GREATER**LONDON**AUTHORITY

REQUEST FOR ASSISTANT DIRECTOR DECISION – ADD2332

Title: Real-time air quality monitoring for London's most polluted hospitals and NHS facilities

Executive Summary:

The sick and the elderly are amongst the most vulnerable to the effects of air pollution, especially those suffering with respiratory conditions. However, many of London's hospitals and NHS facilities are located in areas that exceed the legal limit for air quality pollutants. The National Institute for Health and Care Excellence recently consulted on guidance that will help health care providers reduce the risk posed by air pollution to patients accessing vital services. More widely, the recent National Health Service long term plan was the first to recognise air pollution as a key area where further preventative action is needed.

In the London Environment Strategy, the Mayor committed to protect vulnerable groups. The Strategy also committed to safeguard London's existing air quality monitoring network and enhance it by exploiting new technologies and approaches such as localised monitoring. As part of this commitment the Mayor launched the "Breathe London" network in January 2019. This network includes 100 lower-cost air quality monitors installed at locations across London.

This ADD seeks approval for expenditure to extend the existing Breathe London network by installing air quality monitors at up to ten of London's most polluted hospitals and NHS facilities. This will support the National Health Service by providing real-time air quality measurements allowing them to take action when needed to protect patients and employees.

Decision:

That the Assistant Director of Environment approves:

> Expenditure of up to £40,000 to install real-time air quality monitoring at up to ten of London's most polluted hospitals and NHS facilities (expenditure for financial year 2019/20)

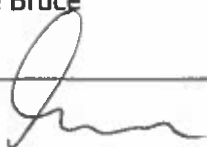### AUTHORISING ASSISTANT DIRECTOR/HEAD OF UNIT

I have reviewed the request and am satisfied it is correct and consistent with the Mayor's plans and priorities.

It has my approval.

Name: Luke Bruce

Position: Assistant Director, Environment

Signature:

Date: 28 / 12 / 19.

PART I - NON-CONFIDENTIAL FACTS AND ADVICE

Decision required – supporting report

1. Introduction and background

1.1. Improving air quality is a public health priority. Long-term exposure to air pollution is estimated to contribute to thousands of premature deaths a year. There is also strong scientific evidence of the acute health effects of short-term exposure to very high levels of pollution, like those experienced during an air pollution episode. It is essential that coordinated action is taken to reduce exposure, especially amongst those most at risk.

1.2. A recent study by the British Medical Journal found a distinct majority (74 per cent) of medical facilities in inner London were located in areas with illegal levels of nitrogen dioxide (NO2).

1.3. These hospitals are regularly visited by the sick and elderly, who are also the most vulnerable to the effects of air pollution, this is particularly true of those with respiratory conditions. In addition, patients generally visit hospital when they are at their most sick and therefore vulnerable.

1.4. For the first time the National Health Service's (NHS) Long Term Plan has recognised air pollution as a key area where more preventative action is needed. The plan also recognised that *"almost 30% of preventable deaths in England are due to non-communicable diseases specifically attributed to air pollution"*.

1.5. At present, the NHS does not issue advice to patients visiting hospitals and other NHS facilities as to how they can minimise their exposure and manage related symptoms. The National Institute for Health and Care Excellence (NICE) recently consulted on guidance on how health care providers can reduce the risk posed by air pollution to patients accessing vital services. This included providing better information to patients, as well as plans to reduce emissions related to hospitals and NHS facilities and ways to monitor these reductions.

1.6. NICE is also recommending NHS organisations identify how they will reduce emissions from their vehicle fleets to address air pollution. On site monitoring will allow to assessment of actions they are taking are improving air quality onsite.

1.7. The Mayor launched the Breathe London network in January 2019. The network includes 100 fixed air quality sensors deployed in (i) pollution hotspots, (ii) areas close to highly sensitive receptors and (iii) areas identified as experiencing an air quality management intervention during the project.

1.8. This Breathe London project is externally funded by the Children's Investment Fund Foundation with the exception of the wearable component being delivered by King's College London. Previous approval relating to this matter: MD2352 by which the Mayor approved grant funding of up to £150,000 to King's College London to deliver a wearables sensor programme. King's have claimed ~£110,000 of this. This ADD refers to the remaining £40,000 of that fund.

1.9. This monitoring is an additional bolt-on to the Breathe London project, devised following later discussions with health groups and NICE.

