Written evidence submitted by Impact on Urban Health

We welcome the Environmental Audit Committee's inquiry to establish the adequacy of current measures to promote indoor and outdoor air quality and assess whether air quality targets are sufficient for protecting public health and the environment. We are pleased to share our contribution on this important issue.

About Impact on Urban Health

Impact on Urban Health is a part of Guy's & St Thomas' Foundation. We explore how living in cities impacts on people's health. We take an applied approach, testing preventative solutions to complex health issues any partner with a breadth of organisations – from local authorities and community organisations to multi-national corporates – to further health equity. While we focus our efforts predominantly on London – where Guy's & St Thomas' has a long history both as a healthcare provider and, through the Foundation, a property developer – and work in areas that experience the widest health inequalities, we seek to generate evidence and learnings which can benefit people in cities and towns across the UK.

We are running a ten-year programme to explore how poor air quality affects people's health. We work to generate evidence and develop effective solutions by funding projects that:

- Create a compelling case for change by layering different types of data.
- Engage and amplify the voices of people most impacted by poor air quality.
- Reduce exposure to air pollution in environments where people spend their time.
- Work with businesses to find equitable solutions to reducing emissions.

The challenge

Air pollution has been recognised by the UK Government to be the single largest environmental risk to public health**.** An increasing body of evidence has linked air pollution to the causation and worsening of existing respiratory and cardiovascular diseases, as well as a likely link to cognitive decline and dementia.

In his 2022 annual report, Chief Medical Officer Professor Chris Whitty said that while outdoor air pollution in England has reduced significantly since the 1980s, it still poses significant health threats including increasing heart disease, stroke, lung disease, cancer, dementia, child lung development, and asthma. Air pollution kills an estimated 26,000 - 38,000 people a year in England. In 2018, a report from Public Health England estimated the total cost of air pollution to the NHS between 2017 and 2025 will be £1.6 billion for $PM_{2.5}$ and NO_2 combined. Despite action taken over the last few years to reduce pollution levels, there is still more that must be done at a national level to reduce the impact it is having on our health and our economy.

According to the government's data, urban areas are home to a higher proportion of households living in poverty compared to rural areas, and there is extensive evidence of a strong correlation between low incomes and poor health.[1] Poor air quality is more prevalent in urban areas and affects those who are most at risk of its health impacts, including children under 15, older people, and people with heart and lung conditions. Air pollution has a disproportionate effect on poorer, urban communities, despite this population group contributing the least to the problem. Government policies must recognise this.

In addition to the adequacy of the government's air quality targets, our response focuses on the work that Impact on Urban Health has delivered with NGOs, local authorities, and businesses to explore the practical steps that can be taken to improve air quality.

The government's air pollution targets

The Environment Act (2021) committed the government to set new long-term targets on a range of environmental issues, including two new targets for reducing fine particulate matter ($PM_{2.5}$) air

[1] DEFRA, Communities and Household Statistics for Rural England, 2023

pollution. $PM_{2.5}$ refers to the tiny particles of dust and dirt that get deep into the lungs and into the bloodstream. We support the view expressed by the Healthy Air Coalition, of which we are a partner, that these targets are inadequate.

In January 2023, the government introduced the following targets for $PM_{2.5}$:

- An annual mean concentration target (AMCT) – a limit of 10 micrograms per cubic metre ($\mu g/m^3$) to be met across England by 2040.
- A population exposure reduction target – a 35% reduction in population exposure by 2040 (compared to a base year of 2018).

These targets do not go far enough to deliver on the government's aim stated in 2019 to introduce "world leading" and "ambitious" air quality targets. Regarding the AMCT, the World Health Organization (WHO) recommended a limit of 10 $\mu g/m^3$ as long ago as 2005. This has now been surpassed by the 2021 guidelines, which recommend a limit of 5$\mu g/m^3$ to be achieved as quickly as possible.

Furthermore, the UK's national and international partners are also demonstrating a higher level of ambition. Since 2012, the USA has had a stronger legal target for $PM_{2.5}$ than the UK, set between 9 and 10 $\mu g/m^3$, as of January 2023. In 2016, the Scottish government set the target of reaching 10 $\mu g/m^3$ by 2020, a target which was achieved according to its 2020 annual report (see page 31). The EU Commission has also shown a higher level of ambition than the UK when it proposed to reduce $PM_{2.5}$ levels to 10 $\mu g/m^3$ by 2030 in October 2022.

Research from Imperial College London shows that the proposed concentration limit (10 $\mu g/m^3$) is **achievable in 99% of the country by 2030** if existing government policy commitments are delivered and should be further supported by robust and appropriate legal targets.

