

Report of the Director of Public Health to the meeting of Environment and Waste Overview and Scrutiny Committee to be held on December 20th 2016.

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Subject:

Air Quality across the Bradford District

Summary statement:

Members of the Committee have requested an update on air quality across the Bradford District. This report provides information about the results of the routine monitoring which is carried out, the health impacts of air quality on the residents of Bradford, and steps which are being put in place to tackle this problem. It also looks at possible future actions which can be taken.

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1. SUMMARY

Members of the Committee have requested an update on air quality across the Bradford District. This report provides information about the results of the routine monitoring which is carried out, the health impacts of air quality on the residents of Bradford, and steps which are being put in place to tackle this problem. The report includes information from other services which are also working to tackle this problem. It also looks at possible future actions which can be taken.

2. BACKGROUND

2.1 Over the last few years a number of reports have been brought to scrutiny regarding air quality in the Bradford District and to seek adoption of the Bradford Air Quality Strategy in 2011 and the Bradford low Emissions Strategy in November 2013. These strategies were developed and adopted to bring together all parties and services across the Council to ensure their actions were contributing the best they could to improving air quality across the Bradford District.

2.2 Health impacts

Man-made air pollution in Bradford causes the equivalent of 40,000 early deaths in the UK every year and this equates to 222 early deaths in Bradford¹, with an associated health cost of £157m per annum. Health research in Bradford demonstrates that air pollution is also responsible for a number of concerning health effects such as the development of childhood asthma, low birth weights, cancer, stroke and heart attacks. More recently air pollution has been linked with reductions in the IQ of children in affected populations.

2.3 Air Quality Monitoring

Bradford Council has a statutory duty to review and assess local air quality under the nationwide system of Local Air Quality Management (LAQM) set out within the Environment Act 1995.

2.3.1 Previous work by the Council's Environmental Health Service identified four areas in the District that are not achieving the UK air quality objective for nitrogen dioxide (annual mean concentration of 40µg/m³ in relevant locations). Exhaust emissions from traffic on the roads within these areas is largely responsible. Heavy-duty vehicles (freight and buses) in particular contribute significantly to the emissions, despite them only accounting for about 6% of traffic.

2.3.2 The Council has a statutory duty to designate these locations as Air Quality Management Areas (AQMAs), which it did in September 2006, and to develop an action plan setting out the measures that it will adopt to make progress towards the achievement of the air quality objectives. The AQAP takes account of the contributory factors leading to the exceedance of the air quality objective and any limitations in Bradford Council's ability to act on this issue. The air quality strategy and Low Emissions Strategy previously adopted are deemed to be part of that

¹ <https://www.gov.uk/government/publications/estimating-local-mortality-burdens-associated-with-particulate-air-pollution>

