Manchester City Council
Report for Resolution

Report to: Neighbourhoods and Environment Scrutiny Committee – 19 July 2016

Subject: Draft Greater Manchester Low Emissions Strategy and Air Quality Action Plan

Report of: Deputy Chief Executive, People, Policy and Reform

Summary

Air pollution and climate change are serious health and environmental problems facing cities across the world; both problems are closely linked to the burning of fossil fuels, with air pollution in the UK largely attributable to road transport emissions, particularly from diesel vehicles.

An Air Quality Management Area for Nitrogen Dioxide pollution covers Greater Manchester, with the largest pollution concentrations centred on motorways the main arterial roads, and the area in and around the City Centre, where many main roads converge.

The draft Greater Manchester Low Emission Strategy and Air Quality Action Plan has been produced to address the high levels of Nitrogen Dioxide pollution that exist whilst also seeking to reduce greenhouse gas emissions.

Recommendations

Neighbourhoods and Environment Scrutiny Committee are asked to note and comment on the report and the potential implications for the city.

Wards Affected: All

Contact Officers:

Richard Elliott
Head of Policy, Partnerships & Research & Research
0161 219 6494
r.elliott@manchester.gov.uk

Andrew Parkin
Principal Policy Officer
0161 234 4681
a.parkin@manchester.gov.uk

Stuart Bayley
Environmental Protection,
Compliance and Enforcement Manager
0161 234 1364
s.bayley@manchester.gov.uk

Background documents (available for public inspection):

The following documents disclose important facts on which the report is based and have been relied upon in preparing the report. Copies of the background documents are available up to 4 years after the date of the meeting. If you would like a copy please contact one of the contact officers above.

- Improving air quality in the UK: Tackling nitrogen dioxide in our towns and cities (December 2015)
- Greater Manchester Low Emissions Strategy and Air Quality Action Plan (2016 Consultation Draft)
- GMCA Report and Resolution on the GM LES / AQAP (Item 12) (27 November 2015)
- Air Quality Updating and Screening Assessment for Greater Manchester (2015)
- Greater Manchester Air Quality Management Area Order (2016)
- Manchester: A Certain Future (2013)

1.0 Introduction

1.1 The Environment Act (1995) requires Local Authorities to undertake a periodic review of air quality in their area and produce assessment reports, which set out whether the legal standards for air quality are being met. If these reviews identify areas where the required air quality standards are not being met, then an Air Quality Management Area (AQMA) should be designated and an Air Quality Action Plan (AQAP) produced setting out measures for achieving compliance with the air quality standards.

1.2 The Air Quality (Standards) Regulations 2010 transpose into English law the requirements of European Directives on ambient air quality and thereby set the current air quality standards to be met. The current standards are based upon World Health Organisation (WHO) guideline safe exposure levels. However, it should be noted that not all pollutants that the WHO has issued guidance on are covered by the Directives and consequently by the Regulations; in particular a class of fine particulate matter - PM2.5, which are around 2.5µm in diameter (0.03 the width of a human hair) are not covered. In relation to the above, it is currently much to early to speculate what, if any impact, the recent EU referendum may eventually have on the current framework of UKl environmental legislation.

1.3 The air quality Directives, and consequent UK Regulations, exist to protect human health, and evidence from the Committee on the Medical Effects of Air Pollutants (COMEAP) has identified that exposure to one pollutant, Nitrogen Dioxide (NO2) can be attributed to an estimated 23,500 premature deaths annually in the UK. Additionally a further 29,000 premature deaths are annually are estimated to be attributable to PM2.5 pollution. There is likely to be some overlap between deaths from these two sources, with children, elderly or vulnerable people, such as those with respiratory or heart conditions which themselves may be brought on by air pollution, at particular risk. In addition to the health implications, air pollution also damages the wider environment.

