Westminster City Council Air Quality Annual Status Report for 2019
Date of publication: July 2020

This report provides a detailed overview of air quality in the City of Westminster during 2019. It has been produced to meet the requirements of the London Local Air Quality Management statutory process[1].

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[1] LLAQM Policy and Technical Guidance 2019 (LLAQM.TG(19)). https://www.london.gov.uk/what-we-do/environment/pollution-and-air-quality/working-boroughs

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Abbreviations

AQAP	Air Quality Action Plan
AQMA	Air Quality Management Area
AQO	Air Quality Objective
BEB	Buildings Emission Benchmark
CAB	Cleaner Air Borough
CAZ	Central Activity Zone
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_{10}	Particulate matter less than 10 micron in diameter
$PM_{2.5}$	Particulate matter less than 2.5 micron in diameter
TEB	Transport Emissions Benchmark
TfL	Transport for London

Table A. Summary of National Air Quality Standards and Objectives

Pollutant	**Objective (UK)**	**Averaging Period**	**Date[1]**
Nitrogen dioxide - NO_2	200 μg m^{-3} not to be exceeded more than 18 times a year	1-hour mean	31 Dec 2005
	40 μg m^{-3}	Annual mean	31 Dec 2005
Particles - PM_{10}	50 μg m^{-3} not to be exceeded more than 35 times a year	24-hour mean	31 Dec 2004
	40 μg m^{-3}	Annual mean	31 Dec 2004
Particles - $PM_{2.5}$	25 μg m^{-3}	Annual mean	2020
	Target of 15% reduction in concentration at urban background locations	3 year mean	Between 2010 and 2020
Sulphur Dioxide (SO_2)	266 μg m^{-3} not to be exceeded more than 35 times a year	15 minute mean	31 Dec 2005
	350 μg m^{-3} not to be exceeded more than 24 times a year	1 hour mean	31 Dec 2004
	125 μg m^{-3} mot to be exceeded more than 3 times a year	24 hour mean	31 Dec 2004

Note: [1] by which to be achieved by and maintained thereafter

1. Air Quality Monitoring

1.1 Locations

Table B. Details of Automatic Monitoring Sites for 2019

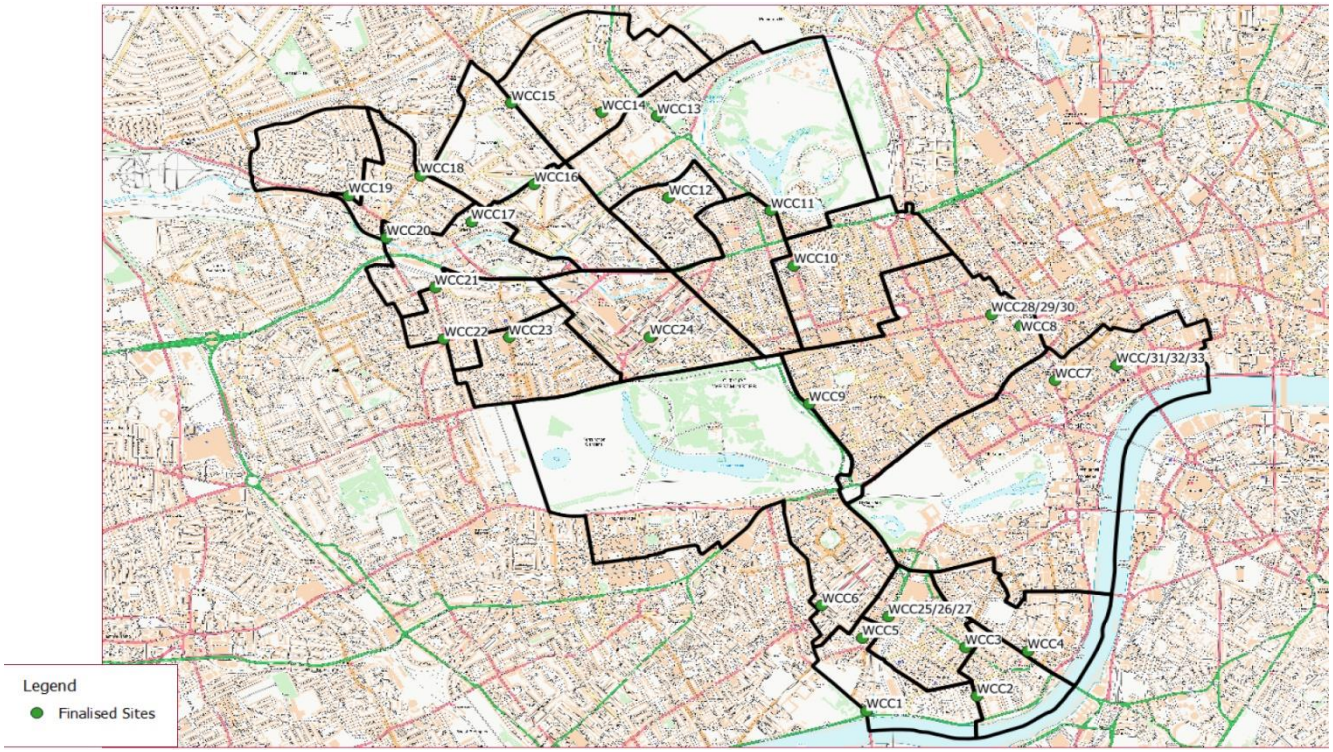
1.1 Locations - Table B. Details of Automatic Monitoring Sites for 2019

