City of BRADFORD METROPOLITAN DISTRICT COUNCIL

Report of the Strategic Director, Health & Wellbeing to the meeting of Regeneration and Environment Overview and Scrutiny to be held on 24th July 2019

Subject: BRADFORD AIR QUALITY PLAN (BAQP) DEVELOPMENT

Summary statement:

The Bradford Air Quality Plan (BAQP) is being developed in line with Ministerial Direction with the Outline Business Case (OBC), including the preferred option for achieving compliance with the EU Limit Value for nitrogen dioxide (NO_2) in the shortest possible timeframe, required for submission by 31st October 2019. The timescales for delivery are challenging due mainly to the readiness of the Bradford Transport Model in July which affects the timings of subsequent air quality and economic assessments. Following submission of the OBC to Government, full public / Statutory consultation will be carried out which will inform the preparation of the Final Business Case (FBC), due for submission in early 2020.

Government guidance on the development of the BAQP obliges the Council to assess all options for improving air quality against the effectiveness of a Clean Air Zone (CAZ) Class D, including buses, coaches, taxis, lorries, vans and cars.

Portfolio Holders and Strategic Directors of Health & Wellbeing and Place are delegated authority to submit to the Outline Business Case to Government and carry out consultation with all stakeholders.

The purpose of the report is to provide an update on the development and potential delivery of the BAQP.

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Healthy People and Places

Overview & Scrutiny Area
Health and Social Care

1. SUMMARY

1.1 The Bradford Air Quality Plan (BAQP) is being developed in line with Ministerial Direction and the preferred option for achieving compliance with the EU Limit Value for nitrogen dioxide (NO_2) in the shortest possible timeframe will be presented in the Outline Business Case (OBC), which is due for submission to the Government by 31st October 2019. Following full public / statutory consultation, the Final Business Case (FBC) will be submitted in early 2020. This report outlines the progress with the Plan development.

The timescales for developing the BAQP are challenging and, therefore, the report to Executive Committee on the 11th June gained approval from Members to delegate authority to the Strategic Director, Health & Wellbeing, Strategic Director, Place and Portfolio Holders Healthy People & Places and Regeneration, Planning & Transport to allow initial stakeholder engagement in July to inform the development of the Plan, submission of the OBC to the Government and the subsequent public consultation.

This report outlines how Members will be given full line of sight of the Plan development through to FBC through regular engagement. The FBC will be submitted to Members for approval prior to submission to the Government.

2. BACKGROUND

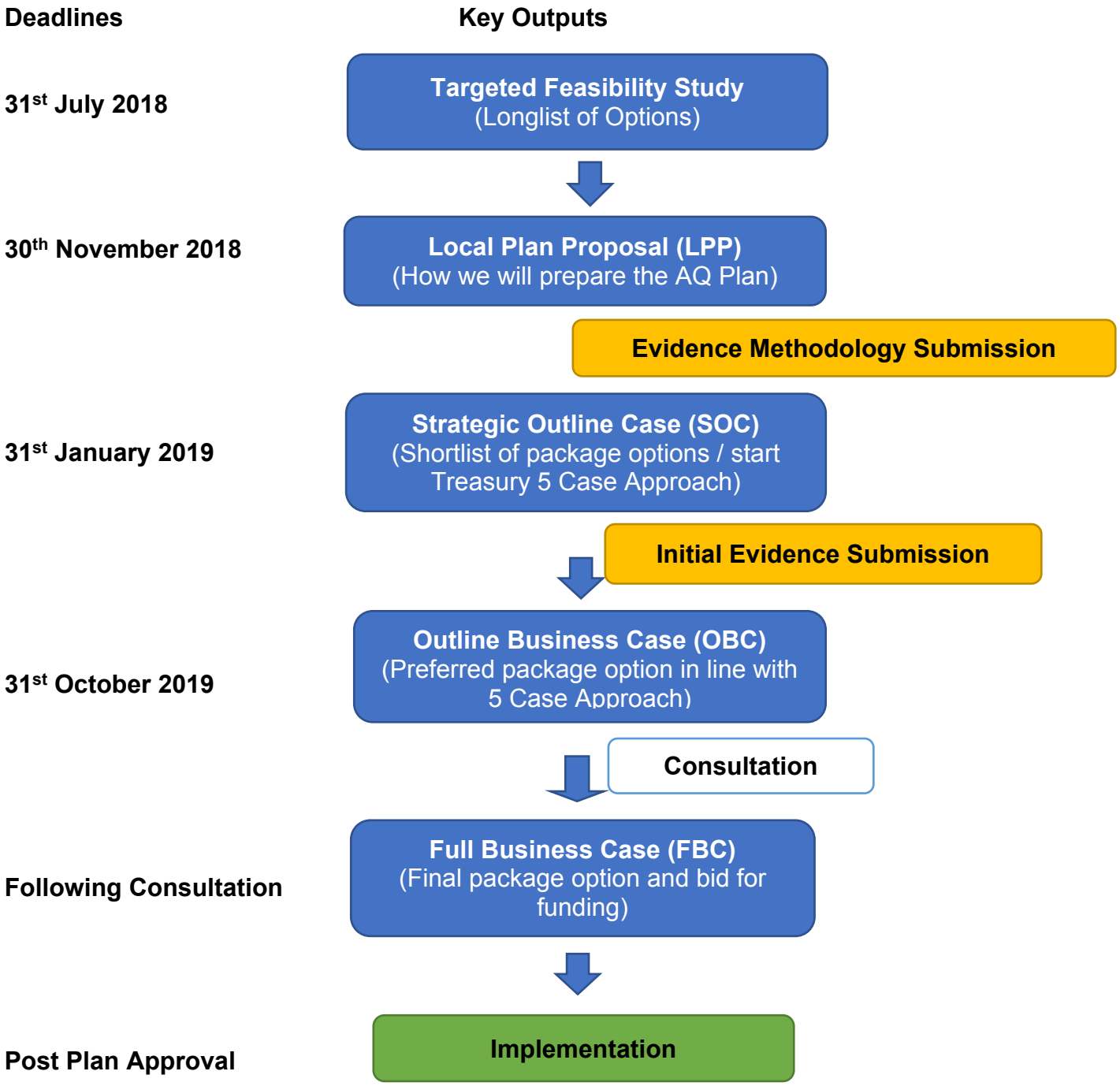
2.1 The Council was directed by Government to undertake a Targeted Feasibility Study in Summer 2018 to confirm whether areas of the District were subject to concentrations of nitrogen dioxide (NO_2) that exceeded the EU Limit Value (annual mean). The Study confirmed that NO_2 concentrations at several locations did not achieve compliance with the EU Limit Value and in certain locations, were not expected to comply until 2027 unless action was taken. The outcomes of the Study were reported to Members in September 2018.

2.2 The Council received a Ministerial Direction in October 2018 to prepare a Plan that will achieve compliance with the EU Limit Value for NO_2 in the shortest possible timeframe. This is termed the *Primary Critical Success Factor of the Plan*. The Ministerial Direction required the Council to submit an initial plan by 31st January 2019, referred to in this report as the Strategic Outline Case (SOC), and a final plan by 31st October 2019, referred to in this report as the Outline Business Case (OBC), which must identify the preferred option for meeting the EU Limit Value, set out value for money considerations and implementation arrangements.