1.10. The proposed expenditure of up to £40,000 will cover a 12-month period of real-time air quality monitoring at up to ten of London's most polluted hospitals and NHS facilities. This period will be treated as a pilot, after which (if the programme is successful) the hospital/ NHS facility will continue to fund the monitoring at their site. It is also hoped the programme will be recognised as best practice and adopted by other health care facilities across London and nationally.

1.11. The majority of expenditure will go towards the rental and maintenance of AQ Mesh "pods" which are air quality sensors, approximately £3,000 per pod for a 12-month period. The other major costs relate to data processing of approximately £500 per pod for a 12-month period.

1.12. The data collected with be publicly available, in particular it will be made available to academics. This will allow researchers to link the real-time pollution concentrations with health data routinely collected at hospitals and NHS facilities. Allowing novel insights into the relationship between pollution levels and health outcomes.

1.13. The expenditure will be made by grant or by procurement after examining which is the most appropriate route.

2. Objectives and expected outcomes

2.1 This work programme will contribute to the London Environment Strategy objectives and policies:

- Objective 4.1 – Support and empower London and its communities, particularly the most disadvantaged and those in priority locations, to reduce their exposure to poor air quality.

  o Policy 4.1.1 Make sure that London and its communities, particularly the most disadvantaged and those in priority locations, are empowered to reduce their exposure to poor air quality
  o Policy 4.1.2 Improve the understanding of air quality health impacts to better target policies and action

2.2 The main elements of the work programme, its objectives and expected outcomes are set out below.

Objectives

- Install air quality monitors at up to ten of London's most polluted hospitals and NHS facilities
- Provide real-time air quality data to NHS trusts, patients and the general public

Outcomes

- NHS staff better informed about air pollution, associated health risks and able to give vulnerable patients appropriate advice
- Researchers use on site air pollution concentrations alongside patient records to better understand the relationship between air pollution and health effects
- Hospitals and NHS facilities able to measure the impacts of measures they take to improve air quality (for example cleaning up their vehicle fleet)
- Scheme recognised as best practice and adopted in other NHS facilities across London and nationally and continuation of programme beyond the 12-month pilot
- Awareness and understanding of air pollution as a health risk improved for doctors and medical practitioners

3. Equality comments

3.1. Air pollution is fundamentally a social justice issue. The most deprived Londoners are most likely to be exposed to air pollution.

3.2. Research commissioned by the GLA shows that on average the most deprived 10th of the population are exposed to concentrations of nitrogen dioxide which are 24 per cent higher than the least deprived 10th of the population. (Though it is important to note that hidden within this you also have pockets of extreme wealth with very high levels of exposure, e.g. those living in Westminster or in the Royal Borough of Kensington and Chelsea).

3.3. Another study also commissioned by the GLA looked at the relationship between a school being in a location exceeding legal limits for NO2 and the percentage of pupils eligible for free school meals. Of

the 360 primary schools located in areas of illegal pollution about four-fifths were classified as 'deprived', meaning more than 40 per cent of the school children were eligible for free school meals.

3.4. In terms of ethnicity, areas which have the highest numbers of mixed/multiple ethnic group residents are more likely to have the highest levels of NO2, whereas those with the highest numbers of white residents are more likely to have lower concentrations.

3.5. The actions set out in this ADD will benefit all Londoners, but due to the unequal impacts of pollution on the most vulnerable Londoners there is likely to be a positive effect in tackling social and health inequality. Having a better understanding of air pollution, particularly at hospitals and NHS facilities will also create new opportunities to take targeted and effective action in accordance with the GLA's obligations in equalities legislation including the public-sector equality duty.

4. Other considerations

Key risks and issues

	Risk description (cause, risk, event, potential impacts)	Probability (1-5)	Impact (1-5)	RAG	Mitigation/risk response (state if the response is done or pending)
1	It may be difficult engaging with hospitals/ NHS facilities and persuading them to take part in programme	3	4	R	Work with the Breathe London consortium to identify potential hospitals and NHS facilities. Priority will be given to hospitals and NHS facilities in the most polluted areas. We have had discussions with GLA Health Team on how best to engage, and preliminary discussion with hospital trusts have been positive. Also in discussion with Global Action Plan who's "Clean Air Hospital Framework" will help facilitate engagement
2	Key deliverables, such as the live data, may not be delivered on time.	1	3	G	The data platform will already be running for the other 100 pods, it will be straight forward to integrate the additional hospital
3	Programme is not extended beyond the 12-month pilot funded by the GLA	3	1	G	We will work with hospitals/ NHS facilities and delivery partner to foster a relationship that will extend beyond the lifetime of this programme. We will also work with NHS and GLA Health Team to promote the benefit of monitoring at hospital sites

