Improving the air we breathe
A Clean Air Zone for Birmingham

Birmingham City Council

Making a positive difference everyday to people’s lives
Background

- Poor air quality is a major public health burden
  - Up to 900 deaths per year in Birmingham are linked to man made air pollution

- Transport is the biggest source of pollution
  - Contributing on average to approximately 80% of nitrogen oxides (NOx)

- UK Government has obligations under EU and domestic legislation to set out a national strategy and plans to improve air quality to meet legal limits
Background

- In 2015 Client Earth took the Government to the Supreme Court over its inaction to address air quality.
  - As a result the Government were instructed to develop an air quality plan to achieve reductions of NO\textsubscript{2} in the shortest possible time in line with legislative requirements.

- National Air Quality Plan issued in December 2015
  - Identified five cities including Birmingham as being non-compliant beyond 2020.

- Ministerial Direction issued in December 2017
  - Required the council to submit a business case for a scheme in September 2018
The causes and types of air pollution

- **Nitrogen oxides (NO₂)**
  - Polluting vehicles are the biggest source of NO₂
  - 80%

- **Ammonia (NH₃)**
  - 46% With diesel vehicles creators of NO₂ in Birmingham

- **Sulphur dioxide (SO₂)**

- **Primary Particulate Matter (PM₂.₅)**

- **Volatile organic compounds (NMVOCs)**

Source: Clean Air Strategy 2018 (DEFRA)
The effects of air pollution on Birmingham’s citizens

Up to 900 deaths per year linked to man-made air pollution

Linked to:
- Heart disease
- Diabetes
- Asthma
- Obesity
- Cancer
- Dementia

Children in high pollution areas are 4x more likely to have reduced lung function when they become adults.

Linked to:
- Still births
- Infant deaths
- Low birth weight
- Organ damage
- Premature deaths

61% of journeys to work are by car or van

Exposed to 21% higher levels of pollution

Affects the vulnerable & deprived areas most

Bus & taxi drivers are exposed to 3x more pollution than anyone else.

Making a positive difference everyday to people’s lives

Birmingham City Council
The challenge for Birmingham

The composition of our vehicle fleet and the emissions created provide Birmingham with a significant challenge.

83% The majority of Birmingham’s vehicle fleet are cars

46% Diesel cars account for almost half of the NOx emissions in the city

- Car
- LGV <3.5T
- OGV
- Taxi
- Bus
- Other

- Diesel cars
- Petrol cars
- Vans
- Buses
- HGVs
The ‘hotspots’ where the problems are worst

<table>
<thead>
<tr>
<th>Location</th>
<th>Level of NO$_2$ expected in 2020 if we take no action</th>
</tr>
</thead>
<tbody>
<tr>
<td>A4540 Lawley Middleway to Garrison Circus</td>
<td>46.9μg/m$^3$</td>
</tr>
<tr>
<td>A4100 Digbeth</td>
<td>46.4μg/m$^3$</td>
</tr>
<tr>
<td>A38 Lancaster Circus to Dartmouth Circus</td>
<td>46.6μg/m$^3$</td>
</tr>
<tr>
<td>Suffolk Street Queensway near Beak Street</td>
<td>48.8μg/m$^3$</td>
</tr>
</tbody>
</table>
A CLEAN AIR ZONE FOR BIRMINGHAM
The purpose of a Clean Air Zone

- An area where targeted action is taken to improve air quality, by discouraging the most polluting vehicles from entering the zone

- A Clean Air Zone (CAZ) should achieve compliance with defined air quality standards by focusing on three specific outcomes

1. **Reduce**
   - The amount of journeys that need to be made – or at least that travel through locations with the poorest air quality

2. **Shift**
   - Journeys to public transport, walking and cycling.

3. **Improve**
   - Clean up the emissions of the trips which are essential – stimulating take up of cleaner vehicles
The types of Clean Air Zone (CAZ)

- The class determines which vehicles are affected by the CAZ
- Travel through a CAZ would incur a charge/fine for non-compliant vehicles
- CAZs can be designed differently to suit the local circumstance
- CAZ framework sets out minimum Euro Standards
- Any vehicle below the standard will be charged for entering a CAZ
There are different classes of CAZ

A

B

C

D

Euro VI
Euro 6
Euro VI
Euro 6
Euro 6 diesel & Euro 4 petrol

Making a positive difference everyday to people’s lives
Developing a CAZ for Birmingham

- Local transport and air quality models developed to confirm what CAZ class would achieve compliance

- Supplemented by a number of additional workstreams:
  - **Integrated Impact Assessments** (to identify the economic, health and equality impacts of the scheme)
  - **Additional Measures Study** – to identify potential measures which could be implemented alongside a CAZ in order to achieve compliance.
  - **Freight and Logistics Operators study** – targeted at city centre businesses and freight and logistics operators to look at options to support them with changes in operational practices and the transition to cleaner fleets
Developing the CAZ

- Different potential solutions have been modelled including different CAZ classes
  - The goal was to see what type of CAZ would provide the optimum solution

