 µg m <sup>-3</sup> not to be exceeded more than 18 times a year	1-hour mean	31 Dec 2005
Nitrogen dioxide (NO <sub>2</sub> )	40 µg m <sup>-3</sup>	Annual mean	31 Dec 2005
Particles (PM <sub>10</sub> )	50 µg m <sup>-3</sup> not to be exceeded more than 35 times a year	24-hour mean	31 Dec 2004
Particles (PM <sub>10</sub> )	40 µg m <sup>-3</sup>	Annual mean	31 Dec 2004
Particles (PM <sub>2.5</sub> )	25 µg m <sup>-3</sup>	Annual mean	2021
Particles (PM <sub>2.5</sub> )	Target of 15% reduction in concentration at urban background locations	3-year mean	Between 2010 and 2021
Sulphur dioxide (SO <sub>2</sub> )	266 µg m <sup>-3</sup> not to be exceeded more than 35 times a year	15-minute mean	31 Dec 2005
Sulphur dioxide (SO <sub>2</sub> )	350 µg m <sup>-3</sup> not to be exceeded more than 24 times a year	1-hour mean	31 Dec 2004
Sulphur dioxide (SO <sub>2</sub> )	125 µg m <sup>-3</sup> not to be exceeded more than 3 times a year	24-hour mean	31 Dec 2004

**Notes:**

(1) Date by which to be achieved by and maintained thereafter

**World Health Organization air quality standards**

Camden Council adopted the World Health Organization air quality standards in 2018, becoming the first local authority to do so, and [Camden's Clean Air Action Plan 2019-2022<sup>2</sup>](#) is intended to deliver on LAQM statutory obligations in achieving the National Air Quality Standards and Objectives as well as the Council's own objective of achieving WHO compliance by 2030.

**Table B. World Health Organization guideline air quality standards**

Table B below shows Camden's WHO-aligned objectives for particulate matter, including interim targets for 2022 and 2026.

Pollutant	WHO Guideline (2005)	Averaging Period	Date <sup>(1)</sup>
Particles (PM <sub>10</sub> )	20 µg m <sup>-3</sup> Interim target of 17.1 µg m <sup>-3</sup> by 2022 Interim target of 14.8 µg m <sup>-3</sup> by 2026	Annual mean	2030
Particles (PM <sub>2.5</sub> )	10 µg m <sup>-3</sup> Interim target of 13.7 µg m <sup>-3</sup> in 2022 Interim target of 11.8 µg m <sup>-3</sup> in 2026	Annual mean	2030

<sup>2</sup> [https://www.camden.gov.uk/documents/20142/0/Clean+air+action+plan+2019-2022\\_final2.pdf/f7cd1a68-e707-0755-528a-59388adf0995](https://www.camden.gov.uk/documents/20142/0/Clean+air+action+plan+2019-2022_final2.pdf/f7cd1a68-e707-0755-528a-59388adf0995)

# 1. Air Quality Monitoring

## 1.1 Locations

**Table C. Details of Automatic Monitoring Sites for 2021**

Site ID	Site Name	X (m)	Y (m)	Site Type	In AQMA? If so, which AQMA?	Distance to Relevant Exposure (m)	Distance to Kerb of Nearest Road (N/A if not applicable ) (m)	Inlet height (m)	Pollutants monitored	Monitoring technique
BL0	London Bloomsbury (Russell Square Gardens)	530123	182014	Urban Background	Y	40	27	4	NO <sub>2</sub> , PM <sub>10</sub> , PM <sub>2.5</sub> , SO <sub>2</sub> , O <sub>3</sub>	TEOM-FDMS, API NO <sub>x</sub>
CD1	Swiss Cottage (Finchley Road)	526629	184391	Kerbside	Y	7	1.5	3	NO <sub>2</sub> , PM <sub>10</sub> , PM <sub>2.5</sub>	BAM PM10, BAM PM2.5, T200 NO <sub>x</sub>
CD9	Euston Road	529878	182648	Roadside	Y	1	0.5	2.5	NO <sub>2</sub> , PM <sub>10</sub> , PM <sub>2.5</sub>	TEOM-FDMS, API NO <sub>x</sub>
KGX	Coopers Lane	529831	183250	Urban Background / Industrial*	Y	8	55	2.5	PM <sub>10</sub>	TEOM-FDMS
CD010	Camden High Street	528832	5183995	Roadside	Y	1	0.5	2.5	NO <sub>2</sub>	Teledyne API M200A NO <sub>x</sub>

- ‘Kerbside’ refers to sites with sample inlets within 1m of the kerb of a busy road. Sampling heights are within 2-3m of the ground.
- ‘Roadside’ refers to sites with sample inlets between 1m and 5m of the kerbside. Sampling heights are within 2-3m of the ground.
- ‘Urban background’ locations away from major sources and broadly representative of town/city-wide background concentrations, e.g., urban residential areas.<sup>3</sup>

<sup>3</sup> [https://www.londonair.org.uk/london/asp/classification.asp?region=13&site=SK2&details=general&mapview=all&la\\_id=&network=All&MapType=Static](https://www.londonair.org.uk/london/asp/classification.asp?region=13&site=SK2&details=general&mapview=all&la_id=&network=All&MapType=Static)

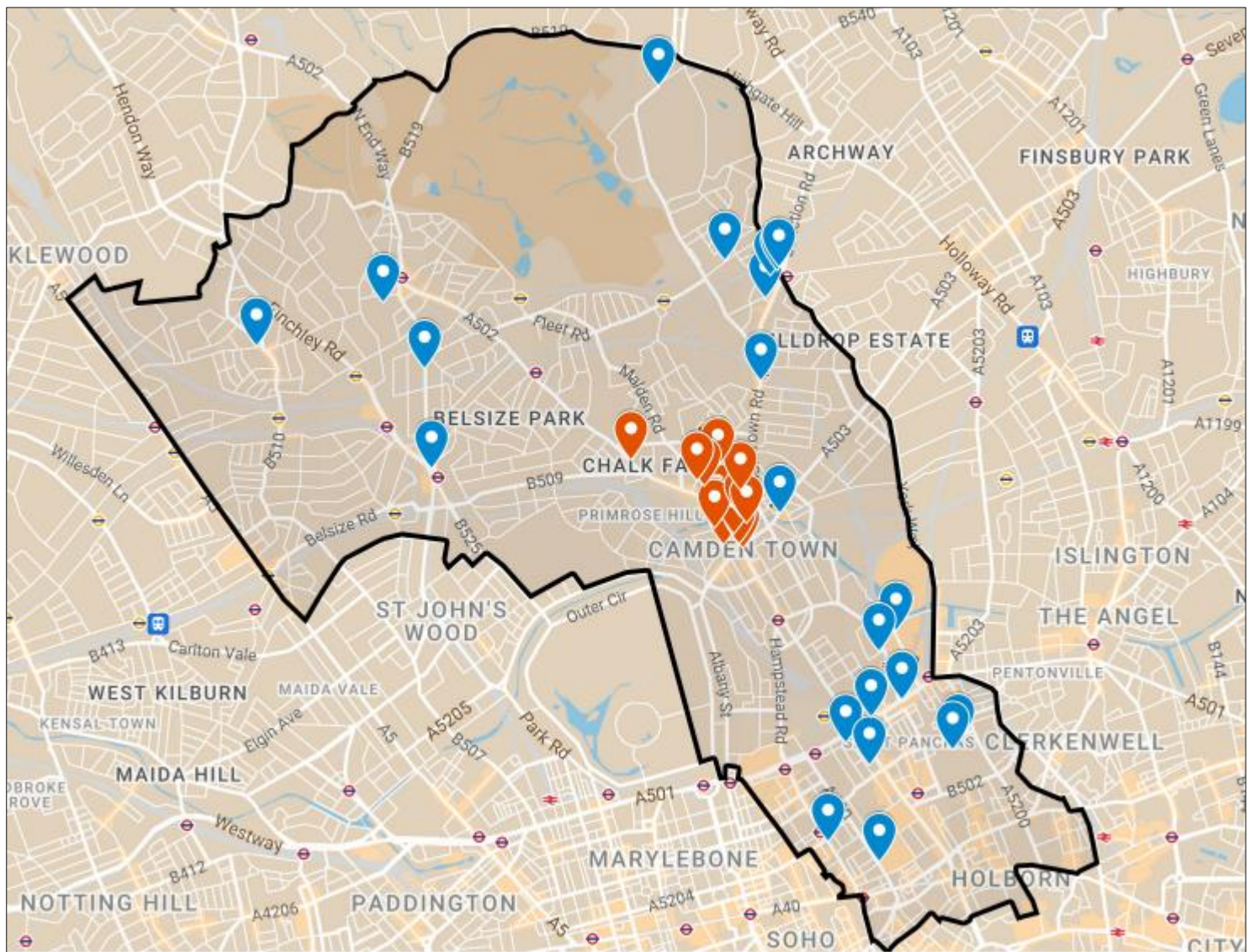
**Table D. Details of Non-Automatic Monitoring Sites for 2021**

Site ID	Site Name	X (m)	Y (m)	Site Type	In AQMA? If so, which AQMA?	Distance to Relevant Exposure (m)	Distance to Kerb of Nearest Road (N/A if not applicable) (m)	Inlet height (m)	Pollutants monitored	Tube co-located with an automatic monitor.  (Y/N)
CA4A (new)	Euston Road	530093	182792	Kerbside	Y	1	0.5	2.2	NO <sub>2</sub>	N
CA27	Euston Road LAQN colocation	529907	182670	Roadside	Y	1	0.5	2	NO <sub>2</sub>	Y
CA6	St. George's Gardens (prev. 'Wakefield Gardens')	530430	182430	Urban Background	Y	18	30	1.8	NO <sub>2</sub>	N
CA28	St. George's Gardens East	530512	182511	Urban Background	Y	10	29	1.5	NO <sub>2</sub>	N
CA7	Frognaal Way	526213	185519	Urban Background	Y	6	30	3	NO <sub>2</sub>	N
CA10	Tavistock Gardens	529880	182334	Urban Background	Y	35	25	2.5	NO <sub>2</sub>	N
CA11	Tottenham Court Road*	529568	181728	Kerbside	Y	4	<1	3.5	NO <sub>2</sub>	N
CA15	Swiss Cottage	526633	184392	Kerbside	Y	7	<1	2.5	NO <sub>2</sub>	Y
CA16	Kentish Town Road	529013	185102	Roadside	Y	1	1	2.5	NO <sub>2</sub>	N
CA17	47 Fitzjohn's Road	526547	185125	Roadside	Y	5	5	2	NO <sub>2</sub>	N
CA20A	Brill Place	529904	183138	Roadside	Y	12	0.5	2.5	NO <sub>2</sub>	N
CA21	Bloomsbury Street	529962	181620	Kerbside	Y	4	<1	2.2	NO <sub>2</sub>	N
CA23	Camden Road	529173	184129	Kerbside	Y	5	<1	2.2	NO <sub>2</sub>	N
CA24	Chetwynd Road	528722	185950	Roadside	Y	2	1	2.5	NO <sub>2</sub>	N
CA25A	Emmanuel Primary School	525362	185255	Roadside	Y	3	2	2	NO <sub>2</sub>	N
CA26	Witanhurst Lane	528213	187203	Roadside	Y	3	1.5	2.2	NO <sub>2</sub>	N
CA29	Endsleigh Gardens	529689	182470	Roadside	Y	6	0.5	2	NO <sub>2</sub>	N
CA30	Dartmouth Park Hill	529118	185913	Roadside	Y	10	0.5	2.5	NO <sub>2</sub>	N

CA31	Acland Burghley School (Burghley Road)	529099	185881	Roadside	Y	1	7	2.2	NO <sub>2</sub>	N
CA32	Oakford Road	529060	185848	Roadside	Y	8	1	2.5	NO <sub>2</sub>	N
CTLEN1	Haverstock School (Haverstock Hill)	528081	184490	Roadside	Y	4	0.5	2.2	NO <sub>2</sub>	N
CTLEN2	Harmood Street	528558	184331	Roadside	Y	7	1	2.2	NO <sub>2</sub>	N
CTLEN3	Hartland Road	528619	184315	Roadside	Y	3	1	2.2	NO <sub>2</sub>	N
CTLEN4	Hawley Primary School (Hawley Road)	528881	184287	Roadside	Y	1	6	2.2	NO <sub>2</sub>	N
CTLEN5	Kentish Town Road	528935	184053	Roadside	Y	5	0.5	2.2	NO <sub>2</sub>	N
CTLEN6	Hawley Crescent	528898	184094	Roadside	Y	4	0.5	2.2	NO <sub>2</sub>	N
CTLEN7	Jamestown Road	528704	184011	Roadside	Y	5	0.5	2.2	NO <sub>2</sub>	N
CTLEN8	Camden High Street (Bridge)	528722	184127	Roadside	Y	6	2	2.5	NO <sub>2</sub>	N
CTLEN9	Camden High Street (Camden News)	528845	183970	Roadside	Y	5	2	2.2	NO <sub>2</sub>	N
CTLEN10	Camden High Street (American Candy)	528884	183901	Roadside	Y	6	1	2.2	NO <sub>2</sub>	N
CTLEN11	Britannia Junction	528915	183870	Kerbside	Y	15	0.5	2.5	NO <sub>2</sub>	N
CTLEN12	Cavendish School (Arlington Road)	528770	183887	Roadside	Y	3	2	2.5	NO <sub>2</sub>	N
CTLEN13	Holy Trinity & St. Silas School (Hartland Road)	528715	184456	Roadside	Y	3	1.5	2.5	NO <sub>2</sub>	N



Figure 1: Long-term (blue symbols) and short-term (orange symbols) diffusion tube monitoring sites in Camden



## 1.2 Comparison of Monitoring Results with AQOs

The results presented are after adjustments for “annualisation” and for distance to a location of relevant public exposure (if required), the details of which are described in Appendix A.

**Table E. Annual Mean NO<sub>2</sub> Ratified and Bias-adjusted Monitoring Results**

Site ID	Site type	Valid data capture for monitoring period % <sup>(a)</sup>	Valid data capture 2021 % <sup>(b)</sup>	2015	2016	2017	2018	2019	2020	2021
BL0: London Bloomsbury (Russell Square Gardens)	Automatic	-	98.06%	<b>48</b>	<b>42</b>	38	36	32	28	27
CD1: Swiss Cottage (Finchley Road)	Automatic	-	69.83%	<b>61</b>	<b>66</b>	<b>53</b>	<b>54</b>	<b>43</b>	33	<b>44</b>
CD9: Euston Road	Automatic	-	99.45%	<b>90</b>	<b>88</b>	<b>83</b>	<b>82<sup>c</sup></b>	<b>70</b>	<b>43</b>	<b>48</b>
CD010: Camden High Street	Automatic	-	57.76%							30
CA4 Euston Road (retired)	Diffusion tube	-	N/A	<b>86.76</b>	<b>82.71</b>	<b>84.95<sup>c</sup></b>	<b>69.19</b>	-	-	-
CA4A Euston Road (new)	Diffusion tube	-	41.66%	-	-	-	-	<b>70.65</b>	<b>53.68</b>	<b>57.14</b>
CA27 Euston Road LAQN colocation	Diffusion tube	-	66.66%	-	-	-	-	<b>65.28</b>	<b>46.57</b>	<b>46.78</b>
CA6 St. George's Gardens (retired)	Diffusion tube	-	N/A	35.80	31.31	34.83 <sup>c</sup>	26.67	25.22	-	-
CA28 St. George's Gardens East	Diffusion tube	-	75%	-	-	-	-	28.31	22.47	17.44
CA7 Frognal Way	Diffusion tube	-	66.66%	27.78	27.91	29.64 <sup>c</sup>	22.12	23.34	18.68	15.35
CA10 Tavistock Gardens	Diffusion tube	-	66.66%	<b>44.57</b>	39.68	<b>46.18<sup>c</sup></b>	35.35	33.90	26.78	22.32
CA11 Tottenham Court Road	Diffusion tube	-	41.66	<b>85.61</b>	<b>83.57</b>	<b>74.04<sup>c</sup></b>	<b>65.75</b>	<b>62.62</b>	<b>43.27</b>	<b>44.35</b>
CA15 Swiss Cottage	Diffusion tube	-	N/A	<b>69.28</b>	<b>73.86</b>	-	<b>62.30<sup>c</sup></b>	<b>50.89</b>	-	-
CA16 Kentish Town Road	Diffusion tube	-	66.66%	<b>63.55</b>	<b>58.72</b>	<b>68.84<sup>c</sup></b>	<b>54.66</b>	<b>46.07</b>	34.23	32.79
CA17 47 Fitzjohn's Avenue	Diffusion tube	-	66.66%	<b>55.80</b>	<b>56.38</b>	<b>66.27<sup>c</sup></b>	<b>48.13</b>	<b>43.51</b>	34.47	29.95
CA20 Brill Place (retired)	Diffusion tube	-	N/A	<b>48.94</b>	<b>47.53</b>	<b>52.65<sup>c</sup></b>	<b>41.15</b>	-	-	-
CA20A Brill Place (new)	Diffusion tube	-	58.33%	-	-	-	-	<b>44.12</b>	<b>43.89</b>	34.46
CA21 Bloomsbury Street	Diffusion tube	-	66.66%	<b>71.43</b>	<b>72.20</b>	<b>71.18<sup>c</sup></b>	<b>59.43</b>	<b>49.60</b>	29.52	33.16
CA23 Camden Road	Diffusion tube	-	75%	<b>63.33</b>	<b>61.74</b>	<b>69.30<sup>c</sup></b>	<b>55.57</b>	<b>53.69</b>	<b>44.26</b>	37.3
CA24 Chetwynd Road	Diffusion tube	-	75%	<b>46.52</b>	<b>41.96</b>	<b>50.55<sup>c</sup></b>	38.68	36.06	29.97	24.78

Site ID	Site type	Valid data capture for monitoring period % <sup>(a)</sup>	Valid data capture 2021 % <sup>(b)</sup>	2015	2016	2017	2018	2019	2020	2021
CA25 Emmanuel Primary School (retired)	Diffusion tube	-	N/A	<b>47.70</b>	<b>52.18</b>	<b>50.68<sup>c</sup></b>	39.75	-		
CA25A Emmanuel Primary School (new)	Diffusion tube	-	75%	-	-	-	-	38.75	31.80	29.72
CA26 Witanhurst Lane	Diffusion tube	-	75%	<b>45.03</b>	<b>43.11</b>	<b>44.91<sup>c</sup></b>	37.37	33.26	24.87	22.58
CA29 Endsleigh Gardens	Diffusion tube	-	58.33%	-	-	-	-	<b>49.45</b>	35.32	34.53
CA30 Dartmouth Park Hill	Diffusion tube	-	66.66%	-	-	-	<b>42.55</b>	37.89	28.54	26
CA31 Acland Burghley School (Burghley Road)	Diffusion tube	-	66.66%	-	-	-	27.11	28.05	20.44	19.69
CA32 Oakford Road	Diffusion tube	-	66.66%	-	-	-	30.51	29.90	23.14	23
CTLEN1 Haverstock School (Haverstock Hill)	Diffusion tube	-	75%	-	-	-	-	33.06	23.51	21.22
CTLEN2 Harmood Street	Diffusion tube	-	66.66%	-	-	-	-	31.74	24.89	20.75
CTLEN3 Hartland Road	Diffusion tube	-	75%	-	-	-	-	31.80	26.13	20.91
CTLEN4 Hawley Primary School (Hawley Road)	Diffusion tube	-	75%	-	-	-	-	<b>42.93</b>	34.11	27.1
CTLEN5 Kentish Town Road	Diffusion tube	-	75%	-	-	-	-	<b>45.01</b>	33.81	28.09
CTLEN6 Hawley Crescent	Diffusion tube	-	75%	-	-	-	-	38.89	32.26	26.03
CTLEN7 Jamestown Road	Diffusion tube	-	66.66%	-	-	-	-	38.70	29.87	25.92
CTLEN8 Camden High Street (Bridge)	Diffusion tube	-	75%	-	-	-	-	<b>41.47</b>	33.09	26.63
CTLEN9 Camden High Street (Camden News)	Diffusion tube	-	66.66%	-	-	-	-	38.81	30.51	29.91
CTLEN10 Camden High Street (American Candy)	Diffusion tube	-	75%	-	-	-	-	<b>47.65</b>	37.79	31.73
CTLEN11 Britannia Junction	Diffusion tube	-	75%	-	-	-	-	<b>53.90</b>	<b>40.71</b>	37.49
CTLEN12 Cavendish School (Arlington Road)	Diffusion tube	-	75%	-	-	-	-	33.97	26.90	22.98
CTLEN13 Holy Trinity & St. Silas School (Hartland Road)	Diffusion tube	-	75%	-	-	-	-	28.09	22.10	18.15

**Notes:**

The annual mean concentrations are presented as  $\mu\text{g m}^{-3}$ .