A Full Business Case (FBC) is required to be submitted to Government as soon as possible after consultation on the OBC. The process through the FBC can be seen in figure 1.

2.3 In November 2018 the Council submitted a Local Plan Proposal to Government outlining how the Bradford Air Quality Plan (BAQP) would be developed and the resources required to complete the Plan. The Government approved the Proposal in December and awarded the Council £902,550 in funding to undertake the work. The Government has since awarded the Council a further £200,000 in funding in March 2019, giving a total funding allocation to date of £1,102,550. The Council submits a budget tracker to the Government on a monthly basis detailing actual and committed expenditure.

Figure 1: Full Business Case Process



2.4 The Council is working in close co-operation with the Government's Joint Air Quality Unit (JAQU) to prepare the BAQP. Comprehensive Government guidance is being followed and the BAQP Project Team have regular meetings with JAQU and a telecom on a weekly basis to update on progress.

2.5 The Government require that the development of the BAQP is in line with the Treasury (Green Book) Five Case approach, namely;

- **Strategic Case** – sets out the case for change and the spending objectives of

the Plan.

- **Economic Case** – develops a long list of options to achieve the spending objectives and appraises them against the defined critical success factors.

- **Commercial Case** – details the possible routes to procurement, supplier capability and likely delivery of solutions.

- **Financial Case** - sets out the indicative costs for the delivery of the Plan's proposed interventions and assesses available funding sources for doing so.

- **Management Case** – provides the governance and management arrangements which have been put in place to deliver the development of the Plan and its' outputs.

The financial considerations will include a bid for funding to implement the BAQP. The Government has two grant funding streams to support the implementation of air quality plans totalling £475m. The Implementation Fund supports measures to improve air quality and achieve compliance in the shortest possible timeframe (termed the *Primary Spending Objective of the Plan*) and the Clean Air Fund supports measures to assist those who may be potentially affected by the distributional impacts of the plan. To this extent, particulate matter levels will also form part of our assessments as well as NO_2.

Other Local Authorities that have been directed to develop plans or implement measures to improve air quality are Nottingham, Leeds, Birmingham, Derby, Southampton, New Forest, Middlesbrough, Bath & NE Somerset, Blackwater Valley, Fareham, Coventry, Sheffield & Rotherham, Greater Manchester, Basildon & Rochford, Bristol; and Tyneside, Portsmouth, Newcastle under Lyme, Leicester, Basingstoke & Deane, Dudley, Reading, Sandwell, Solihull, South Gloucestershire, Wolverhampton, Bolsover, Bradford, Blaby, Broxbourne, Liverpool, Stoke on Trent, Oldham, Oxford, Poole, Walsall, Ashfield, Burnley, Bournemouth, Calderdale, Cheltenham, Plymouth, South Tyneside, Southend-on-Sea, Sunderland, Wakefield, Kirklees, Peterborough and Sefton, Kirklees, Sefton and Sandwell.

2.6 STRATEGIC OUTLINE CASE (SOC)

The Strategic Outline Case (SOC) of the Bradford Air Quality Plan (BAQP) was submitted to the Government in January 2019 in line with the Ministerial Direction. Following our Senior Responsible Officer (SRO) presentation to Government on the 26th February, the SOC was approved subject to minor amendments. The Government stated that they were impressed with the work that the Council had done to assess and improve air quality that was detailed as part of our Case for Change.

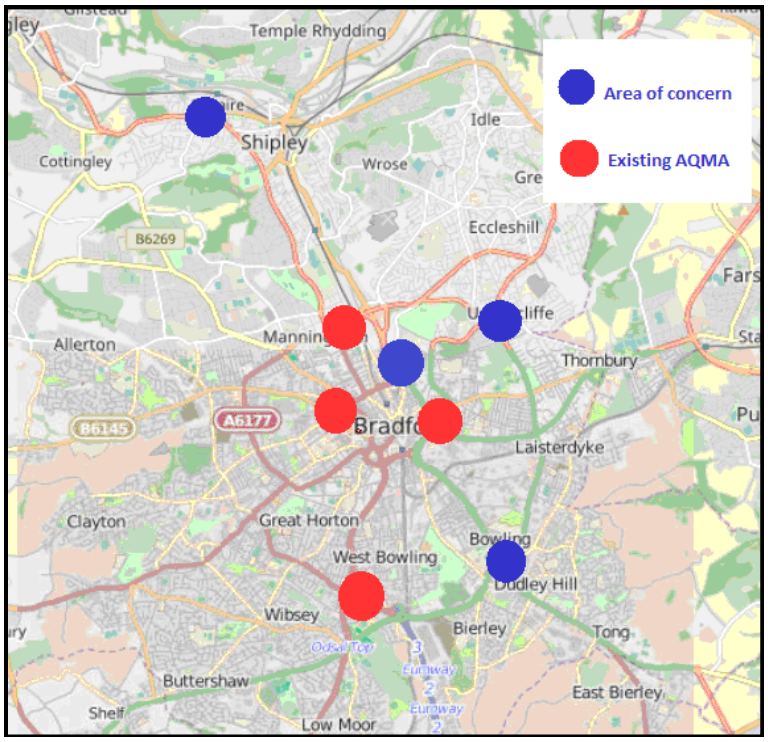
The SOC is a living document that will be updated throughout the development of the BAQP with the final version forming part of the Outline Business Case (OBC). There are no requirements to publish the SOC.

2.7 Case for Change

The SOC outlines the case for change and includes the evidence base that the Council has developed to date in assessing air quality and health impacts.

2.8 Bradford Council has an extensive air quality monitoring network looking at NO_2 and particulate matter (PM_{10} and $PM_{2.5}$). Monitoring of NO_2 includes automatic monitoring stations and passive diffusion tubes. The Council has designated 4 Air Quality Management Areas (AQMA) in the City where concentrations of NO_2 exceed the EU Limit Value. Additionally, monitoring data is showing new areas of concern. Figure 2 shows the locations of existing AQMA (red) and additional areas of concern based on 2017 monitoring data (blue). 2018 monitoring data for Keighley shows levels of NO_2 that were above the EU Limit Value. It should be noted that NO_2 monitoring data for 2018 shows an increase from 2017 at all our automatic monitoring stations.

Figure 2: AQMAs and Areas of Concern in Bradford District



2.9 The Council published its **Low Emission Strategy (LES)** in 2013[1]. The LES was one of the first strategies of its kind in the UK and included measures to improve air quality and carbon emissions through the accelerated uptake of cleaner road transport fuels and technologies. The Strategy included approaches to electric vehicle charging on new developments and the consideration of damage costs that have now become national practice.

As part of the LES, a **Low Emission Zone (LEZ) Feasibility Study** was carried out in 2014[2] in partnership with Leeds City Council, Bradford NHS and Public Health England (PHE). The LEZ study was reported to Members in 2015. The study looked at the changes in emissions and concentrations of key pollutants in 2016 and 2021 based on local fleet data, obtained from ANPR cameras and projected forward.

