

# AIR QUALITY STRATEGY

2017 - 2027



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# FOREWORD

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**The quality of the air that we breathe plays a big part in the health of our local communities. It is our aspiration that people who live in, work in and visit Portsmouth should be able enjoy an environment which is clean and safe, with air quality which is not harmful to health.**

The current legal limits on ambient air quality in Portsmouth, as in many other busy cities, can sometimes be exceeded at certain locations. It is important that we tackle this issue with a robust strategy, leading to sustained actions which will drive forward improvements to air quality across the city.

This ten year strategy sets out Portsmouth City Council's aspirations for improving and maintaining healthy air quality in Portsmouth, promoting joint working amongst departments and stakeholders. The strategy outlines the

consistent approach that is needed to improve air quality across the city.

Portsmouth is a busy, thriving city and meeting the challenges associated with air pollution is no easy challenge. However, we are passionate about making improvements for the benefit and health of the current and future generations.

We are delighted to endorse this strategy to improve air quality in Portsmouth, and the benefits it will deliver to the health of our residents' and people who work in and visit our city.

**Councillor Simon Boshier**

*Portsmouth City Council's Cabinet Member for Traffic and Transportation*

**Councillor Robert New**

*Portsmouth City Council's Cabinet Member for Environment and Community Safety*





# VISION

PORTSMOUTH CITY COUNCIL IS COMMITTED TO WORK COLLABORATIVELY TO IMPROVE AND MAINTAIN A HEALTHY LOCAL AIR QUALITY IN THE CITY IN ORDER TO PROTECT PUBLIC HEALTH AND THE ENVIRONMENT, ENHANCING OUR STATUS AS A GREAT WATERFRONT CITY.



# INTRODUCTION

Clean air is essential for a good quality of life and good health. Those who live and work in Portsmouth, and visitors to the city, deserve to breathe air free from harmful levels of air pollutants. Portsmouth City Council is committed to improving air quality across the city, for the benefit of current and future generations. Minimising air pollution levels will bring significant and lasting benefits - with positive effects on public health, economic development, and population wellbeing. This air quality strategy will contribute to Portsmouth becoming a healthier and more sustainable and prosperous city.

Partnership working is very much at the heart of this strategy. It is only by working

collaboratively both across the council and with external partners that we can bring about meaningful improvements in air quality. A conservative estimate for one type of pollution (particulates) is that it reduces average life expectancy in the UK by around 6 months, worth £16 billion a year (Defra). It is estimated that in Portsmouth, 95 deaths per year occur where air pollution has been a contributing factor (Public Health England). In the UK, this figure is thought to be around 40,000 deaths per year, at a cost of £20 billion annually. The need for a forward looking, ambitious air quality strategy is therefore very important.

**THROUGH THIS STRATEGY, WE WILL STRIVE TO CONSISTENTLY WORK TOWARDS ACHIEVING ALL STATUTORY LOCAL AIR QUALITY STANDARDS CITYWIDE BY 2027.**

# AIR POLLUTION AND SOURCES OF POLLUTANTS IN PORTSMOUTH

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## What is air pollution?

Air pollution can be defined as 'contaminant or pollutant substances in the air at a concentration that interferes with human health or welfare, or produces other harmful environmental effects' [REF European Environment Agency].