Site Name	X (m)	Y (m)	Site Type	In AQMA?	Distance from monitoring site to relevant exposure (m)	Distance to kerb of nearest road (N/A if not applicable) (m)	Inlet height (m)	Pollutants monitored	Monitoring technique
Marylebone Road	528125	182016	Kerbside	Y	44m	1.5m	2.5m	NOx; PM_{10}; $PM_{2.5}$; SO_2	Chemiluminescent, TEOM, FDMS
Horseferry Road	529802	178962	Urban Background	Y	21m	n/a	3m	NOx; $PM_{10;}$ $PM_{2.5;}$ Heavy Metals[1]	Chemiluminescent, FDMS, BAM, Partisol
Oxford Street (Selfridges)	528276	181065	Kerbside	Y	0m	1m	1.5m	NOx, PM_{10}	Chemiluminescent, BAM
Strand	530785	180911	Roadside	Y	0m	2.5m	1.8m	NOx	Chemiluminescent
Covent Garden	530444	180903	Urban Background	Y	0m	n/a	2m	NOx	Chemiluminescent
Cavendish Square	528763	181397	Roadside	Y	15m	5 m	1.7 m	NOx, PM_{10}	Chemiluminescent, BAM
Oxford Street East (94 Oxford Street)	529493	181331	Roadside	Y	0m	1.2 m	1.7 m	NOx, PM_{10}	Chemiluminescent, BAM
Buckingham Palace Road	528709	178773	Roadside	Y	50m	6m	1.5m	NOx	Chemiluminescent
Duke Street	528409	180965	Roadside	Y	2m	2m	2m	NOx	Chemiluminescent
Ebury Street	528350	178921	Roadside	Y	1.5m	1.5m	1m	NOx	Chemiluminescent

Table C. Details of Non-Automatic Monitoring Sites for 2019

Please find below a map of the proposed borough wide Nitrogen Dioxide diffusion tube programme. This was due to commence 1 April 2020 but unfortunately deployment was delayed as a result of the outbreak of Covid – 19. However, the research into the suitable locations was undertaken during 2019 and this programme will be implemented as soon as possible. The full report produced by Bureau Veritas is available upon request. There are 24 sites and 3 co – location sites in total.

Figure 1 – Map to show proposed locations of diffusion tubes.



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, the details of which are described in Appendix A.

Table D. Annual Mean NO_2 Ratified and Bias-adjusted Monitoring Results (μg m^{-3})

Site ID	Site type	Valid data capture for monitoring period % [a]	Valid data capture 2019 % [b]	Annual Mean Concentration (μg m^{-3})						
				2013 [c]	2014 [c]	2015 [c]	2016 [c]	2017 [c]	2018 [c]	2019 [c]
Marylebone Road	Kerbside	95	95	**85**	**94**	**88**	**87**	**84**	**85**	**63**
Horseferry Road	Urban background	77	77	**45**	**46**	39	37	36	31	34
Oxford Street	Kerbside	96	96	**135**	**143**	**135**	**87**	**72**	**63**	**55**
Strand	Roadside	98	98	n/a	n/a	**122**	**101**	**92**	**88**	**76**
Covent Garden	Urban background	84	84	n/a	n/a	n/a	n/a	37	39	39
Cavendish Square	Roadside	98	98	n/a	n/a	n/a	n/a	n/a	**64**[1]	**50**
Oxford Street East	Roadside	97	97	n/a	n/a	n/a	n/a	n/a	**76**[1]	**51**
Buckingham Palace Road	Roadside	99	99	n/a	n/a	n/a	n/a	n/a	**52**	**51**
Duke Street	Roadside	80	33	n/a	n/a	n/a	n/a	n/a	n/a	**41**[1]
Ebury Street	Roadside	97	97	n/a	n/a	n/a	n/a	n/a	n/a	35

Notes: Exceedance of the NO_2 annual mean AQO of 40 µg m^{-3} are shown in **bold**.
NO_2 annual means in excess of 60 µg m^{-3}, indicating a potential exceedance of the NO_2 hourly mean AQS objective are shown in bold and underlined.
[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%)
[c] Means should be "annualised" in accordance with LLAQM Technical Guidance, if valid data capture is less than 75%

[1] This data has been annualised and the calculation for 2019 can be found in appendix A. The calculations relating to previous year's data can be found in the appendices of the relevant reports.

7 year trend in the annual mean Nitrogen Dioxide concentrations

The 7 year trend in annual Nitrogen Dioxide concentrations shows a general improvement at the road side and kerb side sites. There has been a steady decrease in concentrations at the Oxford Street and Strand sites. Marylebone Road has shown little improvement in recent years but this year, a noticeable improvement is reported. The Horseferry Road background site has been in operation for the whole 7 year period and is therefore the most relevant to consider for background patterns and this also shows a gradual improvement in levels. An increase at Covent Garden was noted from its first year of operation, although it is noted that it has remained static for 2018/2019.

Table E. NO_2 Automatic Monitor Results: Comparison with 1-hour Mean Objective

Site ID	Site type	Valid data capture for monitoring period % [a]	Valid data capture 2019 % [b]	Number of Hourly Means > 200 µg m^{-3}						
				2013 [c]	2014 [c]	2015 [c]	2016 [c]	2017 [c]	2018 [c]	2019 [c]
Marylebone Road	Kerbside	94	94	**59**	**60**	**56**	**49**	**38**	**29**	0
Horseferry Road	Urban background	97	97	0	0	0	0	0	0	0
Oxford Street	Kerbside	96	96	**1502**	**1532**	**1391**	**168**	1	3	0
Strand	Roadside	98	98	n/a	n/a	**284**	**235**	**26**	**34**	**21**
Covent Garden	Urban background	84	84	n/a	n/a	n/a	n/a	0	0	0
Cavendish Square	Roadside	98	98	n/a	n/a	n/a	n/a	n/a	0	0
Oxford Street East	Roadside	97	97	n/a	n/a	n/a	n/a	n/a	11	5
Buckingham Palace Road	Roadside	99	99	n/a	n/a	n/a	n/a	n/a	1	0
Duke Street	Roadside	80	33	n/a	n/a	n/a	n/a	n/a	n/a	0
Ebury Street	Roadside	97	97	n/a	n/a	n/a	n/a	n/a	n/a	0

Notes: Exceedance of the NO_2 short term AQO of 200 µg m^{-3} over the permitted 18 days per year are shown in **bold**.
[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%)
[c] Means should be "annualised" in accordance with LLAQM Technical Guidance, if valid data capture is less than 75%

7 year trend with the 1 hour mean objective for Nitrogen Dioxide

The 7 year trend in short term Nitrogen Dioxide concentrations shows an improvement at the road side and kerb side sites, with a substantial improvement reported at Oxford Street. The background sites have not shown any exceedences, and this trend is maintained.

