

LONDON SCHOOLS' AIR QUALITY SURVEY

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Introduction

Ever since the 'Great Smog' of December 1952, the link between air pollution and public health has been well known in London. Back then, it was the deadly mixture of soot and smoke from London's coal-fired power stations, factories and homes that – combined with an anticyclone and windless conditions – was to cause the deaths of up to 12,000 people in the weeks and months that followed.

Today, the problem of air pollution may be less visible, but its effects are no less harmful – with an estimated 4,267 Londoners dying prematurely each year because of long-term exposure to airborne pollution.

Where previously it was our obsession with burning coal that was the cause of so much harm, today it is our dependence on motor vehicles that is largely responsible for shortening the life expectancy of every Londoner – with motor traffic responsible for up to 80 per cent of harmful particulate pollution in central London.

As our understanding of the causes of air pollution has improved, so too has our knowledge of its adverse effects on our children's health and development. Put simply, their lungs are smaller and weaker than those of an adult and therefore more susceptible to injury by air pollutants.

Worse still, there is emerging evidence to suggest that the damage sustained by developing and maturing lungs is carried forward into adult life. Protecting our children, then, is critical to improving the health of future generations as well as fulfilling our duty to protect the most vulnerable in society.

This survey therefore focuses on those schools that are exposed to the highest levels of air pollution across London and examines their awareness and experience of the problem. From these results I am pleased to make a number of recommendations as to how the health information and advice offered to our schools could be improved to better protect their children from the harmful effects of air pollution.



Stephen Knight AM
Liberal Democrat London Assembly Environment Spokesperson

Effects of air pollution on children's health

Concerns about the adverse effects of air pollution on children's health and development have been the focus of increasing attention over the last decade.

In 2005, the World Health Organisation (WHO) published a comprehensive review of the available evidence on the effects of air pollution on children's health and development. It concluded there was sufficient evidence to assume a causal relationship between exposure to air pollution and aggravation of asthma (mainly due to exposure to particulate matter and ozone) as well as a causal link between increased prevalence and incidence of cough and bronchitis due to exposure to particulate exposure.

More generally, the experts who conducted this review strongly recommended that children's exposure to air pollutants should be reduced – particularly in regard to traffic-related pollutants – as this would lead to considerable health benefits.

In 2008, the UK Committee on the Medical Effects of Air Pollutants (COMEAP) reviewed the above report and confirmed that from the available evidence it was possible to suggest that air pollution plays a part in the induction of asthma in some individuals who live near busy roads, particularly roads carrying high numbers of heavy goods vehicles.

More recently a European Commission-funded study into the health impacts of air pollution in 25 major European cities has found that living close to high-traffic roads could be responsible for between 15 and 30 per cent of new asthma cases in children.

In summary while our understanding and knowledge of the risks associated with air pollution continues to evolve year by year, one thing is clear: children are among those who feel the effects of air pollution most severely.

Survey Methodology

Using data gathered under a Freedom of Information request by the Campaign for Clean Air in London (CAL), an email survey was sent to 935 schools and nurseries in London situated within 150 metres of roads carrying more than 10,000 vehicles per day – a level of traffic that has been found to increase the risk of developing or exacerbating childhood asthma.

The survey was sent out at the beginning of November 2013 and schools were given two months to respond. A total of 43 responses were received from a range of different schools across London, providing a good representative sample:

Breakdown of respondents

School Type	Pre-school	Primary			Secondary			Other	Total
School Category	Nursery	Independent School	Community school	Voluntary Aided School	Academy	Community school	Voluntary Aided School	Community Special School	
No. of respondents	5	3	13	13	3	2	1	3	43

