Air Quality
Action Plan
2022–2027

THE ROYAL BOROUGH OF
KENSINGTON
AND CHELSEA

Foreword

Making Kensington and Chelsea a great place to live starts with our environment. We recognise how important it is for everyone, for our health, our quality of life and our wellbeing.

We are proud to say that over the last 5 years RBKC has already cut carbon emissions faster than any other borough in London, but we know there is more work to do.

In 2021, the Council's Green Plan was published, setting out our ambitions to make our borough green, safe and clean. This includes responding to climate change, working towards making Kensington and Chelsea carbon neutral by 2040 with Council internal operations becoming carbon neutral by 2030. It includes clear plans for improving air quality, protecting wildlife and enhancing biodiversity, tackling fuel poverty, and minimising waste.

This Air Quality Action Plan, alongside our Biodiversity and Climate Emergency action plans, sets out how we will get there, with actions that will support shared targets.

Huge improvements in air quality have been achieved across Kensington and Chelsea since 2015; nitrogen dioxide remains an issue along the borough's busier roads, and particulate matter from a multitude of domestic, commercial and transport related sources continues to affect wider areas.

Consequently, reducing emissions of these pollutants as well as our exposure to poor air quality remains a great challenge locally, as indeed it is across London, nationally, and internationally.

The impacts of air pollution on our health and wellbeing, assets and environment are becoming more widely known and understood. We believe this plan will help us be at the vanguard of London in improving the quality of the air we breathe.

Through the actions set out in this document, we will enhance our natural environment, safeguard our resources, empower our communities, and assure the health, wellbeing, and ongoing quality of life for future generations.

We know we cannot do this alone. We will work with community groups, residents, institutions, young people, schools, universities, and businesses. We will back our borough by seeking funding and legislative support from government, working with colleagues across local government to get the support councils need to safeguard our local environments.

I am committed to delivering this action plan and look forward to working with you as we strive to deliver improvements for biodiversity over the coming years.

Cllr Cem Kemahli
Lead Member for Planning, Place and Environment

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Executive summary

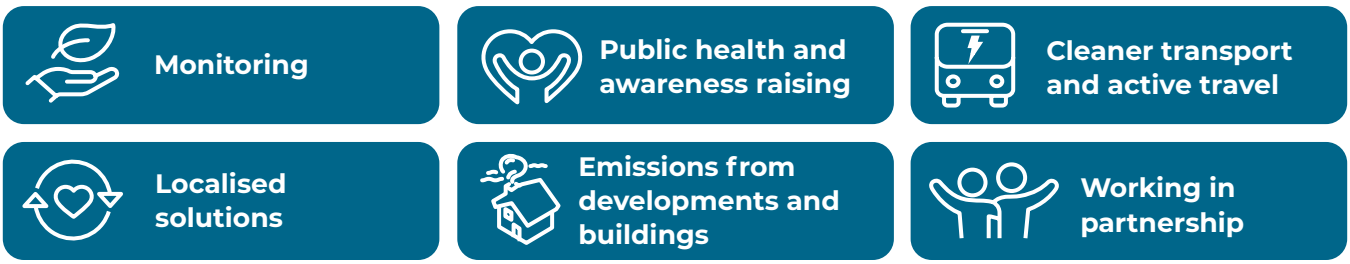
People who live in, work in, or visit the Royal Borough may be exposed to levels of air pollution that are considered damaging to their health. In 2000, the whole borough was designated an Air Quality Management Area. At that time, the two main air pollutants of concern were nitrogen dioxide (NO_2) and particulate matter (PM_{10}). The finer fraction of particulate matter, $PM_{2.5}$, is now of greater concern, as it can penetrate our lungs and enter our blood stream. Exposure to $PM_{2.5}$ has health impacts even at very low concentrations – no threshold has been identified below which no damage to health is observed.

In 2019, the Council committed to work to achieve the 2005 World Health Organisation (WHO) air quality guideline values by 2030 and 'improving air quality' is one of five environmental priorities of the Council's Green Plan.

The Council's previous five-year combined Air Quality and Climate Change Action Plan ended in 2021. A new Air Quality Action Plan (AQAP) has now been produced in recognition of the legal requirement on Kensington and Chelsea Council to work towards meeting the National Air Quality Objectives (NAQO) under Part IV of the Environment Act 1995 and to meet the requirements of the London Local Air Quality Management process.

As a local authority, we have a responsibility to our residents, neighbours, and future generations to take action and the Council will continue to develop policies that find synergies to address air quality, climate change, biodiversity and tackle health inequalities.

This Air Quality Action Plan has a new vision, with aims and objectives to support this. It includes information about the key sources of pollution and how we intend to tackle these over the next five years (2022–2027). The plan contains over 70 actions around the following six themes:



With these combined actions, we will monitor and improve air quality in Kensington and Chelsea by reducing concentrations and exposure to nitrogen dioxide and particulate matter.

1. Our vision, aims and objectives

Our vision

This is simple: we want the air within Kensington and Chelsea to be healthy for all to breathe. This means concentrations of nitrogen dioxide and particulate matter (PM_{10} and $PM_{2.5}$) that meet the National Air Quality Objectives (NAQOs) and World Health Organisation guideline values.

Our aim

In October 2019, we committed to work towards the 2005 WHO Air Quality Guideline Values. It is our aim to achieve these for nitrogen dioxide and particulate matter (PM_{10} and $PM_{2.5}$), borough-wide, by 2030. We are also mindful that the WHO has, in September 2021, produced new, more stringent, air quality guideline values and we must consider how we strive to achieve these.

Our objectives

- To work with our whole community for a healthy, clean and sustainable borough, as set out in our Council Plan 2019–2023.
- To narrow the gap to reduce health inequalities in areas affected by poor air quality and deprivation.
- To improve awareness and understanding of the impact of poor ambient and indoor air quality on health and how exposure can be reduced while at home or about in the borough.
- To reduce emissions from existing buildings (including schools and hospitals) as well as those from demolition, construction, and the operation of developments new and old to reduce air pollution.
- To encourage and enable active travel, such as walking and cycling, in place of private car usage.
- To target pollution sources that the Council has control over, while lobbying and working with other partners to reduce sources that we do not have control over both within and outside the borough, including the government, GLA, TfL, NHS, and other key stakeholders, to ensure a joined-up approach.

Our themes

The actions within our new plan fall under six broad themes:

Monitoring and other core statutory duties: Maintaining and, where necessary, expanding monitoring networks is critical for understanding where legal limits are exceeded, and what measures are effective to reduce pollution. There are also other important statutory duties undertaken by boroughs that form the basis of actions to reduce pollution, including reviewing the impact of planning developments, and these are included in other sections of the plan.

Public health and awareness raising: Protecting those most susceptible to air pollution, including children and older people, the disadvantaged, and those with health conditions, is a priority for the Council. Increasing awareness can drive behavioural change to both lower emissions and reduce exposure to air pollution, resulting in health benefits.

Cleaner transport and active travel: Road transport is one of the main sources of air pollution in London. We need to encourage a shift from petrol-/diesel-powered vehicles to electric and hydrogen and incentivise the use of public transport and a change to walking and cycling. We also need to find solutions to address the contribution from freight and last mile deliveries.

Localised solutions: These seek to improve the environment of local neighbourhoods by implementing tailored measures in specific areas either directly by the Council or through a combination of working in partnership to deliver air quality and behaviour change projects and lobbying to influence others.

Emissions from developments and buildings: As well as contributing to borough-wide emission of NO_2 and particulates, emissions from buildings can be very significant locally. By working with developers through planning, ensuring effective enforcement and promoting cleaner alternatives, we will continue to tackle these emissions.

Working in partnership: We understand that we cannot achieve improvements in air quality within the borough alone and so need to identify and work with key stakeholders situated both within and outside of Kensington and Chelsea. The work and investment for achieving our net carbon zero targets, as set out in the Climate Emergency Action Plan, will also make an important contribution to the success of this Air Quality Action Plan.

Our responsibilities and commitment

This AQAP was prepared by the Pollution Regulatory Team within Environmental Health of Kensington and Chelsea Council, with the support and contributions from the following teams:

- Climate Change
- Bi-Borough Public Health
- Transport Policy
- Highways
- Planning and Policy
- Biodiversity and Ecology
- Procurement
- Social Property and Investment
- Housing

This AQAP will be subject to an annual review and appraisal of progress. This will be reported each year with the annual Status Report produced by Kensington and Chelsea Council, as part of our statutory London Local Air Quality Management duties (LLAQM).

We have worked hard to engage with stakeholders and communities who can make a difference to air quality in the borough. We would like to thank all those who have worked with us in the past, and we look forward to working with you again as well as with new partners as we deliver this new action plan over the coming years.

If you have any further suggestions or comments at any stage of the action plan delivery, please contact us at:

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Council Offices,
37 Pembroke Road,
London,W8 6PW

airquality@rbkc.gov.uk

2. Introduction

The whole of Kensington and Chelsea is designated an Air Quality Management Area (AQMA) due to exceedances of the statutory National Air Quality Objectives (NAQOs) for nitrogen dioxide (NO_2) and particulate matter (PM_{10}).

In October 2019, the Council adopted the 2005 World Health Organisation air quality guidelines which, for particulate matter, were more stringent than the NAQOs.

The impacts of air pollution on our health and wellbeing, assets and environment are becoming more widely known and understood. The UK Health Security Agency (formally Public Health England) stated in 2019[1] that poor air quality was the largest environmental risk to public health in the UK, as long-term exposure can cause chronic conditions such as cardiovascular and respiratory diseases as well as lung cancer, leading to reduced life expectancy. In December 2020, the coroner ruled that the death of Ella Adoo-Kissi-Debrah was as a result of severe asthma and exposure to poor air quality, and this is a stark reminder, if one is needed, of why improvements are essential.

This plan outlines the actions that Kensington and Chelsea Council will deliver between 2022 and 2027 to reduce concentrations of and exposure to air pollution, thereby positively impacting on the health and quality of life of residents, visitors and anyone working in the borough.

The action plan replaces the previous joint Air Quality and Climate Change Action Plan, which was in place between 2016 and 2021. Progress made with implementing this plan is contained within our Annual Status Reports, which are published on our website **here** and a highlight of recent key achievements can be found in Appendix D.

This new plan has been developed in recognition of the legal requirement on Kensington and Chelsea Council to work towards meeting air quality objectives under Part IV of the Environment Act 1995 and other relevant regulations and to meet the requirements of the London Local Air Quality Management process.

Before presenting the plan in Section 3, this section describes the health impacts of air pollution, the sources of air pollution and pollutant concentrations, setting out the challenges that we face and identifying where we can make the greatest improvements through local and wider actions.

1 Public Health England. (2019). Review of Interventions to Improve Outdoor Air Quality and Public Health.

Health impacts of air pollution

Short and long-term exposure to air pollution has a significant impact on health.

Short-term exposure (over hours or days) to elevated levels of air pollution can affect lung function, exacerbate asthma, and increase respiratory and cardiovascular hospital admissions and mortality.

Long-term exposure to air pollution (over years or a lifetime) reduces life expectancy, mainly due to cardiovascular and respiratory diseases and lung cancer (see Figure 1). It is estimated to result in the equivalent of 70–77 years of life lost in the borough each year[2] and 48 premature deaths.

Air pollution particularly affects the most vulnerable in society, including children and older people and those with heart and lung conditions, although during more serious London-wide pollution episodes anyone may be affected. We know that there is an increased prevalence of these conditions among people living in deprived areas, and there is also often a strong correlation with inequalities because areas with poor air quality are also often the less affluent areas.[3,4] The annual health costs to society of the impacts of air pollution in the UK is estimated to be roughly £15 billion.[5] This is explored further in Appendix B2.

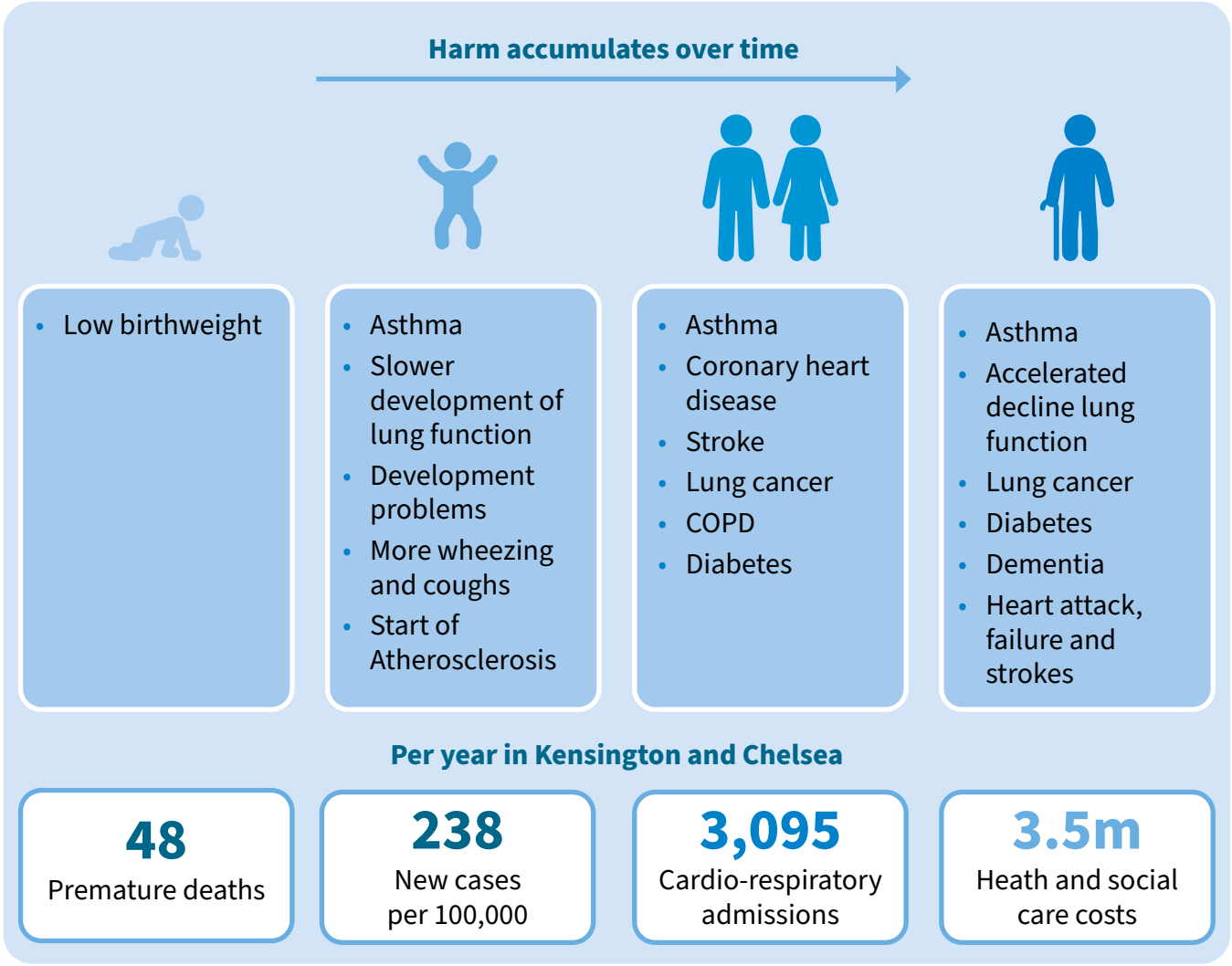

Figure 1: Health impact over time.

2 Imperial College London. London Health Burden of Current Air Pollution and Future Health Benefits of Mayoral Air Quality Policies. 2020.

3 Environmental Equity, Air Quality, Socioeconomic Status and Respiratory Health, 2010.

4 Air Quality and Social Deprivation in the UK: An Environmental Inequalities Analysis, 2006

5 Defra. Air Pollution: Action in a Changing Climate, March 2010.

Sources of air pollution

In 2019, the Council commissioned work to demonstrate what the main sources of NO_x and particulate matter are in Kensington and Chelsea. This used the GLA's latest London Atmospheric Emissions Inventory (LAEI) from 2016, which identifies the amount of air pollution that is produced from sources within London.

The LAEI identifies that, in 2016, the main source of NO_x emissions came from road transport (58 per cent), followed by commercial emissions (31 per cent).

It is relatively unsurprising that road transport is the main source of NO_x. There are 207 km (127 miles) of roads in the borough. The Westway (A40), Cromwell Road (A4), the Earl's Court one-way system (A3220), and Chelsea Embankment (A3212) are all part of the red route network, which is controlled by Transport for London (TfL), who are the highway authority for these routes. This is significant, as the red routes are some of the busiest roads in the borough and make up 6 per cent (12.5 km) of all the roads. The Council is the highway authority for all other adopted roads. The available north/south or east/west routes are constrained by bridges, which means they are often heavily congested. The borough also has a large volume of commuter traffic: people both travelling into and across the area and local residents travelling both within and outside the borough. The Department for Transport reported that 0.29 billion vehicle miles were travelled on roads in the borough in 2020, compared with 0.36 billion in 2019.[6]

Commercial emissions of NO_x are dominated by 'heat and power generation' (90 per cent), of which most is derived from gas combustion (86 per cent) (see Figure 2).

For sources of particulate matter (PM_{10} and $PM_{2.5}$) derived from within the borough, commercial emissions form 58 per cent of PM_{10} and $PM_{2.5}$ (see Figure 3). For PM_{10}, commercial emissions are dominated by cooking (51 per cent) and construction (41 per cent), while $PM_{2.5}$ emissions are dominated by cooking (75 per cent), construction (13 per cent) and heat and power generation (10 per cent).

Road sources form 28 per cent and 21 per cent of emissions for PM_{10} and $PM_{2.5}$, respectively. For PM_{10}, road-related sources are relatively evenly spread between exhausts, re-suspension and brake, tyres, and road wear. For $PM_{2.5}$, exhausts form a greater proportion of emissions (42 per cent); however, the largest part of the emissions is still derived from non-exhaust emissions (see Appendix B for further details).

It is important to appreciate that there is a significant background contribution to NO_x and particulate levels that comes from outside of the borough, London and the UK. For example, away from busy main roads, typically about 90 per cent of PM_{10} and $PM_{2.5}$ is derived from sources outside the borough. This drops to about 70 per cent at busy main roads (see Appendix B). The weather is a key factor in the transport of these pollutants.

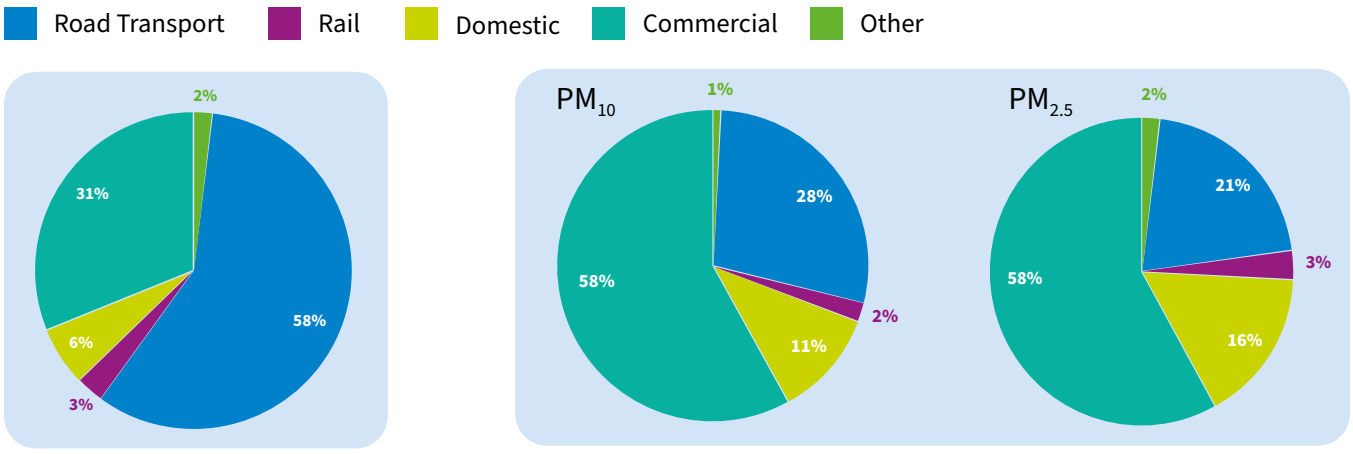

Figure 2: Main sources of NOx emissions

Figure 3: Main sources of emissions of PM_{10} and $PM_{2.5}$.

6 Department for Transport. Road Traffic Statistics – Local Authority Kensington and Chelsea. 2020.

Pollutant concentrations in Kensington and Chelsea

The Council has been monitoring air quality for over 20 years. Figure 4 shows the locations of the different types of monitoring. We have automated continuous monitoring at five sites. These monitors provide the most accurate data and all results can be viewed at www.airqualityengland.co.uk. Table 1 identifies the 'site type' of each monitoring location, for example where a site represents conditions next to busier, more polluted, roads or at a less polluted urban background location and what pollutants are monitored at each. In addition, monitoring is undertaken at 79 passive diffusion tubes for nitrogen dioxide and 5 tubes for benzene, toluene, ethylbenzene and xylene (BTEX). Overall, our data shows that air quality has been gradually improving over the years.

Table 1: Automatic monitoring sites.

Side ID	Site Name	Site Type	Pollutants Monitored
KC1	All Saints College, North Kensington	Urban Background, LAQN & AURN Affiliate Site	NO_2, CO, PM_{10}, $PM_{2.5}$, SO_2, O_3
KC2	Natural History Museum, Cromwell Road	Roadside	NO_2, PM_{10}
KC3	Knightsbridge	Kerbside	NO_2
KC4	Chelsea Old Town Hall	Roadside	NO_2
KC5	Earl's Court Road	Kerbside	NO_2, PM_{10}

Figure 4: Borough-wide monitoring network.

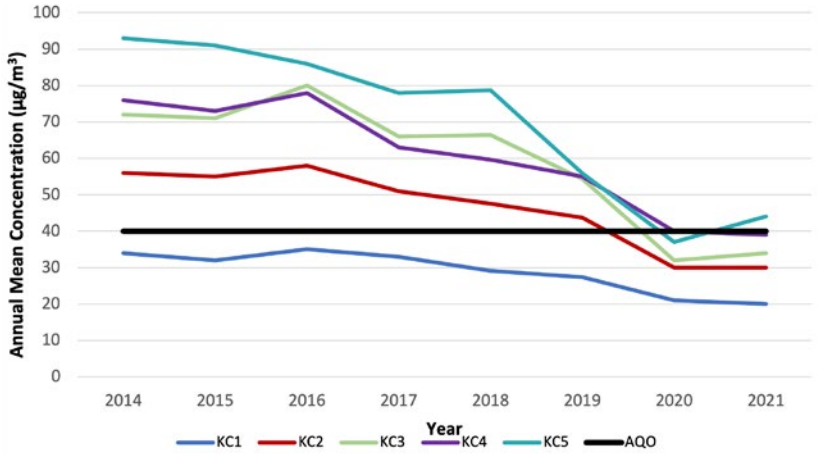

Figure 5: KC1–KC5 annual mean NO_2 concentrations 2014–2021.

