

# **York's Fourth Air Quality Action Plan (AQAP4)**

## **Consultation Summary**



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# 1 Introduction

City of York Council's (CYC) Fourth Air Quality Action Plan (AQAP4) outlines the action CYC will take to further improve air quality in York over the next 5 years between 2023 and 2027 to go beyond health-based [National Air Quality Objectives](#) in all areas and work towards meeting World Health Organisation (WHO) Air Quality Guidelines. AQAP4 aims to reduce concentrations of air pollutants and exposure to air pollution, thereby improving the health and quality of life of residents and visitors to York.

AQAP4 updates and replaces the previous action plan (AQAP3) which ran from September 2015 and has been developed to reflect growing evidence about the health impacts of air pollution, updated work to consider local sources of air pollution and the current air quality in York compared to the health-based standards.

Residents, workers and visitors to York took part in [Our Big Conversation](#), a city-wide discussion helping the city to get to grips with some of the biggest challenges facing York over the next decade, including transport and air quality, climate change and York's economy. Development of AQAP4 has been informed by this and consultation across multiple council departments.

Measures in AQAP4 are aligned to the [Council Plan](#) and reflect ambitions contained within our [10-Year Strategies](#) covering climate, health and wellbeing and the economy. AQAP4 firmly embeds the Council Plan's priority of sustainable, accessible transport for all and our commitment to build healthy and sustainable communities.

Through delivery of the measures in AQAP4, CYC will continue to work towards making York a city that offers some of the best urban air quality in the UK.

## 2 Legal position, Air Quality Objectives and Environment Act

Local authorities must regularly review and assess air quality in their areas to determine if health-based air quality objectives are likely to be achieved. Where an exceedance of an objective is considered likely, a local authority must declare an Air Quality Management Area (AQMA) and prepare an Air Quality Action Plan (AQAP) to set out measures to deliver air quality improvements.

Local authorities must prepare an Annual Status Report (ASR) every year, to report on progress in achieving reductions in pollution and on progress with delivering measures in a local AQAP. Previous ASRs produced by CYC are available on the [CYC website](#).

The recent [Environment Act 2021](#) enables more effective action to tackle air pollution and deliver health benefits, as well as increasing transparency, co-operation between authorities and accountability at all levels. Specifically, new standards have been set for fine particulate matter (PM<sub>2.5</sub>) and provisions for local authorities to tackle pollution from domestic burning (a significant source of PM<sub>2.5</sub> in the UK) have been strengthened.

### 3 Health impacts of air pollution

Air pollution is associated with a number of adverse health impacts. It is a contributing factor in the onset of heart disease and cancer and particularly affects the most vulnerable in society: children and older people, and those with heart and lung conditions. There is also often a strong correlation with inequality, because areas with poor air quality are also often the less affluent areas<sup>1,2,3</sup>. Air pollution in the UK is responsible for 29,000 to 43,000 premature deaths per year<sup>4</sup>, with a total estimated cost to the NHS and social care of £157 million in 2017<sup>5</sup>. It is estimated that long-term exposure to air pollution (specifically fine particulate, PM<sub>2.5</sub>) was a contributory factor to the cause of death in 4.4% of deaths (approximately 90) in York in 2021<sup>6</sup>.

Studies have demonstrated that long-term exposure to air pollution can reduce life expectancy, mainly due to conditions affecting the heart or blood vessels, respiratory conditions and lung cancer. In addition, short-term exposure (over hours or days) to increased levels of air pollution can also cause breathing difficulties, make asthma worse and increase hospital admissions due to heart and lung conditions<sup>7</sup>. The health effects of air pollution are varied and complex and can affect everyone, at all stages of life.

