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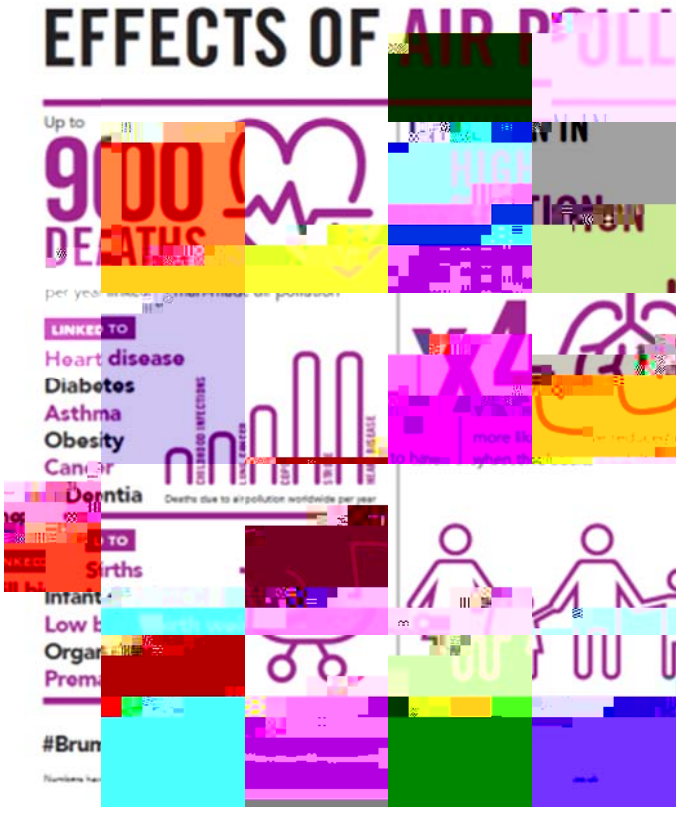

A report from Overview & Scru

Contents

Further information regarding this report can be obtained from:

Lead Review Officers: **Name: Rose Kiely/Gail Sadler**

tel: 0121 303 1730 / 0121 303 1901

e-mail: rose.kiely@birmingham.gov.uk/

gail.sadler@birmingham.gov.uk

Reports that have been submitted to Council can be downloaded from www.birmingham.gov.uk/scrutiny.

Preface

By Councillor John Cotton

Chair, Health and Social Care Overview & Scrutiny Committee

Every year, nearly 900 people in Birmingham suffer an early death because the air they breathe is polluted. Others, often some of the most vulnerable and deprived of our fellow citizens, face a lifetime of dealing with chronic health conditions directly attributable to the pollutants in our atmosphere. There is no questioning the evidence linking the quality of our air to poor health: it is unambiguous and incontestable. It should also be a spur to action.

In the nineteenth and twentieth centuries, our predecessors in this Council faced similar public health challenges. They responded with bold leadership, taking the steps to clean up our water, improve our sanitation and tackle the root causes of disease and illness. Today, we should draw inspiration from their example and show the same resolve in removing the causes of so many preventable deaths and illnesses in 2017.

Tackling air pollution is not the responsibility of one organisation alone. It will require a collective effort, mobilising all levels of government and all parts of our economy and society. Our report sets out a series of recommendations and policy options that reflect this shared duty. Locally, there is a vital role for the City Council, not just with regard to its Public Health services, but also as the body that has the power to shape our local environmLocal103-5.4(a47 -1.459 T Tw[(0.2(galthng)-4(ffo)-5.1(isbl)t)-9.-25.25.559 T Ts dvi)

contribution over several months. We were, as ever, ably supported by our excellent Scrutiny Office staff, to whom I would also like to extend our thanks.

I hope that this report provides the basis upon which we resolve to act as firmly as our predecessors did. This is a public health crisis. We have to act and act now.