Geographical distribution of respondents



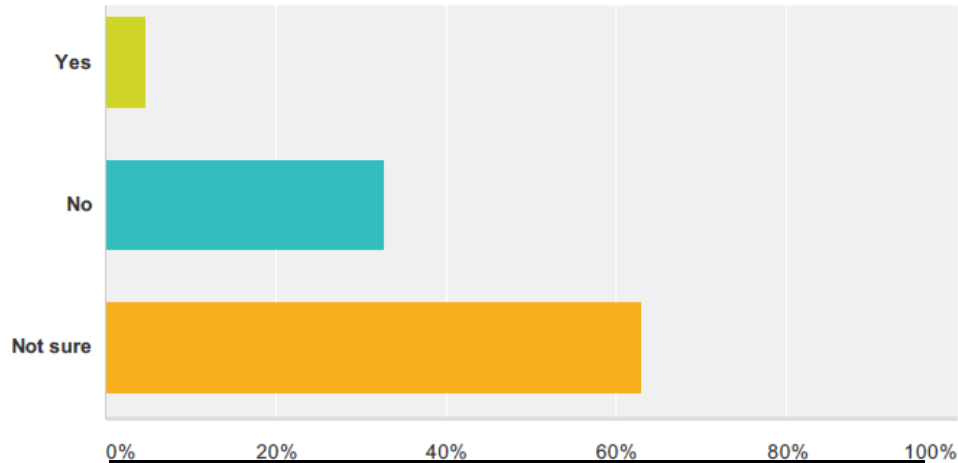
In total these respondents recorded **16,589 pupils** on their school rolls, including more than **9,500** (57 per cent) that were under the age of 12. This proportion is in line with the recent analysis carried out by Policy Exchange which showed that more than 320,000 children attend schools in London within 150m of a road carrying more than 10,000 vehicles per day, including more than 180,000 children under the age of 11.

Summary of Results

- Only **5 per cent** of schools reported that they or their local authority measured air pollution in and around their premises.
- **86 per cent** of schools were aware that spending long periods of time next to busy roads could increase the risk of developing or exacerbating childhood asthma.
- **80 per cent** of schools were concerned about the health effects of poor air quality on children attending their school.
- Only **5 per cent** of schools were aware of the 'Cleaner Air 4 Schools' education programme in London?
- Only **one-in-20** head teachers (5 per cent) reported receiving any information about air pollution in the last 12 months from either their local authority, Transport for London or the Greater London Authority.
- Just **2 per cent** of schools were aware of the airTEXT service which provides free daily air pollution forecasts for Greater London?
- While **88 per cent** of schools had produced a School Travel Plan to encourage safe, healthy or sustainable travel, **only around a quarter** (26 per cent) of these had considered their pupils' exposure to air pollution when travelling to and from school?
- **Over a third** of schools (37 per cent) would consider adjusting lesson plans in order to reduce their students' exposure to air pollution if they were aware of a high pollution forecast for a particular day (for example, by avoiding outdoor physical activity).
- Only **around a third** of schools reported using a mechanical ventilation and/or filtration system in their school buildings.
- **Almost three-quarters** of schools (74 per cent) would like to know more about the causes and impacts of air pollution as well as how to protect students from the health risks associated with poor air quality.