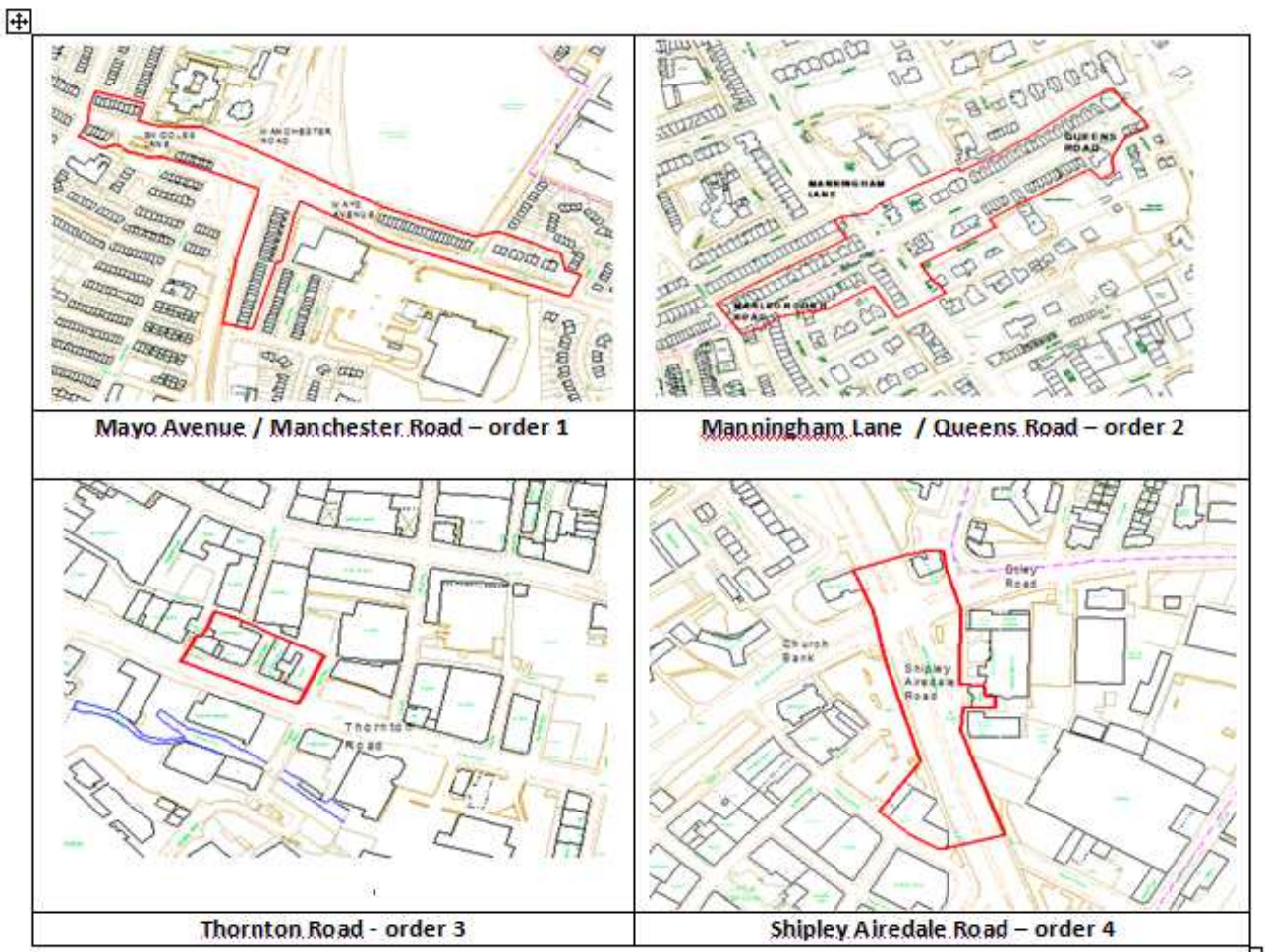


action plan.

The four AQMAs are located in specific parts of the following roads;

- Mayo Avenue, Bradford
- Thornton Road, Bradford
- Manningham Lane, Bradford
- Shipley Airedale Road, Bradford

Bradford AQMAs



2.3.3 The tables below indicates the levels of Nitrogen Dioxide and particulates .

Site ID	Annual mean concentrations NO ₂ (µg/m ³) (annual average air quality objective level = 40µg/m ³)								
	Pre-2007	2007	2008	2009	2010	2011	2012	2013	2014
Shipley Airedale Rd	70	68	53	108* ¹	74* ²	54	52	52	54
Manningham Lane	47	43	49	46	49	-	50	63	51
Mayo Avenue	54	-* ³	71	81	83	71	72	75	42
Thornton Road	44	25	19	18	-* ³	47	50	63	51

Site ID	Annual Mean Concentration PM10 (µg/m ³) (annual average air quality objective level = 40 µg/m ³)						
	2008	2009	2010	2011	2012	2013	2014
Bingley – Ferncliffe Road	15	15	14.0	12.0	15.0	15.4	13.3
Keighley – Town Hall Square	16	20	17.0	13.0	17.3	16.6	12.4
Bradford - Shipley Airedale Rd	-	-	39	30	-	-	-

Note – the results for the PM10's are background and urban centre sites so not typical of worst case roadside concentrations. They indicate that particulate concentrations have generally remained about the same over the past few years. Missing data from Shipley Airedale Rd is under review.

2.3.4 In addition to the air quality stations, diffusion tubes, which measure Nitrogen dioxide, are sited at locations within the city where it is considered that air quality may be a problem. The results from this monitoring have indicated that there are air quality problems in further areas. Additional data is being collected and analysed to allow a considered decision to be made about the need to declare further Air Quality Management Areas. The following table indicates the areas currently under consideration. An annual report is submitted to Defra about the results of the air quality monitoring. The latest report is currently being drafted, this will identify if the



areas identified have not improved. If this is the case formal adoption of the areas as air quality management areas will commence.