Councillor John Cotton

Summary of Recommendations

	Recommendation	Responsibility	Completion Date

R05	That the City Council should engage with schools, colleges and Higher Educational Institutions to develop an education programme to raise awareness about air quality and to explore the use of existing and new technology to monitor air quality around schools and colleges.	Cabinet Member for Children, Families & Schools Cabinet Member for Health & Social Care	March 2019
R06	That, in order to facilitate better traffic management at a local level, authority should be sought from government to enable the West Midlands Combined Authority to enforce legislation enacted in Part 6 of the Traffic Management Act 2004 in relation to moving traffic infringements.	Cabinet Member for Transport & Roads	March 2018
R07	That the Cabinet Member should liaise with the West Midlands Combined Authority to seek to accelerate the introduction of buses with a minimum emissions requirement of Euro VI or Ultra Low Emission Vehicles for all buses going into the city centre and to work with bus operators to accelerate the implementation of future plans for the introduction of greener vehicles in the city.	Cabinet Member for Clean Streets, Recycling &	

R10	That the City Council should continue to collaborate with other cities to lobby central government to ensure that the proposed Clean Air Strategy and Clean Growth Plan provide an appropriate national policy framework for tackling air quality issues.	Leader to Central Government	December 2018
R11	That the City Council will respond with demonstrable proposals to the forthcoming government consultation on diesel scrappage schemes.	Leader to Central Government	December 2018
R12	That the City Council can evidence that it is accessing appropriate funding as set out in the 'UK plan for tackling roadside nitrogen dioxide concentrations'.	Cabinet Member for Health & Social Care	December 2018
R13	That the City Council can show that any additional measures, which may include charging owners of non-compliant vehicles, are based on evidence provided through a local feasibility study.	Cabinet Member for Transport & Roads	December 2018
R14	That the City Council should continue to collaborate with the West Midlands Mayor to build on the vision set out in the Birmingham Connected Transport Strategy to get clarity additioo Central al Care additioe City Councilre4.13en0 Tcas, ws]TJ0 -un s		

1 The Public Health Challenge

1.1 The impact of air pollution on health nationally

1.1.1 Significant progress has been made in improving air quality in recent decades. In spite of this and in spite of the fact that current concentrations of many recognised harmful pollutants are now at the lowest they have been in the UK since measurements began, medical evidence shows that

may be overlaps between these two estimates of mortality, but the combined impact of these two pollutants is a significant challenge to public health.

1.1.5 The quality of the air in our cities is vital to people's health and to the environment. The submission by Public Health England made it clear that air pollution is now associated with a much greater public health risk than was understood even a decade ago, and more associated adverse health effects are emerging. There is evidence that both nitrogen dioxide and particulate matter pollution can affect health even below current air quality guidelines and there is no safe level of

Government has directed Birmingham to deliver compliance as soon as possible and by 2020 at the latest. In the WMUA area it was only two areas within Birmingham city centre that were

3.4 Effect on vulnerable population groups

3.4.1 Air pollution is harmful to everyone. However there are some occupational groups who are more exposed to outdoor air pollution, including those who work outside close to traffic pollution such as street cleaners, freight drivers and taxi and bus drivers. There is some evidence that taxi and bus drivers are exposed to three times the levels of outdoor air pollution in their vehicles.[6,11,12]

3.4.2 There are also some groups who, although they may not necessarily have increased exposure to outdoor air pollution compared to the general population, may be at a higher risk of adverse health outcomes due to air pollution. These would include people living in areas of deprivation who may experience a magnified effect as a result of living on a low income with limited access to healthy food and/or green spaces, in poor housing conditions with poor indoor air quality and who may experience higher levels of chronic stress which reduces the body's resilience to toxicants present in polluted air.

