

# A Clean Air Zone for Birmingham

## Introduction

Birmingham is on a journey to cleaner air.

Pollution in the air, mainly caused by vehicles on the roads, is having a harmful effect on the health of people living, working and studying in the city.

Our population is growing, new buildings are going up, our rail and metro systems are getting bigger and faster and we have the Commonwealth Games to look forward to in 2022. All these things are great for the city and region. We want everyone to enjoy them, now and in the future. Improving air quality will mean more people, especially children, live healthier lives.

We need cleaner air as soon as possible and have already started to make positive changes. The Government has asked Birmingham, and a number of other cities, to introduce a Clean Air Zone (CAZ) from January 2020. This doesn't give us long, but it is still important that we follow the right steps and ask the right questions to ensure that we take the right actions and make the right changes.

We have been gathering and analysing a lot of information so we know how bad our air pollution is and how it is likely to be improved by a CAZ. This consultation is an opportunity for us to tell you what we have found out so far, and for you to tell us what you think and how you will be affected by the CAZ.

*We are committed to improving air quality in Birmingham so people who live in, work in or visit the city can breathe clean air.*

*Our first goal is to reduce the level of NO<sub>2</sub> to a maximum average of 40µg/m<sup>3</sup> as soon as possible.*

## Summary of proposals – these are the things we want to hear your views on

We are proposing a Clean Air Zone, where the most polluting vehicles will have to pay to enter the city centre: all the roads within the A4540 Middleway ring road.

Charges would apply to most vehicles whose engine does not meet specific pollution standards: including buses and coaches, lorries, vans, cars and taxis and specialist vehicles like bin lorries. Vehicles with a clean enough engine would not be charged.

We are also suggesting other ways to reduce the air pollution caused by motor vehicles, including improving public transport, upgrading engines and building more low emission refuelling stations (e.g. electric charging points), making changes to roads and reviewing charges for parking.

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## Air pollution

Lots of activities cause air pollution, including transport, domestic heating, incinerators and some industrial processes. Up to 80%<sup>i</sup> of the pollution comes from motor vehicles – particularly those with diesel engines. Air pollution from vehicles is a mixture of particles and gases that can damage our health when we breathe them in.

Air pollution has two main parts:

- Exhaust from vehicle engines contains a group of gases called Nitrogen Oxides. These include Nitrogen Dioxide (NO<sub>2</sub>), a harmful gas produced by burning fossil fuels like petrol and diesel.
- Particulate matter (PM) is made up of partially burned fuel - petrol or diesel – together with engine oils, tiny specks from worn tyres, brake discs and road dust.

## Health

Poisonous gases and particles in the air lead to the early deaths of nearly 900 people in Birmingham every year. Many thousands more suffer because the dirty air we breathe every day increases the risk of asthma, heart disease, strokes, lung disease and dementia.

We are all affected because we all breathe in the air around us. But some of us are even more vulnerable because of where we live and work, how we travel and even how old we are.

Air pollution also affects unborn children and can result in low birth weight, heart defects in newborns and infant mortality. Children are more vulnerable because their lungs are still developing. This, for example, can increase the number and severity of asthma attacks.

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## Air Quality in Birmingham

We have air quality monitoring stations measuring levels of NO<sub>2</sub> and particulate matters (PM) at a number of locations in Birmingham.

In 2016 we used cameras to capture the registration plates of all the vehicles entering the city centre in one week, from which we could tell the type of vehicle and engine.

Data from the monitoring stations and the cameras was combined with information about pollution sources (such as roads, airports and industrial sites) and was used in a computer model to predict levels of pollutants across the city.

We looked at air quality across the whole city to find out where the problem is worst and where we predict legal limits of NO<sub>2</sub> will be exceeded in 2020 if we don't make any changes. (We haven't forgotten about PM - reduced NO<sub>2</sub> will mean reduced PM too, but the first target we need to reach is based on NO<sub>2</sub> measurements).