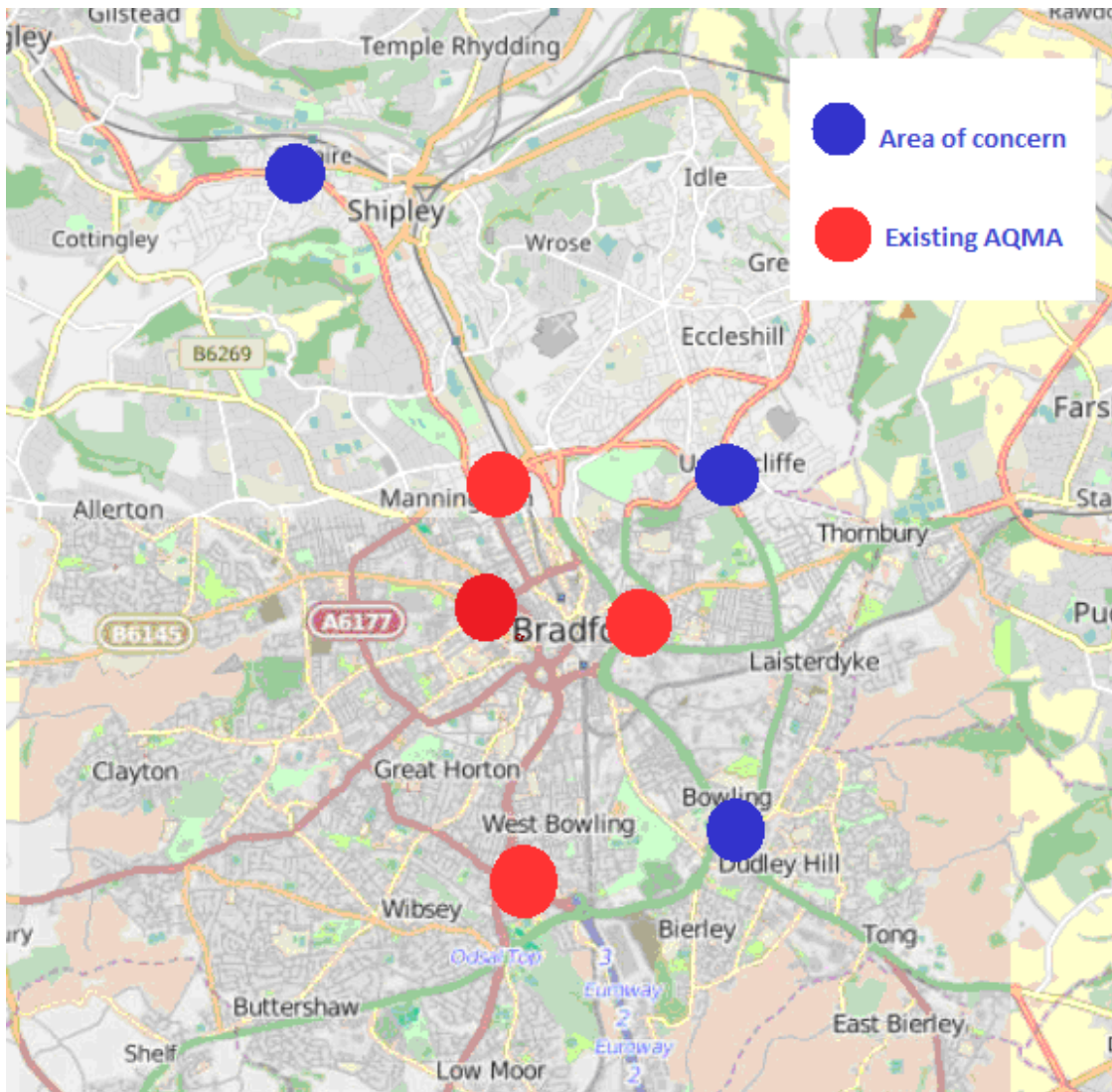
Location	Maximum NO ₂ concentration (µg/m ³) measured in the area		
	(annual average air quality objective level = 40 µg/m ³)		
	2012	2013	2014
Junction of Saltaire Road and Bradford Road	79	65	59
Rook Lane / Rooley Lane / Tong Street area	49	58	58
Harrogate Road / Killinghall Road/ Dudley Hill Road	54	57	57

*Results for 2015 are currently provisional and have not yet been reported to DEFRA. Some of the higher reading tubes at Rooley Lane were lost for the 2015 period. These have now been re-instated close by and provisional results for first 6 months of 2016 indicate that Rooley Lane may still be over the objective but this could change over the rest of the year.