Exceedances of the NO<sub>2</sub> annual mean AQO of  $40 \mu\text{g m}^{-3}$  are shown in **bold**.

NO<sub>2</sub> annual means in excess of  $60 \mu\text{g m}^{-3}$ , indicating a potential exceedance of the NO<sub>2</sub> hourly mean AQS objective are shown in **bold and underlined**.

Means for diffusion tubes have been corrected for bias.

All means have been “annualised” in accordance with LLAQM Technical Guidance if valid data capture for the calendar year is less than 75% and greater than 25%.

(a) Data capture for the monitoring period, in cases where monitoring was only carried out for part of the year.

(b) data capture for the full calendar year (e.g. if monitoring was carried out for six months the maximum data capture for the full calendar year would be 50%).

### **Commentary on diffusion tube NO<sub>2</sub> monitoring results for 2021**

Camden’s long-term and short-term diffusion tube monitoring during 2021 showed that NO<sub>2</sub> levels improved at 28 of the 40 monitoring sites in the borough compared to the previous year, with an average reduction in bias-adjusted (and annualised, where necessary) annual mean concentrations of 8% compared to 2020.

As with the previous year, no diffusion tube monitoring sites recorded an annual mean above 60µg/m<sup>3</sup>, which indicates that the short-term (one-hour) NO<sub>2</sub> objective is likely to have not been exceeded at any of the sites.

Figure 2 below shows the long-term NO<sub>2</sub> trend (as bias-adjusted annual mean averages) at Camden’s diffusion tube monitoring sites with continuous data over a longer time-period. The continued reduction in NO<sub>2</sub> concentrations over the past seven years is clear, and several sites which were historically far in exceedance of the legal limit and WHO standard for NO<sub>2</sub> (such as Kentish Town Road and Camden Road) are now recording below this level. Of these sites, only Tottenham Court Road has recorded above the WHO objective of 40 µg/m<sup>3</sup>. This does not mean that there will be any reduction in effort to improve air quality throughout Camden: The Council’s commitment is to realise the community’s vision for a borough in which no person experiences ill health as a result of that air they breathe.

Figure 2: Diffusion tube annual mean NO<sub>2</sub> concentration

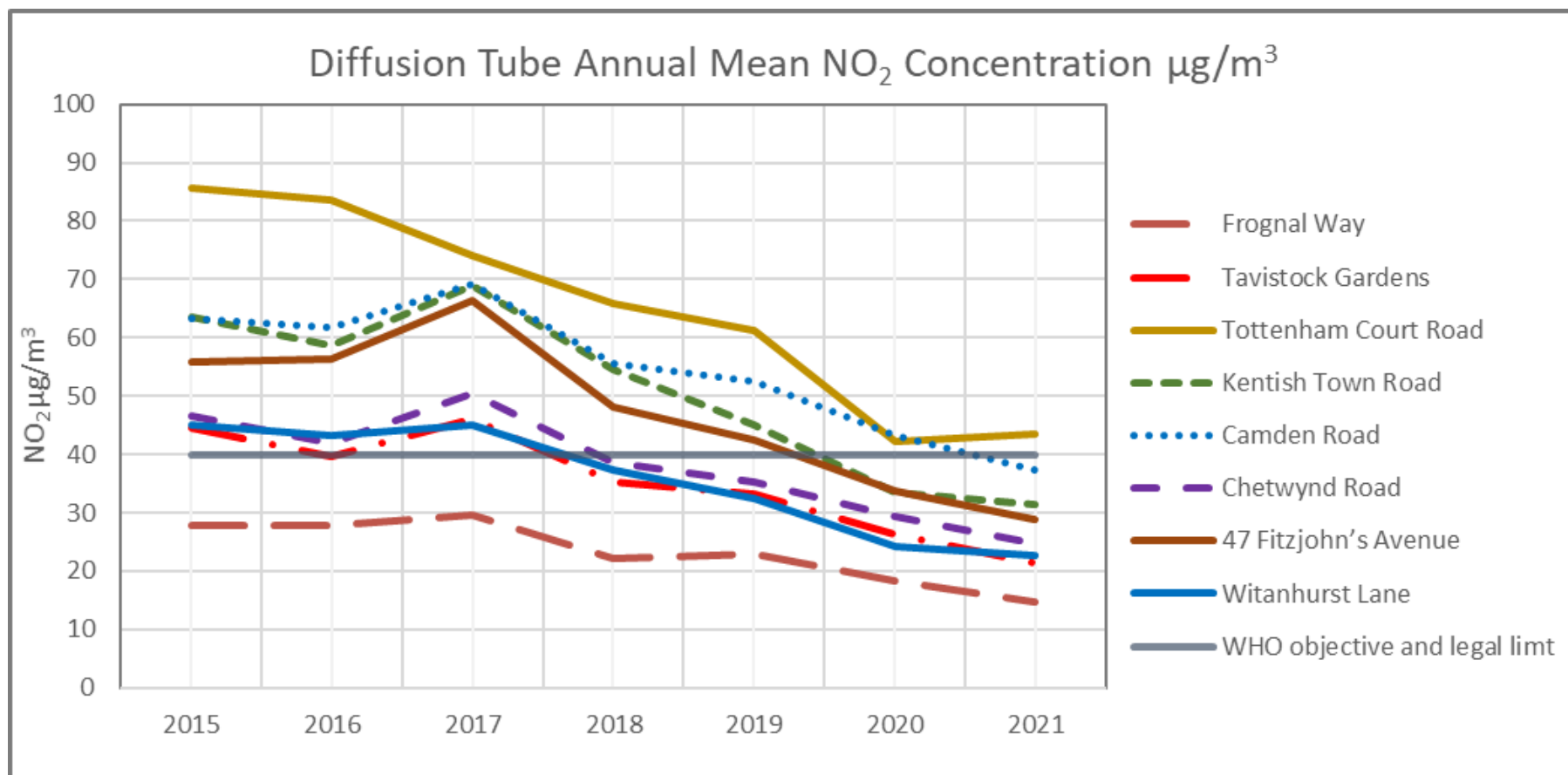
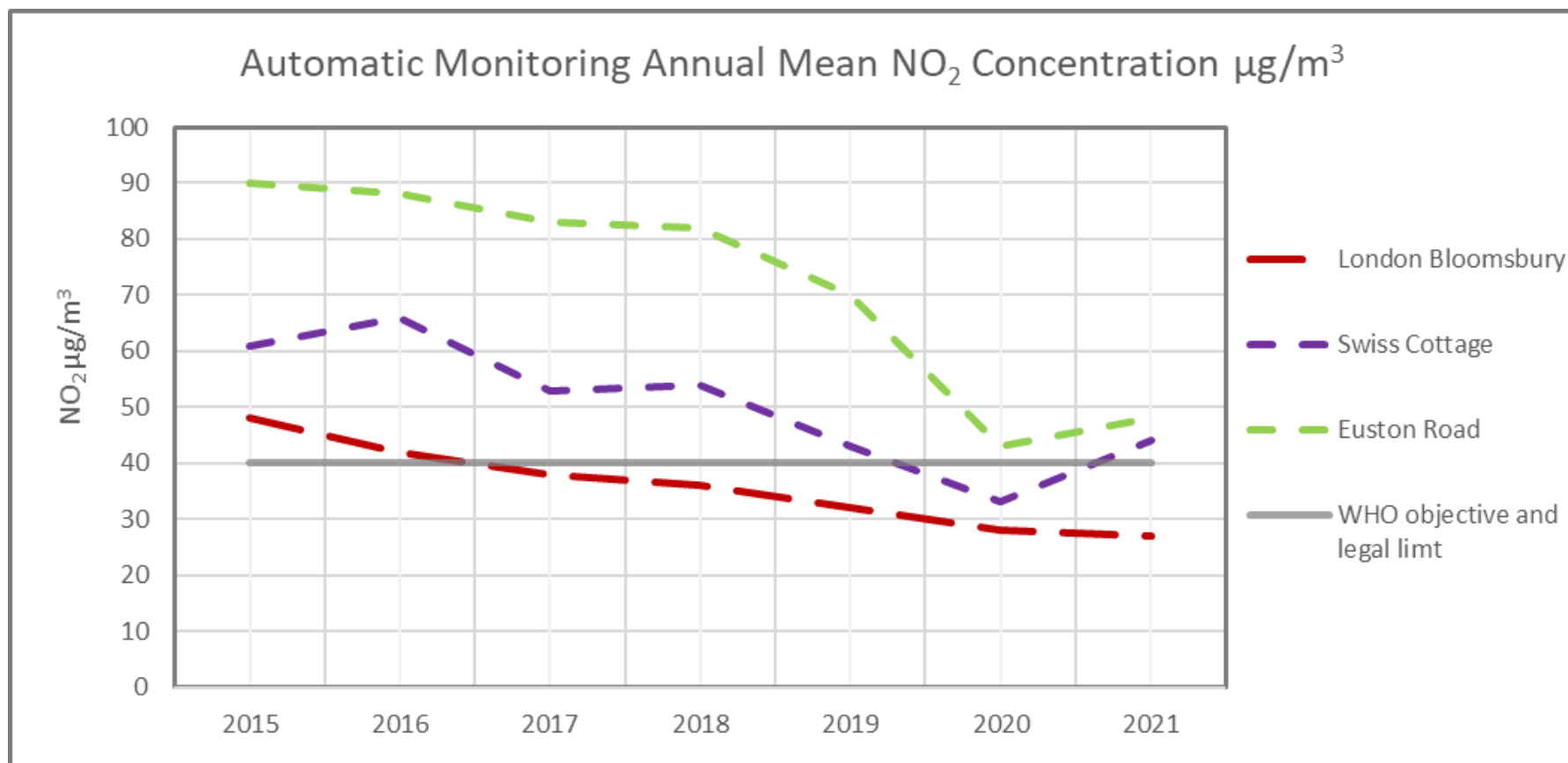


Figure 3: Automatic monitoring annual mean NO<sub>2</sub> concentration



**Table F. NO<sub>2</sub> Automatic Monitoring Results: Comparison with 1-hour Mean Objective, Number of 1-Hour Means > 200 µg m<sup>-3</sup>**

Site ID	Valid data capture for monitoring period % <sup>(a)</sup>	Valid data capture 2021 % <sup>(b)</sup>	2015	2016	2017	2018	2019	2020	2021
BL0	-	98.06%	0	0	0	0	0	0	0
CD1	-	69.83%	11	<b>37</b>	1	2	1	0	2
CD9	-	99.45%	<b>54</b>	<b>39</b>	<b>25</b>	18	7	0	1
CD010		57.76%	-	-	-	-	-	-	0

**Notes**

Results are presented as the number of 1-hour periods where concentrations greater than 200 µg m<sup>-3</sup> have been recorded.

Exceedance of the NO<sub>2</sub> short term AQO of 200 µg m<sup>-3</sup> over the permitted 18 hours per year are shown in **bold**.

If the period of valid data is less than 85%, the 99.8th percentile of 1-hour means is provided in brackets.

(a) Data capture for the monitoring period, in cases where monitoring was only carried out for part of the year

(b) Data capture for the full calendar year (e.g. if monitoring was carried out for six months the maximum data capture for the full calendar year would be 50%)

**Commentary on NO<sub>2</sub> automatic monitoring results for 2020**

Similarly to Camden’s long-term diffusion tube monitoring, there has been an overall downwards trend in NO<sub>2</sub> recorded over the last seven years however, 2021 has recorded raised levels at both the Euston Road and Swiss Cottage roadside stations when compared to 2020. This is likely an effect of the COVID-19 Pandemic which caused a significant reduction in traffic levels in London during the 2020 national lockdowns. Three exceedances of the one-hour mean level were recorded across Camden’s automatic monitoring network in 2021.

**Table G. Annual Mean PM<sub>10</sub> Automatic Monitoring Results (µg m<sup>-3</sup>)**

Site ID	Valid data capture for monitoring period % <sup>(a)</sup>	Valid data capture 2021 % <sup>(b)</sup>	2015	2016	2017	2018	2019	2020	2021
BL0	-	96.36%	22	20	19	17	18	16	16
CD1	-	61.59%	20	21	20	21	19	16	16
CD9	-	85.99%	28	24	20	21	22	18	19
KGX	-	34.89%	-	-	-	15	15	13	13

**Notes**

The annual mean concentrations are presented as µg m<sup>-3</sup>.

Exceedances of the PM<sub>10</sub> annual mean AQO of 40 µg m<sup>-3</sup> are shown in **bold**.

All means have been “annualised” in accordance with LLAQM Technical Guidance, if valid data capture is less than 75% and more than 25%.

(a) Data capture for the monitoring period, in cases where monitoring was only carried out for part of the year.

(b) Data capture for the full calendar year (e.g. if monitoring was carried out for six months the maximum data capture for the full calendar year would be 50%).



**Table H. PM<sub>10</sub> Automatic Monitoring Results: Comparison with 24-Hour Mean Objective, Number of PM<sub>10</sub> 24-Hour Means > 50 µg m<sup>-3</sup>**

Site ID	Valid data capture for monitoring period % <sup>(a)</sup>	Valid data capture 2021 % <sup>(b)</sup>	2015	2016	2017	2018	2019	2020	2021
BL0	-	96.36%	6	9	6	1	9	4	0
CD1	-	61.59%	8	7	8	4	8	3	0
CD9	-	85.99%	5	10	3	2	8	2	2
KGX	-	34.89%	-	-	-	1	5	1	0

**Notes**

Exceedances of the PM<sub>10</sub> 24-hour mean objective (50 µg/m<sup>3</sup> over the permitted 35 days per year) are shown in **bold**.

Where the period of valid data is less than 85% of a full year, the 90.4th percentile is provided in brackets.

(a) data capture for the monitoring period, in cases where monitoring was only carried out for part of the year

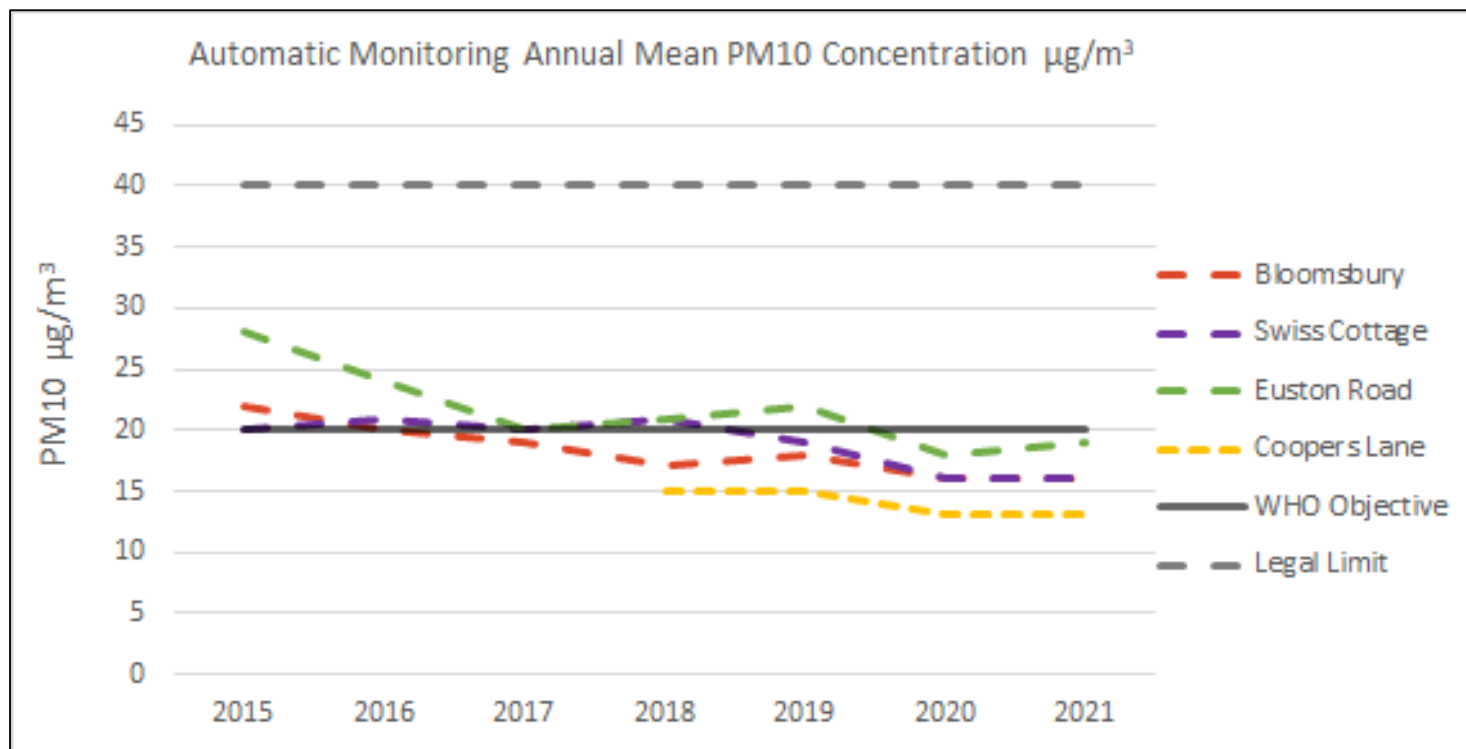
(b) data capture for the full calendar year (e.g. if monitoring was carried out for six months the maximum data capture for the full calendar year would be 50%).

**Commentary on PM<sub>10</sub> automatic monitoring results for 2021**

Camden’s automatic PM<sub>10</sub> monitoring data has seen an overall downward trend since 2015, with an average reduction of 24% during this time. The levels recorded across the four stations in 2021 are at a similar level to 2020, with only the Euston Road site recording a higher annual mean for PM<sub>10</sub>. Each site has recorded below the legal limit and WHO objective of 40 µg/m<sup>3</sup> and 30 µg/m<sup>3</sup> respectively, for the second year in a row.

Exceedances of the short-term (24-hour) objective declined at all four monitoring sites, with only the Euston Road site recording exceedances.

Figure 4: Automatic monitoring annual mean PM<sub>10</sub> concentration



**Table I. Annual Mean PM<sub>2.5</sub> Automatic Monitoring Results (µg m<sup>-3</sup>)**

Site ID	Valid data capture for monitoring period % <sup>(a)</sup>	Valid data capture 2021 % <sup>(b)</sup>	2015	2016	2017	2018	2019	2020	2021
BL0	-	35.73%	11	12	13	10	11	9	9
CD1	-	63.84	12	15	16	11	11	10	9
CD9	-	80.76%	17	17	14	15	14	11	11

**Notes**

The annual mean concentrations are presented as µg m<sup>-3</sup>.

Exceedances of the PM<sub>2.5</sub> annual mean AQO of 25 µg m<sup>-3</sup> are shown in **bold**.

All means have been “annualised” in accordance with LLAQM Technical Guidance, if valid data capture is less than 75% and more than 25%.

(a) Data capture for the monitoring period, in cases where monitoring was only carried out for part of the year.

(b) Data capture for the full calendar year (e.g. if monitoring was carried out for six months the maximum data capture for the full calendar year would be 50%).

