



Consultation Document



Proposed Zero Emission Zone (ZEZ) for the city of Oxford

Building a world-class city for everyone

Oxford, like many cities across the UK, is suffering from poor air quality and is failing to meet air quality limit values in relation to nitrogen dioxide (NO₂).

What has been done to improve air quality in Oxford?

In response to these challenges, Oxford City Council declared the whole city an Air Quality Management Area (AQMA) in 2010 and drew up an Air Quality Action Plan (AQAP) to tackle the problem in 2013.

One of the key measures in the AQAP was the implementation of a bus-based low emission zone (LEZ) for the city centre which came into force in 2014. This was developed jointly with Oxfordshire County Council who is the responsible transport authority.

Figure 1 – Summary of some of the most important actions taken by Oxford City Council and Oxfordshire County Council to reduce air pollution levels in the city

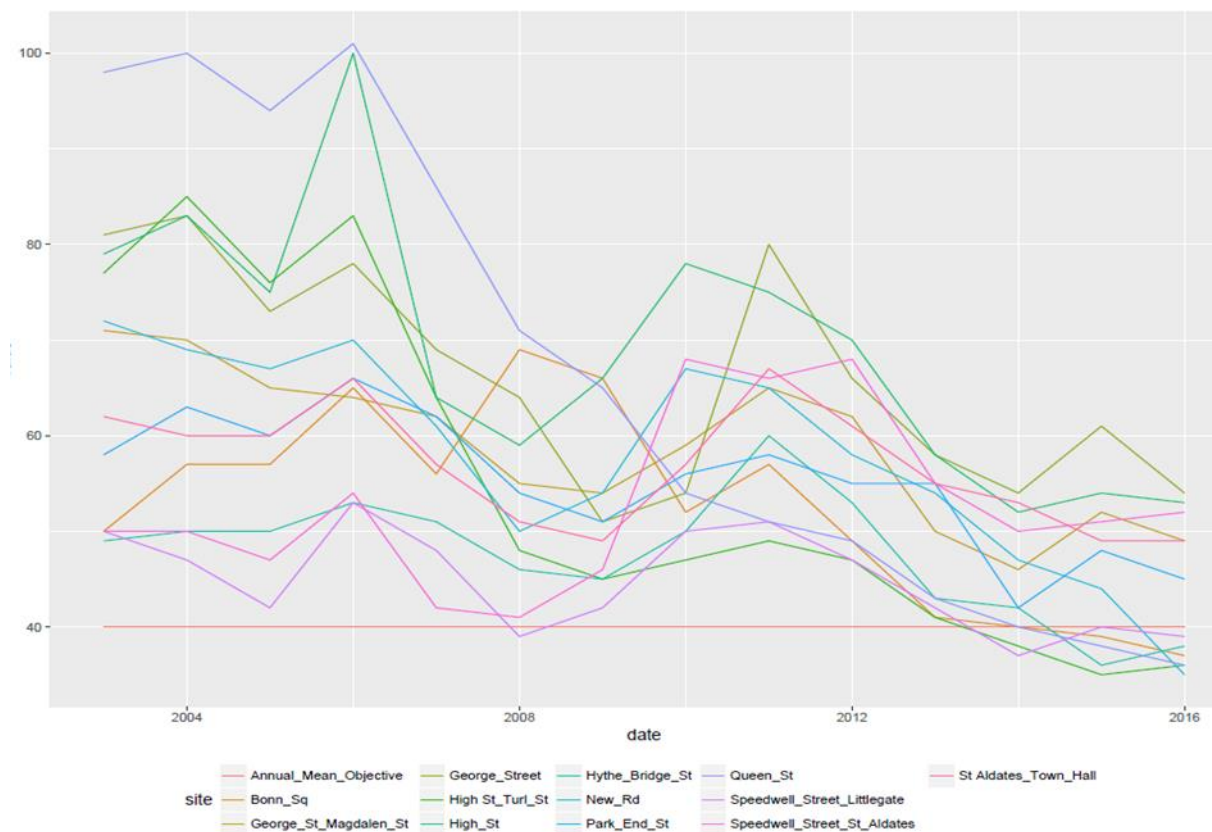


What are Oxford's recent trends in air quality?

