

Turning down the volume



Tackling noise pollution in the capital

Sophia Falkner

Foreword by John Humphrys



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Published by
Policy Exchange, 8 - 10 Great George Street, Westminster, London SW1P 3AE

www.policyexchange.org.uk

ISBN: 978-1-913459-79-6

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Foreword

By John Humphrys

For some it is the sound of a jet flying low overhead. For others a motorcyclist revving up or a moronic motorist with his car windows open and his radio on full volume. Or the leaking of hideous ‘music’ from the headphones of your neighbour on the bus. Or the relentless hum of traffic from the nearby main road.

At the milder end of the scale unwelcome noise is an irritant. At the extreme end it can blight our lives and even harm our health. Just as the sounds that we enjoy can enhance our lives. To an opera aficionado a favourite aria. To a mother the happy gurgling of her new baby. For me the sound of a blackbird in full voice or the rustling of leaves in an ancient woodland.

Noise is, in one way or another, a powerful dynamic in the life of every human on the planet. And yet, for the most part, we try to ignore it. It’s just one of those things that we have to live with. This is puzzling.

If the nearby factory is belching out thick smoke causing our children to cough we will demand action. Yet if our local police force habitually uses helicopters to fly low over our homes or our sleep is disturbed by sirens we might just grumble a little. That’s why this report by Policy Exchange is both timely and welcome.

Timely because most of us have had a taste, thanks to Covid, of how much more pleasant it has been to live with so much less noise from sky and road. And welcome because it suggests a number of modest but significant steps we might reasonably take to return us to a quieter Britain.

Make no mistake, there are real consequences to living with unnecessary or excessive noise. Not just the obvious impact on our hearing, but also our mental wellbeing and even possibly some forms of dementia.

As for the cost of tackling it the solutions proposed would, in some cases, actually save money. The way the police use helicopters over heavily built up areas comes high on the list of annoyances – largely because they are allowed to fly so low. So why not use drones instead? They cost very little to buy and operate and are scarcely audible. Helicopters cost a fortune. Problem solved.

Unsurprisingly perhaps the polling carried out by Policy Exchange suggests that eight of the ten noises that most annoy those of us who live in London relate to traffic in one form or another. Top of the list are sirens. The obvious question: do they really have to be so loud? Almost certainly not. So introduce trials at a lower level.

Idiots are trickier to deal with. I refer to young men (usually) who

show off by revving their cars or motor bikes to ear-splitting levels or, indeed, have spent a fortune on so-called super cars. The key word here is enforcement. The solution: acoustic cameras to provide the evidence and stiff fines.

Some proposals are both imaginative and life enhancing. More trees deaden noise. Bring forward the time at which noise at night regulations can be enforced from eleven to ten. Give the police the same powers as local authorities and set up a hotline for dealing with noise complaints.

There's an element of nudge theory too. Unused advertising space could remind people to turn down their headphones. A relatively minor problem maybe, but leaky headphones are profoundly annoying to those of us who prefer to travel in silence.

And that matters. For too long we have taken unwanted noise for granted. We tell ourselves it's the price we pay for living in a large town and city. Well it shouldn't be.

The sound I most want to hear most often is the sound of silence.

Executive Summary

Excessive noise poses a real and serious risk to human health. Long term exposure to traffic noise is one of the most damaging environmental threats to public health in western Europe, second only to air pollution.¹ Polling of Londoners by Deltapoll for Policy Exchange shows that only eight per cent of the city's inhabitants report never being bothered by noise, slightly higher than the six per cent of Londoners who describe themselves as being very hard of hearing.

During lockdown the fall in traffic and international air travel led to a significant reduction in environmental noise. Our polling shows that only 24 per cent of Londoners would be happy for noise to return to pre-pandemic levels. If this is to be avoided, now is the time that action on noise needs to be taken.

Noise is not a class or sex issue - our polling demonstrates that there are no discernible differences in satisfaction or dissatisfaction with noise levels between social grades ABC1 and C2DE or between men and women. It is however an age-related issue, but not in the way one might expect. From the age of 25 onwards as people get older, they get less bothered by noise, with those over 65 much the least dissatisfied with noise levels in their neighbourhoods. 64 per cent of Londoners aged over 65 are either very or quite satisfied by noise levels in their neighbourhood, whilst only 45 per cent of 25 to 34-year olds report a similar response. The figures show a similar pattern for dissatisfaction for noise experienced at home. 72 per cent of London's over 65s report that they are very or quite satisfied with noise levels at home, but only 52 per cent of 25 - 34-year olds do. Where Londoners are most dissatisfied with noise levels is not in their neighbourhood or home. but in the city as a whole. With 55 - 64-year olds reporting a net dissatisfaction rate of 11 per cent.

What types of noise annoy Londoners

Londoners top eleven most annoying types of noise according to our polling are (per cent bothered by this type of noise):

1. Sirens: 54 per cent
2. Private Motorbikes and Scooters: 52 per cent
3. Loud Music played from vehicles: 51 per cent
4. Engine revving: 48 per cent
5. Vehicle alarms: 48 per cent
6. Shouting: 47 per cent
7. Vehicle horns: 46 per cent

1. 'Environmental noise in Europe - 2020', European Environment Agency (5 March 2020) <https://www.eea.europa.eu/publications/environmental-noise-in-europe>

8. Vehicle accelerating: 46 per cent
9. Modified exhausts: 44 per cent
10. Helicopters: 42 per cent
11. Renovation at nearby properties: 42 per cent

When looking at the frequency with which people are disturbed by different types of noise, our polling finds the following top ten annoying sources of noise (average number of times per year disturbed):

1. Sirens: 440
2. Normal driving: 362
3. Vehicles accelerating: 359
4. Vehicle horns: 348
5. Vehicles starting: 332
6. Aeroplanes: 315
7. Loud Music played from vehicles: 301
8. Neighbouring children: 277
9. Neighbours footsteps: 271
10. Neighbouring teenager and adult voices: 262

The noise Londoners complain about most are excessively loud and frequent emergency service sirens. Policy Exchange is recommending that there should be trials on reducing the noise level of sirens to see whether the emergency services are able to operate as efficiently and safely with less disruption to the public.

Many Londoners' lives are disrupted by antisocial driving. Our polling shows the high number of disruptive "supercars" and noisy motorbikes in some high density areas of London are a real nuisance to many. Policy Exchange recommends higher fines for breaching Public Spaces Protection Orders in London, which would allow more boroughs to invest in acoustic cameras and identify those creating the disruption.

Londoners find helicopter noise to be more aggravating than noise from planes. 42 per cent of Londoners report being bothered by helicopter noise, whereas 30 per cent report being bothered by aircraft noise. The number of helicopter flights fell significantly during the pandemic; there were 18,674 flights over London in 2019 and 13,381 in 2020. During the first four months of 2019 the Metropolitan Police Service was responsible for 898 helicopter flights across London.² The police are permitted to operate at lower altitudes and hover over a single location, which is much more disruptive to most Londoners than commercial flights. Policy Exchange is recommending that the MPS should invest in drone technology that would allow them to reduce the use of helicopters over London and the Mayor should liaise with the MPS to set a target for a reduction in helicopter usage by the police force over the next five years.

The framework around how noise is dealt with by the authorities requires updating too. The police should be given greater powers to deal with noise complaints, which would allow them to set up a hotline for out

2. 'Questions to the Mayor: Police Helicopters', *Mayor of London* (2 May 2019) <https://www.london.gov.uk/questions/2018/2423>

of hours noise complaints, which local authorities are not dealing with. Noise at protests should be regulated in relation to the size of the crowd, not purely on the level of noise created. Our polling also shows support for bringing forward noise at night regulations to 10pm.

Overall, there is a lack of strategy with regards to dealing with noise. Whitehall departments need to work more closely together on noise, as it is a cross-cutting issue affected by a range of government operations. The Mayor should also take a more proactive approach to noise, looking at how the soundscape is likely to evolve, rather than solely dealing with the most egregious sources of noise after they have emerged. This approach should include building positive sounds into the soundscape, not just attempting to reduce noise.

What types of noise do Londoners enjoy

Londoners five favourite noises according to our polling are:

1. Wildlife (e.g. bird song): 60 per cent
2. Trees rustling: 48 per cent
3. Water: 48 per cent
4. Children: 17 per cent
5. Bells (e.g. church): 13 per cent

Londoners much prefer wildlife, trees and water to children and churches - or at least hearing them.

Recommendations:

- **The new Office for Health Improvement and Disparities should consider noise when assessing preventative measures for improving health.**
- **There should be higher fines for breaching a Public Spaces Protection Order in London.** This would address the impact antisocial driving and loud motorbikes have in higher density areas, the high number of disruptive ‘supercars’ in London, and would make it feasible for more boroughs to invest in acoustic cameras.
- **The MPS should invest in drone technology that would allow them to reduce the use of helicopters over London and the Mayor should liaise with the MPS to set a target for a reduction in helicopter usage by the police force over the next five years.**
- **In light of the collapse in advertising across TfL due to the pandemic, TfL should redeploy unused advertising space to remind passengers to reduce unnecessary noise on public transport, by for example reducing the volume of their headphones.** TfL should also remind people of how to report illegal busking.
- **The Mayor should introduce trials to test whether the dB level of Emergency Service sirens in London could be safely reduced.**
- **Noise at protests should be regulated in relation to the size of the protest.**
- **More street trees:** The GLA should increase the number of centrally funded tree services and explore the creation of a London Carbon Offset Scheme.
- **Police should be given equal statutory powers to local authorities for dealing with noise complaints and should set up a non-emergency hotline for noise complaints.**
- **Noise at night regulations should be brought into effect from 10pm instead of 11pm.**
- **We need greater co-operation across Government on solutions for different environmental problems.**
- **The Mayor should introduce a soundscape strategy with regular reviews to assess how the soundscape across London is evolving, whether new regulation is required, and to help boroughs share best practice.**

1. What is Noise?

What is classified as noise varies from person to person. While sound encapsulates everything that we hear, noise is unwanted sound.³ What constitutes noise is therefore dependent on the listener. While one person may enjoy the revving of an engine, another will find it disturbing.