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<sup>1</sup> Environmental equity, air quality, socioeconomic status and respiratory health, 2010

<sup>2</sup> Air quality and social deprivation in the UK: an environmental inequalities analysis, 2006

<sup>3</sup> <https://pubs.rsc.org/en/content/articlelanding/2023/va/d3va00054k> (overview at <https://www.york.ac.uk/news-and-events/news/2023/research/deprived-communities-air-pollution/>)

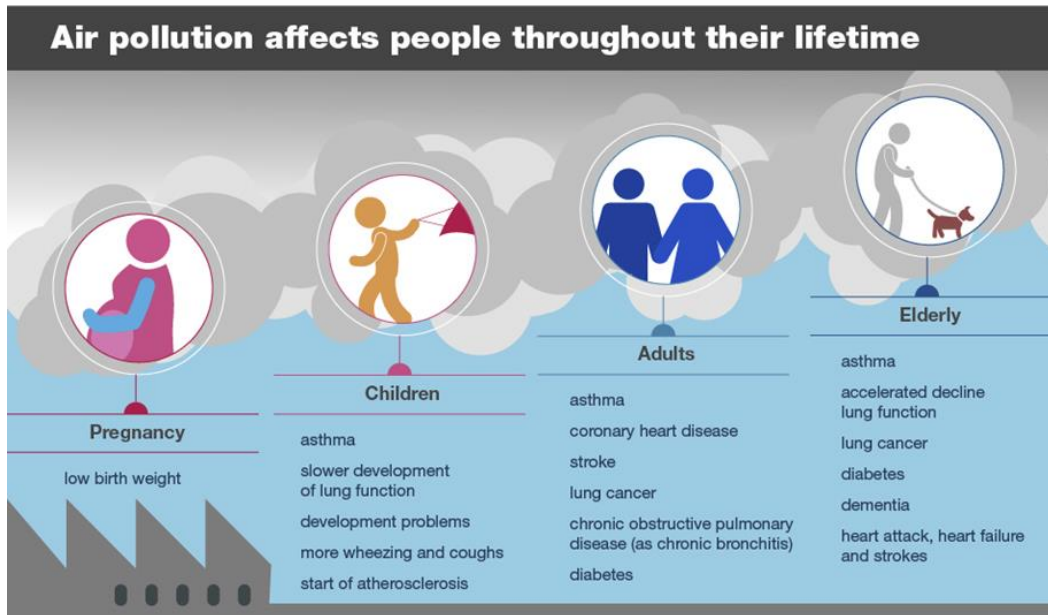
<sup>4</sup> Defra. Air quality appraisal: damage cost guidance, January 2023

<sup>5</sup> Public Health England. Estimation of costs to the NHS and social care due to the health impacts of air pollution: summary report, May 2018

<sup>6</sup> <https://fingertips.phe.org.uk/profile/public-health-outcomes-framework/data#page/3/qid/1000043/pat/6/par/E12000003/ati/302/are/E06000014/iid/93861/age/230/sex/4/cat/-1/ctf/-1/yrr/1/cid/4/tbm/1>

<sup>7</sup> Health matters: air pollution. Public Health England. <https://www.gov.uk/government/publications/health-matters-air-pollution/health-matters-air-pollution>