The study showed that 40% of the emissions of nitrogen oxides within the Inner Ring Road

[1] https://www.bradford.gov.uk/media/1385/bradfordlowemissionstrategy2013.pdf
[2] https://www.bradford.gov.uk/media/1384/reportofthelezfeasibilitystudy.pdf

were due to buses. The study was innovative in that it looked at the impact of various LEZ scenarios on the health of the population of Bradford within the Outer Ring Road area and the resultant health cost savings. This included the impact on the number of deaths, coronary and pulmonary events, low birth weight babies (<2.5kg) and asthma. The health impacts within the Outer Ring Road from modelled LEZ scenarios and health costs are shown in figure 3.

It should be noted that the Bradford Air Quality Plan (BAQP) will seek air quality improvements over a much wider area of the District than was considered in the LEZ Feasibility Study, with greater, aggregated health benefits for residents.

Figure 3: Health impacts within the Outer Ring Road from modelled LEZ scenarios and health costs

Cost per condition in (£) (in NHS cost and quality adjusted life years)	**Bradford LEZ Modelled Scenario**			
	All pre-euro 4 HGVs and buses upgraded to euro6 by 2016	All pre-euro 5 buses upgraded to euro 6 by 2021	Reduction in number of diesel cars from 50% to 20% (as in the year 2000)	10% reduction in number of car journeys by 2021
	Health benefit across the Bradford population			
Deaths ($PM_{2.5}$) (£168,000)	2 (0-2.3)	3 (0.3-5)	3 (0.3-5)	3 (0.3-5)
Cardiopulmonary deaths ($PM_{2.5}$) (£168,000)	1 (0-2)	2 (1-3)	2 (1-3)	2 (1-3)
Coronary events ($PM_{2.5}$) (Bradford only) (£50,160)	24 (0-53)	45 (0-99)	45 (0-100)	45 (0-99)
Low birth weight babies <2500g ($PM_{2.5}$) (£2,325)	2 (1-4)	3 (1-6)	3 (1-6)	4 (1-7)
Pre-term births ($PM_{2.5}$) (£28,109)	0.4 (0.4-0.4)	0.7 (0.6-0.7)	0.7 (0.6-0.7)	0.7 (0.6-0.7)
Low birth weight babies <2500g (NO_2) (£2,325)	8 (0-17)	18 (0-38)	21 (0-45)	17 (0-36)
Childhood asthma development <18yrs (NO_2), (£17,016)*	82 (18-152)	181 (40-335)	212 (47-393)	173 (38-320)
Annual years of life gained for newborns (all births combined)	42	64	6	76
Annual Health Cost Saving	**£1,574,334**	**£2,829,701**	**£2,836,676**	**£2,943,768**
One-off Health Cost Saving – cases of childhood asthma*	**£1,395,312**	**£3,079,896**	**£3,607,392**	**£2,943,768**

2.10 The Government has acknowledged that the Council has a strong track record of working with local health professionals to assess the impacts of air quality on health. Born in Bradford (BiB)[3] form part of the BAQP Programme development team and will be

[3] https://borninbradford.nhs.uk

assisting in the assessment of health impacts associated with the BAQP. While particulate matter levels in the District do not breach EU Limit Values, it is recognised that significant health benefits will accrue from reducing concentrations. The reduction of particulate concentrations forms part of the BAQP objectives as well as the achieving compliance with the EU Limit Value for NO_2.

Figure 4 shows the findings of research by BiB into the impact that air pollution has on low birthweight babies.

Figure 4: Air pollution and health research carried out by Born in Bradford (BiB)

BORNINBRADFORD
For a Healthy Future

AIR POLLUTION & LOW BIRTHWEIGHT

AIR POLLUTION IS AN ENVIRONMENTAL RISK TO HEALTH

IT REDUCES LIFE EXPECTANCY BY 6 MONTHS IN THE UK

IT IS RESPONSIBLE FOR 29 000 DEATHS PER YEAR IN THE UK

AIR POLLUTION INCREASES THE RISKS OF:

- STROKE
- ASTHMA
- HEART DISEASE
- LUNG CANCER
- CHRONIC & ACUTE RESPIRATORY DISEASES

AIR POLLUTION CONSISTS OF PARTICLES IN THE AIR KNOWN AS PM_{10} AND $PM_{2.5}$ WHICH ARE SMALLER IN DIAMETER THAN A HUMAN HAIR

- DIAMETER OF A HUMAN HAIR = 50-70µm
- DIAMETER OF A PM_{10} PARTICLE = 2.5-10µm
- DIAMETER OF A $PM_{2.5}$ PARTICLE = < 2.5µm

STAY IN THE AIR FOR WEEKS
TRAVEL HUNDREDS OF MILES
PENETRATE DEEP INTO THE LUNGS

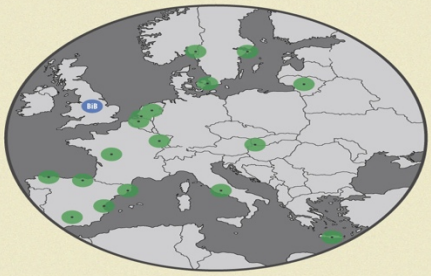
PRIMARY SOURCES OF $PM_{2.5}$

MOTOR VEHICLES	POWER PLANTS	WOOD BURNING	DIESEL ENGINES

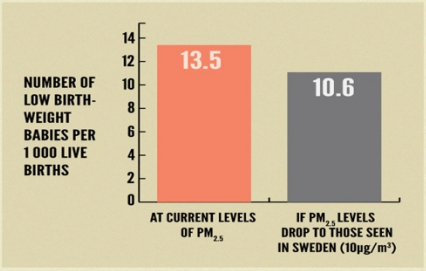
THE STUDY

WE POOLED DATA FROM 14 COHORT STUDIES FROM 12 DIFFERENT EUROPEAN COUNTRIES

TOTALLING 74 178 MOTHERS



WE FOUND THAT FOR EVERY INCREASE OF 5µg/m³ IN EXPOSURE TO $PM_{2.5}$, THE RISK OF LOW BIRTHWEIGHT INCREASED BY 18%



HEALTH PROBLEMS THAT AFFECT LOW BIRTHWEIGHT BABIES

PROBLEMS DUE TO LOW BIRTHWEIGHT

- POOR BRAIN AND NERVOUS SYSTEM DEVELOPMENT
- BREATHING PROBLEMS RESPIRATORY INFECTIONS
- DANGEROUSLY LOW BODY TEMPERATURE

PROBLEMS DUE TO AIR POLLUTION

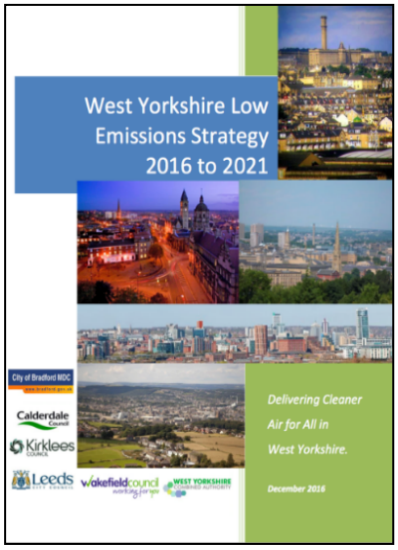
- BIRTH DEFECTS PRE-TERM BIRTH
- WHEEZING & ASTHMA IN CHILDHOOD
- DECREASED LUNG FUNCTION IN ADULTHOOD

MORE INFORMATION

WWW.BORNINBRADFORD.NHS.UK

SOURCE : Pedersen M, Giorgis-Allemand L, Bernard C, et al. Ambient air pollution and low birthweight: a European cohort study. *The Lancet*. Published Online: 15 October 2013 doi:10.1016/S2213-2600(13)70192-9

2.11 The **West Yorkshire Low Emission Strategy**



(WYLES, 2016-21)[4] production was led by the Council, including all West Yorkshire Local Authorities, West Yorkshire Combined Authority and Public Health England. The WYLES has been adopted by all West Yorkshire Authorities.