The intensity of sound is measured in decibel units (dB). The decibel scale is logarithmic, increasing in factors of 10. This is because the ear responds to sound in a nonlinear fashion. It is much more effective at distinguishing between low amplitude (quiet) sounds than large amplitude (loud) sounds.⁴ For example, it is easier to tell the difference between one penny versus two pennies dropping, than between 1,000,000 pennies and 1,000,001 pennies dropping. As a general rule, an additional 3dB doubles sound energy, an additional 10dB increases sound energy by a factor of 10, and an additional 20dB increases sound energy by a factor of 100.⁵

Table 1: Examples of the decibel level of different sounds.⁶

Decibels	Type of Sound
0	Absolute silence
10	Breathing
20	Whisper; Rustling leaves
30	Quiet Rural Area
40	Library
50	Quiet office; moderate rainfall
60	Normal conversation
70	Average street noise
80	Ringling telephone; toilet flushing
90	Hair dryer; noisy restaurant
100	Motorcycle; Jackhammer
110	Baby crying
120	Thunderclap; Rock concert; Ambulance siren
130	Fireworks
140	Jet engine at take-off

Whether a sound is interpreted as noise depends not just on what the sound is and how loud it is, but also on the type of sound and how

3. 'Noise', *Canadian Centre for Occupation Health and Safety* (accessed March 2021) https://www.ccohs.ca/oshanswers/phys_agents/noise_basic.html

4. 'The decibel scale', *Britannica* (accessed March 2021) <https://www.britannica.com/science/sound-physics/The-decibel-scale>

5. 'What are decibels, the decibel scale & noise measurement units?', *Pulsar Instruments Plc* (25 Jan 2019) <https://pulsarinstruments.com/en/post/understanding-decibels-decibel-scale-and-noise-measurement-units>

6. 'The decibel scale', *Britannica* (accessed March 2021); <https://www.iacacoustics.com/blog-full/comparative-examples-of-noise-levels.html>

frequently we are subjected to it. Whether the sound is continuous, intermittent, impulsive (sudden burst), or low-frequency affects whether it can be classified as noise and how damaging it is to our health.⁷ For example, although a hair dryer is louder than average street noise, the fact that it is intermittent as opposed to continuous means that in the long-term, it is less damaging to our health.

The European Environment Agency defines noise pollution as ‘harmful or unwanted sounds in the environment, which in specific locals, can be measured and averaged over a period of time’.⁸ According to the World Health Organisation, this translates into noise exceeding 65 dB during the day and 30 dB at night.⁹

7. ‘What are the 4 different types of noise?’, *NoiseNews* (13 April 2020) <https://www.cirrusresearch.co.uk/blog/2020/04/4-different-types-noise/>

8. ‘Term: noise pollution’, *European Environment Agency* (accessed March 2021) <https://www.eea.europa.eu/help/glossary/eea-glossary/noise-pollution>

9. “Noise pollution: how to reduce the impact of an invisible threat?”, *Iberdrola* (accessed September 2021), [link](#)

2. Noise in London

Our poll of Londoners reveals that although only 14 per cent are dissatisfied with the noise levels they are exposed to when at home, 23 per cent are dissatisfied with noise levels in their neighbourhood. Furthermore 35 per cent are dissatisfied with noise levels in London as a whole, which is greater than the share of Londoners satisfied with noise levels. A quarter of Londoners are bothered by noise at least once a day, with almost two thirds of Londoners bothered by noise at least once a week. Only eight per cent of Londoners report never being bothered by noise, slightly higher than the six per cent of Londoners who describe themselves as being very hard of hearing.

Table 1: Typical Sources of Noise in London

Transportation	Regular road traffic (engines, friction between tires on concrete, lorries, delivery vans, buses, motorbikes, refuse collection, acceleration, idling, sirens, horns); Antisocial use of a vehicle (street racing, modified exhausts, excessive honking, loud music); Aircrafts (aeroplanes, helicopters); Trains (Tube; overground, goods/freight trains, loudspeakers at stations).
Construction and Industrial Activity	Building, construction, demolition, renovation, road works, industrial sites.
Neighbour and Neighbourhood Noise	Neighbour noise (Radio, TV, music, children, voices, parties, pets, footsteps, doors banging, DIY, lawnmowers or other garden equipment); Bins; Burglar alarms; Fireworks; Foxes; Drones.
Leisure and Entertainment Venues	Pubs; Restaurants, cafes or take-aways; Clubs; Concert Venues; Sport Arenas; Crowds gathering outside leisure and entertainment venues.
Community Buildings	Schools; Hospitals; Police stations; Fire stations; Churches; Mosques.
Public Spaces	Protests; Busking; Loudspeakers; Headphones; Phones; Children; Pets; Shouting; Conversations.

The following table ranks London Assembly Constituencies in order of noisiness, measured by the percentage of residents who express being dissatisfied with noise levels in their neighbourhood. We have also included residents' dissatisfaction with noise levels in London as a whole.

London Assembly Constituency	Boroughs	Dissatisfaction with neighbourhood noise levels	Dissatisfaction with London noise levels
City and East	Barking and Dagenham City Newham Tower Hamlets	36	38
North East	Hackney Islington Waltham Forest	29	36
Brent and Harrow	Brent Harrow	27	35
Merton and Wandsworth	Merton Wandsworth	25	40
West Central	Hammersmith and Fulham Kensington and Chelsea Westminster	24	36
Lambeth and Southwark	Lambeth Southwark	24	26
Croydon and Sutton	Croydon Sutton	23	37
Barnet and Camden	Barnet Camden	23	36
Enfield and Haringey	Enfield Haringey	22	25
South West	Hounslow Kingston Richmond	20	28
Greenwich and Lewisham	Greenwich Lewisham	19	42
Ealing and Hillingdon	Ealing Hillingdon	19	39
Havering and Redbridge	Havering Redbridge	17	37
Bexley and Bromley	Bexley Bromley	12	29

Bexley and Bromley residents not only have the lowest dissatisfaction with neighbourhood noise levels, but the share of residents who report being bothered by noise at least once a day is almost half that of London as whole, while the share never bothered by noise is more than double that for London as a whole. Although the share of Barnet and Camden residents dissatisfied with neighbourhood noise levels is in line with the London average, the frequency with which they report being disturbed by noise is the highest in London. Over a third of Barnet and Camden residents are bothered by noise at least once a day, compared to a quarter across London. Despite seven per cent of Barnet and Camden residents describing themselves as very hard of hearing, only four per cent report never being bothered by noise, which is half the London average.

Londoners top eleven most annoying types of noise are (per cent bothered by this type of noise):

1. Sirens (54 per cent)
2. Private Motorbikes and Scooters (52 per cent)
3. Loud Music played from vehicles (51 per cent)
4. Engine revving (48 per cent)
5. Vehicle alarms (48 per cent)
6. Shouting (47 per cent)
7. Vehicle horns (46 per cent)
8. Vehicle accelerating (46 per cent)
9. Modified exhausts (44 per cent)
10. Helicopters (42 per cent)
11. Renovation at nearby properties (42 per cent)

When looking at the frequency with which people are disturbed by different types of noise, we find the following top ten annoying sources of noise (average number of times per year disturbed):

1. Sirens (440)
2. Normal driving (362)
3. Vehicles accelerating (359)
4. Vehicle horns (348)
5. Vehicles starting (332)
6. Aeroplanes (315)
7. Loud Music played from vehicles (301)
8. Neighbouring children (277)
9. Neighbours footsteps (271)
10. Neighbouring teenager and adult voices (262)

Sources of noise that bother people on a regular basis, but that did not bother the largest share of Londoners are noticeably aeroplanes and neighbour noise. Although the number of people affected by this type of noise is more limited, those that are affected must deal with this type of noise on a more regular basis.

Noise and the Pandemic

The pandemic has drastically altered our soundscape, as economic activity and travel was depressed and people spent significantly more time at home.

Lockdown restrictions as well as the fall in international travel led to a significant reduction in environmental noise generated by the transportation industry. The use of all motor vehicles fell to 23 per cent of levels seen at the beginning of March 2020 during the first lockdown, and the streets of London became so quiet that the Museum of London made recordings of sound levels to keep a record of this remarkable change.¹⁰ Of 2,006 people living near five airports in the UK (Heathrow; Manchester; Gatwick; East Midlands; Edinburgh) between 18 June and 13 July 2020, 86 per cent reported hearing much less aviation noise compared with pre-lockdown and the number bothered by aviation noise fell from 66 per cent pre lock down to 28 per cent in June and July 2020. This was despite 73 per cent of those surveyed spending much more time at home than before the pandemic.¹¹

One study found that there was an average drop of 5.4 dB in short-term noise levels across 11 public spaces in London between Spring 2019 and Spring 2020. Russell Square and Tate Modern saw the largest decrease in noise levels, with reductions of 10.7 dB and 8.8 dB respectively.¹² However a significant share of the reduction in noise levels in Russell Square is attributed to a water fountain being turned off, which is not necessarily a positive change.

The impact of the changes in human behaviour on noise levels has also been detected through changes in ground vibrations. The British Geological Survey compared average daytime noise levels as measured through seismometers in the first two weeks of the March 2020 lockdown with average noise levels for the beginning of 2020. They found a fall in noise generated by human activity of between 10 and 50 per cent, with the greatest effects seen in cities.¹³ King's Cross station saw a fall in seismic noise of 30 per cent, while Twickenham saw a reduction of 25 per cent.¹⁴

Changing behaviours as a result of the pandemic have led to an increase in some types of noise, in particular neighbour noise. With people spending significantly more time at home, many local authorities across the country have reported an increase in noise complaints (44 out of 51 surveyed by the BBC).¹⁵ One study found that the number of Londoners complaining about neighbour noise on Twitter was four times higher during the first lockdown than over the same period in 2019.¹⁶

Some positive changes have however been observed too. Sound measuring instruments reported picking up more birdsong over the pandemic, which came to the fore as the noise generated by human activity dropped.¹⁷

Our poll of Londoners reveals that 41 per cent were aware of a reduction in the level of noise we experience in London compared to before the pandemic. The residents of the West Central LA constituency (Hammersmith and Fulham, Kensington and Chelsea, and Westminster) were most aware, with half noticing the reduction, while the residents

10. 'Transport use during the coronavirus (COVID-19) pandemic', *Department for Transport* (31 March 2021) <https://www.gov.uk/government/statistics/transport-use-during-the-coronavirus-covid-19-pandemic>; 'Recordings show lockdown London quieter than 1928', Sean Coughlan, *BBC*, 28 July 2020, [link](#).
11. 'Aviation noise during lockdown', B. Marshall, K. Xypolia & A. Walford, *Ipsos MORI & ICCAN*, October 2020, https://iccan.gov.uk/wp-content/uploads/2020_10_08_Aviation_noise_during_lockdown_ipsos_survey_report_for_ICCAN-min.pdf
12. 'Assessing the changing urban sound environment during the COVID-19 lockdown period using short-term acoustic measurements', F. Aletta et al., *Noise Mapping* 7(1) (7 August 2020) <https://www.degruyter.com/document/doi/10.1515/noise-2020-0011/html>
13. 'Scientists report drop in Earth's movement amid coronavirus lockdown', *British Geological Survey Press* (9th April 2020) <https://www.bgs.ac.uk/news/scientists-report-drop-in-earths-movement-amid-coronavirus-lockdown/>
14. 'UK seismic noise 'down 20 to 50 per cent' during lockdown', A. McNamara, *Science Focus* (24 April 2020) <https://www.sciencefocus.com/news/uk-seismic-noise-down-by-20-to-50-per-cent-during-lockdown/>
15. BBC – see below
16. 'Attitudes towards outdoor and neighbour noise during the COVID-19 lockdown: A case study in London', P. Lee & J. Jeong, *Sustainable Cities and Society* (67) (April 2021) <https://www.sciencedirect.com/science/article/pii/S2210670721000603#bib0175>
17. 'UK seismic noise 'down 20 to 50 per cent' during lockdown', A. McNamara, *Science Focus* (24 April 2020)

of Havering & Redbridge were least aware, with a third registering the change in noise levels. Only 24 per cent of Londoners are happy with noise returning to pre-pandemic levels, with 29 per cent unhappy about a return to pre-pandemic noise levels.

