

	
<b>Decision Session Executive Member for the Environment</b>	5 <sup>th</sup> September 2016
Report of the Assistant Director – Housing and Community Safety	

## **Air Quality Update – Annual Status Report**

### **Summary**

1. DEFRA have recently changed the local authority reporting system for air quality via the introduction of ‘Annual Status Reports (ASRs)’ for all local authorities in England. The ASR replaces the following existing reports: Update and Screening Assessments (USAs), Detailed Assessment (DAs), Further Assessments (FAs), Progress Reports (PRs) and Air Quality Action Plan Progress Reports (AQAP PRs). The production of an ASR is intended to aid local transparency, increase accessibility of air quality to the wider public audience and encourage buy-in to delivering air quality improvement measures by those best placed to assist (e.g. directors of public health, transport managers etc).
2. This report provides an update on air quality in York, following submission of the first Annual Status Report to DEFRA in June 2016. Whilst air pollution in the city and city centre appears to be on a downward trend, the most recent monitoring data indicates decreased at most of continuous monitoring stations in 2015 when compared with the 2014 results (although concentrations at Fishergate and Lawrence Street remained similar between 2014 and 2015) and there is evidence of a steady downward trend in nitrogen dioxide concentrations over the last five years. However, whilst air pollution in the city appears to be on a downward trend, the most recent monitoring data indicates that the annual average air quality objective for NO<sub>2</sub> is still being breached at a number of locations around the inner ring road (within the city centre AQMA).
3. The report is provided for information only, at the request of the Executive Member; no specific decision is requested.

## Recommendations

4. The Executive Member is advised to note the content of the report, which is provided for information only.

## Background - Air Quality in York

5. Air pollution particularly affects the most vulnerable in society: children and older people, especially those with existing heart and lung conditions. Air pollution is recognised as a contributing factor in the onset of heart disease, strokes and cancer and has been linked to low birth weights and reduced IQ in children. The annual health cost to society of the impacts of particulate matter alone in the UK is estimated to be around £16 billion<sup>1</sup>.
6. City of York Council has declared three Air Quality Management Areas (AQMAs) where the health based national air quality objectives for nitrogen dioxide (NO<sub>2</sub>) are currently exceeded. These AQMAs are located in the city centre, in Fulford and along Salisbury Terrace. CYC has a statutory duty to try to reduce NO<sub>2</sub> concentrations within these AQMAs and additional obligations in relation to the protection of public health and reduction of greenhouse gas emissions. The main air pollutants of concern in York are NO<sub>2</sub> and particulate matter (PM). Typically traffic is responsible for around 50-70% of the total NO<sub>2</sub> at any particular location in the city, although the exact amount varies according to proximity to roads and other emission sources.

## Air Quality Monitoring Update

7. Since 1999, real-time monitoring of NO<sub>2</sub> and other pollutants has been undertaken at a total of 14 locations across York. In addition to the very accurate real time monitoring, City of York Council has also undertaken indicative passive NO<sub>2</sub> diffusion tube monitoring at up to 340 locations in the city. Results from this diffusion tube monitoring programme were last reported in the Air Quality Update and Screening report (April 2015)<sup>2</sup>. There have been no significant changes to City of York Council's overall monitoring strategy over the last 12 months; however a review of nitrogen dioxide diffusion tubes has led to a reduction from 340 to 233 tubes.
8. Nitrogen dioxide concentrations decreased at most of continuous monitoring stations in 2015 when compared with the 2014 results

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<sup>1</sup> Defra. Abatement cost guidance for valuing changes in air quality, May 2013

<sup>2</sup> Update and Screening Report (April 2015) available online at <http://www.jorair.co.uk/index.php?page=reports>

(although concentrations at Fishergate and Lawrence Street remained similar between 2014 and 2015) and there is evidence of a steady downward trend in nitrogen dioxide concentrations over the last five years. However, whilst air pollution in the city appears to be on a downward trend, the most recent monitoring data indicates that the annual average air quality objective for NO<sub>2</sub> is still being breached at a number of locations around the inner ring road (within the city centre AQMA).