Engine technology is improving and emissions from vehicles will gradually fall as people buy newer cars, but not fast enough to protect the children growing up in Birmingham right now.

No level of NO<sub>2</sub> is safe, but our first goal is to bring the average levels lower than 40µg/m<sup>3</sup> as soon as possible. The 'hotspots' where the problems are worst are:

Location	Level of NO <sub>2</sub> expected in 2020 if we take no action
A4540 Lawley Middleway to Garrison Circus	46.9µg/m <sup>3</sup>
A4100 Digbeth	46.4µg/m <sup>3</sup>
A38 Lancaster Circus to Dartmouth Circus	46.6µg/m <sup>3</sup>
Suffolk Street Queensway near Beak Street	48.8µg/m <sup>3</sup>

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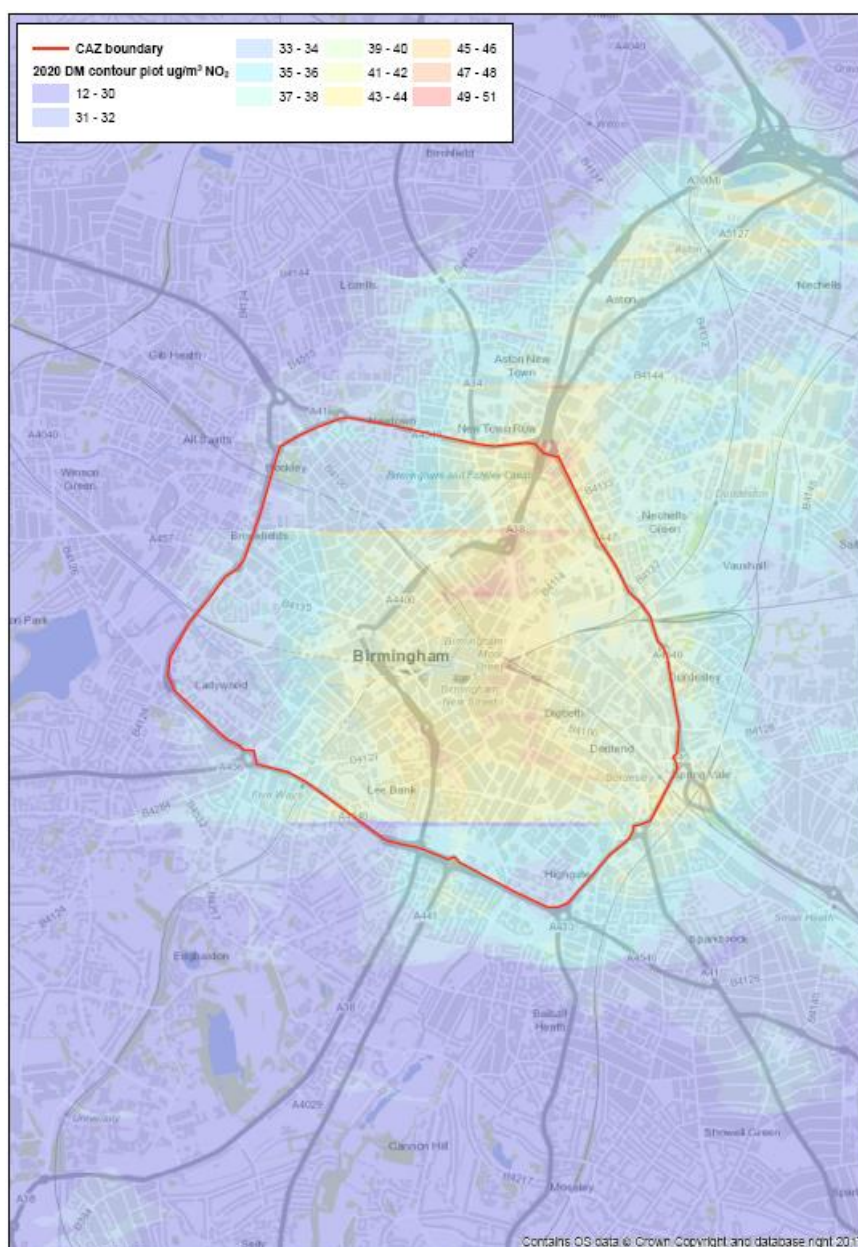