- Local modelling shows the air quality issues broadly align with Government’s national Pollution Climate Mapping (PCM) with regard to the locations of exceedance of the NO\textsubscript{2} annual mean limit value of 40 μg/m\textsuperscript{3}

- CAZ D is required for Birmingham (which includes private cars)
What a CAZ D means for Birmingham

- To include all the roads within the Middleway Ring Road (A4540), **but not the Middleway itself**
- Charges to apply all day, everyday
- Introduce additional measures to achieve compliance
- Reduce levels of NO₂ below 40µg/m³
- To be implemented in January 2020
What a CAZ D means for Birmingham

- Improved air quality across the city
- Wider health benefits i.e. reduction in still births, deaths linked to man-made pollution
- Encourage individuals to use public transport
- Reduction in congestion and time spent sitting in traffic

Clean Air Zone

VEHICLES INCLUDED
Buses, coaches, taxis, HGVs, LGVs and private cars (option to include motorbikes and mopeds)
### What a CAZ D means for Birmingham

- Prices in these ranges would encourage enough people to change their travel habits or vehicle
- Payment to be made online before entering the CAZ area
- Specialist vehicles to be exempted i.e. ambulances, show vehicles
- Remember that a vehicle whose engine is clean enough will not have to pay anything

<table>
<thead>
<tr>
<th>Vehicle type</th>
<th>Daily charge</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Bus/Coach</strong></td>
<td>£50 to £100</td>
</tr>
<tr>
<td><strong>Lorries (HGVs)</strong></td>
<td>£50 to £100</td>
</tr>
<tr>
<td><strong>Taxi and private hire</strong></td>
<td>£12.50</td>
</tr>
<tr>
<td><strong>Van (LGVs)</strong></td>
<td>£12.50</td>
</tr>
<tr>
<td><strong>Private car</strong></td>
<td>£6 to £12.50</td>
</tr>
</tbody>
</table>
## Additional measures to support the CAZ

<table>
<thead>
<tr>
<th>Type</th>
<th>Summary</th>
</tr>
</thead>
</table>
| **Fleet Upgrades** | - Taxis – Support through CAF finance package for Hackney Cabs based on enabling smooth transition supported by strict age limit; Targeted Hackney Carriage LPG retrofit programme; Support Private Hire Vehicles Upgrade to Electric. Subject to availability and realistic timeline.  
  - LGV vans – support through CAF finance package to enable smooth transition. Subject to availability and realistic timeline.  
  - Zero emission buses (new Hydrogen buses)  |
| **Parking**        | - Remove all free parking from on-street areas in the city centre.                                                                                                                                         |
| **Network Changes**| - Closure of Moor Street Queensway between Masshouse and Park Street to general traffic, with only Public Transport, Hackneys and cycles allowed in the area.  
  - Ban the route of traffic travelling northbound on Suffolk Street Queensway (A38) that exits onto Paradise Circus to then access Sandpits Parade.  
  - Ban southbound traffic from Paradise accessing the A38.  
  - Close Lister Street and Great Lister Street at the junction with Dartmouth Middleway except for public transport movements. |
| **Public Transport**| - Improvements to bus corridors based on work by TfWM (Transport for West Midlands)                                                                                                                       |
Ways we are already tackling air pollution

- Focused on:
  - Further bus priority measures across the city core to plug gaps in existing city centre bus priority – re-allocating roadspace in key locations to improve bus journey reliability.
  - New traffic signal control strategies at four key intersections within the City Core which are closely related to key air quality locations.
  - Signing and re-routing strategy and introduction of variable messaging

£2.9m

grant funding secured to support this work
Funding the CAZ and the use of the income generated

- Funding from Government’s Clean Air Zone Implementation Fund to introduce the CAZ
- Income from the CAZ charges and any Penalty Charge Notices issued to cover the costs of running the CAZ
- Surplus money will be spent on activity that will further improve Birmingham’s air quality
  - Such as improvements to public transport, cycling and walking and support for businesses and individuals
How we will do it

- The CAZ will be clearly signposted with road signs

- Installations of ANPR cameras to capture vehicles driving into and within the zone

- Penalty Charge Notice (PCN) of up to £120 will be issued to the registered keeper of the vehicle to be paid in addition to the CAZ charge

- No charge if your vehicle is parked within the CAZ boundary and does not move all day (e.g. because you live in the CAZ)

- Continue to monitor air quality in the city after implementation
Is your vehicle compliant?

- The engine standards which will apply to Birmingham’s CAZ (Euro 4 or better for petrol, Euro 6 or better for diesel) are the same as the London Ultra Low Emission Zone (ULEZ)

- Your vehicle registration document (also known as the V5C) will help identify your vehicle's Euro emission standard

- Check your vehicle is compliant using:
  
  tfl.gov.uk/modes/driving/ultra-low-emission-zone
  
  http://eurostandards.co.uk
Next steps

- Go to complete the online consultation: birmingham.gov.uk/caz
- You can also attend one of the drop-in session take place around the city
  - Information about these sessions available online and in libraries around the city
- Consultation ends: 17 August