3.4.3 Other groups at higher risk include pregnant women and the unborn child, children in high pollution areas who are four times more likely to have reduced lung function when they become adults, older adults whose risk of death from PM_{10} exposure is twice that of younger populations and adults with pre-existing medical conditions who are at increased risk of serious adverse health events such as an asthma attack, stroke or heart attack.[6,13]

3.5 Effect on health of children

Harmful exposures can start in the mother's womb and increase the risk of premature birth. Additionally, when infants and pre-schoolers are exposed to indoor and outdoor air pollution and second-hand smoke they have an increased risk of pneumonia in childhood, and a lifelong increased risk of chronic respiratory diseases, such as asthma. Exposure to air pollution may also increase their lifelong risk of heart disease, stroke and cancer.[14]

3.5.1 The Committee heard evidence from Birmingham Children's Hospital about the impact of air quality on the health of Birmingham's children and about the learning from the Trust's recent smoke-free zone outside the hospital. Members were told that the Trust routinely receives feedback from family members of patients about smoking outside the hospital and that the hospital carried out an eight week on-line consultation to understand how strongly people felt about the hospital pursuing establishment of the zone.

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[11] J Wargo "Children's Exposure to Diesel Exhaust on School Buses," Environment & Human Health, 2002
[12] T. Johns "How much diesel pollution am I breathing in?" BBC, 2016. Available http://www.bbc.co.uk/news/magazine-35717927
[13] AEA Technology "Air Quality and Social Deprivation in the UK: an environmental inequalities analysis," Department of Environment, Food & Rural Affairs, 2006
[14] Dr Margaret Chan, World Health Organisation Director-General, News Release, 6 March 2017 Geneva The cost of a polluted environment: 1.7 million child deaths a year, says WHO.

Congenital anomalies

3.5.6 There was also evidence from Birmingham Children's Hospital that air pollution may contribute towards congenital anomalies. In particular both NO_2 and SO_2 were related to increased numbers of children born with significant defects in the structural arrangement of the new-born heart.

Infant mortality

3.5.7 Members were told that long term exposure to particulate matter has been linked with overall child mortality and that increased risk was found for post-neonatal infant deaths (between one month and one year) and for deaths from Sudden Infant Death Syndrome.

Asthma

3.5.8 COMEAP has issued statements agreeing that evidence supports the view that ambient air pollution causes irritation and inflammatory responses of the airways and exacerbates symptoms of asthma. COMEAP concluded in 2010 that the evidence is consistent with the possibility that

4 The Transport Challenge

4.1 Birmingham Local Road Transport

4.1.1 Transport is the primary source of emissions. Evidence was presented from Birmingham Transport and Connectivity about local road transport, sources of emissions which impact on local air quality and the transport challenge this presents for Birmingham. This reinforced the previous evidence from Environmental Health and Public Health that local road transport is the greatest source of emissions which impact on local air quality and create problems of exposure to concentrations of pollutants at harmful levels.

4.1.2 The scale of the transport challenge for Birmingham needs to be understood in the context of the projected growth in population and employment as described in the Birmingham Development Plan (BDP) which was set out in the evidence presented to the members. By 2031 the population of the city is expected to grow by some 150,000 people and it is estimated that the total demand for travel on our transport system both from Birmingham residents and people living outside Birmingham could rise to 4 million trips by 2031. The BDP forecasts 51,000 new jobs and 13,000 new homes in the city centre by 2031, with 75,000 people living in the city centre which is an increase of 30,000. This is estimated to create an additional 140,000 daily trips which is a 30% increase from 480,000 trips currently to and within the city centre, or 56,000 extra vehicles.

4.1.3 Using current car ownership levels and travel habits, Birmingham's growth could result in an additional 80,000 cars in the city, 200,000 more daily car trips, 100,000 more residents on public transport and 18,000 more public transport passengers arriving in the city centre in the morning peak period.

4.1.4 It is clear that a significant reduction in transport emissions will be needed if air quality in Birmingham is to be improved. Bringing about this change will be difficult and will require the promotion of a more sustainable approach to transport in order to reduce emissions and improve air quality.