For many people living in cities, the pandemic is the first time they have been able to experience a new and altered soundscape. As we emerge from the pandemic with a renewed focus on health too, this is a good opportunity to reconsider the types and level of noise acceptable in London.

3. Impact of Noise

Health

Excessive noise is not just a mild irritant, it poses a real and serious risk to human health. Long-term exposure to road traffic noise is now seen as one of the most damaging environmental threats to public health in western Europe, second only to air pollution.¹⁸

The impact of noise on health is both physiological and psychological. Although the auditory effects of excessive noise are well documented, the non-auditory consequences, which tends to result from long-term exposure to lower levels of noise, are less well known. The health effects also vary from person to person, depending on a range of factors including age, gender, or pre-existing health conditions. For example, excessive noise has a greater impact on the elderly, as they are already more prone to sleep disturbance and cardiovascular problems.¹⁹

According to the WHO's Constitution, "Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity".²⁰ The WHO therefore emphasises the importance of including not only physiologically damaging consequences of noise such as heart disease, but also the reduction in quality of life due to stress and annoyance.

18. 'Environmental noise in Europe – 2020', *European Environment Agency* (5 March 2020) <https://www.eea.europa.eu/publications/environmental-noise-in-europe>

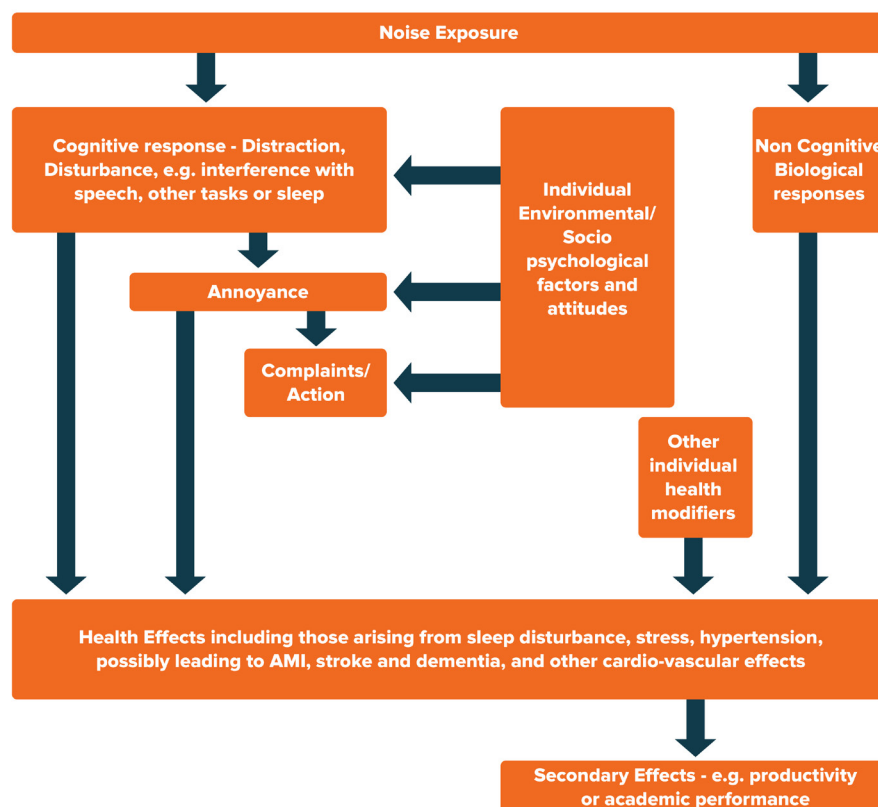
19. 'Environmental noise in Europe – 2020', *European Environment Agency* (5 March 2020) <https://www.eea.europa.eu/publications/environmental-noise-in-europe>

20. WHO, 1946

Table 2: The main health consequences of exposure to excessive noise.

Noise-Induced Hearing Loss	Damage to the auditory system can result in a loss of hearing, or other complications such as tinnitus. This can occur due to one-off exposure to extremely high levels of noise (e.g. explosion) or continuous exposure to loud noise over a prolonged period of time (e.g. use of headphones at maximum volume). Although Noise-Induced Hearing Loss has traditionally been associated with workplace environments, it is increasingly self-inflicted, through personal music players. The World Hearing Index, which links hearing tests with data on urban noise pollution across 50 cities, found a 64 per cent positive correlation between hearing loss and urban noise levels.
Annoyance	This is the most common consequence of excessive noise, varying between individuals depending on sensitivity to noise and contextual factors such as time of day, expectation of experiencing noise and attitude towards the emitter of noise. This can result in increased blood pressure and elevated levels of the stress hormone, cortisol, which in the long-term increases the prevalence of cardiovascular disease.
Sleep Disruption	Noise negatively impacts both the amount and quality of sleep we are able to achieve. Sleep is an essential function, which in the short term affects our metabolic system, memory, and attentiveness, and in the long-term our cardiovascular health.
Cardiovascular and Metabolic Effects	Annoyance and sleep disruption can over time trigger physiological responses that increase our susceptibility to heart disease. In particular, long-term exposure to noise pollution leads to conditions such as ischaemic heart disease (IHD), hypertension and strokes.
Mental Health Problems	Depending on the severity of annoyance and sleep disruption resulting from noise pollution, this has been shown to lead to further mental health problems such as anxiety and depression. One study found that living next to a busy road was associated with a 25 per cent increase in the likeliness of developing depression.

Figure 1: Noise and health.²¹



There is emerging evidence that long-term exposure to excessive noise may be linked to a range of other negative health effects, such as dementia and cancer. A study in the US found that when noise pollution increased by 10 dB, there was an increased likelihood of developing Alzheimer’s disease.²² A Danish study found that the same increase in noise levels as measured at the residence of women involved in the study led to a statistically significant increase in ER+ breast cancer.²³

The consequences of excessive noise are particularly severe in children, as it can interfere with their cognitive development. While sleep disruption resulting from noise affects everyone’s ability to perform the next day, this impact is more severe for children as this affects their ability to learn and perform well in school, which has a greater impact on their cognitive ability in later life. This effect is compounded by noise exposure during the school day, which has been linked to a reduction in short and long-term memory and attention. Tests done on students before and after Munich airport was relocated away from the city showed an improvement in concentration and test scores. The European Environment Agency believes over 3,500 children in the UK have a reading impairment due to aircraft noise alone, more than any other European country.²⁴

Although there have been attempts to value the impact of excessive noise on our health, it is extremely challenging to quantify the impact of a range of different sources of noise combined. The greatest body of evidence that exists with regards to the relationship between noise and

21. ‘Environmental Noise: Valuing impacts on: sleep disturbance, annoyance, hypertension, productivity and quiet.’ *Department for Environment Food & Rural Affairs* (November 2014) https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/380852/environmental-noise-valuing-impacts-PB14227.pdf

22. ‘Noise pollution linked to increased dementia risk’, *Alzheimer’s Research UK* (21 October 2020) <https://www.alzheimersresearchuk.org/noise-pollution-linked-to-dementia-risk/>

23. ‘Long-term exposure to road traffic noise and incidence of breast cancer: a cohort study’, Z. Andersen et al., *Breast Cancer Research* (5th October 2018) <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6173937/>

24. ‘Environmental noise in Europe – 2020’, *European Environment Agency* (5 March 2020)

health relates to transportation noise.²⁵ The European Environment Agency found that long-term exposure to environmental noise stemming from roads, rail, aircraft and industry, leads annually to approximately 12,000 premature deaths, 48,000 cases of ischaemic heart disease, 22 million suffering from chronic high annoyance, and 6.5 million suffering from chronic high sleep disturbance in those living in agglomerations or near major noise sources in Europe.²⁶ More broadly, the EEA believe 20 per cent of Europe's population (more than 100 million people) are exposed to damaging levels of long-term noise.

The Department for Environment, Food and Rural Affairs (DEFRA), who play a key role in attempting to create economic methodologies to value noise, estimate that the annual social cost of urban road noise alone in England is £7 to £10 billion, which is around the same as the social cost of road accidents (£9 billion).²⁷ This is an underestimate as additional costs, such as the cost to the NHS of treating the consequences of noise pollution, are not included.

This not only ignores the impact of noise generated by a range of other sources e.g. neighbour noise, but also does not take combined exposure effects (i.e. the impact of multiple sources of noise at once) into account. Furthermore, evidence from the WHO suggests that some of the damaging health effects of noise begin to accrue at noise levels below 55dB, exposure to which is not included during the day. DEFRA have also highlighted the lack of evidence relating to the impact on productivity of excessive noise, particularly as a result of disrupted sleep, which also contributes to the total cost of noise.²⁸

The new Office for Health Improvement and Disparities should consider noise when assessing preventative measures for improving health.

Although the Department of Health has not as yet incorporated noise into their strategy for preventative health care, in light of the evidence presented above, the new Office for Health Improvement and Disparities should do so.

The Economy

Noise affects the economy through a range of mechanisms, reducing productivity, and impacting the housing market and land use. Noise abatement is however emerging as a new and growing sector, evident for example in the growth of the noise cancelling headphone market, which means there are opportunities in this field too.

Noise has both short- and long-term effects on the productivity of the workforce. In the short-term, there is an indirect effect on productivity as a result of disrupted rest and sleep at home, and a direct effect as background noise disrupts concentration and communication. One study found that noise generated in an open plan office reduced productivity by 15 per cent.²⁹ In the long term, the impact of noise on the cognitive development of children may have effects on their effectiveness at carrying out tasks when they enter the workforce. DEFRA believe that the cost of lost productivity due to road traffic noise alone could be in the magnitude of

25. WHO Report

26. 'Noise', *European Environment Agency* (accessed March 2021) <https://www.eea.europa.eu/themes/human/noise>

27. 'Environmental Noise: Valuing impacts on: sleep disturbance, annoyance, hypertension, productivity and quiet.' *Department for Environment Food & Rural Affairs* (November 2014)

28. National Institute for Public Health and the Environment, 'Review of evidence relating to environmental noise exposure and annoyance, sleep disturbance, cardio-vascular and metabolic health outcomes in the context of ICGB(N)', I. van Kamp et al. 2019; 'Environmental Noise: Valuing impacts on: sleep disturbance, annoyance, hypertension, productivity and quiet.' *Department for Environment Food & Rural Affairs* (November 2014)

29. 'Working in an office is bad for your brain', R. Gray, *The Telegraph* (7th August 2011) <https://www.telegraph.co.uk/news/health/8685938/Working-in-an-office-is-bad-for-your-brain.html>

£2bn-£4bn annually in England in 2014 prices.³⁰ The cost to the economy as a result of all sources of noise will be much higher.