In the last decade, levels of nitrogen dioxide (NO₂) at the roadside across Oxford have dropped by an average of 37%, which reveal the level of commitment and importance that Oxford City Council (OCC) and Oxfordshire County Council places on improving air quality in the city, mindful of the well-documented direct impacts on health and wellbeing.

The chart below shows the city centre's air quality trends over the last 12 years. Despite the significant reductions experienced over the last decade, several locations still experience measurements above the limit value of 40 $\mu\text{g m}^{-3}$ (red line in the chart below).

Figure 2 – Long Term Trends in Annual Mean NO₂ at Oxford's diffusion tube monitoring locations, 2003-2016



The proposed scope of the ZEZ within this consultation does not extend to directly include St. Clements. However, the poor air quality in that location is recognised and a working group has been formed to identify measures to improve the situation.

More information regarding the latest status of air quality in Oxford can be found in the city's Air Quality Annual Status report available at https://www.oxford.gov.uk/downloads/file/3832/air_quality_annual_status_report_2016

Live air quality information is available here: <https://oxfordshire.air-quality.info/>

What is the cause of the problem?

Urban air pollution is a result of a complex mixture of emissions from a range of sources. In Oxford, road transport is the main source of public exposure, being responsible for up to 75% of air pollution in the city, with diesel powered vehicles being the major contributor. The specific characteristics of Oxford as an old medieval city with historic buildings and narrow streets, results in pollutants entrapment and further exacerbates the issue.

How serious is the problem?

In February 2016 the Royal College of Paediatrics and Child Health published a study, estimating the amount of early deaths in the UK attributable to exposure to outdoor air pollution to be 40,000/year. In the same study, air pollution was linked to diseases such as

cancer, asthma, stroke, heart disease, diabetes, obesity and dementia.

Later in the year (November 2016), the European Environment Agency published a report that concluded that the UK had 11,940 premature deaths in 2013 from NO₂. The number was down from 14,100 in 2012, but still the second worst in Europe.

In 2014, Public Health England estimated the mortality burden attributed to long term fine particulate air pollution exposure in Oxfordshire to be 5.6% of the population, equivalent to 276 deaths (Age 25+) and equivalent to 2944 life years lost . However, given the uncertainties this could, in fact, be somewhere between 0.9% and 11%.

According to Defra, the annual health cost to society of the impacts of PM pollution alone in the UK is estimated to be around £16 billion.

Proposals for a Zero Emission Zone

Building on the success of the LEZ and aware of the importance of tackling both air quality and climate change issues, while contributing to the quality of place and the improvement of public health, the County Council, supported by the City Council, made the commitment to introduce a Zero Emission Zone in Local Transport Plan 4, Oxford Transport Strategy (OTS). The ambition is set out in OTS as follows:

“to start a city centre zero-emission zone for all vehicles by 2020, with the zone being gradually expanded over time as the required infrastructure and technology develops. This will support objectives to improve air quality and targets to reduce emissions from vehicles. Further private sector investment from operators on all routes will be required, not just the short to medium range services, and be achieved through the deployment of electric buses, advanced electric-diesel hybrid vehicles with an electric drive mode for emission-free operation in built up areas, and routeing changes as outlined above.

As battery and induction charging technology improves, vehicles will be able to cross the whole city whilst on full electric power, enabling the creation of a city-wide zero-emission zone by 2035. Vehicles which cannot comply with specific emission standards will be required to terminate at Park & Ride sites outside of the city.”

This commitment is in line with Governments latest proposals in its Air Quality plan to ban new petrol and diesel cars by 2040 and support the uptake of zero emission vehicles.

A feasibility study into the introduction of a zero emission zone was therefore commissioned by Oxford City and Oxfordshire County Councils in December 2016.

How was the Zero Emission Zone feasibility and implementation study developed?

The study was informed by internal and external stakeholder workshops with key officers from the City and County Councils and representatives from bus and taxi companies, universities and local groups such as Cyclox, Friends of the Earth and Campaign to Protect Rural England.

The stakeholder workshops identified key issues in implementing a ZEZ and showed that despite a desire to drive forward an innovative scheme; this had to be balanced with environmental benefit, practicality, impacts on businesses and residents and implementation costs.