4.2 Regional Road Transport

4.2.1 In relation to transport's contribution to air quality, evidence was presented about the number of licenced vehicles (fleet composition) in 2015 and about some of the work already underway beginning with the revision of City Council policies in relation to the transport system with a view to keeping vehicles moving and with a view to making the transition to a cleaner fleet.

4.2.2 There is a close working relationship between the City Council and Transport for West Midlands (TfWM) which is the transport arm of the West Midlands Combined Authority. This includes much

work being done with TfWM on lower emission vehicles and other new technologies and on the immediate priority of pursuing a number of sites in relation to a Park and Ride Scheme.

4.2.3 Work has also started on developing a framework across the West Midlands Combined Authority (WMCA) area. Members were told that The M6 Toll could be better utilised and that TfWM are

4.4.3 The Committee was told that currently the station is served by a mix of rolling stock, of which 694 train services per day (45%) are diesel powered. Future opportunities around orders for the purchase of hybrid trains and opportunities for further electrification were mentioned. There are currently proposals for a Rugeley - Walsall electrification programme which should be fully completed by the end of 2018 which will reduce emissions by 10% which is a substantial reduction. The creation of both West Midlands Rail, a partnership between WMCA, the West Midlands shire counties and the DfT, and Midlands Connect will provide more local influence over decisions on rail services including new rolling stock and infrastructure enhancements.

5 Why do we need to act now?

5.1 Legal action against UK Government

5.1.1 ClientEarth brought proceedings against the UK government in the High Court, Court of Appeal, UK Supreme Court and Court of Justice of the European Union over illegal levels of nitrogen dioxide pollution. In 2015 the UK Supreme Court said that in view of ongoing breaches of NO_2 legal limits, which were not projected to stop until in some cases after 2030, the UK Government had to prepare new air quality plans in accordance with Article 23 of the Ambient Air Quality Directive (the Directive), by the end of December 2015. The Directive requires that where limit values (i.e. legal limits) of air pollutants are breached, air quality plans must be prepared containing "appropriate measures so as to keep the exceedance period as short as possible".

5.1.2 As required by the Supreme Court order, the UK Government published a new Air Quality Plan (AQP) in December 2015. However, ClientEarth was not satisfied that the measures included in the AQP were sufficient to meet legal limits in the shortest time possible and so in March 2016 ClientEarth brought new legal proceedings to challenge the AQP in the High Court.

5.2 2016 High Court Judgment

5.2.1 In November 2016 the High Court ruled in favour of ClientEarth, declaring that the AQP did not comply with the Directive and ordering that it be quashed.

5.2.2 The Court held that the Government must aim to achieve compliance with limit values by the soonest possible date. The Government must take steps to ensure that meeting the value limits "is not just possible but likely".[20] This means that though the Secretary of State can determine the measures to adopt, the measures selected must be both scientifically feasible and effective in achieving compliance.

5.2.3 The Court ordered that the 2015 AQP be modified to achieve nitrogen dioxide limits as soon as possible. The modified plans were published in draft in April 2017 for public consultation, along with relevant technical information. The UK air quality plan for bringing nitrogen dioxide air pollution within statutory limits entitled the "UK plan for tackling roadside nitrogen dioxide concentrations" was published in July 2017. The plan requires local authorities to set out initial action plans to achieve statutory NO_2 limits within the shortest possible time, by the end of March 2018. These will be followed by final plans by the end of December 2018.

[20] R (ClientEarth) v Secretary of State for the Environment, Food, and Rural Affairs (No2) [2016] EWHC 2740 (Admin), Paragraph 95

6 What can be done to improve air quality?

6.1 Clean Air Zones

6.1.1 Mandated Clean Air Zones (CAZs) are areas where targeted types of vehicles are charged to enter an area unless they meet certain emission standards. These were identified as the most effective measure to improve air quality in the 2015 AQP. Five cities, Birmingham, Derby, Leeds, Nottingham and Southampton, were required to implement CAZs by 2020 and there was a requirement for the existing CAZ in London to be improved.