Figure 1: levels of  $\text{NO}_2$  expected in 2020 if we take no action. Yellow, orange and red areas show where legal limits for  $\text{NO}_2$  would be exceeded

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**What are we doing?**

We have already started Birmingham's journey to cleaner air:

- Public charging points for electric vehicles.
- More park and ride spaces.
- Improvements to buses, including approved plans to try running buses fuelled with hydrogen.
- New and improved cycling routes.
- A new policy on taxi emissions and registration.
- Massive investment in public transport in the coming years, including new SPRINT rapid bus routes, extensions to the Metro network, improvements to local rail services and the construction of High Speed Rail between Birmingham and London.

All these things will help to reduce air pollution, but they are not enough. We need to do more.

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## Clean Air Zone

A Clean Air Zone is an area where targeted action is taken to improve air quality, in particular by discouraging the most polluting vehicles from entering the zone. No vehicle is banned in the zone, but those which do not have clean enough engines will have to pay a daily charge if they travel within the area.

The Government<sup>ii</sup> has said that Birmingham needs a Clean Air Zone by January 2020 and that we need to reduce levels of NO<sub>2</sub> in the air to a maximum average of 40µg/m<sup>3</sup> as soon as possible. Once we reach that target, we want to continue to lower the amount of NO<sub>2</sub> and PM in the air as far as we can.

The next questions are:

- Where should a CAZ be?
- When should a CAZ operate?
- Which types of vehicle should be discouraged from travelling in the CAZ?
- How much should drivers of polluting vehicles pay to travel in the CAZ?

## Where?

When setting a boundary for our CAZ, we need to make sure that:

- Areas of high pollution are dealt with
- The CAZ is big enough so that we don't simply move the pollution further down the road
- It is a sensible boundary and clear to everyone where it starts and ends.

For this, we think that the CAZ should include all the roads within the A4540 Middleway ring road. Looking at figure 1, the worst hotspots are in this area, although there are still some high levels of NO<sub>2</sub> on the east side of the ring road and on the motorway near Gravelly Hill Interchange (M6 junction 6, Spaghetti Junction).



Figure 2: where we think the CAZ should be

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**When?**

We think that CAZ charges should be in place all day every day. Although there are fewer people around in the middle of the night, pollutants take time to disperse so some will still be in the air the following morning. Our targets are also measures of the maximum average amount of pollution in the air, so every emission counts.

**Who?**

CAZ charges are based on the vehicle and not the person driving or any passengers or goods on being carried. Charges depend on the type of vehicle (e.g. car, bus, taxi, lorry) and what sort of engine it has.

**Type of engine**

Engines can be sorted by fuel type (e.g. petrol, diesel, electric) and by Euro standard, which defines how much pollution the engine may emit. The higher the Euro number, the cleaner the engine.

The engine standards for a Clean Air Zone are set nationally, this is not something which we can decide for Birmingham. To avoid paying a charge to drive in the Clean Air Zone, diesel engines must be Euro 6 (Euro VI for buses and lorries) or better, petrol engines must be Euro 4 or better. All hybrid, electric and LPG vehicles meet CAZ standards.

The exception is motorcycles/mopeds, which must be Euro 3 or better.

**Type of vehicle**

We tested a number of options on which types of vehicle should have to pay a charge and found out that to make a measurable difference to air quality, all vehicle types will have to pay a charge to enter the Clean Air Zone (if their engine isn't clean enough), including buses, lorries, vans, taxis and private cars.

So far, we have not considered whether motorcycles/mopeds should be charged.

**How much?**

The charge for vehicles to enter or travel within the CAZ needs to be high enough to persuade people to change their travel habits; replacing their vehicle with a cleaner one, making their journey in another way, (public transport, cycling or walking), choosing a different route or stopping making some trips.