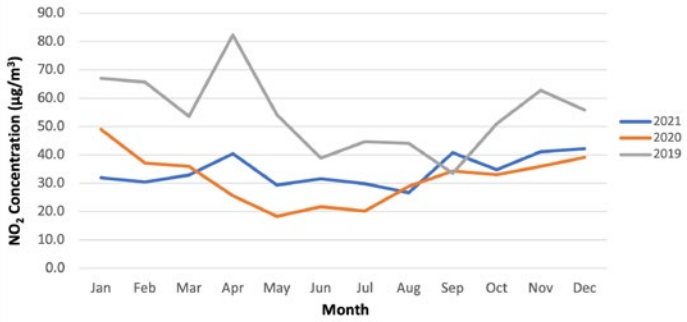

Figure 6: KC3 (Knightsbridge) monthly data 2019–2021.

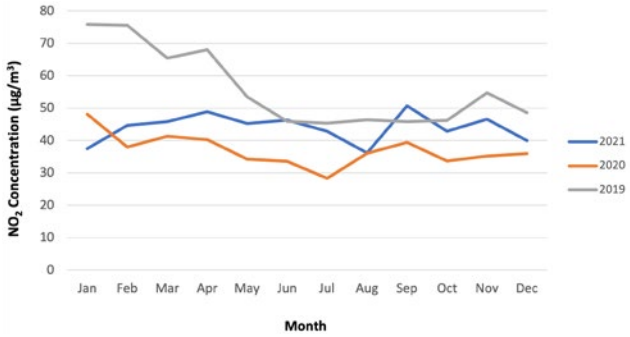

Figure 7: KC5 (Earl's Court) monthly data 2019–2021.

Nitrogen Dioxide

Figure 5 demonstrates that annual average concentrations of nitrogen dioxide have been reducing over the years and in 2020 all sites met the NAQO of 40µg/m³. Of course, 2020 was not a typical year, with the impact of lockdowns from the end of March and a fall in traffic, but it serves to demonstrate how quickly air quality can improve when sources of air pollution are removed or reduced. In 2021, provisional data indicates the annual mean was exceeded at Earl's Court (KC5).

In 2021, while a lockdown was still in place during the first three months, NO_2 concentrations remained low. Since the end of the lockdown, concentrations are clearly higher than in 2020. This is illustrated in Figures 6 and 7, which display monthly data for 2019, 2020 and 2021 at two of our automatic sites that are classed as 'kerbside' and closest to the road. At KC5, concentrations have returned to pre-pandemic levels several times throughout the year.

These are the monitoring results at specific locations. In terms of modelling, the area of the borough which meets the annual mean nitrogen dioxide objective is predicted to have increased from 25 per cent in 2016 to 89 per cent in 2019 and is expected to rise again to 91 per cent once the extended Ultra Low Emission Zone ULEZ comes in to force. Much of the remaining proportion of the area that is predicted to exceed the NAQO falls within roadways and on pavements, where the objective does not technically apply as public exposure is expected to be short term[7] (see Table 4 and Figure 21 in Appendix B).

In addition to the annual average, there is an hourly average NAQO limit of 200 µg/m³, which must not be exceeded more than 18 hours in a year. The 2005 WHO guidelines also suggest a one-hour objective of 200 µg/m³, which should not be exceeded. In recent years this has been met at all but one site, KC3 (Knightsbridge), and is modelled to have been exceeded along sections of the A4, the eastern portion of Kensington High Street and around South Kensington underground station. The extended ULEZ is expected to improve the situation along the A4.

7 Box 1.1 Examples of where the AQ objectives apply, Technical Guidance 2016 (LLAQM.TG(16), Mayor of London.

Particulate matter

Figure 8 presents the annual mean PM_{10} concentrations for the period 2014–2021 for KC1, KC2 (in part) and KC5. There has been a gradual decline in concentrations at all sites between 2014 and 2019, although there was no further reduction at KC5 between 2019 and 2020 and a slight increase in 2021. This is in contrast to the significant reduction in concentrations of NO_2 that occurred at most sites in 2020, as mentioned above. There is further mention of this in Appendix B.

In 2019 and 2020, PM_{10} was monitored in only two locations: All Saints College in North Kensington (KC1) and Earl's Court Road (KC5). However, a new PM_{10} monitor was installed at KC2 in May 2021. Both sites currently meet the PM_{10} annual mean AQO (40 µg/m³). The 2005 WHO guidelines value is 20 µg/m³, which is only met at the background site in All Saints College (KC1). Monitoring and modelling suggest that PM_{10} levels meet the 2005 WHO guideline values across most of the borough, while $PM_{2.5}$ exceeds guideline values across about two thirds of the borough (see Figures 24 and 25 in Appendix B).

Compliance with the PM_{10} short-term NAQO was achieved at all monitoring locations. There were no exceedances of the 24-hour mean at KC1 in 2020, and, while there were 10 exceedances at KC5, this is lower than the permitted 35 and the lowest number ever recorded at this site. Similarly to NO_2, modelling suggests exceedances along the eastern portion of Kensington High Street and around South Kensington underground station, with the objective being met along the A4 once the extended ULEZ is in place.

The WHO guideline values suggest a value of 50 µg/m³ for the PM_{10} 24-hour mean; however, this is not to be exceeded more than once. With regards to the WHO guideline value, KC5 would not have met this objective.

Figure 9 displays the number of daily means in excess of the short term PM_{10} AQO across the monitoring sites for the period 2014–2021. It can be seen that there has been a decline experienced at all sites compared to the period between 2012 and 2018, with 2018 resulting in the lowest numbers but 2019 seeing a slight rise in exceedances at KC1 and KC5, with a further fall in 2020.

Prior to May 2021, $PM_{2.5}$ was only monitored at one location, our North Kensington site (KC1). An additional $PM_{2.5}$ monitor, along with a replacement PM_{10} monitor, has now been installed within the grounds of the Natural History Museum at KC2 on the Cromwell Road, but ratified data from this site is not yet available.

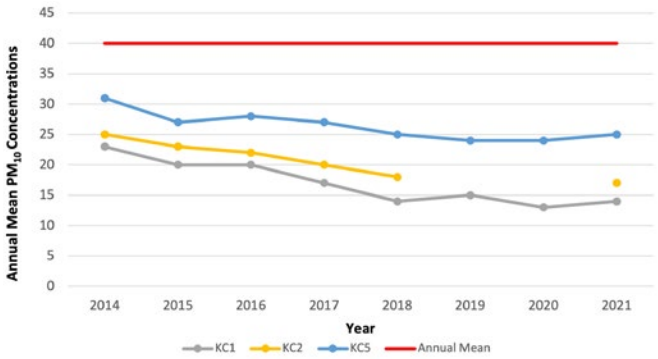

Figure 8: KC1, KC2, and KC5 annual mean PM_{10} concentrations 2014–2021.

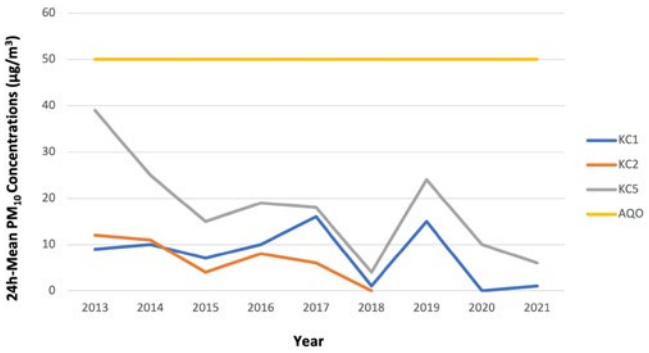

Figure 9: Number of PM_{10} daily means > 50 µg/m³.

3. Development and implementation of the council's AQAP

Consultation and stakeholder engagement

In developing this action plan, we have worked closely with internal Council departments including Public Health, Transport Policy, Climate Change and Planning. The following stakeholder pre-consultation engagement was undertaken with the community:

Residents engagement meeting (held March 2021).

Big institutions and business engagement meeting (held May 2021).

Schools engagement meeting (held July 2021).

Citizens panel – a questionnaire was issued to over 2,000 residents between 21 July 2021 and 23 August 2021, seeking views on issues connected with the Council's new Green Plan including air quality.

A public consultation on this action plan also took place between 15 December 2021 and 13 February 2022. An online survey was developed, and 110 responses were received. In addition to this, two online events and three in-person events were held.

As required within Schedule 11 of the Environment Act 1995, we also consulted with other local authorities and agencies. All responses will be published online.

Table 2: Consultations undertaken.

Yes/No	Consultee
Yes	The Greater London Authority
Yes	Transport for London
Yes	Environment Agency
Yes	All neighbouring local authorities

4. The action plan

Table 3 contains Kensington and Chelsea's AQAP. It includes:

- A list of the actions that form part of the plan
- The responsible individuals and departments/organisations who will deliver each action
- The estimated costs to the Council
- The time scale for implementation
- The outputs, targets, and key performance indicators

The actions have been grouped into six themes:

Monitoring

Public health and awareness raising

Cleaner transport and active travel

Localised solutions

Emissions from developments and buildings

Working in partnership

The action plan table estimates the costs associated with each action.

♦ <= £5,000

♦♦ £5,000–£50,000

♦♦♦ £50,000–£100,000

♦♦♦♦ >= £100,000

Table 3. Air quality action plan

Theme	ID	Action Name	Description	Target/ Monitoring	Timeframe	Department	Cost	Contributes to Action for Climate Emergency	Outcomes	Further Information
Monitoring and Statutory Duties	M1	Maintain automatic monitoring network	Continue to provide air quality pollutant monitoring across the borough via our five reference automatic monitoring stations and additional mobile sensors.	90 per cent data capture rate at each site per calendar year and retain 100 per cent of the current network.	Annually	Environmental Health	♦♦	✓	Increased local knowledge and understanding of the air quality in RBKC.	Monitoring networks provide critical local data through which the Council can assess its progress in reducing pollution within its boundaries and identifying areas with poor air quality in which to focus its actions.
	M2	Maintain passive diffusion tube network	Continue to review and provide passive monitoring network of nitrogen dioxide and BTEX diffusion tubes.	75 per cent data capture per site per calendar year and retain 100 per cent of existing monitoring capacity.	Annually	Environmental Health	♦			
	M3	Review opportunities for expanding the monitoring network	Consider installation of additional fixed and mobile sensors, and work with community groups, residents, and schools to encourage undertaking their own monitoring. Offer residents and community groups a chance to 'adopt a tube' to monitor nitrogen dioxide for a period of 12 months. Carry out review of Council's own monitoring network and publish statement on website on results. Review the impact of the railway line that runs through North Kensington and obtain additional monitoring data in the vicinity of the Westway.	Engage with at least 10 community groups or schools to promote existing monitoring network and opportunities available should they wish to carry out own monitoring. Publish review of Council's own monitoring network every three years. Additional mobile sensors in place in vicinity of railway and Westway.	Annually End of 2022 End of 2025 End of 2023	Environmental Health	♦♦			The GLA, through Breathe London, is enabling local communities to access sensors, and the Council will promote and assist with this. Adopt a tube – the Council will offer residents or community groups the opportunity to pay for a diffusion tube for a period of 12 months. The Council will facilitate the exposure of the tube, arrange for its analysis, and provide interpretation of the result.

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Monitoring and Statutory Duties	M4	Improve dissemination of data	Update Council's website to provide overview and links to all air quality data, including Air Quality England and Breathe London.	Bi-annual updates of monitoring data on Council's website (once data has been ratified).	Six monthly	Environmental Health	♦		Increased local knowledge and understanding of the air quality in RBKC.	A review of the Council's Air Quality pages will provide more accurate and up-to-date information for residents and businesses. This will allow for better informed decisions, understanding, and knowledge on the subject of air quality.
	M5	Statutory reporting	Produce an Annual Status Report for approval by DEFRA and the GLA and update on implementation of actions within this plan.	Completion and submission of report by GLA-specified deadline.	Annually	Environmental Health	♦			Continued production of the ASR is one format in which the Council can make its monitoring data accessible to the public and report on the performance of the AQAP, allowing for a better knowledge and understanding of local air quality.
Public Health and Awareness Raising	P1	Promotion of existing air quality messaging services	The Council subscribes to the AirTEXT messaging service. It will continue to subscribe and promote this and other schemes that are available, including CityAir, until such time that a more streamlined, tailored system can be implemented.	50 new residents signed up to the service per calendar year.	Annually	Public Health and Environmental Health	♦	✓	Increased local awareness of pollution events. Reduced exposure to poor air quality and behaviour change.	By increasing awareness of these systems, it will provide local people with information to plan their days around high and moderate pollution episodes, decreasing their exposure to poor air quality and reducing the impact on their health.
	P2	Develop air quality messaging service	Review existing awareness services and identify cost-effective options for reaching out to vulnerable groups and delivering appropriate action-orientated messages.	Development of Comms Plan to secure sign up of ultimately 10,000 residents over the life of the action plan. Completion of options paper with recommendations.	Draft Comms Plan autumn 2022 December 2022	Public Health and Environmental Health	♦	✓		An RBKC-based air quality system would be able to provide users with a more tailored and reliable service by sending pollution alerts based on more localised data.

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Public Health and Awareness Raising	P3	Develop and embed alert service	Ensure air quality alerts are disseminated to schools, NHS colleagues, and other interested parties.	Identification of existing recipients. Expansion of cascade system to care homes, hospitals, GP surgeries, private nurseries and children's centres, etc.	March 2022 April 2022 onwards	Public Health and Environmental Health	♦♦	✓	Reduction in vulnerable groups exposure to poor air quality.	Increased knowledge of pollution and actions to vulnerable groups will help form behaviour change and reduce personal exposure to air quality.
	P4	Increase awareness among NHS colleagues about impact of air pollution on health	Consult GPs to determine knowledge and data gaps and tailor information to support advice that can be provided to vulnerable patients and visitors to GPs and hospitals.	Survey/interviews or focus groups for GPs and residents to identify existing understanding of air pollution health impacts and effective methods of communicating risks.	August 2022	Public Health and Environmental Health	♦	✓	Increased local knowledge and awareness of air quality. Better dissemination of advice and information.	This will ensure that GP services in RBKC are providing consistent advice to patients.
				A co-produced method to communicate air pollution risk effectively to residents.	January 2023					
				Online information session for GPs to accompany delivery of any identified information pack.	February 2023					
	P5	Sense check	Review of public health actions to identify progress and issues that have arisen – update to be published on Council website.	Update on Council website	Annually	Public Health and Environmental Health	♦		Increased local knowledge and awareness of air quality. Better dissemination of advice and information.	A review of the actions will allow for a robust and relevant action plan.

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Public Health and Awareness Raising	P6	Promotion of clean air walking and cycling routes	Reduce the need for cars by promoting and making active travel such as walking, cycling, and public transport accessible and enjoyable. Update Council website and carry out more frequent promotion of schemes like Walk-It, CRPs, Clean Air Walking Routes, https://footways.london/and RBKC's own walking tourist map.	Production of new web pages with concise information and links to all schemes. Indicators of success would include increased visits to these web pages. Promote through GPs, schools, Healthy Schools programme, One You and Change for Life Programme and the Good Work Standard.	April 2022	Public Health, Environmental Health, Transport Policy and Media and Comms	♦	✓	Better dissemination and availability of advice and information for the public. Create positive behaviour change and a move towards a greater number of journeys being undertaken by sustainable methods. Reduction of public exposure to poor air quality.	Council website will initially be updated in 2022 and then will be reviewed annually to ensure information is kept up to date. A reduction in traffic levels, increased levels of physical fitness and health and increased footfall to local businesses.
	P7	Cycleways Map	Production of an online Cycleways map.	Completion of map.	March 2023	Transport Policy, Media and Comms and Web Team Comms	♦♦	✓	Easily accessible cycling information for the public.	The map will show where the Quietways/Cycleways are within RBKC – including built, consulted on and in progress routes. It is aiming to achieve a reduction in traffic levels, increased levels of physical fitness and health and increased footfall to local businesses.
	P8	Promotion of smoking cessation to reduce smoking at home and the impact on indoor air quality	Delivery of smoking cessation sessions in schools. One You in the Community to reduce domestic smoking in the home, including the collection of smoke-free home pledges.	Ten smoking cessation sessions delivered to schools per calendar year. 1,200 smoke-free home pledges.	2022 onwards Annually	Public Health	♦		Reduction in numbers of people smoking in the home and improvement in indoor air quality.	Harmful levels of particulate particles from tobacco smoke can remain in the home for up to five hours, causing irritation to the nose or throat. A reduction in exposure to this will not only improve health but the indoor air quality.

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Public Health and Awareness Raising										Over the past 18 months, it has been difficult to deliver smoking cessation sessions in schools. It is hoped the target set is achievable, but it may have to be revised.
	P9	Support initiatives to improve indoor air quality	Update web page to incorporate new NICE guidelines and produce new leaflet on indoor air quality. Ensure health visitors and other Council officers are aware so information can be shared with those they visit.	Council website updated by summer 2022. Completion of training session for officers.	2022–2023	Environmental Health, Public Health and Adult Social Care	♦	✓	Better dissemination and availability of advice and information for the public.	By providing this information to health visitors, they will be able to inform harder to reach groups of residents. Also need to ensure that work to insulate homes does not inadvertently cause poorer indoor air quality.
	P10	Discourage burning of logs and house coal	Launch an initial publicity drive backed up by yearly campaigns to highlight pollution caused by burning non-smokeless fuels in household fireplaces, with enforcement for persistent offenders. Engage GPs and other health visitors so they are also equipped to provide advice.	Publicity drive launch in autumn 2022. Preparation of information leaflet.	2022 onwards	Public Health and Environmental Health	♦	✓	Improved indoor air quality and the reduction of particulate matter ($PM_{2.5}$) production.	The inclusion of GPs would provide additional support mechanisms for this action.
	P11	Engagement with Canal and Rivers Trust and canal boat owners	Evidence of wood burning in canal boats, so there is a need for engagement to see if there is scope to convert to electric.	Survey completed by May 2023 to identify how many canal boat owners are wood burning. Distribution of leaflet to raise awareness with owners.	2023–2024 Winter 2023	Environmental Health	♦♦	✓	Improved local air quality and the reduction of particulate matter ($PM_{2.5}$) production. Installation of Eco Mooring Zones if appetite from canal boats is identified.	Emissions from idling canal boats or the burning of wood for heat can also impact on the daily lives of those in the local area.

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Public Health and Awareness Raising	P12	Support NHS colleagues with audits in hospitals	Provide guidance to hospitals on completing audits and developing action plans to reduce their own emissions and exposure to air pollution.	Completion of guidance doc for hospitals by March 2023 and one training session per hospital per year.	2023–2027	Public Health and Environmental Health	♦♦	✓	Reduction in public exposure to poor air quality and pollution.	
	P13	Combined sustainability leaflet	Production of combined sustainability leaflet/ booklet centred on key information and actions around the five priorities of Green Plan (air quality, climate change, biodiversity, fuel poverty, and waste) for residents and businesses. Ensure Council website on different areas of sustainability is more joined up and becomes an information hub for residents, students, businesses, and other organisations.	Booklet available by end of 2022. Look for opportunities to circulate including with Council Tax statements. Update Council web pages so they become a resource hub.	2023–2023	Climate Change Team, Waste, Ecology Centre, Environmental Health, Transport, and Public Health	♦	✓	Reduction in Council's contribution to the production of air pollutants and carbon emissions.	
	P14	Training for Council staff	Deliver training to Council staff so there is a baseline of knowledge about monitoring, what powers the Council has to improve air quality, and what actions individuals can take.	Number of officers that have completed the Air Quality Domestic Fuel Regulations Training. All new staff that join the Council to attend online training session (to be offered twice a year).	2022–2023 Training module developed by January 2023	Environmental Health	♦	✓	Reduction in Council's contribution to the production of air pollutants and carbon emissions.	

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Cleaner Transport and Active Travel	T1	Reduction in Council fleet operation emissions and for fleets of Council contractors	Subject to operational requirements, work towards 100 per cent of owned or leased Council vehicles being electric or hybrid by 2027 and ensure infrastructure (charging points) is in place to support this (see also action T14a and T14b). Reduce the size and number of vehicles in the Council fleet. Reduce fuel consumption and miles by assessing service delivery and operations. Replace car journeys with bike journeys where possible. Continue to deliver eco driving training for all Council staff and contracted drivers on a regular basis and embed the anti-idling advice. Ensure all Council contractors use electric or hybrid vehicles by 2027.	Annual review of Council leased vehicles and 100 per cent hybrid or electric fleet by 2027. Annual review of mileage as part of the Carbon Performance Report. Ten eco driving training sessions delivered to Council staff and contracted drivers.	Annually Annually Annually	Procurement, Customer Access, and Climate Change Team	♦♦♦♦	✓	Reduction in Council's contribution to the production of air pollutants and carbon emissions. A reduction in vehicle numbers will reduce the Council's impact on traffic levels in the borough.	This will be reviewed on an annual basis alongside any contractual requirements to ensure that the Council fleet becomes fully equipped with low or zero emission vehicles. The eco driving training will now incorporate the anti-idling advice.
T2	Implementation of travel hierarchy across the Council to encourage active travel	Implement the Council's travel hierarchy and avoid business travel/ journeys where possible (digital-by-default). Develop costed proposals to establish a Council-wide pool bike service, including electric bikes (or use of existing e-bike hire schemes).	Proposal developed by December 2022.	2022–2027	Procurement, Customer Access, and Climate Change Team	♦	✓	Reduction in Council's contribution to traffic and the production of air pollutants and carbon emissions. Increase in journeys taken by bike and on foot.	This will be reviewed on an annual basis.