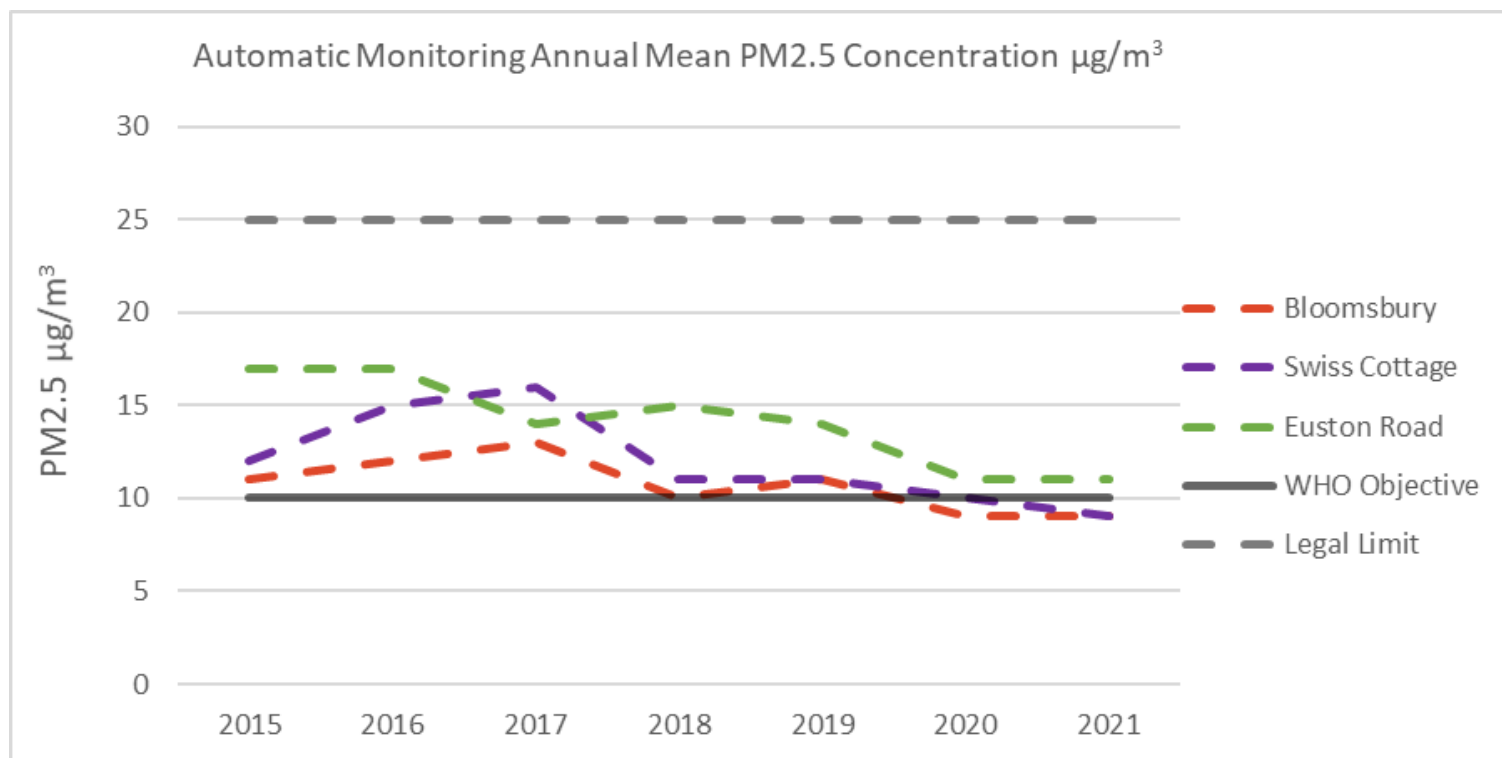
**Commentary on PM<sub>2.5</sub> automatic monitoring results for 2021**

Camden’s automatic PM<sub>2.5</sub> monitoring data for 2021 shows similar levels to those from the previous year, with only the Swiss Cottage CD1 site recording slightly lower with an average annual mean of 9 µg/m<sup>3</sup>.

Two sites (Bloomsbury BL0 and Swiss Cottage CD1) have been compliant with the World Health Organization’s 2005 annual mean guideline standard for PM<sub>2.5</sub> (10µg/m<sup>3</sup>) since 2020. This is at least partially due to the effect of the COVID-19 pandemic (and

associated restrictions) on polluting activities such as road transportation. In any case, the World Health Organization considers there to be no safe threshold of exposure to PM<sub>2.5</sub> and therefore Camden Council will continue to improve air quality throughout the borough to better protect the health of all who live, work and study in Camden.

**Figure 5: Automatic monitoring annual mean PM<sub>2.5</sub> concentration**



**Table J. 2021 SO<sub>2</sub> Automatic Monitoring Results: Comparison with Objectives**

Site ID	Valid data capture for monitoring period % <sup>(a)</sup>	Valid data capture 2021 % <sup>(b)</sup>	Number of 15-minute means > 266 µg m <sup>-3</sup>	Number of 1-hour mean > 350 µg m <sup>-3</sup>	Number 24-hour mean > 125 µg m <sup>-3</sup>
BL0	-	81.6	0	0	0

**Notes**

Results are presented as the number of instances where monitored concentrations are greater than the objective concentration. Exceedances of the SO<sub>2</sub> objectives are shown in **bold** (15-min mean = 35 allowed a year, 1-hour mean = 24 allowed a year, 24-hour mean = 3 allowed a year).

If the period of valid data is less than 85%, the relevant percentiles are provided in brackets.

(a) Data capture for the monitoring period, in cases where monitoring was only carried out for part of the year.

(b) Data capture for the full calendar year (e.g. if monitoring was carried out for six months the maximum data capture for the full calendar year would be 50%).

## 2. Action to Improve Air Quality

### 2.1 Air Quality Action Plan Progress

Table K provides a brief summary of Camden’s progress against the Council’s [Clean Air Action Plan 2019-2022<sup>4</sup>](#) (CAAP), showing progress made this year (2021). New projects which commenced in 2021 are shown at the bottom of the table. Note that ‘Completed / ongoing’ in the ‘Progress’ column typically implies that a particular process-related action has been implemented, and that the action is now focused on continued delivery and, where appropriated, refinement of the action such that it delivers even greater impact in improving air quality.

**Table K. Delivery of Air Quality Action Plan Measures**

Measure (Number corresponds with CAAP Action ID)	Action	LLAQM Action Matrix Theme	Progress <ul style="list-style-type: none"> <li>• Emissions/Concentration data</li> <li>• Benefits</li> <li>• Negative impacts / Complaints</li> </ul>
1. Secure additional funding from developers through S106 agreements to manage and enforce construction impacts	Secure additional funding for air quality projects through S106 to assist with improving air quality in Camden for the protection of current and future residents’ (and workers’) health	Camden’s Clean Air Action Plan 2019-2022 (CAAP) theme: <b>Reducing construction emissions</b>  LLAQM theme: <b>Emissions from developments and buildings</b>	<b>Ongoing:</b> Review of CMP fees and resourcing in 2019/20 resulted in a realignment of sourcing and use of S106 funds to better resource work to improve air quality. During 2021, two new officer roles were created and resourced – a CMP Site Inspector and Air Quality Officer (Planning) to support CMP compliance. Two officers from Camden’s Sustainability, Air Quality & Energy Team review CMPs and monitor compliance.
2. Ensure all major development sites have a demolition management	Senior Air Quality Officer to review CMPs received for forthcoming development sites to ensure appropriate dust mitigation and	Camden’s Clean Air Action Plan 2019-2022 (CAAP) theme: <b>Reducing construction emissions</b>	<b>Ongoing:</b> A new Air Quality Planning Officer position was created in Autumn 2021 to aid the Sustainability Planning department and support the Senior Air

<sup>4</sup> [https://www.camden.gov.uk/documents/20142/0/Clean+air+action+plan+2019-2022\\_final2.pdf/f7cd1a68-e707-0755-528a-59388adf0995](https://www.camden.gov.uk/documents/20142/0/Clean+air+action+plan+2019-2022_final2.pdf/f7cd1a68-e707-0755-528a-59388adf0995)

<b>Measure</b> (Number corresponds with CAAP Action ID)	<b>Action</b>	<b>LLAQM Action Matrix Theme</b>	<b>Progress</b> <ul style="list-style-type: none"> <li>• Emissions/Concentration data               <ul style="list-style-type: none"> <li>• Benefits</li> </ul> </li> <li>• Negative impacts / Complaints</li> </ul>
plan (DMP) and/or a construction management plan (CMP) approved by the air quality officer	monitoring has been proposed	LLAQM theme: <b>Emissions from developments and buildings</b>	Quality Officer review CMPs received by Camden's Planning Obligations team.  A weekly Construction Management Forum meets to discuss new CMPs and compliance and enforcement issues at active sites. This group comprises the Senior Air Quality Officer, Air Quality Planning Officer, Planning Obligations and Planning Enforcement Officers, and representatives from Transport and Highways.
3. Ensure all medium and high-risk sites have real-time particulate monitoring on site and that the information from this monitoring is easily accessible to the public	Contractors/developers to use and refer to on-site dust monitoring to ensure that mitigation is effective. Data to be shared publicly to ensure transparency and public oversight over site AQ management	Camden's Clean Air Action Plan 2019-2022 (CAAP) theme: <b>Reducing construction emissions</b>  LLAQM theme: <b>Emissions from developments and buildings</b>	<b>Ongoing:</b> A revised <a href="#">CMP pro forma</a> <sup>5</sup> has been produced and has been in use from 2021 onwards, which includes a requirement for contractors/developers to ensure that dust monitoring data from applicable sites is available to the public.  A new CMP Site Inspector role has been created and resourced to aid CMP enforcement.
4. Ensure that policies and assurances agreed with HS2 in relation to air quality and green space are complied with during the course of the project	Ensure that monitoring and reporting regimes agreed with HS2 are correctly adhered to, as well as those associated with green space and that any air quality problems caused by HS2 are minimised and mitigated as far as possible	Camden's Clean Air Action Plan 2019-2022 (CAAP) theme: <b>Reducing construction emissions</b>  LLAQM theme: <b>Emissions from developments and buildings</b>	<b>Ongoing:</b> HS2 reports on NRMM and vehicle compliance, provides access to real-time construction dust monitoring data, and produces monthly air quality reports for Camden. Any poor performance is raised in monthly Camden-HS2 environmental catch-up meetings and more serious transgressions are addressed at multi-authority HS2 Environmental Health Subgroup meetings, which occur every two months.

<sup>5</sup> <https://www.camden.gov.uk/about-construction-management-plans>

Measure (Number corresponds with CAAP Action ID)	Action	LLAQM Action Matrix Theme	Progress <ul style="list-style-type: none"> <li>• Emissions/Concentration data <ul style="list-style-type: none"> <li>• Benefits</li> </ul> </li> <li>• Negative impacts / Complaints</li> </ul>
			NRMM compliance (Stage IV in the CAZ and Stage IIIB in Greater London) and HGV compliance (Euro VI) rates have been consistently high at over 99% for 2021.
5. Produce a construction code of practice (CoCP) for small developments to be used as an informative	Work with Senior Sustainability Officers (Planning) and Planning Officers to produce a CoCP for small developments to ensure better communication and ultimately management of air quality issues outside of CMP and S106 controls	Camden's Clean Air Action Plan 2019-2022 (CAAP) theme: <b>Reducing construction emissions</b>  LLAQM theme: <b>Emissions from developments and buildings</b>	<b>Ongoing:</b> Draft CoCP produced in 2019 and pending publication with accompanying guidance from other teams at Camden (Transport Strategy, Environmental Health, etc.).  No further progress during 2021 due to capacity issues however the guide and accompanying pro-forma are expected to be reviewed in 2022 to determine the best approach to publishing both.
6. Create clean air zones (areas of exclusion for construction vehicles) around schools/hospitals	Create clear air zones around schools and hospitals to help protect those most susceptible to health issues resulting from poor air quality	Camden's Clean Air Action Plan 2019-2022 (CAAP) theme: <b>Reducing construction emissions</b>  LLAQM theme: <b>Emissions from developments and buildings</b>	<b>Ongoing,</b> although the CMP pro forma used in 2021 does include a requirement that ' <i>Routes should be carefully considered and risk assessed, taking into account the need to avoid where possible any major cycle routes and trip generators such as schools, offices, stations, public buildings, museums etc.</i> '
7. Improve communications with local communities about the pollution impact of large construction projects, how impacts will be minimised, and how residents	Utilise council platforms to engage with local communities about pollution impacts of construction	Camden's Clean Air Action Plan 2019-2022 (CAAP) theme: <b>Reducing construction emissions</b>  LLAQM theme: <b>Emissions from developments and buildings</b>	<b>Ongoing:</b> Some development sites have been required to make construction dust monitoring data publicly available either online or on site hoardings, though it is an ongoing process to ensure this practice is widespread.  A <a href="#">new online e-form<sup>6</sup></a> to enable members of the public to report concerns about air pollution, including those relating to construction and development issues went live during 2021.

<sup>6</sup> <https://www.camden.gov.uk/report-air-pollution>



<b>Measure</b> (Number corresponds with CAAP Action ID)	<b>Action</b>	<b>LLAQM Action Matrix Theme</b>	<b>Progress</b> <ul style="list-style-type: none"> <li>• Emissions/Concentration data               <ul style="list-style-type: none"> <li>• Benefits</li> </ul> </li> <li>• Negative impacts / Complaints</li> </ul>
can report concerns			
8. Support the development of community-led Neighbourhood Construction Site Watch groups to assist in monitoring construction sites in line with air quality CMP requirements.	Connect with local the community to help facilitate a community-led watch group around construction sites	Camden's Clean Air Action Plan 2019-2022 (CAAP) theme: <b>Reducing construction emissions</b>  LLAQM theme: <b>Emissions from developments and buildings</b>	<p><b>Ongoing:</b> Preferred option for most efficiently enabling community groups to report issues in construction site air quality management is to produce an online e-form. The e-form, to enable members of the public to report concerns about air pollution, including those relating to construction and development issues, went live during 2021.</p> <p>Increased focus on community liaison prior to and during construction and development, with Camden's Planning Enforcement Officers and on occasion the Senior Air Quality Officer attending public meetings. Community liaison mandated through the S106 CMP process.</p>
9. Develop and implement a power generator hierarchy for construction sites with the aim of reducing the number of diesel generators	Reduce pollution from diesel generator use on construction sites, focusing on higher engine standards, and alternative fuels and technologies	Camden's Clean Air Action Plan 2019-2022 (CAAP) theme: <b>Reducing construction emissions</b>  LLAQM theme: <b>Emissions from developments and buildings</b>	<p><b>Ongoing:</b> Ongoing area of concern, however financial and resourcing constraints meant this couldn't be progressed during 2021. The pan-London NRMM compliance project, which Camden participates in, provides communications and guidance to construction sites about less polluting technologies.</p>
10. Require cumulative impact assessments (CIA) for developments in order to identify the impact on	CIA to highlight the need for extra dust mitigation, inter-site coordination, and community liaison in cumulative impact areas	Camden's Clean Air Action Plan 2019-2022 (CAAP) theme: <b>Reducing construction emissions</b>  LLAQM theme: <b>Emissions from developments and buildings</b>	<p><b>Completed / ongoing:</b> CIA background work completed in 2019 and requirement due to be applied to relevant sites thereafter.</p>

<b>Measure</b> (Number corresponds with CAAP Action ID)	<b>Action</b>	<b>LLAQM Action Matrix Theme</b>	<b>Progress</b> <ul style="list-style-type: none"> <li>• Emissions/Concentration data               <ul style="list-style-type: none"> <li>• Benefits</li> </ul> </li> <li>• Negative impacts / Complaints</li> </ul>
local air quality and identify methods to reduce impact on local communities			
11. Control construction lorry delivery times through S106 agreements and/or planning condition to reduce impact on local communities and air quality.	Work with Transport Planners to put in place actions to control construction lorry delivery times through S106 agreements	Camden's Clean Air Action Plan 2019-2022 (CAAP) theme: <b>Reducing construction emissions</b>  LLAQM theme: <b>Emissions from developments and buildings</b>	<b>Completed / ongoing:</b> Transport Planners are involved in the CMP and S106 process and therefore HGV movements servicing development sites are managed as far as possible.
12. Reduce the impact of Council-led infrastructure projects by requiring air quality controls for all Community Investment Programme development	Work with CIP Project Managers and ensure that Camden's CIP team understands air quality issues, and consequently passes on all necessary requirements to contractors	Camden's Clean Air Action Plan 2019-2022 (CAAP) theme: <b>Reducing construction emissions</b>  LLAQM theme: <b>Emissions from developments and buildings</b>	<b>Completed / Ongoing:</b> The Senior Air Quality Officer provided a training session for CIP team members / development managers & officers during July 2021. Resources were shared for future reference.
13. Enforcement of Non Road Mobile Machinery	Ensure that NRMM air quality policies are adhered to	Camden's Clean Air Action Plan 2019-2022 (CAAP) theme: <b>Reducing construction emissions</b>	<b>Completed / Ongoing:</b> Camden is a participant in the LB Merton-led NRMM compliance ('Cleaner Construction for London') project, and specialist auditors undertake visits to major sites in Camden.

<b>Measure</b> (Number corresponds with CAAP Action ID)	<b>Action</b>	<b>LLAQM Action Matrix Theme</b>	<b>Progress</b> <ul style="list-style-type: none"> <li>• Emissions/Concentration data               <ul style="list-style-type: none"> <li>• Benefits</li> </ul> </li> <li>• Negative impacts / Complaints</li> </ul>
(NRMM) air quality policies		LLAQM theme: <b>Emissions from developments and buildings</b>	NRMM requirements typically applied for major developments and included as standard in CMPs.
14. Monitor air quality for Council transport infrastructure projects to inform the scheme design, evaluate project impact, and enhance future schemes	Air quality monitoring to be undertaken for Camden transport and public realm projects to develop rationale for intervention and to determine the air quality impact of different types of schemes in different settings	Camden's Clean Air Action Plan 2019-2022 (CAAP) theme: <b>Reducing construction emissions</b>  LLAQM theme: <b>Emissions from developments and buildings</b>	<b>Ongoing:</b> Diffusion tube air quality monitoring undertaken for 21 distinct transport and public realm projects in Camden in 2021, in accordance with LLAQM best practice.
15. To support construction industry-led initiatives that demonstrate best practice and drive improvement across the sector	Highlight and promote current and new best practice to drive continual improvement in air quality management in the construction industry	Camden's Clean Air Action Plan 2019-2022 (CAAP) theme: <b>Reducing construction emissions</b>  LLAQM theme: <b>Emissions from developments and buildings</b>	<b>Ongoing:</b> Camden's Clean Air Partnership provides a forum for maintaining momentum for the delivery of Camden's Clean Air Action Plan 2019-2022 whilst facilitating ongoing accountability and offering an opportunity for sharing and promoting best practice in construction and development among the partners.
16. Ensure all major domestic and non-domestic developments achieve zero-carbon status through exemplar energy efficiency	Work with Senior Sustainability Officers (Planning) to ensure all major developments accomplish zero carbon status	Camden's Clean Air Action Plan 2019-2022 (CAAP) theme: <b>Reducing building emissions</b>  LLAQM theme: <b>Emissions from developments and buildings</b>	<b>Ongoing:</b> Camden's Senior Sustainability Officers (Planning) are statutory consultees for planning applications and apply Camden's policies to reduce carbon emissions from new-build developments and refurbishments. Officers continually review national and regional legislation and planning policy to ensure carbon and air pollution controls are applied as stringently as possible in Camden.

<b>Measure</b> (Number corresponds with CAAP Action ID)	<b>Action</b>	<b>LLAQM Action Matrix Theme</b>	<b>Progress</b> <ul style="list-style-type: none"> <li>• Emissions/Concentration data               <ul style="list-style-type: none"> <li>• Benefits</li> </ul> </li> <li>• Negative impacts / Complaints</li> </ul>
standards and renewable energy installations			
17. Ensure major regeneration planning policy framework documents are developed to specify low emission zones with zero on-site combustion	This has been incorporated into major regeneration specification	Camden's Clean Air Action Plan 2019-2022 (CAAP) theme: <b>Reducing building emissions</b>  LLAQM theme: <b>Emissions from developments and buildings</b>	<b>Ongoing:</b> Camden's Senior Air Quality Officer, Senior Sustainability Officers (Planning) and Climate Programme Manager work closely with Camden's Planning department to ensure the highest possible standards for air pollution and carbon abatement are achieved through major regeneration frameworks.
18. Promoting and delivering energy-efficiency retrofitting projects in workplaces and homes using the GLA RE:NEW and RE:FIT programmes and the Camden Climate Fund	Camden Climate Fund and other energy-efficiency funding streams to be promoted through the MAQF Camden Town LEN project and other air quality and carbon reduction programmes	Camden's Clean Air Action Plan 2019-2022 (CAAP) theme: <b>Reducing building emissions</b>  LLAQM theme: <b>Emissions from developments and buildings</b>	<b>Ongoing:</b> Promotion of the Camden Climate Fund to businesses in the Camden Town LEN area (both under the air quality programme and the climate programme) has been undertaken mainly remotely due to ongoing restrictions caused by COVID-19.  In November 2021, CCCA organised a COP26 event - hosted in Kings Cross - where carbon reduction best practice from within the borough and across London was shared.
19. Enforce CHP and biomass air quality planning policies for new developments	This is currently taking place. We are working on how to best proceed with monitoring and reporting	Camden's Clean Air Action Plan 2019-2022 (CAAP) theme: <b>Reducing building emissions</b>  LLAQM theme: <b>Emissions from developments and buildings</b>	<b>Ongoing:</b> CHP and biomass planning policies for new developments are already enforced.  The <a href="#">new pro-forma<sup>7</sup></a> is designed to improve data capture regarding CHP/biomass.