9. With respect to the City Centre AQMA, exceedances of the health based annual mean NO<sub>2</sub> objective (40µg/m<sup>3</sup>) were monitored in the Gillygate, Holgate, Lawrence Street and George Hudson Street/Rougier Street technical breach areas in 2015. Whilst maximum concentrations of NO<sub>2</sub> monitored in the Nunnery Lane/Prices Lane and Fishergate technical breach areas were 38µg/m<sup>3</sup> and 39µg/m<sup>3</sup> respectively, it is considered that breaches of the objective are still possible given the precision of the monitoring technique used. The existing city centre AQMA is considered necessary and the existing boundary is still considered accurate.
10. Recorded concentrations of nitrogen dioxide have fallen below 60µg/m<sup>3</sup>, the concentration which is indicative of breaches of the hourly mean objective. If concentrations remain at this level or below, the city centre AQMA may need amending accordingly (this area is currently declared on the basis of both the annual mean and hourly mean NO<sub>2</sub> objective).
11. Concentrations in the Fulford Road and Salisbury Terrace AQMAs have also improved in recent years. Levels of NO<sub>2</sub> in the Fulford AQMA were only just below the annual mean objective level in 2015 and therefore the AQMA is still considered appropriate. The highest recorded levels of pollution were at the junction of Fulford Main Street and Heslington Lane and were 37µg/m<sup>3</sup>. The boundary of the Fulford AQMA will be reviewed in 2017.
12. Concentrations of NO<sub>2</sub> in the Salisbury Terrace AQMA were well below the annual mean objective in 2015. The highest recorded level of NO<sub>2</sub> within the area of technical breach was 32µg/m<sup>3</sup>. Should concentrations of NO<sub>2</sub> remain at this level throughout 2016, CYC will consider revoking this AQMA in 2017, in line with DEFRA guidance.
13. City of York Council's previous Update and Screening Report, submitted to DEFRA in April 2015, monitored elevated concentrations of NO<sub>2</sub> to the south west end of Coppergate. Whilst there were no relevant locations in the vicinity of the diffusion tube, CYC was aware of residential properties at first floor and above elsewhere on Coppergate. In May 2015, further monitoring was established along Coppergate to confirm

the position. Based on 8 months monitoring carried out between May and December 2015 it is considered possible that the annual mean NO<sub>2</sub> objective is being exceeded at relevant locations elsewhere on Coppergate. Once data for a full calendar year has been obtained and the Traffic Regulation Order for Coppergate has been re-instated,, a decision will be taken regarding the amendment of the existing City Centre AQMA to include this street. Any such amendment will be reported in future ASRs to DEFRA and update reports to the Executive Member.

14. National air quality objectives for PM<sub>10</sub> are currently met in York. There are currently no health based objective levels for ultra-fine particulates. The EU limit value for PM<sub>2.5</sub> is 25µg/m<sup>3</sup> as an annual average with an additional requirement to reduce average urban background concentrations by 15% by 2020 (against a 2010 baseline). In 2015, the annual average PM<sub>2.5</sub> concentrations measured at York's three monitoring stations were 9.1µg/m<sup>3</sup>, 10.2µg/m<sup>3</sup> and 12.0µg/m<sup>3</sup> so were well within the EU limit value.
15. DEFRA predict that the Yorkshire and Humberside Zone (which includes York) is expected to meet the EU limit values by 2020 (assuming Euro VI diesel engines perform as expected and all local Air Quality Action Plans within the zone are fully delivered). Air quality monitoring and modelling work undertaken by City of York Council indicates that with the proposed York third Air Quality Action Plan (AQAP3) measures in place, the health based national air quality objectives for NO<sub>2</sub> will be met in all the current air quality technical breach areas in York by 2021.