The impact of noise on productivity is vital, as productivity is a key determinant of prosperity and a route to higher living standards. The relationship between noise and productivity is particularly relevant for London, as 22.7 per cent of the country's GDP was generated in London, despite it containing 13.4 per cent of the UK's population in 2019.³¹ A loss of productivity due to noise is more damaging in London than in any other part of the country.

The impact of noise on house prices is well documented. Road noise has been found to reduce house prices by around 10-20 per cent, with some properties on roads like motorways or dual carriageways seeing price reductions of up to 40 per cent.³² According to eMoov, a third runway at Heathrow would reduce property prices in the area by 20 per cent due to noise and air pollution,³³ while one survey found that 70 per cent of Brits would not purchase a house if there were noisy neighbours.³⁴ While the reduction in house prices allows people to live in areas they may otherwise not be able to afford, one of the consequences of this is that noise and the associated negative health consequences disproportionately affects less well-off people.

The Environment

Anthropogenic (man-made) noise affects biodiversity as it reduces the distance from which natural sounds can be heard and thereby disrupts animals' abilities to respond to those sounds. A US study found that noise pollution reduced the number of places in which natural sounds were audible by 50-90 per cent.³⁵ If animals cannot hear each other, their ability to communicate, mate, and find prey or predators, is impaired. Finches were found to be twice as likely to carry out a foraging task correctly when they could not hear traffic noise.³⁶

A reduction in biodiversity in urban environments due to excessive noise is worrying not least because it reduces the sounds that people enjoy hearing. 60 per cent of Londoners stated they enjoyed wildlife such as birds, but there is growing evidence that noise pollution is having consequences on bird population numbers. Bird song in European robins, house sparrows, starlings, and bullfinches, has been found to be affected by road traffic noise.³⁷

Excessive noise also affects our ability to enjoy the local environment, such as Hyde Park from within which high levels of road traffic noise can be heard. When prime real estate is dedicated as green space, it is wasteful to allow high levels of noise pollution to impair the intended use of that environment.

30. 'Environmental Noise: Valuing impacts on: sleep disturbance, annoyance, hypertension, productivity and quiet.' Department for Environment Food & Rural Affairs (November 2014) https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/380852/environmental-noise-valuing-impacts-PB14227.pdf
31. <https://www.cityam.com/london-and-south-east-now-accounts-for-4-in-10-of-total-uk-economy/>
32. 'Buying a House on a Main Road or Busy Road', *First Time Buyer Help* (accessed April 2021) <https://www.ftb.help/buying-a-house-on-a-main-road-or-busy-road/>
33. 'This is how the third runway at Heathrow will hit London house prices', H. Cahill, *CityAM*. (25 October 2016) <https://www.cityam.com/heathrow-decision-hit-london-house-prices/>
34. '70% of Brits would withdraw an offer on a house due to noisy neighbours', T. Davies, *Sell House Fast* (19th September 2017) <https://www.sellhousefast.uk/blog/70-brits-withdraw-offer-house-due-noisy-neighbours/>
35. 'Parliamentary questions: The effects of human-induced noise pollution on biodiversity', *European Parliament* (12 May 2017) https://www.europarl.europa.eu/doceo/document/E-8-2017-003313_EN.html?re-direct
36. 'Traffic noise impairs songbirds' abilities', V. Gill, *BBC* (3 February 2021) <https://www.bbc.co.uk/news/science-environment-55910424>
37. 'The Effects of Noise on Biodiversity (NO0235): Final report for Defra', *University of Bristol* (2012) <http://randd.defra.gov.uk/Default.aspx?Menu=Menu&Module=More&Location=None&Completed=0&ProjectID=18136>

4. Transportation Noise

Transportation noise was one of the most commonly cited sources of irritating noise for Londoners. 2017 data from the Department for Environment, Food and Rural Affairs (DEFRA) shows that 2.6 million people in Greater London are exposed to road traffic noise greater than 55 dB L_{den} over the course of a day, with 1.2 million being affected at night. 591,000 Londoners are equally affected by railway noise and 27,500 by industrial noise.³⁸

The maps below (Figures 1 and 2) show areas of London where road traffic noise levels exceed 55 dB L_{den} , with the outer boroughs of London being particularly affected. Noise related to traffic in London is so severe that even large swathes of Hyde Park, which should be an area of enjoyment and relaxation, is affected by road traffic noise.

Road traffic noise is primarily generated from the engine and from the contact of tyres with road surfaces. Although the increasing use of Electric Vehicles is expected to bring some acoustic benefits, above 16-18mph, tyre-road noise exceeds engine noise, which means there is little difference between EVs and petrol cars. This is despite new tyres having to meet noise limits since 2011, with more stringent requirements introduced in 2016.³⁹ European studies suggest that at around 15mph, a shift to 100 per cent EV's could result in a reduction of 2dB, however at higher speeds, with a mixed fleet and with the acoustic vehicle alerting system now required in EV's to alert people of their presence, the effects are expected to be much smaller.⁴⁰

38. 'Noise Exposure data – Round 3', Department for Environment, Food and Rural Affairs, GOV.UK, July 2019, [link](#).

39. DEFRA noise road map

40. EEA report

Figure 2: Road traffic noise levels, Lden, Greater London.

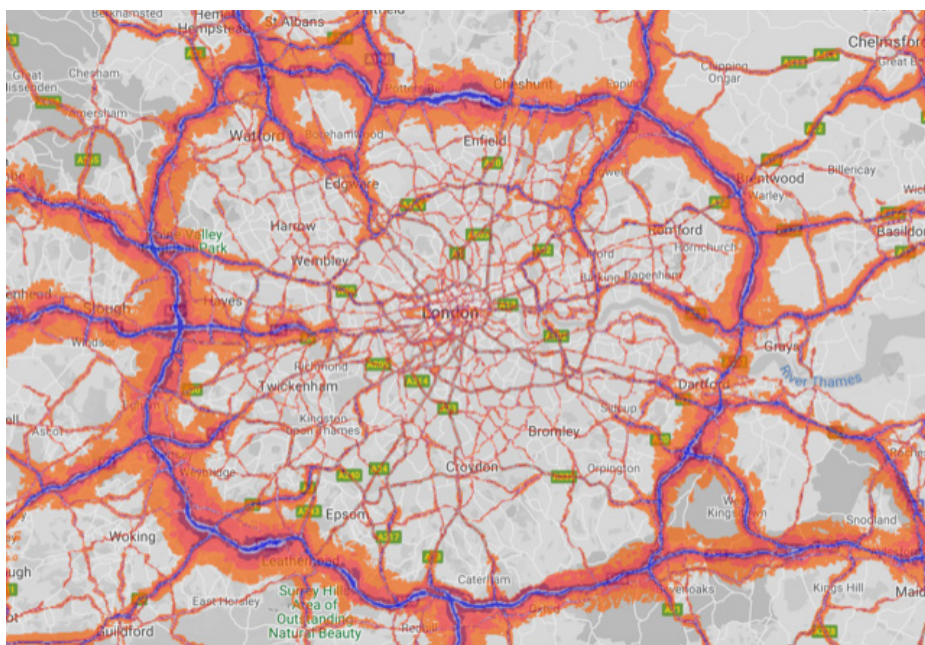


Figure 2: Road traffic noise levels, Lden, central London.



The MPS should release data on the timing, location, and frequency of reports of excessive noise generated by vehicles across London.

While regular driving is usually essential, many Londoners are frequently disturbed by the antisocial use of a vehicle. 35 per cent of Londoners are bothered by street racing, 44 per cent by modified exhausts, 46 per cent by excessive honking, and 51 per cent by loud music played from vehicles. Bar street racing, 20 per cent of Londoners report being bothered by this type of behaviour at least once a day.

Vehicles must meet strict noise limits as laid out in the Road Vehicles

(Construction and Use) Regulations 1986, for which the Driver and Vehicle Standards Agency (DVSA) and police are responsible for enforcement. Drivers in breach of these regulations may receive a vehicle defect rectification notice, whereby a driver must change their exhaust and have the vehicle checked by a MOT garage within a fortnight, or they may receive a fixed penalty notice.

Case Study 1: Antisocial use of a vehicle in Chelsea

Throughout late February and March 2021, a group of drivers took advantage of a long stretch of road between Old Brompton Road and Fulham Road, on which they accelerate and rev their engines unnecessarily. The engines were modified to such an extent that a conversation in an apartment on the fourth floor of a building with closed windows and secondary glazing was no longer possible. The drivers were known to loop back around to complete the circuit multiple times, particularly on a Friday and Saturday night, sometimes well into the early hours of the morning.

Although the police eventually intervened, this was only after repeat offences and multiple complaints. Furthermore, by having to chase the drivers, the sound of police sirens only added to the noise disturbance.

Despite the fact that the Metropolitan Police Service is responsible for tackling vehicles with illegally modified exhausts in London, they do not hold data on the number of 'reports of excessive noise generated by vehicles'.⁴¹ In a request for this information, the London Mayor responded that 'noise complaints are ordinarily dealt with by local councils,' which ignores the fact that excessive noise generated by a vehicle does in fact fall into the remit of the police. It is vital that we can access data on the frequency, timing, and location of complaints, in order to develop effective local strategies for tackling this issue, ranging from more on the spot police checks to the installation of acoustic cameras.

There should be higher fines for breaching a Public Spaces Protection Order in London. This would address the impact antisocial driving and loud motorbikes have in higher density areas, the high number of disruptive 'supercars' in London, and would make it feasible for more boroughs to invest in acoustic cameras.

Acoustic cameras have been identified as a way of apprehending noisy drivers without requiring a strong police force present, but the Department for Transport trials have been ongoing for years with slow progress. The London borough of Kensington & Chelsea have however begun their own trial of two noise cameras for three months from 23rd September 2020 in Knightsbridge.

When a vehicle drives past an acoustic camera creating a noise above a set level, this is recorded. Officers from the Kensington & Chelsea Noise and Nuisance Team (N&N) review these recordings, in order to assess if an offence has occurred. Kensington & Chelsea have taken out a Public Spaces Protection Order (PSPO) under the Anti-Social Behaviour Crime and

41. 'Questions to the Mayor: Excessive vehicle noise', Mayor of London London Assembly, 24 February 2020 <https://www.london.gov.uk/questions/2020/0914>

Policing Act 2014, under which within the controlled zone from midday to 6am, the following could constitute an offence:

- Revving of engine(s) (as to cause a public nuisance)
- Repeated sudden and rapid acceleration (as to cause a public nuisance)
- Racing
- Performing stunts (as to cause a public nuisance)
- Sounding horns (as to cause a public nuisance)
- Playing music from a vehicle (as to cause a public nuisance)
- Using threatening, intimidating behaviour towards another person
- Causing obstruction on a public highway, whether moving or stationary, including driving in convoy

N&N review all potential breaches of the PSPO, with the Waste and Street Scene Enforcement Team (WSSE) then reviewing those potential breaches flagged by N&N and making a final decision as to whether an offence has been committed. Where an offence has been committed, most ‘revving of engine(s)’ or ‘repeated sudden and rapid acceleration’, enquiries are made with the DVLA to establish the details of the owner of the car, who is then sent a non-endorsable £100 Fixed Penalty Notice (FPN), along with information explaining the fine and consequences of non-payments.⁴² After two reminders, the case will be referred for prosecution.