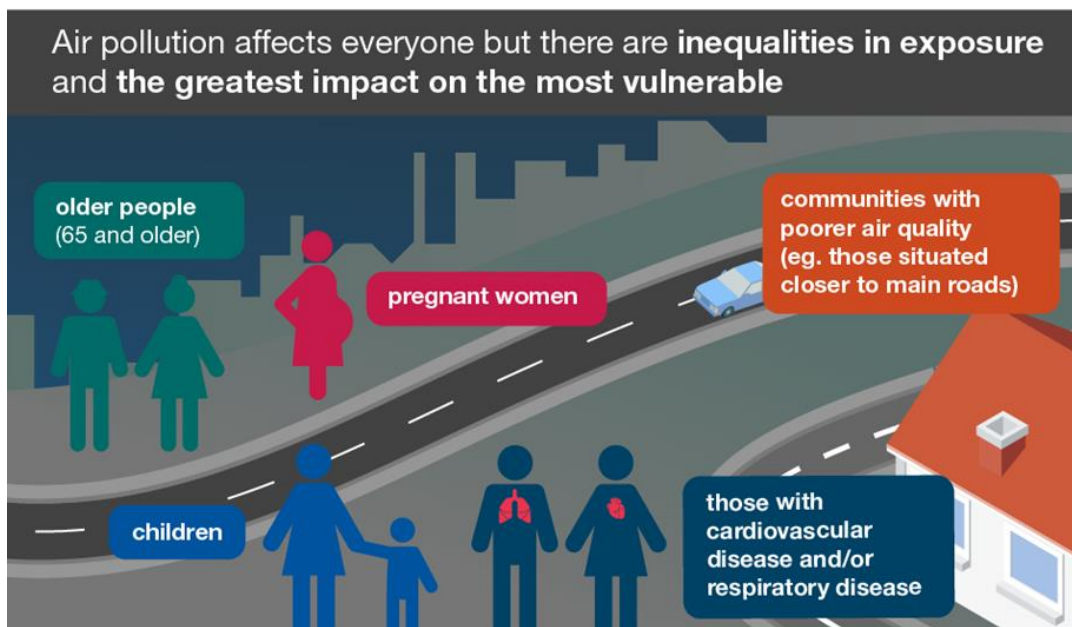
**Figure 3. 1 Impacts of air pollution through life**



*Image from Public Health England: Health Matters*

Whilst air pollution can be harmful throughout life and across all ages, some people are more affected, perhaps because they are exposed to higher levels of air pollution in their day to day lives, live in polluted areas, or are more susceptible to air pollution related health issues.

**Figure 3. 2 Air pollution and health inequalities**



*Image from Public Health England: Health Matters*

Air pollution can also have economic impacts through sickness absence and reduced productivity. The coronavirus pandemic clearly demonstrated the critical link between human health and economic prosperity.

AQAP4 contains measures to reduce concentrations of nitrogen dioxide (NO<sub>2</sub>) and particulate matter (PM<sub>2.5</sub> and PM<sub>10</sub>) to meet the health-based air quality objectives and work towards stricter World Health Organisation (WHO) Air Quality Guidelines to improve public health. Alongside other complementary strategies, AQAP4 will also deliver wider public health benefits, such as reducing obesity and improving mental health and wellbeing, via promotion of active travel options such as walking and cycling.

