

**Air Quality in Birmingham Background Note**

**July 2020**

This note has been prepared to support the Development Management in Birmingham Development Plan Document.

**1. Birmingham’s Air Quality Challenge**

1.1 Air pollution in the West Midlands affects some 2.8 million people, reducing average life expectancy by up to 6 months, and is responsible for direct and indirect economic costs of several hundred million pounds per year. Air quality is therefore a key priority for local and regional government, and for the health and wellbeing of the region’s population.[[1]](#footnote-1) Birmingham has some of the highest levels of nitrogen dioxide (NO2) exceedances outside of London and it is estimated that poor air quality is responsible for around 900 premature deaths in the city each year. It also makes many existing health conditions worse and disproportionately affects the poorest and most vulnerable citizens, including children.

1.2 The two pollutants of most concern are NO2 and fine airborne particulate matter (PM2.5). Both pollutants contribute to the health burden, but it is only NO2 which has a legislative limit which is deliverable by the City Council. It is important to understand that even with compliance with the legal limit there will remain a health burden i.e. there is no recognised safe limit for NO2 or PM2.5 at this point in time.

1.3 The 2015 National Air Quality plan identified Birmingham as one of five cities being non-compliant with legal NO2 limits beyond 2020 outside London. On 19th December 2017, the Government issued a Ministerial Direction requiring the Council to have a scheme to address air quality in place before the end of 2019. In response, the Council completed the business case for a Clean Air Zone (CAZ) resulting in the determination that a CAZ will be implemented in Birmingham. Following legal action by the environmental lobby group Client Earth which saw the Government defeated over its air quality plans, all West Midland Combined Authority (WMCA) constituent authorities are now required to take action to address NO2 exceedances.

1.4 Whilst Covid-19 has forced delays to the implementation of the Clean Air Zone, the release of the Emergency Birmingham Transport Plan in May 2020 demonstrates the city’s commitment to a low carbon, clean air recovery after the pandemic. The Clean Air Zone will now commence in 2021, with a new launch date to be announced in Autumn 2020.

**2. Birmingham’s Commitment to Improving Air Quality**

2.1 Birmingham City Council is committed to improving air quality and although there has been an initial focus on the city centre, it is important that all areas of the city benefit from future interventions to improve air quality. Air quality affects everyone living and working in the city and having clean air will help the city achieve key outcomes around clean growth because it is linked to healthy lifestyles and behaviours and cleaner air will help Birmingham become an aspirational city to grow up in. Furthermore, air quality is explicitly reflected in the Council Plan 2018 – 2022 which sets out air quality as a priority under the Outcome 4 “ Birmingham is a great place to live”

*“we want Birmingham to be a sustainable city of vibrant culture, flourishing neighbourhoods with good quality housing. A city with clean air, safe and clean streets and green spaces. We want to be a city where our citizens have pride in where they live, have a strong sense of belonging and a voice in how Birmingham is run.”*

2.2 Within this Outcome, air quality is specifically addressed in Priority 4.

*“We will improve the environment and tackle air pollution”*

2.3 Success will be measured by a reduction in Nitrogen Oxide and particulate matter levels in the city’s air quality management areas.

2.4 The Clean Air Zone is recognised in the Council Plan and Budget 2018+ as a cross cutting measure within the Council priorities. This includes a commitment to: *"Agree and put in place – a Council policy to improve the city’s air quality and introduce a Clean Air Zone”*

2.5 The City Council introduced the Brum Breathes Air Quality programme in 2018 – designed to be the overarching Council programme to direct air quality interventions with the aim of delivering health improvements to citizens, workers and visitors to Birmingham, all within the context of sustainable growth. The programme incorporates 5 Sub Programmes:

* The development and implementation of a Clean Air Zone
* The delivery of Early Measures to prepare the highway network for the introduction of a CAZ|
* Developing Infrastructure to support alternative fuel sources e.g. hydrogen refuelling stations, retrofit schemes, electric vehicle infrastructure etc.;
* Creation of an Air Quality Policy Environment to support air quality, including the development of a Clean Air Strategy; and
* Promotion of Behaviour Change initiatives relating to air quality.