Each camera costs £15,000 and is expected to have a life of 2 to 3 years. Maintenance costs over this period should not exceed £5,000. For Kensington & Chelsea, the upfront cost was not problematic as this was covered by the Neighbourhood Community Infrastructure Levy. The key prohibitive cost of using this type of technology is the ongoing cost of N&N and WSSE Officers reviewing the material to ascertain whether action should be taken, and what that should be. It costs £78 for each WSSE Officer to issue a FPN, an additional £40 if the FPN is contested, an additional £400 on average in legal costs for pursuing unpaid FPN’s. The scheme is therefore expected to be loss making, particularly at the current level that FPN’s are set.

We propose increasing FPN’s in London only. This would reflect the fact that driving in a way such as to create a public nuisance in urban areas is more damaging than in rural areas, as the higher density means a greater number of people are affected by this behaviour. A higher fine for London would also be more appropriate in light of the number of highly disruptive ‘supercars’ in the capital, particularly in inner London, the drivers of which are not deterred by a £100 fine. A new fine would also allow more boroughs to introduce acoustic cameras, as this would help cover the ongoing costs of reviewing potential breaches of the PSPO.

As the MPS is actually responsible for enforcing noise limits on vehicles, they should explore reimbursing local authorities for the cost of operating acoustic cameras.

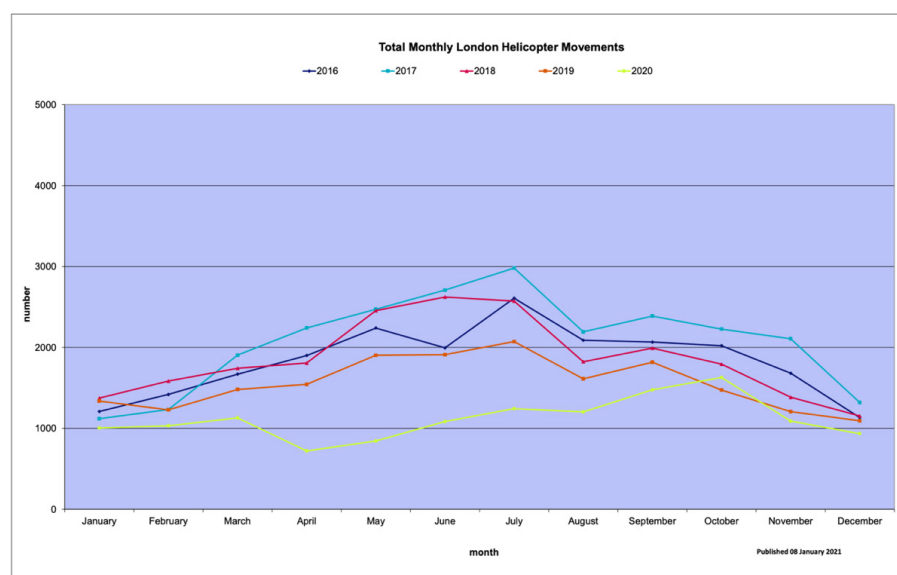
42. Non-endorsable FPN’s and FPN’s that do not include points on a driver’s license.

The MPS should invest in drone technology that would allow them to reduce the use of helicopters over London and the Mayor should liaise with the MPS to set a target for a reduction in helicopter usage by the police force over the next five years.

When assessing the key sources of noise Londoners are subject to, aircraft noise, particularly that generated by Heathrow, springs to mind. Although in the South West London Assembly Constituency, which contains Hounslow and Richmond, the two most overflowed boroughs in London, aircraft noise is the source of noise that bothers most residents (45 per cent), overall more Londoners are bothered by helicopter noise than aircraft noise.⁴³ 42 per cent of Londoners report being bothered by helicopter noise, whereas 30 per cent of Londoners report being bothered by aircraft noise.

Helicopters are particularly disruptive as they fly at low altitudes and often hover in one location for extended periods of time. The Civil Aviation Authority is responsible for the regulation of helicopters over London and the noise this creates.

The number of helicopter flights fell significantly over the course of the pandemic, down from 18,674 flights in 2019 to 13,381 in 2020. Even pre-pandemic helicopter flight levels are down from a decade ago, as there were 27,259 flights in 2009.⁴⁴



Although the London Mayor has been lobbying to reduce helicopter noise, as highlighted in the London Environment Strategy in 2018, there has been little change.⁴⁵ The London Mayor wants to ban new heliports, and has called on the Government to establish a fully independent aviation noise regulator, with the powers to place restrictions on noise, as well as enforcing this. The Mayor argues that an aviation noise regulator would “be well-placed with powers to set the noise framework, monitor compliance and enforce decisions including imposing penalties”.⁴⁶

While the Mayor is lobbying for a new noise regulator, we would

43. ‘The Most Overflowed Boroughs in London: An Analysis by HACAN’, *Heathrow Association for the Control of Aircraft Noise* (September 2009)

44. ‘CAP1456: Graphical summary of London helicopter crossing statistics’, *Civil Aviation Authority* (8 April 2021) <https://publicapps.caa.co.uk/modalapplication.aspx?appid=11&mode=detail&id=7567>

45. ‘London Environment Strategy’, *Mayor of London* (May 2018) https://www.london.gov.uk/sites/default/files/london_environment_strategy_0.pdf

46. ‘Questions to the Mayor: Helicopter noise (1)’, *Mayor of London* (16 May 2019) <https://www.london.gov.uk/questions/2019/8813>

encourage him to take control of helicopter noise that is in his control. During the first four months of 2019, the MPS was responsible for 898 helicopter flights across London.⁴⁷ The MPS is permitted to operate at lower altitudes and hover over a single location, which is much more disruptive to most Londoners than commercial flights.

The MPS should invest in drones, which are significantly quieter than helicopters and have other benefits such as using less fuel. As of June 2019, the Mayor highlighted that the MPS will look to use drones for the policing of large-scale events as an alternative to helicopters in the future. However, he also highlighted that ‘drones still can’t move at the speed of a helicopter, or cover equivalent distances without an operator’.⁴⁸

The MPS should immediately deploy more drones in policing operations that do not require significant mobility, for example for the policing of protests, and should prioritise investing in drones that are able to more closely mimic the capability of a helicopter, particularly with beyond the visual line of site technology. The Mayor should liaise with the MPS to set a target for a reduction in helicopter usage by the police force over the next five years in order to incentivise a shift to greater drone usage and set in stone a clear reduction Londoners can expect in the use of helicopters.

The Government should listen to calls for recreational aircraft to be fitted with electronic conspicuity devices, so that drones can be used safely beyond the line of sight of the person operating it, without a risk of collision with other recreational aircraft.⁴⁹ This would significantly increase the MPS’s ability to use drones for policing operations in London

In light of the collapse in advertising across TfL due to the pandemic, TfL should redeploy unused advertising space to remind passengers to reduce unnecessary noise on public transport, by for example reducing the volume of their headphones. TfL should also remind people of how to report illegal busking.

The London Underground is notoriously noisy, for passengers and those living in the vicinity of stations and train tracks. Noise levels on the tube can already reach 85dB, with the loudest journey reaching 109 dB.⁵⁰ Noise made in the Underground system is exacerbated by the fact that most materials used to make trains and tunnels are ‘acoustically hard’, meaning they reflect rather than absorb sound.

Passengers on the tube also contribute to unnecessary noise. Both illegal busking and loud personal headphones have been cited as sources of disturbance, with 22 per cent of Londoners bothered, annoyed or disturbed by illegal busking, and 20 per cent bothered by licensed busking. When asked about positive sounds, only eight per cent of Londoners claimed to actively enjoy busking. A quarter of Londoners report being bothered by other people’s headphones when in public.

Illegal busking on the tube is highly intrusive, and passengers are not able to move away from the source of the noise due to being trapped in a carriage together. These performances have also been linked to organised crime and theft.⁵¹ With no way to avoid these passengers while on The Underground, TfL have highlighted that the additional noise

47. ‘Questions to the Mayor: Police Helicopters’, *Mayor of London* (2 May 2019) <https://www.london.gov.uk/questions/2018/2423>

48. <https://www.london.gov.uk/questions/2019/11974>

49. ‘Digitise the Skies’, *The Entrepreneurs Network* (October 2021) <https://static1.squarespace.com/static/58ed40453a04116f46e8d99b/t/6166afe260bb950c5d2d174e/1634119652881/Digitise+the+Skies.pdf>

50. ‘London’s Tube is worryingly noisy’, *The Economist* (12 August 2019) <https://www.economist.com/graphic-detail/2019/08/12/londons-tube-is-worryingly-noisy>

51. ‘Why you shouldn’t give money to men who play music on the Tube’, H. Tamplin, *Metro* (26 December 2017) <https://metro.co.uk/2017/12/26/why-you-shouldnt-give-money-to-men-who-play-music-on-the-tube-7120940/>

can be distressing for customers, particularly those with autism.⁵² It also undermines TfL's licensed busking scheme.

In light of the collapse in advertising across TfL due to the pandemic, some of the 100,000 billboards across the TfL advertising estate that are not being used should be redeployed to remind passengers to reduce unnecessary noise, from for example excessively loud headphones. TfL should also remind people of how to report illegal busking, by texting the British Transport Police on 61016.

Introduce trials to test whether the dB level of Emergency Service sirens could be safely reduced.

Emergency Service sirens serve a crucial role, but at up to 130dB, this can cause permanent hearing damage to those in the vicinity.⁵³ Sirens are also the single most annoying source of noise in London, with over half of Londoners bothered by this source of noise.

There is currently no maximum decibel level for sirens in the UK, but siren noise levels vary across Europe.⁵⁴ For example, in Barcelona the maximum siren sound level during the day is 103dBA, whereas in France police and fire brigades must have a minimum sound level of 106.5dbA.⁵⁵ This demonstrates that some variability between the sound level of sirens is possible and can be effective.

Sirens should clearly be regulated according to the local environment in which they operate, which is why the Mayor should conduct trials in London to test whether Emergency Service Vehicles could safely be altered to be less disruptive to local residents. One study found that by changing the frequency of sirens, the sound level could be reduced by 3dB with equal detection rates.⁵⁶ Trials should compare whether vehicles with different types of siren, including with a slightly lower dB level, are able to navigate as quickly and safely through traffic as existing sirens. If emergency services find they are able to navigate traffic in London sufficiently well with a slightly quieter siren, emergency services should make the switch.