Table F. Annual Mean PM_{10} Automatic Monitoring Results (µg m^{-3})

Site ID	Valid data capture for monitoring period % [a]	Valid data capture 2019 % [b]	Annual Mean Concentration (µg m^{-3})								
			2011 [c]	2012[c]	2013 [c]	2014[c]	2015 [c]	2016 [c]	2017 [c]	2018[c]	2019[c]
Marylebone Road	78	78	**41**	38	33	31	30	29	27	26	24
Marylebone Road FDMS	96	96	38	31	29	26	24	26	24	24	22
Horseferry Road	85	85	19	18	n/a	19	17	17	17	17	17
Oxford Street	97	97	n/a	n/a	n/a	n/a	n/a	n/a	n/a	28[1]	27
Cavendish Square	97	97	n/a	n/a	n/a	n/a	n/a	n/a	n/a	28[1]	25
Oxford Street East	39	39	n/a	n/a	n/a	n/a	n/a	n/a	n/a	28[1]	24[1]

Notes: Exceedance of the PM_{10} annual mean AQO of 40 µg m^{-3} are shown in **bold**.

[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%)

[c] Means should be "annualised" in accordance with LLAQM Technical Guidance, if valid data capture is less than 75%

[1] This data has been annualised and the calculation for 2019 can be found in appendix A. The calculations relating to previous year's data can be found in the appendices of the relevant reports. A recurring fault with the nozzle at the Oxford Street East site during 2019 resulted in large amount of data being discarded at the ratification stage. This explains the low data capture at this location.

7 year trend in annual mean PM_{10} concentrations

The 7 year trend shows a minor reduction in the annual mean concentration at the Marylebone Road site and no change at the Horseferry Road urban background site. A minor reduction for the last year is shown at the sites within the Oxford Street District, comprising the Oxford Street, Oxford Street East and Cavendish Square sites.

Table G. PM_{10} Automatic Monitor Results: Comparison with 24-Hour Mean Objective

Site ID	Valid data capture for monitoring period % [a]	Valid data capture 2019 % [b]	Number of Daily Means > 50 µg m^{-3}								
			2011 [c]	2012[c]	2013 [c]	2014[c]	2015 [c]	2016 [c]	2017 [c]	2018[c]	2019[c]
Marylebone Road	98	98	**73**	**48**	29	22	13	15	12	5	11
Marylebone Road FDMS	96	96	**57**	23	21	14	10	14	8	7	10
Horseferry Road	85	85	8	10	n/a	8	3	6	6	1	7
Oxford Street	97	97	n/a	n/a	n/a	n/a	n/a	n/a	n/a	3	17
Cavendish Square	97	97	n/a	n/a	n/a	n/a	n/a	n/a	n/a	3	10
Oxford Street East	39	39	n/a	n/a	n/a	n/a	n/a	n/a	n/a	1	0

Notes: Exceedance of the PM_{10} short term AQO of 50 µg m^{-3} over the permitted 35 days per year or where the 90.4th percentile exceeds 50 µg m^{-3} are shown in **bold**.
Where the period of valid data is less than 85% of a full year, the 90.4th percentile is shown in brackets after the number of exceedances.
[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%)
[c] Means should be "annualised" in accordance with LLAQM Technical Guidance, if valid data capture is less than 75%

7 year trend for the 24 hour mean objective for PM_{10}

A general improvement in the levels was reported for the preceding 6 years, however a sharp increase is reported at all sites this year compared 2018. The reasons for this are being explored. This increase is particularly high at the Horseferry Road (urban background) and Oxford Street (kerbside) sites.

Table H. Annual Mean $PM_{2.5}$ Automatic Monitoring Results (µg m^{-3})

Site ID	Valid data capture for monitoring period % [a]	Valid data capture 2019 % [b]	Annual Mean Concentration (µg m^{-3})								
			2011 [c]	2012[c]	2013 [c]	2014[c]	2015 [c]	2016 [c]	2017 [c]	2018[c]	2019[c]
Marylebone Road FDMS	91	91	25	22	20	18	16	16	15	16	14
Horseferry Road	92	92	13	12	12	12	10	10	9	11[1]	12

Notes: Exceedance of the $PM_{2.5}$ annual mean AQO of 25 µg m^{-3} are shown in **bold**.

[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%)

[c] Means should be "annualised" in accordance with LLAQM Technical Guidance, if valid data capture is less than 75%

7 year trend in annual mean PM2.5 levels

The 7 year trend shows a general improvement in the annual mean concentration at both sites until 2018, at which point both sites reported an increase. A slight increase is reported this year at the urban background site at Horseferry Road and a slight decrease at Marylebone Road.

Table I. SO_2 Automatic Monitor Results: Comparison with Objectives

Site ID	Valid data capture for monitoring period % [a]	Valid data capture 2019 % [b]	Number of: [c]		
			15-minute means > 266 µg m^{-3}	1-hour mean > 350 µg m^{-3}	24-hour mean > 125 µg m^{-3}
Marylebone Road	98	98	1	0	0

Exceedances of the SO_2 AQOs are shown in **bold** (15-min mean = 35 allowed a year, 1-hour mean = 24 allowed a year, 24-hour mean = 3 allowed / year)

[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%)

[c] Means should be "annualised" in accordance with LLAQM Technical Guidance, if valid data capture is less than 75%

2. Action to Improve Air Quality

2.1 Air Quality Action Plan Progress

Table J provides a brief summary of Westminster City Council's progress against the Air Quality Action Plan, showing progress made this year.