We tested some different pricing options, and we think that prices in these ranges would encourage enough people to change their travel habits or vehicle.

Remember that a vehicle whose engine is clean enough will not have to pay anything.

<b>Vehicle type</b>	<b>Daily charge</b>
Bus/Coach	£50 to £100
Lorries (HGVs)	£50 to £100
Taxi and private hire	£12.50
Van (LGVs)	£12.50
Private car	£6 to £12.50

**Exceptions**

There are some specialist vehicles whose engine could not be upgraded, so will not be charged to enter the CAZ, regardless of their engine type:

- Specialist emergency vehicles (ambulance, fire and police)
- Historic vehicles
- Military vehicles
- Show vehicles

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**Support for organisations and individuals**

We know that some people and businesses will need support when the CAZ is introduced. This may be money to help with the cost of charges to vehicles, extra time ('sunset periods') to change their vehicle before being charged to use the CAZ, discounts on the CAZ charges (possible to zero charge) or extra incentives to use public transport.

Some of this support could come from the Government and some from the Council and Transport for West Midlands, but we don't yet know exactly how they will work.

To help...	There could be...
Small and medium sized enterprises operating in the CAZ area	Discounted charges for business vehicles registered to SMEs which enter the CAZ on regular (e.g. twice or more per week) basis.
Businesses and organisations in Birmingham	Travel planning support to review fleet vehicles and deliveries, and to help staff change their travel habits.
People living in or close to the CAZ area and having limited income	Extra time before being charged to use the CAZ.
Disabled people who find it difficult to use public transport.	Extra time before being charged to use the CAZ. Financial incentives to improve wheelchair accessible Hackney taxis, by upgrading the engine or replacing the whole vehicle.
Disabled, older and younger people	Extra time before being charged to use the CAZ.
People attending worship in the CAZ area	Travel planning support for places of worship to help worshippers change their travel habits.
Parents and guardians of patients at Birmingham Children's Hospital	Time limited and/or means tested discounts on charges for long stay patients (as currently in operation for parking).
Taxi operators	A council run scheme for leasing Low Emission Vehicles, e.g electric taxis. Financial incentives to upgrade engines or replace vehicles.



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## How the CAZ will work

The CAZ will be clearly signposted with road signs. There will be no barriers or toll booths. Cameras will read vehicle number plates as they are driven into and within the zone.

If you drive in the CAZ in a vehicle which does not meet the emissions standards, you will have to pay the daily charge. You will be able to pay online; we have not yet looked into options for paying in person within the CAZ area.

If the daily charge is not paid, a 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.

If your vehicle is parked within the CAZ boundary and does not move all day (e.g. because you live in the CAZ), you would not have to pay the charge on that day.

## Is your vehicle affected?

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.

The date your vehicle was registered also gives a good indication:

Emissions standard	Applied to most new registrations from
Euro 1	31 December 1992
Euro 2	1 January 1997
Euro 3	1 January 2001
Euro 4	1 January 2006
Euro 5	1 January 2011
Euro 6	1 September 2015*

\*Some vehicles registered between 1 September 2015 and 1 September 2016 were Euro 5. All new registrations from 1 September 2016 are Euro 6.

Transport for London's website ([tfl.gov.uk/ultra-low-emission-zone](http://tfl.gov.uk/ultra-low-emission-zone)) lets you check your registration number and tells you what your engine type is likely to be, but this is still based on the date your vehicle was registered so will get it right for most but not all vehicles.

## CAZ costs and income

We will be asking for money from the Government's Clean Air Zone Implementation Fund to introduce the CAZ.

Income from the CAZ charges and any Penalty Charge Notices issued will first be used to cover the costs of running the CAZ. Depending on what money we receive from the Government, the income may also have to cover some or all of the costs of introducing the CAZ.