6.1.2 Birmingham will be mandated by Government to introduce a CAZ. It is unclear at the moment whether Birmingham will be mandated to introduce a specific category of CAZ and, if so, which category that will be, but the evidence to date has suggested that Birmingham would need to introduce a Category C CAZ with additional measures. As previously set out in paragraph 2.4.3, the Government is requiring the introduction of CAZs where only the cleanest vehicles are encouraged through the use of a charge related to vehicle emissions for the five cities outside London with modelled air quality predicted to exceed the limit values beyond 2020.

6.1.3 Members were told that analysis by Defra for the 2015 UK Air Quality Action Plan suggested that in order to achieve compliance with NO_2 limits before 2020 Birmingham would need to introduce a Class C CAZ with additional measures. It is anticipated that these additional measures could include a combination of improved signage and rerouting, switching to different forms of transport such as Park and Ride, road improvements and infrastructure for alternative fuels such as electric vehicle charging points and support for the use of compressed natural gas. A Class C CAZ would not include private cars.

6.1.4 The Council is currently preparing a feasibility study to provide an evidence base for the design and development of the CAZ that the Council will ultimately implement. The design process will need to include a thorough assessment of the wider impacts of the CAZ on the city and the final design will need to ensure, as a minimum, that levels of nitrogen dioxide in the city are reduced below the regulatory limit as soon as possible. This will require a combination of transport focused

their evidence to Committee and also by ClientEarth who emphasised that a certain "critical mass" is necessary in relation to the size and location of a CAZ to encourage vehicle upgrade rather than simply exacerbating pollution on the perimeter of the CAZ.

6.1.5 The written evidence from ClientEarth suggested that more realistic modelling required following the High Court ruling in November 2016 against the Government's 2015 air quality plan is likely to require CAZs to be mandated in other cities and to include more classes of vehicles. They indicated that in those cities where CAZs have already been mandated, it is likely that they will have to apply to more classes of vehicles in order to achieve compliance as soon as possible.

6.1.6 The source apportionment evidence presented by Birmingham Environmental Health and summarised previously in paragraph 2.3.3 shows that the greatest contributors to local NO_2 emission sources are diesel cars followed by diesel light goods vehicles (LGVs). The evidence is that their proportion of the vehicle fleet is growing. There are numerous difficult issues that need to be considered before any decision is made about the design of the CAZ and these will be informed by the evidence from the feasibility study that is currently in progress. However, given the evidence that diesel emissions are a major source of air pollution in Birmingham and given the clear and compelling evidence of the impact that poor air quality has on health, the City Council needs to demonstrate leadership and take ownership of this issue by developing a strategy to address this effectively.

6.2 Clean Air Zone Additional Measures

6.2.1 Based on the assumption that Birmingham would be introducing a CAZ which did not include private cars, Defra have initially indicated that the CAZ in Birmingham in isolation is unlikely to be sufficient to achieve compliance and that a number of additional complementary measures will be required in order to achieve compliance by 2020. Defra's initial assessment suggested that these additional measures could be a combination of improved signage and rerouting, switching to different forms of transport (e.g. use of Park and Ride), road improvements, and infrastructure for alternative fuels (e.g. support for the use of compressed natural gas).

6.2.2 As part of the feasibility study, an assessment of potential additional measures will be produced to identify the most appropriate package of interventions to support the implementation of the CAZ and to achieve compliance before 2020.

6.2.3 TfWM provided evidence to the Committee about a number of additional initiatives that will complement the implementation and success of the CAZ.