Please note this is the final year of reporting for Westminster's current Air Quality Action Plan, and as a result many of the actions reported on in this table have been previously completed.

Next year's ASR will include an update on actions relating to Westminster's forthcoming 2019-24 Air Quality Action Plan.

Table J. Delivery of Air Quality Action Plan Measures

Measure	Action	Progress
TRAN 1	Work with TfL to investigate options for reducing through-traffic in specific parts of Westminster, such as Oxford Street and Marylebone Road, and to examine the options for reducing air pollution at hotspots.	Westminster's Major Schemes Programme has been developed in consultation with a wide range of stakeholders that include TfL, land owners, Business Improvement Districts (BIDs) and developers. In October 2018 the council published and consulted on its vision for the Oxford Street District, with over 2,100 responses received. 75% of residents responding supporting our Place Shaping principles. Improving air quality across the OSD area is a key priority for the council and air quality will be considered across all areas of the council's work in the District. The council remains committed to working with TfL and the Mayor of London where appropriate to improve the Oxford Street area.

		The Oxford Street District project has air quality as one of its key objectives, and the council has worked closely with stakeholders to produce a place specific air quality action plan for the scheme, which dovetails with the council's forthcoming Air Quality Action Plan 2019-24. Further details on the council's work in this area can be found on the Oxford Street District website: https://osd.london/ Other major schemes that will have air quality improvements include the Baker Street two-way which has been completed in liaison with TfL.
TRAN 2	Examine potential options and implement actions to minimise pedestrian exposure to high levels of pollution.	As per TRAN1. In addition, public realm projects such as that for Aldywch and the Strand are progressing, which include planned pedestrianisation to reduce pedestrian exposure to pollution. The Strand / Aldwych project has air quality as one of its key objectives, and the council has worked closely with stakeholders to produce a place specific air quality action plan for the scheme, which dovetails with the council's forthcoming Air Quality Action Plan 2019-24. Smaller scale projects which involve road closures to recue pedestrian exposure to pollution such as 'school streets' have been implemented, such as at St Mary's Bryanston Square Primary School.
TRAN 3	Support car clubs with particular emphasis on the inclusion of low emission vehicles in the fleet.	New contracts for car clubs are approaching the end of their first year and there have been no adverse clustering events from the flexible service to date. Zipcar membership volumes in the City are at 15,000 with significant increases seen since contract start. Approx 30% of the fleet is also EV.
TRAN 4	Continue to promote and provide infrastructure for electric and low emission vehicles.	Westminster's EV charging network is one of the largest in the country, and in 2019 the council produced a new EV Charging Infrastructure Strategy. Increasing our charging infrastructure is a priority set out in the council's overarching City for All strategy.

		There are currently 470 electric vehicle charge points including 295 lamp column chargers for residents, 6 rapid charge points for taxis, 125 7kW and 22kW publicly available fast chargers, as well as 44 charge points serving the car club. Sales of EVs and their corresponding new registrations to Westminster addresses and plug-in hybrid vehicles (PHEVs) have continued to grow in recent years and the Council has tried to complement this growth by expanding the number of charge points available to drivers. There are currently 2,626 active resident Eco permits, which is up 40% from the previous year. Westminster currently has more charge points than any other authority in the UK and has ambitious plans for the coming year to have 1,000 charge points on street.
TRAN 5	Continue to investigate ways in which freight consolidation can be developed and investigate and develop ways to reduce congestion from delivery vehicles.	Westminster manages freight consolidation in a number of ways, including through Delivery Service Plans as part of the Clean Air Better Business project (see COMM7); low emission fleet policies (see TRAN9 and TRAN10), through our planning policies, and through innovative projects and research including autonomous delivery vehicles. Westminster is a partner on the Defra funded Clean Air Villages 2 project, which will seek to investigate and pilot freight retiming and consolidation opportunities in the West End and Covent Garden areas related to the food and beverage industry.
TRAN 6	Support and undertake local communication campaigns to raise awareness of the benefits of fuel efficient and smoother driving and evaluate the possibility of supporting providers of fuel efficient driver training through communication to Westminster residents.	Fuel Efficient driver training was provided in 2018 and 2019 via the Cross River Partnership run project 'Cleaner Air Better Business'. Westminster's DontBeIdle campaign phase 2 has targeted businesses with large fleets in order to encourage them to implement driver efficiency training. National Express and Deliveroo are two major fleet operators who have signed up to work with the council on this project.
TRAN 7	Support schemes to encourage people to use other forms of sustainable travel such as walking and cycling.	In 2017 we introduced a diesel surcharge in F Zone (Marylebone, Fitzrovia & Hyde Park) as part of a package of measures to try and address the issue of poor air quality within the Low Emission Neighbourhood. The trial set a 50% surcharge on all diesel vehicles

		manufactured before 2015 using Pay to Park bays. The results of the trial has been the percentage of pre-2015 diesels paying to park has reduced by more than 16%. The diesel surcharge was rolled out across the city from September 2019 following a public consultation in late 2018 which saw strong support for the policy to be adopted across all parking zones in Westminster. Cycle Hangars: A total of 14 hangers were installed in 2019 on street with another 29 hangars at 27 proposed new sites (subject to traffic order consultation) to expand the network for 19/20 Financial Year. All hangers have an occupancy rate of 100%, with a further 373 residents having registered their interest which helps to determine new hanger locations. Key documents that shape our work in this area include: ActiveWestminster Strategy - https://active.westminster.gov.uk/about-us/strategy/ Westminster Walking Strategy - https://www.westminster.gov.uk/walking A number of other council policies encourage the uptake of walking and cycling: this includes our Code of Construction Practice and planning polices; Dr Bike and cycle to work hire schemes; the council provides free cycle training for all abilities; a Bike Loan Scheme; the Try Before You Bike scheme, and more. Dr Bike and CycleStation events included a new trial location in the north of the Borough at Maida Hill Market. Regular Dr. Bike sessions from Mon, Tues and Thurs have increased to all 5 days of the week until 19/20 year end – the following sites has increased activities: Wellington Arch Wellington Street Chelsea Bridge Vauxhall Bridge
TRAN 8	Support and promote the implementation of travel plans for schools and businesses.	As per last year's ASR, within the school travel plan and STARS framework Westminster schools have undertaken a wide variety of activities, including: Cycle training, Walking trips, child pedestrian training, Curriculum lessons, Travel training, Participating in TfL's Travel Party Scheme, Sponsored walks/runs, Promotion of school travel plans via school

