

Report to: Transport Committee

Date: 25 May 2018

Subject: **Air Quality Update**

Director: Liz Hunter, Interim Director of Policy and Strategy

Author(s): Alistair Ryder

Is this a key decision?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Is the decision eligible for call-in by Scrutiny?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Does the report contain confidential or exempt information or appendices?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
If relevant, state paragraph number of Schedule 12A, Local Government Act 1972, Part 1:	

1 Purpose of this report

- 1.1 To provide an update on matters relating to air quality in the region including a focus on transport and to highlight activities being delivered to reduce transport emissions.

2 Information

Background

- 2.1 Policy development and action is being taken at a national, regional and local level to address poor air quality. This paper provides a summary of recent key decisions, local activities to address air quality and supporting transport evidence that will potentially impact on air quality and related environmental, economic and societal challenges.
- 2.2 A summary of the key national and regional policy context for improvements in air quality can be found as Appendix 1 A to this document. These include the following;
- Industrial Strategy White Paper

- Leeds City Region Local Inclusive Industrial Strategy
- Transport Strategy 2040
- Bus Strategy 2040
- Leeds City Region Clean Energy Strategy

2.3 The West Yorkshire Low Emission Strategy was developed by Bradford Council and adopted in 2016-17 by all West Yorkshire partner councils and the West Yorkshire Combined Authority. It outlines measures to significantly improve air quality across the region and makes a series of recommendations for planning and new development, vehicle fleet renewal, behaviour change activities and the promotion of active travel to support transport's contribution towards delivering cleaner, healthier environments.

2.4 The strategy does not contain specific air quality targets or have a detailed action plan but is used by authorities to develop their own local activities to reduce emissions through existing resources.

Context for Action on Air Quality

2.5 Five determiners are considered to have increased the recent national focus on air quality, clean energy and quality places;

- **Legal requirements** - The 2008 Climate Change Act requires the UK to reduce greenhouse gas emissions by 80% on 1990 levels by 2050. Additionally the European Union requires the UK to reduce dangerous nitrogen dioxide emissions in multiple urban areas to within legal limits by 2020.
- **Better understanding of health costs** – It is estimated that approximately 1,000 die prematurely each year in West Yorkshire due to poor air quality. It is also estimated that poor air quality costs the UK economy £20 billion in health care costs and loss in productivity through absenteeism.
- **Increased public awareness of emissions** - Increased public awareness especially through the Volkswagen 'Dieselgate' revelation has identified the disparity between actual and published vehicle emissions. In response the government has announced an end to the sale of conventional combustion engine vehicles by 2040.
- **Economic potential** - The UK economy could be significantly boosted by innovation and manufacturing in zero-emission technology and the drive for a clean energy and low carbon economy.
- **Creation of 'healthy places'** – there has been growing recognition at the national and local level of the need to create quality places that attract economic investment and support healthy lives. Transport for London and Public Health England have led development on the concept of 'Healthy Streets' which aims to create more attractive, accessible and people friendly streets, enabling more walking, cycling and public transport use and to support healthier lifestyles.

- 2.6 The transport sector in particular has come under increased scrutiny for its environmental impact in recent times for two principal reasons;
- **Climate Change** - Since 1990 greenhouse gas emissions from the transport sector have reduced by only 2% compared with the energy sector which has reduced greenhouse gas emissions by 57% through significant investment in resource efficiency and renewable energy. The transport sector now represents the largest source of greenhouse gas emissions in the UK – 26% compared with energy (25%).
 - **Local air quality** – the threat of European Union infringement fines due to dangerous levels of nitrogen dioxide in many UK urban areas has increased the need to tackle local air quality. The West Yorkshire Low Emission Strategy identified that on the A58 near Halifax, road transport accounts for 83% nitrogen oxide emissions. Of the ‘local emission sources’, cars accounted for 37%, heavy goods vehicles (HGV) 21% and light goods vehicles 19%. Older diesel engines are primarily responsible for nitrogen oxide emissions.