### **Actions to improve air quality**

16. City of York Council has previously produced two AQAPs in 2004 and 2006. These plans were primarily modal shift and congestion reduction based plans with an emphasis on reducing vehicle trips across the city.
17. Despite introduction of two AQAPs, air quality in York continued to deteriorate between 2004 and 2010. York developed the UK's first overarching Low Emission Strategy (LES) in 2012 to tackle the issue: it set out a new approach to local air quality management based on reducing tailpipe emissions from individual vehicles and encouraging the uptake of alternative fuels and low emission vehicle technologies. The Low Emission Strategy has proved particularly effective at tackling emissions from essential service vehicles such as buses, taxis and HGVs, which fall outside of the scope of trip reduction based modal shift measures.

18. Delivery of modal shift and congestion reduction measures (via the third Local Transport Plan and i-Travel York programme) remain important to air quality improvement and emission reduction in York. They are supported by planning policies that ensure sustainable travel is embedded into all new development in York.
19. City of York Council's third Air Quality Action Plan (AQAP3), adopted in December 2015<sup>3</sup>, sets out how York intends to continue to deliver its ambitious and pioneering overarching Low Emission Strategy (LES) and to work towards becoming an internationally recognised ultra-low emission city.
20. The LES has already changed the way York delivers public transport and plans for future transport trips through:
  - A new fully electric Park & Ride site at Poppleton Bar
  - Introduction of electric buses at Monks Cross Park & Ride site
  - Retrofitting the world's first electric double decker sightseeing bus
  - Converting around 7% of the taxi fleet (50+ vehicles) to low emission alternatives (Euro 5+ hybrid or electric) through an innovative taxi incentive grant scheme
  - Implementing an extensive 'pay as you go' fast charge public electric vehicle recharging network
  - Establishing 11 publicly accessible rapid chargers
  - Achieving a 34% reduction in 'grey fleet' trips by council staff, reducing CO<sub>2</sub> emissions by 47%
  - Developing low emission planning guidance
21. York has much to celebrate in relation to reducing emissions and protecting and improving the health of its residents, but LES measures will be required to mitigate emissions from an increasing population and development.
22. City of York Council was awarded £816,000 from the Office of Low Emission Vehicles (OLEV) earlier this year and became the only Yorkshire location out of eight in the country to achieve 'Go Ultra Low' city status. The money will be used to fund a city-wide network of hubs, providing ultra fast, reliable and convenient electric charging. The

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<sup>3</sup> AQAP3 available online at <http://www.jorair.co.uk/index.php?page=reports>

announcement follows £308k from DfT's Clean Bus Technology Fund to retrofit 28 school buses used in around York with the latest Selective Catalytic Reduction exhaust technology.

23. Details of measures to improve air quality in the reporting year of 2015, whether completed, in progress or planned are set out in Annex 1. Key completed measures are:
- Development and implementation of LES based Planning Guidance. The guidance forms an Annex to AQAP3 (adopted December 2015). The new guidance required developers to offset large emission damage costs via provision on on-site or off-site facilities and/or contribution towards wider LES measures in York.
  - Adoption of a new taxi licensing policy, specifying minimum emission standards for new or replacement taxis. In addition, continued support has been provided for local taxi drivers through the Low Emission Taxi Incentive Scheme, whereby a financial incentive is offered to York based taxi drivers when they trade in a conventionally fuelled vehicle for a low emission alternative.
  - Continued expansion of the strategic Electric Vehicle recharging network and the successful Go Ultra Low Emission City scheme.
  - Working in partnership with City Car Club to provide a pool of low emission cars for exclusive use by CYC staff during office hours has significantly reduced staff using their own private vehicles for CYC business. CYC also operates an electric pool car vehicle.
24. Progress on the following measures has been slower than expected, for the following reasons:
- Further development of the ECO Stars fleet recognition scheme. There are 66 companies signed up to the York Eco-Stars scheme and whilst there was limited funding available to support further growth of the scheme during 2015, funding has now been identified to continue the scheme until May 2017. The possibility of a local 'procurement' standard for the vehicles used by, or to supply, CYC services is currently being investigated.
  - Planning and delivery of CNG refuelling infrastructure (and freight consolidation centre). A feasibility study was completed in 2015. The current Local Plan Preferred Sites Consultation document considered at the Local Plan Working Group on 27 and Executive on 30 June

dealt with housing and employment sites, but didn't cover transport related infrastructure. Additional further work would need to be done on the proposals before they could be included within the Local Plan addressing deliverability, environmental and design issues and, where relevant, Green Belt purposes.