52. 'What TfL says to do if a busking band asks you for money on London Underground', C. Lawrence-Jones, MyLDN (12 October 2020)

53. <https://www.hmpgloballearningnetwork.com/site/emsworld/article/220850/hearing-loss-ems>

54. https://www.westyorkshire.police.uk/sites/default/files/foi/2020-11/october_2020_foi_3670-20_use_of_police_sirens.pdf

55. A. Balastegui et al., 'New siren tones optimised for increased detectability distances of emergency vehicles' (21 December 2012) <https://upcommons.upc.edu/bitstream/handle/2117/18181/Neuwsirentones.pdf;jsessionid=B345EEF732D460E6A3ED-084FAA2C6453?sequence=1>

56. A. Balastegui et al., 'New siren tones optimised for increased detectability distances of emergency vehicles' (21 December 2012) <https://upcommons.upc.edu/bitstream/handle/2117/18181/Neuwsirentones.pdf;jsessionid=B345EEF732D460E6A3ED-084FAA2C6453?sequence=1>

5. Noise in the Public Space

Noise at protests should be regulated in relation to the size of the protest.

Westminster is one of the noisier boroughs in London. 2016 research by Cirrus found that the City of Westminster had the second highest rate of noise complaints in London, with 69.8 complaints per 1,000 of the population, behind Kensington & Chelsea.⁵⁷

Westminster is home to not only a level of sound many Londoners are not subject to, but a range of sounds most do not come across on a regular basis. As the seat of government, Parliament is naturally the focus for many protests. The right to protest in this area must however be balanced with the use of Parliament as a workplace, as well as a heritage site. This has come into increasing focus over the last few years as protesters have been using new methods to create maximum disruption, upsetting the balance between the right to protest and the rights of the general public. Policy Exchange polling revealed just over a quarter of Londoners are bothered by noise from protests, with 38 per cent of 25 to 34 year olds disturbed. Our polling reveals 37 per cent of office workers in London stated that they found noise from either inside or outside their workplace to negatively affect their concentration and productivity, which makes the issue of noise in Westminster particularly important as the UK Parliament and many Government bodies are located in this area.

Decisions regarding the location and nature of permissible protests are complicated by a range of competing rights, including the rights of protesters, those targeted by protests and the general public. Two articles in the European Convention on Human Rights create the basis for the right to peaceful protest.⁵⁸ The right to freedom of expression (Article 10) states individuals have: ‘freedom to hold opinions and to receive and impart information and ideas without interference by public authority and regardless of frontiers.’ The right to peaceful assembly (Article 11) ensures the ‘freedom of peaceful assembly and freedom of association with others’. These are ‘qualified rights’ as opposed to ‘absolute rights’, which means that in certain circumstances, the state may contravene these rights.

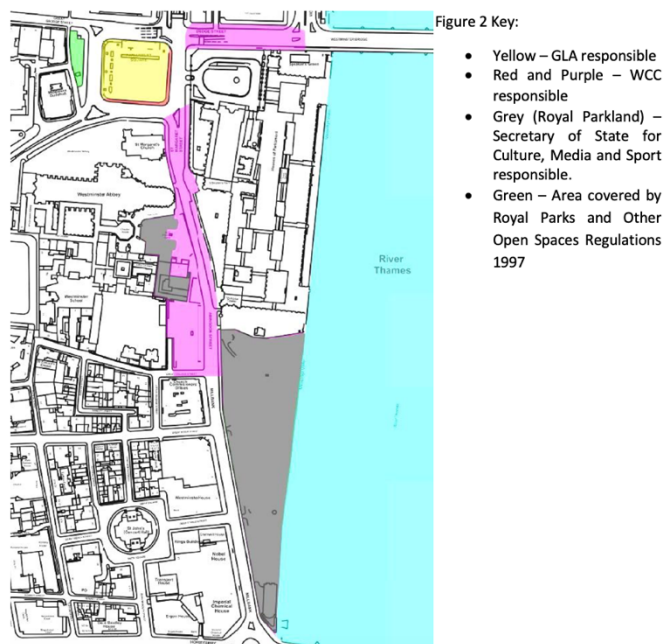
The foundation of the argument for additional restrictions on protests around Parliament are rooted in ensuring the democratic functions of Government can be carried out effectively.⁵⁹ These were established in the Police Reform and Social Responsibility Act 2011 and the Anti-Social Behaviour, Crime and Policing Act 2014.

57. ‘London Hotspots for Noise Nuisance Complaints [Infographic]’, *Noise News* (22nd March 2017) <https://www.cirrusresearch.co.uk/blog/2017/03/london-hotspots-noise-nuisance-complaints-infographic/>

58. ‘European Convention on Human Rights’, *European Court of Human Rights and Council of Europe*, 2010, [link](#).

59. ‘Protests around Parliament’, J. Brown, *House of Commons Library Briefing Paper*, October 2019, [link](#).

Current restrictions on noise made by protests outside Parliament prohibit the unauthorised use of amplified noise equipment in a “controlled area” around Parliament.⁶⁰ The Police, Crime, Sentencing and Courts Bill is seeking to extend the controlled area around Parliament, to include Canon Row, Parliament Street, Derby Gate, Parliament Square and part of Victoria Embankment.⁶¹



Restrictions on the use of noise in the controlled area have not been sufficient to control noise generated near Parliament. Individuals have been known to stand on the edge of the controlled area, using amplified noise equipment to maximise disturbance within the area, without breaching restrictions.

60. The “controlled area” around Parliament is defined as comprising of the central garden and footways immediately adjoining the garden of Parliament Square, the highways Bridge Street, St Margaret’s Street, Abingdon Street, Great College Street where it adjoins Abingdon Street Garden, Old Palace Yard, Abingdon Street Garden and pathways, and Victoria Tower Gardens (outlined in the Police Reform and Social Responsibility Act 2011 and the Anti-social Behaviour, Crime and Policing Act 2014).

61. ‘Police, Crime, Sentencing and Courts Bill’

Image 1: Protester using a loudspeaker on the boundary of the controlled area.



The Police, Crime, Sentencing and Courts Bill is attempting to rectify this by creating restrictions with regards to noise at protests. This includes amendments to the Public Order Act 1986 Act giving a senior police officer who “reasonably believes that the noise generation by persons [in a public procession, public assembly or one-person protest] ... may have a significant relevant impact on persons in the vicinity or may result in serious disruption to the activities of an organisation which are carried on in the vicinity” powers to limit said noise. A significant relevant impact includes noise which “may result in intimidation or harassment of persons of reasonable firmness” or which “may cause such persons to suffer serious unease, alarm or distress.” The police officer must take into account “the likely number of persons in its vicinity who may experience any of the relevant impacts, the likely duration of that impact on such persons, and the likely intensity of that impact on such persons,” when assessing the effect of noise.

Although some restrictions on noise are necessary, particularly in light of the evolving tactics and technology used by protesters, the PCSC Bill has been criticized for not being specific enough with regards to what could be deemed as excessive noise, relying too much on the judgement of individual police officers, and arguably breaching the ECHR.

In order to respect both the rights of protesters and the general public, we would suggest adding proportionately to noise restrictions. A 5,000 person protest will not only be louder than a 500 person protest, but in order to ‘impart information and ideas’ at a large protest, in line with Article 10 of the ECHR, amplified noise equipment would also be necessary. A 5,000 person protest with loudspeakers would have a greater impact on people in the vicinity than a 500 person protest, yet in light of the size of the protest, this noise could be entirely justified. Equally, the use of loudspeakers at a smaller protest may generate similar noise levels,

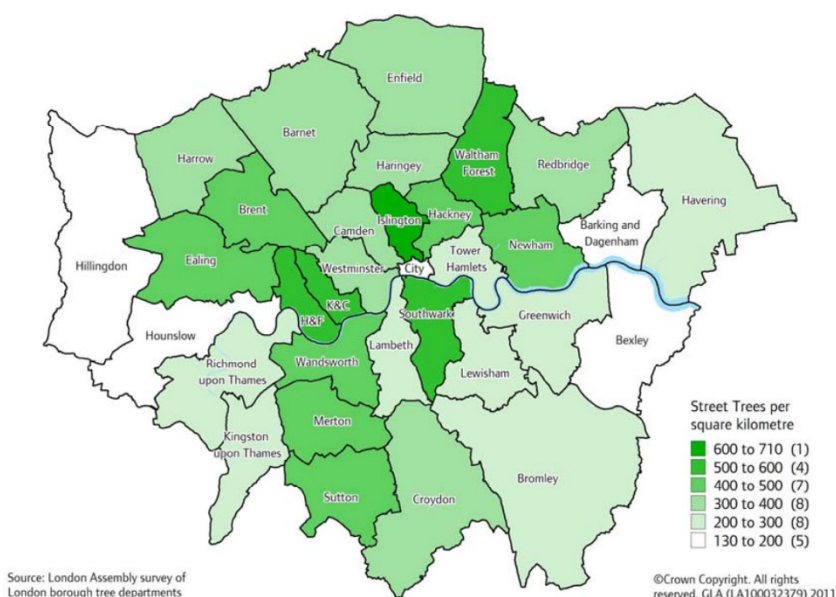
but the disturbance to those in the vicinity of the protest would not be justified in light of the number of protesters.

As opposed to strictly assessing the validity of noise at protests on the basis of the impact it has on those in the vicinity, we would recommend regulating noise at protests with respect to the size of the protest, as well as overall noise levels.

More street trees: The GLA should increase the number of centrally funded tree services and explore the creation of a London Carbon Offset Scheme.

Although trees, particularly in an urban environment where there are lower levels of density, do not act as a significant barrier to noise, they may contribute to the reductions in other types of noise, such as vehicle noise. The Wales Noise Plan highlights that ‘the presence of trees and hedgerows by the roadside or along a central reservation may have a calming effect, causing motorists to drive more smoothly’.⁶² It also highlights that trees have the ‘ability to reduce the perception of noise by hiding the noise source from sight and making a place feel more tranquil, both visually and by introducing natural sounds to soften an otherwise purely mechanical soundscape’. As our polling reveals, natural sounds are the most sought after sounds by Londoners.

Tree density varies greatly across London. Although there are a range of reasons that feed into this, including funding constraints and greater demand for parking in the outer boroughs, the variation observed across London should be rectified.



As one of the barriers to planting more trees are the ongoing maintenance costs, the GLA should increase the number of centrally funded tree services to reassure local authorities that the initial investment in planting more trees will not be wasted if they are unable to maintain them, especially in

the first few years of street trees' life when they are most vulnerable and expensive to look after.

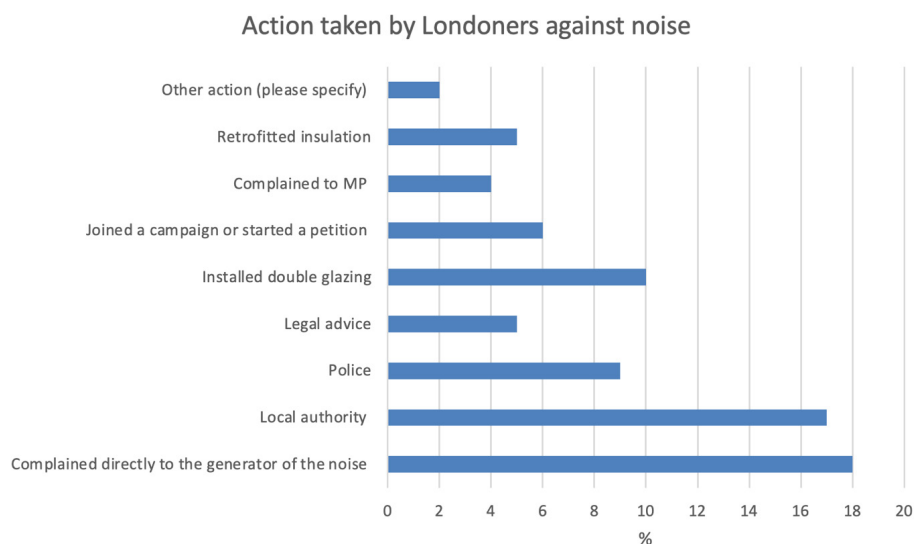
The GLA should also explore establishing a London carbon offset scheme. Although offsetting carbon through trees planted in urban environments is more expensive, some organisations, particularly those conducting business in London, may wish to highlight their commitment to the city and the communities within which they operate by offsetting their carbon through locally planted trees.