High Court Announcement

- 2.7 On the 21 February the UK High Court delivered its verdict in the case brought by Client Earth against the Government’s ‘UK Plan for tackling roadside nitrogen dioxide concentrations’ revised and published in July 2017. The court found that sufficient action was being taken in twenty-eight authorities required to deliver action on local air quality to achieve legal limits of nitrogen dioxide emissions by the deadline of 2020, including Leeds City Council – one of five authorities required to deliver a clean air zone.
- 2.8 The court also ruled that thirty-three authorities must demonstrate whether any additional measures would help reduce nitrogen dioxide levels on certain road lengths to within legal limits in the ‘shortest time possible’. This includes all West Yorkshire local authorities with the exception of Leeds City Council. These authorities have received £50,000 to undertake localised feasibility studies to see if additional measures could reduce nitrogen dioxide emissions to within legal limits any sooner than forecast on the road lengths identified through the UK plan. The study work must be submitted to DEFRA by 31 July 2018.

Leeds Clean Air Zone Progress Update

- 2.9 Leeds City Council undertook a public consultation of a draft ‘Class B’ Clean Air Zone (CAZ) in January – March 2018 and independent consultants are currently assessing the results. Approximately 9,000 respondents provided comments to the consultation. Leeds City Council is expected to provide further details on the next steps in June 2018 when a revised CAZ will be presented to the Executive board with a second phase of public consultation to follow.
- 2.10 Leeds City Council has received £1.8 million in revenue funding from the DEFRA ‘early measures fund to tackle nitrogen dioxide’ – targeted at

supporting residents, businesses and taxi/private hire operators to move towards sustainable and low emission transport and travel options, including incentive measures to support public transport use.

- 2.11 The Combined Authority is aware of the challenges faced by different business and transport operators in the region as a result of the CAZ proposals, some of which are highlighted in this report. The Combined Authority is working in partnership with Leeds City Council to identify potential support mechanisms and where possible, apply for relevant funding to help reduce transport sector emissions.

Recent West Yorkshire Air Quality Activities

There are multiple activities being delivered across the region to target air quality improvement, including innovative trials of new technology to address key issues. The summary provided below is a snapshot of recent and most relevant activities.

- 2.12 **Kirklees** – a trial in partnership between the council and Dynniq demonstrated emissions savings using vehicle data to optimise traffic signals on the A62 in Huddersfield resulted in a 31% saving in nitrogen oxides compared with fixed signal timings. Data was used to calculate emissions of vehicles passing through the junction, ensuring larger and more polluting vehicles were able to pass through the junction without the stop start conditions that produce significant emissions. This success of a cost-effective approach to traffic control achieved by reducing stop start traffic conditions in air quality hotspots is now being shared with partner councils.
- 2.13 **Leeds** – a trial of zero emission transport refrigeration unit technology on HGVs delivering cold foods is underway. Conventional diesel refrigeration units are estimated to produce up to six times as much nitrogen oxides and up to 30 times as much particulate matter as a Euro VI HGV engine. This trial is hoped to demonstrate a cleaner alternative for the refrigerated vehicle industry. This is a partnership trial between Leeds City Council/DEFRA funded by the DEFRA air quality grant. Leeds City Council is also involved in a further trial named 'project ACCRA' which will assess the potential of hybrid vehicles to automatically switch to zero emission mode in areas of poor air quality.
- 2.14 **Wakefield** – the local authority has implemented changes to their taxi licensing standards, to ensure that all new licensed private hire and hackney carriages are Euro 6 diesel, Euro 5 petrol or Euro 4 petrol-hybrid at a minimum. There is a two year sunset period for the renewal of existing licenses before the standards come into effect. Through the adoption of the West Yorkshire Low Emission Strategy, all partner councils are signed up supporting taxi and private hire trades to move towards low emission vehicles and the consideration of policy incentives to promote the uptake of ultra-low emission taxis.
- 2.15 **West Yorkshire** – the Office for Low Emission Vehicles £1.98 million ultra-low emission taxi scheme grant being delivered by the Combined Authority will

contribute to the delivery of up to 88 rapid charge points across West Yorkshire. This is forecast to support the conversion of 500 private hire and hackney carriage vehicles to electric, supporting a targeted reduction in emissions. The project is currently in procurement phase with a delivery partner expected to be appointed in autumn 2018.