## REGIONAL BACKGROUND POLLUTION\*

## LOCAL BACKGROUND POLLUTION\*

## INDUSTRIAL



## SHIPPING



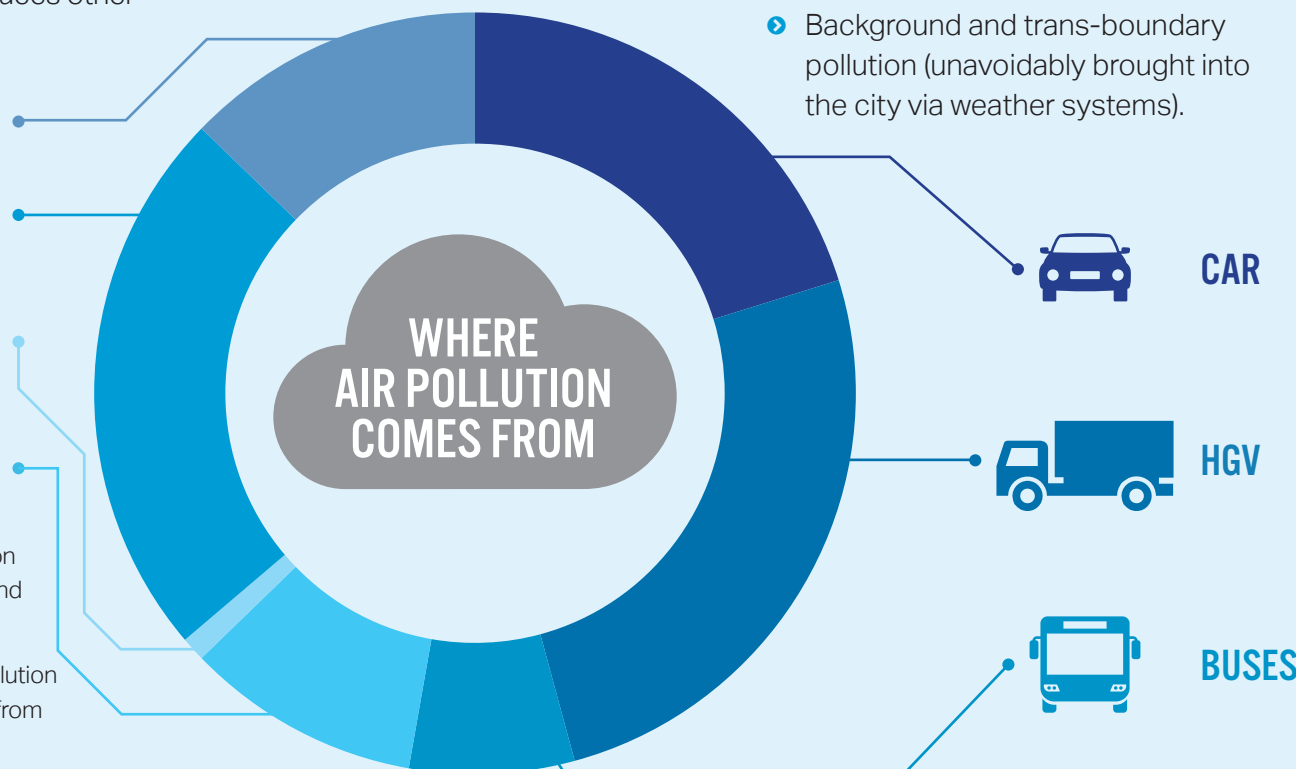
\*Regional Background pollution - pollution that is transported into the city by the wind from further away

\*Local Background Pollution - Other pollution sources within and around the city, e.g. from central heating systems

Most outdoor air pollution in urban areas such as Portsmouth is man-made. Sources of air pollution chiefly comprise those involving combustion processes,

and examples are:

- ▶ Transport, particularly road traffic
- ▶ Industrial, commercial and domestic sources
- ▶ Background and trans-boundary pollution (unavoidably brought into the city via weather systems).



There are many different outdoor air pollutants, including gases and particles. Examples include: benzene, 1.3 butadiene, carbon monoxide, lead, nitrogen dioxide, PM10 and sulphur dioxide.

Vehicles running on diesel fuel, which includes a significant proportion of cars on UK roads, are a notable source of nitrogen dioxide emissions, whilst man-made particulates are derived not only from engine emissions but also from brake and tyre wear.

**Health effects of air pollution are wide ranging. They include but are not limited to:**



#### **SHORT-TERM EFFECTS**

such as worsening of pre-existing heart and lung conditions and respiratory conditions, e.g. asthma, leading to increased hospital admissions



#### **LONG-TERM EFFECTS**

particularly increased mortality from heart and lung conditions



#### **EMERGING EVIDENCE OF FURTHER IMPACTS**

including low birth weight and premature birth in babies, childhood infections, and impaired lung development and function as children grow.

#### **The importance of good air quality**

Air pollution has many negative impacts on human health. These occur in both the short term and the long term, and affect not only the risk of acquiring significant disease, but also the risk of inducing premature death. Moreover, air pollution can have a disproportionate impact on the most vulnerable in society; children, older people, and those with existing medical conditions.

The scientific evidence bears out the unease that residents have expressed over health impacts: negative effects of air pollution are well established and new evidence continues to emerge.



# STATUTORY REQUIREMENTS

Part IV of the Environment Act (1995) requires local authorities to undertake Local Air Quality Management and places an obligation on them to regularly review and assess air quality in their areas.