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Cleaner Transport and Active Travel	T3	Grey fleet review	Review grey fleet and encourage staff members using personal vehicles (grey fleet) to switch towards using electric vehicles and public transport.	Review to be completed by December 2022.	December 2022	Climate Change Team, Procurement, and Customer Access	♦	✓	Reduction in Council's contribution to traffic and the production of air pollutants and carbon emissions.	A review needs to be carried out by HR department.
	T4	Cleaner transport provisions within procurement	Ensure cleaner transport provisions become standard in any Council procurement and lease process. All departments to comply with the vehicle procurement process chart and adopt the travel hierarchy outlined in the Council's Green Fleet Strategy and Action Plan.	Review department compliance with vehicle procurement process chart. Environmental clauses will be included in 100 per cent of relevant major procurement contracts.	2022–2027 March 2023	Procurement and Climate Change Team	♦	✓	Cleaner transport provisions are adopted as standard and become part of the sustainable procurement and social value strategy by the time of the next action plan.	Review to be undertaken as part of developing the Social Value and Sustainable Procurement Strategy to ensure that cleaner transport provisions are being incorporated within the procurement and lease process. Creating positive behavioural change within Council departments.
	T5	Bike by default	Require zero emission, electric, or hybrid vehicles as a default for any courier or taxi bookings for people or deliveries. Promotion of services such as 'Pedal Me'.	Inclusion in internal comms and email to all departments. Adoption as part of Environmental Charter for businesses.	April 2022 April 2022	Climate Change Team, Environmental Health and Transport Policy	♦	✓	Reduction in Council's contractor contribution to the production of air pollutants and carbon emissions.	Greater provision of zero emission, electric, or hybrid vehicles in courier or taxi contracts will give public users more options for greener travel around the borough.
	T6a	Cycle training	Cycling lessons for children and adults to learn to ride safely and increase confidence.	1,500 cycling lessons provided to children and adults.	2022–2027	Transport Policy	♦♦	✓	Increased numbers of children and adults within the borough who are able to cycle and do so safely.	To help address public health concerns such as obesity and social isolation, promote cycling for day-to-day trips and reach BAME and other 'hard-to-reach' groups.
	T6b		Re-start the Council's award-winning Social Cycling programme for two days per week, focusing on the harder to reach communities.	Programme to re-start in 2023.	2023–2027		♦♦	✓		

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Cleaner Transport and Active Travel	T7	Dr Bike surgeries	Maintain our popular monthly public 'Dr Bike' surgeries once a month at three locations across the borough.	36 Dr Bike surgeries provided on an annual basis.	2022–2027	Transport Policy	♦	✓	Increased levels of safe cycling.	These monthly sessions provide residents with subsidised support for bike maintenance, subject to the availability of funding.
	T8	Increase bike parking and tree planting	Remove parking bays and replace with cycle hangars and trees.	Trial of five in 2022–2023. Thirty parking bays replaced with cycle hangars and trees over the course of the plan.	2022–2027	Transport Policy	♦♦	✓	Subject to availability of funding, the installation of a minimum of 30 bike hangars and trees across the life of the action plan. Greater uptake of journeys undertaken by sustainable travel methods and increased biodiversity through tree planting.	To help meet requests for secure cycle parking as well as the Council's desire to provide more greening in areas with fewer trees, combined tree/cycle hangar schemes would make efficient use of one car parking bay (5 m of space). It would be proposed that five bike hangar/tree pits are trialled for a period before implementation elsewhere.
	T9	Install additional cycle parking	Provision of secure visitor cycle parking.	Installation of 25 new bike hangars per annum.	2022–2027	Transport Policy	♦♦	✓	Subject to funding, the installation of short-stay cycle parking as well as 25 new bike hangars per year. Increased levels of sustainable travel journeys.	There are just under 1,000 people waiting for a bike hangar space in RBKC, and we have over 200 requests for new locations. There are currently 29 rentable cycle hangars in RBKC, each with waiting lists of 34 people on average. Until recently, nearly all hangers were in Council or private housing association estates, and these are generally offered at no annual cost to residents of those estates. We are conscious of the need to support people on low incomes who may

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Cleaner Transport and Active Travel										have less indoor space for bike storage and aim to continue this work with housing estates; however, many other properties in RBKC do not have the space for bike storage, so we will also work to fulfil demand for all residents requiring secure cycle storage. 'Short-stay' cycle parking tends to be installed at key destinations – such as high streets – and encourages people to make trips to those destinations by bicycle by ensuring they have a place to secure their bikes.
T10		Build on existing programme of school streets	Continue to work with existing school streets and identify future streets.	Four new school streets implemented by end of March 2023. We will aim to support all schools that want school streets where this is feasible.	2022–2027	Transport Policy	◆◆◆	✓	Safer, cleaner, and greener streets for schools to allow pupils to safely walk, cycle, or scoot to/from school. Reduction of exposure to poor air quality through reduced vehicle usage around school gates.	There are currently nine school streets in the borough; three are permanent (the other six are currently designated as 'experimental'). The Council intends to provide permanent telescopic bollards to enforce closures at the two school streets that have most recently made permanent. We also aim to maintain the current experimental schemes and consult and implement up to four more closures outside schools.

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Cleaner Transport and Active Travel	T11	Promotion of STARS school travel plans	Continue to work with schools to promote and implement school travel plans.	Target of 40 per cent for summer 2022 for schools to achieve STARS accreditation. 2027 target to be set in autumn 2022.	2022–2027	Transport Policy	♦	✓	Increased number of schools with travel plans and a greater uptake of sustainable journeys.	STARS accreditation was affected by Covid-19. This action is supported by the introduction of school streets, allowing for safer and quieter roads for sustainable travel.
	T12	20 mph borough	Review experimental 20 mph scheme to decide whether it will become permanent.	Decision about permanent implementation to be undertaken early 2022.	2022	Transport Policy	♦	✓	20 mph scheme will either be fully instated or removed.	The Experimental Traffic Order (ETO) took effect on 13/11/2020, with all the signs and markings in place by the end of January 2021.
	T13	Work towards no diesel cars parked on our roads by 2030	April 2021 saw the introduction of new fees with the lowest charges applied to zero and low emission vehicles. We now wish to consider and consult on taking this further by potentially phasing out diesel permits and on street visitor parking for diesel cars by 2030.	Consultation to take place with residents by December 2023.	2022–2027	Transport Policy	♦	✓	Review and consult on the phasing out of parking permits for diesel vehicles by 2030.	
	T14a	Review the provision of electric charging across the borough	Investigate the most cost-effective method to enable expansion of rapid charging points across the borough by encouraging TfL to make timely progress on securing a new procurement framework through Crown Commercial Services, from which boroughs will be able to call off contracts.	Options paper by April 2022. Additional rapid chargers installed by December 2022.	2022–2023	Transport Policy and Housing Estate Management	♦		Increased number of rapid charging points within the borough.	Review of the introduction of legislation to include EV charging points on all new-build homes and offices in England to support this action.

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Cleaner Transport and Active Travel	T14b	Review the provision of electric charging across the borough	Expand network of slow and fast chargers to meet increasing demand.	Target to be confirmed following TfL publication of research into projected charging demand in 2022. Currently delivering ~100 lamp column and 25 stand-alone charge points per year.	2022–2027	Transport Policy	♦♦♦♦		Residents can charge their cars easily and conveniently.	The Council is aiming to support electric car owners and encourage more residents to change from internal combustion engine cars to electric. We have had a successful track record of securing funds for lamp column chargers and of enabling Source London investment in stand-alone chargers. We have installed more than 430 EV chargers to allow residents to be within 200 m distance of one. We will review our approach to charging infrastructure in line with GLA assessments of future need.
T15	Participation in the e-scooter trial and review of success	Expand network of e-scooter parking bays.	Expansion of network with introduction of ~15 new sites by March 2022. New targets to be considered if scheme made permanent.	2022–2027	Transport Policy	♦♦	✓		Increased use of e-scooters as a sustainable travel option.	Review trial scheme outputs and outcomes.
T16	Continue to take action to reduce idling engines	Contribute to the pan-London Idling Action London campaign. Respond to complaints, erect signs, and take enforcement action when appropriate. Engage with schools and fleets to incite behavioural change.	Number of drivers told to shut off engines. Number of drivers fined for not shutting off engines. Number of awareness-raising campaigns completed at	2022–2027	Environmental Health and waste enforcement officers	♦♦	✓		Reduction in idling engines and the emissions and pollution exposure which result from this, especially at idling hotspots such as schools.	Idling Action London is a London-wide behavioural change campaign, which is helping to reduce localised air pollution caused by motorists leaving their engines running when parked. Although the project may end in April 2022, we still pledge to take action to reduce idling engines and

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			Community events to target idling hotspots. Record the number of interactions the enforcement teams have with idling drivers. Ensure all frontline enforcement teams tackle idling drivers.	schools and hospitals. Number of interactions with drivers and enforcement officers monitored quarterly.						minimise unnecessary pollution by continuing initiatives introduced by Idling Action London, raising awareness and engaging with drivers to influence a change in behaviour and safeguard public health.
Cleaner Transport and Active Travel	T17	Continue to support the Mayor of London with the implementation of the extension of the Ultra-Low Emission Zone	Monitor the impact of the ULEZ and assist with signage.	Review of GLA data and look at borough data for the proportion of parking permits issued to non-compliant vehicles.	Annually	Transport Policy, Environmental Health and Communications	♦		Reduction in transport-related emissions produced within the borough.	On 25 October 2021, the ULEZ expanded from central London to create a single larger zone up to, but not including, the North Circular Road (A406) and South Circular Road (A205).
	T18	Protection of bus services	Seek to protect all bus services in the borough and work with TfL to support their programme of upgrades for buses and rapid electrification of the fleet.	Not possible to define.	2022–2027	Transport Policy	♦	✓	Reduction in transport-related emissions produced within the borough.	
	T19	Assess impact on air quality of any major transport and public realm scheme implemented	Consider impacts prior to implementation and monitoring while in place before making further decisions about whether they should be continued. Incorporate greening and planting where possible.	Diffusion tubes to be installed in advance and during any trial for any major scheme.	2022–2027	Transport Policy and Environmental Health	♦	✓	More informed decisions surrounding the impact on the environment when implementing new traffic and public realm projects.	Air quality will be considered as one of the key drivers for transport and public realm improvements. This will run for the life of the action plan.
	T20a	Ensure assessment of new developments	Ensure Local Plan Review contains suitable policies to enable delivery of car-free	New policies to be adopted in Local Plan in 2022.	2022–2027	Transport Policy	♦	✓	Improved cycle parking provision across the borough.	To be reviewed per planning application.

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			developments and appropriate cycle parking, for example new developments have secure parking facilities for non-standard cycles, cargo bikes, hand carts, and visitor cycle bays and rapid charging points where possible.				♦	✓		
Cleaner Transport and Active Travel	T20b	Ensure assessment of new developments	Require developments to increase the use of the river for movements of construction and waste. Require car-free developments in accordance with the London Plan.	2022–2027	The target is the description.	Transport Policy	♦	✓	Reduction in the number of HGV vehicles on the roads during construction and demolition phases of the development.	To be reviewed per planning application.
T21	Support businesses to reduce their emissions from deliveries		Develop Environmental Charter for businesses. Support businesses to combine and rationalise deliveries using low/zero emission vehicles and e-cargo bikes and local distribution hubs for final stage deliveries.	Ten businesses per year contacted and engaged.	Annually	Environmental Health and Climate Change	♦♦	✓	Overall number of deliveries reduced and increased uptake of low or zero emission vehicles and e-cargo bikes for businesses. of the development.	Through the Clean Air Village Project with the Cross River Partnership, businesses will be supported in reducing, retiming, and consolidating deliveries and encourage e-cargo bikes uptake through the Climate Change Emergency Action Plan.
T22	Carry out study into post Covid-19 travel patterns		We have commissioned the Centre for London to work with academic partners to investigate likely post Covid travel patterns and how we can best support active travel on our streets, including Kensington High Street.	Report to be published by summer 2022.	2022–2024	Transport Policy	♦♦	✓	Modal shift to cycling and active travel.	

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Cleaner Transport and Active Travel	T23	Upgrade existing cycle routes	Upgrade existing routes to provide higher levels of service and improved public realm.	Two routes upgraded by end of 2024.	2022–2024	Transport Policy	♦♦♦♦	✓	Modal shift to cycling and active travel.	Two routes (Q2 and Q15) have already had design work to bring them up to Cycleway standard. Delivery is subject to consultation and TfL funding in 2022.
	T24	Modal filters for traffic segregation	Consider installation of modal filters to facilitate traffic restrictions or segregation where research or evidence suggests benefits.	These techniques to be considered in all appropriate scheme designs.	2022–2027	Transport Policy	♦♦	✓	Modal shift to cycling and active travel.	This is subject to TfL funding to enable us to design and consult on new Cycleway routes.
	T25	Removal of parking bays to facilitate al fresco dining	In 2020–2021, 100 parking bays have been removed to make way for al fresco dining. The Council intends to continue with this measure.	Continuing to support as many hospitality businesses as possible within our policy framework.	Ongoing	Transport Policy	♦	✓	More vibrant and enticing areas to visit.	
				Action is reactive, so we cannot set a target. Write to food businesses with al fresco dining to advise against the use of external gas heaters.	2022	Environmental Health				
Localised Solutions	L1	Improve walking and cycling access to White City	New pedestrian and cycle link under West London line at Latimer Road, which would connect to existing Q2 on Latimer Road in RBKC.	Link to be delivered by 2025.	2025	Transport Policy and Planning	♦♦	✓	Increased numbers of journeys taken by sustainable transport to White City.	LBHF already has a protected cycle route along Wood Lane.

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Localised Solutions	L2	Shepherd's Bush to Notting Hill Cycleway	A new cycle route serving communities in Shepherd's Bush, Holland Park and Notting Hill Gate.	Delivery in 2023.	2023 Delivery is subject to availability of funding.	Transport Policy and Highways	♦♦	✓	The new cycle route comprises, among other interventions, a raised table at the junction of St Ann's Villas/Queensdale Road, a new dedicated cycle path from Walmer Road to Portland Road and two new parallel crossings (on Ladbroke Grove and Kensington Park Road) as well as some filters and short sections of segregated cycle lane.	In February/March 2020, the Council consulted on a new east-west Cycleway route from Shepherd's Bush to Notting Hill. Part of this route – speed ramps on Kensington Park Gardens and a new parallel crossing with raised tables and modal filter at the junction of Ladbroke Grove / Lansdown Crescent / Kensington Park Gardens – was implemented in 2020, but the rest of the route remains undelivered.
	L3	Active travel schemes at Kensal Canalside Opportunity Area	Implement a high-quality cycle route within the Kensal Canalside Opportunity Area, as set out in the Kensal SPD. Other schemes include new walking route over the canal to the cemetery and bridge over the railway line.	Identification of cycle route by 2024 with delivery as site is built out over ten years.	2024	Transport Policy and Highways	♦♦	✓	Safer cycling, which would encourage a modal shift and reduce the number of trips made by vehicle.	
	L4	Two-way cycling schemes	Delivering two-way cycling streets in one-way streets to form key links enabling cyclists to access existing Quietway/Cycleway routes.	Five two- way cycle streets delivered per annum.	2022 Delivery is subject to availability of funding.	Transport Policy and Highways	♦♦	✓	Fully delivered and operational two-way cycling streets in: • Nevern Square • Nevern Road • Park Walk • Pavilion Road • Trebovir Road • Gilston Road • Holland Street	The Council consulted successfully on the first five schemes in 2019 and hopes to implement these and consult on the remaining schemes in 2022.

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									• Powis Terrace • Queen's Gate Gardens • Victoria Grove	
Localised Solutions	L5	Provide green man facilities at all signalised junctions	Ensure there are green man facilities at: Fulham Road/Beaufort Street King's Rd/Beaufort St/ Drayton Gardens junction/Old Brompton Rd Chelsea Bridge Road/ Lower Sloane Street Fulham Road/Old Church Street	Aim to have green man facilities installed at all borough junctions by 2027 (the first will take place in 2022).	2022–2027 Delivery is subject to availability of funding.	Transport Policy and Highways	♦♦	✓	Safer walking by installing of 'all red' phase to traffic to give straight-across green man crossings over all four arms of the junction simultaneously. Widen the pavements on all arms of the junction.	Consultation was undertaken in October–December 2020. This will continue our progress with reducing collisions since 2010.
L6a		Reduction in museum delivery and servicing trips	Feasibility study of locations within the borough for a consolidation hub.	Study to be completed to identify three potential locations to choose between.	December 2023	Environmental Health	♦♦	✓	Reduction in number of vehicle trips to the museums and reduction in pollution generated by these trips.	As part of the Clean Air Villages (CAV4) project, we are working alongside the Cross River Partnership (CRP) and the Natural History Museum, the Victoria & Albert Museum and the Science Museum to reduce the number of delivery vehicles via consolidation, retiming, or low emission last mile deliveries.
L6b			Feasibility study into the conversion of one coach parking space or delivery bay to include an EV charge point for museum deliveries.	Target of 2023 for study to be undertaken.	December 2023	Environmental Health	♦♦	✓		
L6c			Review into the consolidation of waste, delivery, and servicing trips.	Target to reduce trips by 5 per cent over all three museums.	2022–2023	Environmental Health	♦♦	✓		

Theme	ID	Action Name	Description	Target/ Monitoring	Timeframe	Department	Cost	Contributes to Action for Climate Emergency	Outcomes	Further Information
Localised Solutions	L7	Work with schools on installing green screens and green infrastructure	Carry out site walkovers at schools to identify opportunities to install green infrastructure.	Five school site walkovers to be undertaken per annum.	2022–2025	Climate Change Team and Environmental Health	♦♦♦♦	✓	Cleaner air in areas adjacent to any green screen or infrastructure installed.	Green infrastructure disrupts the flow of air pollution, so their placement and position in relation to other buildings and prevailing wind direction is important to factor in to ensure appropriate displacement of pollution.
	L8	Work with landowners on large streetscape improvements which include significant greening	Work with landowners such as Cadogan Estates and the Westway Trust to implement localised measures to improve air quality and reduce carbon emissions.	Localised measures and options to be reviewed by Climate Change team and reported in Annual Status Report.	2022–2027	Climate Change Team	♦♦	✓	Improved air quality in and around the Westway.	The Westway Trust has a Community Street programme. Cadogan Estates has launched its own strategy.
	L9	Develop new place-making public realm projects to reduce traffic dominance	Build on success of temporary road closure schemes in some streets and consider new similar schemes.	Schemes are not appropriate for numerical targets as they are driven by context.	Ongoing programme of design, consultation, and delivery.	Highways	♦		Reduction of impact on local air quality from new development.	Applications are reviewed on a case-by-case basis and air quality assessments are required for all major developments.
	L10	Implement road closures on Portobello Road during market operating times to improve conditions for pedestrians and shoppers	Make permanent the experimental scheme traffic order.	Scheme to be made permanent by November 2021.	Ongoing	Markets and Transport Policy	♦		High-quality spaces for people.	Implement road closures on Portobello Road during market operating times to improve conditions for pedestrians and shoppers.

Theme	ID	Action Name	Description	Target/ Monitoring	Timeframe	Department	Cost	Contributes to Action for Climate Emergency	Outcomes	Further Information
Localised Solutions	L11	Future Neighbourhoods programme	Develop an eco-neighbourhood in Notting Dale through the GLA's 2030 Future Neighbourhoods programme.	Increased air quality monitoring in Notting Dale area with a minimum of five additional sensors.	2022	Environmental Health	♦	✓	Increased monitoring.	This is part of 30 initiatives and is funded by the GLA's Future Neighbourhoods programme.
Emissions from Developments and Buildings	E1	Continue to assess all planning applications for air quality impact and ensure that emissions from energy and heat sources in new developments are minimised	Review all applications and make recommendations for conditions. Make informed decisions on planning applications about decentralised energy (DE) networks, combined heating power (CHP), biomass, and biofuel, by considering the balance between air quality and carbon reduction benefits.	To implement in 100 per cent of major planning applications and relevant smaller applications. This will be supported by the new RBKC Local Plan and reported in the Annual Status Report.	2022–2027	Environmental Health	♦	✓	Reduction of impact on local air quality from new development.	Applications are reviewed on a case-by-case basis and air quality assessments are required for all major developments.
E2		Ensure emissions from construction are minimised and the cumulative effects of numerous nearby developments are taken into consideration	Implement the Council's Code of Construction Practice and review dust management impact assessments.	To implement in 100 per cent of major planning applications and relevant smaller applications. This will be supported by the new RBKC Local Plan and reported on in the annual Status Report.	2022–2027	Environmental Health, Planning, CREST, and Noise and Nuisance	♦	✓	Reduction of impact on local air quality from new development works.	Applications are reviewed on a case-by-case basis and dust risk assessments are required for all major developments. Checks are made on site by the Construction Management Team (Environmental Health) and complaints are also investigated by them.
E3a		Non-Road Mobile Machinery (NRMM)	Ensure that development sites NRMM requirements are understood and enforced through the planning system.	NRMM planning condition attached to 100 per cent of major developments and reported	2022–2027	Environmental Health	♦♦	✓	Reduction of impact on local air quality from construction vehicles (NRMM).	NRMM will be addressed at application stage on an individual basis through the planning system.

Theme	ID	Action Name	Description	Target/ Monitoring	Timeframe	Department	Cost	Contributes to Action for Climate Emergency	Outcomes	Further Information
				annually in the annual status report. Monitoring will also be carried out by officers checking the NRMM website and conducting site visits.						
Emissions from Developments and Buildings	E3b	Non-Road Mobile Machinery (NRMM)	Pan-London NRMM project.	Monitoring will be carried out by officers checking the NRMM website and conducting site visits.		Environmental Health	♦		Reduction of impact on local air quality from construction vehicles (NRMM).	Continued membership and liaison with the Pan-London NRMM officers to audit construction and demolition sites within the borough to ensure they comply with the requirements.
E4	Air quality supplementary planning guidance	Update the Council's supplementary planning guidance for air quality to reflect new policies and requirements of the Local and London Plan.	New SPG to be consulted on in autumn 2022, for adoption in 2023.	2022–2023	Environmental Health	♦	✓	Updated document will provide for better prepared air quality assessments.	Previous air quality planning guidance was adopted in 2009 and is now out-of-date.
E5	Air Quality Neutral and Air Quality Positive	Implementation and enforcement of Air Quality Neutral and Air Quality Positive policies.	To implement in 100 per cent of major developments being air quality neutral as a minimum and all relevant applications assessed for Air Quality Positive policies. This will be supported by the new RBKC Local Plan and reported on in the Annual Status Report.	2022–2027	Environmental Health	♦	✓	Inclusion of Air Quality Neutral and Air Quality Positive measures within air quality assessments.	Required as part of the planning application process. This requires applicants to detail how the development will not lead to further deterioration of the local air quality.

Theme	ID	Action Name	Description	Target/ Monitoring	Timeframe	Department	Cost	Contributes to Action for Climate Emergency	Outcomes	Further Information
Emissions from Develop-ments and Buildings	E6	Completion of school audits	Undertake air quality audits for schools located in the worst areas of air quality. Identify and implement measures to improve air quality. Engage schools on issues relating to the climate emergency and air pollution and develop an Environmental Charter that schools can sign up to.	Five audits for schools to be undertaken per annum. School Charter to be developed and adopted. Year 1 target: to get 20 per cent of community and denominational schools signed up to Environmental Charter. Year 2 target to be set March 2023.	Annually April 2022 April 2022–March 2023	Environmental Health, Climate Change Team, Transport Policy and Public Health	♦♦♦♦	✓	Development of bespoke action plans on completion of audits at schools. Minimum of four audits and plans per year. Schools signed up to a new Environmental Charter.	Audits for schools located in areas with poor air quality and higher deprivation to reduce exposure to and production of air pollutants.
E7	New development green space and infrastructure	Ensure adequate, appropriate, and well-located green space and infrastructure is included in new developments.	Not suitable for numerical targets but will be reviewed on a case-by-case basis.	2022–2027	Environmental Health and Ecology Team	♦	✓	Increased levels of good quality green space and infrastructure are included within new development plans.	New developments to ensure that green space is a key consideration within their plans.
E8	Smoke Control Area (SCA)	Ensure the borough-wide SCA is promoted and enforced.	Updated pages on Council's website. Ricardo training fully rolled out and completed by EH officers.	April 2022 April 2022	Environmental Health	♦	✓		Smoke control is important in Kensington and Chelsea because the Council has committed to working towards the more stringent World Health Organisation (WHO) air quality guideline values.
E9	Emissions from chimneys	Ensure the borough-wide SCA is promoted and enforced.	Demand led: Number of authorisations issued for chimney heights for new appliances.	2022–2027	Environmental Health	♦		Reduction in emissions from chimneys in line with the requirements of the Clean Air Act 1993.	Continue to ensure that emissions from chimneys are dispersed as far as possible under the Clean Air Act 1993.