Movement for Growth

6.2.4 The West Midlands Strategic Transport Plan "Movement for Growth" sets out the long term ambitions for transport in this area. The Plan has been adopted and is now being developed and delivered by TfWM. Making progress to provide clean air and tackling poor air quality are key

appropriate using accelerated timescales to clean up buses, measures aimed at improving traffic management and coordination through a West Midlands Key Route Network, policies and targets for the cleaning of public and commercial fleets, encouraging the wider roll out of Car Clubs and active travel measures, developing the metropolitan Strategic Cycle Network, targeted policies towards zero emission taxi and private hire fleets and exploring Green Travel Districts.

6.3 Wider Actions to address air quality

6.3.1

6.4.2 The point was emphasised that the retention of mature trees is also crucial to the ability of the tree canopy to contribute to this and that the removal of healthy mature trees and replacement with young trees reduces the ability of the overall tree canopy to trap particulates and absorb NO_2. When considering the approach to the future planning for transport infrastructure, this should include consideration of the wider and longer-term benefits of keeping mature trees and to incorporate appropriate protection for mature trees into any planning permission when giving permission for transport infrastructure. The evidence also referred to other scientific studies

7 Support from Central Government

7.1 A Legal Duty

7.1.1 The Government is under an obligation to reduce NO_2 concentrations throughout the country to the legal limits set under Article 23 of the European Ambient Air Quality Directive. The duty is an absolute, unqualified one which was enacted to safeguard human health.

7.1.2 Whilst there is rightly much emphasis placed on action at a local level and there are many local initiatives to tackle air pollution being carried out in our major cities, there are also many issues

local programmes to cut pollution to be successfully implemented, Councils need to be given support to implement these programmes and should be recompensed for the costs of implementing CAZs which they can't recover from imposing reasonable charges on drivers. Additional funding is being made available from central government for local authorities to cover the implementation costs and any other ongoing operational costs of CAZs. The City needs to be able to demonstrate that it is accessing appropriate funding as set out in the "UK plan for tackling roadside nitrogen dioxide concentrations" and also to demonstrate that any additional measures taken, which may include charging owners of non-compliant vehicles, are based on evidence provided through a local feasibility study.

7.2.6 The use of national frameworks wherever possible could also provide support for local authorities and help to improve the effectiveness of CAZs. One example suggested by ClientEarth was a "clean car" label that identifies whether or not cars actually meet emissions standards when driving on the road which would help to guide consumer choice and could also improve the

8 Conclusion

8.1.1 The impact of poor air quality on health and the need to take action urgently to tackle the problem is becoming increasingly clear. The evidence demonstrates that poor air quality is a major public health issue. In Birmingham, Public Health estimate that poor air quality causes approximately 900 premature deaths a year. It is rapidly becoming clear that exposure to air pollution is associated with a much greater public health risk than had previously been understood and evidence about associated adverse health effects is emerging all the time.

8.1.2 There is also growing recognition that air quality is a major cross-cutting issue. It has a wide impact and any effective response to the issue will require a joined-up approach across a number of Council areas of responsibility. It will also necessitate joint working together with communities, businesses and other partners across the city and across the wider West Midlands region with the West Midlands Combined Authority and the West Midlands Mayor.

Birmingham needs to respond to the challenge of improving air quality and achieving compliance with air quality limits as soon as possible. But local action alone will not be sufficient to produce a successful solution to reducing emissions. Responding to the problem successfully, achieving compliance and bringing about the scale of behaviour change needed will require a very clear and consistent message to be communicated about the health implications of poor air quality. The City Council needs to continue to collaborate with the West Midlands Mayor to build on the vision set out in the Birmingham Connected Transport Strategy and to take a lead to get clarity and commitment about the measures needed to both support sustainable and inclusive growth and to achieve compliance with air quality limits across the region.

Motion

That the recommendations R01 to R15 be approved, and that the Executive be requested to pursue their implementation.

Appendix: Contributors

The Committee would like to thank all those who have taken the time to contribute to this inquiry.

Contributor	Organisation