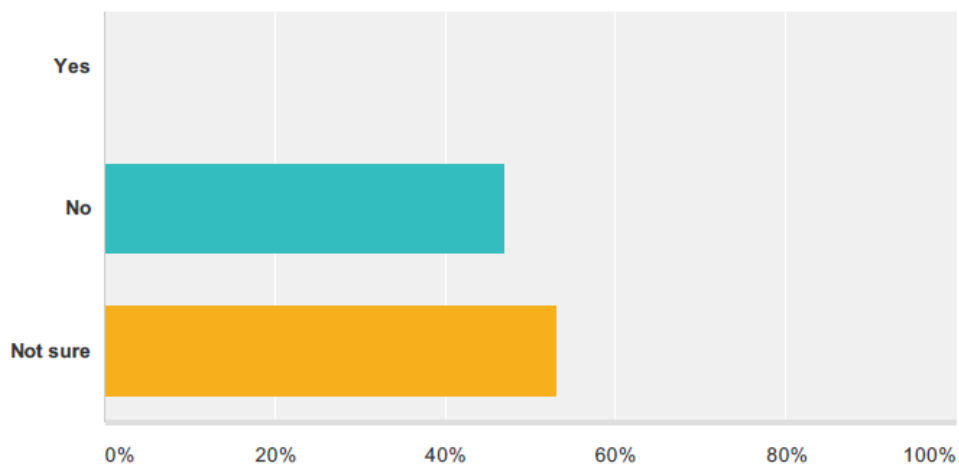
Full survey results

Q1(a). Does your school or Local Authority measure air pollution in and around school premises?



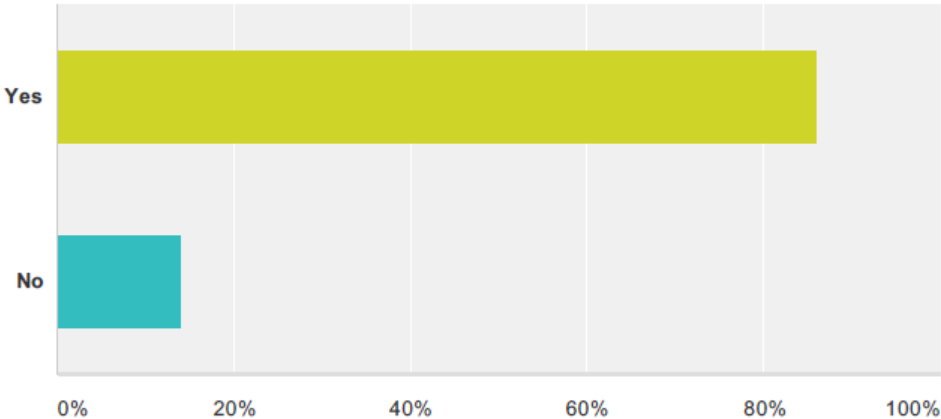
Answer	Response (per cent)	(number)
Yes	5%	2
No	33%	14
Not sure	63%	27
Total	100%	43

Q1(b). If 'Yes', are the results made available to teachers, parents or pupils?



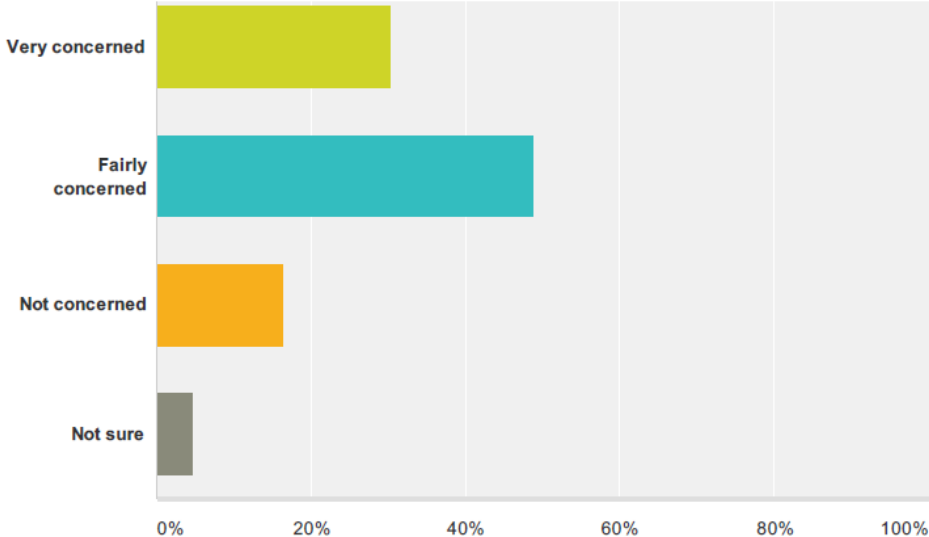
Answer	Response (per cent)	(number)
Yes	0%	0
No	47%	8
Not sure	53%	9
Total	100%	17

Q2. Are you aware that spending long periods of time next to busy roads can increase the risk of developing or exacerbating childhood asthma and may lead to a permanent reduction of lung capacity in adult life?