		websites, parent evenings, reception desks and more, Car free days, Cleaner Air 4 Schools Project in 2012, The Big Pedal – Cycling competition held in March 2015 by Sustrans, Bike It Plus, Walk to School Week, SEN Travel training, theatre education programmes and local/national competitions. 20mph zones have been introduced at just under 40 WCC schools to improve road safety and reduce pollution, with this expected to be rolled out across the city pending a public consultation later this year. School play streets have also been introduced as well as School Streets as part of our Active Westminster strategy. In 2019 we undertook a consultation on a proposal to introduce on 20mph speed limits for all roads across Westminster (except for Transport for London's red routes, some of which will also become 20mph in the near future).
TRAN 9	Ensure the use of low emission vehicles within the Westminster City Council fleet and those of its contractors and regularly review Fleet Policy and fuel hierarchy to ensure best possible effects for air quality.	Westminster's 'Green Fleet' policy, most recently updated in 2008, sets a procurement fuel hierarchy prioritising zero emission vehicles and vehicle emissions standards requirement the latest euro standard vehicles be used. Green fleet policy was integrated into the Council Procurement code in 2016. A new green fleet policy is being drawn up and will be adopted and reported in next year's ASR.
TRAN 10	Compel contractors and associates to reduce air pollution and carbon emissions through tender and contract specification.	The Fleet Policy has been incorporated into the Procurement Policy. External Contractors provide, where relevant environmental data on vehicle used on contract and report on fuel use emissions. The lower emissions will score higher during tender evaluations. Examples of this include responsible procurement inclusions in the Everyone Active contract (resulting in carbon and pollution savings at WCC run leisure centres) and WCC's parking debt management contract, which includes green fleet commitments and air quality related volunteering commitments.
TRAN 11	Continue to commit to the provision of Safe and Fuel Efficient Driving (SAFED) training for fleet drivers and evaluate the possibility of: extending Safe and Fuel Efficient Driving (SAFED) training to	This action is complete: Safe and Fuel Efficient Driving Training (SAFED) has been rolled out for Council drivers.

	the City Council's contractors' fleet drivers.	
TRAN 12	Undertake a review of the options and resource and emissions implications of utilising 'no idling' legislation to help improve local air quality.	In 2017, Westminster commenced trialling PCN enforcement for unnecessary idling to hopefully provide a more efficient and effective process to the enforcement of vehicle idling. In all instances where the vehicle is attended, drivers of idling vehicles are asked to switch off their engines or move on, and only where they refuse, and then only after the Marshal has given the idling vehicle a full one minute's constant observation, is issuing a PCN considered. This change has now been made permanent across the city. Westminster has created and implemented a dedicated communications campaign to engaged the local community and embed no-idling behaviour change: #dontbeidle. This has been conducted using traditional media, social media and Air Marshall events; MPs and celebrity endorsement; and a dedicated #DontBeIdle website. The overall aim is to change behaviour by encouraging written commitment to the pledge from residents and core driver audiences. As of the end of January 2019 over 14000 sign ups had been achieved, exceeding the original target of 10000. #DontBeIdle has won national awards as a communications and behaviour change campaign. In 2019 we held 12 action days to engage the public in different areas around Westminster. Schools in Westminster have been issued with #DontBeIdle banner signage to help prevent idling outside the school gates. 200 new lampposts signs have been installed across Westminster calling on drivers to cut their engine. Westminster's DontBeIdle campaign phase 2 has targeted businesses with large fleets in order to encourage them to implement driver efficiency training. National Express and Deliveroo are two major fleet operators who have signed up to work with the council on this project. Westminster has also met with the Department for Transport to discuss changes to national legislation to make it easier for local authorities to tackle unnecessary engine idling.
TRAN 13	Communicate the 'no idling' message to parked coach drivers on Westminster's	Majority of work in this area is outlined under TRAN12. The #dontbeidle campaign has moved towards targeting fleet and coach operators in the city.

	streets by installing signs in coach parking bays on borough managed roads.	
TRAN 14	Work with the Mayor to develop procedures to press the operator companies of vehicles found with idling engines to take enforcement action on the drivers of those vehicles.	Majority of work in this area is outlined under TRAN12. The #dontbeidle campaign has moved towards targeting fleet and coach operators in the city.
TRAN 15	Improve public communications on air quality and no-idling messages by including information on the impacts of idling on the Council website and in Council publications.	Incorporated in the borough-wide idling enforcement detailed in TRAN12 and COMM 4
TRAN 16	Write to the Minister for Transport with responsibility for rail services and to local MP's setting out the air quality and other benefits that would be achieved by the earliest possible electrification of rail services from Marylebone seeking information on the likely timescales for this.	Action complete: no further action required.
TRAN 17	Maintain dialogue with TOC's to review opportunities for improvements in reducing emissions.	This is an ongoing process, including liaising with Business Improvement Districts who host train terminals.
TRAN 18	Communicate with government Ministers to make the case for stronger control of the environmental effects of rail services through existing mechanisms.	Action complete: no further action required.
TRAN 19	Raise with TfL and the GLA the importance of appropriate environmental impact assessments	Action complete: no further action required.