Theme	ID	Action Name	Description	Target/ Monitoring	Timeframe	Department	Cost	Contributes to Action for Climate Emergency	Outcomes	Further Information
Emissions from Developments and Buildings	E10	Prescribed processes emission controls	Carry out regular risk-based inspection processes and ensure authorisations are up to date.	Inspections completed in accordance with frequency as specified by risk rating assigned at previous inspection.	2022–2027	Environmental Health	♦		Compliance with emission control requirements for prescribed processes.	Reduced emissions from prescribed processes.
	E11	Implementation of the Council's Climate Emergency Action Plan	Implementation of the new Climate Emergency Action Plan, which sets out how the Council will become net zero by 2030 and the borough by 2040.	Climate Change Action Plan to be implemented from 2022.	2022–2027	Climate Change Team	♦♦♦♦	✓	Achievement of net zero targets, which will contribute to an improvement in air quality.	The Council declared a Climate Emergency in October 2019.
	E12	Council Housing Action Plan development to implement the Housing Sustainability and Fuel Poverty Strategy	Develop an action plan that outlines how the Council's housing stock will achieve net zero by 2030 and reduce air pollution and ensure these are incorporated in the capital programme of refurbishment.	Action plan to be produced by December 2022.	2022–2027	Housing Department, Climate Change Team, and Environmental Health	♦♦♦♦	✓	Reduction in air pollutants and carbon emissions within Council housing stock. Install energy efficiency measures and replace gas boilers with heat pumps. Buildings will have improved energy efficiency with heat pumps installed.	Workstream groups have been created and actions are being developed on specific themes included in the Housing Sustainability and Fuel Poverty Strategy: fuel poverty, energy and net zero, waste, biodiversity, air quality and transport.
	E13	A new renewable heat network will secure Lancaster West Estate in becoming net zero carbon	Replace two existing communal networks powered by gas with the Notting Dale heat network, which is an integral part of the Lancaster West Estate's refurbishment programme.	Replacement currently planned for completion by December 2023.	2022–2030	Lancaster West Neighbour-hood Team	♦♦♦♦	✓	Reduce air pollution and carbon emissions	The zero carbon Notting Dale heat network aims to put residents first and provide affordable heating and hot water, while tackling fuel poverty. A fabric-first approach is to be taken on all the blocks on the estate.

Theme	ID	Action Name	Description	Target/ Monitoring	Timeframe	Department	Cost	Contributes to Action for Climate Emergency	Outcomes	Further Information
Emissions from Developments and Buildings	E14	Waste management sites	Any new consents for waste management sites will address potentially dusty operations and require them to be enclosed within a building.	As and when received.	2022–2027	Environmental Health, Waste Management	♦	✓	Compliance with emission control requirements for prescribed processes.	Reduced emissions from prescribed processes.
Working in Partnership	WP1	Collaboration with GLA and TfL to support working groups and policies that will improve air quality	Implementing actions from working groups such as the Wood-Burning Working Group.	Ongoing	2022–2027	Environmental Health	♦			
	WP2	Collaborative partnerships to take action to improve air quality	Continue to work with other local authorities, London Councils, LEDNET and other organisations (e.g., Crossriver Partnership) to take action to improve air quality. Explore opportunities for trials of innovative measures/technologies and projects.	Ongoing Explore at least one measure per year and report on progress.	2022–2027	Environmental Health, Transport and Public Health	♦	✓	Trials to see if successful in reducing air pollution and carbon emissions.	Cost of innovative measures can vary and implementation will be subject to successful funding.
	WP3	Work with universities	To support research and to aid our own understanding of sources and potential mitigation.	Ongoing	2022–2027	Environmental Health and Public Health	♦	✓	Trials to see if successful in reducing air pollution and carbon emissions.	Cost of innovative measures can vary and implementation will be subject to successful funding.
	WP4	Develop Environmental Steering Group of residents, businesses, and academic institutions.	To assist with delivery of Air Quality and Climate Emergency action plans and set up an air quality resource.	Ongoing Steering Group/ coalition to be formed and meeting quarterly by summer 2022.	2022–2027	Environmental Health and Climate Change Team	♦	✓	A localised air quality and climate change resource hub.	

APPENDIX A: Abbreviations

AQAP	Air Quality Action Plan
AQMA	Air Quality Management Area
AQO	Air Quality Objective
AQS	Air Quality Standard
ASHP	Air Source Heat Pump
BEB	Buildings Emission Benchmark
CAB	Cleaner Air Borough
CAZ	Central Activity Zone
CERC	Cambridge Environment Research Consultants
CHP	Combined Heat and Power
EU	European Union
EV / EVs	Electric Vehicle(s)
FORS	Fleet Operator Recognition Scheme
GLA	Greater London Authority
GSHP	Ground Source Heat Pump
RBKC	Royal Borough of Kensington and Chelsea
LAEI	London Atmospheric Emissions Inventory
LAQM	Local Air Quality Management
LLAQM	London Local Air Quality Management
NRMM	Non-Road Mobile Machinery
NO_2	Nitrogen Dioxide
PM	Particulate Matter
PM_{10}	Particulate Matter (less than 10 microns in diameter)
$PM_{2.5}$	Particulate Matter (less than 2.5 microns in diameter)
SPG	Supplementary Planning Guidance
SPVP	Solar Photovoltaic Panels
STARS	Sustainable Travel: Active, Responsible, Safe
TEB	Transport Emissions Benchmark
TfL	Transport for London
UK	United Kingdom
WHO	World Health Organisation

APPENDIX B: Air quality in Kensington and Chelsea

Air quality objectives and WHO guideline values

The UK Clean Air Strategy, published in 2019, provides the overarching strategic framework for air quality management in the UK and contains national air quality standards and objectives established by the government to protect human health. The strategy objectives take into account EU directives that set limit values, which member states are legally required to achieve by their target dates.

At our five automatic monitoring stations, air quality concentrations have improved over the past five years, and Kensington and Chelsea is meeting almost all of the NAQO (including those set for particulate matter – PM_{10} and $PM_{2.5}$). Concentrations of nitrogen dioxide are, however, still exceeding the national objectives over a small portion of the borough (about 11 per cent in 2019).

In addition to these national objectives, in 2019 the Council adopted the 2005 World Health Organisation (WHO) air quality guideline values, which for the finer fraction of particulate matter (PM_{10} and $PM_{2.5}$) are more stringent. $PM_{2.5}$ is, at present, said to be the pollutant that has the greatest impact on human health. The World Health Organisation has stated that current evidence suggests there is no safe level of $PM_{2.5}$. The 2005 and 2021 WHO values are a guideline only and reflect the level at which increased mortality from exposure to $PM_{2.5}$ is likely. The Mayor of London has also committed to meeting the 2005 WHO health-based guideline limits across London by 2030 in the London Environment Strategy. Monitoring and modelling suggest that PM_{10} levels meet the 2005 WHO guidelines values across most of the borough, while $PM_{2.5}$ exceeds the guideline values across about two thirds of the borough.

Table 4. Summary of National Air Quality Objectives.

Pollutant	Standard / Objective (UK)	Averaging Period	Date(1)
Nitrogen Dioxide (NO_2)	200 µg/m³ not to be exceeded more than 18 times a year	1-Hour Mean	31 Dec 2005
Nitrogen Dioxide (NO_2)	40 µg/m³	Annual Mean	31 Dec 2005
Particles (PM_{10})	50 µg/m³ not to be exceeded more than 35 times a year	24-Hour Mean	31 Dec 2004
Particles (PM_{10})	40 µg/m³	Annual Mean	31 Dec 2004
Particles ($PM_{2.5}$)	25 µg/m³	Annual Mean	2020
Particles ($PM_{2.5}$)	Target of 15 per cent reduction in concentration at urban background locations	3-Year Mean	Between 2010 & 2020
Sulphur Dioxide (SO_2)	266 µg/m³ not to be exceeded more than 35 times a year	15-Minute Mean	31 Dec 2005

Pollutant	Standard / Objective (UK)	Averaging Period	Date(1)
Sulphur Dioxide (SO_2)	350 µg/m³ not to be exceeded more than 24 times a year	1-Hour Mean	31 Dec 2004
Sulphur Dioxide (SO_2)	125 µg/m³ mot to be exceeded more than 3 times a year	24-Hour Mean	31 Dec 2004

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

Table 5. Summary of 2005 WHO air quality guideline values for NO_2, PM_{10}, and $PM_{2.5}$.

Pollutant	Metric	Guideline Value (2005)
NO_2	1-Hour Mean	200 µg/m³
	Annual Mean	40 µg/m³
PM_{10}	24-Hour Mean	50 µg/m³
	Annual Mean	20 µg/m³
$PM_{2.5}$	24-Hour Mean	25 µg/m³
	Annual Mean	10 µg/m³

Table 6. Summary of 2021 WHO air quality guideline values for NO_2, PM_{10}, and $PM_{2.5}$.

Pollutant	Metric	Guideline Value (2021)
NO_2	1-Hour Mean	25 µg/m³
	Annual Mean	10 µg/m³
PM_{10}	24-Hour Mean	45 µg/m³
	Annual Mean	15 µg/m³
$PM_{2.5}$	24-Hour Mean	15 µg/m³
	Annual Mean	5 µg/m³

Table 7. Examples of where the air quality objectives apply.

Averaging Period	Objectives Apply	Objectives Do Not Apply
Annual Average	All locations where members of the public might be regularly exposed. Building facades of residential properties, schools (including all playgrounds), hospitals (and their grounds), care homes (and their grounds), etc.	Building facades of offices or other places of work where members of the public do not have regular access. Hotels, unless people live there as their permanent residence. Gardens of residential properties. Kerbside sites (as opposed to locations at the building façade), or any other location where public exposure is expected to be short term.

24-Hour Mean	All locations where the annual mean objective would apply, together with hotels. Gardens of residential properties, where relevant for public exposure (e.g. seating or play areas).	Kerbside sites (as opposed to locations at the building façade), or any other location where public exposure is expected to be short term.
Hourly Average	All locations where the annual mean and 24-hour mean objectives apply and: • Kerbside sites (e.g. pavements of busy shopping streets). • Those parts of car parks, bus stations, and railway stations, etc. which are not fully enclosed, where members of the public might reasonably be expected to spend one hour or longer. • Any outdoor locations where members of the public might reasonably expect to spend one hour or longer.	Kerbside sites where the public would not be expected to have regular access.

Air quality, deprivation, and inequality

It is widely reported that air pollution concentrations of nitrogen dioxide and particulate matter tend to be worse in poorer neighbourhoods. This distribution is often largely explained by the high urban concentrations produced by road transport sources and the high proportion of deprived communities situated in urban areas. Figure 10 shows the Index of Multiple Deprivation (IMD) to identify how deprived an area is. It uses a range of economic, social, and housing data to create a single deprivation score for each small area of the country. The IDACI decile is the Income Affecting Children Index, which measures the proportion of children aged 0–15 years living in income-deprived households.

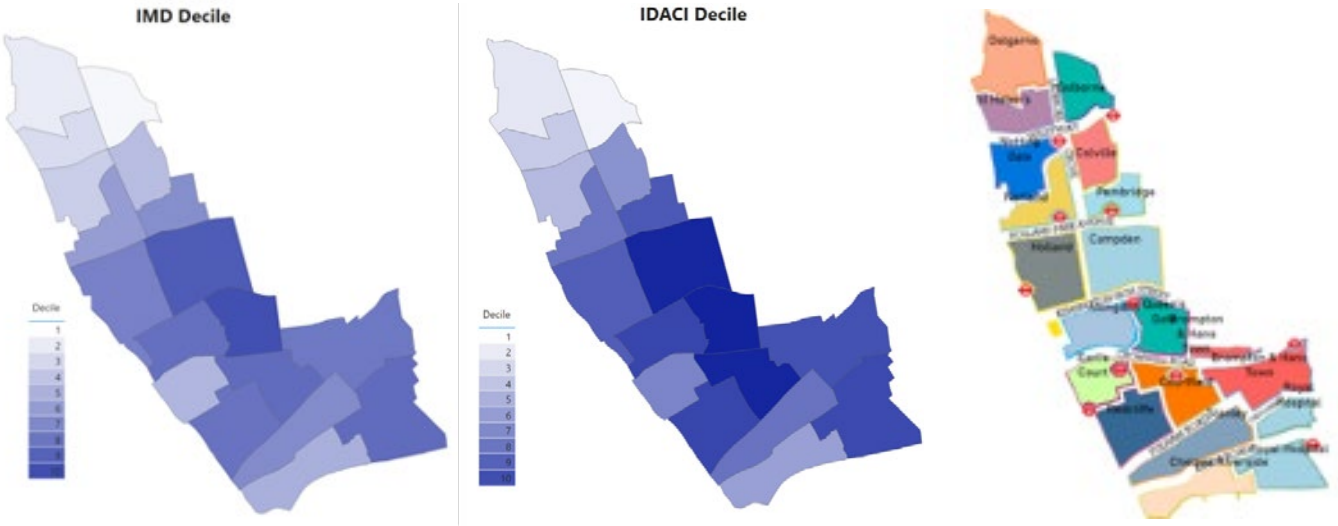

Figure 10. IMD decile and IDACI in Kensington and Chelsea.

In Kensington and Chelsea, the ward with the highest IMD and IDACI decile is Golborne, followed by Dalgarno in North Kensington. Figure 11 displays prevalence of asthma and chronic obstructive pulmonary disease – two conditions which can be triggered and exasperated by poor air quality. The prevalence of both these conditions is highest in the wards in the north of the borough. While further research would be needed to identify local trends, the parts of the borough associated with the highest deprivation and rates of asthma and COPD fall into areas with the lowest levels of air pollution, which counters this assumption.

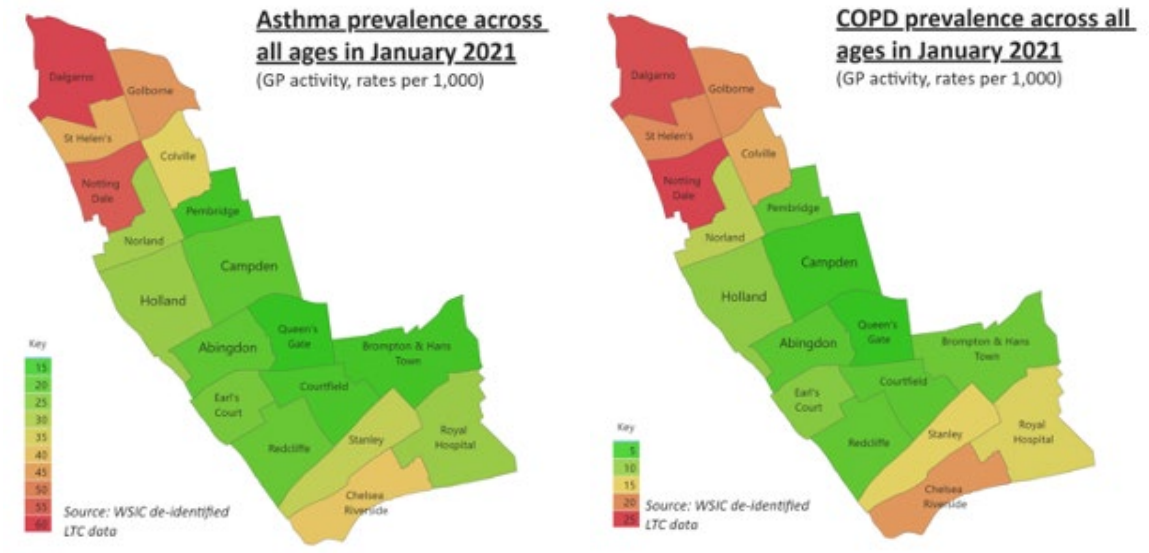

Figure 11. Prevalence of asthma and COPD in Kensington and Chelsea.

It is also said that that while children, young adults and households in poverty have the highest levels of exposure to poor air quality, it is often the more affluent households and businesses who are responsible for producing the greatest proportion of air pollution. In Kensington and Chelsea, there is a significant mix of housing, with council estates and mansion houses in close proximity. From the air quality modelling work that we undertook in 2019 (see Appendix B3) for 2022, the highest concentrations of NO_2, PM_{10}, and $PM_{2.5}$ are predicted to be along the main roads and largely in the southern half of the borough (see Figure 12), though the modelled data suggests the railway line in North Kensington is contributing to poor air quality in that area (and this requires further investigation). However, it is children and vulnerable residents who live in areas of deprivation that will be more susceptible to the effects of poor air quality.

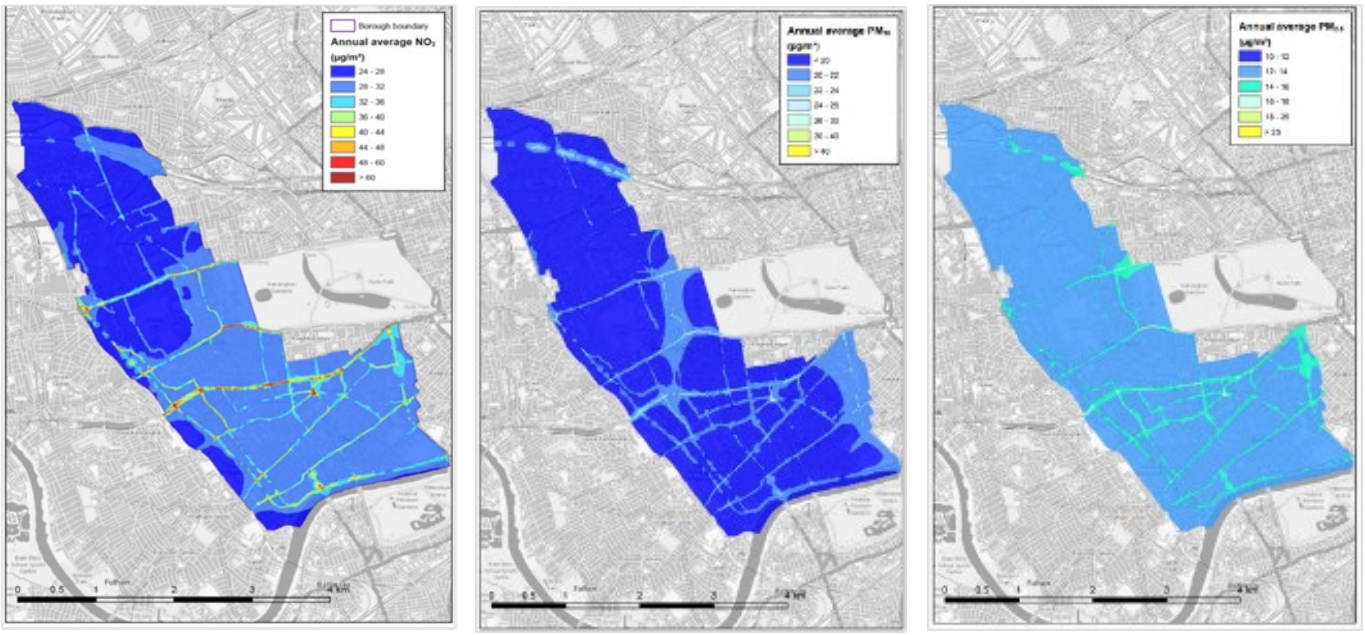

Figure 12. Modelled annual average NO_2, PM_{10}, and $PM_{2.5}$ concentrations across RBKC in 2022.

The production of the latest WHO guideline values in September 2021 provides a clear mandate for the creation of a healthier, cleaner and more sustainable borough, knowing that at even very low concentrations pollution can have an impact on health.

CERC modelling of ambient air quality in Kensington and Chelsea

The description of the modelling within this section complements the modelling described within Section 1 of this document.

Introduction

To provide evidence to assist with the development of this Air Quality Action Plan, the Pollution Regulatory Team commissioned Cambridge Environmental Research Consultants (CERC) to carry out source apportionment to identify the main sources of ambient nitrogen dioxide and particulate matter in the borough.

In addition, CERC was asked to undertake borough-wide air quality modelling for 2016, 2019 and 2022 at 1.5 m (ground level), 4 m (about first floor level) and 10 m (worst case for Westway) above ground level to predict the annual mean concentrations of nitrogen dioxide (NO_2) and fine particles (PM_{10} and $PM_{2.5}$) and short-term concentrations of NO_2 (1-hour mean) and PM_{10} (24-hour mean) for comparison against national air quality objectives (NAQO) and WHO guideline values. The modelling

has included predictions at 286 receptor points (such as homes, parks, and community centres) along the Westway and an apportionment study for 2016, to identify the sources of air pollution in the borough.

Innovatively, CERC was asked to model the Westway as an elevated road to account for the increased dispersion and dilution of air pollution. Accurately modelling the Westway suggests that past reporting has significantly overestimated the contribution of the Westway to poor air quality in the north of the borough.

Modelling is a useful tool and will accurately predict air pollution concentrations for most of the borough; however, local sources of pollution may not always be accounted for and so the modelling may occasionally either over- or underpredict concentrations in some local areas.

Nitrogen Dioxide

Based on CERC's apportionment study for 2016, Figure 2 in Section 1 shows that 58 per cent of NOx emissions are produced by road transport. Figure 13 demonstrates that the top four sources of road transport NOx emissions are fairly evenly split, with similar contributions coming from diesel cars (21 per cent), rigid HGVs (20 per cent), and buses and coaches (19 per cent), followed by taxis (17 per cent).