- LES Marketing and Health Promotion, including website development. Whilst considerable progress has been made in terms of delivery of many of the measures in City of York Council's Low Emission Strategy (LES), a formal LES marketing strategy and website review has not been progressed as per the original plans and timescales due to staff resources.

25. City of York Council expects the following measures to be progressed over the course of the next reporting year:

- Following further consultation with bus operators and others, to produce a report detailing the proposals to reduce emissions from buses for implementing a Clean Air Zone, including an economic impact test, details of funding and impact on the environment and health. We are currently in discussions with Leeds and York universities regarding modelling the emissions and health impact assessment of the CAZ.
- Introducing anti-idling measures – an education based awareness campaign targeted will be supported by increased anti-idling signage and use of enforcement powers where necessary.
- Further development of local incentives for low emission vehicles and alternative fuel use - including continuation of the local taxi incentive scheme, encouraging drivers to switch to hybrid or electric vehicles.
- Reducing emissions from new development – by requiring developers to routinely provide electric vehicle recharging infrastructure and Construction Environmental Management Plans (CEMPs) on new developments. In some cases, full emissions impact assessment will be required, together with emission mitigation plans. This is currently being discussed at a Yorkshire wide level.
- Increasing awareness of the impact of air pollution on public health – via an improved marketing and communications strategy focussed on health impacts of air pollution.

- Reducing emission from all vehicle types – by continuing to expand the electric vehicle (EV) charging network within York (and the wider region), by continuing to explore opportunities for provision of a Compressed Natural Gas (CNG) refuelling station and freight transshipment centre and by developing local incentives for the uptake of low emission vehicles. CYC currently provides 11 ‘rapid charge’ and 19 ‘fast charge’ locations in York. There are also currently approximately 20 additional privately owned charging points located at hotels, retail parks, supermarkets etc with customer access.
- Attracting low emission industries, businesses and jobs to York – by developing a ‘green business’ hub and working towards development of a freight transshipment centre.

## Challenges

26. City of York Council is facing a number of national and local challenges to improving air quality and these are thought to be responsible for the continued existence of elevated levels of NO<sub>2</sub> concentrations and the main reasons for the current AQMA designations:

The national challenges that affect air quality in York include:

- The failure of current vehicle emission standards to deliver reductions in NO<sub>x</sub> emissions. There is still considerable uncertainty about the on-road performance of Euro VI diesel vehicles (as highlighted by the recent VW scandal). If Euro VI vehicles do not perform as expected, the number of UK zones and agglomerations exceeding the EU limit values in 2020 may be greater than the number currently predicted by central government.
- The increasing number of diesel vehicles (which have increased primary emission of NO<sub>2</sub> and carcinogenic diesel particulate).

The local challenges that affect air quality in York include:

- Whilst emissions from developments proposed in the Local Plan have been accounted for in terms of meeting the air quality objectives, other, smaller developments will occur, leading to increased emissions through energy usage and transport (‘emissions creep’). These will be mitigated as far as possible through low emission planning guidance and CEMPs.
- Unnecessary vehicle idling, particularly amongst heavy diesel vehicles, such as buses and HGVs



## Consultation

27. The Annual Status Report has been submitted to DEFRA for consideration; they will provide comments in a timely manner. Local authorities are invited to provide written comments in response to any concerns raised by DEFRA on the conclusions in the report. Following feedback and approval from DEFRA, the report will be made available to the public, local stakeholders, the Environment Agency, Highways England and other relevant departments / stakeholders via the JorAir website: <http://www.jorair.co.uk/index.php?page=reports>.