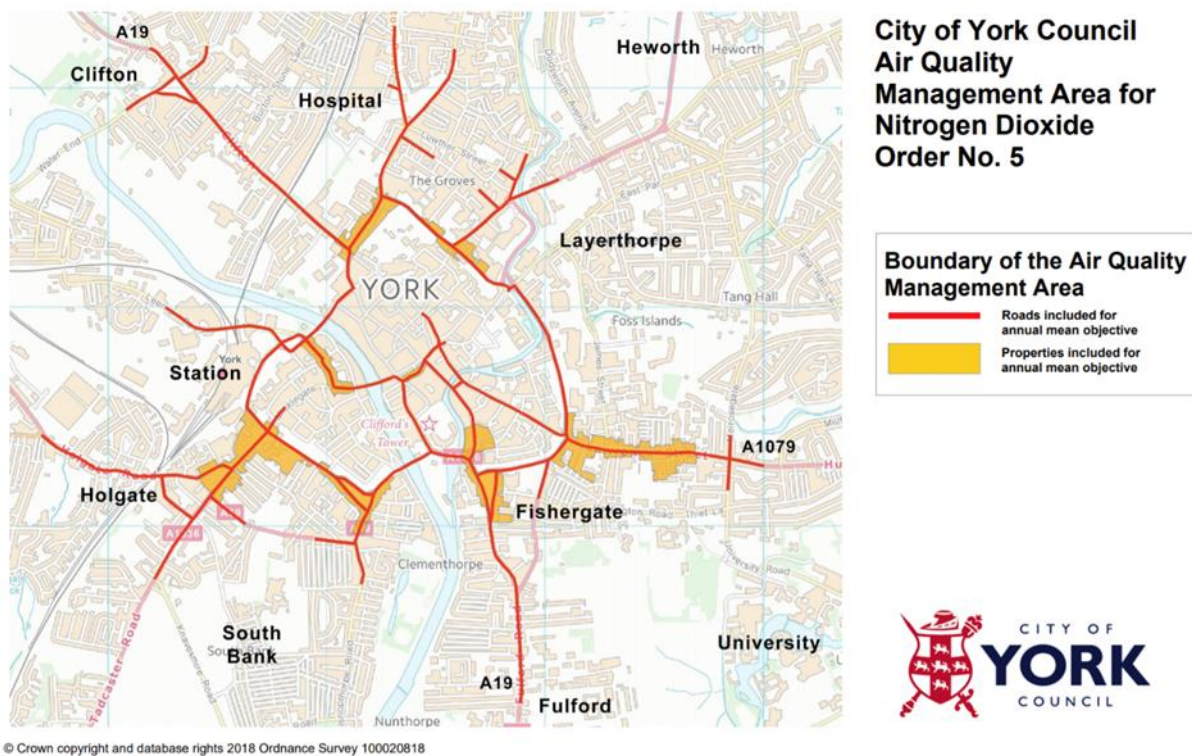
## 4 Current air quality in York

Through monitoring of air quality across the city, CYC has previously identified some areas of the city centre, around the busy inner ring road, where long term annual average nitrogen dioxide (NO<sub>2</sub>) levels are above health based objective levels.

These areas have been incorporated into an [Air Quality Management Area \(AQMA\)](#).

The AQMA includes areas where members of the public are likely to be exposed to air pollution regularly over long periods of time, such as residential properties, nursing homes and schools. These are called 'relevant locations'. Roads are also included within the AQMA boundary and reflect the wider area of the city that residents and businesses stated they wanted to see air quality improved following public consultation. York's current AQMA is shown in figure 4.1 below.

**Figure 4. 1 York's Air Quality Management Area (AQMA)**



Additional maps of the current and historical AQMAs in York can be viewed on [CYC's website](#).

Concentrations of NO<sub>2</sub> across the AQMA have tended to decrease over the last 10+ years, due to vehicle technology improvements and measures within CYC's previous Air Quality Action Plans, Local Transport Plans and wider sustainable travel programmes.



There are, however, still three areas within the AQMA where concentrations of NO<sub>2</sub> are above the health based objective (Gillygate, Rougier Street / George Hudson and Holgate Road / Blossom Street areas).

Measures in AQAP4 aim to improve in air quality in these areas and across the wider city, allowing the council to remove the AQMA declared for NO<sub>2</sub> and reduce particulate pollution to improve public health.