1.4 The UK currently meets the required air quality standards for all pollutants, with the exception of NO2. NO2 pollution comes primarily from the combustion of fossil fuels such as in fuel for motor vehicles and particularly diesel powered vehicles. For NO2, 38 of the 43 zones which the country is divided into for air quality purposes exceed the annual mean concentration levels of NO2 (40µg/m3) including the Greater Manchester Urban Area (which includes parts of Rossendale and Cheshire East). London has the greatest levels of pollution and also exceeds the hourly mean concentration levels of NO2 of 200µg/m3 more than the permitted 18 times a calendar year. EU countries were required to meet these limits by 1 January 2010; the UK was granted a limited extension for some areas which has now expired, meaning that no exemptions to the legal limits currently exist.

1.5 In 2014, the European Commission instigated a prosecution of the UK for continuing failure to meet air quality levels, and it is important to note that the 2011 Localism Act included the provision for any fines levied on the UK by the Commission to be met by local authorities. In 2015, following a private prosecution by the environmental NGO Client Earth, the UK Supreme Court ordered the government to produce plans to tackle NO2 pollution in the air as

quickly as possible. The Government consulted upon and then published its NO2 Air Quality Plan in December 2015. This shows that for the 43 air quality zones in the UK, 5 fully meet the requirements and are not required to undertake any action; 7 of the 38 zones which exceed the 40µg/m3 limit at present are considered to be within the margin of tolerance. In terms of future compliance the government has used 2013 as the baseline and forecasts that 35 of the 43 zones (including Greater Manchester) would meet the 40µg/m3 limit by 2020, based on actions already identified. 7 zones are currently not expected to meet the 40µg/m3 NO2 limit until 2025, with London not expected to achieve this until 2030, based on current actions. For these areas the government has indicated that Clean Air Zones (CAZs) should be developed to ensure more rapid compliance; a CAZ is an area within which specified classes of vehicles would be required to meet certain emission standards or pay a charge (like a Low Emission Zone), but can include additional complementary measures tailored to local areas too.

1.6 The latest forecasts suggest that the situation has improved significantly from forecasts published in July 2014 which indicated that 28 zones, including Greater Manchester, would still exceed the limits in 2020. Whilst the modelling behind the forecasts is considered reasonable, the most significant changes affecting the forecast are a revised assessment of the performance of both Euro 5 and Euro 6 light duty diesel vehicles and a significant drop in the expected emissions from Euro VI heavy duty vehicles. If these technological improvements do not materialise then more areas may exceed NO2 pollution levels in 2020. In addition, the forecasts do not allow for the impacts of population growth which may result in more journeys, including by private vehicles, which could affect future NO2 pollution levels.

1.7 Separate from, but related to the air quality legislation, is the Climate Change Act (2008), which sets legally binding greenhouse emission targets for the UK to achieve, leading to an 80% reduction in emissions from a 1990 baseline by 2050.

2 Greater Manchester Approach

2.1 Air pollution levels in Greater Manchester are monitored by a combination of automatic real-time monitoring stations and passive diffusion tube sites, some funded by the Government and some by local authorities. There are 16 automatic monitoring sites, three of which are in Manchester, at Piccadilly Gardens, Oxford Road and at the junction of Styal Road and Simonsway in Sharston. (The Sharston site replaced the Manchester South site on Styal Road in January 2016). All of these sites measure Nitrogen Dioxide, most of them (including Piccadilly Gardens and Oxford Road) also monitor PM10 and four of them (including Piccadilly Gardens) also measure PM2.5. The Sharston and Piccadilly Gardens sites also measure Sulphur Dioxide (SO2) and Ozone (O3) pollution. In addition to these permanent sites there are 236 sites for temporary NO2 diffusion tubes across Greater Manchester; 49 of these within the City of Manchester. The Government's technical guidance is used when selecting monitoring locations, which are chosen to provide for a reasonable geographic spread, a mix of locations where concentrations are expected to be high (e.g. near roads or industry) and locations that are representative of

background concentrations in the area. The results from this air quality monitoring are provided to the Government through annual progress reports. Dispersion modelling is carried out when required in order to estimate pollutant concentrations across the whole of the Greater Manchester area, and monitoring results are used to validate the model in order to ensure that predictions are accurate. Any significant changes to the levels or spatial distribution of pollution can be used to adjust the boundaries of the AQMAs as appropriate; however, this can be a lengthy process and is therefore only undertaken as a result of significant changes, in order to better focus resources on remaining areas of exceedance.