## Council Objectives

28. The new council plan aims to deliver a prosperous city for all. Steps taken to improve air quality will be a key indicator of the progress made in delivering the plan. The third AQAP will support the new council plan as follows:
- **Help residents to live healthier lives so that they can contribute fully to their communities, reach their full potential and retain good quality and well paid jobs** – Good air quality reduces sickness absence from work and education. AQAP3 will contribute to quality of life in York by promoting healthy lifestyles and providing safe pleasant places to live, learn, exercise and meet. Providing better information and advice on air quality and health impacts will empower individuals to make better lifestyle choices and take steps to reduce their own exposure to air pollutants reducing hospital admissions and costs to the NHS.
  - **Encourage and supporting a green economy** – accelerating the uptake of alternatively fuelled vehicles in York will stimulate the market for supply and maintenance of new vehicle technology and refuelling infrastructure. This will attract new manufacturing and service industries to the area creating new 'green' jobs and training opportunities. Providing alternative vehicle fuel infrastructure is essential to ensure York retains transport links with other cities as alternative technology penetrates the mass vehicle market. The use of alternatively fuelled vehicles can also offer considerable financial savings to local business helping them to thrive.
  - **Provide efficient and affordable transport links** – AQAP3 will help deliver cleaner, more attractive and reliable public transport in York, resulting in increased patronage and a further reduction in private vehicle trips. The total cost of ownership of low emission technologies can be substantially lower than diesel due to much

lower fuel cost. Where initial investments are higher, leasing arrangements can enable financial benefits from the outset. These fuel savings could be used by operators to limit the need for further increases in public transport fares.

- **Help to deliver an environmentally sustainable city** – AQAP3 will help to ensure that the city can continue to grow without an unacceptable impact on local air quality, carbon emissions and health. AQAP3 supports greenhouse gas emission reduction measures in York's Climate Change Framework and Action Plan helping to protect York's communities from the impacts of climate change. New low emission planning guidance will help to ensure that emissions from new developments are minimised as far as possible whilst still allowing the creation of new jobs and homes.
- **Help to protect and support York's unique heritage** – air pollution damages buildings as well as people. Improving air quality will help to protect the city's many historic buildings and support tourism.

## Implications

29. The various implications of this report and summarised below:

- (a) **Financial** - This report has no direct financial implications, however, implementation of the measures in AQAP3 will require both capital and revenue funding. Ongoing monitoring of air quality also requires ongoing revenue funding support. Any request for funding will follow the council's budgetary process.
- (b) **Equalities** - A community impact assessment was undertaken for AQAP3. Older people, children, pregnant women and vulnerable people with respiratory and other illnesses are more likely to be adversely affected by poor air quality.
- (c) **Legal** - CYC has a statutory duty to periodically review the air quality within its area both at the present time and as regards future air quality. There is a duty to designate an AQMA where air quality objectives are not being achieved or are not likely to be achieved. Once an area has been designated there is a duty to carry out an assessment and prepare an air quality action plan (AQAP) for the area. DEFRA have issued statutory guidance to which the council must have regard in exercising these functions. This includes annual reporting on progress with delivery of AQAPs via Annual Status Reports.

## Risk management

30. In compliance with the Council's risk management strategy, failing to meet the health based air quality targets, considering the likelihood and impact, the current net risk rating is 21 or High. The continued implementation of the LES as adoption and implementation if AQAP3 should reduce the risk to Medium.

## Contact Details

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	<b>Report Approved</b>	<input checked="" type="checkbox"/>	<b>Date</b> 24 <sup>th</sup> August 2016
<b>Specialist Implications Officer(s)</b>			
None			
<b>Wards Affected:</b> <i>List wards or tick box to indicate all</i>		<b>All</b>	<b>X</b>
<b>For further information please contact the author of the report</b>			

## Annexes:

**Annex 1:** Progress on Measures to Improve Air Quality

**Annex 2:** Air Quality Annual Status Report 2016 (available online only or paper copies may be obtained from the Democracy Officer for this meeting)

## Background Papers

Annual Status Report (Full Report)

<http://www.jorair.co.uk/index.php?page=reports>