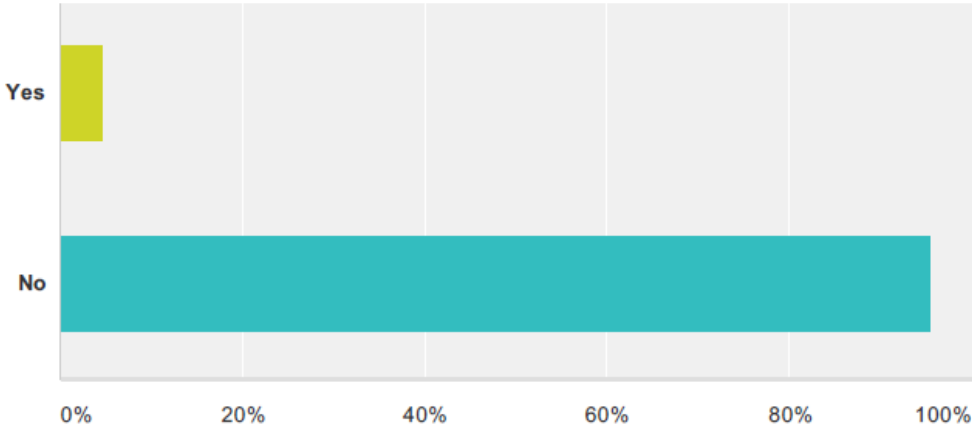
Answer	Response (per cent)	(number)
Yes	86%	37
No	14%	6
Not sure	0%	0
Total	100%	43

Q3. How concerned are you about the health effects of poor air quality on children attending your school?



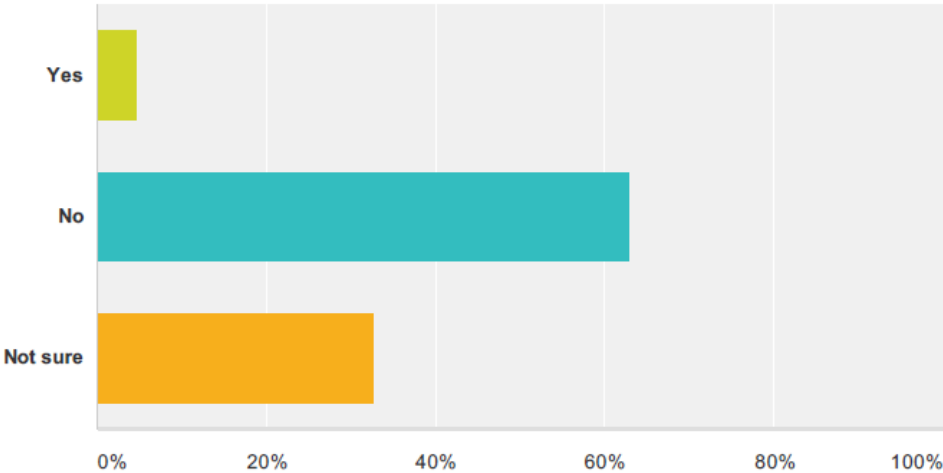
Answer	Response (per cent)	(number)
Very concerned	30%	13
Fairly concerned	49%	21
Not concerned	16%	7
Not sure	5%	2
Total	100%	43

Q4. Are you aware of the 'Cleaner Air 4 Schools' programme in London?