Based on the population data and information about monitoring zones set out in Table 1 and Figure 3 of DEFRA's Air Quality PM2.5 Targets Detailed Evidence Report, we believe that the new regulations on monitoring sites will only require a minimum of 166 monitors to be installed by 2028.[2] This would see an increase of just 103 monitors over the next five years.

These minimum standards are unlikely to be enough to truly understand levels of pollution in the most populated areas. For example, under this analysis, the legal minimum requirement for $PM_{2.5}$ monitors across London would be just 15 monitors to measure compliance with the AMCT and, of this 15, just 10 would be background monitors to measure compliance with the Population Exposure Reduction Target.

Along with other members of the Healthy Air Coalition, we welcomed the inclusion of a new requirement under the Environment Act for a minimum number of monitoring stations on a zone-by-zone basis based on population numbers, it is not clear either that these standards will be enough to properly measure air pollution, or why the government is delaying the implementation of these standards until 2028. The five-year delay for these standards to be introduced will make it more challenging for the government to accurately assess its compliance with the interim targets, set out in the Environmental Improvement Plan, and means that England will have an inadequate monitoring system until 2028 unless further action is taken.

Local powers to reduce emissions from construction

While overall levels have dropped, the manufacturing and construction industries' share of total $PM_{2.5}$ emissions has increased in recent decades. It is therefore vital that local authorities have the powers and support to be able to effectively address this issue. Impact on Urban Health contributed to the Chief Medical Officer's annual report in 2022, drawing on our work on emissions from the construction industry.

We worked with the Centre for Low Emission Construction (CLEC) to produce a report on 'Air quality and emissions in construction'.[3] As part of this report, interviews were conducted with local authority

[2] DEFRA, Air Quality PM2.5 Targets: Detailed Evidence Report, 2022
[3] Centre for Low Emission Construction, Air quality and emissions in construction, 2022

practitioners. Several described experiencing challenges in implementing current regulations. One said that a major issue is that the Public Protection Officers (or Environmental Health Officers) have limited capacity or power to act proactively ahead of complaints being made to the council and have not yet established an optimal monitoring strategy to access and respond to real-time data on pollution spikes.

The report found that there are practical steps the industry and local and national government can take to improve air quality from construction sites, which remain a major source of air pollution in cities. The most impactful steps included the **employment of Construction Compliance Officers**, who would be air quality champions working at borough level and within planning or enforcement teams. They would have a role in assessing dust management plans, as well as construction and demolition plans, and would ensure sites are compliant for Non-Road Mobile Machinery standards. Crucially, they would have powers to act. Further adoption of low emission technologies should also be encouraged by local and national authorities.

In summary, we recommend three approaches for reducing air pollution emissions from construction:

1. **That Government, the construction industry and stakeholders ensure compliance with existing legislation.** Local government lacks both the evidence to monitor whether existing regulations are being met, and the resources to intervene when they are not. Better compliance could mean more local authority officers visiting sites to ensure compliance with dust management policies.
2. **Encouraging adoption of low emission approaches.** The adoption of new technologies will provide the demand needed to influence supply change. But it must be supported by educating and training groups within the construction industry, making them aware of available technology, its impacts, and benefits.
3. **Developing a pathway to enhanced regulation.** The construction industry is overwhelmingly supportive of reducing air pollution and of enhancing existing regulations, but would like to see clear indications from government on its regulatory agenda, which will in turn stimulate investment into clean technologies.

We made these suggestions in our response to the government's consultation on the draft Air Quality Strategy, which does not do enough to equip local authorities to address this issue.

Reducing emissions from transport

The contribution of the transport sector to air pollution is well understood. Transport contributed 14% of the UK's $PM_{2.5}$ emissions in 2020, and 12% of PM_{10} emissions.[4] As one of the most significant factors behind poor air quality, it is vital that the sector's emissions are reduced to limit exposure to damaging particulates. We have partnered with Asthma + Lung UK who have produced a report on supporting the transition to cleaner modes of travel: 'Putting the brakes on toxic air: our transport plan for a greener, fairer, future'[5]. The key findings of this report are summarised below.

Reducing car use is a monumental challenge, especially by the levels required to make a difference. In London, for example, there is a need for a 27% reduction in the number of kilometres travelled by car by 2030. Clean Air Zones (CAZs) have proved to be one of the most effective ways to deliver rapid improvements in urban air quality. However, we recognise that there are concerns about the financial impact of CAZs during a cost-of-living crisis and the cost barriers that prevent people on lower incomes from investing in cleaner modes of travel.

The key policy recommendation of this report is **the establishment of a Cleaner Travel Access Fund.** This would be a scrappage scheme for communities in class D CAZs to provide targeted support for people on low incomes and those affected by health conditions to exchange their polluting vehicles for a financial grant. The grant could be used to fund public transport use or active travel, or for purchasing an electric vehicle.