<sup>7</sup> <https://www.camden.gov.uk/sustainability-statements>

<b>Measure</b> (Number corresponds with CAAP Action ID)	<b>Action</b>	<b>LLAQM Action Matrix Theme</b>	<b>Progress</b> <ul style="list-style-type: none"> <li>• Emissions/Concentration data</li> <li>• Benefits</li> <li>• Negative impacts / Complaints</li> </ul>
20. Enforcing Air Quality Neutral and Air Quality Positive planning policies for new developments	Ensure effective joined-up working between Sustainability and Planning to enforce air quality neutral and positive planning policy in Camden	Camden's Clean Air Action Plan 2019-2022 (CAAP) theme: <b>Reducing building emissions</b>  LLAQM theme: <b>Emissions from developments and buildings</b>	<p><b>Ongoing:</b> AQ neutral and AQ positive planning policies implemented through planning process, but there is room for improvement in data collection and reporting. Senior Sustainability Officers (Planning) developed pro-formas for planning applications to clarify the policy and requirements for air quality and carbon emissions reduction.</p> <p>During 2021, AQN and AQP requirements were tightened in line with the GLA's draft AQN / AQP consultation.</p>
21. Ensuring adequate, appropriate, and well located green space and infrastructure is included in new developments	New development to require inclusion of well-designed green space which has a positive impact on amenity and perception of environment without causing any evident detriment to air quality (e.g. avoiding impaired dispersion of pollutants)	Camden's Clean Air Action Plan 2019-2022 (CAAP) theme: <b>Reducing building emissions</b>  LLAQM theme: <b>Emissions from developments and buildings</b>	<p><b>Ongoing:</b> Camden's Green Space team is a consultee on all major planning applications. New development within the borough must meet the correct standards for open space provision and nature conservation. The planning process ensures that new development contributes positively to the surrounding environment, as well providing additional green infrastructure and new habitat to increase biodiversity. This approach is supported by local and regional planning policy.</p>
22. Maintain and increase the amount of green infrastructure in Camden including the number of trees	Work with the green spaces team to increase the number of green infrastructure in Camden	Camden's Clean Air Action Plan 2019-2022 (CAAP) theme: <b>Reducing building emissions</b>  LLAQM theme: <b>Emissions from developments and buildings</b>	<p><b>Ongoing:</b> <a href="https://www.camden.gov.uk/documents/20142/5268201/Camden+trees+policy.pdf/ac911622-85ff-1d4c-a622-53e7ae71bcc2">Camden's Tree Policy for Council Owned Trees</a><sup>8</sup> (December 2015) is to 'replace and where possible, increase the Council's tree stock'. This includes careful consideration of tree maturity, species diversification and selection in accordance with Camden's Biodiversity Action Plan. The Green Space team aims to plant <a href="https://www.camden.gov.uk/trees#taiz">at least 400 trees per year</a><sup>9</sup> and continuously works to secure additional external funding for tree planting.</p>

<sup>8</sup> <https://www.camden.gov.uk/documents/20142/5268201/Camden+trees+policy.pdf/ac911622-85ff-1d4c-a622-53e7ae71bcc2>

<sup>9</sup> <https://www.camden.gov.uk/trees#taiz>

<b>Measure</b> (Number corresponds with CAAP Action ID)	<b>Action</b>	<b>LLAQM Action Matrix Theme</b>	<b>Progress</b> <ul style="list-style-type: none"> <li>• Emissions/Concentration data</li> <li>• Benefits</li> <li>• Negative impacts / Complaints</li> </ul>
23. Ensure that smoke control area regulations are communicated and enforced with the support of residents' associations	Produce clear and consistent information for communities and local groups to ensure that smoke control regulations are well-highlighted throughout the borough	Camden's Clean Air Action Plan 2019-2022 (CAAP) theme: <b>Reducing building emissions</b>  LLAQM theme: <b>Emissions from developments and buildings / Public health and awareness raising</b>	<b>Ongoing:</b> Resident associations contacted at onset of winter heating season to communicate smoke control area regulations and additional request for all Camden residents to avoid burning wood or coal at home unless these fuels represent residents' only source of heating.  Communication included promotion of Camden's <a href="https://www.camden.gov.uk/documents/20142/0/Improving+Indoor+Air+Quality+-+Advice+for+Homes.pdf/d8bf8fe0-6db7-c7cf-858b-6eef0667a17e?t=1585820778519">Improving Indoor Air Quality: Advice for Homes</a> <sup>10</sup> guidance document to help inform residents of the importance of indoor air quality for health and the measures that can be taken to reduce pollution exposure in indoor environments.
24. Continue to control emissions from permitted process via inspections and enforcement	Regulation of Part B processes to ensure effective enforcement	Camden's Clean Air Action Plan 2019-2022 (CAAP) theme: <b>Reducing building emissions</b>  LLAQM theme: <b>Emissions from developments and buildings</b>	<b>Ongoing:</b> Permitting and enforcement is ongoing and managed by Camden's Environmental Health team.
25. Increase the amount of electric vehicle charging infrastructure in Camden	Work with Camden Transport Strategy to increase the number of electrical vehicle charging points throughout the borough, in accordance with the new EVCP Action Plan	Camden's Clean Air Action Plan 2019-2022 (CAAP) theme: <b>Reducing transport emissions</b>  LLAQM theme: <b>Cleaner transport</b>	<b>Ongoing:</b> Continued expansion of EVCP infrastructure in Camden during 2021 bring total figures to: <ul style="list-style-type: none"> <li>• 249 lamp column electric vehicle charge points</li> <li>• 77 fast charge points</li> <li>• 11 rapid charge points (two are on red routes).</li> </ul> An additional 160 fast charge points are scheduled for installation in Summer 2022.

<sup>10</sup> <https://www.camden.gov.uk/documents/20142/0/Improving+Indoor+Air+Quality+-+Advice+for+Homes.pdf/d8bf8fe0-6db7-c7cf-858b-6eef0667a17e?t=1585820778519>

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26. Undertake feasibility, consultation and implementation of on-street rapid charge points at taxi ranks, in partnership with TfL	Work with transport and TfL to undertake feasibility and implement electrical vehicle charging points throughout the borough	Camden's Clean Air Action Plan 2019-2022 (CAAP) theme: <b>Reducing transport emissions</b>  LLAQM theme: <b>Cleaner transport</b>	<b>Ongoing:</b> Rapid charge point locations for taxis now include: <ul style="list-style-type: none"> <li>• Harrington Square (red route)</li> <li>• Euston Road (red route)</li> <li>• Russell Square</li> <li>• Rossllyn Hill x2</li> <li>• Freight Lane</li> <li>• Albany Street</li> </ul>
27. To use all relevant forms of parking restrictions and charges to help reduce total overall traffic levels and help improve air quality	Work with the Parking Operations and Transport Strategy services to ensure all relevant forms of parking restrictions and charges are enforced to help lower traffic within Camden	Camden's Clean Air Action Plan 2019-2022 (CAAP) theme: <b>Reducing transport emissions</b>  LLAQM theme: <b>Cleaner transport</b>	<b>Ongoing:</b> Consultation has been undertaken following the Parking Permit and Charges Review in 2020, and the council is currently formulating how to take this piece of work forward.
28. Undertake a feasibility study into a workplace parking levy (WPL) in Camden and implement if feasible	Feasibility and eventual introduction of a WPL to reduce commuting and workplace-related parking	Camden's Clean Air Action Plan 2019-2022 (CAAP) theme: <b>Reducing transport emissions</b>  LLAQM theme: <b>Cleaner transport</b>	<b>Ongoing:</b> Not progressed during 2021 due to resourcing constraints within Camden's Transport Strategy Service.
29. Keep cycle routes open (if safety is not an issue) when road closures are planned	Work with Transport Strategy to undertake feasibility studies for when roads close to ensure cyclist can safely continue to use cycle routes	Camden's Clean Air Action Plan 2019-2022 (CAAP) theme: <b>Reducing transport emissions</b>  LLAQM theme: <b>Cleaner transport</b>	<b>Ongoing:</b> This is generally done in most circumstances.

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30. Trial replacement of parking spaces near junctions with cycle storage or other green measures that don't impair pedestrian or driver visibility, to improve junction visibility and safety	Work with Transport Strategy to pilot replacing parking spaces with cycling storage and green infrastructure, ensuring that health and safety is met	Camden's Clean Air Action Plan 2019-2022 (CAAP) theme: <b>Reducing transport emissions</b>  LLAQM theme: <b>Cleaner transport</b>	<b>Ongoing:</b> Transport Strategy have a rolling programme that improves visibility in the vicinity of junctions by replacing all restrictions within 10m of the junction with double yellow lines. During 2021, phase 1 was undertaken - that is replacing single yellow lines with double yellow lines in all controlled parking zones except CA-E.  There are separate programmes for increasing cycling storage and greening infrastructure in the borough including installation of bike hangers and cycle stands.
31. Continue to provide additional bicycle parking in the borough including Business Improvement Districts	Continue to work with local BIDS to install additional bicycle parking	Camden's Clean Air Action Plan 2019-2022 (CAAP) theme: <b>Reducing transport emissions</b>  LLAQM theme: <b>Cleaner transport</b>	<b>Ongoing:</b> Cycle storage is considered as part of public realm improvements. Camden continues to facilitate cycling as a sustainable alternative to other transport by installing additional cycle storage in key areas.
32. To offer travel plans to businesses and Camden Climate Change Alliance members	Create a travel plan template that can be modified to suit businesses that need a tailored travel plan for their business	Camden's Clean Air Action Plan 2019-2022 (CAAP) theme: <b>Reducing transport emissions</b>  LLAQM theme: <b>Cleaner transport</b>	<b>Ongoing:</b> Air quality officers and transport planners have collaboratively developed a Travel Plan Guide for Businesses in Camden, which was published in early 2021 through the Camden Climate Change Alliance.
33. Continue to discourage unnecessary idling through	Utilise the MAQF London Idling Action Project to address idling within	Camden's Clean Air Action Plan 2019-2022 (CAAP) theme: <b>Reducing transport emissions</b>  LLAQM theme: <b>Cleaner transport</b>	<b>Ongoing:</b> Camden co-leads the <a href="https://idlingaction.london/">Idling Action London</a> <sup>11</sup> with City of London Corporation. Two Camden-based officers deliver this pan-London programme to raise awareness of vehicle engine

<sup>11</sup> <https://idlingaction.london/>



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anti-idling campaigns and enforcement activity	Camden, whilst introducing local enforcement		<p>idling as an avoidable source of air pollution and the health risk this poses. A London-wide <a href="#">advertising campaign</a><sup>12</sup> to discourage idling ran in Feb/March and November 2021. A business-focused component of the Idling Action project was promoted throughout 2021 including a new partnership with British Safety Council.</p> <p>Camden <a href="#">continues to enforce against vehicle engine idling</a><sup>13</sup> through a borough-wide Traffic Management Order introduced in Camden in October 2019 and implemented in January 2020. During FY 21/22 over 1,500 drivers were instructed to switch off their engines by Camden's Civil Enforcement Officers, and 30 penalty charge notices (PCNs) were issued for non-compliance.</p> <p>An <a href="#">e-form</a><sup>14</sup> allows members of the public to report incidences of vehicle engine idling for optimisation of Camden's enforcement patrols.</p>
34. Work with the LTDA to establish a jointly executed anti-idling campaign targeted at taxi drivers	Work collaboratively to ensure that key air quality messages are disseminated to drivers to raise awareness of the health impacts of exposure to air pollution, and the importance of avoiding engine idling	Camden's Clean Air Action Plan 2019-2022 (CAAP) theme: <b>Reducing transport emissions</b>  LLAQM theme: <b>Cleaner transport</b>	<b>Ongoing:</b> LTDA represented on Camden's Clean Air Partnership (meeting in September 2021).

<sup>12</sup> <https://news.camden.gov.uk/new-campaign-urges-londons-drivers-switch-off-engines-when-parked-to-save-lives/>

<sup>13</sup> <https://www.camden.gov.uk/tackling-engine-idling>

<sup>14</sup> <https://www.camden.gov.uk/report-engine-idling>

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35. To improve walking and cycling infrastructure through projects such as the proposed Prince of Wales Road and Camden Road cycle routes	Facilitate sustainable and active travel throughout the borough	Camden's Clean Air Action Plan 2019-2022 (CAAP) theme: <b>Reducing transport emissions</b>  LLAQM theme: <b>Cleaner transport</b>	<b>Ongoing:</b> In 2021 Camden has successfully implemented a number of active travel transport schemes in the borough, including: <ul style="list-style-type: none"> <li>• Implemented 8 point closures – “modal filters” – enabling walking and cycling whilst restricting through traffic</li> <li>• The two trial traffic reduction schemes which restrict vehicle movements whilst enabling cycling (Swain’s Lane and Millfield Lane) were made permanent</li> <li>• An additional 4.13Km of protected cycle routes</li> <li>• 6 Healthy School Streets</li> <li>• The West End Project continued with traffic reduction measures to Tottenham Court Road, segregated cycle lanes on Gower and Bloomsbury Streets and work commenced on new green space on Alfred Place</li> </ul>
36. To offer a parking permit scrappage scheme where a free two-year membership to a car club is provided	Encourage reduced car ownership and usage by incentivising car club membership as an alternative	Camden's Clean Air Action Plan 2019-2022 (CAAP) theme: <b>Reducing transport emissions</b>  LLAQM theme: <b>Cleaner transport</b>	<b>Completed:</b> Now closed after successfully issuing 100 car club memberships to residents.
37. Ensure the Clean Air Action Plan and Camden Transport Strategy have overlapping and	Work with the Transport Strategy service to ensure that joint aims are overlapping within both plans	Camden's Clean Air Action Plan 2019-2022 (CAAP) theme: <b>Reducing transport emissions</b>  LLAQM theme: <b>Cleaner transport</b>	<b>Ongoing:</b> Camden's Sustainability, Air Quality & Energy Management Team and Transport Strategy Service work collaboratively across a range of policy and project areas covered by Camden's <a href="#">Clean Air</a>

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supporting policies in relation to air quality			<a href="#">Action Plan 2019-2021<sup>15</sup></a> , <a href="#">Climate Action Plan 2020-2025<sup>16</sup></a> and <a href="#">Transport Strategy 2019-2041<sup>17</sup></a> . All plans have overlapping and mutually supportive policies.
38. Install collapsible bicycle posts around the Hatton Garden Business Improvement District	Work with Hatton Garden BID to help facilitate instillation of collapsible bicycle posts	Camden's Clean Air Action Plan 2019-2022 (CAAP) theme: <b>Reducing transport emissions</b>  LLAQM theme: <b>Cleaner transport</b>	<b>Withdrawn as an action:</b> Hatton Garden BID no longer involved in Camden Clean Air Partnership due to resourcing constraints.
39. Consolidate patient transport to reduce the number of vehicles on the road (subject to health and safety of patients)	Discuss with hospitals in the borough as part of the Clean Air Hospital Framework	Camden's Clean Air Action Plan 2019-2022 (CAAP) theme: <b>Reducing transport emissions</b>  LLAQM theme: <b>Cleaner transport</b>	<b>Ongoing:</b> Great Ormond Street Hospital (GOSH) looked at the possibility of consolidating patient transport, and specifically in relation to certain groups of patients who visit the hospital regularly (for example dialysis patients). COVID-19 has resulted in this action no longer being pursued. During 202,1 however, GOSH has introduced 4 electric ambulances for non-urgent patient transport.
40. Assess the feasibility of creating an air quality app that allows users to report air quality issues to the Council	Work with Camden's Environmental Services team to create an air quality feature on the existing environmental reporting app	Camden's Clean Air Action Plan 2019-2022 (CAAP) theme: <b>Supporting communities and schools</b>  LLAQM theme: <b>Localised solutions</b>	<b>Completed:</b> An air quality app was considered but feedback from other services suggested this would be excessively complicated and under-used. Instead, air quality officers worked with Camden's Digital and Customer Experience Team to design and produce an online e-form to enable members of the public to report concerns about air pollution, including those relating to construction and development issues. The e-form is now live.

<sup>15</sup> [https://www.camden.gov.uk/documents/20142/0/Clean+air+action+plan+2019-2022\\_final2.pdf/f7cd1a68-e707-0755-528a-59388adf0995](https://www.camden.gov.uk/documents/20142/0/Clean+air+action+plan+2019-2022_final2.pdf/f7cd1a68-e707-0755-528a-59388adf0995)

<sup>16</sup> <https://www.camden.gov.uk/how-are-we-tackling-the-climate-crisis-in-camden-#rqld>

<sup>17</sup> <https://www.camden.gov.uk/transport-strategies-and-plans>

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41. Deliver a Neighbourhoods of the Future (NotF) project in the Fitzjohn's area in partnership with independent schools to encourage more sustainable forms of transport	NotF to include schemes to encourage and facilitate a reduction in car travel to and from schools in the project area	Camden's Clean Air Action Plan 2019-2022 (CAAP) theme: <b>Supporting communities and schools</b>  LLAQM theme: <b>Cleaner transport / Localised solutions</b>	<b>Ongoing:</b> The Healthy School Street zone in the Fitzjohn's and Frognal area has been operational since after October half term 2020.  In addition, NotF encouraged alternative travel via a cargo bike scheme since 2021 and has so far seen 37 loans.
42. Produce and promote a School Air Quality Audit toolkit to schools in Camden	Develop a toolkit for schools that can be carried out by both council staff and school staff to help maximise uptake	Camden's Clean Air Action Plan 2019-2022 (CAAP) theme: <b>Supporting communities and schools</b>  LLAQM theme: <b>Cleaner transport / Public health and awareness raising</b>	<b>Ongoing:</b> As part of the Idling Action London programme, several school-focused toolkits have been promoted through the Camden Learning and CCCA newsletters. In additional schools have been shared information about the <a href="https://www.pollutionhelpdesk.co.uk/">London Schools Pollution Helpdesk</a> <sup>18</sup> – a free resource where schools can be given help to identify and address air quality issues in their school.  Due to resources constraints on the Air Quality Team caused by the ongoing COVID-19 restrictions, a School Air Quality Toolkit was not progressed.
43. Work with Public Health to develop a school super zones pilot that tackles health	Ensure that collaborative working is employed with PH to develop a school super zone pilot in Kilburn	Camden's Clean Air Action Plan 2019-2022 (CAAP) theme: <b>Supporting communities and schools</b>  LLAQM theme: <b>Public health and awareness raising / Localised solutions</b>	<b>Delayed.</b> Public Health engagement has been impacted by COVID-19. Contingent on funding and funding did not come through. Further work will be carried out in 22/23 to progress this.