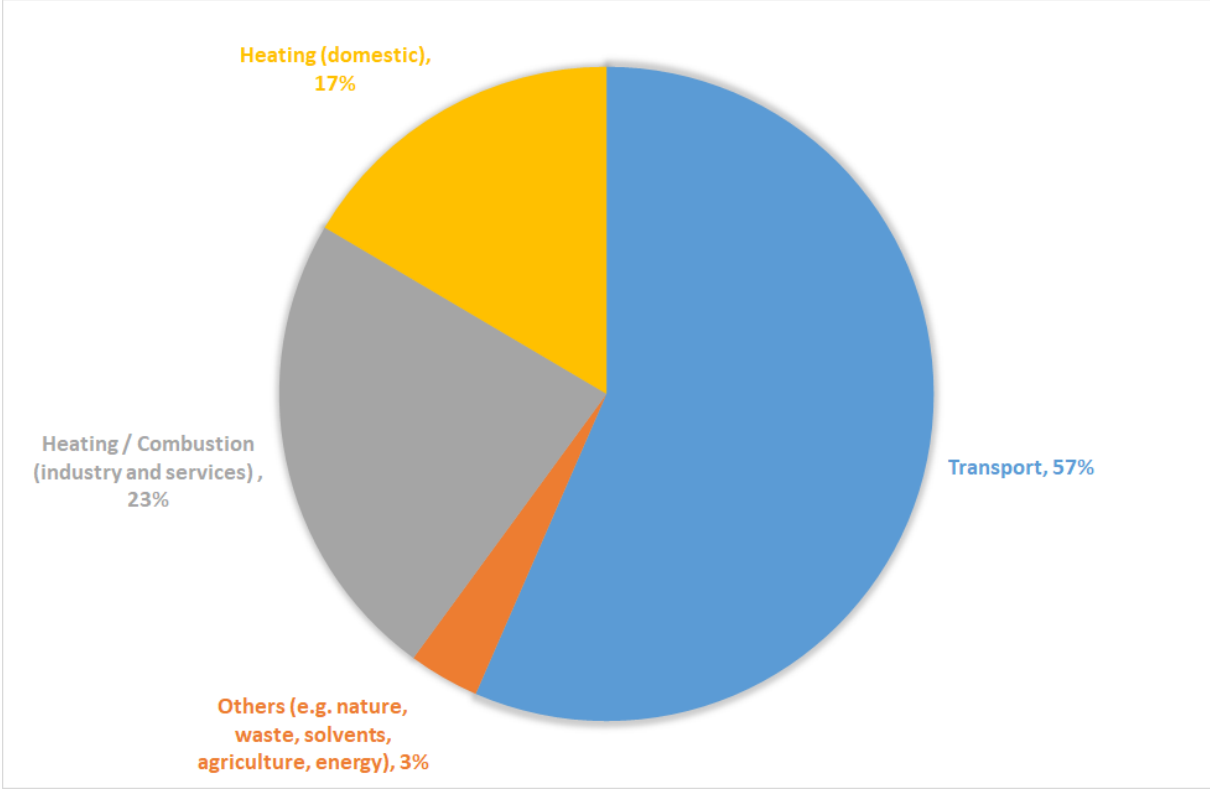
# 5 Where the pollution comes from (source apportionment)

Transport<sup>8</sup> in York produces 57% of total NO<sub>x</sub> emissions, compared to 17% of PM<sub>2.5</sub> emissions.

In comparison, heating homes makes up 17% of NO<sub>x</sub> emissions and 37% of PM<sub>2.5</sub> emissions. It is estimated that nearly a third (31%) of PM<sub>2.5</sub> emissions from heating homes are due to wood burning.