6. Enforcement and Regulation

Police should be given equal statutory powers to local authorities for dealing with noise complaints and should set up a non-emergency hotline for noise complaints.

Despite being bothered by noise, not all people take action against it. 30 per cent of Londoners thought taking action would be a waste of time, 22 per cent thought nothing could be done, nine per cent didn't know who to contact, five per cent were intimidated by the emitter of the noise and 4 per cent found the cost of taking action prohibitive. Of those who did take action, the most common course of action was complaining directly to the generator of the noise, followed by complaining to the local authority and installing double glazing.

Action taken by Londoners against noise



Local authorities are legally required to deal with noise deemed a statutory nuisance. According to the Environmental Protection Act 1990, noise constitutes a statutory nuisance when it does 'unreasonably and substantially interfere with the use or enjoyment of a home or other premises' or 'injure health or be likely to injure health'. Local authorities are responsible for investigating these claims.⁶³

63. 'CIEH Noise Survey 2019/20 Report on findings – England', Chartered Institute of Environmental Health (February 2021)

Environmental Health Officers are employed by local authorities to handle noise complaints, which are the complaints most commonly received by local authorities in England.⁶⁴ They must exercise their own judgement when deciding whether or not the noise generated constitutes a statutory nuisance.⁶⁵ There is no set level at which noise becomes a nuisance, as a range of factors including time of day, the activity creating the noise, and the frequency with which noise is being emitted affect how reasonable a complaint is. This reflects the key tension in the law regarding liberty.

Regulating Noise

Acoustic Jurisprudence is an emerging field that refers to the relationship between the 'soundscape' and the law. While this area was originally concerned with how acoustic evidence is treated in a court of law, the field is growing to encompass more broadly how sound is regulated by the law.⁶⁶

It is particularly challenging to legislate and regulate noise, as it is objective and there is therefore no simple measure of it. Although we measure sound in decibels, whether a sound is interpreted as noise depends on the human reaction to sound. Determining whether a noise is justified or not is therefore not a simple case of measurement, but depends on judgement.

There have been increasing calls for greater recognition of the right to freedom from excessive noise, particularly under human rights legislation. The majority of cases relating to noise would be covered by Article 8 of the European Convention on Human Rights: the right to respect for one's "private and family life, his home and correspondence". According to *Hatton vs. UK* (2003); 37 E.H.R.R. 28 – Paragraph 96:

"There is no explicit right in the convention to a clean and quiet environment, but where an individual is directly and seriously affected by noise or other pollution, an issue may arise under Article 8".⁶⁷

The key tension in the law regarding noise pollution concerns liberty. While those seeking protection from noise invoke their right to privacy, noisemakers often argue that not being able to undertake the activity that creates the noise infringes their own freedom.⁶⁸ This balance is at the heart of all decisions regarding noise.

64. 'CIEH Noise Survey 2019/20 Report on findings – England', *Chartered Institute of Environmental Health* (February 2021) https://www.cieh.org/media/4898/cieh-noise-survey-findings-2019_20.pdf

65. 'Nuisance complaints', E. Ares & A. Adcock, *House of Commons Briefing Paper* (6 March 2018)

69. 'Anti-Social Behaviour, Crime and Policing Act: anti-social behaviour', *Home Office* (9 May 2013) <https://www.gov.uk/government/publications/anti-social-behaviour-crime-and-policing-bill-anti-social-behaviour>

66. 'The Soundscape of Justice', James Parker, *Griffith Law Review*, 2011, [link](#).

67. 'Noise and Human Rights Regulation', *Environmental Protection UK*, March 2014, [link](#).

68. 'The Tension between Religious Freedom and Noise Law: The Call to Prayer in a Multicultural Society', A. D. Renteln, *The Israel Democracy Institute*, 2014, [link](#).

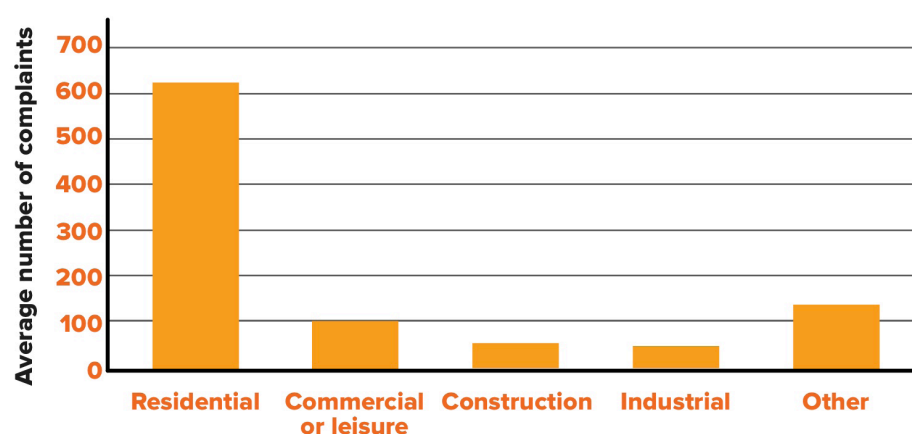
If a noise is deemed to be excessive, local authorities can serve an 'abatement notice' on the emitter of the noise, requiring them to reduce noise or limit the hours within which the activity generating noise is carried out. Local authorities have powers to enforce an abatement notice, by for example confiscating equipment. If an abatement notice is not complied with, the emitter of noise may be prosecuted and fined. The powers that local authorities have to deal with noise was strengthened in the *Anti-Social Behaviour, Crime and Policing Act 2014*, including the use of a civil injunction and community protection notices to control noise.⁶⁹

According to the Chartered Institute of Environmental Health Noise Survey of local authorities in England and Wales, 67 noise complaints were made for every 10,000 people. There are approximately 440 Full Time Equivalent (FTE) professionals handling noise complaints for local

authorities, which comes to 3.8 FTEs employed per local authority. Each FTE officer had to deal with 299 complaints per year. The survey has recorded a 13 per cent drop in the number of recorded noise complaints between 2015/16 and 2019/20.⁷⁰ However, when the BBC contacted local authorities in May 2020 to ascertain how the number of noise complaints changed over the first lockdown, 44 out of the 51 councils that responded reported a rise in complaints.⁷¹ Across police forces responding to FOIs regarding the number of noise complaints over lockdown, 67 per cent reported a rise in the number of noise complaints.⁷²

The majority of noise complaints across England relate to residential noise. Other sources of noise include noise made in the streets, and from sources of transportation. Policy Exchange polling reveals that the sources of neighbourhood noise that bothers the most Londoners are children (39 per cent), teenager and adult voices (39 per cent), parties held outdoors (36 per cent), foxes (35 per cent), doors banging (34 per cent), and local fireworks (34 per cent).

Average number of noise complaints by sector by local authority



In Greater London, there were 189 noise complaints for every 10,000 people in 2019/20, which is almost three times the national average.⁷³ Across 12 local authorities (36.3% of the total in Greater London), there were 54,819 noise complaints, 466 notices served by local authorities and there were 9 noise-related prosecutions. FTE Environmental Health Officers in London had to deal with more than twice as many noise complaints as the average officer in England, with 671 complaints per 1 FTE compared to the national average of 299.

Police only become involved in issues to do with noise if it is related to antisocial behaviour or illegal activities. For example, local councils are responsible for dealing with the noise generated by unruly crowds outside of a pub, but were the behaviour to become antisocial, e.g. disorderly or violent, the police would intervene. Other illegal behaviour linked to noise is for example modifying a car exhaust to make it louder. Police will therefore pull over and fine cars where this is suspected.

The public support local authorities dealing with noise complaints. When asked who should be responsible for resolving conflicts over unwanted

70. 'CIEH Noise Survey 2019/20 Report on findings - England', *Chartered Institute of Environmental Health* (February 2021)

71. 'Lockdown: 'Noisy neighbours are ruining my life'', M. Pandey & W. Chalk, *BBC* (12 May 2020) <https://www.bbc.co.uk/news/newsbeat-52579586>

72. M. Savage & J. Tapper, 'Noisy neighbours spark 67% rise in police complaints', *The Guardian* (19 September 2021), [link](#)

73. 'CIEH Noise Survey 2019/20 Report on findings - England', *Chartered Institute of Environmental Health* (February 2021)

noise, 58 per cent thought local authorities should play a role, and 36 per cent thought the police should. However, councils are clearly struggling to meet the demands on Environmental Health Officers. In a workforce survey of English local authority environmental health officers between November 2020 and February 2021, 56 per cent reported vacancies in their environmental health teams unfilled for at least 6 months. 31 per cent of local authorities reported stopping some services, including out of hours services for noise, and noise and environmental protection duties were cited as being second most at risk of not being delivered, after food hygiene and safety.⁷⁴

Some boroughs have also used the pandemic to justify cutting back on out of hours noise services. The London Borough of Hounslow “is currently offering an out of hours service but this has changed due to COVID-19. Noise Monitoring equipment is temporarily suspended, and response is being prioritised for those calling to report a breach of an abatement notice.”⁷⁵ There seems to be little justification for suspending the use of noise monitoring equipment, especially now that the worst of the pandemic is over.

As local authorities are failing their duty to tackle noise complaints at night, the police should be given equal statutory powers to local authorities to respond to noise complaints. With cross-party support a House of Commons Early Day Motion was submitted in January 2011 but no further action was taken:

‘That this House welcomes the initiative of local police commanders who work closely with local authorities in tackling noise nuisance; notes that more householders tend to telephone the police than telephone their local authority noise service even though statutory responsibility rests with the latter; further notes that in many other countries the police have primary responsibility for dealing with noise nuisance; is concerned that many local authority areas do not provide resources to respond to late night noise nuisance complaints; further notes that many cases of serious noise-making may also be associated with other crimes and misdemeanours and thus appropriate for police involvement; believes that giving the police equal statutory powers with local authorities to respond to noise complaints where the issues are straightforward and do not require specialist acoustic advice would benefit both householders and effective local policing; and urges the Government to introduce early legislation to give the police such equal powers.’⁷⁶

Once the police have been granted equal powers for tackling noise complaints, they could set up a noise at night hotline, for out of hours complaints that many local authorities are no longer dealing with. This would allow them to fulfil service provision at crucial times when local authorities are not able to, but when unwanted noise can have a significant impact on individuals. As local authorities are failing their duty to handle noise complaints at all times, they should contribute to the cost of running this service.