<sup>18</sup> <https://www.pollutionhelpdesk.co.uk/>

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and air quality in the Kilburn area			
44. Continue to encourage schools to join the TfL STARS accredited travel planning programme by providing information on the benefits to schools and supporting the implementation of such a programme	Work with the Transport Strategy service to promote TfL STARS to schools within the borough	Camden's Clean Air Action Plan 2019-2022 (CAAP) theme: <b>Supporting communities and schools</b>  LLAQM theme: <b>Cleaner transport / Public health and awareness raising / Localised solutions</b>	<b>Ongoing:</b> <a href="#">STARS is widely promoted<sup>19</sup></a> by Camden's Transport Strategy service.
45. Continue to promote the uptake of Play Streets to local residents	Work with Transport Strategy to create guidance of street closures for local communities	Camden's Clean Air Action Plan 2019-2022 (CAAP) theme: <b>Supporting communities and schools</b>  LLAQM theme: <b>Cleaner transport / Localised solutions</b>	<b>Completed / Ongoing:</b> A 'How to Close Your Street' guide has been <a href="#">published<sup>20</sup></a> on the AQ webpages to promote the uptake of Play Streets.
46. Work with universities to investigate the potential for a new university-led community air quality	Promote citizen science lessons to local schools to help maximise uptake	Camden's Clean Air Action Plan 2019-2022 (CAAP) theme: <b>Supporting communities and schools</b>  LLAQM theme: <b>Public health and awareness raising</b>	<b>Ongoing:</b> In late 2021 two projects were developed for delivery in Camden, involving community air quality monitoring. The Camden Household Air Monitoring Project, delivered in collaboration with LSE, involves residents hosting indoor air quality monitors for a number of weeks to research how having access to air quality information may change

<sup>19</sup> <https://www.camden.gov.uk/school-travel-plans>

<sup>20</sup> [https://www.camden.gov.uk/documents/20142/0/How+to+Make+Your+Street+Car-Free\\_v2\\_2020+%281%29.pdf/91df22f4-4b0c-9635-962d-ac41e938a9a1?t=1626695044947](https://www.camden.gov.uk/documents/20142/0/How+to+Make+Your+Street+Car-Free_v2_2020+%281%29.pdf/91df22f4-4b0c-9635-962d-ac41e938a9a1?t=1626695044947)

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monitoring project			<p>behaviours. A pilot is due to be completed in early 2022, with wider resident monitoring planned for late 2022.</p> <p>Community Air Pollution Sensors project, delivered in collaboration with PPLPWR and Camden Clean Air Initiative, piloted with two high schools in Camden and involved engaging students to build their own air quality sensors and then collect data.</p> <p>In addition, links have been made with Imperial College to engage students undertaking environmental Masters programmes and deliver Air Quality projects within Camden. A group of students were recruited at the end of 2021 to undertake a review of the co-design process for the development of Camden's CAAP.</p>
47. Increase the number of Healthy School Streets in key pollution areas	Work with Transport Strategy to undertake feasibility and implementation of Healthy School Streets	Camden's Clean Air Action Plan 2019-2022 (CAAP) theme: <b>Supporting communities and schools</b>  LLAQM theme: <b>Cleaner transport / Localised solutions</b>	<p><b>Ongoing:</b> Six additional <a href="https://www.camden.gov.uk/healthy-school-streets#jauk">Healthy School Streets</a><sup>21</sup> were implemented during 2021:</p> <ul style="list-style-type: none"> <li>• Islip Street – Kentish Town Primary School</li> <li>• Polygon Road – St Mary and St Pancras Primary School</li> <li>• Bedford Square – Ecole Jeannine Manuel</li> <li>• Croftdown Road – Brookfield Primary School</li> <li>• Mount Pleasant and Laystall Street – Christopher Hatton School</li> <li>• Bidborough, Hastings and Tonbridge Street – Argyle Primary</li> </ul>

<sup>21</sup> <https://www.camden.gov.uk/healthy-school-streets#jauk>

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48. Develop bespoke clean air routes for schools in Camden highlighting clean routes to and from school as well as to relevant places such as libraries, community centres and parks	Ensure that clear clean air routes are accessible to school communities via the Council website as well as working with transport to create bespoke routes for schools in 'hot spot' areas	Camden's Clean Air Action Plan 2019-2022 (CAAP) theme: <b>Supporting communities and schools</b>  LLAQM theme: <b>Public health and awareness raising / Localised solutions</b>	<b>Ongoing:</b> Work began in 2021 on a school engagement programme with two primary schools, as part of the Camden Town LEN project, to develop clean air routes for students travelling to/from the LEN area. Following air pollution workshops, planned for early 2022, during which students identify possible high and low pollution walking routes, low pollution walking route maps will then be created and published/distributed.
49. To continue to work in partnership with London authorities, the GLA, TfL, London Councils and Defra on air quality projects	Ensure Camden continues to maintain its working partnership on air quality issues with London authorities, the GLA, TfL, London council's and Defra	Camden's Clean Air Action Plan 2019-2022 (CAAP) theme: <b>Supporting communities and schools</b>  LLAQM theme: <b>Public health and awareness raising / Localised solutions</b>	<b>Ongoing:</b> Extensive collaborative and partnership working with other London (and non-London) authorities, the GLA, TfL, London Councils and Defra, including: <ul style="list-style-type: none"> <li>• Central London AQ cluster group</li> <li>• GLA best practice seminars</li> <li>• MAQF projects (London Idling Action)</li> <li>• Coordination of an application to the GLA Good Growth Fund for a multi-borough project to provide clean power for canal boaters</li> <li>• Coordination of an application to the Defra Air Quality Fund for a multi-borough project to facilitate behaviour change around wood burning</li> <li>• Joint leadership (with LB Tower Hamlets) of the Sustainable Waterways Partnership</li> <li>• Lobbying on AQ issues, including provision of lobbying resources for other authorities</li> <li>• Engagement in workshops and seminars relating to air quality</li> </ul>

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50. Continue to work with schools on air quality engagement, awareness and behaviour change	Ensure that school engagement is conducted through the Sustainers, Camden Climate Change Alliance, school air quality audits and the London Idling action project	Camden's Clean Air Action Plan 2019-2022 (CAAP) theme: <b>Supporting communities and schools</b>  LLAQM theme: <b>Public health and awareness raising / Localised solutions</b>	<b>Ongoing:</b> Engagement in 2021 focused on promotion of <a href="#">Idling Action London<sup>22</sup></a> and webinars interacting with schools on air quality through the Camden Climate Change Alliance 'Sustainers' <a href="#">Peer Support Network<sup>23</sup></a> .  In addition, two schools began air quality engagement workshops as part of the Camden Town LEN project in late 2021. The results of which will be low pollution walking route maps for the students. This is due to be completed in 2022.
51. Support the NW3 Green School Run project which aims to reduce pollution from the independent school run	Green School Runs has a number of avenues to explore in terms of lessening air pollution through active travel, and these will be promoted through Council channels	Camden's Clean Air Action Plan 2019-2022 (CAAP) theme: <b>Supporting communities and schools</b>  LLAQM theme: <b>Public health and awareness raising / Localised solutions</b>	<b>Ongoing:</b> <a href="#">Green School Runs<sup>24</sup></a> is represented on the Camden Clean Air Partnership.  Camden has been collaborating with Green School Runs to promote the Idling Action London project and anti-idling resources.
52. Determine whether local byelaws could be introduced to address pollution sources currently controlled by not fit for purpose legislation	Where legislation cannot be influenced or amended to afford sufficient regulatory control or enforcement, byelaws will be investigated as an alternative	Camden's Clean Air Action Plan 2019-2022 (CAAP) theme: <b>Supporting communities and schools</b>  LLAQM theme: <b>Localised solutions</b>	<b>Ongoing:</b> The focus during 2021 has been on lobbying for primary and secondary changes to legislation which will support increased enforcement and regulatory control.

<sup>22</sup> <https://idlingaction.london/>

<sup>23</sup> <https://www.camdencca.org/schools/school-online-sustainability-peer-support-network/>

<sup>24</sup> <https://www.greenschoolruns.org/>



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53. Implement a borough-wide traffic management order (TMO) to enable more robust enforcement of vehicle idling and higher fines	Strengthen the current ETO idling enforcement regime to enable Civil Enforcement Officers to issue penalties for stationary idling offences anywhere in Camden	Camden's Clean Air Action Plan 2019-2022 (CAAP) theme: <b>Supporting communities and schools</b>  LLAQM theme: <b>Public health and awareness raising / Localised solutions</b>	<b>Completed:</b> Camden's <a href="#">Traffic Management Order<sup>25</sup></a> (TMO) was advertised in October 2019 and was implemented in January 2020, and is now in full use throughout the borough. From April 2021 to March 2022, more than 1,500 idling drivers were instructed by Camden's Civil Enforcement Officers to switch off their engines, and 30 penalty charge notices (PCNs) were issued for non-compliance. Calendar year enforcement stats are not available.
54. Apply to Mayor's Air Quality Fund (MAQF) and Defra funding to deliver air quality projects	Secure external funding to deliver air quality programmes in Camden	Camden's Clean Air Action Plan 2019-2022 (CAAP) theme: <b>Supporting communities and schools</b>  LLAQM theme: <b>Localised solutions</b>	<b>Completed / ongoing:</b> Camden were successful in application for Defra Air Quality Grant funding for a project to install mains power supplies at licensed ice cream trading sites. Project work began in 2021, and it is expected to go live in 2022.  Camden continues to work with Canal & River Trust to deliver the GLA Good Growth Fund Camden Electric Moorings project. Due to supply issues, the installation of 4 electric mooring sites was delayed and is expected to now go live in early 2022.  Camden also applied to Defra Air Quality Grant funding for a pan-London project to raise awareness of the impacts upon health from exposure to particulate matter air pollution arising from domestic solid fuel burning. A decision is expected in early 2022.
55. Produce guidance for canal boat users	Convey messaging around air quality and public health, opportunities for reducing	Camden's Clean Air Action Plan 2019-2022 (CAAP) theme: <b>Supporting communities and schools</b>	<b>Completed:</b> Guidance for canal boaters has been published in 2021 and is available on the <a href="#">AQ webpages<sup>26</sup></a> .

<sup>25</sup> <https://www.camden.gov.uk/tackling-engine-idling>

<sup>26</sup> <https://www.camden.gov.uk/camden-electric-moorings>

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on the impact of wood and coal burning on local air quality and disseminate with the support of the Canal & River Trust	emissions and exposure, and smoke control regulations relevant to boaters	LLAQM theme: <b>Public health and awareness raising</b>	
56. Continue to install green infrastructure in Euston Town Business Improvement District (BID) area	Work with Euston town BID to facilitate green infrastructure being installed	Camden's Clean Air Action Plan 2019-2022 (CAAP) theme: <b>Supporting communities and schools</b>  LLAQM theme: <b>Localised solutions</b>	<b>Completed:</b> A green wall and planters have been installed on North Gower Street as well as a pocket park on Westminster Kingsway.
57. Create an air quality art installation at the Camden Peoples' Theatre to absorb pollution and help raise awareness of pollution	Euston Town BID plans to install a pollution-sequestering art installation on the façade of the Camden People's Theatre, which will raise awareness of air pollution	Camden's Clean Air Action Plan 2019-2022 (CAAP) theme: <b>Supporting communities and schools</b>  LLAQM theme: <b>Localised solutions</b>	<b>Completed:</b> Installation of the sculpture has been <a href="#">completed<sup>27</sup></a> and an education programme commenced.
58. Create a green walkway on North Gower Street and a cleaner air walk	Collaborate with Euston BIDS to create a green walk way on North Gower Street and clean walk routes throughout Euston	Camden's Clean Air Action Plan 2019-2022 (CAAP) theme: <b>Supporting communities and schools</b>  LLAQM theme: <b>Localised solutions</b>	<b>Completed:</b> <a href="#">Euston Green Link<sup>28</sup></a> is completed and has been promoted during 2021.

<sup>27</sup> <http://www.camdentownlondon.co.uk/pollution-absorbing-public-sculpture-erected-in-camden/>

<sup>28</sup> <https://www.eustontown.com/s/Euston-Green-Link>

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from Euston station to Regent's Park along Drummond Street and Longford Street			
59. Support Great Ormond Street Hospital to produce and promote a Clean Air Hospital Framework for use by other NHS and public Health based organisations	The CAHF will be developed collaboratively by Global Action Plan and GOSH and will address various aspects of organisational sustainability and action to reduce air pollution, including emissions from transport, procurement, building operations, and by engaging with patients and staff will raise awareness of air pollution and public health	Camden's Clean Air Action Plan 2019-2022 (CAAP) theme: <b>Supporting communities and schools</b>  LLAQM theme: <b>Localised solutions</b>	<p><b>Completed / Ongoing:</b> Great Ormond Street Hospital has successfully implemented the <a href="https://www.globalactionplan.org.uk/clean-air-hospital-framework">Clean Air Hospital Framework</a><sup>29</sup>, and continues to promote to other health trusts.</p> <p>With funding from Camden &amp; Islington Public Health, Camden Council (in partnership with Global Action Plan) has supported UCLH and Royal Free Hospital to implement the Clean Air Hospital Frameworks.</p> <p>Concurrently, GOSH has promoted/supported the implementation of the framework at hospital trusts throughout England. NHS England now include air quality in a mandatory self-assessment reporting tool for Estate Teams and includes the CAHF as evidence of addressing AQ issues.</p>
60. Continue to work with the Camden Clean Air Partnership to ensure actions are delivered and further	Various actions in the CAAP are the responsibility of other CCAP members, and continued collaborate working is crucial to ensure overall successful delivery of the Action Plan	Camden's Clean Air Action Plan 2019-2022 (CAAP) theme: <b>Supporting communities and schools</b>  LLAQM theme: Various (covers all areas)	<p><b>Ongoing:</b> Partnership meetings continued to continue collegiate approach, with a meeting in September 2021.</p>

<sup>29</sup> <https://www.globalactionplan.org.uk/clean-air-hospital-framework>

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initiatives are developed			
61. To create a sustainability steering group (The Sustainers) for year 8 and 9 school children in Camden to support air quality improvements in and around schools	Sustainability steering for schools to cover various sustainability issues, including air quality, with opportunities for funding from CCCA members to cover small school-based innovative projects	Camden's Clean Air Action Plan 2019-2022 (CAAP) theme: <b>Supporting communities and schools</b>  LLAQM theme: <b>Public health and awareness raising</b>	<b>Ongoing:</b> Camden's ' <a href="#">The Sustainers<sup>30</sup></a> ' steering group for pupils continued to work with schools to promote climate change and air quality issues. This pilot project finished in 2021. The <a href="#">School's Climate Charter<sup>31</sup></a> was launched in November 2021 at an in-person Camden School Climate Summit, where clean air is one of 10 areas schools can pledge to act on.  The Camden Climate Change Alliance schools' sustainability <a href="#">Peer Support Network<sup>32</sup></a> aims to support schools and parents. A Deep Dive session to the Peer Support Network on Air Quality was held in January 2021.
62. Promote Camden's freight consolidation centre to other boroughs, business improvement districts and private companies	Camden Council consolidates all janitorial and stationary supplies with zero-tailpipe emission last-mile delivery, utilising an electric van and e-cargo bike	Camden's Clean Air Action Plan 2019-2022 (CAAP) theme: <b>Reducing emissions from deliveries, servicing and freight</b>  LLAQM theme: <b>Delivery, servicing and freight</b>	<b>Ongoing:</b> Camden continued to promote the use of its freight consolidation centre through the Defra-funded Cross River Partnership (CRP) <a href="#">Clean Air Villages 3 programme<sup>33</sup></a> , which in Camden focused on Grays Inn Road during 2020/21 and came to a finish in March 2021. It involved enhancement of the consolidation centre's zero-emission (cargo bike) and zero-exhaust-emission (electric van) delivery capabilities.  During 2021, the freight consolidation centre cargo bike was able to complete up to 30 miles of

<sup>30</sup> <https://www.camdencca.org/the-sustainers-a-sustainability-inspiration-for-camden/>

<sup>31</sup> <https://www.camdencca.org/school-climate-charter/>

<sup>32</sup> <https://www.camdencca.org/schools/school-online-sustainability-peer-support-network/>

<sup>33</sup> [https://crossriverpartnership.org/projects/clean-air-villages-3/#:~:text=Clean%20Air%20Villages%203%20\(CAV3,population%20density%20levels%20are%20high.](https://crossriverpartnership.org/projects/clean-air-villages-3/#:~:text=Clean%20Air%20Villages%203%20(CAV3,population%20density%20levels%20are%20high.)

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			deliveries per day, and the van up to 150 miles per week of deliveries.
63. Assist local businesses and BIDs to consolidate services such as deliveries and waste collections	Promote the Council's consolidation centre for use by businesses and BIDs within Camden	Camden's Clean Air Action Plan 2019-2022 (CAAP) theme: <b>Reducing emissions from deliveries, servicing and freight</b>  LLAQM theme: <b>Delivery, servicing and freight</b>	<p><b>Ongoing:</b> As part of the CRP CAV3 project Camden Council has encouraged businesses around Grays Inn Road to consolidate deliveries, through a time-limited offer of free last-mile consolidation with support from CRP. The Camden Climate Change Alliance has worked with the Knowledge Quarter to promote delivery consolidation including use of Camden's consolidation centre. This project concluded in March 2021.</p> <p>One business in the Grays Inn Road area has since switched to using last mile consolidation.</p>
64. Create an online signposting hub on Camden's website that highlights funding opportunities for air quality positive technology (electric vehicles, EV charging, cargo bikes, etc.)	Promote all funding sources available for businesses, BIDs, community groups and residents which may help to achieve emissions reductions	Camden's Clean Air Action Plan 2019-2022 (CAAP) theme: <b>Reducing emissions from deliveries, servicing and freight</b>  LLAQM theme: <b>Localised solutions</b>	<p><b>Completed/ Ongoing:</b> Web pages (on the Council's main website) were reviewed and edited to ensure that information is showed in an accessible way and include funding opportunities. The updated pages went live in mid-2021.</p> <p>The Camden Climate Change Alliance <a href="#">already promotes</a><sup>34</sup> funding opportunities.</p>

<sup>34</sup> <https://www.camdencca.org/funding-support/>

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65. Signpost Council suppliers and external businesses to the DfT Clean Van Commitment scheme, the Logistics Emissions Reduction Scheme (LERS) and the freight portal	Work with the Camden Climate Change Alliance to inform businesses of what current grants are available to them	Camden's Clean Air Action Plan 2019-2022 (CAAP) theme: <b>Reducing emissions from deliveries, servicing and freight</b>  LLAQM theme: <b>Cleaner transport / Delivery, servicing and freight</b>	<b>Completed / Ongoing:</b> Camden <a href="#">has signed up to the Clean Van Commitment (CVC)</a> <sup>35</sup> and continues to advocate partners and stakeholders to pledge their commitment to the scheme. The Green Vehicle Fleet Standard for Contractors has been updated to require signing up to the CVC and other schemes which demonstrate support for lower-emission vehicles and offer training opportunities for drivers. CVC has also been promoted via the Idling Action London project and included in template Green Vehicle Fleet Standard for Contractors policy shared with other Local Authorities.
66. Trial using cargo bikes in our own freight consolidation project	Reduce last-mile delivery emissions by trialling cargo bikes as an option for freight consolidation	Camden's Clean Air Action Plan 2019-2022 (CAAP) theme: <b>Reducing emissions from deliveries, servicing and freight</b>  LLAQM theme: <b>Delivery, servicing and freight</b>	<b>Completed / ongoing:</b> An electrically-assisted cargo bike is being used for zero-emission last-mile delivery from Camden's freight consolidation centre.  During 2021, the cargo bike was able to complete up to 30 miles of deliveries per day. In addition an electric van has also been supporting last mile deliveries.
67. Reduce emissions from Council fleet, targeting a low and zero tailpipe emission fleet by 2022	Camden operates over 300 vehicles for the delivery of a range of services, and has objectives to move to a zero-tailpipe emission fleet by 2022	Camden's Clean Air Action Plan 2019-2022 (CAAP) theme: <b>Reducing emissions from deliveries, servicing and freight</b>  LLAQM theme: <b>Borough fleet</b>	<b>Ongoing:</b> Camden's fleet replacement is progressing, with 19% of the fleet now updated to hybrid, electric or CNG. Contract Managers and Fleet Managers routinely report on progress to the cabinet member for sustainability to ensure oversight of this process.
68. Open Camden's compressed natural gas	Camden's biomethane CNG refuelling facility at York Way represents an option for low-	Camden's Clean Air Action Plan 2019-2022 (CAAP) theme: <b>Reducing emissions from deliveries, servicing and freight</b>	<b>Completed / ongoing:</b> The CNG facility has been opened up to businesses and other external organisations.