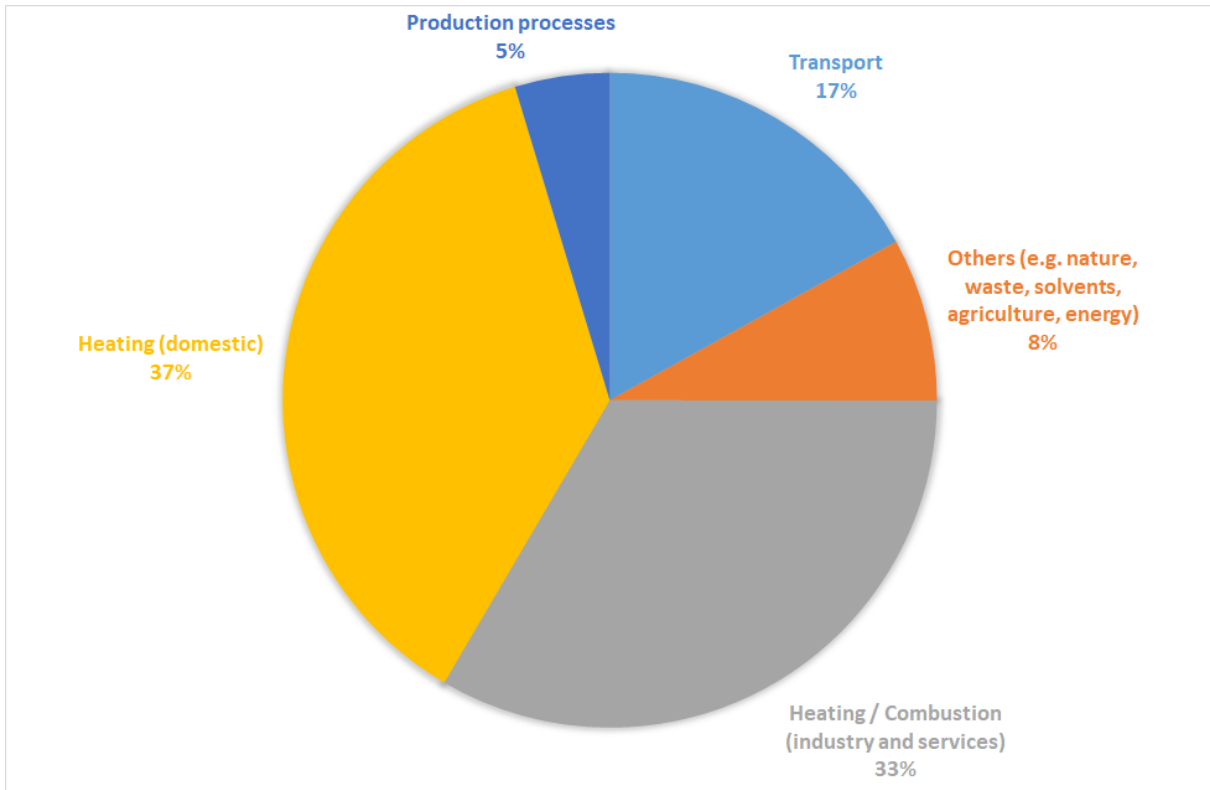
The contribution of each activity sector to the total emissions of NO<sub>x</sub> and PM<sub>2.5</sub> in York are summarised in the figures below.

**Figure 5. 1 Sources of total NO<sub>x</sub> emissions in York**



<sup>8</sup> mainly road transport but some rail and non-road mobile machinery

**Figure 5. 2 Sources of total PM<sub>2.5</sub> emissions in York**



**Road transport sources in York:**

- Pollution from transport is the main source of NO<sub>x</sub> in York so we must continue to deliver sustainable transport solutions and work towards reducing pollution from all types of vehicle.
- NO<sub>x</sub> emissions from petrol and diesel cars continue to make up over half of these transport emissions, showing that CYC must continue to encourage people to walk, cycle and use public transport instead of cars. We must also maximise the uptake of zero tailpipe emission vehicles via incentives and provision of suitable charging infrastructure. This should be supported by measures such as ongoing campaigns to reduce idling emissions and robust planning guidance to ensure private vehicle trips are minimised on new developments.
- Heavy Goods Vehicles (HGVs) are a significant pollution source on the majority of major roads, where they contribute between 15 and 25% of the total road NO<sub>x</sub> emissions (but on a few roads as much as 55%).
- Light goods vehicles (LGVs) are responsible for less than 10% of road traffic NO<sub>x</sub> emissions on the majority of roads but are more significant in certain areas such

as the outer ring road and on key main roads, representing up to 25% of total road traffic emissions.

- Pollution from buses has reduced significantly in recent years due to the introduction of a Clean Air Zone (CAZ) in the city centre and upgrades to vehicles serving high frequency routes, including Park and Ride services. Whilst bus emissions now comprise less than 10% of road traffic emissions on the majority of streets, in some areas, such as George Hudson Street and Blossom Street, they still contribute up to 25%. The council will continue to work with bus operators to reduce pollution from buses further.