2.2 In Greater Manchester individual districts declared AQMAs at different times beginning in 2001, and set at a 35µg/m3 level for NO2. The decision to set the level below the legal limit of 40µg/m3 was made on a precautionary basis due to modelling uncertainties. From the 1st May 2016 the Greater Manchester Combined Authority re-declared the extant district AQMAs for NO2 as a single, largely contiguous, AQMA still focused on the busiest parts of the road network, particularly motorways and radial routes, and areas where these converge like the City Centre and the surrounding town centres. The 2016 AQMA covers a much smaller area than the 10 individual AQMAs, although all 10 districts continue to be included and the AQMA continues to be set at a precautionary 35µg/m3 level for NO2. It is worth noting that the size of the AQMA has reduced at a time of considerable population growth in the city and across the city region, illustrating that there is a complex relationship between population growth and pollution levels. Maps showing the 2016 AQMA and the AQMA it replaced are shown in Appendix 1.

2.3 The first Greater Manchester AQAP was produced in 2004 by the 10 local authorities, and has experienced a number of subsequent iterations. The AQAP's contained a wide range of different actions designed to operate at both a strategic and local scale with the aim of reducing NO2 pollution. However, for various reasons they have not achieved the necessary level of reduction. Technological improvements to vehicles have improved air quality, but not to the levels required by the law. In addition, revelations about some manufacturers cheating the emissions tests, and the tests themselves not being wholly reflective of the emissions vehicles produce when driving around the road networks, are further issues of concern that are beyond the ability of AQAPs to address.

2.4 Because of the close correlation of air pollution with traffic levels , the AQAP was integrated into the Local Transport Planning process from 2005/6, with the second Local Transport Plan. The latest version of the AQAP has been produced by Transport for Greater Manchester (TfGM), on behalf of the Combined Authority (GMCA), and is combined with a transport Low Emissions Strategy (LES) in recognition of the importance of tackling both air pollution and greenhouse gas emissions coherently. In the past, actions to reduce greenhouse gas emissions from vehicles have led to a worsening of air quality, for example, in the 1990s the UK government (and other EU governments) incentivised the purchase of diesel vehicles over petrol vehicles to help reduce CO2 emissions. The proportion of diesel cars in the UK consequently increased from 10% in 1995 to over 50% in 2012, which had a positive effect

on CO2 emissions (although some evidence indicates that the benefit of this is marginal) but a much stronger negative effect on NO2 emissions.

3 Draft Greater Manchester Low Emission Strategy and Air Quality Action Plan

3.1 The Greater Manchester Low Emissions Strategy and Air Quality Action Plan (2016 Consultation Draft) is a development of the previous AQAPs and responds to the latest government policies and strategies, particularly the latest national plan to address NO2 pollution published in December 2015. The ambition is to reach beyond the legal objective levels – which Greater Manchester is forecast to achieve by 2020 - and to focus on continuing to reduce air pollution as a contributor to ill health and environmental damage. The current draft GM LES / AQAP was developed to look coherently at reducing NO2 and CO2 emissions through a range of measures, and is summarised below.

3.2 The draft GM LES includes information on the sources of NO2, PM10 and CO2 emissions in Greater Manchester, as well as their apportionment by vehicle and road type. The LES is structured around 4 broad themes – Changing Travel Behaviour; Managing Emissions; Greening Vehicle Fleets and Awareness Raising. It concludes that the short term emission focus should be on reducing NO2 emissions by promoting walking and cycling and concentrating on reducing emissions from HGVs and buses serving the City Centre and town centres.