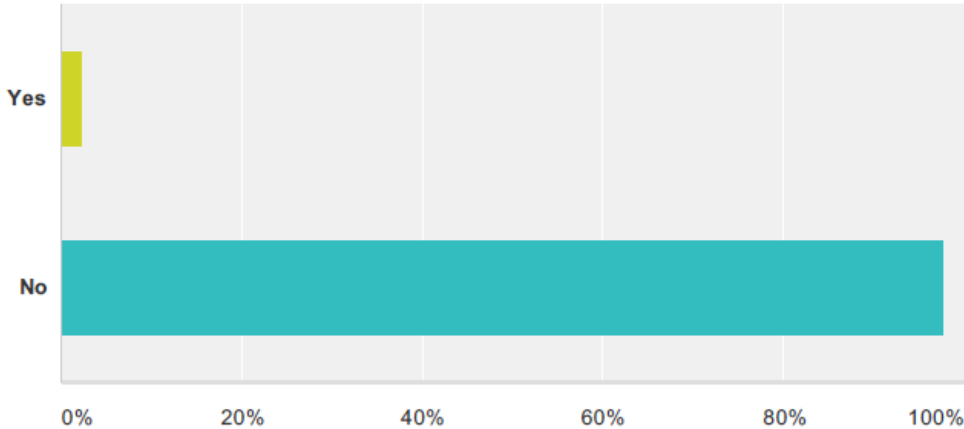
Answer	Response (per cent)	(number)
Yes	5%	2
No	95%	41
Total	100%	43

Q5. In the last 12 months have you received any information about air pollution from your local authority, the Mayor of London or others (e.g. Transport for London, London Sustainability Exchange etc.)?



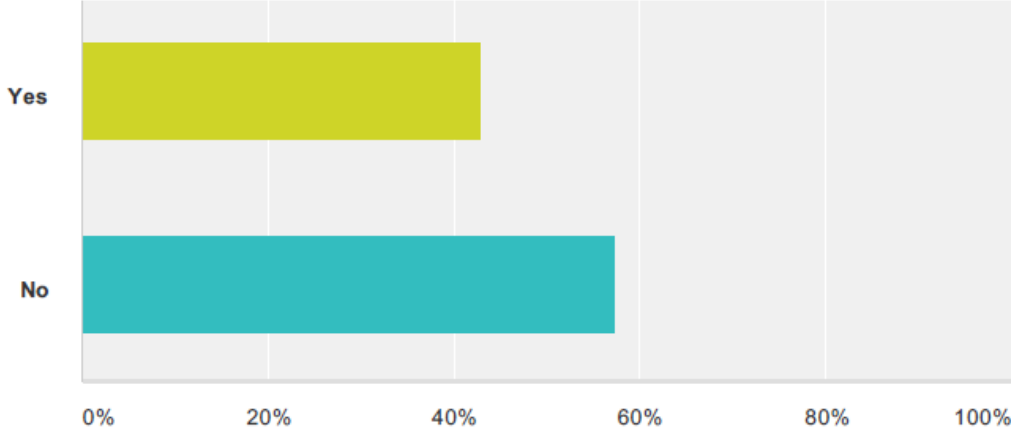
Answer	Response (per cent)	(number)
Yes	5%	2
No	63%	27
Not sure	33%	14
Total	100%	43

Q6(a). Are you aware of the airTEXT service which provides free daily air pollution forecasts for Greater London?