	within consultation exercises when changes in rail services are proposed (e.g. High Speed Rail 2), and to consult the City Council respectively.	
DEV 1	Require developers to undertake an Air Quality Assessment (AQA) where a development may adversely affect local air quality and require developers to submit an air pollution abatement and mitigation plan where an air quality assessment shows that a new development is likely to have an adverse impact on air quality, or expose new air quality sensitive receptors to poor air quality.	Westminster planning policy is in accordance with the London Plan and states 'The council will require a reduction of air pollution, with the aim of meeting the objectives for pollutants set out in the national strategy. Developments will minimise emissions of air pollution from both static and traffic-generated sources.' As part of this, WCC requires developers to undertake an Air Quality Assessment (AQA) where a development may have negative air quality impacts, either on the local environs or by bringing new receptors into an area of poor air quality. Where the AQA shows that a new development is likely to have an adverse impact on air quality or sensitive receptors the developer will submit an air pollution abatement and mitigation plan. Planning permission will be refused unless adequate mitigation measures are adopted to reduce the air quality impact or exposure to acceptable levels. All comments in this section related to DEV actions should be viewed in light of the city's ongoing work in developing its new local plan. The City Plan 2019-40 will be adopted in 2020. Updates on Westminster's local plan, supplementary planning documents, and the first neighbourhood plans to be examined and adopted in the city will be included in next year's ASR. The Knightsbridge Neighbourhood Plan has been adopted, and plans for Soho, Fitzrovia West and Mayfair are at various stages of examination.
DEV 2	Strengthen and further develop air quality policy in the emerging local planning documents in order to develop transparent air quality assessment methodology for planning applications	WCC's draft local plan, which has been developed throughout this ASR year, includes new policies to manage and mitigate air, noise and light pollution, as well as construction impacts, construction waste and contaminated land. The local plan will be adopted later this year and it is expected that full details on new policies will be included in next year's ASR.

	and support planning officers in the assessment of those applications.	Westminster has also received Defra funding to undertake training for enforcement officers to support the council's work and statutory duties under the Clean Air Act. This has been undertaken in 2019.
DEV 3	Include air quality requirements in Sustainable Design SPD to help reduce unwanted emissions from boilers through improved building efficiency, boiler efficiency, using renewable energy and supplying energy efficiently.	The SPD is on hold in lieu of our ongoing local plan development. No further action required at this point. It is expected that the SPD will be complete and reported on in next year's ASR.
DEV 4	Protect decentralised energy networks in order to provide efficient energy production and to minimise emissions from combustion.	Westminster planning policy states 'Infrastructure that is or has previously been in use as part of a district heat network will be protected. Major developments should be designed to link to and extend existing heat and energy networks in the vicinity.' As part of our emerging local plan, which will cover the next 15-20 years, the Council is developing new policies on (decentralised) energy. In 2017, Church Street District Heating Scheme was awarded seed funding from Government's Heat Networks Investment Project for the development of its CHP networks throughout this major regeneration site.
DEV 5	Adopt policy which ensures biofuel combustion does not negatively impact on local air quality.	No known biomass development exists in Westminster.
DEV 6	Prioritise low polluting transport options in development.	Council planning policy exists for promoting the use of: car clubs, electric and alternative fuel vehicles, cycling, and cycling infrastructure.
DEV 7	Require major site developers to comply with the Westminster Code of Construction Practice and the GLA's 'The Control of Dust and Emissions from Construction and Demolition: Best Practice Guidance' to all development sites.	Since an adoption in 2016, Westminster's Code of Construction Practice applies to all major developments as well as all basement excavations. This requires sites to engage with residents, submit information, and adhere to the best practice contained in the CoCP in order to minimise the environmental impacts of construction projects within Westminster. The new CoCP requires developments to comply with the GLA's 'The Control of Dust and Emissions from Construction and Demolition: Best Practice Guidance' and aims to provides important background information on managing construction, and sets out our requirements for: General site operations; Liaison with the public; Employment and skills; Traffic and transport (including cycle safety); Noise and vibration; Dust and air pollution; Waste management; Water pollution and flood risk; Urban ecology; Heritage

		assets; Protection of existing installations. The Code has been applied since the beginning of September 2016, with a dedicated team of CoCP staff having been recruited, funded by the new fees as part of the Code. It is expected that the council's CoCP will be updated this year with a full update to be made in next year's ASR.
COMM 1	Publish high quality air quality information via the Westminster City Council website, and investigate new methods of informing and communicating with the public, especially vulnerable groups.	Westminster continues to publish high quality air quality information via the Westminster City Council website. This includes specific information for schools (including teachers and parents) and for those more vulnerable to pollution. WCC continues to support and promote airTEXT to residents. Schools, care homes and GP surgeries in the city also receive pollution alerts from King's College London on behalf of the GLA.
COMM 2	Monitor air pollution across the City and periodically review the air quality monitoring network.	Air quality in 2019 was monitored at 10 sites across Westminster: full details of monitoring undertaken can be found earlier in this ASR. As per feedback from the 2019 ASR, Westminster will be rolling out a new diffusion tube monitoring network in 2020 which will be reported on in future ASRs.
COMM 3	Monitor $PM_{2.5}$ air pollution across the City and periodically review our air quality monitoring network.	Per COMM 2 above.
COMM 4	Undertake communication campaigns to raise awareness of air pollution health impacts and minimise exposure to pollution, where possible linking with other complementary initiatives.	As outlined in TRAN12, Westminster has created and implemented a dedicated communications campaign to engaged the local community and embed no-idling behaviour change. This has been conducted using traditional media, social media and Air Marshall events; MPs and celebrity endorsement; and a dedicated #DontBeIdle website. The overall aim is to change behaviour by encouraging written commitment to the pledge from residents and core driver audiences.
COMM 5	Foster links with Clinical Commissioning Groups (CCGs) and Health Department to aid public communication and understanding of how air pollution affects heath.	Westminster has worked with the city's Public Health unit to help the creation of an Air Quality and Public Health factsheet, designed to aid council officers and Public Health officers in understanding the impacts and of air pollution on health and the links between policy and pollution levels.