Existing AQMAs and Areas of concern

See map below





2.4 Working in partnership

Understanding the issues arising from poor air quality and delivering solutions can not be done in isolation. The monitoring data collected by the Council is used by many other institutions to inform studies and research which is ongoing. Good examples of this are;

- The Council collaborates with the NHS Born in Bradford (BiB) Project (which carries out some of the only air quality and health research in the UK outside of London). BiB works with the Council to deliver joint projects and the Council shares monitoring data to play a part in health research projects which inform national policy
- The Low Emissions Strategy includes partnership working with developers, local businesses (particularly those with larger fleets), chamber of commerce, bus companies and other public sector organisations such as the NHS and ambulance service.
- The Council works with local Universities at Bradford, Leeds and York,, this is a two way process with the Council helping set the research agenda where data is needed to inform policy making.

2.5 Tangible action to improve air quality in Bradford

Opportunities to make a practical change often come about through grant funding or simply a change in policy. The table below provides a summary of the practical steps which have been taken in a bid to tackle poor air quality in the city.

Bradford low emissions measures	Current status	Outputs and results
Electric Vehicle (EV) charging	Surveys completed at 6 sites including on-street hackney carriage bays. Forming part of WY EV strategy. Plans in place for soft-market testing to invite interest in private investors. Discussions with retail centres to introduce EV chargers at shopping centres. Planning conditions for EV charging on housing developments.	2500 charging points conditioned under approved planning permissions / 4000 under 'live' applications. 5 x Local Transport Plan funded chargers at Bradford University and NHS sites. 8 chargers at Council office/depots.
Fleet	Fleet procurement to include whole life costing. Cars and vans to be considered for Ultra Low Emissions Vehicles (ULEV) or very low emissions. Participant of ULEV Readiness project, 6 month Energy Savings Trust(EST) report Sep 16.	Reduction of 332 tons of CO2 equivalent 2014/15 – 2015/16. 7 electric vans and 2 electric pool cars adopted 2016 with 3 additional charging stations. Travel plan hierarchy promotes bus/rail and ULEV car club vehicles for business trips.
Cycling and walking	Cycle City Ambition Grant award – infrastructure and engagement. Consulting on 2.3km strategic cycle link	£19 million Cycle Super-Highway (Bradford-Leeds) separated cycle-lane opened



	to Shipley. £4.6 million bid for Dft Access Fund Sep 16. Will provide training for employees and job seekers and invest in cycling facilities in workplace.	summer 2016. Bikeability scheme trained 1200 children to level 2. 46 schools involved in pedestrian training 2300 children. CBMDC cycle to work scheme since 2013 alongside new cycling facilities.
Taxis	Energy Savings Trust feasibility study complete. Medium scenario already adopted for maximum age 12 years, recommended 10 years for new license. Recommended 10 ULEV only licenses for WY with demonstration vehicles.	3 locations surveyed for town centre rapid-charging stations in Bradford.
Commercial fleets	Ecostars appointed as fleet consultant. Will operate Fleet Recognition scheme 2016-2017. Target of 60 local fleet operators.	Currently engaging with bus operators, local authority fleet (who have gained a 4 star award).
Gas refuelling	Gas (Compressed Natural Gas) refuelling infrastructure included in Depot Redevelopment Plan. New site identified with suitable mains pressure efficient HGV refuelling and partnership with First Bus Bradford.	Gas Feasibility Study 2013 estimated £10-20million saving in fuel costs, 77 tonnes NOx and avoided damage costs estimated at £340k.
Car club	New contract for provider awarded in 2015 introduced 3 vehicles including EV version. Seeking to consolidate with CBMDC corporate users and expansion with new bays provided Sep 16.	Traffic regulation orders for Saltaire village approved for 2 bays. CBMDC account for business users mandated in corporate Travel Plan.
Buses	Partnership work between bus operators and local authority. Scenario analysis from the Bradford Low Emission zone feasibility study for investment in new buses shows significant health benefits .	25 bus retrofits, currently in service with Selective catalytic reduction Technology (SCRT) and Portable emissions monitoring (PEMs) NOx reduction 95% / 1 tonne/year. 60% reduction in particulate matter. All the school buses across West Yorkshire were retrofitted via grant applied for and administered by WYCA.
Procurement	Draft guidance produced. Reference to Social Value Act. Tender matrix to evaluate pollutant emissions. 5% of overall quality score, scale 1-5 e.g. 5 = ULEV and EURO6 / 0 = no information.	Scheduled for approval Spring 2017