The Objectives of the WYLES include the implementation of Clean Air Zones in West Yorkshire where necessary. This policy may inform the development of any Charging Order under the Transport Act 2000 to implement a charging clean air zone.

The WYLES informs the West Yorkshire Transport Strategy and has provided a platform for inward investment to facilitate bus emission improvements, including school buses, and the ultra-low emission taxi scheme.

2.12 **Strategic Outline Case (SOC): Economic Case**

The SOC starts to look at all the Treasury Five Cases, including the economic case for the BAQP. This includes the consideration of a long list of options to improve air quality that was first identified in the Targeted Feasibility Study and has been refined since into a short list of options based on improving knowledge. The shortlist may be refined further based on the emerging transport, air quality and economic modelling.

2.13 **Primary and Secondary Critical Success Factors**

All options that are shortlisted for evaluation as part of the Outline Business Case must bring about compliance with nitrogen dioxide limits in the shortest possible time. This is termed the primary critical success factor and is a pass/fail criterion. All options that satisfy the primary critical success factor are then evaluated against secondary critical success factors, including:

- Value for Money
- Distributional Impact
- Strategic and wider Air Quality fit
- Supply side capacity/capability
- Affordability
- Achievability

2.14 The Council needs to have regard of the **National Clean Air Zone Framework**[5] when finalising the shortlist of options to take forward to the OBC. All options must be evaluated for effectiveness against an appropriate class of Clean Air Zone (CAZ). Due to NO_2 levels in some locations in the District, the Council is required to consider all options against the effectiveness of a Class D CAZ.

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[4] https://www.bradford.gov.uk/media/3590/west-yorkshire-low-emissions-strategy.pdf

[5] https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/612592/clean-air-zone-framework.pdf

2.15 **Clean Air Zone Exemptions**

The national CAZ Framework allows for the exempting of certain vehicle types and uses from CAZ controls. This includes emergency service vehicles. The Council can also consider certain exemptions for residents affected by poor air quality as long as this does not affect the primary critical success factor.

2.16 **Developing a Shortlist of Options**

The Council has developed a shortlist of options that will be evaluated as part of the development of the OBC. Following assessments, OBC will outline the **preferred option** for improving air quality in the shortest possible timeframe. The preferred option will be subject to full public consultation before the Council's final option will be detailed in the Final Business Case (FBC).

The Council has identified option packages for consideration, including Clean Air Zone classes supported by additional measures termed *travel & transport management measures (Option 1)* and *emission reduction measures (Option 2)*.

Option 1 - Travel & transport management measures include:

- Highway engineering works to reduce congestion in hotspots
- Bus priority measures
- Travel planning measures
- Park & ride opportunities

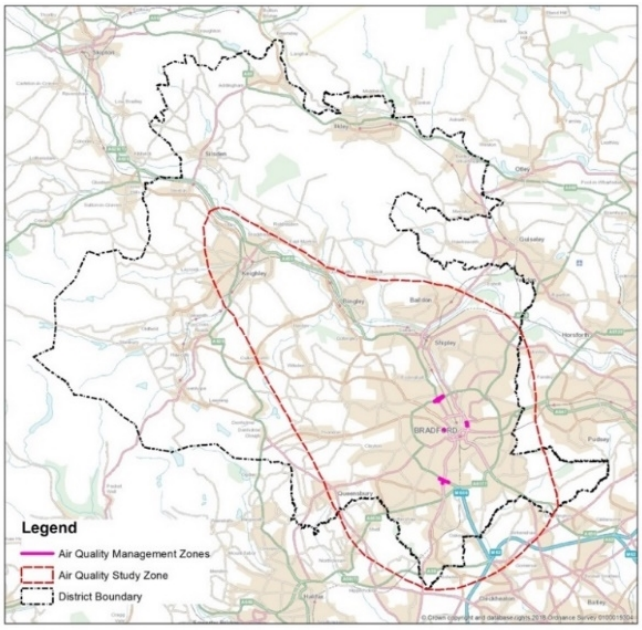
Option 2 – Emission reduction measures include:

- Zero emission buses
- Support for electric vehicle uptake, including Council Fleet, taxis, businesses and the public
- Ultra-low emission measures for new developments
- Public sector / Corporate Social Responsibility procurement
- Targeted boiler replacement programme

These measures would be implemented in 2021/22 and should bring about compliance with the NO_2 EU Limit Value by 2022/23.

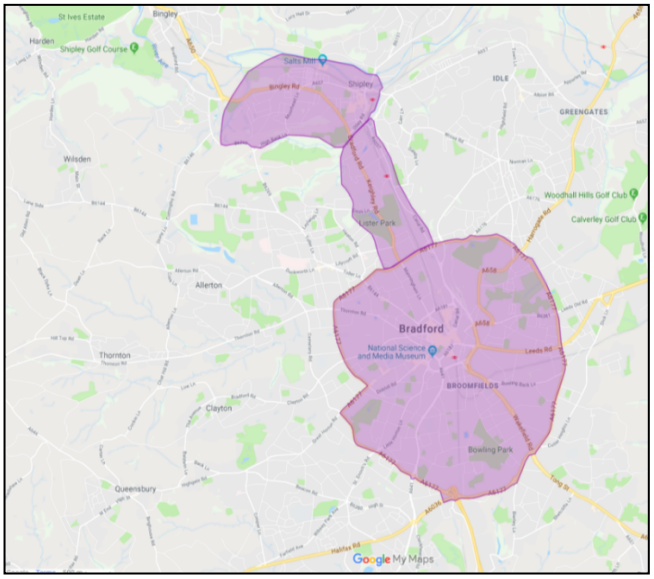
2.17 The study area for the BAQP covers all areas of the District that are subject to elevated levels of NO_2 and wider areas to ensure that any vehicle displacements caused by our proposed measures will form part of our assessment – we do not want to improve air quality in one location only to make it worse in another. The study area includes locations that have been identified by the Government's Pollution Climate Mapping (PCM) model as areas for concern and also locations that have been assessed through the Council's own air quality monitoring network. The study area is shown in figure 7.