4.1 Policy 4.1.2 of the London Environment Strategy (Improve the understanding of air quality health impacts to better target policies and action) includes the proposal:

4.2 "Proposal 4.1.2.b: The Mayor will work with boroughs to safeguard the existing air quality monitoring network, and enhance it by exploiting new technologies and approaches such as personal and localised monitoring"

4.3 The strategy explicitly recognises the importance of the "Breathe London" C40 sensor project: *"The Mayor will work with boroughs and other partners to encourage innovation in monitoring, starting with a new sensor monitoring trial in partnership with the C40 Cities Climate Leadership Group. This is a network of the world's megacities committed to addressing climate change and air pollution.*
It is getting easier for people and groups to buy personal and relatively low cost monitoring systems. These can be valuable tools, but knowing how best to use and locate the monitors is vital if the results are to provide meaningful information. It is also important to understand the limitations of monitoring equipment, and how best to interpret and publish results. The Mayor will offer guidance and advice on how air quality is monitored in London, and help people understand what type of equipment is available."

4.4 This programme is in conformity and takes forward the commitment set down in the London Environment Strategy.

Consultations and impact assessments

4.5 A comprehensive Integrated Impact Assessment was undertaken to support the London Environment Strategy (LES) which covered air quality, including proposed action at schools and nurseries. The Integrated Impact Assessment (IIA) found that the GLA had considered aspects for improving London's air quality based on four policy options. This was recognised in the LES IIA as the most effective approach for addressing human health impacts. The LES includes targets for some of the pollutants identified in the IIA recommendations. The GLA agreed that it would look to include specific interventions to improve air quality around schools, hospitals and NHS facilities and care homes.

5. Financial comments

5.1 Assistant Director's approval is sought to fund the Breathe London consortium up to £40,000 to install real-time air quality monitoring at up to ten of London's most polluted hospitals and NHS facilities. This is to be funded from Environment team's 2019-20 Air Quality budget.

6. Legal comments

6.1 The proposed expenditure and its outputs are authorised by the Mayor's powers of environmental and social improvement under section 30 GLA Act 1999.

7. Planned delivery approach and next steps

Activity	Timeline
Procurement of contract/ funding agreement drafted	March 2019
Announcement [if applicable]	March 2019
Delivery Start Date [for project proposals]	March 2019
Installation of 10 monitors	By end of May 2019
Live data online and shared with hospitals and NHS facilities	By end of June 2019
Final evaluation start and finish (external):	Start: January 2020

	Finish: May 2020
Delivery End Date [for project proposals]	May 2020
Project Closure: [for project proposals]	May 2020

Appendices and supporting papers:

None.

Public access to information

Information in this form (Part 1) is subject to the Freedom of Information Act 2000 (FoIA) and will be made available on the GLA website within one working day of approval.

If immediate publication risks compromising the implementation of the decision (for example, to complete a procurement process), it can be deferred until a specific date. Deferral periods should be kept to the shortest length strictly necessary. **Note**: This form (Part 1) will either be published within one working day after it has been approved <u>or</u> on the defer date.

Part 1 - Deferral

Is the publication of Part 1 of this approval to be deferred? NO

If YES, for what reason:

Until what date: (a date is required if deferring)

Part 2 – Sensitive information

Only the facts or advice that would be exempt from disclosure under FoIA should be included in the separate Part 2 form, together with the legal rationale for non-publication.

Is there a part 2 form – NO

ORIGINATING OFFICER DECLARATION:	Drafting officer to confirm the following (✓)
Drafting officer: Rosalind O'Driscoll has drafted this report in accordance with GLA procedures and confirms the following:	✓
Corporate Investment Board This decision was agreed by the Corporate Investment Board on 26 February 2019	

ASSISTANT DIRECTOR OF FINANCE AND GOVERNANCE:

I confirm that financial and legal implications have been appropriately considered in the preparation of this report.

Signature _[signature]_   Date 25. 02 19