Recent Funding Announcements

- 2.16 **DEFRA Announcements** - The Department for Environment, Food and Rural Affairs (DEFRA) announced two successful funding awards for West Yorkshire partner councils through the annual air quality grant scheme.
- Kirklees Council on behalf of the four West Yorkshire local authorities of Bradford, Calderdale and Wakefield have received £106,000 for resourcing to deliver recommendations from the adopted West Yorkshire Low Emission Strategy.
 - Bradford Council will also receive £195,000 for an 'air quality feasibility study' to improve understanding on air quality in the city and opportunities to improve conditions. Delivery of the study is expected by 2020.
- 2.17 **Transforming Cities Fund** - In March 2018 the Department for Transport announced the £1.7 billion Transforming Cities Fund aimed at improving intra-regional connectivity to skills, employment and key services through public transport and active travel. An objective of the Fund is to reverse the decline in public transport patronage and provide safe cycle infrastructure that will increase existing low levels of cycling.
- 2.18 **Ultra-Low Emission Bus Scheme** - The Department for Transport has announced the £48 million Ultra-Low Emission Bus Scheme, a grant funding competition open to bus operators, combined authorities and local authorities.
- 2.19 The grant funding will provide up to 75% of the technology cost difference between a Euro VI diesel emission bus and its ultra-low emission equivalent – defined as one which achieves a 30% 'Well to Wheel' emission improvement compared with a Euro VI bus. Applicants can also receive up to 75% of associated charging/refuelling infrastructure.
- 2.20 The Combined Authority is considering opportunities to work with bus operators and partner councils on a submission to the scheme to support improvements in air quality from the bus sector and to improve the bus journey experience.

Travel trends and potential impacts for air quality / carbon emissions

- 2.21 The Urban Transport Group (UTG) has recently published a series of reports which detail city region transport trends that have potential implications for air quality. The key findings and local interpretation are provided in item 14 of the transport committee papers. This paper identifies some of the transport air quality challenges in light of the trend evidence.

- 2.22 Car dominance still prevails in the UK however there is evidence of less car dependency for trips into city region centres. The average vehicle age in the UK is 7.8 years, meaning there are still relatively few achieving the latest Euro 6 emission standard on UK roads. Government and local authorities have sought to incentivise car users towards zero emission equivalents through a range of fiscal and policy measures. In response there has been a significant increase in plug-in and pure electric vehicles with over 145,000 new car registrations by April 2018.
- 2.23 Overall, fewer trips are being made - especially for shopping, but there has been an increase in trips escorting to education, to entertainment and public activity. A reduction in shopping trips could be response for the rapid increase in online shopping and associated deliveries.
- 2.24 Van traffic has increased by 23% since 2006 and by 2040, vans will be forecast to account for 21% of mileage nationally compared to 14% in 2010. Vans currently account for 15% of road traffic but 30% of nitrogen oxides and 16% of carbon dioxide, with 96% of vehicles being diesel. This has implications for local air quality in the city region, especially in urban centres where a high proportion of deliveries are made daily.
- 2.25 Taxi and private hire use has increased significantly, with a 41% increase in the number of vehicles since 2007. There are now five private hire/ taxis per 1,000 in West Yorkshire. In relation to the vehicles and their utilisation, in 2015 the average taxi age in West Yorkshire was 6.8 years old and private hire 7.2 years old with few Euro 6 emission standard vehicles. The average daily mileage for taxis was 103 miles per day. Evidence by Professor James Tate (Institute for Transport Studies) has shown that a single Euro 6 diesel car emits the same nitrogen oxide emissions as 1,000 petrol-hybrid cars.