Figure 7: Bradford Air Quality Plan Study Area



2.18 The SOC provides an outline of the indicative CAZ boundaries to be considered as part of the development of the OBC. These are shown in figure 8. The boundaries are likely to change as the modelling assessment outputs are produced and the SOC is updated.

Figure 8: Indicative CAZ boundaries



2.19 The Strategic Outline Case also started to look at the management, commercial and financial cases. These will be developed fully as part of the Outline Business case.

For example, as part of the commercial case the Council is looking at options for procuring the potential packages to improve air quality and as part of the financial case, the Council

is starting to identify the costs of implementing the package options.

2.20 OUTLINE BUSINESS CASE (OBC) DEVELOPMENT

The Bradford Air Quality Plan (BAQP) Programme Team are currently working on assessments that will define the preferred option in the Outline Business Case (OBC). A key issue for the timings of assessments is the readiness of the Council Transport Model. Government guidance requires the Council to use a robust, up-to-date model, which is currently being developed. The model will be fully ready in July 2019 and this affects the timings of the subsequent assessments, making the timelines specified in the Ministerial Direction very challenging. Whereas Phase One CAZ authorities, including Leeds, have been able to develop their plans over a 2-year period, the Council, as a Phase Three authority is developing its' plan over a 10-month period.

The Project Team are working in close liaison with the Government to identify and optimise all phasing of the development of the OBC, however, it should be recognised that there is a risk to delivery of the OBC within the timeline requirements of the Ministerial Direction.

In order to expedite the delivery of the OBC, it has been agreed by Executive Committee that a Council approvals process is established, delegating authority for initial engagement, submission of OBC to Government and subsequent public consultation to the Strategic Director, Health & Wellbeing and Strategic Director, Place and the relevant Portfolio Holders.

2.21 The current focus of the BAQP Programme is on the assessments that are required to evidence our preferred option and also on key stakeholder engagement to ensure that appropriate mitigation can be identified to counter any distributional impacts that the BAQP may have.

All measures identified as the preferred option to achieve legal limits for NO_2 within in the shortest possible timeframe will form part of an application for funding to the Government's Implementation Fund. All measures that are identified to mitigate any distributional impacts of the preferred option will be included in an application for funding to the Government's Clean Air Fund.

2.22 Members are to be given line of sight of the development of the BAQP through the development of the Outline Business Case to Full Business Case, including:

- Regular briefings with Portfolio Holders
- Monthly meetings with all elected Council Groups
- Provision of feedback

2.23 Communications, engagement and consultation are an integral part of the BAQP Programme. Specialist communications and engagement support has been procured to support the Programme (Systra). The consultants will be in place by the beginning of June. A Communications Plan will be prepared within 4 weeks of contract commissioning.

Systra will second 2 members of staff to be based in Bradford Council offices for 2 days a week until after the delivery of the Full Business Case and will liaise with Corporate

Communications to enable the Communications Plan to provide legacy through FBC to the implementation of the BAQP.

The proposed BAQP Communication and Engagement Programme will include:

- Dedicated Members workshop/s - facilitated by Born in Bradford (BiB has already undertaken focus activity on the BAQP development)
- Clean Air Day, 20th June, has launched community/stakeholder engagement exercises to inform the development of the OBC
- Targeted focus activity on seldom heard communities (4 areas of the City) and Keighley and Shipley – also facilitated by BiB
- Engagement seeking feedback on the perceptions of air quality and health impacts and measures to improve air quality, including funding support to mitigate against any distributional impacts of the BAQP – this will directly inform the development of the OBC
- Provision of a dedicated, branded website
- Full public/Statutory consultation design, delivery and feedback analysis to inform the preparation of the FBC
- Stated Preference survey completed (largest SP survey carried out by a Directed authority)

2.24 **Outline Business Case development progress**

The Programme team is currently working with appointed consultants and in close liaison with the Government's Joint Air Quality Unit (JAQU) to carry out assessments that will inform the shaping of the BAQP preferred option package.

Additionally, the Project Team has been engaging with key stakeholders to consider and identify the package of measures that will form part of the OBC, including:

Buses

- Support for electric bus routes in the District
- Support for investment in new, Euro VI diesel buses
- Support for retrofitting some buses with emission abatement technology
- Working with WYCA to install electric bus charging facilities in bus stations
- Liaising with WYCA and bus operators to upgrade the school bus fleet
- Consideration of public transport subsidies / bursaries

Example of electric buses and charging infrastructure

- Liaison with WYCA to provide Transforming Cities funding, including:

- Potential Park and Ride sites – initial assessment funded by Highways England
- City Centre bus priority measures
- Corridor improvements to East and South of City Centre

Bradford Council Fleet

- Assessment of Bradford Council Fleet:
  - Looking at operational/ fuel use and fleet replacement programme
  - Assessing viability of converting light commercial vehicles to electric
  - Assessing viability of converting HGV fleet to biomethane
  - Consideration of home charge points for Council drivers

Taxis

- Analysis of Bradford Taxi Fleet data
- Consideration of mitigation packages to support taxi fleet vehicle upgrades to CAZ standard and beyond
- Consideration of an electric taxi demonstration scheme
- Roll-out of rapid chargers in the District for taxi drivers and the public

Plugged-in Community

- Consideration of providing community charging infrastructure through street lighting contract

Boiler Replacement Project

- Consideration of a targeted boiler replacement scheme

Travel Planning

- Consideration of Travel Planning measures

Schools

- Consideration of a programme of measures in relation to schools
- Implementation of the BAQP will ensure air pollution will meet legal limits at all schools
- School buses are being considered for emission reduction measures
- School boilers are being surveyed for potential replacement in areas of high pollution
- Clean Air Day saw engagement in schools including pollution monitor building and exposure monitoring with children
- Whilst it will not form part of the BAQP due to JAQU guidance, Public Health are rolling out a district wide, community led, anti idling programme from September 2019.

Wider Stakeholder Impacts

- Consideration of wider distributional impacts of the BAQP to be included in Clean Air Fund bid, including mitigation packages for van and lorry operators, scrappage scheme for residents/ public transport grants. These packages will be informed through planned engagement programme

2.25 **Inward investment and development of the local green economy**

The Council and local business have a track record of securing funding and investment to support vehicle emission reductions in the District. The Council has secured over

£500,000 funding to enable local taxi drivers to convert to electric vehicles and local bus companies have received over £2m in funding to improve emissions.

The BAQP will seek to promote inward investment and grow the local green economy. The national green economy is one of the fastest economic growth sectors. For example, the UK electric car market was worth £1.9 billion in 2018 and is expected to grow by 14% per annum to a value of £4.3 billion in 2024.

2.26 **BAQP Programme Structure and Governance**

The BAQP Programme is governed by a Programme Board led by the Senior Responsible Officer (Strategic Director, Health and Well Being) that reports through the Better Health Better Lives Priority Outcome Board and Council Plan Delivery Board to the Executive Committee and Health and Wellbeing Board.

The Programme Board meets on a monthly basis and considers the Programme risk register in directing the Project Team. The BAQP Programme Organogram is shown in figure 8.