2.6 West Yorkshire Low Emissions Strategy (WYLES)

2.6.1 Recognising that the issues affecting poor air quality are cross boundary, Bradford Council led on a bid to Defra to secure funding to develop a Low Emissions Strategy for the West Yorkshire region. The bid was successful and a grant of £150k was awarded. The strategy has been developed in conjunction with officers from the five West Yorkshire Authorities, the West Yorkshire Combined Authority and Public Health England. During the development of the Strategy stakeholders from relevant areas including Transport Planning, Land Use Planning, Local Authority Procurement and Fleet Management services and the Leeds Enterprise Partnership have been involved and their input has shaped the WYLES as it was developed.

2.6.2 The WYLES was adopted by the Council at its meeting of the Executive on December 6th 2016. The other West Yorkshire Authorities are currently going through the process to adopt the WYLES, it will then be published.

2.6.3 The WYLES covers a range of initiatives to tackle transport emissions in the short to medium term and sets out how air quality improvements will be sustained over the long term, balancing this with the ambitions for economic and housing growth for the region and the consequent risk of worsening air quality from increased traffic

2.7 The future

2.7.1. In December 2015 Government announced that Leeds would be one of five cities which would have a mandated Clean Air Zone (CAZ) imposed in order to improve air quality to meet legal limits. A recent High Court case (2nd November 2016) ruled that Government had failed to take the required action to improve air quality and that the plans made in December 2015 were woefully inadequate and based on over optimistic modelling (which did not take into account the findings of the recent VW scandal amongst other things). The UK Government has announced it will not appeal the decision. It is likely this will lead to additional action, including more CAZ in further cities. There are an additional 23 cities which are likely to require CAZ, it is understood that Bradford is likely to be one of them.

2.7.2 In March 2015 the Low Emissions Zone feasibility Study was presented to the Council Executive. At that meeting the following recommendations were agreed:

(1) That it be acknowledged that further work is needed following the conclusions of the study to develop policies that focus on the following areas that would deliver improved air quality and health improvements through the reductions in;

**bus emissions,
heavy goods vehicle emissions,
the proportion of diesel cars within the Districts passenger car fleet,
including the taxi fleet within the District,
the overall number of passenger vehicles by increasing levels of active travel and public transport uptake.**

(2) That this work is progressed by officers revisiting the Bradford Low Emission Strategy and updating it having regard to the findings of the Low Emission Zone feasibility study. Within that review of the Bradford Low Emission



Strategy, a full understanding of the impact, benefits and issues around the practical implementation of a Low Emission Zone should be explored.

(3) That the Low Emission Zone study and its findings are referred to the West Yorkshire Combined Authority to reinforce and support the improvements which can be achieved by “cleaning up the buses”. In particular that this item continues to be a key point in negotiations for the bus quality contract or partnership.

Following on from those recommendations funding was secured from Defra to update the Bradford Low Emissions Strategy. That work is ongoing and is scheduled for completion June 2017.

2.7.3 Funding to support the improvements in air quality has once again been made available from Defra. A bid for 2 grants has been submitted:

- An electric vehicle demonstration project which will work in conjunction with new house builders and garages selling electric cars.
- A Public Health public awareness campaign, aimed at getting key messages out about the health effects of poor air quality and the measures which can be taken on an individual basis to tackle it.

3. OTHER CONSIDERATIONS

There are no other considerations at this time.

4. OPTIONS

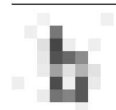
This report was provided at member request to provide an update.