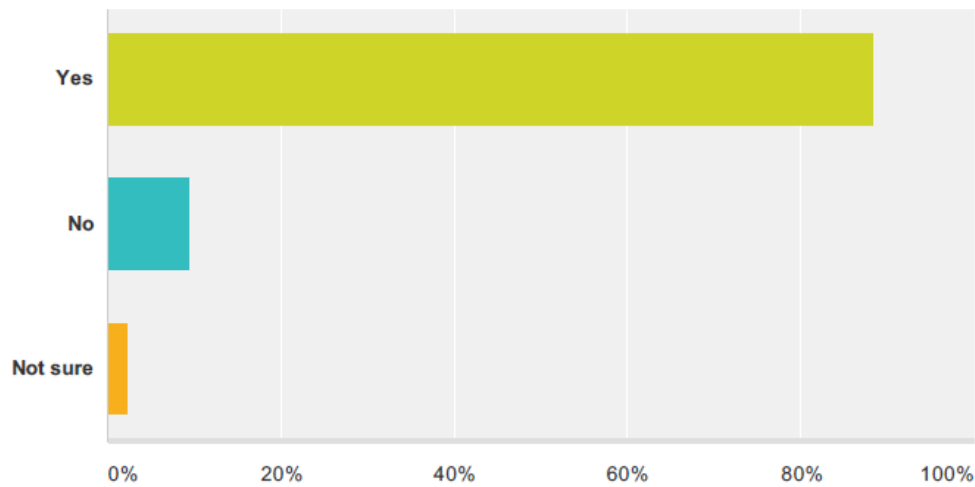
Answer	Response (per cent)	(number)
Yes	2%	1
No	98%	42
Total	100%	43

Q6(b). If 'No', would you be interested in receiving air quality alerts via email?



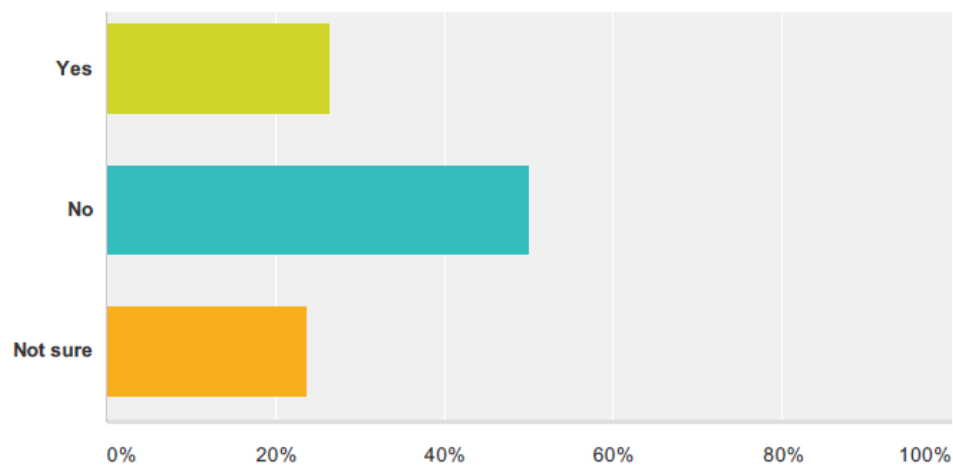
Answer	Response (per cent)	(number)
Yes	43%	18
No	57%	24
Total	100%	42

Q7(a). Have you produced a School Travel Plan to encourage safe, healthy or sustainable travel to and from your school?



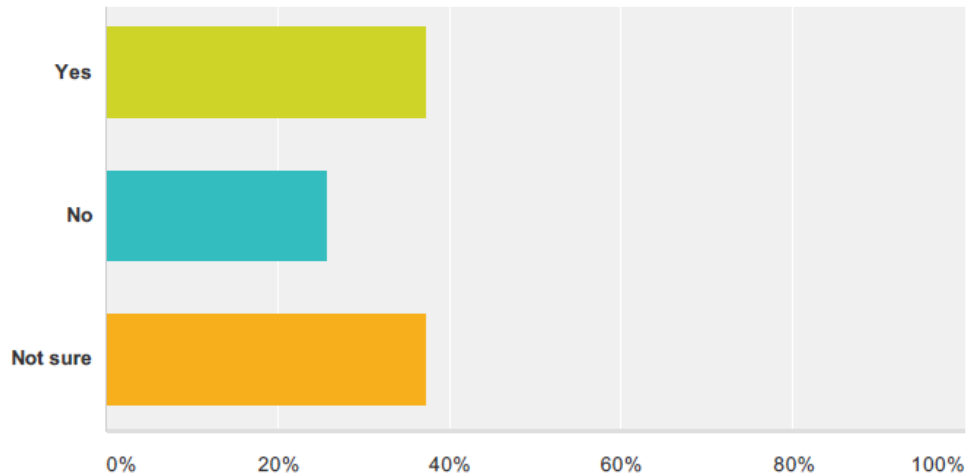
Answer	Response (per cent)	(number)
Yes	88%	38
No	9%	4
Not sure	2%	1
Total	100%	43