<sup>35</sup> <https://www.globalactionplan.org.uk/clean-van-commitment-signatories>

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facility at York Way to third party businesses	carbon vehicle fuel, which is preferable to diesel in terms of local air pollution	LLAQM theme: <b>Localised solutions / Cleaner transport</b>	
69. Ensure air quality is included in all procurement processes and favours suppliers with low or beneficial impacts on air quality	Ensure that air quality is fed through procurement processes	Camden's Clean Air Action Plan 2019-2022 (CAAP) theme: <b>Reducing emissions from deliveries, servicing and freight</b>  LLAQM theme: <b>Localised solutions / Delivery, servicing and freight</b>	<p><b>Ongoing process:</b> Review of Camden's Green Vehicle Fleet Standard for Contractors has been updated to include relevant requirements for the procurement of contracts and services which involve the use of vehicles.</p> <p>The Senior Air Quality Officer provided a training session for Procurement Category Managers in November 2020 to highlight the importance of considering air quality impacts during the procurement process. Due to resourcing issues created by COVID, no further training took place in 2021. Conversations however are ongoing and will be reviewed in 2022.</p>
70. Promote the use of low-/zero-tailpipe emission delivery services through the Camden Climate Change Alliance	Work with the Camden Climate Change Alliance to promote behaviour change around driving	Camden's Clean Air Action Plan 2019-2022 (CAAP) theme: <b>Reducing emissions from deliveries, servicing and freight</b>  LLAQM theme: <b>Delivery, servicing and freight</b>	<p><b>Ongoing:</b> The Camden Climate Change Alliance (CCCA) has actively promoted the Council's freight consolidation centre for use by businesses and other organisations as one of several options to reduce emissions from delivery, servicing, and freight.</p> <p>CCCA undertook promotion of anti-idling campaign throughout 2021 including driver training opportunities and continued to promote the travel plan toolkit.</p>
71. Create a low/zero emission servicing, delivery and freight action	Coordinate through the Central London AQ Cluster Group and others to instigate a new approach to tackle emissions from servicing, delivery and freight	Camden's Clean Air Action Plan 2019-2022 (CAAP) theme: <b>Reducing emissions from deliveries, servicing and freight</b>  LLAQM theme: <b>Delivery, servicing and freight</b>	<p><b>Ongoing:</b> This issue has been discussed periodically at the Central London Air Quality Cluster Group, however officers felt that the desired outcome is to an extent achieved by the TfL Freight Working Group, which a Camden Principal Transport Planner attends.</p>

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group with other London authorities to ensure a joined-up approach to limit impact on servicing, delivery and freight providers			The Camden Clean Air Partnership includes representation from UPS, John Lewis Partnership and the Brewery Logistics Group, representing the interests of businesses in the freight and servicing sector.
72. Provide Smarter Driver (Ecodriving) Training for drivers of vehicles in the Council fleet, i.e. through training in fuel-efficient driving and providing regular re-training for staff	Driver training is being delivered through the London idling action programme	Camden's Clean Air Action Plan 2019-2022 (CAAP) theme: <b>Reducing emissions from deliveries, servicing and freight</b>  LLAQM theme: <b>Borough fleet / Localised solutions</b>	<b>Completed / ongoing:</b> This action has been improved in that Camden promotes both the Ecodriving training and also the <a href="https://www.camden.gov.uk/news/camden-clean-air-partnership-announces-ecodriving-training-offered-for-free">driver training resources offered for free by the MAQF Idling Action London</a> <sup>36</sup> , which is jointly led by Camden Council and City of London Corporation. Contractors and service providers are required to provide driver training through the Council's Green Vehicle Fleet Standard for Contractors, and <a href="https://www.camden.gov.uk/news/camden-itself-has-taken-idling-action-s-engines-off-pledge">Camden itself has taken Idling Action's #EnginesOff pledge</a> <sup>37</sup> to avoid engine idling from its own fleet (this commitment includes provision of training for Camden's drivers).  Training with Camden fleet including CATS, as well as various contractors, took place during 2021.
73. Investigate creating a waste consolidation programme for businesses in the Hatton Garden and	Work with BIDs to reduce emissions from waste collections where businesses in close proximity are currently using different service providers	Camden's Clean Air Action Plan 2019-2022 (CAAP) theme: <b>Reducing emissions from deliveries, servicing and freight</b>  LLAQM theme: <b>Localised solutions / Delivery, servicing and freight</b>	<b>Ongoing:</b> Fitzrovia Partnership BID has a preferred supplier scheme to encourage delivery consolidation and to investigate waste consolidation. In 2021, they completed a review and tendering exercise for this scheme -suppliers were shortlisted based on criteria including use of electric vehicles. In addition, waste and recycling collection

<sup>36</sup> <https://idlingaction.london/business/>

<sup>37</sup> <https://news.camden.gov.uk/covid-19-new-call-for-londons-drivers-to-turn-engines-off/>



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Fitzrovia BID areas			suppliers have been expanded as part of the BID's new 'Let's Do Fitzero' programme to deliver better air quality and contribute to reducing carbon emissions.
74. UCL to deliver a logistics plan for the Bloomsbury campus, consolidating deliveries and reducing vehicle emissions and congestion	Help to facilitate the implementation of a logistics plan at UCL Bloomsbury campus to help reduce emissions	Camden's Clean Air Action Plan 2019-2022 (CAAP) theme: <b>Reducing emissions from deliveries, servicing and freight</b>  LLAQM theme: <b>Delivery, servicing and freight / Cleaner transport</b>	<p><b>Ongoing:</b> Logistics hub work is ongoing.</p> <p>UCL continue to make progress on their Wild Bloomsbury programme with a variety of new planting around the campus and, notably, a recent student-led planting initiative in our Medawar Gardens. The ultimate target is 10,000m2 of new or enhanced biodiverse green space.</p> <p>Additionally, UCL have added a total of 78 more cycle parking facilities on and around the main campus – including an enclosed shelter with green roof at Francis Gardner hall of residence.</p>
75. UPS to complete power supply upgrade and installation of Smart Grid technology at the Kentish Town UPS depot to support the electrification of UPS's central London fleet of 170 vehicles	Reduce emissions from UPS's London fleet by installing EVCPs and ancillary technologies at the Kentish Town depot	Camden's Clean Air Action Plan 2019-2022 (CAAP) theme: <b>Reducing emissions from deliveries, servicing and freight</b>  LLAQM theme: <b>Delivery, servicing and freight</b>	<p><b>Completed:</b> <a href="https://www.ukpowernetworksservices.co.uk/case-studies/ups-smart-electric-urban-logistics-project/">Smart Grid technology</a><sup>38</sup> has been installed at the Kentish Town depot, which allows for a fully-EV fleet.</p>

<sup>38</sup> <https://www.ukpowernetworksservices.co.uk/case-studies/ups-smart-electric-urban-logistics-project/>

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76. John Lewis Partnership to fit Microlise routing and scheduling software to optimise routing and load consolidation and reduce the number of vehicles entering the capital	Work with John Lewis partnership to help facilitate	Camden's Clean Air Action Plan 2019-2022 (CAAP) theme: <b>Reducing emissions from deliveries, servicing and freight</b>  LLAQM theme: <b>Delivery, servicing and freight</b>	<b>Completed:</b> The Microlise routing software is contributing to optimising routes to delivery within the capital.
77. Waitrose to use lorries which are run entirely on bio methane gas generated from food waste	Work with John Lewis partnership to help facilitate	Camden's Clean Air Action Plan 2019-2022 (CAAP) theme: <b>Reducing emissions from deliveries, servicing and freight</b>  LLAQM theme: <b>Delivery, servicing and freight / Cleaner transport</b>	<b>Ongoing:</b> The Partnership has now committed to running its primary (Heavy) fleet on CNG (Bio methane by 2028).  A trial of electric 3.5T delivery vans is currently underway at Waitrose St Katherines Dock charging is via inductive plate.
78. John Lewis Partnership to work towards converting all standard heavy trucks to gas upon renewal	Work with John Lewis partnership to help facilitate	Camden's Clean Air Action Plan 2019-2022 (CAAP) theme: <b>Reducing emissions from deliveries, servicing and freight</b>  LLAQM theme: <b>Delivery, servicing and freight / Cleaner transport</b>	<b>Ongoing:</b> See update on action 77 above.
79. Ensure Directors of Public Health are fully briefed on the scale of the air quality problem in	Ensure that reoccurring scheduled meetings are held between the air quality team and public health to ensure a cohesive approach	Camden's Clean Air Action Plan 2019-2022 (CAAP) theme: <b>Public health and awareness raising</b>  LLAQM theme: <b>Public health and awareness raising</b>	<b>Ongoing:</b> Camden's Sustainability, Air Quality & Energy Management works closely with Public Health to update air quality information and promote public health messaging around air quality. This includes ensuring the Director of Public Health is aware of any regional-scale interventions or policy

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Camden; what is being done, and what further action is needed			changes which may be introduced by the Mayor of London or the GLA.
80. Directors of Public Health to have responsibility for ensuring their Joint Strategic Needs Assessment (JSNA) has up-to-date information on the health impacts of air quality impacts on the population	Ensure that all future JSNA have up to date information on the health impacts of poor air quality and are overseen by the Director of Public Health	Camden's Clean Air Action Plan 2019-2022 (CAAP) theme: <b>Public health and awareness raising</b>  LLAQM theme: <b>Public health and awareness raising</b>	<b>Ongoing:</b> <a href="#">Camden's JSNA<sup>39</sup></a> for air quality is kept under continual review. Due to resourcing issues caused by COVID, the latest update has been delayed until 2022 which will be key strategic year to review due to the development of the new CAAP and the 2021 outcomes of the Ella Kissi-Debra coroner's report.
81. Require the Public Health teams to support engagement with local stakeholders (businesses, schools, community groups and healthcare providers)	Public Health colleagues to support with ensuring the air quality and public health messages are conveyed throughout various social and economic communities, and in other sectors	Camden's Clean Air Action Plan 2019-2022 (CAAP) theme: <b>Public health and awareness raising</b>  LLAQM theme: <b>Public health and awareness raising</b>	<b>Ongoing:</b> Collaborative working with Public Health was severely impacted during 2021 due to the need to prioritise COVID-19 messaging.  Local stakeholders were targeted through ongoing programmes such as Idling Action London project, where healthcare providers supported the advertising campaign and shared a healthcare specific air pollution comms toolkit with Hospital trusts.

<sup>39</sup> <https://www.camden.gov.uk/joint-strategic-needs-assessment>

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82. Work with Public Health to strengthen engagement with Camden's Clinical Commissioning Group and Camden's GP surgeries	Ensure that clinicians in Camden are fully aware of the associations between exposure to air pollution and adverse health outcomes, and can highlight to patients any opportunities for reducing exposure to air pollution in Camden	Camden's Clean Air Action Plan 2019-2022 (CAAP) theme: <b>Public health and awareness raising</b>  LLAQM theme: <b>Public health and awareness raising</b>	<b>Ongoing:</b> Camden continues to improve connections with Camden CCG, hospitals in the borough, and <a href="#">North Central London</a> <sup>40</sup> (NCL) and <a href="#">Healthy London Partnership</a> <sup>41</sup> (London Asthma Leadership and Implementation Group for Children & Young People, LALIG), as well as new partnership with London Clinical Senate.  Work is ongoing to strengthen links with primary care providers.
83. Ensure that the Leader of the Council, Cabinet Members for Health and Transport and the Head of Transport Strategy have been fully briefed on the Public Health duties and the fact that all Directors are responsible for delivering them, as well as on air quality opportunities and risks related	Secure a deep organisational awareness of the importance of air quality and the deleterious health effects of exposure to air pollution, such that senior management and councillors are aware of the need to improve air quality throughout the borough	Camden's Clean Air Action Plan 2019-2022 (CAAP) theme: <b>Public health and awareness raising</b>  LLAQM theme: <b>Public health and awareness raising</b>	<b>Completed / ongoing:</b> This is standard practice now.

<sup>40</sup> <https://www.northlondonpartners.org.uk/>

<sup>41</sup> <https://www.healthylondon.org/resource/air-quality-2/>

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to transport in the borough			
84. Strengthen co-ordination with Public Health by ensuring that at least one Consultant-grade public health specialist within the borough has air quality responsibilities outlined in their job profile	Secure alignment of Public Health and air quality work to ensure all opportunities for engagement with medical and practitioners is realised	Camden's Clean Air Action Plan 2019-2022 (CAAP) theme: <b>Public health and awareness raising</b>  LLAQM theme: <b>Public health and awareness raising</b>	<b>Ongoing:</b> Camden's air quality officers work closely with Public Health, which continues to support facilitate community engagement in raising awareness of air pollution as a risk for health. Direct collaboration was affected during 2021 due to the need for Public Health to prioritise COVID-19, however Public Health did support the Council in delivery of the Clean Air Hospital Framework programme at UCLH and Royal London Hospital.  Senior Sustainability Officer presented a webinar on active travel and pollution exposure reduction to UCLH staff as part of their CAHF programme.  A joint <a href="#">statement</a> <sup>42</sup> was published on National Clean Air Day, by Camden and the borough's hospitals, highlighting our commitment to raising awareness. In addition, a joint <a href="#">statement</a> <sup>43</sup> was published after the inquest into the tragic death of 9-year-old Ella Kissi Debra highlighting how we will work with Public Health to continue to raise awareness of the health impacts.
85. Require the Director of Public Health to sign off Statutory Annual Status Reports and all	Ensure that the Director of Public Health is aware of statutory obligations to measure and improve air quality, as well as progress on this agenda	Camden's Clean Air Action Plan 2019-2022 (CAAP) theme: <b>Public health and awareness raising</b>  LLAQM theme: <b>Public health and awareness raising</b>	<b>Completed / ongoing:</b> This is standard practice now.

<sup>42</sup> <https://news.camden.gov.uk/national-clean-air-day---a-statement-from-camden-and-borough-hospitals/>

<sup>43</sup> <https://news.camden.gov.uk/camden-councils-statement-on-the-ella-adoo-kissi-debrah-inquest/>

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new Clean Air Action Plans			
86. To work with Public Health and council resilience teams to ensure that vulnerable people are aware of high pollution days and the action they can take to reduce their exposure	Disseminate pollution alerts through council social media and other channels, and ensure other council teams (for example, Housing, HS2 Community Liaison, etc.) are able to signpost service users to relevant resources	Camden's Clean Air Action Plan 2019-2022 (CAAP) theme: <b>Public health and awareness raising</b>  LLAQM theme: <b>Public health and awareness raising</b>	<b>Ongoing:</b> Camden Council <a href="#">continues to promote airTEXT through the main council website<sup>44</sup></a> to raise awareness of air pollution as a health risk and to help provide alerts in advance of any forecast high-pollution days.  During 2021, Camden Council was successful in a bid to the Mayor of London's Future Neighbourhoods 2030 programme, which will look to deliver 10 projects within the Somers Town ward of Camden in 2022 with the aim to make the neighbourhood more sustainable. As part of this, the Air Quality Team will be leading the delivery of community air quality monitoring and engagement activities to develop new interventions which more proactively target those most impacted by air pollution and work to tackle the disproportionate and inequitable impact upon vulnerable people, more deprived communities, and Black, Asian and minoritised ethnic groups.
87. Deliver community-led air quality monitoring projects annually	Establish a community led air quality monitoring project	Camden's Clean Air Action Plan 2019-2022 (CAAP) theme: <b>Public health and awareness raising</b>  LLAQM theme: <b>Public health and awareness raising / Monitoring and other core statutory duties</b>	<b>Ongoing:</b> Camden supported the delivery of a community air pollution sensors project delivered by PPL PWR which involved engaging two secondary schools, teaching students about air pollution before working with them to build their own air quality sensors and undertake monitoring. This is due to be completed in 2022.  The CHAMP research in collaboration with LSE was launched in late 2021, where residents were

<sup>44</sup> <https://www.camden.gov.uk/clean-air-for-camden>

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			<p>recruited to host monitors in their homes to explore the use of air quality information to inform and alter behaviours to reduce exposure. The research is due to continue in 2022.</p> <p>During 2021, Camden Council were successful in a bid to MoL's Future Neighbourhoods 2030 programme which will look to deliver 10 projects within the Somers Town Ward of Camden in 2022 with the aim to make the neighbourhood more sustainable. As part of this, the Air Quality Team will be leading the delivery of community air quality monitoring activities in 2022.</p>
88. Promote and support <i>air</i> TEXT pollution alerts system	Increase the subscription to the <i>air</i> TEXT pollution alerts in Camden, to ensure that vulnerable people are aware of forecast pollution events whilst raising general awareness of the importance of air quality as a health determinant	Camden's Clean Air Action Plan 2019-2022 (CAAP) theme: <b>Public health and awareness raising</b>  LLAQM theme: <b>Public health and awareness raising</b>	<p><b>Ongoing:</b> Camden Council <a href="#">continues to promote <i>air</i>TEXT through the main council website<sup>45</sup></a> to raise awareness of air pollution as a health risk and to help provide alerts in advance of any forecast high-pollution days.</p> <p>By the end of 2021 there were 633 active subscribers receiving alerts for Camden, which is an increase of 23 from the previous year. The majority of subscribers receive alerts via SMS text. Camden had 12 alert days during 2021 and a total of 5,187 alert messages were sent to Camden subscribers.</p>
89. Promote cleaner walking routes and signposting to free air quality route mapping apps and websites	This action will be linked with action 98 to signpost clean air routes in Camden	Camden's Clean Air Action Plan 2019-2022 (CAAP) theme: <b>Public health and awareness raising</b>  LLAQM theme: <b>Public health and awareness raising</b>	<p><b>Ongoing:</b> Cleaner air walking routes are promoted in engagement with the public and schools.</p> <p>Camden's air quality webpages were updated in full in 2021 to better signpost online resources.</p>

<sup>45</sup> <https://www.camden.gov.uk/clean-air-for-camden>

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			As part of the Camden Town LEN project, two primary schools began work in late 2021 to produce a low pollution, cleaner air walking routes map for that area. Expected to publish / promote in 2022.
90. Send out air pollution alerts via various council communication outlets (Facebook, Twitter, etc.)	Disseminate pollution alerts through council social media channels	Camden's Clean Air Action Plan 2019-2022 (CAAP) theme: <b>Public health and awareness raising</b>  LLAQM theme: <b>Public health and awareness raising</b>	<b>Ongoing:</b> Air quality-focused tweets were posted at various times during 2021 to raise awareness of specific issues and to promote resources and opportunities for the public to help reduce their contribution and exposure to air pollution. This included content about the avoidance of wood- and coal-burning, garden bonfires, National Clean Air Day, sustainable and active travel, indoor air quality, and vehicle engine idling.
91. To continue to deliver our Clean Air for Camden engagement programme	Maintain momentum and programme visibility through the continued delivery of air quality engagement under the Clean Air for Camden banner	Camden's Clean Air Action Plan 2019-2022 (CAAP) theme: <b>Public health and awareness raising</b>  LLAQM theme: <b>Public health and awareness raising</b>	<b>Ongoing:</b> In 2021, Camden Council utilised communications through social media to continue to deliver the Clean Air for Camden engagement programme. Camden promoted a range of materials, including <a href="#">indoor air quality guidance for residents<sup>46</sup></a> , <a href="#">advice on wood-burning<sup>47</sup></a> , and comms around National Clean Air Day, as well as online webinars and in-person school assemblies as part of the Idling Action London project.
92. Deliver anti-idling engagement via community-led projects	Work with community volunteers to carry out targeted idling action engagement events and awareness-raising initiatives	Camden's Clean Air Action Plan 2019-2022 (CAAP) theme: <b>Public health and awareness raising</b>  LLAQM theme: <b>Public health and awareness raising / Localised solutions</b>	<b>Ongoing:</b> Camden co-leads (with City of London Corporation) the MAQF Idling Action London project, through which dedicated officers produce and promote resources for communities and individuals to undertake local anti-idling engagement projects.

<sup>46</sup> [https://www.camden.gov.uk/documents/20142/0/Camden+Improving+Indoor+Air+Quality+-+Advice+for+Homes+FINAL\\_v2\\_April21.pdf/b3d7bfea-6ce1-27b2-967a-7d5be3bcb6c7?t=1619615988707](https://www.camden.gov.uk/documents/20142/0/Camden+Improving+Indoor+Air+Quality+-+Advice+for+Homes+FINAL_v2_April21.pdf/b3d7bfea-6ce1-27b2-967a-7d5be3bcb6c7?t=1619615988707)

<sup>47</sup> <https://www.camden.gov.uk/documents/20142/0/Wood-+and+Coal-Burning+in+Camden+Winter+2020-21+FINAL.pdf/f417cc5a-8237-df1a-50ed-27ce77c54966?t=1605097492123>



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			For National Clean Air Day 2021, Camden air quality officers conducted Idling Action training with GOSH staff, including the provision of resources, so they could host their own anti-idling campaigns and events in the future, as well as assisting in direct driver engagement in the area on that day.
93. Camden staff who are regularly out and about will be encouraged to engage with idling vehicles in the promotion of best practice in driving	Provide training for Camden staff who may encounter idling drivers, to raise awareness of engine idling and air pollution and provide key messages to persuade drivers to switch off their engines	Camden's Clean Air Action Plan 2019-2022 (CAAP) theme: <b>Public health and awareness raising</b>  LLAQM theme: <b>Public health and awareness raising / Localised solutions</b>	<b>Completed:</b> In October 2020 Camden air quality officers ran a lunchtime webinar for Camden staff to raise awareness of air pollution as a health risk and to highlight the Council's air quality programme, as well as individual actions which can help reduce air pollution. This included suggesting participating in Idling Action Events (direct driver engagement events) through Idling Action London, in addition to ad hoc engagement with idling drivers.  A recording of the training was made available via the e-learning platform so further encourage future staff to learn about and engage with idling drivers.
94. Produce a toolkit on indoor air pollution and how to reduce personal exposure	Produce guidance for residents on sources of indoor air pollution (in the home) and how to avoid and mitigate poor indoor air quality	Camden's Clean Air Action Plan 2019-2022 (CAAP) theme: <b>Public health and awareness raising</b>  LLAQM theme: <b>Public health and awareness raising</b>	<b>Completed:</b> Camden's <a href="https://www.camden.gov.uk/documents/20142/0/Improving+Indoor+Air+Quality+-+Advice+for+Homes.pdf/d8bf8fe0-6db7-c7cf-858b-6eef0667a17e?t=1585820778519">Improving Indoor Air Quality: Advice for Homes</a> <sup>48</sup> guidance was published in April 2020 and is accessible on the Council website.
95. Produce a toolkit for businesses on how they can reduce pollution and pollution exposure	Produce guidance for businesses on reducing sources of indoor and outdoor air pollution, signposting funding opportunities for reducing	Camden's Clean Air Action Plan 2019-2022 (CAAP) theme: <b>Public health and awareness raising</b>	<b>Ongoing:</b> Due to resourcing constraints work did not progress on the indoor air quality guide for businesses and there was no capacities for businesses to respond to requests for an air quality audit.