74. ‘Environmental health workforce survey report: local authorities in England and Wales’, Chartered Institute of Environmental Health

75. “Report a noise nuisance”, London Borough of Hounslow (accessed October 2021) https://www.hounslow.gov.uk/info/20038/noise_nuisance/1171/report_a_noise_nuisance

76. <https://edm.parliament.uk/early-day-motion/42344/police-powers-on-noise-nuisance-complaints#tab-supporters>

Noise at night regulations should be brought into effect from 10pm instead of 11pm.

Under the Noise Act 1996, local authorities must investigate excessive noise in residential dwellings or licensed premises between 11pm and 7am.⁷⁷ During this period, environmental health officers from local authorities assess whether noise exceeds permitted levels, and can issue warning notices and seize equipment responsible for the noise. For those who do not comply with warning notices, councils can issue a fixed penalty notice with a £110 fine for residential dwellings and £500 for licensed premises.⁷⁸ Noise does not have to be classified as a statutory nuisance for a local authority to act during night hours.

When we highlighted additional restriction on permitted noise levels at night and subsequently asked at what time ‘night’ begins, we found 60 per cent of Londoners believed night begins at either 9pm or 10pm, as opposed to 27 per cent who believes it starts at 11pm and 6 per cent who believes it starts at midnight. More Londoners also report being bothered by neighbour and neighbourhood noise towards the end of the day, rather than in the morning. 49 per cent are affected by this type of noise in the evening (5.30pm-10pm) and 42 per cent are affected at night (10pm-6am), compared to 35 per cent who are bothered in the morning (6am-11am) and 34 per cent around midday (11am-2pm).

Noise at night regulations should therefore be brought forward, from 11pm to 10pm, in order to reflect the understanding of Londoners as to when the quieter period of night begins. Bringing forward noise at night regulations would provide Londoners with an additional hour during which they can expect less noise while at home and greater protections from those making noise.

77. ‘Nuisance complaints’, E. Ares & A. Adcock, *House of Commons Briefing Paper* (6 March 2018)

78. ‘Noise nuisances: how councils deal with complaints’, *Department for Environment, Food & Rural Affairs* (7 April 2015)

7. Strategy

We need greater co-operation across Government on solutions for different environmental problems.

Noise policy across the UK is a devolved issue, and despite the Department for Environment, Food and Rural Affairs having overall responsibility for the management of noise in England, various aspects of noise policy fall into the remit of other departments too.⁷⁹ For example, the Department for Transport is responsible for noise generated by airports, while the Department for Work and Pensions sponsor the Health and Safety Executive, who dictate regulations with regards to noise at work. As a determinant of health, noise also falls under the remit of the Department of Health and Social Care. Meanwhile, the Department for Levelling Up, Housing and Communities is directly responsible for noise generated by new developments, while indirectly responsible through its oversight of local government, as local authorities are responsible for noise that is deemed a statutory nuisance. The Home Office are responsible for noise related to public nuisances, for example noisy vehicles, and have intervened with regards to noise related to protests, through the *Police, Crime, Sentencing and Courts Bill*.

Noise clearly touches on a wide range of policy issues, but the departmental nature of Whitehall has resulted in some departments, especially those not directly responsible for noise, neglecting this issue. In order to overcome this, the fragmentation of responsibility for noise across different departments has however resulted in a lack of over-arching strategy with regards to noise policy.

One area where this is particularly evident is the lack of coordination on different environmental issues that the Government is trying to tackle, for example on noise pollution and net zero. The Green Homes Grant, which was run by the Department for Business, Energy & Industrial Strategy (BEIS) from September 2020 to March 2021, was intended to subsidise the cost of installing energy efficient, low-carbon heating improvements to houses. The scheme, which was allocated £2bn of funding, provided vouchers covering two-thirds of the cost of an improvement, up to a maximum government contribution of £5,000. One of the key home improvements covered by the scheme was insulation, including solid wall insulation (internal or external); cavity wall insulation; under-floor insulation (solid floor, suspended floor); loft insulation; and roof insulation (flat, pitched, room-in).

Retrofitting homes with insulation is expensive, so it is an oversight

79. "Noise Policy Statement for England", Department for Environment Food & Rural Affairs (March 2010), [link](#)

that in urban areas where homes are noisier due to higher density, there was no guidance on the acoustic quality required of the insulation. This is important as not all insulation, e.g. fiberglass insulation, is effective at soundproofing and as a key part of the cost of retrofitting insulation is decorating, moving plumbing and electrics, and moving or replacing fittings (e.g. radiators), it is a wasted opportunity to not demand insulation be both thermal and soundproofing. The fact that BEIS, who are not responsible for noise, ran the scheme undoubtedly contributed to this oversight.

The Government has made it clear that we can expect a wide range of policy interventions and technological change as new regulation and legislation is introduced to tackle climate change and meet our net zero targets. This provides both opportunities and costs in the fight against noise pollution. In the case of retrofitting insulation, this was clearly an opportunity for tackling noise pollution that was lost due to a lack of cross-government cooperation.

It is important to look at tackling noise pollution in the context of the wider range of environmental pollutants and government objectives. Combining different objectives can lead to cost savings overall, and allow noise abating intervention that would by themselves be too expensive to justify. Greater cooperation across government is therefore required to tackle noise pollution in a cost-effective manner.

The Mayor should introduce a soundscape strategy with regular reviews to assess how the soundscape across London is evolving, whether new regulation is required, and to help boroughs share best practice.

The Welsh government have defined soundscape ‘as the acoustic environment as perceived or experienced and/or understood by a person or people, in context.’⁸⁰ Management of the soundscape involves not only reducing unwanted sounds, but encouraging desirable sounds, and taking context into account. For example, the sound of running water is soothing and enjoyable in a park with a fountain, but would be uncomfortable and disconcerting on the London Underground. This approach involves designing spaces to create an acoustic environment that is pleasurable and appropriate.

The soundscape is constantly evolving, as new technology emerges, as transport infrastructure deteriorates, as working patterns change, and as the urban population increases. Reactive regulation, which emerges only after a source of noise is embedded in city life, is often more costly and less effective than interventions to reduce noise before it has become a feature of the urban soundscape.

The London Mayor should introduce a soundscape strategy with regular reviews to assess how the soundscape across London is evolving, whether new regulation or action is required, and to help boroughs share best practice. This should include monitoring both positive and negative changes in noise levels across London and tracking Londoners attitudes to new and emerging sources of noise. As the London Mayor last published a

80. Wales noise plan

noise strategy, Sounder City, in 2004, it's clearly time this was updated.⁸¹

A soundscape strategy could deal with changes such as the decision by some councils to allow Mosques to play the call to prayer for the first time last year during Ramadan, due to lockdown and coronavirus restrictions on gathering in mosques.²⁵ According to Cllr Elizabeth Campbell, the Conservative leader of Kensington and Chelsea Council: 'Allowing the adhan to be broadcast has helped encourage people to stay home and stay safe while maintaining the sense of togetherness and community.'⁸² Viable alternatives however could have included using a flashing light on the minaret or individuals receiving the call to prayer via radio or on their phones.⁸³ Although the pandemic was exceptional, the public should be regularly consulted with regards to new sources of noise before they become a feature of the soundscape.

Drones are another area where it would be better to assess the noise impact they have now, as the technology is emerging and not yet integrated into the operations of many businesses or services. 14 per cent of Londoners are already bothered by the sound of drones, rising to 21 per cent of residents in the South West London Assembly Constituency (Hounslow, Kingston & Richmond), yet their use is only set to increase. Although in some instances, such as where drones are used to replace helicopters, the overall impact will be positive, it is important to actively monitor the overall change in the soundscape as this new technology becomes more prevalent. Alex Williams, Director of City Planning at TfL, highlighted the importance of acting now in a letter to ICCAN: "There remain a multitude of questions to be addressed in relation to drones and their regulation which it would be simpler and more effective to shape now, while the industry is still in its infancy."⁸⁴

Creating a positive soundscape depends not solely on acoustics, but on the wider atmosphere. Soundscape policy should therefore be pursued alongside the objective to create a cleaner, safer, more beautiful capital city. In our poll of Londoners, there was overwhelming support for sounds associated with nature. 60 per cent of Londoners enjoy hearing wildlife (e.g. bird song), 48 per cent enjoy hearing trees rustling, and 48 per cent enjoy hearing water. The next most popular source of sound garners significantly less support (children at 17 per cent), with all man-made sounds (bells, entertainment venues, busking, and sports) occupying support from less than ten per of Londoners. Managing noise is not about creating an environment without sound, but bringing to the fore those people enjoy, while minimising those that create stress and discomfort.

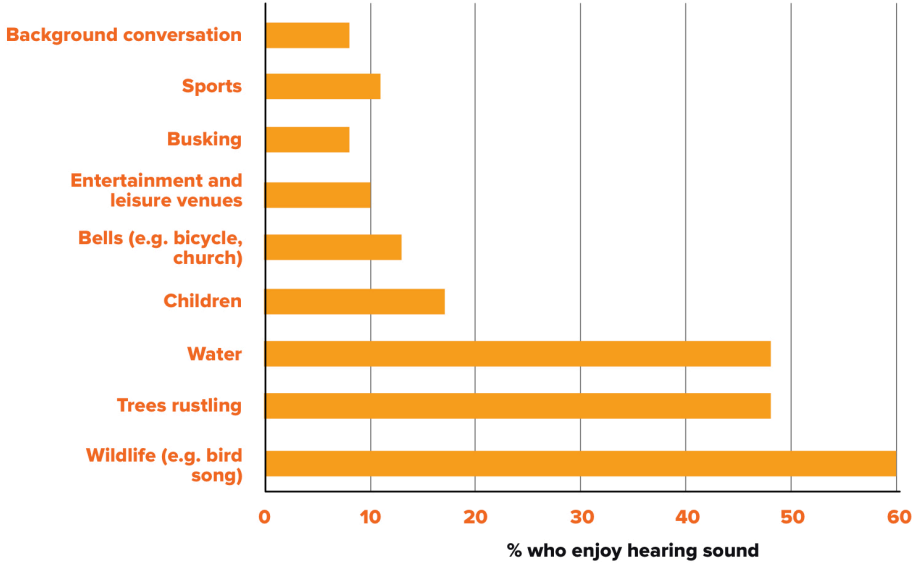
81. "Keeping the noise down", *Mayor of London* (accessed October 2021), [link](#)

82. 'Mosques across Britain could sound the call to prayer through [link](#) loudspeakers after councils gave permission to alert the faithful during Ramadan in unofficial pilot scheme', Abul Taher, *Mail on Sunday*, May 2020

83. 'The Tension between Religious Freedom and Noise Law: The Call to Prayer in a Multicultural Society', A. D. Renteln, *The Israel Democracy Institute*, 2014, [link](#).

84. <http://content.tfl.gov.uk/iccan-strategy-consultation-response.pdf>

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