Q7(b). If 'Yes', does it consider pupils' exposure to air pollution? (e.g. avoiding walking along main roads where possible)



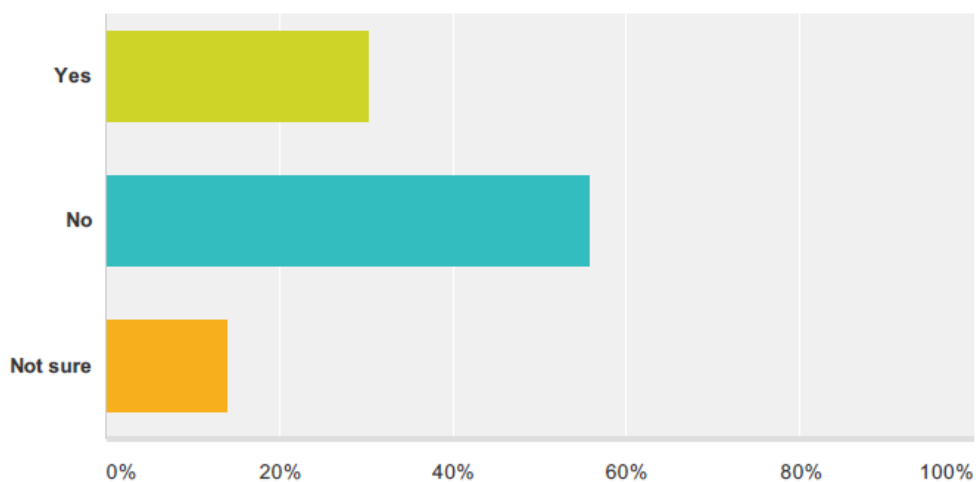
Answer	Response (per cent)	(number)
Yes	26%	10
No	50%	19
Not sure	24%	9
Total	100%	38

Q8. If you were aware of a high pollution forecast for a particular day would you consider adjusting lesson plans – for example by avoiding outdoor physical activity – in order to reduce students' exposure to air pollution?



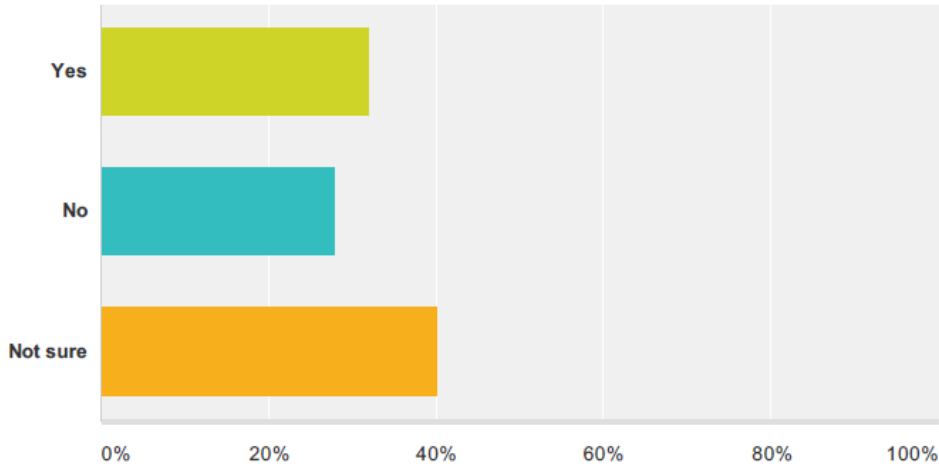
Answer	Response (per cent)	(number)
Yes	37%	16
No	26%	11
Not sure	37%	16
Total	100%	43

Q9(a). Does your school use a mechanical ventilation system?