[4] Department for Transport, Transport and environment statistics 2022, 2022
[5] Asthma + Lung UK, Putting the brakes on toxic air, 2023

Generally speaking, local government should work with local transport authorities to ensure all public transport is upgraded as quickly as possible to reduce the amount of pollution stemming from bus fleets. Government should mandate that each local authority develops and delivers an ambitious net zero transport plan before the end of 2025.

Local action to reduce emissions from road freight

Emissions from vans and other large goods vehicles (LGVs) are 5,000 tonnes greater than a decade ago.[6] Many of these emissions are being produced in the most disadvantaged urban communities.[7] This is why it is critical that local authorities address the impact of freight emissions, to encourage greener, more efficient goods and logistics systems across the UK.

Impact on Urban Health has funded multiple projects to explore how local authorities can do this. An example of this is our work with Centre for London, who research how more efficient, greener systems could be implemented in the capital. Recommendations from the report directed at the Greater London Authority included:

- The Mayor should work with parcel delivery companies to put 90% of Londoners within 250 metres of a universal parcel pick-up/drop-off point by 2025.
    - If progress on this is too slow, the Mayor could be given new powers to incentivise their use, such as introducing an online sales tax for at-home deliveries.
- The Mayor of London should introduce a pay-per-mile road user charging scheme that gives priority to delivery and servicing vehicles.
- London boroughs and Transport for London should embrace dynamic and digitalised kerb management, which would give delivery vehicles safer and more reliable access to the kerb.
- London boroughs should make delivery consolidation a requirement in planning applications for all new major developments.

We recommend that solutions such as these are considered alongside broader efforts led by national government, including funding installation of electric charging facilities at commercial properties like consolidation centres and investing in piers, wharves, and rail-road interchanges so that the river and railways are viable alternatives to road freight.[8]

We are also funding a trial with Grid Smarter Cities to help local businesses and Southwark Council to manage deliveries via Bankside Pier and using cargo bikes or electric vans to transport goods from the river to their final destination.[9] This project will report in the near future, and we would be happy to further discuss with the Committee how the learnings can be taken forward across other local authorities.

We have partnered with Team London Bridge to explore the efficacy of cargo bikes for commercial deliveries. Backed by our funding, our partners will provide a whole market advisory and subsidy service to local businesses to support the switch to cargo bikes in the London Bridge/Bermondsey area.[10] This is an expanded version of a previously successful trial, and we expect to have a greater understanding on the role and impact on subsidies following the project's completion, as this could provide councils with a further option to reduce freight emissions.

Ultimately, **we recommend that local authorities assess the impact of freight emissions on local air quality**, with targeted interventions (such as the above) to be considered in areas such as towns and cities where less polluting transport modes are available and viable.

Addressing indoor air quality

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[6] ibid
[7] NatCen, Transport, health and wellbeing: An evidence review for the Department for Transport, 2019
[8] Centre for London, Worth the Weight: Making London's deliveries green and smarter, 2021
[9] Impact on Urban Health, Using the Thames to reduce air pollution from freight, 2023
[10] Impact on Urban Health, Supporting the use of cargo bikes in delivery services, 2023

The vast majority of the population spends around 80% of their time inside, often in public buildings where they are unable to do anything about the air pollution to which they are exposed.[11] As such, it is crucial that we learn how to reduce and prevent indoor air pollution to protect people's health.

Our partnership with Repowering London is examining how guidance on indoor air quality can be incorporated into community support services for people in Lambeth who are at risk of fuel poverty.[12] Repowering London is working with households in Brixton to learn about effective ways to monitor and mitigate indoor air pollution, with Impact on Urban Health contributing £1,000 per resident to pay for interventions that can be installed to improve the air quality inside homes. Repowering London are liaising with Air Pollution Services to access technical advice on monitoring indoor air pollution and selecting the most appropriate interventions. This partnership aims to improve our understanding about the best ways to improve indoor air quality and raise awareness within communities most at risk of the health effects of air pollution, with potential learnings for local authorities on how to provide support to residents.

We are also working with ClearView Research and Air Pollution Services to research the levels, sources and factors that influence indoor air pollution in people's homes, and to explore people's lived experience of this issue. We would be happy to discuss the findings of this work with the Committee once it has been completed.[13]

May 2023

[11] Impact on Urban Health, Our contribution to the Chief Medical Officer's report on air pollution, 2023
[12] Impact on Urban Health, Improving air quality in people's homes, 2022
[13] Impact on Urban Health, Indoor air quality: Digital ethnographic research, 2022