5. FINANCIAL & RESOURCE APPRAISAL

The report is for information only and does not give rise to any potential costs to the Authority. However the Localism Bill introduced the power for central Government to pass on to Local Authorities any fines imposed by the EU on government for an infraction of certain European Environmental Standards. These fines can only be passed on where the Local Authority has “demonstrably caused or contributed” to the infraction. Any such fine would be passed on through the legislative process set out in the bill which requires a notice to be served upon the Local Authority in question. These fines can be very large with an annual figure of £300 million or approximately £1 million/day being estimated in relation to air quality. The main area which gives rise for concern with respect to the passing on of fines is that of air quality. The UK is currently in breach of the EU standards for nitrogen dioxide in 40 out of the 43 zones selected for assessment (of which the West Yorkshire zone 4 is one). The work which has been outlined within this report would place Bradford Council favourably for being able to show that they have not “demonstrably caused or contributed” to the infraction and as such the massive fines should not be passed onto the Authority. Brexit will potentially change this situation but at the present time this is the situation.

6. RISK MANAGEMENT AND GOVERNANCE ISSUES

The report is for information only at member request..



7. LEGAL APPRAISAL

- 7.1 The Council has a statutory duty to review and assess local air quality under the nationwide system of Local Air Quality Management (LAQM) set out within the Environment Act 1995 as it is doing on an ongoing basis.
- 7.2 Senior officers of the Councils Environmental Health Service are aware of the recently reported case of **Client Earth v Secretary of State for the Environment, Food and Rural Affairs** Queen's Bench Division (Administrative Court) 02 November 2016
- 7.3 In this important case the court quashed an Air Quality Plan issued by the Government (DEFRA) which was designed to address breaches of Directive 2008/50 art.13 Directive (the Air Quality Directive) which was introduced into English law by the Air Quality Standards Regulations 2010 in relation to levels of nitrogen dioxide emissions.
- 7.4 The court found the Government's Air Quality Plan for the reduction of nitrogen dioxide emissions failed to comply with EU and domestic law. The plan's projections of emissions were modelled at five-yearly intervals with a compliance date of 2020 for regional.
- 7.5 The plan was quashed as DEFRA had erred in its approach to the requirements of art.23(1) of the Directive that periods of exceedance should be kept "as short as possible", and by giving disproportionate weight to considerations such as costs, political sensitivity and administrative difficulties. It argued that the adoption of five-yearly intervals for emission projections was arbitrary, that the compliance dates were too distant and that the modelling method chosen.
- 7.6 The Council's EHS will plan the Council's strategy to deal with air pollution particularly nitrogen dioxide emission to take cognisance of the case and its implications.

8. OTHER IMPLICATIONS

8.1 EQUALITY & DIVERSITY

Previous work carried out as part of the LEZ feasibility study included within it a Health Impact Assessment which also looked at the relationship between pollution levels and deprivation. This found that a significant correlation exists between high pollution levels and areas with deprived populations within the District.

8.2 SUSTAINABILITY IMPLICATIONS

The WYLES and the Bradford Low Emissions Strategy support modal shift and a move to more walking and cycling. This, and increased use of public transport, offers a more sustainable approach. The Guidance developed as part of the WYLES, to be used as part of the Development Control process, seeks to ensure that all new developments do not have a negative impact on air quality and support the introduction of infrastructure to assist in the move towards a low emissions future.



8.3 GREENHOUSE GAS EMISSIONS IMPACTS

It's recognised that measures to improve air quality, for example switching modes from car to rail journeys or moving to electric vehicles will enable a reduction in GHGs. However the push for greater fuel efficiency and improved emissions standards alone, will not be sufficient to tackle climate change if fuel savings result in increased mileage on our roads. It is recommended that policies to reduce overall vehicle mileage are prioritised and aligned with health and wellbeing objectives.

8.4 COMMUNITY SAFETY IMPLICATIONS

There are no community safety implications.

8.5 HUMAN RIGHTS ACT

There are no human rights issues arising from this report.

8.6 TRADE UNION

There are no trade union issues arising out of this report.

8.7 WARD IMPLICATIONS

There are no specific ward implications. The content of the report applies equally across the District.

9. NOT FOR PUBLICATION DOCUMENTS

➤ None.

10. RECOMMENDATIONS

It is recommended that members consider the contents of the report and support officers in their continued measures to tackle poor air quality across the District.

11. APPENDICES

12. BACKGROUND DOCUMENTS

- Bradford Air Quality Strategy
- Bradford Low Emissions Strategy.
- Bradford Low Emissions Zone Feasibility Study