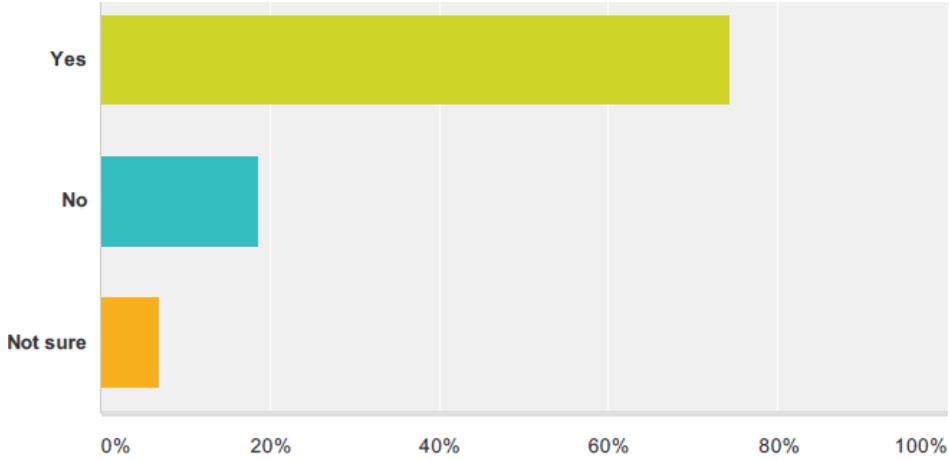
Answer	Response (per cent)	(number)
Yes	30%	13
No	56%	24
Not sure	14%	6
Total	100%	43

Q9(b). If so, does it include air pollution filters that are regularly maintained?



Answer	Response (per cent)	(number)
Yes	32%	8
No	28%	7
Not sure	40%	10
Total	100%	25

Q10. Would you like to know more about the causes and impacts of air pollution as well as how to protect students from the health risks associated with poor air quality?



Answer	Response (per cent)	(number)
Yes	74%	32
No	19%	8
Not sure	7%	3
Total	100%	43

Recommendations

Recommendation 1

The Mayor should launch a new air quality awareness campaign among all London's schools – involving students, teachers, parents and governors – to improve their understanding of air pollution and raise their awareness of the actions they can take to reduce their exposure to dangerous pollutants. Specific consideration should be given to expanding the Cleaner Air 4 Schools (CA4S) education programme to include all those schools that are situated within 150 metres of a road carrying 10,000 or more vehicles per day.

Recommendation 2

The Mayor should launch a publicity campaign to promote awareness of those air quality alert systems – such as the airTEXT service and London Air Quality Network app – which provide free information and health advice when air pollution levels are forecast to reach moderate or high levels. Specific consideration should be given to establishing a dedicated early warning system for London's schools in order to protect vulnerable students.

Recommendation 3

London boroughs should carry out a review of their automatic air quality monitoring networks and, where necessary, seek to improve their coverage by siting additional monitoring stations at or near the most polluted schools. Additional consideration should be given to installing low cost air quality sensors (that can monitor air quality in real time) at all London schools.

Recommendation 4

The Mayor should encourage all schools to consider their pupils' exposure to air pollution when developing their School Travel Plans (STPs).

Recommendation 5

The Mayor should consider offering grants to improve the indoor air quality of London's most polluted schools – ensuring that all classrooms have access to adequate air filtration and ventilation systems.

Recommendation 6

The Mayor, Boroughs and London schools should seek to improve the green infrastructure in and around school premises to help capture and mitigate locally generated particulate pollution, particularly from nearby busy roads.

For more information about this report, or any questions relating to air quality in London, please contact Stephen Knight on **0207 983 4921**, or email: stephen.knight@london.gov.uk.