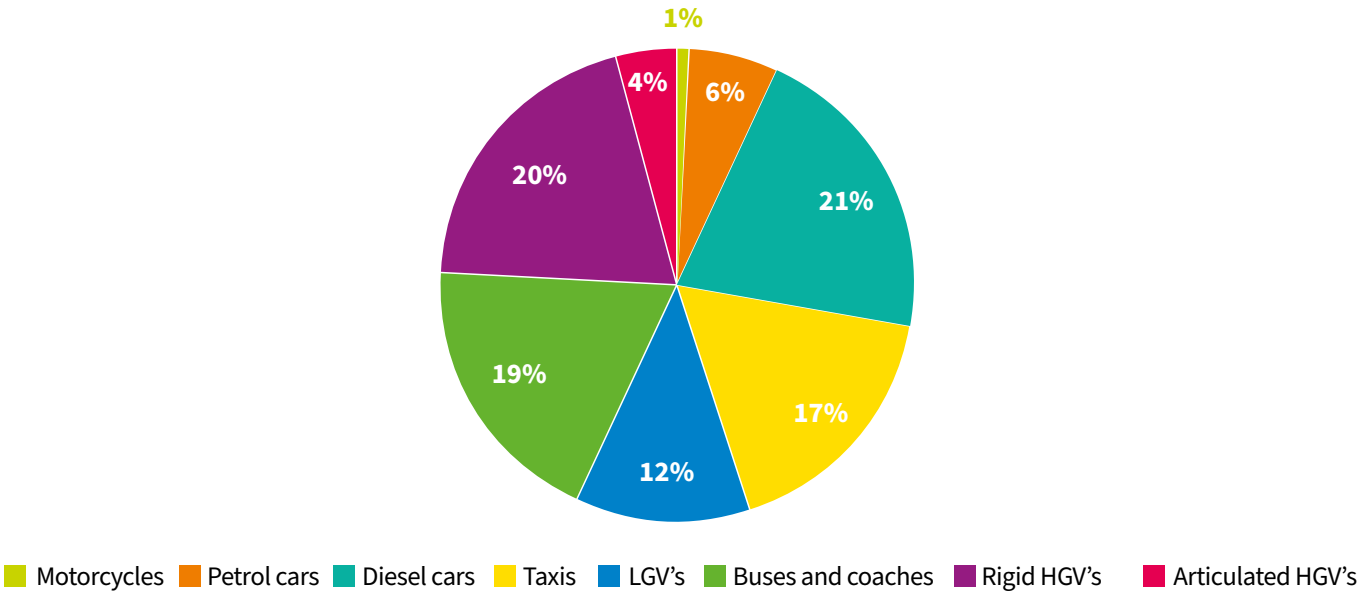

Figure 13. Breakdown of NOx emissions by road transport vehicle type.

Figure 14 shows the contributions of these road transport sources at different monitoring sites in the borough. Results from KC3 (Knightsbridge) and KC5 (Earl's Court) demonstrate that emissions from taxis were a significant contribution. TfL is aiming to reduce taxi-based NOx emissions by 65 per cent by 2025. Buses and coaches also contribute significantly to the emission levels at KC3 and KC59 (Kensington High Street).

However, despite road transport only comprising 58 per cent of overall borough emissions, at the locations where the NAQOs are exceeded, road transport contributes a far higher proportion of emissions (see Figure 15).

The orange bars in Figure 15 demonstrate that road transport is the dominant source of pollution at most of these monitoring locations. This is particularly the case at KC3 (Knightsbridge) and KC5 (Earl's Court), where NOx from road transport makes up 86 per cent and 87 per cent, respectively. This compares to 55 per cent at KC1, which is located away from busy roads.

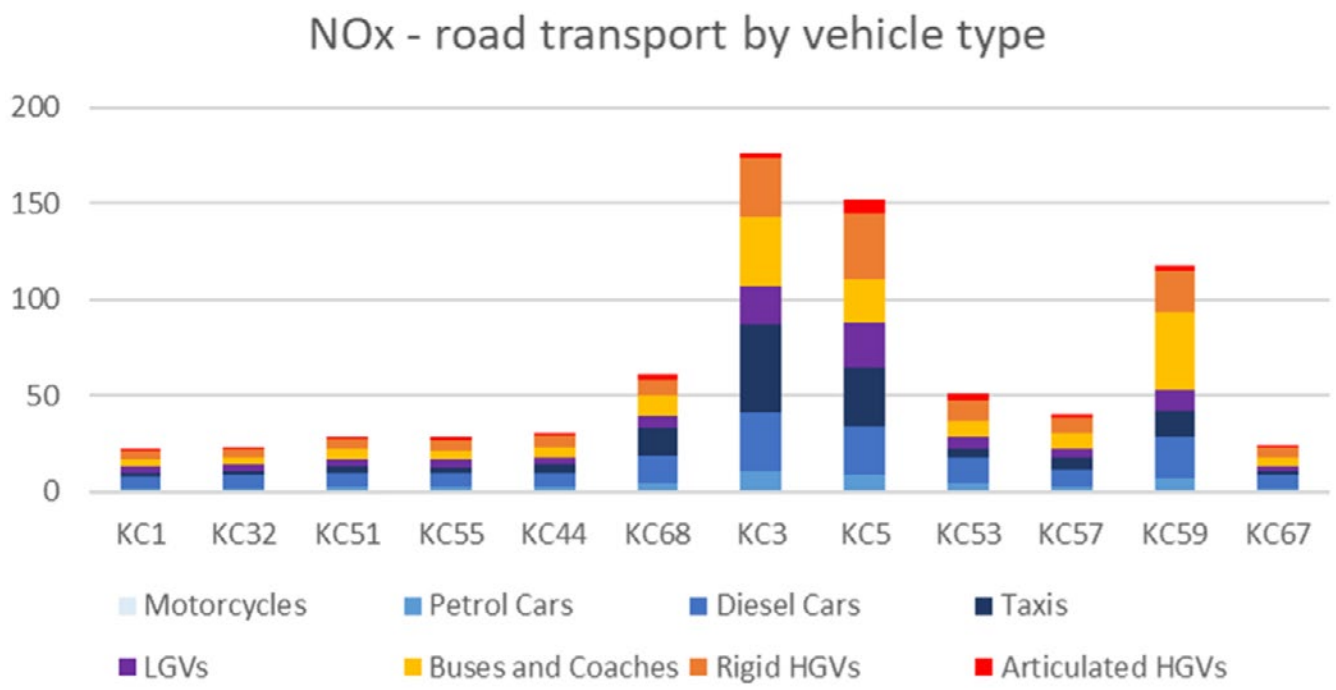

Figure 14. Breakdown of transport NOx emissions at various monitoring sites.

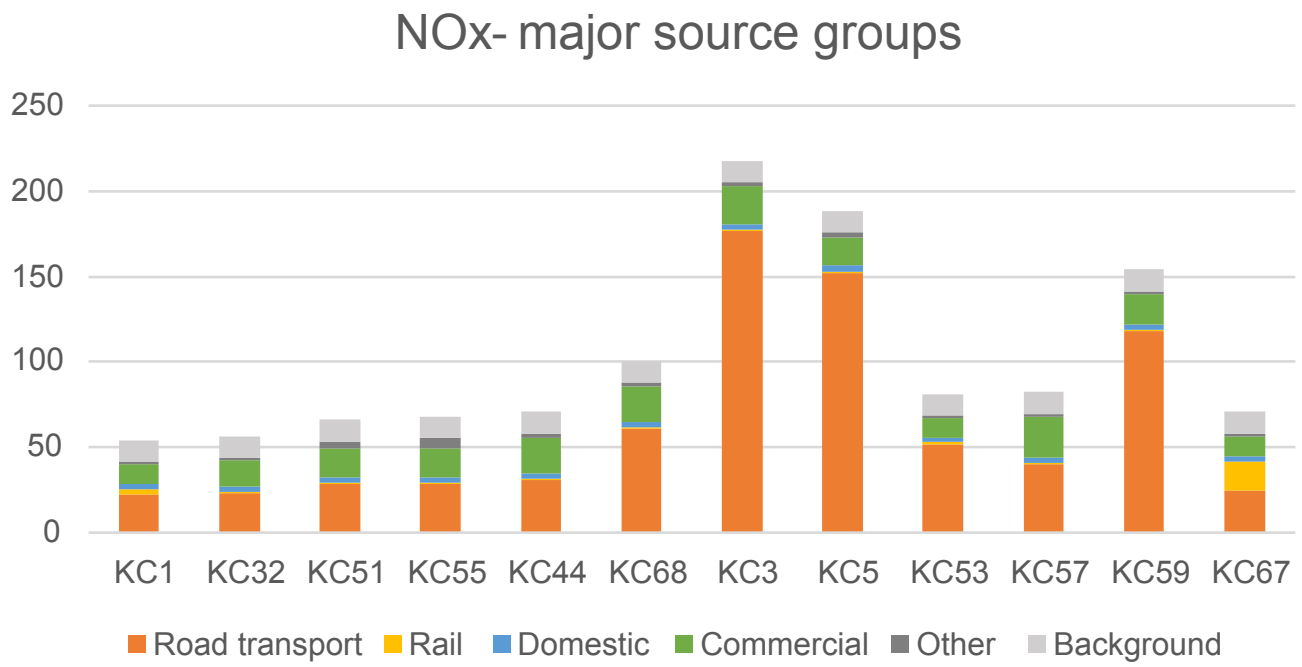

Figure 15. NOx major source groups at various monitoring sites.

CERC's borough-wide modelling for 2022 (which accounts for both the existing Ultra-Low Emission Zone (ULEZ) and its expansion to the North and South Circular) suggests that:

- Annual mean NAQO: 96 per cent of the borough will be unlikely to exceed the annual mean, with much of the remaining 4 per cent that is likely to exceed the NAQO being made up of the roadways themselves and pavements where the objective does not apply.
- Short-term objective and 2005 WHO guideline value: only localised areas along the east section of Kensington High Street and around South Kensington underground station will exceed objectives and guideline values.

As would be expected, modelling suggests that air quality improves at greater height above ground level and so in 2022 (with the extended ULEZ implemented) the proportion of the borough that is unlikely to exceed the annual mean objective increases from 96 per cent at 1.5 m above ground level to 98 per cent and 99 per cent at 4 m and 10 m above ground level, respectively.

If it were, in theory, possible to remove the internal combustion engine from our roads, this would substantially reduce nitrogen dioxide levels across the borough above the predicted 96 per cent for 2022. It would also almost certainly result in the NAQOs and short-term WHO guideline value being met across the borough. Replacing gas boilers[1] across the borough and other parts of London would also have a significant effect and contribute further to meeting the annual mean NAQO across most of the borough. Combined, these measures would result in the objective being met at over 99.9 per cent of the borough.

If the internal combustion engine were to be removed from Kensington and Chelsea's roads, the main source of NOx emissions within the borough would be from CHP and gas engines and if any remain, diesel-powered generators. We need to understand the degree to which these sources will be tackled through the net zero carbon and carbon neutral targets. In particular, where CHP and gas engines remain in use, the annual mean NAQO may be exceeded in local areas of the borough. Further research will be required to identify these locations and the impact of these sources.

Ozone

It is possible that over the next decade, as NO_2 levels continue to reduce, ozone will increase (as there will be less fresh NOx available to interact with Volatile Organic Compounds to reduce it), potentially exceeding NAQOs. Further research is needed to identify whether this is likely to occur and the Council will continue to monitor ozone at KC1 North Kensington and consider whether to expand the number of places it is monitored.

Particulate matter (PM_{10} and $PM_{2.5}$)

Borough sources of PM_{10} and $PM_{2.5}$ can be seen in Figure 3 in Section 1. As shown in Figure 16, taxis contribute 30 per cent of PM_{10} and $PM_{2.5}$ emissions, followed very closely by diesel cars with 29 per cent.

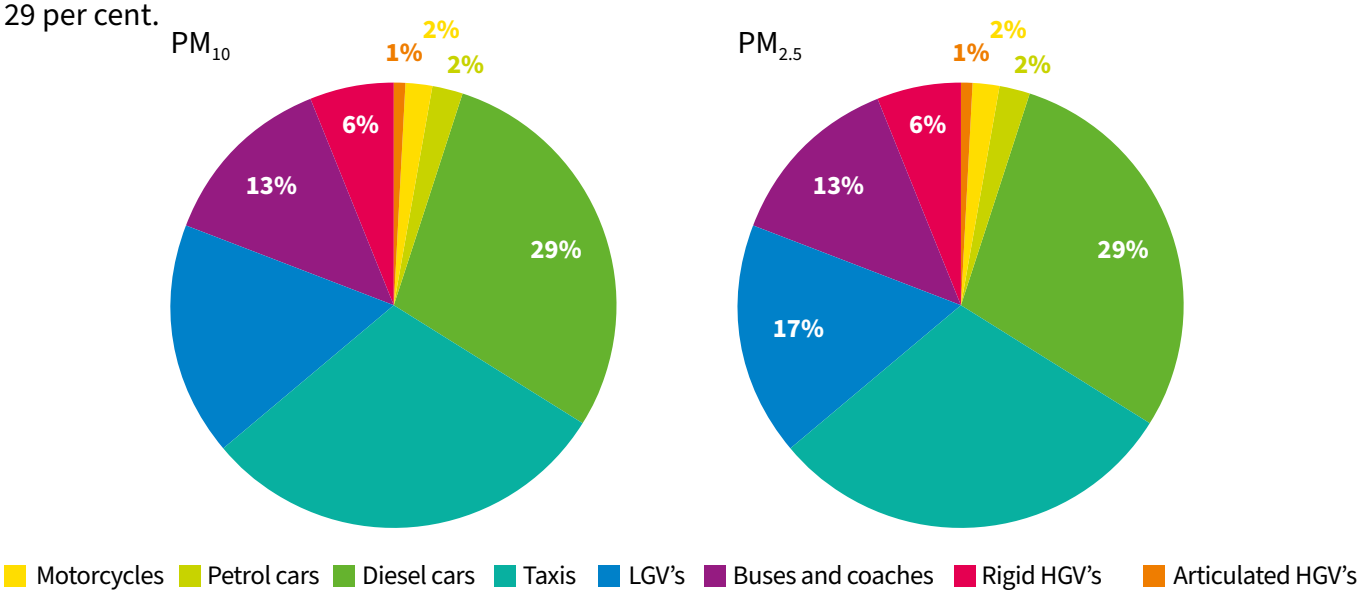

Figure 16. Breakdown of road transport PM_{10} and $PM_{2.5}$ emissions by road vehicle type.

1 Public Health England. (2019). Review of Interventions to Improve Outdoor Air Quality and Public Health.

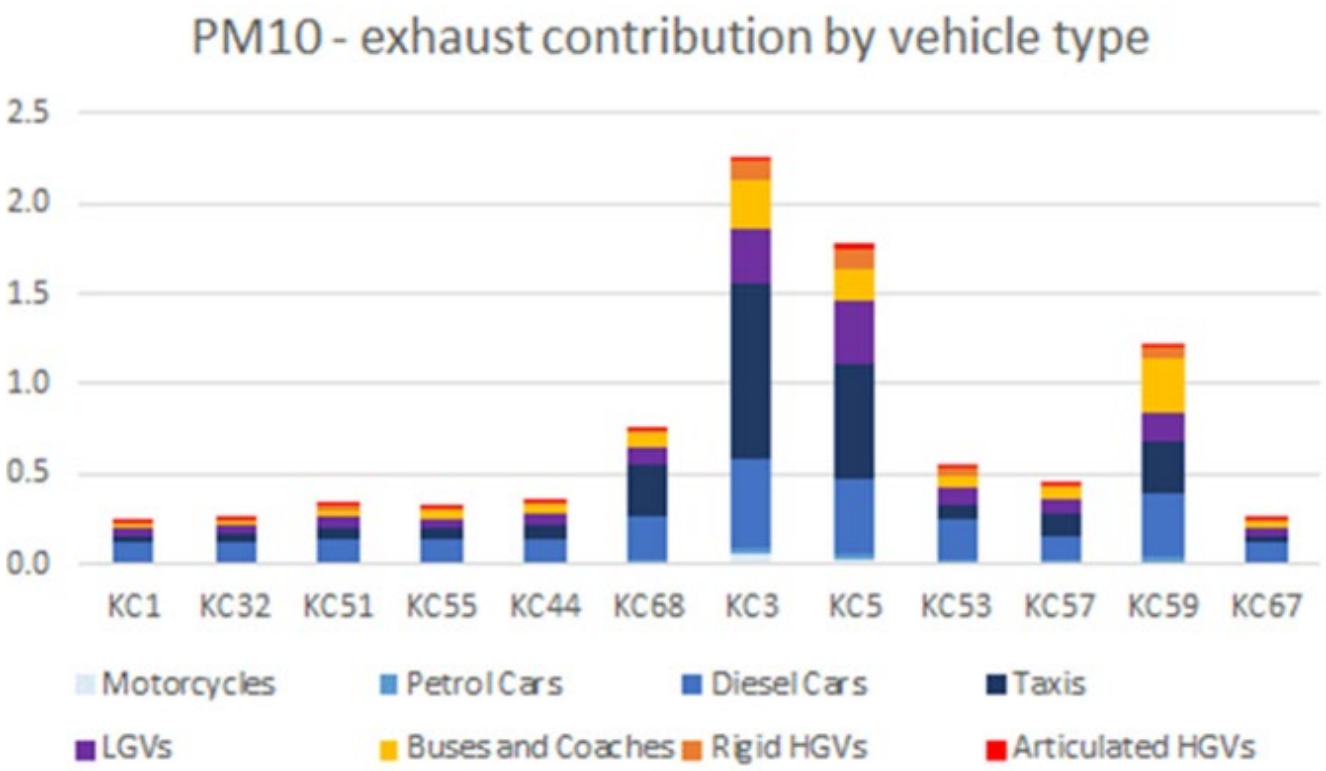

Figure 17. Breakdown of transport PM_{10} emissions at various monitoring sites.

As with NO_x, taxis are the greatest source of PM_{10} at KC3 (Knightsbridge) and KC5 (Earl's Court) and the same applies to sources of $PM_{2.5}$.

The pie charts in Figure 18 show the breakdown of road transport particulate emissions, looking at the contributions from exhaust, brake wear, road wear, tyre wear and re-suspension. Emissions from exhaust, shown in dark blue, are significant, particularly for $PM_{2.5}$. There is, therefore, rightly a drive to move towards electric vehicles as these are, of course, an improvement on diesel and petrol vehicles in this area. However, we need to be mindful that if everyone were to move to electric, we would still be left with emissions from road wear, brake wear, and tyre wear.

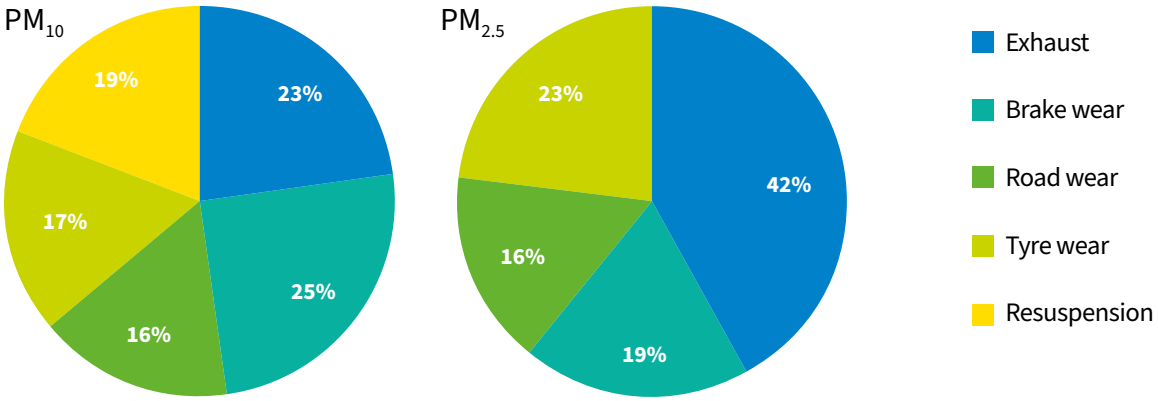

Figure 18. PM_{10} and $PM_{2.5}$ road transport emissions.

While commercial sources are the largest contributors to PM_{10} and $PM_{2.5}$ (as shown in Figure 3, Section 1), Figure 19 shows the contributions of all sources at various locations in the borough. At KC3 (Knightsbridge), road transport is the more dominant source than commercial at this particular location, shown by the section in orange, which is greater than the amount of green. However, this is not the same at all locations, where green can be more dominant. Nonetheless, it is the light grey part of each bar which shows that, without exception, background sources make up the largest

contribution of particulates, be it PM_{10} or $PM_{2.5}$, and our local actions will not have a significant effect on reducing this contribution as it comes from outside of London and the UK, demonstrating the importance of co-ordinated national and international action in addition to our own local actions.

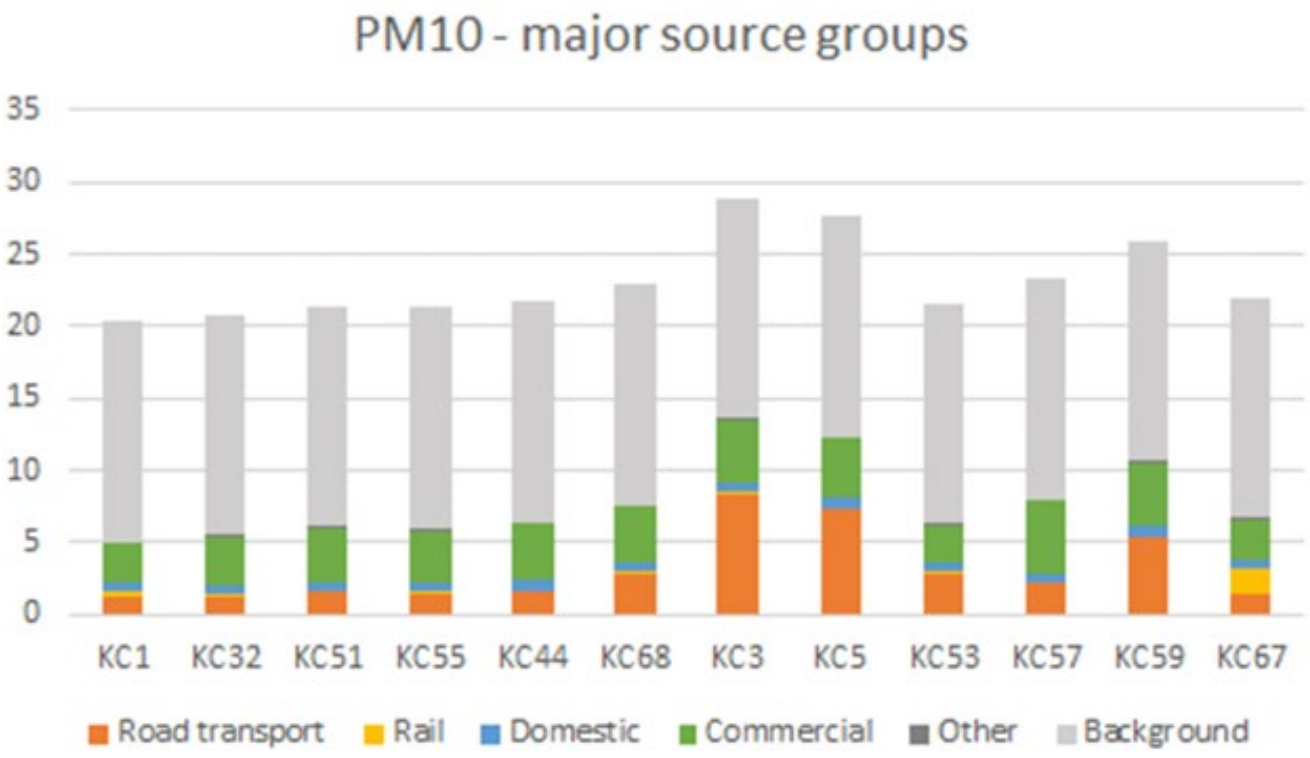

Figure 19. PM_{10} major source groups at various monitoring sites.