<sup>48</sup> <https://www.camden.gov.uk/documents/20142/0/Improving+Indoor+Air+Quality+-+Advice+for+Homes.pdf/d8bf8fe0-6db7-c7cf-858b-6eef0667a17e?t=1585820778519>

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	emissions, and relevant regulations	LLAQM theme: <b>Public health and awareness raising / Emissions from developments and buildings</b>	A new research project was developed in late 2021 to explore the impact of commercial cooking and kitchen ventilation on indoor air quality and it is expected to be completed in early 2022, with the outcome of guidance for commercial cooking business on improving indoor air quality.
96. Promote and deliver air quality projects on National Clean Air Day and National Car Free Day	Build momentum for Clean Air for Camden air quality behaviour change campaign through promotion of NCAD and CFD	Camden's Clean Air Action Plan 2019-2022 (CAAP) theme: <b>Public health and awareness raising</b>  LLAQM theme: <b>Public health and awareness raising</b>	<b>Ongoing:</b> Camden officers hosted an Idling Action Event with GOSH which included training staff so that GOSH are able to run their own engagement events in future. Digital engagement included a series of air quality-related Tweets on the Council's corporate Twitter account.
97. Provide anti-idling banners for primary schools in Camden	Provide anti-idling banner workshops for schools and produce completed banners based upon pupils' designs	Camden's Clean Air Action Plan 2019-2022 (CAAP) theme: <b>Public health and awareness raising</b>  LLAQM theme: <b>Localised solutions / Public health and awareness raising</b>	<b>Ongoing:</b> Schools taking part in <a href="#">Idling Action London's air quality and anti-idling workshops</a> <sup>49</sup> are eligible to receive banners.
98. Improve signposting for cleaner air walking routes	Ensure less polluted streets and walking routes are visible for pedestrians, to encourage healthier travel and awareness of the associations between air quality and health	Camden's Clean Air Action Plan 2019-2022 (CAAP) theme: <b>Public health and awareness raising</b>  LLAQM theme: <b>Public health and awareness raising</b>	<b>Ongoing:</b> During 2021 updated AQ webpages were published including cleaner air walking routes.  As part of the Camden Town LEN project, two primary schools began work in late 2021 to produce a low pollution, cleaner air walking routes map for that area. Expected to publish / promote in 2022.
99. Expand the air pollution monitoring network in Camden and provide the	Achieve better air quality data coverage for the purpose of measuring compliance with legal objectives and WHO guidelines, and assessing	Camden's Clean Air Action Plan 2019-2022 (CAAP) theme: <b>Public health and awareness raising</b>  LLAQM theme: <b>Monitoring and other core statutory duties</b>	<b>Ongoing:</b> Camden's air quality monitoring network expands year-on-year. By the end of December 2021 air quality monitoring was undertaken at 260 diffusion tube sites, up from 174 during December 2020.

<sup>49</sup> <https://idlingaction.london/schools/>

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monitoring information in an easy-to access manner through Open Data and London Air	changes in air quality in response to policy or projects		<p>A new automatic NO<sub>2</sub> monitoring site became operational on Camden High Street mid-2021 collecting real-time air pollution data in support of the interventions delivered through the Camden Town Low Emission Neighbourhood project.</p> <p>Swiss Cottage and Coopers Lane automatic monitoring sites began refurbishment and upgrade in 2021 but were unable to be completed due to contractor issues. Refurbishment is expected to be completed in early 2022.</p> <p>A new project began in early 2021 with Airlabs which will see up to 250 low cost NO<sub>x</sub> and PM sensors installed throughout the borough. During 2021, 60 were installed with the additional expected to be installed throughout 2022.</p>
100. Provide air quality information at healthcare facilities, libraries, pharmacies and other frequently used public buildings	Produce posters with key messages about exposure to air pollution and associated health impacts, both in relation to ambient and indoor air pollution	Camden's Clean Air Action Plan 2019-2022 (CAAP) theme: <b>Public health and awareness raising</b>  LLAQM theme: <b>Monitoring and other core statutory duties / Public health and awareness raising</b>	<p><b>Ongoing:</b> A poster has been created to convey key air quality and health messaging and was shared to libraries and other frequently used public buildings in 2021.</p> <p>In addition, the poster will be used as part of the Future Neighbourhoods project, which was awarded funding late 2021. Promotion of the health posters is planned for 2022.</p> <p>North Central London (NCL) has been auditing GP practice electronic messaging screens with the intention of resolving issues which had previously hindered promotion of air quality messages in Camden GP practices.</p>

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101. Make accessible King's College modelling on WHO guidelines in Camden to explain the future trajectory of pollution	Ensure the Camden 2030 WHO modelling outcomes are available online on the Council's website, and related to the Clean Air Action Plan	Camden's Clean Air Action Plan 2019-2022 (CAAP) theme: <b>Public health and awareness raising</b>  LLAQM theme: <b>Monitoring and other core statutory duties / Public health and awareness raising</b>	<b>Completed:</b> The <a href="#">WHO 2030 Technical Report<sup>50</sup></a> has been published on Camden's air quality webpages.
102. Support the monitoring and delivery of the Children's Health in London & Luton (CHILL) project	Facilitate where possible research to better understand the impact of exposure to air pollution for health over the long-term	Camden's Clean Air Action Plan 2019-2022 (CAAP) theme: <b>Public health and awareness raising</b>  LLAQM theme: <b>Public health and awareness raising</b>	<b>Ongoing:</b> Camden continues to support the CHILL project and a Camden primary school participates directly in this research.
103. Promote the Euston BID's dedicated air quality page signposting to air quality information, projects, forums, clean walking routes, zero-emission delivery services, etc.	Ensure that Euston BID's air quality pages are promoted through the Camden Climate Change Alliance to businesses within the local area	Camden's Clean Air Action Plan 2019-2022 (CAAP) theme: <b>Public health and awareness raising</b>  LLAQM theme: <b>Localised solutions / Delivery, servicing and freight</b>	<b>Ongoing:</b> Euston Town BID continues to raise awareness of air pollution <a href="#">through its website<sup>51</sup></a> , promoting air quality improvement programmes and cargo bike deliveries.
104. Euston Town BID to signpost its members to	Ensure that businesses are signposted to deliverBest in Euston Town comms and on	Camden's Clean Air Action Plan 2019-2022 (CAAP) theme: <b>Public health and awareness raising</b>	<b>Ongoing:</b> Euston Town BID continues to promote DeliverBest on its air quality pages.

<sup>50</sup> <https://www.camden.gov.uk/documents/20142/0/Camden+WHO+Objectives+-+Technical+Report+Final.pdf/54257446-cb83-efca-d904-fcd14b3b3850>

<sup>51</sup> <https://www.eustontown.com/air-quality-hub>

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deliverBest which provides practical proven solutions that allow business deliveries to be more efficient and reduce impact on air quality	the BID's website, with additional supporting promotion on the Camden Climate Change Alliance website (and news bulletins)	LLAQM theme: <b>Localised solutions / Delivery, servicing and freight</b>	
105. John Lewis Partnership to encourage use of electrically-powered fridge units by showcasing their demonstration truck for other organisations	Achieve emission reductions by cutting pollution from HGV ancillary refrigeration engines	Camden's Clean Air Action Plan 2019-2022 (CAAP) theme: <b>Public health and awareness raising</b>  LLAQM theme: <b>Delivery, servicing and freight</b>	<b>Ongoing:</b> John Lewis Partnership continue to work with their fridge suppliers to fit alternator drives to power refrigerated units electrically via the vehicle engine
106. Lobby national Government to tighten smoke control regulations and ban the use of fireplaces and wood burners in areas well-served by cleaner heating sources	Push for greater regulatory control over the use of solid fuel-burning appliances in smoke control areas, for the purpose of reducing particulate emissions and the associated health burden imposed by PM <sub>2.5</sub>	Camden's Clean Air Action Plan 2019-2022 (CAAP) theme: <b>Lobbying</b>  LLAQM theme: <b>Localised solutions</b>	<b>Ongoing:</b> Tightening controls of smoke control regulations is a priority lobbying action for Camden. Officers have worked with the cabinet member of sustainability to develop a headline lobbying position addressing the need for stricter national regulation of the use of solid fuel burning appliances and the devolution of local or regional autonomy to set additional local restrictions as required.  Officers are members of a GLA organised woodburning working group, with representation from many London Local Authorities, which is looking at ways to impact regulations and supporting development of a GLA communications

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			campaign aimed at wood burning behaviour change.  Camden also applied to Defra Air Quality Grant funding for a pan-London project to raise awareness of the impacts upon health from exposure to particulate matter air pollution arising from domestic solid fuel burning. The project is also looking to undertake research into solid fuel burning to strengthen the evidence base needed for continued lobbying. A decision is expected in early 2022.
107. Support national Government's proposal to phase out diesel trains by 2040 and lobby to implement this measure sooner	Diesel rail is estimated to contribute approximately 7% of NOx emissions in Camden and without clear plans to electrify rail freight the air quality impact of rail will not decline as rapidly as other emission sources	Camden's Clean Air Action Plan 2019-2022 (CAAP) theme: <b>Lobbying</b>  LLAQM theme: <b>Cleaner transport</b>	<b>Ongoing:</b> Replacement of the UK's ageing diesel train fleet is a priority lobbying action for Camden. Officers have worked with the cabinet member for sustainability to engage rail and transport unions and other local authorities to develop a joint lobbying position. No further opportunities to lobby have occurred during 2021.
108. Lobby national Government to provide a robust vehicle scrappage scheme to accelerate the shift towards ultra-low emission vehicles and electric vehicles	Push for financial support to incentivise uptake of ULEVs and zero-tailpipe-emission vehicles by introducing a national scrappage scheme	Camden's Clean Air Action Plan 2019-2022 (CAAP) theme: <b>Lobbying</b>  LLAQM theme: <b>Cleaner transport</b>	<b>Ongoing:</b> No opportunities to progress this action were available during 2021.
109. Support the Mayor's ULEZ but keep	Lobby for ULEZ emission controls to apply across all of London to ensure clarity for	Camden's Clean Air Action Plan 2019-2022 (CAAP) theme: <b>Lobbying</b>	<b>Completed:</b> Camden supports the expansion of the ULEZ but encourages adoption of these emission controls across all of Greater London.

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lobbying for a London wide ULEZ	motorists and fleet operators, and to avoid the displacement of polluting vehicles from Central and Inner London to Outer London boroughs	LLAQM theme: <b>Cleaner transport</b>	Camden supported the communications of the expansion, which came into force in October 2021.
110. To work with other London authorities in lobbying large delivery companies such as Amazon to reduce their environmental impact	Collaborate with London authorities to push for voluntary improvements to delivery company vehicle fleets	Camden's Clean Air Action Plan 2019-2022 (CAAP) theme: <b>Lobbying</b>  LLAQM theme: <b>Delivery, servicing and freight</b>	<b>Ongoing:</b> Fleet operators were contacted through the Idling Action London project's Fleet Engagement Programme and offered resources to improve fleets.
111. Continue to support measures introduced by the Mayor of London and national Government to improve air quality	Work with existing and new legislation and policy positions to reduce emissions and protect health, whilst pushing for increased action at London-wide and national scale	Camden's Clean Air Action Plan 2019-2022 (CAAP) theme: <b>Lobbying</b>  LLAQM theme: <b>Localised solutions</b>	<b>Ongoing:</b> Camden <a href="#">continues to support</a> <sup>52</sup> strengthening air quality objectives and regulations to reduce emissions and protect health.
112. Lobby national Government to reduce the amount of biomass burning throughout the	Conversion of coal power stations to use biomass fuels represents a continued risk to air quality objectives, so this repurposing should be avoided	Camden's Clean Air Action Plan 2019-2022 (CAAP) theme: <b>Lobbying</b>  LLAQM theme: <b>Localised solutions</b>	<b>Ongoing:</b> Work has not yet commenced on this lobbying action.

<sup>52</sup> <https://news.camden.gov.uk/camden-councils-statement-on-the-ella-adoo-kissi-debrah-inquest/>

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UK, and avoid coal-to biomass power plant conversions for decommissioned coal power stations			
113. To continue to work with GLA and other London authorities to take a stricter stance on construction and building emissions	Ensure linked up working across London authorities and the GLA is maintained to ensure planning policies at London-wide and local scale are tightened with respect to construction and in-use (operational) emissions, with clearer mechanisms for enforcement and greater uniformity in standards throughout London	Camden's Clean Air Action Plan 2019-2022 (CAAP) theme: <b>Lobbying</b>  LLAQM theme: <b>Emissions from developments and buildings</b>	<p><b>Ongoing:</b> Camden participates in the LB Merton-led MAQF-funded NRMM project which entails dissemination of guidance on NRMM and active enforcement of NRMM conditions on major development sites. Camden will push for greater control at local authority level for planning policy and planning enforcement.</p> <p>Camden officers respond to consultations from national Government and GLA (for example the AQN and AQP consultations) which relate to development and planning controls and especially where these have implications for local air quality and public pollution exposure.</p> <p>Camden will continue to advocate for and apply stringent policy which facilitates sustainable development in a way which minimises the climate and air quality impacts of new development and refurbishments, during both the construction phase and the operational phase.</p>
114. Lobby national Government to put pressure on continental European countries to	Particulate matter is a transboundary pollutant and it is imperative that collective international effort is applied to improve air quality and	Camden's Clean Air Action Plan 2019-2022 (CAAP) theme: <b>Lobbying</b>  LLAQM theme: <b>Emissions from developments and buildings</b>	<p><b>Ongoing:</b> Officers have worked with the cabinet member of sustainability to develop a headline lobbying position addressing the stricter EU's air quality limits in alignment with the WHO guidelines on the basis that it will be advantageous for all governments to adopt the highest level of air quality</p>



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reduce the burning of coal, biomass and other fossil fuels	protect health throughout Europe		standards to protect public health nationally and internationally.
115. To provide a way for citizens and local businesses to join in support of the lobbying actions within this plan	Work directly with the local community and stakeholders to develop lobbying actions, and ensure that the public has visibility of the CAAP and ongoing work within the air quality programme, with potential for participation wherever possible to maintain the 'shared endeavour' spirit of the Action Plan	Camden's Clean Air Action Plan 2019-2022 (CAAP) theme: <b>Lobbying</b>  LLAQM theme: <b>Public health and awareness raising / Localised solutions</b>	<b>Ongoing:</b> As part of National Clean Air Day 2021, Camden wrote a <a href="#">joint commitment</a> <sup>53</sup> with UCLH , Royal Free and GOSH regarding work to improve air quality and health.
116. To take forward additional lobbying actions determined by the WHO study to drive national progress towards WHO compliance	Ensure that existing lobbying actions work towards WHO compliance, and use WHO guideline study and other sources of air quality modelling and data to identify further priority lobbying positions to work towards the overarching WHO guideline objective	Camden's Clean Air Action Plan 2019-2022 (CAAP) theme: <b>Lobbying</b>  LLAQM theme: <b>Localised solutions</b>	<b>Ongoing:</b> This is kept under continual review and Camden will lobby where needed to drive national progress towards compliance with the World Health Organization air quality standards.
117. Work with the canal boating community to reduce emissions from	Install mains electricity supplies at visitor mooring locations along the Regent's Canal to enable boaters to utilise clean electricity rather	Camden's Clean Air Action Plan 2019-2022 (CAAP) theme: <b>Supporting communities and schools</b>  LLAQM theme: <b>Localised solutions</b>	<b>Ongoing:</b> Camden <a href="#">received</a> <sup>54</sup> £65,500 through the GLA's Good Growth Fund programme for the installation of mains electricity supplies at the visitor mooring zone on the Regent's Canal between Camley Street and St. Pancras Way. This is a

<sup>53</sup> <https://news.camden.gov.uk/national-clean-air-day---a-statement-from-camden-and-borough-hospitals/>

<sup>54</sup> <https://news.camden.gov.uk/camden-electric-moorings-project-funding-awarded/>

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diesel engines while moored (NEW ACTION)	than relying on diesel engines for power.		collaborative project between Camden and the Canal & River Trust. Installation took place later than expected in Winter 2021 and was expected to be operational in early 2022.

### 3. Planning Update and Other New Sources of Emissions

**Table L. Planning requirements met by planning applications in Camden in 2021**

Condition	Number
Number of planning applications where an air quality impact assessment was reviewed for air quality impacts	60
Number of planning applications required to monitor for construction dust	27
Number of CHPs/Biomass boilers refused on air quality grounds	N/A – no applications were directly refused on this basis. Does not include proposals requested to remove CHP prior to decision following consultation, as per Camden practice
Number of CHPs/Biomass boilers subject to GLA emissions limits and/or other restrictions to reduce emissions	N/A – does not account for proposals requested to change CHP details to meet restrictions prior to planning decision following AQ consultation (as per typical Camden practice)
Number of developments required to install Ultra-Low NO <sub>x</sub> boilers	This is required through policy compliance 4.15 from Camden's Planning Guidance: Air Quality
Number of developments where an AQ Neutral building and/or transport assessments undertaken	25
Number of developments where the AQ Neutral building and/or transport assessments not meeting the benchmark and so required to include additional mitigation	2
Number of planning applications with S106 agreements including other requirements to improve air quality	Not current practice at Camden
Number of planning applications with CIL payments that include a contribution to improve air quality	Not current practice at Camden
<p><b>NRMM: Central Activity Zone and Canary Wharf</b></p> <p>Number of conditions related to NRMM included.</p> <p>Number of developments registered and compliant.</p> <p>Please include confirmation that you have checked that the development has been registered with the GLA through the relevant <a href="#">NRMM website</a> and that all NRMM used on-site is compliant with Stage IIIB of the Directive and/or exemptions to the policy.</p>	<p>10 sites inside the CAZ newly registered on <a href="http://www.nrmm.london">www.nrmm.london</a> in 2021.</p> <p>5 sites inside the CAZ area were audited during 2021 through the NRMM compliance project (Cleaner Construction for London). All sites were compliant after being audited.</p> <p>Camden's CMP pro forma contains a requirement for sites to ensure NRMM is compliant and registered.</p>

Condition	Number
	<p>Conditions relating to NRMM compliance are included in decision notices for many applications, however the total number of conditions for planning permissions granted in 2021 is not currently retrievable. Camden's Sustainability team is working with the Council's Planning service to ensure NRMM conditions are applied routinely, with up-to-date wording as provided by LB Merton's Cleaner Construction for London project coordinator.</p>
<p><b>NRMM: Greater London (excluding Central Activity Zone and Canary Wharf)</b></p> <p>Number of conditions related to NRMM included.</p> <p>Number of developments registered and compliant.</p> <p>Please include confirmation that you have checked that the development has been registered at <a href="http://www.nrmm.london">www.nrmm.london</a> and that all NRMM used on-site is compliant with Stage IIIA of the Directive and/or exemptions to the policy.</p>	<p>14 sites outside the CAZ newly registered on <a href="http://www.nrmm.london">www.nrmm.london</a> in 2021.</p> <p>7 sites outside the CAZ area were audited during 2021 through the NRMM compliance project (Cleaner Construction for London). 6 of these sites were found to be compliant following auditing and one site was non-compliant.</p> <p>Camden's CMP pro forma contains a requirement for sites to ensure NRMM is compliant and registered. Conditions relating to NRMM compliance are included in decision notices for many applications, however the total number of conditions for planning permissions granted in 2021 is not currently retrievable. Camden's Sustainability team is working with the Council's Planning service to ensure NRMM conditions are applied routinely, with up-to-date wording as provided by LB Merton's Cleaner Construction for London project coordinator.</p>

### **3.1 Camden Council's process for reviewing air quality through the planning system**

#### Pre-planning and planning application stage

Camden's Senior Sustainability Officers (Planning) are statutory consultees and review planning applications from an air quality, energy/carbon, and flood risk/LLFA perspective, and work closely with the Senior Air Quality Officer and the Planning service to ensure that all relevant planning applications are reviewed and conditions are applied and enforced. It is nevertheless viewed that there is continual opportunity for process improvement, both in terms of tightening controls and data collection, so that Camden can ensure future development is more sustainable and is undertaken in a way that offers greater protections to air quality, public health, and amenity.