Further detail about traffic source contributions, including how these vary across the city, is presented in the main AQAP4 document.

## 6 Required reduction in emissions

We have calculated that we need a further reduction in NO<sub>x</sub> emissions of approximately 25% to meet the health-based targets in all areas – this can be achieved by:

- Further reduction in car usage of 5% via shift to more sustainable modes such as walking, cycling and public transport
- Reduce HGV and LGV movements by 25% through freight consolidation facilities and other initiatives
- Transition of 10% of car/taxi and LGV fleet to electric vehicles with zero tailpipe emissions, through expansion of local charging infrastructure, awareness raising and incentives
- Conversion of remaining bus fleet to electric vehicles with zero tailpipe emissions

It should be noted that in future years, falling background pollutant concentrations and improvements in vehicle emissions generally across the fleet will also drive reductions in pollution in York.

CYC has a statutory duty to deliver air quality improvement in the shortest possible time and AQAP4 must take all measures reasonably practical to deliver cleaner air and achieve further reductions in vehicle miles travelled.

## 7 Previous actions to improve air quality

We have previously introduced electric buses across York's Park & Ride sites, a city centre Clean Air Zone (CAZ) for buses, low emission planning guidance to minimise and mitigate development related emissions, an anti-idling campaign, widespread EV charging infrastructure across the city and incentives for low emission vehicle use. AQAP4 will build on the successful initiatives and programmes delivered to date in pursuit of cleaner air for all.

## 8 Actions and priorities for AQAP4

AQAP4 sets out a range of actions to reduce air pollutants from different sectors and vehicle classes. A key aim of AQAP4 is to achieve and go beyond the health-based air quality objectives for NO<sub>2</sub> as soon as possible and, importantly, to ensure that compliance is sustained into the future.

Measures to tackle vehicle emissions and promote modal shift (to walking, cycling and public transport) will also reduce emissions of larger particulate such as PM<sub>10</sub> (arising from vehicle exhausts, but also from non-exhaust sources such as vehicle brake and tyre wear).

AQAP4 also includes measures to address fine particulate, PM<sub>2.5</sub>, based on current evidence this is the pollutant most damaging to health. Responsibility for meeting national targets for PM<sub>2.5</sub> lies with central government, but local authorities are expected to contribute to achieving the targets through local action wherever possible.

In addition to reducing transport pollution, there are also opportunities to reduce PM<sub>2.5</sub> from domestic burning of solid fuels. Whilst in part this will be addressed by new legislation around the types of fuels that can now be legally sold, there are opportunities for CYC to raise awareness of the impacts of burning solid fuels and ensure that suppliers/retailers are complying with legal requirements. Measures to address this issue will also help to reduce NO<sub>x</sub> emissions, albeit to a lesser extent.

As part of AQAP4 development, all proposed measures were evaluated in terms of air quality impact, feasibility, funding, cost, implementation timescales and alignment with wider CYC strategies. This cost benefit analysis is presented in the main AQAP4 document.