The annual mean NAQOs for PM_{10} and $PM_{2.5}$ are met across the borough and, similarly to nitrogen dioxide, the short-term objective for PM_{10} is predicted to be exceeded in localised areas along the east section of Kensington High Street and around South Kensington underground station.

Removing the exhaust component of the internal combustion engine is predicted to reduce overall borough emissions of PM_{10} by about 12 per cent and $PM_{2.5}$ by about 17 per cent.

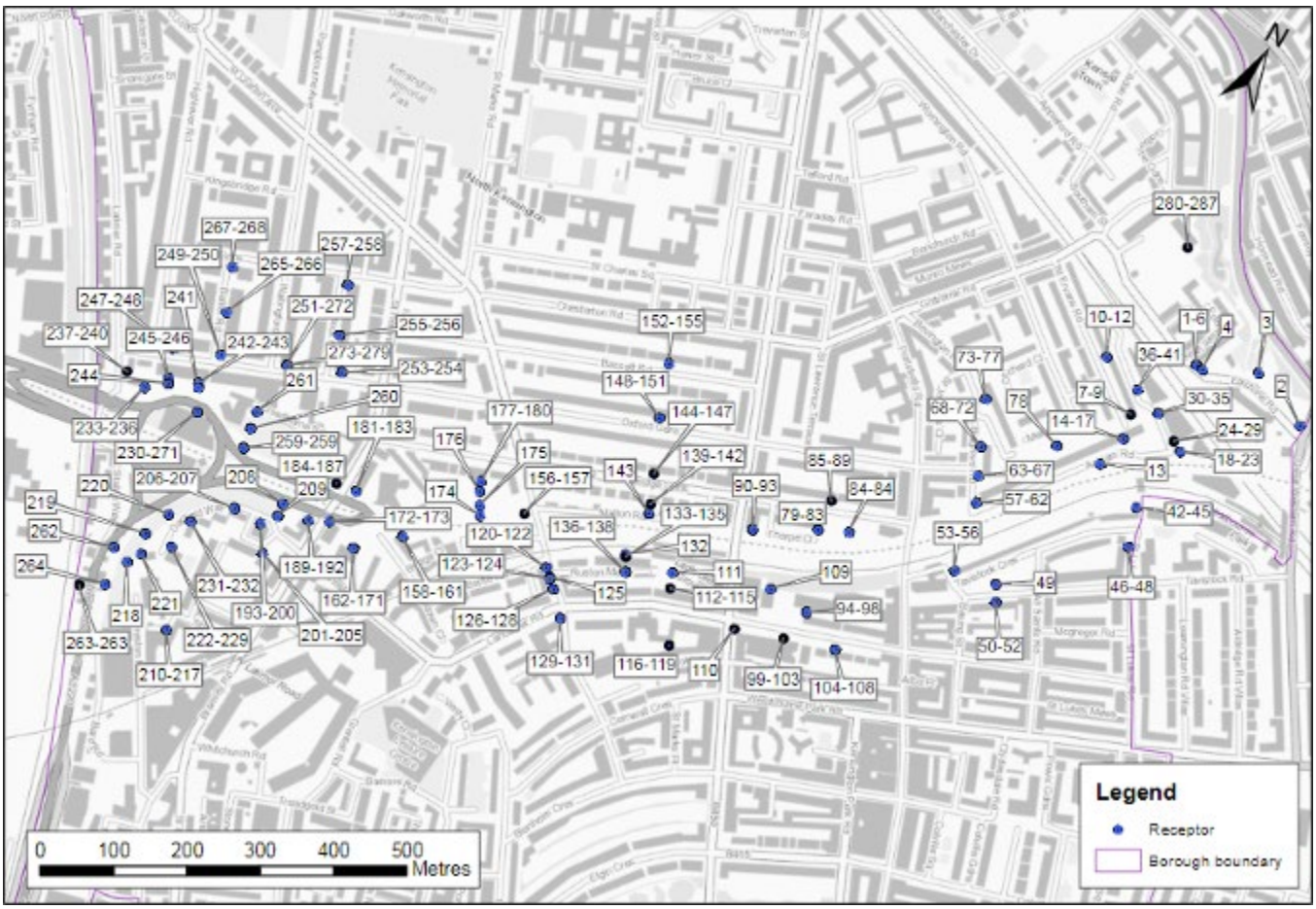

Figure 20. Receptor locations (all heights).

A40/Westway

The modelling included predictions at 286 receptor points along the Westway (Figure 20). These receptors represent residential locations and public spaces in the vicinity of the road and range from a height 1.5 m to 45 m above ground level, including a number of vertical transects.

2016 Modelling results

Modelled annual average NO_2 concentrations exceed the air quality objective of 40 µg/m^3 at 14 of the 286 receptor locations in the vicinity of the A40 Westway. Modelled concentrations of hourly average NO_2, annual and daily average PM_{10}, and annual average $PM_{2.5}$ meet air quality objectives. The 2005 WHO hourly average NO2 guideline value is met at all receptor locations. For particulate matter, the 2005 WHO guideline value for annual average PM_{10} is exceeded at 86 per cent (247) of the receptor locations, while the 2005 WHO guideline value for annual average $PM_{2.5}$ is exceeded at all locations.

The highest concentrations are modelled for roadside receptor locations along St Mark's Road, approximately 60 m from the Westway; modelled concentrations next to the Westway are lower. Although modelled road NOx emissions for St Mark's Road are approximately half the modelled emissions for the Westway (i.e. the same as the emissions for each direction of the Westway), the modelled concentrations are higher because of generally poorer dispersion conditions (higher wind speeds, leading to greater plume spread) next to a ground-level road when compared to an elevated road. The other areas where the model predicts exceedances of the annual average NO_2 objective are locations around the A3220 West Cross Route roundabout; this reflects varying road heights modelled and the relatively high emissions (low speeds and high traffic counts) modelled for the roundabout.

2019 and 2022 Modelling results

Annual average NO_2 concentrations are predicted to meet the air quality objective at all receptor locations. Apart from eight receptors, the modelled concentrations were below 35.9 µg/m3, which demonstrates the majority of receptors are unlikely to exceed the national objective.

Modelled concentrations of hourly NO_2, annual average and daily PM_{10}, and annual average $PM_{2.5}$ meet air quality objectives. The 2005 WHO hourly average NO_2 guideline value is met at all receptor locations. The WHO guideline value for annual average PM_{10} is modelled to be exceeded at 16 and 12 receptor locations in the 2019 and 2022 modelling, respectively; however, the model verification indicates that the modelling is likely to over-predict annual average PM_{10} concentrations. Across both 2019 and 2022, the maximum predicted annual average PM_{10} concentration at the receptor locations is 20.9 µg/m3. Assuming that the modelling is over-predicting concentrations across the borough by approximately 2 µg/m3, as indicated by the model verification, then the 2005 WHO guideline for annual average PM_{10} is likely to be met at all sites. The 2005 WHO guideline value for annual average $PM_{2.5}$ concentrations is modelled to exceed at all locations for both years. Modelled concentrations range between 11.6 µg/m3 and 14.6 µg/m3, with 51 and 45 receptor locations with concentrations of 13 µg/m3 or greater in the 2019 and 2022 modelling, respectively. However, comparing against the modelled and monitored concentrations at KC1 in 2019 suggests the 2005 WHO guideline value is likely to be met at the majority of the receptor locations.

With the exception of narrow corridors along some of the borough's busiest roads, the WHO annual mean guideline value for PM_{10} is likely to be met across the borough when model overprediction is taken into account. Similarly, the annual mean 2005 WHO guideline value for $PM_{2.5}$, which otherwise is predicted to be exceeded across the whole of the borough, is predicted to be met across about a third of the borough in 2019 and 2022.

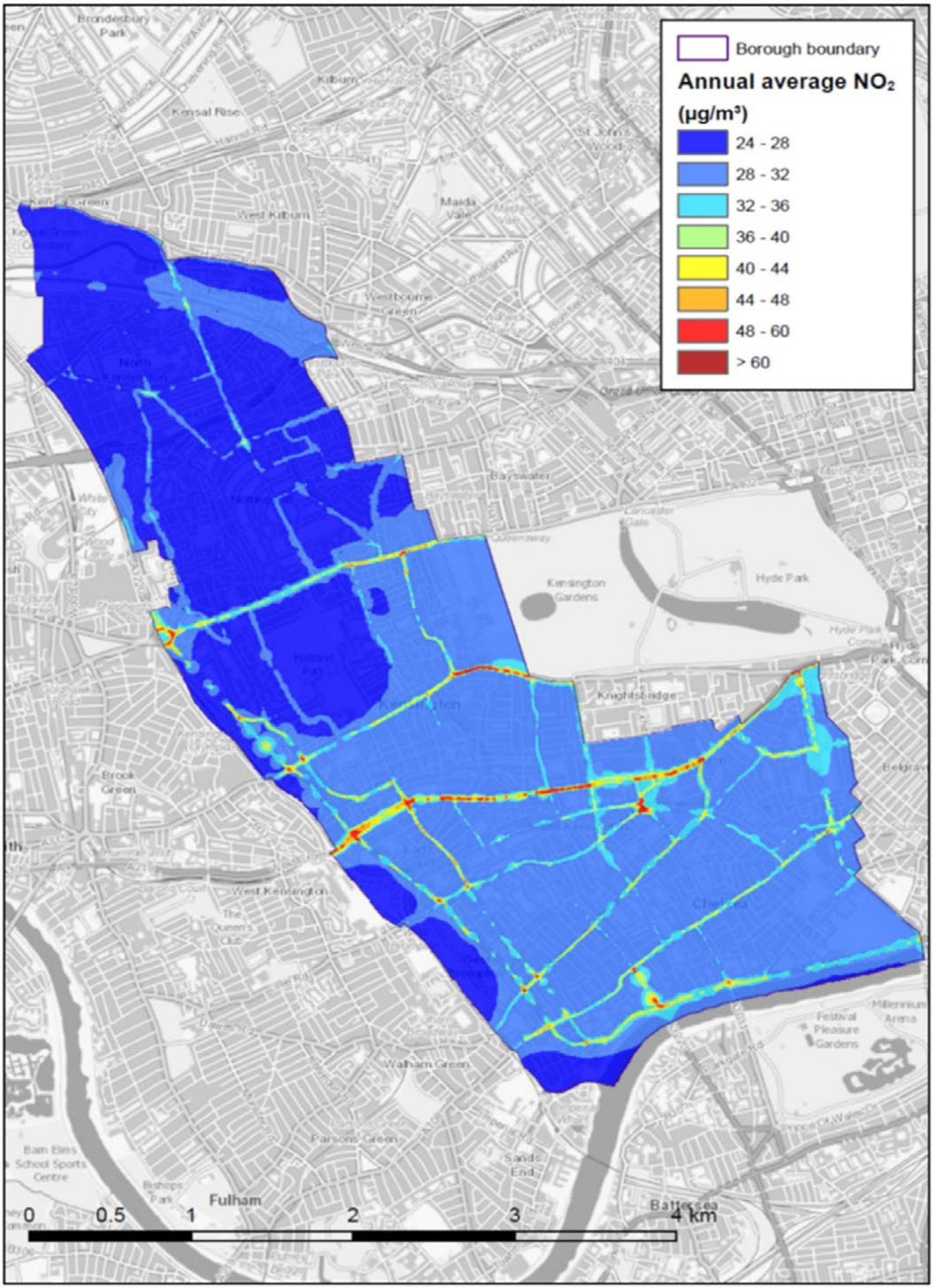

Figure 21. Modelled map of annual mean NO_2 concentrations for 2022.

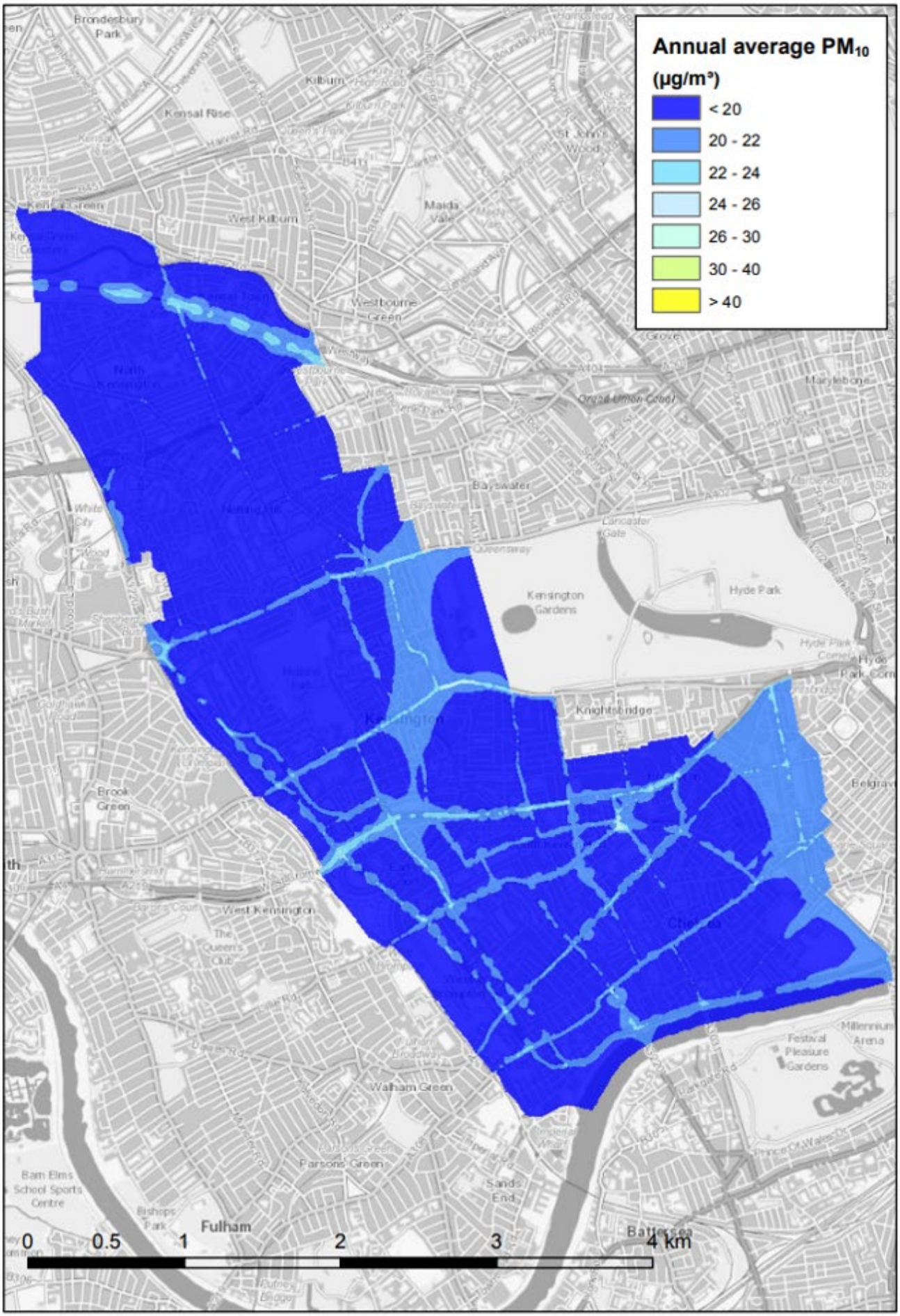

Figure 22. Modelled map of annual mean PM_{10} concentrations for 2022.

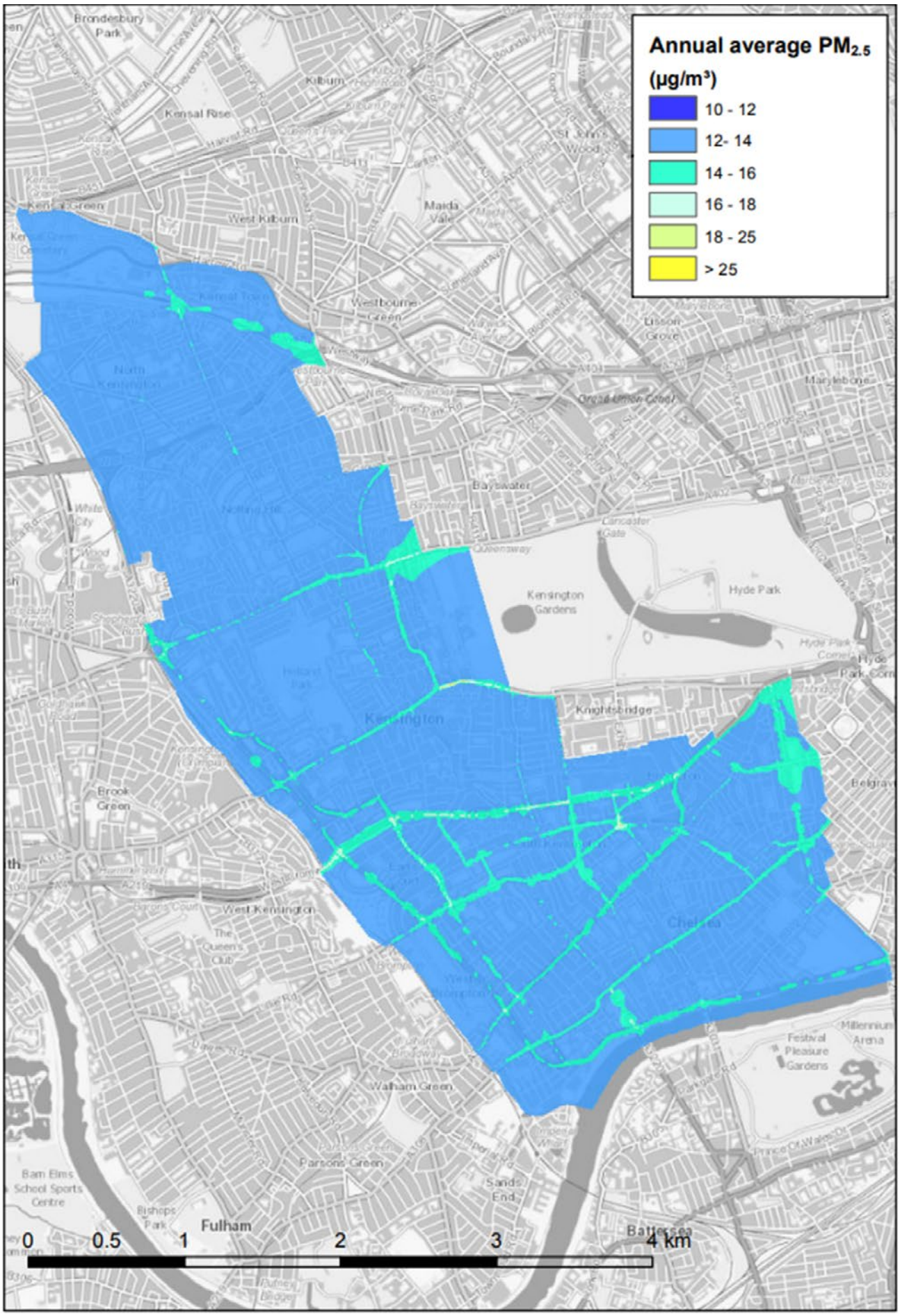

Figure 23. Modelled map of annual mean $PM_{2.5}$ concentrations for 2022.

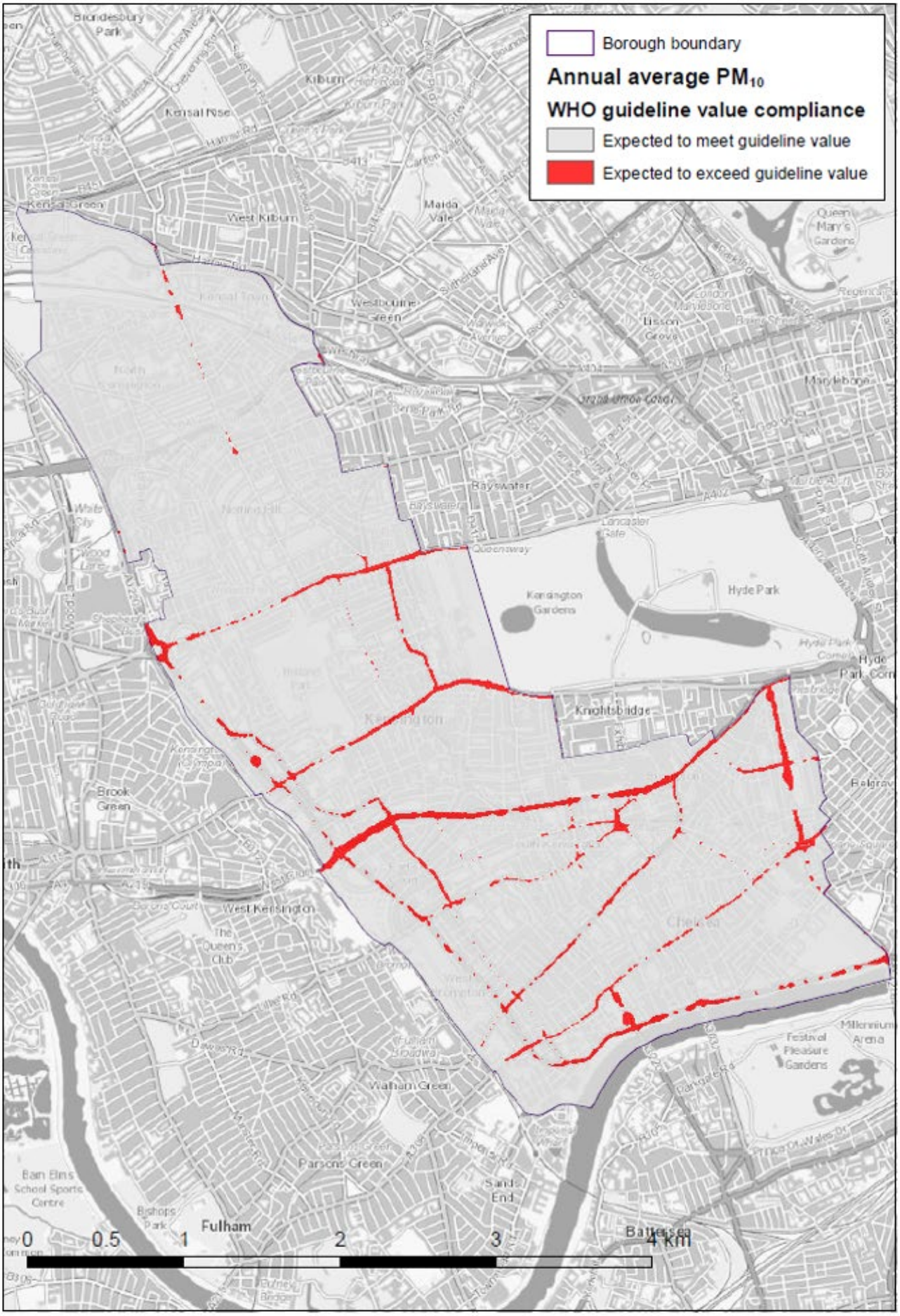

Figure 24. Modelled map for 2022 PM_{10} compliance with 2005 WHO guideline value.