The full Zero Emission Zone Feasibility and Implementation Study can be found here:

<https://www.oxford.gov.uk/zez>

Zero Emission Zone Proposal

Below are details of the proposal for a Zero Emission Zone operating in the City Centre. This consultation is seeking your view on this proposal, its timeline, the included vehicles and potential impacts and benefits. Your feedback will be used for the next stage of the proposal as we come to shape the detail of the scheme.

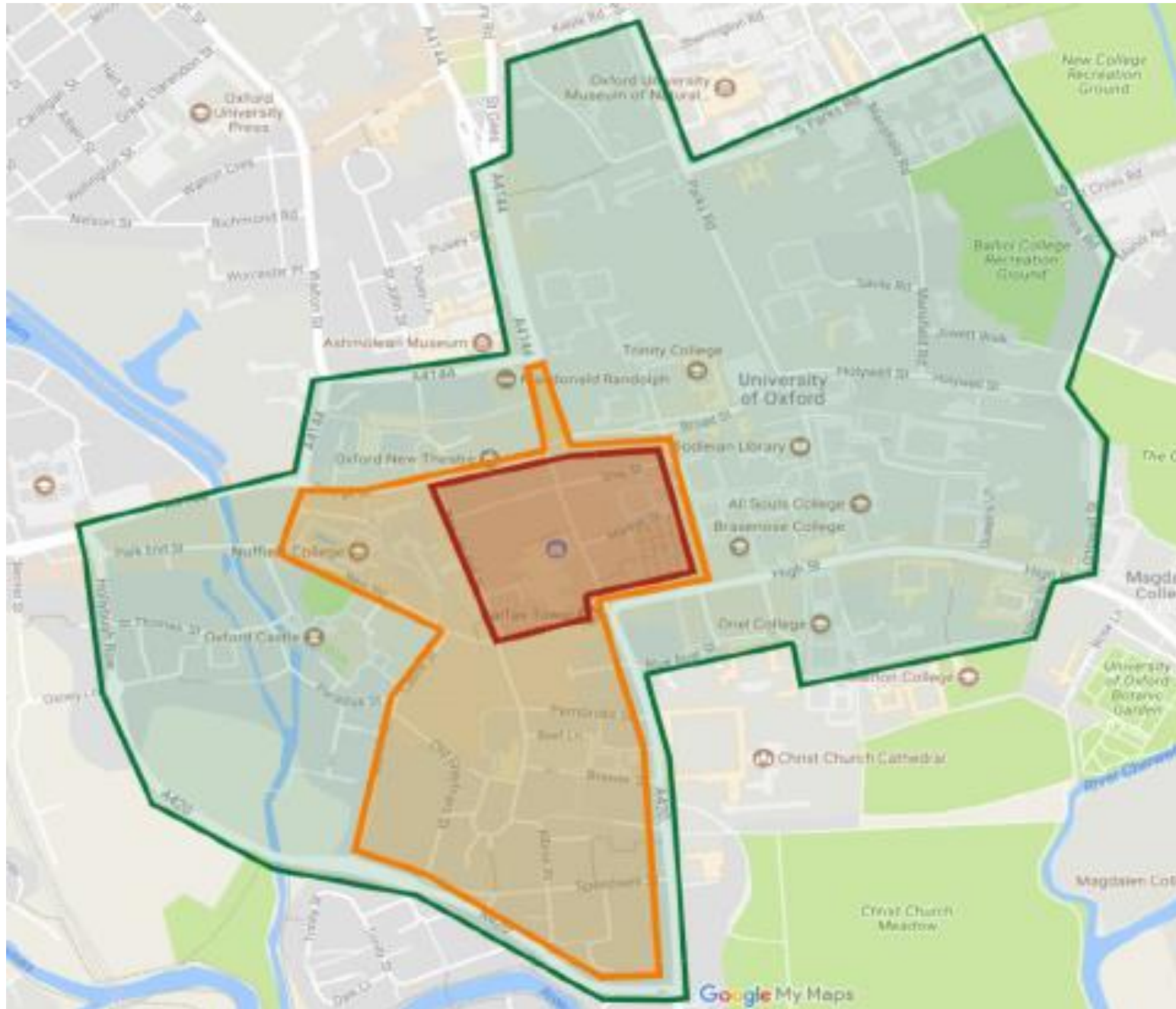
The proposal is for a zero emission zone to operate in the city centre and for it to expand over a period to 2035.