2.27 **Resource requirements for OBC delivery**

In line with Government guidance, and to expedite Implementation Plan delivery timescales, the OBC is required to include all draft documentation required for Plan delivery, including the draft Charging Order (allowing the implementation of a potential 'charging' Clean Air Zone), and all tender documents relating to the procurement of mitigation packages. It has been identified that further Programme resource will be required, including additional officers covering procurement, legal (including State Aid), finance (financial model), communications and highways engineers. Discussions with the Government indicate that further funding may be provided to cover additional resources. Discussions are currently taking place with service heads to identify appropriate, additional resource requirements.

Budget spend as of the end of April was £403,607.72 (£685,107.72, including committed expenditure).

The proposed additional resource required for the delivery of the BAQP can be seen in the Programme Organogram shown in figure 8.

2.28 **Health impact assessment**

Born in Bradford, who are represented on the BAQP Programme Board, are applying for National Institute of Health Research funding (£1.1m) to undertake a comprehensive Health Impact Assessment (HIA) in connection with the BAQP. The proposed project has support from the Government who are also looking at using Bradford as a national case study to highlight best practice in air quality work and health improvements.

Figure 8: BAQP Programme Organogram

Health & Wellbeing Board

Executive Committee / Portfolio Holders

Cllr Sarah Ferriby & Cllr Ross-Shaw

Council Plan Delivery Board

Better Health Better Lives Priority Outcome Board

Bradford Air Quality Plan (BAQP) Delivery Board

Bev Maybury (SRO)
Strategic Director Health & Wellbeing

Sarah Muckle Director of Public Health	**Julian Jackson** Assistant Director PT&H	**Richard Gelder** Highways Services Manager	**Andrew Marshall** Planning & Transport Strategy Manager
Ralph Saunders Head of Public Health	**Rosie McEachan** Born in Bradford	**David Heath** Financial Business Advisor	**Duncan Farr** Procurement Management
Helen Ellerton WYCA/Bus/Transforming Cities Fund	**David Cawthray** Assistant Director Transformation	**Jason Field** Legal Services	**Olawale Ladapo** JAQU

Project Team

Andrew Whittles
(Programme Lead)

Rachel Roberts/Cameron Dale
Programme Secretariat

Sally Jones Air Quality Project Manager	**Alex Adeeko** Transport Project Manager	**Kate Smallwood** Electric Vehicles /Boilers/ULEV Taxis	**Communications Agency & Corp. Comms support**	**Zara Hussain** Budget Tracking
Clean Air Fund Project Manager (TBC)	**Clean Air Fund Project Support Officer** (TBC)	**Dave Partridge / Tina Parry** Economic Dev.	**Alan Parsons** Procurement	**Geoff Binnington** Fleet Services & Taxi Licensing
Darren Badrock Network Resilience	**Manjit Singh** UTMC	**State Aid Solicitor** (TBC)	**Contract Solicitor** (TBC)	**Business Advisor** (TBC)
Finance Officer (TBC)	**Procurement Category Manager**	**Procurement Category Officer** (TBC)	**Quantity Surveyor** (TBC)	**Highway Engineer** (in recruitment)
Highway Engineer (In recruitment)	**Highway Engineer** (In recruitment)	**Engineering Project Support Officer** (TBC)	**Schools Liaison Officer** (TBC)	**Transport Officer (Buses)** (TBC)

Consultancy Support:
WSP – transport modelling, **Ricardo –** air quality & economic modelling, **Systra** – communications and engagement

3. OTHER CONSIDERATIONS

- None identified

4. FINANCIAL & RESOURCE APPRAISAL

Additional financial & procurement resources required for OBC preparation etc are anticipated to be funded externally and on this basis there are no revenue budget implications at this stage. However, in the absence of In-House capacity to undertake the additional support work required it would be expected that that additional resources will have to be sourced via agency etc. Details of the anticipated costs of the proposed schemes, when known, will need to be included in the capital programme although it would again be anticipated that no council funding will be required to bring such schemes to a conclusion.

5. RISK MANAGEMENT AND GOVERNANCE ISSUES

The Bradford Air Quality Plan (BAQP) governance is shown in figure 8. The monthly BAQP Programme Board meetings consider the risks associated with delivery and provide appropriate mitigating direction.

6. LEGAL APPRAISAL

Under Section 85 of The Environment Act 1995 it is the duty of a Local Authority to comply with a Ministerial Direction given under it. The Ministerial Direction given to the Council in October 2018 requires as soon as possible and by 31st October 2019 at the latest the Council to "undertake as part of the UK plan for tackling roadside nitrogen dioxide concentrations 2017, together with the Supplement to that plan published on 5 October 2018, a Feasibility Study in accordance with the HM Treasury's Green Book approach, to identify the option which will deliver compliance with legal limits for nitrogen dioxide in the area for which the authority is responsible, in the shortest possible time.

The Direction requires an initial plan and a final plan to achieve this. The final plan must identify "the preferred option for delivering compliance in the shortest possible time, and setting out value for money considerations and implementation arrangements. "

7. OTHER IMPLICATIONS

7.1 EQUALITY & DIVERSITY

See Appendix 1 and Appendix 2

7.2 SUSTAINABILITY IMPLICATIONS

Sustainability is central to the development of the Bradford Air Quality Plan (BAQP)

7.3 GREENHOUSE GAS EMISSIONS IMPACTS

The assessments carried out in preparation of the Bradford Air Quality Plan include the consideration of greenhouse gas emissions. The Climate Change Unit forms part of the BAQP Project Team.

7.4 COMMUNITY SAFETY IMPLICATIONS

Not applicable at this stage. The BAQP development process includes community engagement to inform the development of measures to mitigate against any distributional impacts of the options considered.

7.5 HUMAN RIGHTS ACT

Not applicable

7.6 TRADE UNION

Not applicable

7.7 WARD IMPLICATIONS

All wards

7.8 AREA COMMITTEE ACTION PLAN IMPLICATIONS (for reports to Area Committees only)

Not applicable

7.9 IMPLICATIONS FOR CORPORATE PARENTING

Improvements to air quality will improve the environment for children and young people and will have a positive effect on outcomes for health and wellbeing across the District.

7.10 ISSUES ARISING FROM PRIVACY IMPACT ASSESMENT

Not applicable.

8. NOT FOR PUBLICATION DOCUMENTS

None

9. OPTIONS

Not applicable

10. RECOMMENDATIONS

i) That members consider the progress to develop the BAQP to date

11. APPENDICES

- Appendix 1 – Equality Impact Assessment
- Appendix 2 – JSNA Air Quality Health Impacts

12. BACKGROUND DOCUMENTS

- None

Appendix 1

Equality Impact Assessment Form

Department	Health & Wellbeing - Adult & Community Services	**Version no**	0.1
Assessed by	Andrew Whittles	**Date created**	17/04/2019
Approved by	Bev Maybury	**Date approved**	21/05/2019
Updated by	Rachel Roberts	**Date updated**	17/05/2019
Updated by		**Date updated**	
Final approval		**Date signed off**	

The Equality Act 2010 requires the Council to have due regard to the need to

- eliminate unlawful discrimination, harassment and victimisation
- advance equality of opportunity between different groups
- foster good relations between different groups

Section 1: What is being assessed?