Transport Sector Challenges to a Zero Emission and Clean Energy Future

- 2.26 **Private Car Sector** - The car industry has seen significant increase in the number of low/zero emission vehicles available recently, and national policy changes have seen a reduction in diesel car sales – a 37% reduction between March 2017 and March 2018. The cost of a zero emission vehicle is still significantly higher than conventional engine equivalent which limits uptake. There is also a need for a greater provision of charging infrastructure to support users and reduce perceived barriers to electric vehicle usage.
- 2.27 The West Yorkshire Combined Authority is delivering a series of transport interventions that support inclusive growth and provide a range of transport choices, including investment in park and ride/park and rail sites, active and sustainable travel including the £60 million CityConnect programme and a focus on 'future mobility' to cater for travel needs.
- 2.28 **Bus Sector** – the Combined Authority has supported bus operators to improve vehicle emissions through successful applications to the Clean Bus Technology Fund in 2017, Low Emission Bus Scheme in 2016 and the Clean Vehicle and Clean Bus Technology Fund in 2014/15. The sector still requires

significant capital investment to support 'whole depot' zero-emission solutions due to significant vehicle and infrastructure costs currently associated with zero emission technology. There is also a limited choice of zero emission vehicles available, especially for double deck buses, however this is set to improve over the next five years.

- 2.29 **Heavy Goods Vehicle/Coach Sector** - Euro VI emission vehicles have been in existence since 2016, however a slower fleet renewal process than other transport sectors means the second hand market in the latest emission standard vehicles is not yet established. There are also few examples of ultra-low or zero emission vehicles, with major technical barriers yet to be overcome including the added weight of clean fuel technology. There is no accredited retrofit scheme to improve emissions on older vehicles. This sector faces significant financial challenges in upgrading fleets to the latest emissions standards in the short term.
- 2.30 **Light Goods Vehicles** – The UTG report identified the significant rise of light goods vehicles since 2006, partly due to the increase in online shopping and associated deliveries. The sector has a very limited range of appropriate ultra-low/zero emission vehicles, however there is evidence of investment e.g. Leeds City Council's purchase of 100 electric light goods vehicles purchased in 2017-18. This sector is yet to see any retrofit emission accreditation scheme for older vehicles.
- 2.31 **Taxi / Private Hire** – Both taxi and private hire trades will benefit from the increased pace of investment in ultra-low and zero emission cars however vehicle costs are still considered a significant barrier, despite lower operating costs. There are limited examples of bespoke electric wheelchair accessible taxis, but these are considered expensive and unlikely to see significant uptake in the city region in the short term.
- 2.32 The Combined Authority is delivering the £1.98 million Ultra Low Emission Taxi Scheme which will deliver up to 88 dedicated charge points for the taxi and private hire industry to support zero emission operations and reduce barriers to uptake.

3 Financial Implications

- 3.1 There are no financial implications directly arising from this report.

4 Legal Implications

- 4.1 There are no legal implications directly arising from this report.

5 Staffing Implications

- 5.1 There are no staffing implications directly arising from this report.

6 External Consultees

6.1 No external consultations have been undertaken.

7 Recommendations

7.1 That Transport Committee endorses the activities being delivered to improve transport emissions and supports the need for further collaborative working by the combined authority and partner authorities.

8 Background Documents

8.1 Industrial Strategy White Paper

<https://www.gov.uk/government/publications/industrial-strategy-building-a-britain-fit-for-the-future>

8.2 Office for National Statistics

Final UK greenhouse gas emissions national statistics: 1990-2016

<https://www.gov.uk/government/statistics/final-uk-greenhouse-gas-emissions-national-statistics-1990-2016>

8.3 West Yorkshire Low Emission Strategy

<https://www.bradford.gov.uk/media/3590/west-yorkshire-low-emissions-strategy.pdf>

8.4 Urban Transport Group; White van cities: Questions, challenges and options on the growth of urban van traffic,

<http://www.urbantransportgroup.org/resources/types/reports/white-van-cities-questions-challenges-and-options-growth-urban-van-traffic>

8.5 Urban Transport Group: Number crunch: Transport trends in the city regions

<http://www.urbantransportgroup.org/resources/types/reports/number-crunch-transport-trends-city-regions>

9 Appendices

Appendix 1 – Strategic documents relating to air quality improvement