COMM 6	Continue to support and raise awareness about the AirTEXT air quality information service.	Westminster continues to support airTEXT and promotes its service via our website and through other publications.
COMM 7	Undertake business engagement to raise awareness of air quality and encourage reduction in emissions associated to business transport and buildings.	Westminster is a partner in Cross River Partnership's Clean Air Better Business programme supports Business Improvement Districts (BIDs) to increase awareness of air quality issues amongst their member businesses and facilitate business-led action to improve air quality. The Clean Air Better Business programme is funded by business improvement districts, boroughs including Westminster City Council and the Mayor's Air Quality Fund. Westminster is also a partner on the Defra funded Clean Air Villages 2 project.
COMM 8	Raise awareness of air quality within Westminster schools to increase understanding of issues, encourage more sustainable travel modes and minimise exposure.	We work closely with Westminster schools to encourage more sustainable travel modes and minimise exposure. As outlined in last year's ASR, some of the initiatives/actions that have been completed are as follows: Cycle training, Walking trips, Curriculum lessons, Travel training, Participating in TfL's Travel Party Scheme, Sponsored walks/runs, Promotion of school travel plans via school websites, parent evenings, reception desks and more, Car free days, Cleaner Air 4 Schools Project in 2012, anti-idling campaigns, parking engagement visits and presentations, school coach consultations, The Big Pedal – Cycling competition held in March by Sustrans, Bike It Plus, Walk to School Week, SEN Travel training, theatre education programmes and local/national competitions. Four Westminster schools have been provided with audits by the Mayor of London's Schools AQ audit programme, and the council is match funding all interventions made at these schools as a result of the project. The council has also funded interventions such as green screening at St Edwards primary school Marylebone and a school street at St Mary's Bryanston Square primary school. The council has also announced a £1m Schools' Clean Air Fund, which will be available to all primary schools in the city. To help them access the fund *all schools* in Westminster will receive air quality audits funded through around £400,000 s106 funding. During the ASR reporting year an additional 17 audits have taken place.

		Westminster is now establishing with its Planning teams how to ensure changes to school buildings can be made quickly and effectively – this will be included in next year's ASR.
NEW 1	Deliver successful Low Emission Neighbourhood projects	In 2018 Westminster completed its £1m match funded Marylebone Low Emission Neighbourhood. Council match funding exceeded the £1m grant funding provide from TfL in order to support some of the urban realm projects undertaken in the LEN. Projects utilised in the LEN are expounded on throughout this action plan update (e.g. TRAN7, TRAN12 and COMM8); additional measures include parklets, urban realm improvements, and air quality for business audits. The Marylebone LEN provided Westminster a testing ground for a variety of policies and projects which have or will be take up across the city. These include: the diesel parking surcharge, school streets, anti-idling signage, and SUDS planting incorporated into urban realm / streetscape improvement schemes. Westminster also supported the Northbank Business Improvement District in its Business LEN. Westminster is the only London borough to have received GLA funding for two LEN projects.
NEW 2	Discourage the use of polluting diesel vehicles throughout the city.	A standard Resident parking permit parking in Westminster currently costs £145 per annum. To encourage adoption of lower emission vehicles amongst Residents we offer a discount to vehicles under 1200cc where permits cost £103 per annum, and eco vehicles who receive free permits. We also have a car club giving options to residents wanting to give up car ownership who may still need the occasional use of a car. In 2017 we introduced a diesel surcharge in F Zone (Marylebone, Fitzrovia & Hyde Park) as part of a package of measures to try and address the issue of poor air quality within the Low Emission Neighbourhood. The trial set a 50% surcharge on all diesel vehicles manufactured before 2015 using Pay to Park bays. The results of the trial to date have seen a reduction of over 10% in the number of vehicles paying to park in F zone versus last year, and the percentage of pre-2015 diesels paying to park has reduced by more than 16%.

		The diesel surcharge was rolled out across the city from September 2019 following a public consultation in late 2018 which saw strong support for the policy to be adopted across all parking zones in Westminster. During the ASR reporting year a Parking Occupancy Survey was produced and this has influenced a number of new policies that will be reported on in next year's ASR.
NEW 3	Implementation of City wide diffusion tube monitoring programme for Nitrogen Dioxide.	Following feedback from the GLA and Defra after 2018's ASR, funding has been secured for this programme. A contractor has been appointed to develop the first phase of the project and this has now commenced. Final recommendations are due in July 2019 and the first results will be included in next year's ASR.

3. Planning Update and Other New Sources of Emissions

Table K

Planning requirements met by planning applications in City of Westminster in 2019

Condition	Number
Number of planning applications where an air quality impact assessment was reviewed for air quality impacts	48
Number of planning applications required to monitor for construction dust	135
Number of CHPs/Biomass boilers refused on air quality grounds	0
Number of CHPs/Biomass boilers subject to GLA emissions limits and/or other restrictions to reduce emissions	4
Number of developments required to install Ultra-Low NO_x boilers	All applications were a boiler is proposed are checked to ensure that Ultra-Low NO_x boilers are proposed and we require this of the applicant where necessary; however we don't have a means of recording the total number where this review takes place.
Number of developments where an AQ Neutral building and/or transport assessments undertaken	48
Number of developments where the AQ Neutral building and/or transport assessments not meeting the benchmark and so required to include additional mitigation	1 (Off setting payment was required)
Number of planning applications with S106 agreements including other requirements to improve air quality	Financial contributions were received from 62 applications to fund the environmental inspectorate to monitor the impacts of construction which includes air quality/dust impact monitoring. Contributions were received from 1 site for air quality monitoring.