3.3 The draft GM AQAP is structured around 3 broad themes – Reducing Traffic (by encouraging alternative travel modes); Increasing Efficiency (by making the most appropriate use of roads and vehicles for different tasks); and, Improving Vehicles (by encouraging less polluting vehicles to be used). Multiple overlapping and reinforcing actions are listed under the following headings:

- **Actions for Managing New Development**
  E.g. Construction and planning guidance, developing a Cumulative Development Database, and exploring the feasibility of a CAZ.
- **Actions for Freight and Goods Vehicles**
  E.g. Consideration of Urban Distribution and Consolidation centres and guidance for businesses.
- **Actions for Buses**
  E.g. Bus priority programmes, vehicle improvements and trials of low-emission vehicles
- **Actions for Cycling**
  E.g. Measures to improve conditions for cyclists and encourage cycling
- **Actions for Travel Choices**
  E.g. Car club assessments, information messaging services
- **Actions for Cars**
  E.g. Electric Vehicle charging points, local authority parking charges

- **Actions for Information and Resources**
  E.g. Great Air Manchester website, TfGM Air Quality Team, traffic flow data.

3.4 The document was produced by TfGM with the support of the 10 Greater Manchester Councils, Public Health England and Highways England, and was subject to public consultation in March and April this year, with around 200 comments being received. TfGM is to report the consultation findings, and seek approval for the final draft of the LES / AQAP at the GMCA meeting on the 29th July 2016, with publication of the final plan expected to be in August or September. Most of the consultation responses were positive both in terms of the importance of tackling air quality and greenhouse gas emissions and the overall approach contained in the LES / AQAP. By reference to the responses received it is apparent that there is support for the CAZ work, that more should be done to promote walking, cycling and behavioural change, and that there was strong support for measures affecting car parking. Respondents also noted the importance of aligning rail and airport air quality work with the LES / AQAP, and were keen to see deliverable actions, such as workplace travel planning or green corridors, rather than assessments or studies of issues.

3.5 TfGM will assess all of the comments made and will use them to refine the LES AQAP. In terms of the CAZ feasibility work which received support through the consultation, TfGM have secured Government funding for this and have commissioned consultants to produce a study by April 2017, considering issues such as the spatial scope of a CAZ, the vehicles to be included, and the costs and benefits.

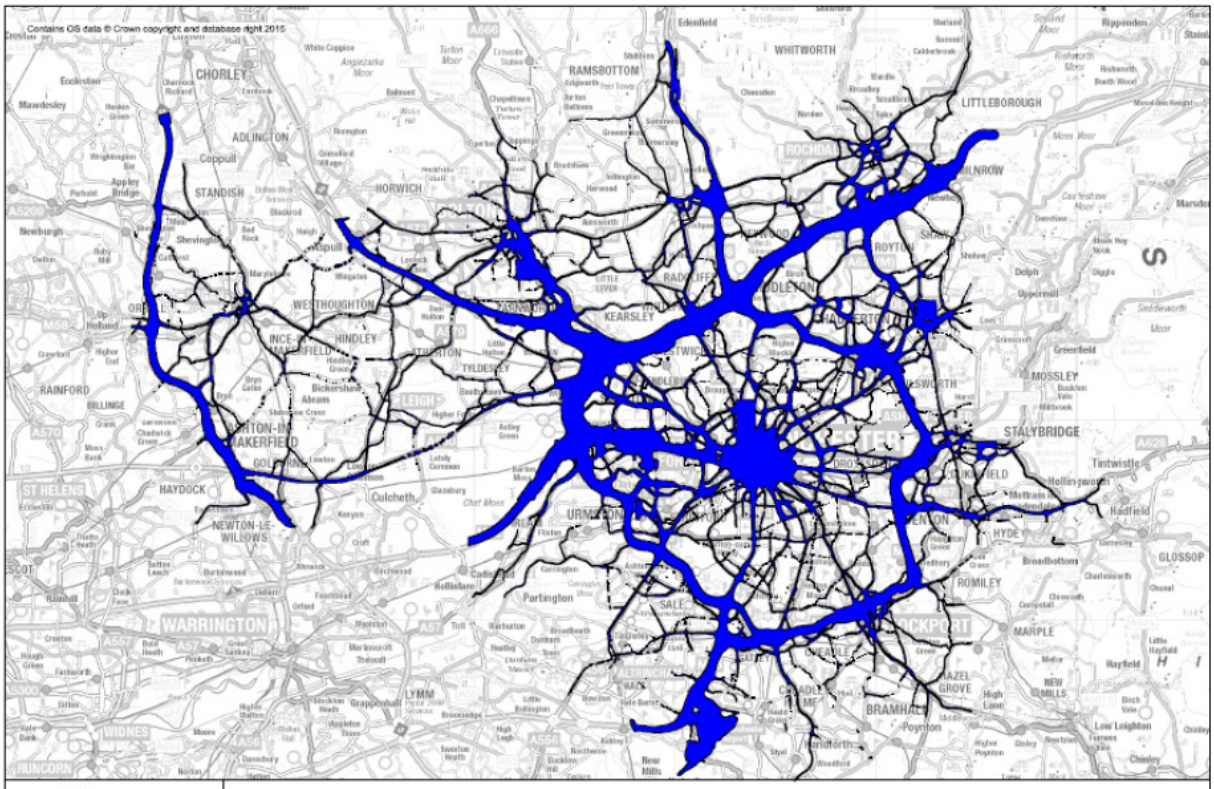
3.6 The GM LES / AQAP will be monitored and annual reports showing progress published; this will also enable the impact of new legislation, policies or initiatives to be considered in terms of their implications for Greater Manchester.