**3. Air Quality Action Plan**

3.1 The Air Quality Action Plan (AQAP) is a legal document produced by the City Council

in discharge of its duty under the Local Air Quality Management Regime introduced under Part IV of the Environment Act 1995. The Act places duties on the local authority to:

* Conduct a review of the quality of the air within the local authority’s area to determine whether the air quality standards and objectives are being achieved within the authority’s area, and as part of this review, identify relevant parts of the area where the standards or objectives are not being achieved (if relevant);
* Where the standards or objectives are not being achieved the local authority shall declare an air quality management area (AQMA), and
* Once an AQMA has been declared the local authority shall prepare an air quality action plan to set out how the authority intends to return the air quality concentrations to a level below the standards and objectives.

3.2 Birmingham City Council declared an AQMA for nitrogen dioxide (NO2) in 2003 and produced an AQAP in 2006. The AQAP was revised in 2011. Both the original 2006 plan and the subsequent 2011 revision recognised the role that planning could play in helping to improve air quality. An action in the 2011 AQAP was to develop a policy for assessing and taking into consideration the implications of new development on air quality.

3.3 The 2011 AQAP is now under review and a consultation draft has been prepared and is pending approval by Cabinet before progressing to public consultation (expected to be late summer). This document references national planning policy and existing and emerging local planning policy.

**4. Birmingham Clean Air Strategy**

4.1 Birmingham City Council are looking to develop a Clean Air Strategy (CAS) to sit

alongside the AQAP. The rationale for a CAS arises from a desire by the City Council to have a document which goes beyond Council duties and which can be supported by our partner organisations. The CAS is anticipated to be a strategy for Birmingham as opposed to solely a Birmingham City Council strategy. The key points of the CAS are:

* To be a strategy for the city of Birmingham
* To allow the City Council to go beyond legal duties e.g. to deliver action in areas where the legal limits are not being breached
* To improve air quality in all wards
* To provide a further link between air quality and climate change agendas
* To be reviewed every 12-18 months to maintain effectiveness

4.2 Consultation on a draft version of CAS concluded 29th April 2019 and a final version is being drafted to take to Cabinet for approval and sign off.

**5. Birmingham’s Clean Air Zone (CAZ)**

5.1 A CAZ is an area where targeted action is taken to improve air quality, by discouraging the most polluting vehicles from entering the zone. On 11th December 2018 Cabinet approval was given for Birmingham City Council to submit a Full Business Case and Clean Air Fund bid to Government for the implementation of a CAZ in Birmingham. The Birmingham CAZ will achieve compliance with defined air quality standards by reducing the amount of journeys that need to be made, or at least travel through locations with the poorest air quality; shifting a proportion of journeys to public transport, walking and cycling; and through reducing the emissions produced by essential trips by stimulating the take up of cleaner vehicles.

5.2 The CAZ Full Business Case specifies that Birmingham will implement a Class D CAZ plus additional measures in the form of on-street parking controls and network changes. A Class D CAZ includes buses, coaches, taxis, heavy goods vehicles and private cars. The CAZ will operate within the A4540 Middleway ring road (excluding the ring road itself).

5.3 The Council commissioned work to investigate the behavioural responses to the CAZ charges and feedback from the public consultation has informed the final decision on charging levels. The work undertaken shows that the charges now being proposed will act as a significant incentive to individuals and companies to upgrade their vehicles.