Number of planning applications with CIL payments that include a contribution to improve air quality	0
NRMM: Central Activity Zone and Canary Wharf Number of conditions related to NRMM included. Number of developments registered and compliant. Please include confirmation that you have checked that the development has been registered at www.nrmm.london and that all NRMM used on-site is compliant with Stage IIIB of the Directive and/or exemptions to the policy.	Conditions attached to 53 decision notices. 16 Registered and compliant sites 2 Registered but non compliant sites 3 Unregistered and non compliant sites. 8 visits to sites which were inactive or project completed. Figures reported are from 1 April 2019 – 31 December 2019 because 1 Jan – 31 March 2019 figures were reported in last year's ASR figures.
NRMM: Greater London (excluding Central Activity Zone and Canary Wharf) Number of conditions related to NRMM included. Number of developments registered and compliant. Please include confirmation that you have checked that the development has been registered at www.nrmm.london and that all NRMM used on-site is compliant with Stage IIIA of the Directive and/or exemptions to the policy.	Conditions attached to 82 decision notices. 11 Registered and compliant sites 2 Registered but non-compliant sites 2 Unregistered and non compliant sites 3 visits to sites which were inactive or the project completed. Figures reported are from 1 April 2019 – 31 December 2019 because 1 Jan – 31 March 2019 figures were reported in last year's ASR figures.

Information about air quality assessments and the planning process

On receipt of a planning application, the planning case officer decides if input from environmental health is required, generally, environmental health are consulted on all major and mixed use developments and applications for CHP. The environmental health team use a standard checklist for major and mixed use developments which includes a prompt on air quality assessments and a link to the relevant guidance for consideration. Where an application is accompanied by an air quality assessment, this is assessed and appropriate comments and where necessary conditions are recommended. In cases where an air quality assessment is not provided and it is considered there should be, the applicant is requested to provide one.

Any non-compliance with planning conditions is enforced by the planning enforcement team through the usual process in line with the Council's enforcement policy. This would normally be in response to a complaint.

The Council adopted a Code of Construction Practice on the 1st September 2016 which includes a requirement for all sites to which the Code applies to comply with NRMM requirements. An NRMM audit programme is in place during which sites are visited by officers to assess compliance with requirements.

3.1 New or significantly changed industrial or other sources

The City Council were consulted in 2019 by the Environment Agency on an application for an environmental permit at Imperial College, Exhibition Road, SW7 2AZ. The application is for CHP, stand by generators and boilers. Part of the site falls within the City of Westminster and part of the site falls within Kensington and Chelsea.

Appendix A Details of Monitoring Site QA/QC

A.1 Automatic Monitoring Sites

Site	Calibration (WCC unless otherwise noted)
Marylebone Road (AURN)	ERG arrangements
Horseferry Road (AURN)	NOx calibration every 4 weeks BAM tape change every 8 weeks
Oxford Street	NOx calibration every 4 weeks BAM tape change every 8 weeks
Oxford Street East	NOx calibration every 4 weeks BAM tape change every 8 weeks
Buckingham Palace Road	NOx calibration every 4 weeks
Covent Garden	NOx calibration every 4 weeks
Cavendish Square	NOx calibration every 4 weeks BAM tape change every 8 weeks
Strand (Managed by Northbank BID)	Own arrangements
Duke Street (Managed by Grosvenor)	Own arrangements
Ebury Street (Managed by Grosvenor)	Own arrangements

Horseferry Road and Marylebone Road monitoring sites are AURN sites and therefore have AURN QA/QC procedures. For all other sites monitoring data is collected, validated and ratified by ERG. QA/QC procedures are similar to those of the AURN network.

PM_{10} Monitoring Adjustment

TEOM data has been adjusted using the volatile correction method (VCM).

BAM PM_{10} – adjusted with a reciprocal of slope of 1.2.

Smart Heated BAM PM_{10} – adjusted with a reciprocal of slope of 1.035.

Smart Heated BAM $PM_{2.5}$ – no adjustment required.

A.2 Diffusion Tube Quality Assurance / Quality Control

As we do not currently have a borough wide diffusion tube programme in place, I have not provided information on this question.

A.3 Adjustments to the Ratified Monitoring Data

Short-term to Long-term Data Adjustment

Nitrogen Dioxide

The monitoring site at Duke Street began operation on 22 August 2019 and its annual data capture was 33%. Therefore the mean has been annualised using the methodology outlined in LLAQM.TG(16) before being compared to annual mean objectives.

Table L. Short-Term to Long-Term Monitoring Data Adjustment for Duke Street

Site	Site Type	Annual Mean (µg/m³)	Period Mean (µg/m³)	Ratio
Horseferry Road	Urban Background	34	35.2	0.96
Bloomsbury	Urban Background	32	32	1
Sir John Cass	Urban Background	27	31.1	0.86
Streatham Green	Urban Background	32	32.3	0.99
			Average	0.95

Calculation = Measured mean of 43 x 0.95 = 40.8

Particulate Matter (PM_{10})

The monitoring site at Oxford Street East experienced intermittent problems with a faulty nozzle throughout 2019 and this was finally repaired on the 1st October 2019, leading to an annual data capture of 39%. Data is available for the time period 1/1/2019 – 12/2/2019 and 1/10/2019 – 31/12/2019. Therefore, the data has been annualised, using the average period mean between these 2 time periods. The mean has been annualised using the methodology outlined in LLAQM.TG(16) before being compared to annual mean objectives.

Table M. Short-Term to Long-Term Monitoring Data Adjustment for Oxford Street East

Site	Site Type	Annual Mean (µg/m³)	Period Mean (µg/m³) 1/1/2019 – 12/2/2019	Period Mean (µg/m³) 1/10/2019 – 31/12/2019	Average period mean (µg/m³)	Ratio Annual mean/average period mean
Horseferry Road	Urban Background	16.8	16.2	14.1	15.5	1.08
Bloomsbury	Urban Background	17.6	16.3	15	15.65	1.12
Sir John Cass	Urban Background	18.7	18	17	17.5	1.07
Streatham Green	Urban Background	18.7	19.7	17.2	18.45	1.10
			Average			1.09

Calculation = Measured mean of 22 x 1.09 = 23.98