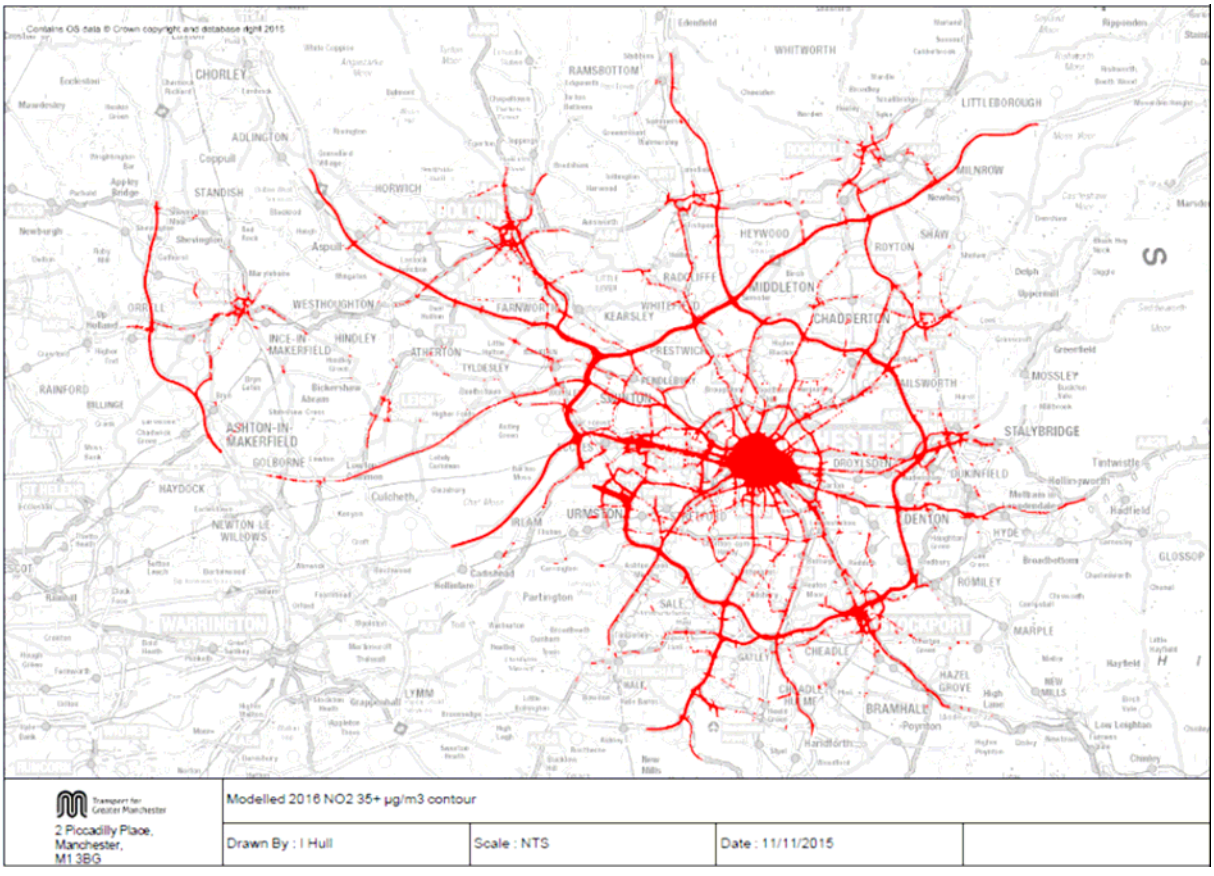
4.0 Conclusions

4.1 Manchester, Greater Manchester and many other urban areas in the UK and across the world currently exceed safe exposure levels for NO2 pollution. This is primarily the result of burning fossil fuels, which also releases CO2, a major greenhouse gas and contributor to climate change. Legislation exists to tackle both of these issues and to ensure that harmful levels of both NO2 and CO2 are reduced.

4.2 As a result, in part, of previous AQAPs, air quality in Manchester has improved in recent years and the government forecast that it will be within the legal limits for NO2 by 2020. The draft GM LES / AQAP seeks to set a future framework for action by promoting both behavioural and technological changes that will further improve air quality whilst reducing greenhouse gas emissions. Such measures include, for example, initiatives to rationalise freight distribution, to promote low or zero emission vehicles and to penalise those vehicles that pollute the most; and to encourage walking, cycling and public transport use.