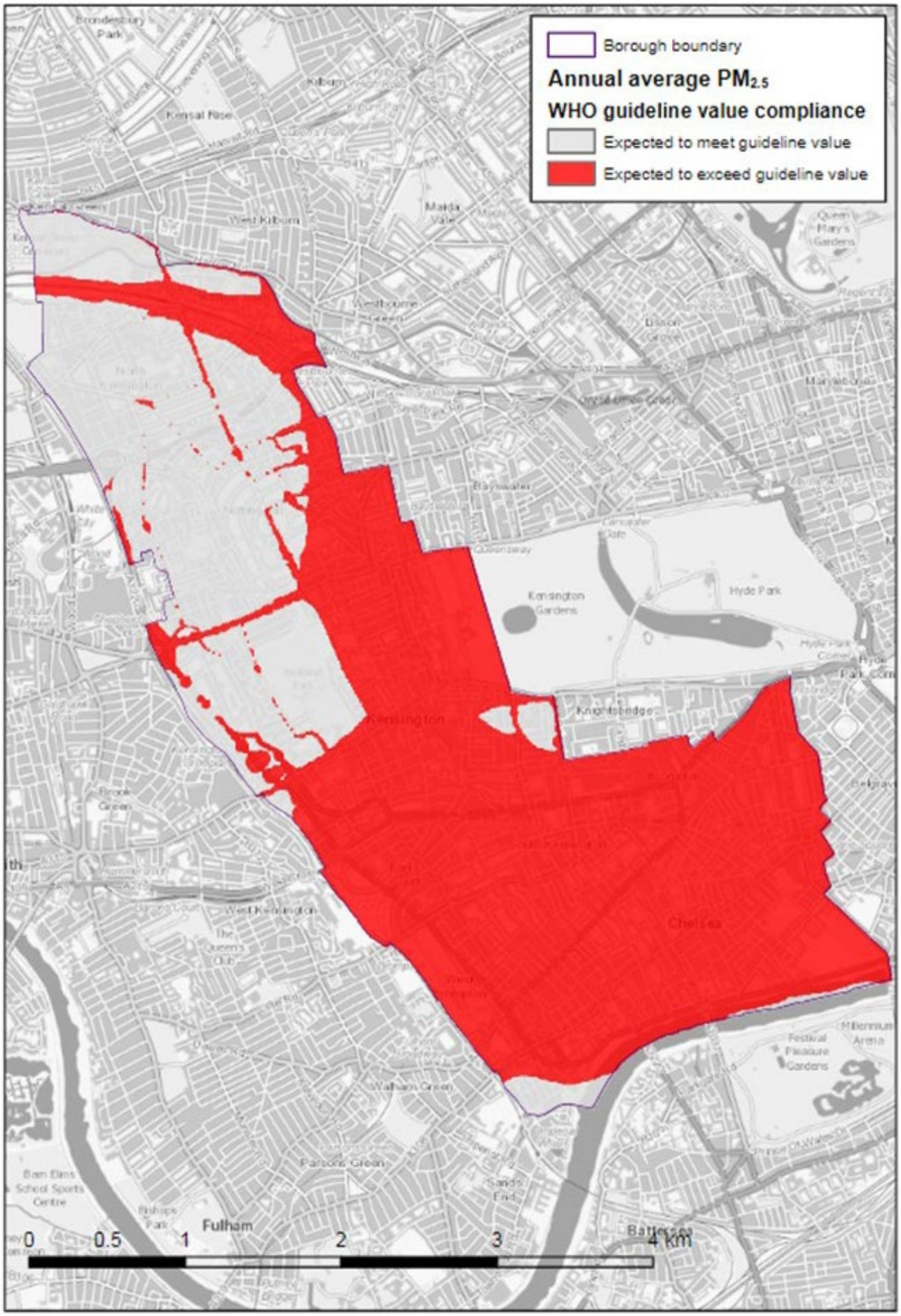

Figure 25. Modelled map for 2022 $PM_{2.5}$ compliance with 2005 WHO guideline value.

Air Quality Focus Areas

The entire borough of Kensington and Chelsea was declared an AQMA in 2000 due to exceedances of the annual mean and 1-hour mean for nitrogen dioxide (NO_2) and the annual mean and 24-hour mean for particulate matter (PM_{10}) objectives. Although the whole borough meets the national air quality objectives for PM_{10} and $PM_{2.5}$, we are exceeding World Health Organisation air quality guideline values for these pollutants and have a formal responsibility to work towards reductions of $PM_{2.5}$.

- The GLA has identified the following three Air Quality Focus Areas (AQFA) in the borough (see Figure B11): A4 Cromwell Road (from Talgarth / Earl's Court / Gloucester Road / Thurloe Place / Knightsbridge)
- Knightsbridge / Kensington Grove / Kensington High Street
- Notting Hill Gate

These are locations associated with some of the worst air quality, where the GLA wants focused actions to be taken to tackle sources of air pollution.

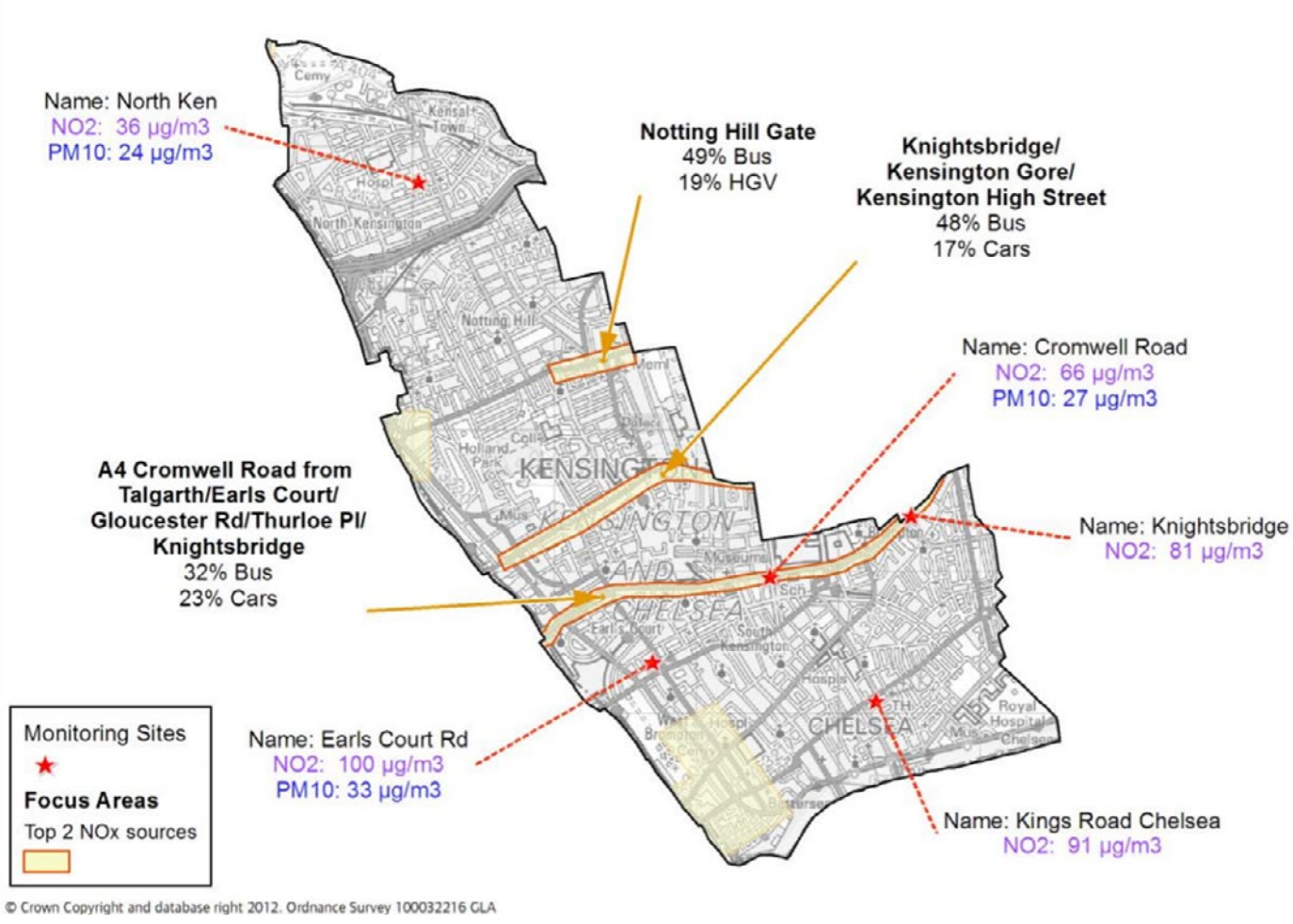

Figure 26. Kensington and Chelsea GLA focus areas.

Air quality and Covid-19

In the last five years, London has experienced a general downwards trend in pollution due in part to the introduction of large-scale air quality measures including the Congestion Charge Scheme, the Ultra-Low Emission Zone, and the upgrade of TfL's bus fleet. However, the year 2020 was like no other and provided an opportunity to review the impact of the significant reduction in motor vehicles on the borough's roads and large numbers of residents being at home.

The most significant events included:

- Friday 20th March: the government announced the closure of pubs and restaurants and asked people to stay at home. Traffic levels fell significantly, and the majority of residents stayed at home.
- Wednesday 13th May: a gradual relaxation of the lockdown measures commenced, and, on 4th July, restrictions were lifted with office workers being encouraged to get back to work at the end of August.
- 5th November: The second lockdown commenced. Again, volumes of traffic fell, though not as sharply as during the first lockdown.
- London then entered Tier 4 level restrictions on 20th December. Entering Tier 4 meant that non-essential retail, leisure venues, and close-contact services were shut, members of the public were ordered to stay at home, and the only mixing with other households permitted was meeting with a single person outdoors.

With the introduction of the lockdowns, overall concentrations of nitrogen dioxide fell significantly in Kensington and Chelsea, most likely as a result of the decrease in traffic. However, this was not the same for all pollutants. There was not a similar corresponding decrease in concentrations of PM_{10} or, $PM_{2.5}$, and O_3 concentrations actually increased.

At the start of the first lockdown, there was a period when London experienced a period of particulate pollution transported from northern Europe. The good weather during long periods of the lockdown also meant that particulates present in the environment were more easily resuspended.

There were also a number of regional O_3 pollution episodes during the summer, which may well have resulted or been exacerbated by the drop in nitrogen dioxide concentrations and might illustrate how O^3 concentrations will change in the future as nitrogen dioxide concentrations fall. As a result of the O^3 pollution episodes, KC1 North Kensington recorded 39 exceedances of the O_3 8-Hour national air quality objective, an increase on the 18 exceedances recorded from the previous year (2019).

For further detail, we reported on the impact of Covid-19 on air quality within the borough in our 2021 Annual Status Report (ASR), which covers the year 2020. It can be found online on our Council webpage here.

Image: Matt McIlroy, during lockdown

Indoor air quality

It is well understood that being exposed to poor air quality while outside can be harmful to your health. The same is true when you are indoors, and in response to the Covid-19 pandemic there has been a rise in the number of people spending increased amounts of time indoors (i.e. through home working and the instruction to stay at home). This has re-highlighted the necessity for good indoor air quality.

Indoor air pollutants

Indoor air pollution consists of dust, dirt, and gases from sources both within the home and the surrounding environment. There are a number of indoor air pollutants that can harm your health, including:

Gaseous pollutants:

- Carbon monoxide (CO), NO_2, and particulates from burning solid fuels and gas (i.e. using boilers, wood burners, heaters, fires, stoves, and ovens) and from cooking
- Volatile organic compounds (VOCs) from cleaning and personal care products, building materials, and household consumer products (paints, carpets, laminate furniture, cleaning products, air fresheners, polishing)
- Sulphur dioxide (SO_2) is emitted by coal and some wood burned in open fires
- Inorganic chemicals
- Radon

Biological Pollutants:

- Allergens
- Viruses and bacteria
- Mould
- Environmental tobacco smoke (ETS) and second-hand smoke (SHS).

Legal requirements for indoor air quality

There are currently no regulations, standards, or requirements specifically for non-occupational indoor air quality in the UK regarding nitrogen oxides, nitrogen dioxide, particulate matter, or VOCs; however, it was captured in DEFRA's Clean Air Strategy, published in 2019. Indoor air pollution not only increases personal exposure but contributes to our overall national emissions, as most of these indoor emissions end up in the atmosphere.

In the absence of indoor air quality guidelines for individual VOCs, the Department for Education Guidance BB101: Ventilation, Thermal Comfort and Indoor Air Quality (DfE, 2018) recommended the use of the WHO (2010) Indoor Air Quality (IAQ) guidelines.

Housing standards

The landlord has a legal duty to ensure that the home meets certain minimum physical standards. The minimum standards are set out in the Housing (Standards for Rented Houses) Regulations 2019, which in general apply to dwellings rented from private landlords. This regulation includes general housing standards as well as a list of specific conditions that must be maintained on the property.

With regards to standards in relation to indoor air quality, each dwelling must be free from damp, in a proper state of structural repair, electricity and gas supplies must be safe and in good repair, and

every room must have adequate ventilation and heating that tenants can control. This will also include the provision of facilities for cooking, such as a four-ring hob with oven and grill and a cooker hood or extractor fan.

Building regulations part F (2010)

The Building Regulations Part F (2010) give guidance regarding the maximum concentrations of certain pollutants (nitrogen dioxide, carbon dioxide, and total volatile organic compounds) with the building envelope for ventilation purposes.

Other

In addition to the Housing (Standards for Rented Houses) Regulations 2019, local authorities may have additional laws or requirements that deal with specific indoor air quality issues, such as rules on smoking, the use of lead-based paint, or the fitting of appropriate carbon monoxide alarms.

Domestic burning

Wood-burning stoves and the use of open fires in the home have become more popular in recent years. This has led to a rise in the production of $PM_{2.5}$ emissions and increased poor air quality within the home. It is now the single biggest source of small particle air pollution in the UK, producing three times more than road traffic.[1] Domestic wood burning contributes 15 per cent of the total London-wide $PM_{2.5}$ emissions, although the impact is concentrated during the autumn and winter.

$PM_{2.5}$ has been identified by the World Health Organisation (WHO) as the most harmful air pollutant for human health. The $PM_{2.5}$ particles in smoke can enter the bloodstream and internal organs, causing long-term health issues as well as having immediate impacts on some such as breathing problems or asthma attacks.

National guidance

The National Institute for Health and Care Excellence (NICE) published in January 2020 the 'Indoor Air Quality at Home' guidance, which aims to raise awareness of the importance of good air quality in homes and how to achieve this. The full document can be accessed on the NICE website here.

The Institute of Air Quality Management (IAQM) published in September 2021 the 'Indoor Air Quality Guidance: Assessment, Monitoring, Modelling and Mitigation' document, which aims to assist in the assessment of indoor air quality. The document can be accessed on the IAQM website here.

The Building Research Establishment (BRE) published in March 2019 the 'Ensuring Good Indoor Air Quality in Buildings' report, which summarised the issues that building owners, architects, designers and facilities managers face when seeking to provide good indoor air quality. It gives an overview of the sources and types of pollutants likely to affect different indoor environments in urban areas, and summarises current regulations, standards and guidance in the UK. It also includes short case studies to illustrate strategies for improving IAQ. The document can be accessed on the BRE website here.

1 Defra. Emissions of Air Pollutants in the UK – Summary Report 2021.

APPENDIX C: Supporting policies

Planning

2019 Local plan

The Local Plan sets out the future development of the borough, looking ahead to 2028, and identifies where the main developments will take place and how places within the borough will change – or be protected from change – over that period. It also contains the Council's planning policies.

The role of the plan is to guide decision making on planning applications. When planning applications are received, they are assessed against the development plan to see whether planning permission should be granted or not. The Council will ensure that planning applications that accord with policies in the Local Plan and the London Plan (and, where relevant, with policies in neighbourhood plans) will be approved without delay, unless material considerations indicate otherwise.

Policy CE5 addresses air quality; however, policies such as C1 Infrastructure Delivery and Planning Contributions; CT1 Improving Alternatives to Car Use; CT2 New and Enhanced Rail Infrastructure; CR4 Streetscape; CR5 Parks, Gardens, Open Spaces and Waterways; and CE4 Biodiversity support and help mitigate the effects of poor air quality. The Council's existing Local Plan is currently under review.

Infrastructure and planning contributions (community infrastructure levy and s106)

Delivery of infrastructure is critical to the delivery of all the strategic objectives of the Local Plan. Planning, through the use of Community Infrastructure Levy (CIL) and planning obligations (s106), is a prime way that the Council can gain the necessary resources to administer and assist delivery of vital infrastructure.

Planning obligations are intended to make acceptable development that would otherwise be unacceptable in planning terms. They might be used to prescribe the nature of a development, to secure a contribution from a developer to compensate for loss or damage created by a development, or to mitigate a development's impact. Planning obligations should only be used where it is not possible to address unacceptable impacts through planning conditions.

Subject to the s106 tests, planning contribution measures may include (which are relevant to air quality):

- Environmental improvements – to buildings, the street (including townscape enhancements), improvements for inclusive design, utility provision, nature conservation and biodiversity measures, flooding and drainage, and mitigating the effects of a development proposal.
- Provision of transportation facilities – including facilities for walking and cycling, inclusive public transport, and highway improvements to cater for the impact of the development and impact of the construction of development in relation to traffic, air quality, and noise on the amenity of residents, and towards Crossrail where development within the Central Activities Zone (CAZ) 47 or,

in other circumstances, would require this as a result of London Plan Supplementary Planning Guidance (SPG) and permit-free development.

- Green infrastructure improvements – to the network of multi-functional open spaces in the borough, including the creation of new public open space, improvements to existing open space, and securing public access to private open space.
- Energy efficiency and renewable energy.

Planning enforcement

The NPPF states that effective enforcement is important as a means of maintaining public confidence in the planning system and suggests that Councils should consider publishing a Local Enforcement Plan to manage enforcement proactively, in a way that is appropriate in their area. A Local Enforcement Plan sets out how the Council will monitor the implementation of planning permissions, investigate alleged cases of unauthorised development, and take action where it is appropriate to do so.

Greening SPD

The Greening Supplementary Planning Document (SPD) has been written so that new and existing buildings can deliver the best possible standards to reduce harmful carbon emissions. It covers a range of planning policies and guidance to improve energy standards, reduce pollution, promote future clean technologies, minimise flood risk, and deliver urban greening and biodiversity net gain.

Air quality SPD

The Air Quality Supplementary Planning Document (SPD) sets out the Council's requirements for improving air quality in new development, conversions, and change of use. However, this document was published in 2008, and is subsequently out-of-date and in need of renewing. This forms action E8 on of the Action Plan.

Air quality planning conditions

To ensure that developments meet the Council's requirements surrounding air quality, the following planning application conditions are utilised. These are reviewed on an annual basis to ensure they remain fit for purpose.

Air quality impact assessment

Part A: Prior to the commencement of the development, an AQ impact assessment must be submitted to and agreed in writing by the LPA. The assessment must be produced in line with any guidance provided by the Royal Borough and best practice guidance. The assessment is required to contain:

a. A full assessment of the proposed development area to assess the existing air quality in the study area (existing baseline)
b. A prediction of future air quality without the development in place (future baseline)
c. A full assessment and prediction of the air quality with the proposed development in place (future with development)
d. The assessment should also consider the following information:
    i. A description containing information relevant to the assessment
    ii. The policy context for the assessment – national, regional, and local policies should be taken into account
    iii. A description of the relevant air quality standards and objectives
    iv. The basis for determining the significance of impacts
    v. Details of assessment methods
    vi. Model verification
    vii. Identification of sensitive locations
    viii. Description of baseline conditions
    ix. Assessment of impacts
    x. Description of the construction and demolition phase, impacts/mitigation
    xi. Mitigation methods
    xii. Assessment of energy centres, stack heights, and emissions
    xiii. Summary of the assessment of results

Part B: All mitigation measures identified within the approved AQ assessment to be installed during the course of the development will be fully implemented. No occupation will take place until a report demonstrating that each measure has been fully implemented has been provided to the satisfaction of and approved in writing by the Planning Authority.

Part C: All measures identified within the approved AQ assessment that will be implemented or continue to be implemented after the completion of the development will be completed within the agreed timescales. A report demonstrating that all such measures set out within the approved air quality assessment have been installed will be provided to the satisfaction and approved in writing by the Planning Authority.

Reason: To comply with policies as required by Core Strategy Policy CE5 and policy 7.14 b of the London Plan and to protect public health, including those engaged with construction and occupation of the development from potential effects of poor air quality.

Air quality neutral

Part A: Prior to the commencement of the development, a detailed assessment of all site emissions, including emissions from all energy sources, is to be provided to the Local Planning Authority for approval. The final design is to be air quality neutral in line with the London Plan with respect to all emissions (NO_2, PM_{10}, and $PM_{2.5}$) from the site. The proposals contained within the assessment shall be met and maintained for the lifetime of the development.

Part B: If the proposed development is not air quality neutral, a scheme of mitigation is to be submitted and approved by the Local Planning Authority and shall be installed as agreed and retained as such thereafter.

Reason: To comply with policies as required by Core Strategy Policy CE5 and policy 7.14 b of the London Plan and to protect public health, including those engaged with construction and occupation of the development from the potential effects of poor air quality.

Air quality positive

Part A: Prior to the commencement of the development, a detailed assessment of all site emissions, including emissions from all energy sources, is to be provided to the Local Planning Authority for approval. The final design is to be air quality positive in line with the Draft London Plan with respect to all emissions (NO_2, PM_{10}, and $PM_{2.5}$) from the site. The proposals contained within the assessment shall be met and maintained for the lifetime of the development.

Part B: If the proposed development is not air quality positive, a scheme of mitigation is to be submitted and approved by the Local Planning Authority and shall be installed as agreed and retained as such thereafter.

Reason: To comply with policies as required by Core Strategy Policy CE5 and policy 7.14 b of the London Plan and to protect public health, including those engaged with construction and occupation of the development from the potential effects of poor air quality.

Combustion plant: flue stack height

Prior to installation of any combustion plant, evidence must be provided to show that any chimney stack/flue will be located so that it is away from ventilation intakes or accessible areas and at a sufficient height and discharge velocity to disperse the exhaust emissions. Termination height is to meet a minimum of 2.00 metres above any openable window and/or roof amenity area.

Reason: To comply with policies as required by Core Strategy Policy CE5 and policies 7.14 a and c of the London Plan.