## AQAP4 outlines 27 actions that fall under the following priority areas:

- **Reducing emissions from freight / delivery vehicles** - CYC will continue feasibility work to address first/last mile delivery of light goods in York and will work with partners to evaluate low emission delivery modes. We will also progress a pilot project to test a 'micro-consolidation centre' for the purpose of distributing commercial light goods around the city centre and will consider the feasibility of extending the Clean Air Zone to include HGVs / freight vehicles.
- **Reduce emissions from buses** - CYC will continue to work in partnership with bus operators to improve bus provision for all service users. Whilst considerable progress has been made to clean up York's buses in recent years, CYC must continue to address pollution from lower frequency services and strive to maximise the number of services operating fully electric buses to further reduce exhaust emissions. CYC will work with partners to deliver further bus upgrades using secured DfT funding and extend the Clean Air Zone (for buses) to York Central.
- **Reduce emissions from idling vehicles** - CYC will raise awareness of pollution from idling vehicles upon public health through our ['Kick the Habit'](#) anti-idling awareness / behaviour change campaign, supported by regular anti-idling patrols.
- **Reducing emissions from taxis** - CYC will continue to work with the trade to replace diesel and petrol taxis with low and zero emission vehicles via the use of incentives and awareness raising. This will be supplemented with further revisions to Taxi Licensing policy to phase out older, more polluting taxis, following consultation with the taxi trade. We will also explore further opportunities for minimising pollution from taxis in the city centre, including the feasibility of including them within the Clean Air Zone.
- **Reduce emissions from the CYC fleet** - CYC recognise that the way our own fleet vehicles are renewed is a vital part of the CYC air quality improvement / carbon reduction programmes and that the transition to a cleaner, greener fleet must be done without compromising the essential services CYC delivers. We also recognise that we must lead by example; the successful operation of ultra-low and zero emission vehicles as part of the CYC fleet will show leadership and will act as a catalyst for other fleet operators in the city to upgrade their vehicles and accelerate their renewal programmes.

- **Expand EV charging** - CYC's [EV Charging Strategy](#) set out how we plan to deliver York's EV charging network up to 2025. CYC will deliver additional fast and rapid charge points and actively monitor plug-in vehicle uptake in the city to ensure our charging network remains fit for purpose.
- **Minimise development related emissions** - CYC will continue to ensure that air quality impacts from new developments (including during construction) are appropriately assessed and mitigated, exposure to poor air quality is reduced via good design practices and that new private trips are minimised via provision of opportunities for sustainable transport.
- **Provide local incentives for low emission vehicles and alternative fuels** - CYC is committed to further encouraging the wider uptake of ultra-low emission and zero emission vehicles (and other micro-mobility modes) via development of incentives, such as parking discounts for low emission vehicles.
- **Improved public information and awareness** - Delivering clear messages to the public around the cause and consequence of poor air quality, particularly around impacts on health, are particularly important for driving behaviour change. Campaigns relating to issues such as energy efficiency, domestic smoke control, bonfires, fireworks and indoor air quality can all be valuable parts of a wider local air quality improvement strategy. CYC will continue to address these wider issues, alongside existing public information campaign work relating to sustainable transport provision in the city.
- **Modal shift, active travel and network improvement** - Measures to reduce private vehicle trips and encourage walking, cycling and use of public transport are considered fundamental to AQAP4. CYC's Local Transport Plan (LTP) continues to be a key part of the overall approach to air quality improvement across the city, with active travel at the apex of the city's travel hierarchy.
- **Regulation of industrial and domestic emissions** - In addition to reducing transport pollution, AQAP4 aims to reduce emissions from domestic and industrial combustion / heating, particularly fine particulate matter (PM<sub>2.5</sub>). AQAP4 also recognises the synergies with CYC's carbon reduction programmes and measures to improve energy efficiency and support services.
- **Monitor air quality / access to air quality information** - Monitoring allow CYC to assess compliance with Air Quality Objectives, evaluate the effectiveness of air



quality improvement interventions and provide reliable information to York's residents, visitors and workers to help them reduce exposure. We will ensure that the location and type of monitoring in the city is reviewed annually and remains relevant and targeted to key sources and pollutants. We will seek further opportunities to improve access to air quality information by residents, especially vulnerable groups.

The full list of AQAP4 measures, together with anticipated timescales for planning and delivery is provided in Annex 1.

## 9 Further information

For further information please contact City of York Council's Public Protection team

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## 10 Consultation

We are consulting on the air quality improvement measures in AQAP4 and invite feedback as part of our online consultation at: <https://www.york.gov.uk/consultations> .

The closing date for comments is XXXXXXXX.

## **Annex 1: Air Quality Action Plan Measures: 2023 – 2027**

<<Insert final table of measures>>