5.4 The charging levels will be kept under review to ensure that the CAZ is delivering the expected improvements in air quality. Any potential future amendments to the charging level would be subject to gaining the necessary approvals via the City Councils governance process. The charges will be applied daily and a non-compliant vehicle driving in the CAZ will pay once for the day, then may drive in the CAZ area without limit on that day. CAZ charges are based on the vehicle and not the person driving or any passengers or goods being carried. Charges depend on the type of vehicle and what sort of engine it has. The following vehicles are compliant and will not be charged:

* A diesel of Euro 6 (VI) standard of better (most new registrations after 1 September 2015)
* A petrol of Euro 4 standard or better (most new registrations after 1 January 2006)
* Zero emission i.e. electric or hydrogen
* Low emission, including CNG (compressed natural gas) and hybrids that either meet or go beyond Euro 6 diesel and Euro 4 petrol standards
* CVRAS (Compliant Vehicle Registered Accreditation Scheme) retrofit solution, including LPG retrofits\*
* Any motorcycle or moped

5.5 Work is underway to analyse the impact of Covid-19, and the subsequent delay to CAZ implementation, on predicted air quality outcomes. At present the predicted outcomes are based on modelling which took place in 2018 as part of CAZ feasibility work. The predicted dates for achieving Air Quality compliance will now be later.

5.6 The initial traffic and air dispersion modelling undertaken by Birmingham City Council in 2018 demonstrated that implementation of a CAZ and additional measures in Birmingham would not be sufficient to ensure compliance with NO2 concentration limits in all locations by 2020 in any of the modelled scenarios. In other words, even the most stringent of measures that were modelled were not enough to achieve the legal Air Quality outcomes within a very short space of time. Air Quality modelling of the CAZ D plus Additional Measures with high charge (CAZ fee) scenario forecasts that compliance could be achieved in 2021, apart from in one location which Birmingham City Council committed to working on to see if compliance could be achieved before 2022. These dates have all now changed due to the aforementioned delays in launching CAZ. However, the Covid19 ‘lockdown’ which caused a very substantial reduction in traffic levels is thought to have brought some improvements in Air Quality. This will be considered within ongoing modelling analysis.

5.7 Road transport, particularly combustion engines, is recognised as being the key contributor to NO2 levels in Birmingham (as well as adding to other air quality pollutants such as particulate matter). This is why a CAZ is the most effective way to improve air quality in a short period of time. In terms of traffic impacts, the modelling work for a CAZ D (including the Additional Measures Package as well as exemptions and mitigations) shows the following results can be expected in vehicle levels:

* a reduction of over 40,000 non-compliant vehicles entering the CAZ
* a total reduction of around 22,000 vehicles
* there are significant reductions on each of the roads identified, with flows on the A38/A4400 forecast to reduce by between 6% to 13% from the Do Minimum.
* on the A4040 ring road, the impacts of the scheme are predominantly neutral, with reduction in car traffic to Birmingham due to behaviour choices offsetting diversion around the CAZ of non-compliant vehicles aiming to travel through Birmingham. However, the west side of the ring road experiences 6% increase in part due to the Additional Measures network change 1.
* the scheme does not have a significant impact on link delays or speeds.

5.8 A significant aim is to avoid any need to extend an existing CAZ or to declare a new CAZ, whilst ensuring development is otherwise sustainable.

5.9 The closer the air quality levels are to the limit values / objective levels, the greater the mitigation may be required to ensure proposed development does not tip the concentrations beyond the limit / level.

**6. West Midlands Low Emissions Towns and Cities Programme Good Practice Air Quality Planning Guidance (May 2014)**

6.1 The guidance originated through the LETC Programme; a DEFRA funded joint project between the local authority air quality experts of the West Midlands region. At the time of the development of the programme there was a strong desire to practically deliver on the air quality gains that could be afforded through the planning process in a consistent fashion across the region. This led to the development of the Good Practice Air Quality Planning Guide (GPAQPG).

6.2 The document seeks to utilise the planning process to promote joint working to reduce road transport emissions arising from development. The document does not seek to stifle development but to ensure that air quality is fully considered and appropriate mitigations are secured, for example through scheme compensation based on the recognised damage costs of air pollutants.

6.3 The local authorities that were originally involved in the LETC Programme are presently looking at reviewing the document. This process has stalled somewhat due to the government’s requirement on various local authorities to introduce a CAZ. Considerations for CAZ will need to be factored into the document.

1. [WM Air Quality Improvement Programme](https://www.birmingham.ac.uk/schools/gees/research/projects/wm-air/index.aspx) [↑](#footnote-ref-1)