Combustion plant: energy centre

Prior to occupation no energy centre shall come into use without evidence of the emissions of the plant. Boilers shall have NOx emissions rates of less than 40 mg/KWh NOx (@ 0 per cent O2) and CHP shall have an emission limit of no less than 95 mg/Nm3 NOx (at reference O2) or as reported in the approved Air Quality Assessment. The test certificate and evidence of equipment maintenance schedule and agreement must be provided to the Local Planning Authority for approval.

Reason: To comply with policies as required by Core Strategy Policy CE5 and policies 7.14 a and c of the London Plan.

Combustion plant: emergency diesel generator

Part A: Prior to the commencement of development, details of emission certificates and the results of the NOx emissions testing of each emergency diesel generator plant shall be submitted to and agreed in writing with the Local Planning Authority. The details should include the number, generator specification sheets, the associated NOx emissions, details of routine testing, efflux velocity, and location/height of the exit flue. Generators with a thermal capacity between 1 and 50 MW are required to apply for a permit to operate under the Medium-sized Combustion Plant Directive, although they would be exempt from permitting if they only operate for testing purposes of no more than 50 hours per year.

Part B: Prior to the commencement of the development, details demonstrating that all emergency diesel generator plant and associated abatement technologies shall meet a minimum dry NOx emission standard of 95 mg/Nm3 (at 5 per cent O2), verified by an accredited laboratory, shall be provided following installation and thereafter on an annual basis to verify compliance with the relevant emissions standards. Where any combustion plant does not meet the relevant emission standards stated above, it should not be operated without the fitting of suitable secondary NOx abatement equipment/technology, as determined by a specialist, to ensure comparable emissions.

Part C: The approved system shall be installed and be operational before occupation of the development. Details must be provided that demonstrate where secondary abatement is used for the emergency diesel generator and that the relevant emissions standards in Part B are met within ten minutes of the generator commencing operation. During the operation of the emergency diesel generators, there must be no persistent visible emission. The maintenance and cleaning of the systems shall be undertaken regularly in accordance with manufacturer specifications. The diesel-fuelled generators shall only be used for a maximum of 48 hours when there is a sustained interruption in mains power supply to the site, and the testing shall not exceed a maximum of 12 hours per calendar year.

Approved details shall be fully implemented prior to the occupation/use of the development and thereafter permanently retained and maintained.

Reason: To comply with policies as required by Core Strategy Policy CE5 and policies 7.14 a and c of the London Plan.

Combustion plant agreement with air quality assessment

All combustion plant required to generate heat/hot water and on-site electrical power shall be installed in accordance with the approved air quality assessment. Any changes to the proposed scheme shall only be implemented on approval in writing by the Local Planning Authority.

Reason: To comply with policies as required by Core Strategy Policy CE5 and policies 7.14 a and c of the London Plan.

Air source heat pumps (ASHP), ground source heat pumps (GSHP), photovoltaic panels, and electric boiler compliance

Prior to occupation, details of the installation of ASHP/GSHP, photovoltaic panels, or electric boilers that are to be provided for space heating and hot water shall be submitted to and approved in writing by the Local Planning Authority. Approved details shall be fully implemented prior to occupation/use of the development and thereafter permanently retained and maintained.

Reason: To comply with policies as required by Core Strategy Policy CE5 and policies 7.14 a and c of the London Plan.

Air Quality Dust Management Plan (Demolition)

Prior to the commencement of demolition works, a site-specific Air Quality Dust Management Plan (Demolition) (AQDMP) shall be submitted to and approved in writing by the Local Planning Authority. The AQDMP must include an air quality dust risk assessment (AQDRA) that considers sensitive receptors off-site and is undertaken in compliance with the methodology contained within Chapter 4 of the Mayor of London's 'The Control of Dust and Emissions during Construction and Demolition' SPG, July 2014 (and its subsequent amendments) and the identified measures recommended for inclusion within the AQDMP.

The AQDMP submitted must comply with the Mayor's SPG and include:

a. An inventory and timetable of dust-generating activities during demolition
b. Site-specific dust mitigation and emission control measures in table format as contained within Appendix 7 of the Mayor's SPG including for on-road construction traffic
c. A detailed list of non-road mobile machinery (NRMM) used on site
d. Details of MCERTS-compliant monitoring of particulates (PM_{10}) used to prevent levels exceeding predetermined PM_{10} threshold trigger levels. Developers must ensure that on-site contractors follow best practicable means to minimise dust, particulates (PM_{10}, $PM_{2.5}$) and NOx emissions at all times. Approved details shall be fully implemented and permanently retained and maintained during the demolition phases of the development.

NRMM should meet as a minimum the criteria of Directive 97/68/EC and its subsequent amendments. This will apply to both variable and constant speed engines for both NOx and PM. An inventory of all NRMM for the first phase of demolition and construction shall be registered on the NRMM register prior to the commencement of any demolition works and thereafter retained and maintained until occupation of the development. To include the use of on-road Ultra-Low Emission Zone (ULEZ) compliant vehicles in accordance with the emission hierarchy: (1) electric, (2) hybrid (electric–petrol), (3) petrol, (4) hybrid (electric–diesel), and (5) diesel (Euro 6 and Euro VI).

Approved details shall be fully implemented and permanently retained and maintained during the demolition and construction phases of the development.

Reason: To comply with the requirements of the NPPF (2012), policies 7.14 a–c of the London Plan (2016), and policy CE5 of the Local Plan

Air Quality Dust Management Plan (Construction)

Prior to the commencement of the construction works, a site-specific Air Quality Dust Management Plan (Construction) (AQDMP) shall be submitted to and approved in writing by the Local Planning Authority. The AQDMP must include an air quality dust risk assessment (AQDRA) that considers offsite-sensitive receptors and is undertaken in compliance with the methodology contained within Chapter 4 of the Mayor of London's 'The Control of Dust and Emissions during Construction and Demolition' SPG, July 2014 (and subsequent amendments) and the identified measures recommended for inclusion within the AQDMP.

The AQDMP submitted must comply with the Mayor's SPG and include:

a. An inventory and timetable of dust-generating activities during construction
b. Site-specific dust mitigation and emission control measures in table format as contained within Appendix 7 of the Mayor's SPG, including for on-road construction traffic
c. A detailed list of non-road mobile machinery (NRMM) used on site
d. Details of MCERTS-compliant monitoring of particulates (PM_{10}) used to prevent levels exceeding predetermined PM_{10} threshold trigger levels. Developers must ensure that on-site contractors

follow best practicable means to minimise dust, particulates (PM_{10}, $PM_{2.5}$), and NO_x emissions at all times. Approved details shall be fully implemented and permanently retained and maintained during the demolition and construction phases of the development.

NRMM should meet as a minimum the criteria of Directive 97/68/EC and its subsequent amendments. This will apply to both variable and constant speed engines for both NOx and PM. An inventory of all NRMM for the first phase of demolition or construction shall be registered on the NRMM register prior to the commencement of any demolition or construction works and thereafter retained and maintained until occupation of the development. To include the use of on-road Ultra-Low Emission Zone (ULEZ) compliant vehicles in accordance with the emission hierarchy: (1) electric, (2) hybrid (electric–petrol), (3) petrol, (4) hybrid (electric–diesel), and (5) diesel (Euro 6 and Euro VI).

Approved details shall be fully implemented and permanently retained and maintained during the demolition and construction phases of the development.

Reason: To comply with the requirements of the NPPF (2012), policies 7.14 a–c of the London Plan (2016), and policy CE5 of the Local Plan.

Non-road mobile machinery (NRMM)

All non-road mobile machinery (NRMM) used during the course of the development that is within the scope of the GLA 'Control of Dust and Emissions during Construction and Demolition' supplementary planning guidance (SPG) dated July 2014, or any successor document, shall comply with the emissions requirements therein.

Reason: To comply with the requirements of the NPPF, policies 7.14 a–c of the London Plan, and policy CE5 of the Consolidated Local Plan.

Air quality dust monitoring

The developer shall monitor the levels of dust pollution using an objective method of measurement for each working site. The developer shall submit to the Local Planning Authority the proposed method, the frequency, and location of monitoring. Baseline levels of dust shall be agreed prior to the commencement of works of demolition and construction. The developer shall also agree action levels of dust pollution with the Local Planning Authority. When these levels are exceeded, the developer shall take action to ensure that the levels of dust are reduced to comply with the agreed action level.

Reason: To comply with the requirements of the NPPF, policies 7.14 a–c of the London Plan, and policy CE5 of the Consolidated Local Plan.

Ventilation strategy

Prior to commencement of above ground works in the development hereby permitted (excluding site clearance, demolition, and basement works), a ventilation strategy report for [insert*] class use in order to mitigate air pollution shall be submitted to and approved in writing by the Local Planning Authority. The assessment should be supported with dispersion modelling and/or on-site monitoring to predict façade concentrations at sensitive receptor locations and specific the ventilation requirements to ensure that the national air quality objectives for nitrogen dioxide (NO2) and particulate matter (PM_{10} and $PM_{2.5}$) are not exceeded at the receptor location. The ventilation strategy report should include the following information:

a. Details and locations of the air intake locations at rear roof level of the buildings
b. Details and locations of non-openable windows for habitable rooms (bedrooms, living rooms) with front elevations on [road name*]

c. Details and locations of ventilation extracts and chimney/boiler flues to demonstrate that they are located a minimum of two metres away from fresh air ventilation intakes, openable windows, balconies, roof gardens, or terraces

d. If part (a) is not implemented, details of the independently tested mechanical ventilation system with nitrogen dioxide (NO_2) and particulate matter ($PM_{2.5}$, PM_{10}) filtration with air intakes on the rear elevations to remove airborne pollutants. The filtration system shall have a minimum efficiency of 75 per cent in the removal of nitrogen oxides/dioxides and particulate matter ($PM_{2.5}$, PM_{10}) in accordance with BS EN ISO 10121-1:2014 and BS EN ISO 16890:2016.

The whole system shall be designed to prevent summer overheating and minimise energy usage. The maintenance and cleaning of the systems shall be undertaken regularly in accordance with manufacturer specifications and shall be the responsibility of the primary owner of the property. Approved details shall be fully implemented prior to the occupation/use of the development and thereafter permanently retained and maintained.

Reason: To comply with policies as required by Core Strategy Policy CE5 and policy 7.14 b of the London Plan.

* Denotes a section updated in reference to the individual planning application. e.g., residential class use or Earls Court Road.

Ventilation strategy (compliance)

Prior to occupation of the development, details of a post-installation report of the approved ventilation strategy shall be submitted to and approved in writing by the Local Planning Authority. Approved details shall be fully implemented prior to the occupation/use of the development and thereafter permanently retained and maintained.

Reason: To comply with policies as required by Core Strategy Policy CE5 and policy 7.14 b of the London Plan.

Public amenity (external)

Prior to occupation of the development hereby permitted, a report containing the details of the public amenity [seating, play space, park, etc.] at ground floor level shall be submitted to and approved in writing by the Local Planning Authority. The report shall include details to demonstrate all external public amenities are located a minimum of [number*] metres from the kerbside, orientated away from [pollution source – road, railway, combustion, etc*.] and will not expose future users to air quality exceeding the national air quality standards. The report is to be supported with a suitable air quality assessment.

Approved details shall be fully implemented prior to the occupation/use of the development and thereafter permanently retained and maintained.

Reason: To comply with policies as required by Core Strategy Policy CE5 and policy 7.14 b of the London Plan.

* Denotes a section updated in reference to the individual planning application e.g., 4 metres and road.

Outdoor seating areas

No outdoor seating areas for commercial use at ground floor level shall be permitted without the submission of a suitable air quality impact assessment. The assessment shall be submitted and approved in writing by the Local Planning Authority prior to use.

Reason: To comply with policies as required by Core Strategy Policy CE5 and policy 7.14 b of the London Plan.

Green infrastructure

Prior to the occupation of the development hereby permitted, details of the construction of green infrastructure (including details of planting species and maintenance) in order to mitigate air pollution for public and private amenity areas on the site boundaries with [pollution source*] shall be submitted to and approved in writing by the Local Planning Authority. The green infrastructure shall be constructed and planted in full accordance with the 'Using Green Infrastructure to Protect People from Air Pollution', Mayor of London, GLA, April 2019 guidance document within the first available planting season following completion of the development. Any plants which die, are removed, or become seriously damaged or diseased within a period of five years from completion of the development shall be replaced in the next planting season with others of similar size and species. Approved details shall be fully implemented prior to the occupation/use of the development and thereafter permanently retained and maintained.

Reason: To ensure that the development makes appropriate provision for the protection, enhancement, creation, and management of biodiversity within the borough, in accordance with policies as required by Core Strategy Policy CE5 and policy 7.14 b of the London Plan.

* Denotes a section updated in reference to the individual planning application e.g., road transport.

Car parking provision

Prior to occupation of the development, details and location of the maximum number of [number] car parking spaces including for [class use indicators*] use class shall be submitted to and approved by the Local Planning Authority. Approved details shall be fully implemented prior to the occupation/use of the development and thereafter permanently retained and maintained.

Reason: To comply with policies as required by Core Strategy Policy CE5 and policy 7.14 b of the London Plan.

* Denotes a section updated in reference to the individual planning application e.g., 10 car parking spaces including for residential.

Electric vehicle charging infrastructure

Prior to occupation of the development hereby permitted, details of the installation including location and type of active electric vehicle charging points (22KW and 50KW) for all vehicle parking provision including loading bays for servicing and deliveries must be submitted to and approved in writing by the Local Planning Authority. The scheme shall ensure that 100 per cent of all residential parking spaces are for electric vehicles and at least 50 per cent of all commercial parking spaces shall be for electric vehicles, with an additional 20 per cent passive provision. The approved electric vehicle charging points shall be installed and retained in working order for the lifetime of the development.

Reason: To comply with policies as required by Core Strategy Policy CE5 and policy 7.14 b of the London Plan.

Ultra-low emission strategy

No development shall commence until an ultra-low emission strategy for the operational phase of the development has been submitted to and approved in writing by the Local Planning Authority. The strategy must detail the remedial action and mitigation measures that will be implemented to protect receptors (e.g. design solutions). This strategy must make a commitment to implement the mitigation measures that are required to reduce exposure to poor air quality and to help mitigate the development's air pollution impacts, in particular the emissions of NOx and particulates from on-road vehicle transport by the use of Ultra-Low Emission Zone (ULEZ) compliant vehicles in accordance with the emissions hierarchy: (1) cargo bike, (2) electric vehicle, (3) hybrid (non-plug-in) electric vehicle (HEV), (4) plug-in hybrid electric vehicle (PHEV), (5) alternative fuel (e.g. CNG, LPG). A monitoring report of the implementation of the ULES shall be submitted on annual basis to the LPA. Approved details shall be fully implemented prior to the occupation/use of the development and thereafter permanently retained and maintained.

Reason: To comply with the requirements of the NPPF and policy CE5 of the Consolidated Local Plan in ensuring that effects upon air quality in the area are minimised. It is necessary for the condition to be on the basis that "No development shall commence until" as compliance with the requirements of the condition at a later time would result in unacceptable harm contrary to the policies of the Development Plan.

Rooftop gardens/terraces

Prior to the commencement of development, details for the roof terraces must first be submitted to the Local Planning Authority in writing to be agreed. The details shall include:

- Planting species details
- Management and maintenance schedule
- Watering schedule

The development shall be carried out in accordance with the details so agreed and shall be retained as such thereafter.

Reason: To ensure that the development achieves safe, comfortable, and attractive amenity spaces and makes appropriate provision for the protection, enhancement, creation, and management of biodiversity within the borough, in accordance with policies as required by Core Strategy Policy CE5 and policy 7.14 b of the London Plan.

Site-specific SPDs

Royal Brompton Hospital

The Royal Brompton Hospital is the largest specialist heart and lung centre in the country. It has been located in Chelsea for the past 180 years and now occupies 12 sites within Chelsea, mainly between the Kings Road and Fulham Road. A joint announcement issued by Guy's and St. Thomas', Royal Brompton, and Harefield in 2020 stated that they were to merge, meaning highly specialised clinical services would be recreated at the Guy's and St. Thomas' site.

If the Council's aspirations prevail and the Royal Brompton remains and consolidates in Chelsea, the estate would need an ongoing strategy of refurbishment and renewal to ensure state of the art medical facilities can be provided into the future. Due to the requirement of refurbishment and renewal, one of the key objectives of the Royal Brompton Hospital SPD was to set out expectations relating to the environmental aspects of the redevelopment of the hospital site, which included ensuring that any proposals adhered to or exceeded the strict borough requirements for air quality.

Kensal Canalside opportunity area

Kensal Canalside is one of 48 Opportunity Areas within the London Plan 2021 and the largest brownfield site within the Royal Borough of Kensington and Chelsea. The Kensal Canalside Opportunity Area has been allocated to deliver a minimum of 3,500 new homes and 2,000 new jobs.

A key theme of the SPD is to ensure that the development will be sustainable and resilient to climate change, which incorporates the issues of air quality. SS8 states the development should seek to deliver an improvement in air quality and a reduction in pollution concentrations by providing connected green spaces, sustainable travel options/connectivity, and an accessible neighbourhood.

Climate change

In October 2019, the Council announced that it was joining other authorities in declaring a climate emergency and has adopted the net zero carbon targets for the Council's operations by 2030 and for the borough to be carbon neutral by 2040.

The Council recognises that climate change, alongside air quality, is one of the biggest challenges of the 21st century and that we need to act on the causes and impacts of climate change. This is a significant step change in the way the Council operates and engages with residents and businesses surrounding climate change.

Climate emergency action plan

To support these targets, the Council has developed an ambitious Climate Emergency Action Plan to deliver the climate emergency commitment and the carbon neutral targets.

Climate change and air pollution are intimately connected. Although we are creating separate action plans, we have joined up our approach to the same emission sources to develop holistic and supportive actions to reduce emissions from pollutants that impact air quality and climate change.

Biodiversity

Kensington and Chelsea is one of the most densely populated London boroughs, with only 17 per cent of the borough designated as open space, giving the least amount of open space per head. The borough itself covers an area of 1,238 ha, of which 414 ha is classified as open space. For such an urbanised area, the biodiversity resource is remarkably rich and is home to many nationally and internationally scarce species and a variety of important habitats.

There are 24 designated Sites of Importance for Nature Conservation (SINCs) in the borough, including woodlands, parks, and wildlife gardens. These are sites that have been designated as either important areas of wildlife habitat, places where rare species are found, or places whereby the local community can have contact with the natural world.

There are different types of Local Sites in the borough:

- Sites of Metropolitan Importance – Containing the best examples of London's habitats and species and opportunities to have contact with nature.
- Sites of Borough Importance grade I and II – These sites have a significant contribution to the ecology of the borough, and damage to these sites means a significant loss to the Royal Borough.
- Sites of Local Importance – These sites are of value to people, nearby residents, and schools. These sites are designated in recognition of their role to the community and nature locally.

Biodiversity action plan

The Council has a responsibility to protect and enhance biodiversity and is a significant area of activity for the borough. It is also a priority of the new Green Plan, and to ensure that biodiversity is enhanced, the Council has developed a new Biodiversity Action Plan.

Its vision: By 2027, the borough will have an accessible natural environment rich in wildlife that everyone can feel connected to and will benefit from.

Its objectives are to:

- Protect, restore and enhance biodiversity by creating a resilient and well-connected green infrastructure that helps to tackle the impacts of climate change and support the movement of species as part of a Nature Recovery Network.
- Protect our most valuable habitats, ensuring that our designated Sites of Importance for Nature Conservation (SINCs) are managed positively to maximise their biodiversity value.
- Ensure our policies are robust around biodiversity, with biodiversity net gain an integral part of our planning process, and that opportunities to enhance, extend or create new habitats are delivered.
- Work with our residents, partners, landowners, volunteers, and visitors to help nature to thrive and receive its educational, health and wellbeing benefits.

Public Health

Public health strategy 2015–2025

The vision of the Public Health Strategy is that every resident of Kensington and Chelsea is as healthy as they can be. The strategy states hotspots of very poor air quality are found across the borough, which is likely to have a greater impact on more vulnerable residents such as those living with cardiovascular or respiratory disease.

APPENDIX D: Achievements from previous air quality and climate change action plan

This action plan replaces the previous joint Air Quality and Climate Change Action Plan, which ran from 2016 to 2021. Highlights of successful projects delivered through the past action plan can be found in the Council's Annual Status Reports, which are published on our website here. Notable achievements for both air quality and carbon reduction include:

Our previous plan

- Upgrades to four of our existing automatic monitoring sites, with the replacement of seven old and failing monitors, plus a new cabin to house the equipment at the Natural History Museum and, for the first time at this site, installation of a monitor to record concentrations of $PM_{2.5}$ – a pollutant we are particularly concerned about.
- The expansion of our passive nitrogen dioxide (NO_2) monitoring network to include an additional 30 diffusion tubes along Kensington High Street. The purchase of four Vaisala mobile sensors, which have been deployed around the borough alongside another three GLA funded Breathe London sensors.
- The completion of LED lighting projects in 16 schools across the borough, which were estimated to reduce around 178 tonnes of carbon dioxide per year (cumulatively) with approximately £35,802 saved for all the schools.
- Installation of 25 workplace charging points in four Council offices/buildings as part of delivering the Council's Green Fleet Strategy and commitment to green the Council's and contractors' fleet.
- Introduction of an additional 112 lamp column chargers, 40 new Source London charging points, and 3 rapid chargers around the borough. There are now over 400 lamp chargers and over 100 Source London points, and the majority of residents now live within 200 metres of a charging point.
- Introduction of an Experimental Traffic Order (ETO) to launch a borough-wide 20 mph speed limit, which took effect on 13th November 2020. This was a significant achievement.
- Through the Homes4Health fuel poverty programme, 285 free home energy visits have been carried out since 2018 and 163 telephone consultations since the pandemic started. In total, since 2018, 448 fuel-poor residents have been supported. Home energy visits have been undertaken, with 40 free home energy visits conducted between January and March 2020.
- Under Cross River Partnership's 'Clean Air Village' project, a Delivery and Servicing Plan (DSP) has been produced for the Natural History, Victoria and Albert, and Science museums to help understand where actions surrounding deliveries such as consolidation, retiming, or reducing can be implemented.
- NKCE is the first community-owned energy enterprise in Kensington and Chelsea developed by

Repowering London with support from the Council's Climate Change Team and has been awarded the Community Renewable Energy Project Award in 2019 and the Climate Coalition Inspirational Community Project award in 2020. NKCE has installed 224 kW of solar panels on local public buildings including two primary schools, a community centre, and a leisure centre. Together they will save 46 tonnes of carbon emissions every year and over their lifetime generate £75,000 of profits to benefit the local community.

- We have introduced 31 new bike hangars on our streets.
- We introduced the first resident parking permit scheme in the country to set a price per gram/kilometre of CO2 and also differential visitor parking charges for electric, petrol, and diesel vehicles.
- Introduced single-trip car clubs, including electric vehicles in the car club fleet for the first time.

A final update for our previous AQAP will be provided in the 2022 Annual Status Report, which will be published on the Council's website.