After that, any leftover money will be spent on things which will further improve Birmingham's air quality, such as improvements to public transport, cycling and walking and support for businesses and individuals.

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## What else?

When we tested what is likely to happen if we introduce a Clean Air Zone, we found that levels of NO<sub>2</sub> in the air will come close to the goal of 40µg/m<sup>3</sup>, but it is still not quite enough.

So what else can we do?

We need to consider other ways to get the most polluting vehicles off our roads and to make sure that all vehicles give out as little pollution as possible.

We have ideas about how to do this, some of which we're already putting into practice. This is all about helping people to change their behaviour, so we would like your ideas and feedback about the best way to do that.

Some of these actions would work best if applied to the whole city, some might be better if targeted to specific places or road users. More detailed consultation will be needed before plans are introduced.

To help people to... We could...	Reduce congestion/ improve driving style	Make their journey in another way,	Replace their vehicle with a cleaner one
Work with bus companies and Transport for West Midlands (TfWM) to improve vehicles and services and to encourage more bus travel, e.g. lower fares.	✓	✓	✓
Build more low and zero emission refuelling stations, including charging points for electric vehicles.	✗	✗	✓
Work with partners to develop approved schemes for upgrading the engines of taxis, buses and lorries.	✗	✗	✓
Make changes to roads, e.g. build more bus lanes and cycle routes, change junctions or roads to encourage people to take a different route.	✓	✓	✗
Review charges for parking, e.g. charge for parking which is currently free.	✓	✓	✓
Review traffic management e.g. how road space is used, sequencing of traffic lights, direction signs.	✓	✓	✗

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## Play your part

You don't have to wait for the CAZ to take action to improve air quality and avoid breathing in the worst pollution.

- **Change the way you travel:** by leaving your car at home and choosing to cycle, walk or use public transport, you can help reduce air pollution by 20%.
- **Change the time you travel:** if you must use the car, avoid morning and evening rush hours; this will reduce congestion and produce less pollution as a result of not idling in traffic jams.
- **Change the routes you travel:** if you are cycling or walking, avoid main road and choose routes using quieter back streets, parks or canals; even walking on the side of the pavement further from the road can help reduce your exposure to air pollution.
- **Change the way you drive:** driving economically, such as accelerating gently and sticking to speed limits, uses less fuel, saves money, reduces the risk of having an accident and reduces air pollution.
- **The school run:** cycling or walking to school with your children will help reduce the impact of air pollution; if you do have to drive then turn your engine off when waiting and park

## Have your say

The best way to respond to his consultation is online via [www.birmingham.gov.uk/caz](http://www.birmingham.gov.uk/caz), where you will also find the following documents with more information:

- FAQs
- Glossary
- My vehicle isn't compliant, what can I do?
- Air quality modelling report
- Transport modelling report
- Economic report
- POSSIBLY: Wider transport report
- 2015 and 2017 Birmingham Air Quality plans
- National CAZ framework
- POSSIBLY How to change the way you travel

If you don't have access to the internet, a paper questionnaire is available in libraries.

We will be holding a number of drop in sessions, where you can speak with our team and find out more. Pick up a leaflet or go online for full details.

If you have questions, email [cleanair@birmingham.gov.uk](mailto:cleanair@birmingham.gov.uk) or call 0121 464 4412.

Consultation closes on 17 August 2018.

## What happens next?

We will read and consider all your feedback.

We have to present plans for improving Birmingham's air quality and introducing a Clean Air Zone to the Government in September 2018. Your responses to this consultation will help us write those final plans.

We will also publish a report on everything we have learnt from you in this consultation.

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The Clean Air Zone will be 'built' in 2019, installing cameras and preparing and testing all the systems. We would start charging vehicles in January 2020.

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<sup>i</sup> Paragraph 19, UK plan for tackling roadside nitrogen dioxide concentrations, Detailed plan, July 2017

<sup>ii</sup> Paragraphs 110-112, UK plan for tackling roadside nitrogen dioxide concentrations, Detailed plan, July 2017