During 2021, a new 'Air Quality (Planning) Officer' position in the Sustainability department at Camden was created to aid and improve the process of reviewing planning applications and Section 106 (S106) legal agreement performance. This role came into effect in October 2021 and will run for a minimum of two years.

#### Post-approval and ongoing compliance

Camden's air quality officers work closely with the Planning service (Planning Obligations and Planning Enforcement officers, in particular) as well as Environmental Health, Transport, Highways and Parking to ensure all applicable approved developments provide a Demolition Management Plan (DMP) and/or a Construction Management Plan (CMP). This is mandated through Section 106 Legal Agreements. CMPs and DMPs are aligned with a pro forma template which covers a number of issues including air quality and dust management during on-site activities for any new development or refurbishment.

Officers review and provide feedback on DMPs/CMPs and any unsatisfactory consideration of air quality and dust impacts on the part of the contractor or developer will lead to rejection and the need to submit a revised plan. The CMP/DMP covers the following air quality considerations:

- Preventative and reactive dust mitigation including prevention of resuspension of particulates from dust and debris tracked onto the public highway

- Real-time dust monitoring and reporting, based upon the dust risk classification from an Air Quality Dust Risk Assessment (AQDRA). Any medium or high-risk sites are required to use real-time MCERTS dust monitors and to produce monthly reports for Camden to review. In 2021, the Council has made it policy for all dust reports and data to be publicly accessible for all applicable sites.
- Adherence to the GLA dust mitigation checklist
- Adherence to NRMM conditions and registration of the site on the London NRMM Register
- Avoidance of vehicle engine idling

Through Camden's participation in the MAQF-funded NRMM compliance project led by LB Merton, all major construction sites in Camden are eligible for NRMM compliance audits. Camden's Air Quality Officers coordinate with LB Merton's Project Coordinator to ensure an up-to-date list of major sites is provided.

Where sites in Camden are found to be non-compliant in terms of NRMM standards, real-time dust (PM<sub>10</sub>) monitoring or reporting, or management of air quality impacts in general, the first step is to engage directly with the site to convey the importance of compliance and improved performance. Failing this, the case will be passed to Camden's Planning Enforcement team (through liaison with the Construction Management Forum comprising officers from various Council departments) for further action. This usually involves an enforcement case being opened and a formal warning being issued. Continued failure to meet conditions or comply with CMP or S106 requirements would lead to an injunction being sought, though this stage was not required for any site during 2021.

### **3.2 New or significantly changed industrial or other sources**

No new or significantly changed sources identified.

#### 4. Additional Activities to Improve Air Quality

Table M outlines the breakdown of Camden Council's fleet into five vehicle type categories. The number of electric vehicles within Camden's fleet has risen threefold (from eight) since the end of 2018, reflecting the impact of the 2019-2022 Camden Clean Air Action Plan. As of 1<sup>st</sup> April 2022, electric cars & vans make up seven percent of Camden's fleet with 24 vehicles, whilst hybrids account for three percent with 11 vehicles. More than 93% of Camden's diesel, petrol and CNG vehicles are ULEZ-compliant.

**Table M. London Borough of Camden vehicle fleet composition**

Fleet figures on 1 Apr 22	Fuel type					
	Electric	Hybrid	Diesel	Petrol	CNG (Biomethane)	Total
Car	9	10	0	0	0	19
Van	15	1	200	23	17	256
PSV	0	0	33	0	11	44
Specialist						
Cherry picker	0	0	0	0	2	2
Gully	0	0	1	0	0	1
Jetter	0	0	3	0	0	3
Tipper	0	0	2	0	0	2
Total	24	11	239	23	30	327
% Of fleet	7%	3%	73%	7%	9%	100%

#### **4.1 NRMM Enforcement Project**

London Borough of Camden will be supporting the NRMM Enforcement project for 2022-23.

#### **4.2 Air Quality Alerts**

Camden supports *air*TEXT and at the end of 2021 had 633 *air*TEXT subscribers. These consisted of 87 email subscribers, 494 SMS subscribers, 23 voicemail subscribers and 29 Twitter subscribers. There was an overall increase of 23 from the end of 2020. During 2021, there were 12 alert days in Camden and 5,187 alert messages were sent.



## **Appendix A      Details of Monitoring Site Quality QA/QC**

### **A.1      Automatic Monitoring Sites**

Routine calibrations are carried out on a fortnightly basis by Ricardo Energy and Environment. Operatives are trained to AURN standards.

The Swiss Cottage and Bloomsbury sites are part of the AURN and, as such, both are audited to the AURN standard. AURN sites are audited by providers selected by the Environment Agency, under its AURN contracts.

Non-AURN sites are audited by Ricardo Energy & Environment, who is UKAS accredited. Ricardo is also UKAS accredited for the recertification of onsite cylinders.

All sites are audited every six months, and comply with the validation procedures which conform to the requirements of the AURN and exceed the requirements of LLAQM TG(16). The data ratification procedures also exceed the requirements of TG(16).

#### PM<sub>10</sub> Monitoring Adjustment

PM<sub>10</sub> and PM<sub>2.5</sub> is measured with TEOM-FDMS analysers at all sites in Camden at which these pollutants are monitored, and since these instruments are certified to MCERTS reference equivalent standard the VCM is not required.

### **A.2      Diffusion Tubes**

Camden's diffusion tubes are supplied by Gradko International, with 50% TEA in acetone the chosen preparation method.

Gradko follows the procedures set out in the Practical Guidance, and Gradko diffusion tubes using the 50% TEA/acetone preparation method were rated as having 'good' precision from 14 collocation studies in 2021, according to the '2019-2021 Summary of Precision Results for Nitrogen Dioxide Diffusion Tube Collocation Studies, by Laboratory', published in April 2022 by Defra, which can be viewed here:

<https://laqm.defra.gov.uk/air-quality/air-quality-assessment/precision-and-accuracy/>

Gradko has scored highly in laboratory performance assessments for the AIR NO<sub>2</sub> Proficiency Testing Scheme (formerly WASP), and in the March 2021 summary from the LAQM Helpdesk (covering AIR PT rounds AR030-AR040, from January 2019 to

March 2021) was found to have had 25% of results determined to be 'satisfactory' in AIR PT rounds AR036 (January-March 2021). No results were reported for following AIR PT rounds. The 'Summary of Laboratory Performance in AIR NO<sub>2</sub> Proficiency Testing Scheme (January 2019 – March 2021)' report published by Defra can be viewed here:

[https://laqm.defra.gov.uk/documents/LAQM%20NO2%20Performance%20data\\_Upto%20March%202021\\_v2.pdf](https://laqm.defra.gov.uk/documents/LAQM%20NO2%20Performance%20data_Upto%20March%202021_v2.pdf)

We have used the national bias adjustment factor for Gradko International diffusion tubes prepared with the 50% TEA/acetone method (0.83) to adjust our raw diffusion tube annual mean concentrations for bias. This factor was published in the 'National Diffusion Tube Bias Adjustment Factor Spreadsheet, Version 03/22' in April 2022, which can be viewed here:

<https://laqm.defra.gov.uk/air-quality/air-quality-assessment/national-bias/>

Camden has compared the diffusion tube data at our colocation sites to reference equivalent NO<sub>2</sub> analysers, however due to data continuity issues the Council did not participate in the diffusion tube colocation study in 2021.

The only diffusion tube bias adjustment factor applied to the data presented in this report is the national bias adjustment factor for Gradko International diffusion tubes prepared with the 50% TEA/acetone method (from the Version 03/22 spreadsheet referenced above), which was 0.83.

Previous years' diffusion tube-measured annual mean NO<sub>2</sub> concentrations have been re-calculated where necessary with updated national bias adjustment factors as published by Defra (all for Gradko International diffusion tubes prepared with the 50% TEA/acetone method). Consequently, the diffusion tube annual mean values for 2020 and preceding years which has been presented in this Annual Status Report supersede the annual means presented in previous Annual Status Reports.

#### Factor from Local Co-location Studies

Camden did not participate in the colocation study in 2021 and the Council has experienced continued data continuity issues with the Euston Road triplicate colocation site.

#### Discussion of Choice of Factor to Use

Camden has historically tried to undertake diffusion tube colocation at the Swiss Cottage (CD1) and the Euston Road (CD9) automatic monitoring sites, however due to theft and/or tampering there has not yet been sufficient diffusion tube data capture to participate.

In the absence of local adjustment factors or other conditions suggesting that an alternative factor should be used, the National Bias Adjustment Factor for 2021 has been used.

**Table N. Bias Adjustment Factor**

<b>Year</b>	<b>Local or National</b>	<b>If Local, Version of National Spreadsheet</b>	<b>Adjustment Factor</b>
2021	National	04/21	0.83
2020	National	03/21	0.82
2019	National	09/20	0.89
2018	National	09/19	0.89
2017	National	09/18	0.96
2016	National	09/17	1.01
2015	National	09/16	0.96

### **A.3 Adjustments to the Ratified Monitoring Data**

#### **Short-Term to Long-term Data Adjustment**

Camden's diffusion tube collection during the first quarter of 2021 was severely impacted by staffing issues affecting the Council's ability to replace diffusion tubes between January and March 2021.

Diffusion tube data has been annualised where there were at least three but fewer than nine months of data. Camden's own annualisation spreadsheet was used for the adjustment, however the calculations were performed in accordance with the LLAQM TG methodology.

Table M shows the annualisation factors that were used to adjust the raw diffusion tube data based upon NO<sub>2</sub> concentrations measured at the BL0 (Bloomsbury) and WM5 (Covent Garden) urban background automatic monitoring sites, both of which achieved sufficient data capture for use in diffusion tube annualisation adjustment. Two other urban background automatic monitoring sites (Hillingdon & N. Kensington) have been used to annualise data for Camden's automatic monitoring data.

#### **Distance Adjustment**

No distance adjustment calculations were used on Camden's air quality monitoring data, in line with previous years' annual status reporting methodology. Distance adjustment calculations are not deemed necessary for the five monitoring locations which have recorded an NO<sub>2</sub> annual mean of higher than the legal limit of 40 µg/m<sup>3</sup> in 2021. These sites are heavily trafficked by pedestrians and so are viewed as representative of nearby receptors, including bus stops or pavement seating, and so members of the public are likely to have been exposed to similar pollutant concentrations to those measured at each site.

Despite not incorporating these calculations into Camden's ASR, Table O displays the distance adjusted results for these five sites.

**Table O. Distance Adjustment Calculations for Annual Mean NO<sub>2</sub> Exceeded Monitoring Locations**

Site Name/ID	Distance (m)		NO <sub>2</sub> Annual Mean Concentration (µg/m <sup>3</sup> )			Comment
	Monitoring Site to Kerb	Receptor to Kerb	Background	Monitored at Site	Predicted at Receptor	
CD1 Swiss Cottage	1.5	8.5	27.6	44	37.8	Predicted concentration at Receptor within 10% the AQS objective.
CD9 Euston Road	0.5	1.5	36.4	48	<b>45.7</b>	Predicted concentration at Receptor above AQS objective.
CA4A Euston Road (new)	0.5	1.5	36.4	57.1	<b>53.1</b>	Predicted concentration at Receptor above AQS objective.
CA27 Euston Road LAQN colocation	0.5	1.5	36.4	46.8	<b>44.8</b>	Predicted concentration at Receptor above AQS objective.
CA11 Tottenham Court Road	1	5	38.28	44.35	<b>42.4</b>	Predicted concentration at Receptor above AQS objective.

**Table P. Short-Term to Long-Term Monitoring Data Adjustment**

Site ID	Annualisation Factor BL0	Annualisation Factor WM5	Annualisation Factor Hillingdon	Annualisation Factor N. Kensington	Average Annualisation Factor	Raw Data Annual Mean ( $\mu\text{g m}^{-3}$ )	Annualised Annual Mean ( $\mu\text{g m}^{-3}$ )	Comments
CD010 Camden High Street	1.1	1.07	1.03	1.12	1.078	27.63	29.78	Automatic
CD1 Swiss Cottage (Finchley Road)	1.05	1.06	1.08	1.05	1.059	41.18	<b>43.61</b>	Automatic
CA4A Euston Road (new)	1.040566346	0.977317715	-	-	0.983673732	60.56	<b>57.14</b>	Diffusion Tube
CA27 Euston Road LAQN colocation	1.087369379	1.053177743	-	-	1.027917825	56.31	<b>46.78</b>	Diffusion Tube
CA16 Kentish Town Road	1.0229209	1.003114753	-	-	0.966993045	27.65	32.79	Diffusion Tube
CA7 Frognal Way	1.0229209	1.003114753	-	-	0.966993045	22.84	15.35	Diffusion Tube
CA17 47 Fitzjohn's Avenue	1.019834377	0.973971758	-	-	0.964075276	32.39	29.95	Diffusion Tube
CA20A Brill Place (new)	1.013523137	0.982374968	-	-	0.958109101	52.33	34.46	Diffusion Tube
CA10 Tavistock Gardens	1.022706801	0.991706579	-	-	0.966790651	60.82	22.32	Diffusion Tube
CA29 Endsleigh Gardens	1.084440231	1.056532597	-	-	1.025148827	41.64	34.53	Diffusion Tube
CA11 Tottenham Court Road	1.0850143	1.004842313	-	-	1.025691509	42.13	44.35	Diffusion Tube
CA21 Bloomsbury Street	1.050969105	1.005522492	-	-	0.993507723	53.08	33.16	Diffusion Tube
CA30 Dartmouth Park Hill	1.0229209	1.003114753	-	-	0.966993045	40.2	26.00	Diffusion Tube
CA31 Acland Burghley School (Burghley Road)	1.022706801	0.991706579	-	-	0.966790651	53.86	19.69	Diffusion Tube
CA32 Oakford Road	1.0229209	1.003114753	-	-	0.966993045	36.46	23.00	Diffusion Tube

CTLEN2 Harmood Street	1.086535677	1.061016699	-	-	1.073776188	38.86	20.75	Diffusion Tube
CTLEN7 Jamestown Road	1.062533049	1.016667328	-	-	1.039600188	30.25	25.92	Diffusion Tube
CTLEN9 Camden High Street (Camden News)	1.103412117	1.044270446	-	-	1.073841282	42.71	29.91	Diffusion Tube

## Appendix B Full Monthly Diffusion Tube Results for 2021

**Table Q. NO<sub>2</sub> Diffusion Tube Results**

Site ID	Valid data capture for monitoring period % <sup>(a)</sup>	Valid data capture 2021 % <sup>(b)</sup>	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual mean – raw data	Annual mean – bias adjusted
CA4A Euston Road (new)		41.66%					72.43		78.99		56.56	69.32	63.87		68.23	57.14
CA27 Euston Road LAQN colocation		66.66%				51.97	54.36	51.13	62.08	28.54	54.45	62.59	56.18		52.66	46.78
CA28 St. George's Gardens East		75%				21.99	19.39	11.81	17.82	6.49	21.2	27.32	33.2	29.92	21.02	17.44
CA7 Frogna Way		66.66%				16.43	17.55	11.8	15.55		20.22	24.19	22.14	18.13	18.25	15.15
CA10 Tavistock Gardens		66.66%				27.26	27.2	21.29		12.71	22.04	34.46	35.21	33.47	26.71	22.32
CA11 Tottenham Court Road		41.66%					51.68		51.45		49.77	59.49		43.31	51.14	44.35
CA15 Swiss Cottage		-				-	-	-	-	-	-	-	-	-	-	-
CA16 Kentish Town Road		66.66%				38.57	39.74	35.16	41.27		35.68	43.78	39.94	37.82	39	32.37
CA17 47 Fitzjohn's Avenue		66.66%				35.22	36.91		35.78	25.78	34.05	38.65	43.03	40.14	36.2	29.95
CA20A Brill Place (new)		58.33%				42.66		31.77	36.99		36.88	51.76	44.37	46.78	41.6	34.46
CA21 Bloomsbury Street		66.66%				34.66		32.69	46.41	11.8	39.58	42.82	47.66	55.23	38.86	33.16
CA23 Camden Road		75%				50.43	49.50	45.64	54.95	19.64	46.61	51.18	46.15	40.32	44.94	37.3
CA24 Chetwynd Road		75%				31.17	28.86	26.87	28.31	10.99	33.02	35.29	40.45	33.71	29.85	24.78
CA25A Emmanuel Primary School (new)		75%				40.18	40.8	32.59	30.38	24.01	33.59	39.75	45.29	35.68	35.81	29.72
CA26 Witanhurst Lane		75%				26.79	26.31	24.17	26.52	19.95	26.89	33.76	32.47	28	27.21	22.58
CA29 Endsleigh Gardens		58.33%				33.87	39.47	32.21	36.57		37.46	48.84		43.6	38.86	34.53
CA30 Dartmouth Park Hill		66.66%				33.77	23.66	28.42	30.95		31.73	34.23	32.26	32.37	30.92	26
CA31 Acland Burghley School (Burghley Road)		66.66%				27	22.73	16.68		11.45	20.69	28.32	32.65	28.93	23.56	19.69
CA32 Oakford Road		66.66%				24.65	32.55	18.46	19.75		24.69	32	32.69	34.02	27.35	23
CTLEN1 Haverstock School (Haverstock Hill)		75%				21.86	21.81	18.94	22.3	20.23	31.76	30.81	34.1	28.31	25.57	21.22
CTLEN2 Harmood Street		66.66%				20.38	23	18.78	19.46	17.86	26.63		32.07	28.04	23.28	20.75
CTLEN3 Hartland Road		75%				23.11	23.49	18.28	20.54	17.75	26.36	31.75	35.28	30.13	25.19	20.91
CTLEN4 Hawley Primary School (Hawley Road)		75%				28.73	18.86	28.76	29.43	25.41	39.52	41.28	43.32	38.59	32.66	27.1
CTLEN5 Kentish Town Road		75%				33.41	33.49	29.13	31.42	23.5	37.88	35.78	42.51	37.51	33.85	28.09
CTLEN6 Hawley Crescent		75%				27.47	26.77	23.4	26.35	26.98	38.8	41.66	36.07	34.71	31.36	26.03
CTLEN7 Jamestown Road		66.66%				24.89		42.99	24.23	21.95	28.17	34.31	35.96	27.86	30.05	25.92
CTLEN8 Camden High Street (Bridge)		75%				29.78	32.02	25.26	24.75	24.53	37.47	39.83	41.38	33.78	32.09	26.63
CTLEN9 Camden High Street (Camden News)		66.66%					32.04	26.74	27.52	26.22	36.06	41.42	43.82	34.69	33.56	29.91
CTLEN10 Camden High Street (American Candy)		75%				28.65	38.54	31.76	42.12	28.85	44.08	45.04	47.44	37.58	38.23	31.73
CTLEN11 Britannia Junction		75%				39.44	45.06	39.67	33.86	37.57	54.17	53.82	56.88	46.06	45.17	37.49
CTLEN12 Cavendish School (Arlington Road)		75%				23.82	26.21	21.91	24.15	20.87	33.17	34.49	36.3	28.3	27.69	22.98
CTLEN13 Holy Trinity & St. Silas School (Hartland Road)		75%				19.61	18.05	15.32	13.55	14.99	24.78	29.66	31.15	29.7	21.87	18.15



## Notes

Concentrations are presented as  $\mu\text{g m}^{-3}$ .

Exceedances of the NO<sub>2</sub> annual mean AQO of  $40 \mu\text{g m}^{-3}$  are shown in **bold**.

NO<sub>2</sub> annual means in excess of  $60 \mu\text{g m}^{-3}$ , indicating a potential exceedance of the NO<sub>2</sub> hourly mean AQS objective are shown in **bold and underlined**.

All means have been “annualised” in accordance with LLAQM Technical Guidance if valid data capture for the calendar year is less than 75% and greater than 25%.

(a) Data capture for the monitoring period, in cases where monitoring was only carried out for part of the year.

(b) data capture for the full calendar year (e.g. if monitoring was carried out for six months the maximum data capture for the full calendar year would be 50%).