In its strictest sense a zero emission zone would mean that any vehicle not operating in zero emission mode (for example electric or hydrogen) would not be allowed to enter the zone.

The zone will have to respond to technological availability, so where zero emissions vehicle alternatives are not commercially viable or available some flexibility will be required.

Below are details of the proposed boundary of the zero emission zone.

Figure 3 – Centre scheme boundary options



RED boundary – covering the very core of the central area which is largely pedestrianised during the main part of the day.

ORANGE boundary – this covers a wider area in the city centre which has access restrictions during the day. This will include a lot more vehicles especially buses and have a greater impact on emissions. It also allows vehicles to drive around the city centre without accessing the zone if necessary.

GREEN boundary – which covers the whole centre and would capture all vehicles moving in and through the central area. This would be the most comprehensive scheme and capture the most vehicles and hence have the most significant effect on emissions.

The table below sets out the proposed option to take forward. The colour signifies which vehicles will be affected by the different zones. For example in 2020 the proposal is for taxis, cars, buses and light commercial vehicles operating in the red zone to be zero emission. Buses are presented in brackets as buses are potentially expected to not be operating in this zone in 2020 due to possible pedestrianisation of Queen Street. Further work is needed with the bus companies to understand if they can meet ZEZ ambitions if Queen Street remains open to buses.

Table 1 – Proposed ZEZ expansion by area and vehicle category.

2020	2025	2030	2035
Taxi, Car, LCV (Bus)	Taxi, Bus, LCV, Car	Taxi, Bus, LCV, Car	All

What are the expected benefits of this proposal?

The ZEZ proposal will deliver significant benefits to the reduction of air pollution in the city. It is expected that the implementation of the scheme would:

- Remove all NO₂ compliance issues by 2025, with an expected 16% NO_x reduction compared to Business As Usual by 2035;
- Reduce PM levels in the city by 17% by 2035 when compared with Business As Usual scenarios;
- Produce a monetised benefit of reducing NO_x air pollutant emissions of £2,090,000 by 2035 - This represents the value of the health and wider benefits captured by all those who are exposed to air pollution in Oxford, and the reduction of such pollution;
- Produce a net GHG emission savings of £2,030,000 for the same period. The figure captures the value of an environmental effect reflecting that these emissions reductions will contribute towards the overall achievement of the UK's carbon targets.

Have your say

We are interested in hearing your view and to gain a better understanding of the impact of this proposal on businesses and residents.

We want to hear your view on the proposed scheme boundaries, dates they come into effect and their vehicle coverage.

We are also interested in learning your view on associated measures, such as time limits on when certain vehicles can enter the city centre, as opposed to a full ban. The city centre is a working commercial centre which employs a significant amount of people and proposals will have to reflect this.

We also want to know whether you think an interim step, such as an ultra-low emission zone (euro 6 requirement) is required for some vehicles in the interim.

We would like to hear from you about what you think of the proposal and whether or not you consider there are other options that could contribute to improving the air quality in Oxford.

The consultation can be accessed here:

https://consultations.oxfordshire.gov.uk/consult.ti/Oxford_ZEZ/consultationHome

Please complete the on-line questionnaire by 26th November 2017

Glossary

AQ – Air Quality

AQAP – Air Quality Action Plan

AQMA – Air Quality Management Area

ASR – Annual Status Report

BAU – Business As Usual

CPRE – Campaign to protect Rural England

DEFRA – Department of Food and Rural Affairs

Euro 6 - European Union directive standard to reduce harmful pollutants from petrol and diesel vehicle exhausts. The standard aims to reduce levels of harmful emissions in diesel and petrol cars and was introduced in 2015. All new mass-produced cars sold from this date need to meet this emission standard.

FoE – Friends of the Earth

GHG – Green House Gases

LCV – Light Commercial Vehicle

LEZ – Low Emission Zone

OCC – Oxford City Council

OTS – Oxford Transport Plan

NO₂ – Nitrogen Dioxide

PM – Particulate Matter

UK – United Kingdom

ZEZ – Zero Emission Zone