1.1 Name of proposal to be assessed.

Bradford Air Quality Plan (BAQP) Development of the Full Business Case

1.2 Describe the proposal under assessment and what change it would result in if implemented.

The Bradford Air Quality Plan (BAQP) is being developed in line with Ministerial Direction with the Outline Business Case (OBC), including the preferred option for improving air quality in the shortest possible timeframe, required for submission by 31st October 2019. The timescales for delivery are challenging due mainly to the readiness of the Bradford Transport Model in July which affects the timings of subsequent air quality and economic assessments.

This Equality Impact Assessment is being undertaken prior to public consultation about proposals to improve air quality across the Bradford District.

Following submission of the OBC to Government, full public / statutory consultation will be carried out on the proposed options on the indicative Clean Air Zone (CAZ) Boundary which will inform the preparation of the Final Business Case (FBC), due for submission in early 2020.

A detailed Equality Impact Assessment will be undertaken following the consultation period.

Section 2: What the impact of the proposal is likely to be

2.1 Will this proposal advance equality of opportunity for people who share a protected characteristic and/or foster good relations between people who share a protected characteristic and those that do not? If yes, please explain further.

Improvements to air quality will have a positive effect on outcomes for health and wellbeing across the District and within a number of communities and groups.

2.2 Will this proposal have a positive impact and help to eliminate discrimination and harassment against, or the victimisation of people who share a protected characteristic? If yes, please explain further.

Improvements to air quality will have a positive effect on outcomes for health and wellbeing across the District and within a number of communities and groups.

2.3 Will this proposal potentially have a negative or disproportionate impact on people who share a protected characteristic? If yes, please explain further.

Measures to force emission improvements could potentially make some routes financially unviable, impact the numbers of specialist vehicles operating in the city and restrict access.

2.4 Please indicate the level of negative impact on each of the protected characteristics?

(Please indicate high (H), medium (M), low (L), no effect (N) for each)

Protected Characteristics:	Impact
Age	L
Disability	L
Gender reassignment	L
Race	L
Religion/Belief	L
Pregnancy and maternity	L
Sexual Orientation	L
Sex	L

Marriage and civil partnership	L
Additional consideration:	
Low income/low wage	L

2.5 How could the disproportionate negative impacts be mitigated or eliminated?

THE OBC is predicated on opportunities and incentives to improve the air quality in Bradford prior to any other enforcement action being taken. We will seek to identify opportunities and incentives to support transition to compliant vehicles and offer non-compliant buses with the option to retrofit to a compliant standard.

A communications and engagement strategy will ensure the proposals, including mitigation measures are accessible, accurate and clearly reported.

Section 3: Dependencies from other proposals

3.1 Please consider which other services would need to know about your proposal and the impacts you have identified. Identify below which services you have consulted, and any consequent additional equality impacts that have been identified.

Section 4: What evidence you have used?

4.1 What evidence do you hold to back up this assessment?

3.4.01 Air Quality Bradford Joint Strategic Needs Assessment – September 2016.

See Appendix 2

4.2 Do you need further evidence?

Following submission of the OBC to Government, full public / statutory consultation will be carried out on the proposed options on the indicative Clean Air Zone (CAZ) Boundary which will inform the preparation of the Final Business Case (FBC), due for submission in early 2020.

A detailed Equality Impact Assessment will be undertaken following the consultation period.

Section 5: Consultation Feedback

5.1 Results from any previous consultations prior to the proposal development.

5.2 The departmental feedback you provided on the previous consultation (as at 5.1).

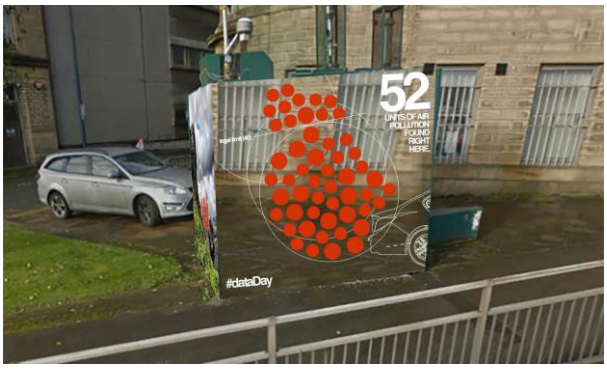
5.3 Feedback from current consultation following the proposal development (e.g. following approval by Executive for budget consultation).

5.4 Your departmental response to the feedback on the current consultation (as at 5.3) – include any changes made to the proposal as a result of the feedback.

3.4.01 Air Quality

Introduction: why is this important?

Rural areas of Bradford enjoy some of the best air quality in Europe, however, our urban centres, and areas near to the strategic road network, are affected by elevated concentrations of pollutants that have a significant impact on health, particularly amongst our most socially disadvantaged communities. The two components of exhaust gases that are of most concern in terms of the impact on human health are nitrogen dioxide (NO_2) and particulate matter (PM).



Monitoring Station, Shipley Airedale Road, Bradford. Infographic produced by Dr Catherine Stones – Leeds University (produced for Bradford Council in June 2015).

Whilst the very highest concentrations are found adjacent to busy roads, both of these pollutants can also be attributed to other sources of pollution such as domestic heating, industrial processes and open burning.

It is estimated that the effects of NO_2 on mortality are equivalent to 23,500 deaths annually in the UK[1]. Many of the sources of NO_x (NO_2 and NO) are also sources of particulate matter and the impact of exposure to particulate matter pollution (specifically $PM_{2.5}$) is estimated to have an effect on mortality equivalent to nearly 29,000 deaths in the UK[2]. The combined impact of these two pollutants represents a significant public health challenge, not just in terms of early deaths, but also reductions in quality of life and the associated health costs of treating residents whose health is being affected by pollutant inhalation.

A Public Health England report[3] in 2010 estimated that there were 222 early deaths in Bradford due to particulate matter alone, this is 1 in 20 of all early deaths. This number will rise when the impact of nitrogen dioxide is added.

In Bradford we have a unique understanding of the impact of air quality because a section of the largest research study in the world currently taking place is being undertaken here in Bradford through the *Born In Bradford (BiB)* health research study.

Research at BiB, and elsewhere, has concluded that air pollution doesn't just make us cough, it also causes the following, much more serious, conditions:

- premature death
- respiratory problems such as Chronic Obstructive Pulmonary Disease and the development of asthma in children
- heart attacks and strokes
- cancer
- low birth weight and pre-term birth
- developmental problems in children and reduced IQ in affected populations

The BiB study identified strong links in Bradford between $PM_{2.5}$ and some of these conditions, particularly low birth weight.

What do the facts and figures tell us?

The Low Emission Zone (LEZ) study informs us that an improvement in air quality in Bradford will reduce the number of early deaths, and improve the quality of life for all of its citizens, especially those in deprived areas which currently experience the poorest air quality. The study also highlights the significant health based cost savings that could be delivered every year. In Bradford, through local health research studies, we understand the health impacts better than most cities and this provides an impetus to take action to achieve significant improvements.