Appendix 1


Contains OS data © Crown copyright and database right 2015
CHORLEY
RAMSBOTTOM
WHITWORTH
LITTLEBOROUGH
ADLINGTON
STANDISH
HORWICH
MILNROW
ROYTON
KEARSLEY
WESTHOUGHTON
HINDLEY
ATHERTON
TYLDESLEY
RAINFORD
MOSSLEY
STALYBRIDGE
ASHTON-IN-MAKERFIELD
HAYDOCK
Culcheth
NEWTON-LE-WILLOWS
URMSTON
HYDE
GLOSSOP
ROMILEY
Partington
SALE
WARRINGTON
MARPLE
BRAMHALL
Poynton
WIDNES
RUNCORN
Current AQMA (based on NO2 35+ µg/m3 contour)
Transport for Greater Manchester
2 Piccadilly Place,
Manchester,
M1 3BG
Drawn By : I Hull
Scale : NTS
Date : 11/11/2015


Contains OS data © Crown copyright and database right 2015
CHORLEY
RAMSBOTTOM
WHITWORTH
LITTLEBOROUGH
ADLINGTON
STANDISH
HORWICH
MILNROW
HEYWOOD
ROYTON
MIDDLETON
CHADDERTON
KEARSLEY
WESTHOUGHTON
HINDLEY
ATHERTON
RAINFORD
MOSSLEY
STALYBRIDGE
ASHTON-IN-MAKERFIELD
HAYDOCK
Culcheth
NEWTON-LE-WILLOWS
URMSTON
HYDE
GLOSSOP
ROMILEY
Partington
SALE
WARRINGTON
MARPLE
CHEADLE
BRAMHALL
Poynton
Modelled 2016 NO2 35+ µg/m3 contour
Transport for Greater Manchester
2 Piccadilly Place,
Manchester,
M1 3BG
Drawn By : I Hull
Scale : NTS
Date : 11/11/2015