We must also consider that Bradford currently has areas where pollution exceed the legal limits set in the Air Quality (England) Regulations 2007. The UK is now in breach of the EU Air Quality Directive and infraction proceedings have commenced. The level of fines could reach 400 million Euros and under the reserve powers of the Localism Act 2011[4] these fines can be passed on to any public authority whose act or omission has contributed to these breaches.

What strategies, policies and best practice have been developed locally and nationally?

Air pollution does not respect boundaries, so Bradford Local Authority is working with the other West Yorkshire Local Authorities and the West Yorkshire Combined Authority to develop a regional Low Emission Strategy, and this will improve air quality across the region[5].

In addition, Bradford has its own 'Bradford Low Emission Strategy' (Bradford LES) which was adopted in 2013. Bradford was only the second Local Authority in the UK to adopt a Low Emission Strategy and Bradford is now viewed as an example of best practice in the UK for its action to improve air quality.

Through the implementation of the Bradford LES, the following initiatives are improving air quality in Bradford:

1) A LEZ feasibility study has been completed. The Council are now considering the practical implementation of a LEZ

2) Since 2013 every relevant planning application that the Council processes incorporates conditions designed to improve air quality, including:

- Every new single property (commercial and residential) incorporate electric vehicle charging points
- Construction emissions management
- Emission standards for commercial fleets
- Low emission travel planning
- Site specific mitigation such as cycle paths, electric minibuses for staff, Metrocards and bus stops
- All applications are assessed to ensure that there is no risk of exposure to unacceptable levels of pollution

3) There are trials of low emission vehicles where they are a considered a practical alternative to traditional more polluting types. We now have procurement policies which consider the whole life costs of vehicles (including the damage they cause) rather than just buying the cheapest on the market

4) The Council procurement team are using the monies that the Council spends to encourage private companies to improve air quality through the terms of the contracts that we offer for tender

5) There is a commitment to support the improvement of public transport and we have successfully worked with our local bus companies to fund the retrofit of 25 City Centre buses, reducing emissions by 90%, using a grant from the Department of Transport. We have also worked with the West Yorkshire Combined Authority to reduce emissions from all the yellow school buses in the District

6) The Council is working with BiB, the NHS and Public Health England, and local Universities on health research projects, providing air quality data and using their data to support our ongoing work

7) In partnership with Public Health England we are raising awareness of the detrimental health effects of air pollution and the benefits of driving cleaner vehicles and reducing vehicle use

8) Air quality is monitored across the Bradford District and we report the data here; **http://www.bradford.gov.uk/bmdc/the_environment/pollution_noise_and_nuisance/air_quality_review**

9) The Council continues to encourage people to walk and cycle as an alternative to using vehicles through the provision of facilities and incentives

What challenges have been identified in a local context?

In partnership with other health professionals and health economists, we have carried out ground breaking research into the impact of our local transport emissions and the positive health benefits of a number of Low Emission scenarios, including cleaning up the bus fleet and lorries, reductions in car use and replacing diesel vehicles with petrol variants.

The data from the study illustrates how much Bradford could improve health and reduce health costs:

Cost per condition in (£) (in NHS cost and quality adjusted life years)	**Bradford LEZ Modelled Scenario**			
	All pre-euro 4 HGVs and buses upgraded to euro6 by 2016	All pre-euro 5 buses upgraded to euro 6 by 2021	Reduction in number of diesel cars from 50% to 20% (as in the year 2000)	10% reduction in number of car journeys by 2021
	Health benefit across the Bradford population			
Deaths ($PM_{2.5}$) (£168,000)	2 (0-2.3)	3 (0.3-5)	3 (0.3-5)	3 (0.3-5)
Cardiopulmonary deaths ($PM_{2.5}$) (£168,000)	1 (0-2)	2 (1-3)	2 (1-3)	2 (1-3)
Coronary events ($PM_{2.5}$) (Bradford only) (£50,160)	24 (0-53)	45 (0-99)	45 (0-100)	45 (0-99)
Low birth weight babies <2500g ($PM_{2.5}$) (£2,325)	2 (1-4)	3 (1-6)	3 (1-6)	4 (1-7)
Pre-term births ($PM_{2.5}$) (£28,109)	0.4 (0.4-0.4)	0.7 (0.6-0.7)	0.7 (0.6-0.7)	0.7 (0.6-0.7)
Low birth weight babies <2500g (NO_2) (£2,325)	8 (0-17)	18 (0-38)	21 (0-45)	17 (0-36)
Childhood asthma development <18yrs (NO_2)* (£17,016)	82 (18-152)	181 (40-335)	212 (47-393)	173 (38-320)
Annual years of life gained for newborns (all births combined)	42	64	6	76
Annual Health Cost Saving	£1,574,334	£2,829,701	£2,836,676	£2,943,768
One-off Health Cost Saving – cases of childhood asthma*	£1,395,312	£3,079,896	£3,607,392	£2,943,768
* Childhood asthma development is a 'one-off' health impact and is not additive on an annual basis				

The Executive of Bradford Council are keen to see these benefits in Bradford and have requested that more is done to improve air quality, including detailed consideration of the practical implications of a Low Emission Zone for Bradford. This will include consultation with external stakeholders and will conclude in 2016.

What do our stakeholders tell us?

In November 2015 an extensive public consultation exercise was carried out to identify what all our stakeholders felt about air quality. The responses indicate that people in Bradford have increasing awareness of the health impacts of air quality, they would like to see more done about it and they would like to see the improvement commitments made in our strategies strengthened with practical action taken to secure improvements.

Recommendations: What do we need to do? How do we ensure this remains a priority?

Bradford Council has developed a Low Emission Strategy for the District, setting out the multidisciplinary approach required to improve air quality. The Council must ensure this document is kept up to date and that the principles within it are followed whenever decisions are made which have potential to impact on air quality. There must also be continuation of our work with health partners to increase public awareness and the provision of the data they require to research the latest impacts and identify the impacts that improvements will deliver.

We must ensure that the policies in our strategies are translated into local action to drive change. Not all of the solutions that improve air quality are equally palatable and some require significant investment (for example in cleaner vehicles, and infrastructure for low emission vehicles). Everyone has a role to play and the strategy asks for everyone in Bradford to do their bit to help reduce air pollution, including residents, businesses, Local Authorities, other public sector organisations such as the police, the ambulance service, bus and train companies, taxis and even visitors to the region.

References

1. DEFRA analysis using interim recommendations from COMEAP's working group on NO2. The working group made an interim recommendation for a coefficient to reflect the relationship between mortality and NO2 concentrations (per µg/m3). COMEAP has not yet made any estimates of the effects of NO2 on mortality. Any analysis will be subject to change following further analysis by the working group and consultation with the full committee.
2. The Mortality Effects of Long-Term Exposure to Particulate Air Pollution in the United Kingdom
3. https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/332854/PHE_CRCE_010. pdf
4. http://www.legislation.gov.uk/ukpga/2011/20/contents/enacted
5. https://www.bradford.gov.uk/NR/rdonlyres/17194ADB-3A10-4C38-94F4-6DF704A56E68/0/WYLES_consultationversion_V4_14Oct2016.pdf