The air quality standards and objectives for seven pollutants are prescribed by the Air Quality Regulations (2000) and are based on EU limit values. These are shown in figure 2, which illustrates the 2 main pollutants of concern, nitrogen dioxide (NO<sup>2</sup>) and particulate matter (Pm10).

Where an exceedance of nitrogen dioxide (NO<sub>2</sub>) occurs, or is likely to occur, the local authority must declare an Air Quality Management Area (AQMA) and prepare an Air Quality Action Plan, setting out the measures it intends to put in place.

Figure 2: Summary of National Air Quality

Pollutant	Air Quality Objective	
	Concentration	Measured as
Nitrogen Dioxide (NO <sub>2</sub> )	200 µg/m <sup>3</sup> not to be exceeded more than 18 times a year	1-hour mean
	40 µg/m <sup>3</sup>	Annual mean
Particulate Matter (PM10)	50 µg/m <sup>3</sup> , not to be exceeded more than 35 times a year	24-hour mean
	40 µg/m <sup>3</sup>	Annual mean

The units are in micrograms of pollutant per cubic metre of air (µg/m<sup>3</sup>)

## THE PORTSMOUTH CONTEXT

As the UK's only island city, Portsmouth faces a number of unique challenges in improving its air quality. As a densely populated city with high visitor numbers and only three roads linking Portsea Island to the mainland, there is significant potential for congestion within some parts of the city, particularly at peak times. In addition to the impacts of local sources, the city is impacted by harmful trans-boundary pollutants which can be blown into Portsmouth from sources beyond its direct control and influence.

### AIR QUALITY HIERARCHY

**PORTSMOUTH LOCAL TRANSPORT PLAN INCLUDING  
TRANSPORT FOR SOUTH HAMPSHIRE  
POLICY E - (TFSH) TO DELIVER IMPROVEMENTS IN  
PORTSMOUTH AIR QUALITY STRATEGY**

**LONG TERM: PORTSMOUTH AIR QUALITY STRATEGY**

**SHORT TERM: PORTSMOUTH AIR QUALITY ACTION PLAN**

There is an indicator provided by Public Health England (PHE) which captures the impact of fine particulate man-made pollutant PM2.5 on the people of Portsmouth. This is the fraction of all deaths each year in the city attributable to this form of air pollution.

**Latest data, from 2014:**

**5.1%**

England

**5.1%**

Portsmouth

**NATIONALLY, IT IS ESTIMATED THAT THE AVERAGE REDUCTION IN LIFE EXPECTANCY ASSOCIATED WITH THIS FORM OF AIR POLLUTION IS APPROXIMATELY SIX MONTHS.**

Air pollution tends to be worse in those areas which are already relatively more deprived (as shown in Figure 1) as areas of deprivation tend to be located closer to heavy road traffic, worsening health inequities and further widening the inequality gaps which exist within the city.

In 2005, Portsmouth City Council declared 13 AQMAs. Following improvement in nitrogen dioxide levels in the city, eight of these were revoked in 2009, leaving five AQMAs currently in place. The current legal limits on ambient air quality are now being met across the majority of the city, although NO2 levels in the remaining five AQMAs can still exceed these limits and more work needs to be done to address these areas, whilst working to ensure other areas in the city remain below the current legal limits. Portsmouth City Council's Air

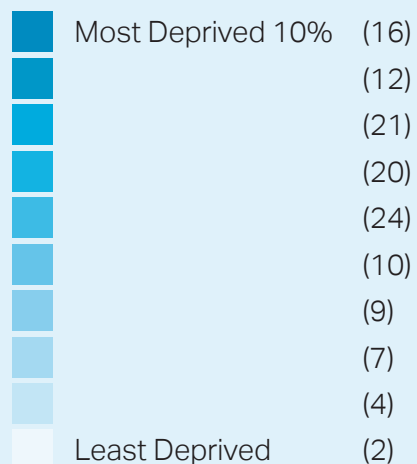
Quality Action Plan sets out the manner in which improvements in these five AQMAs are delivered. Through this plan the Council will strive towards consistently meeting all statutory local air quality standards across the whole of the city. Portsmouth City Council is committed to a continuing improvement in air quality in order to fulfil its legal obligations.

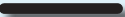
**Figure 1: Index of deprivation (ID) 2015 - map of Portsmouth with the England rank of Index of Multiple Deprivation (IMD) 2015 score in deciles by 2011 Census Lower Super Output Areas (LSOAs) overlaid with electoral wards and AQMAs.**

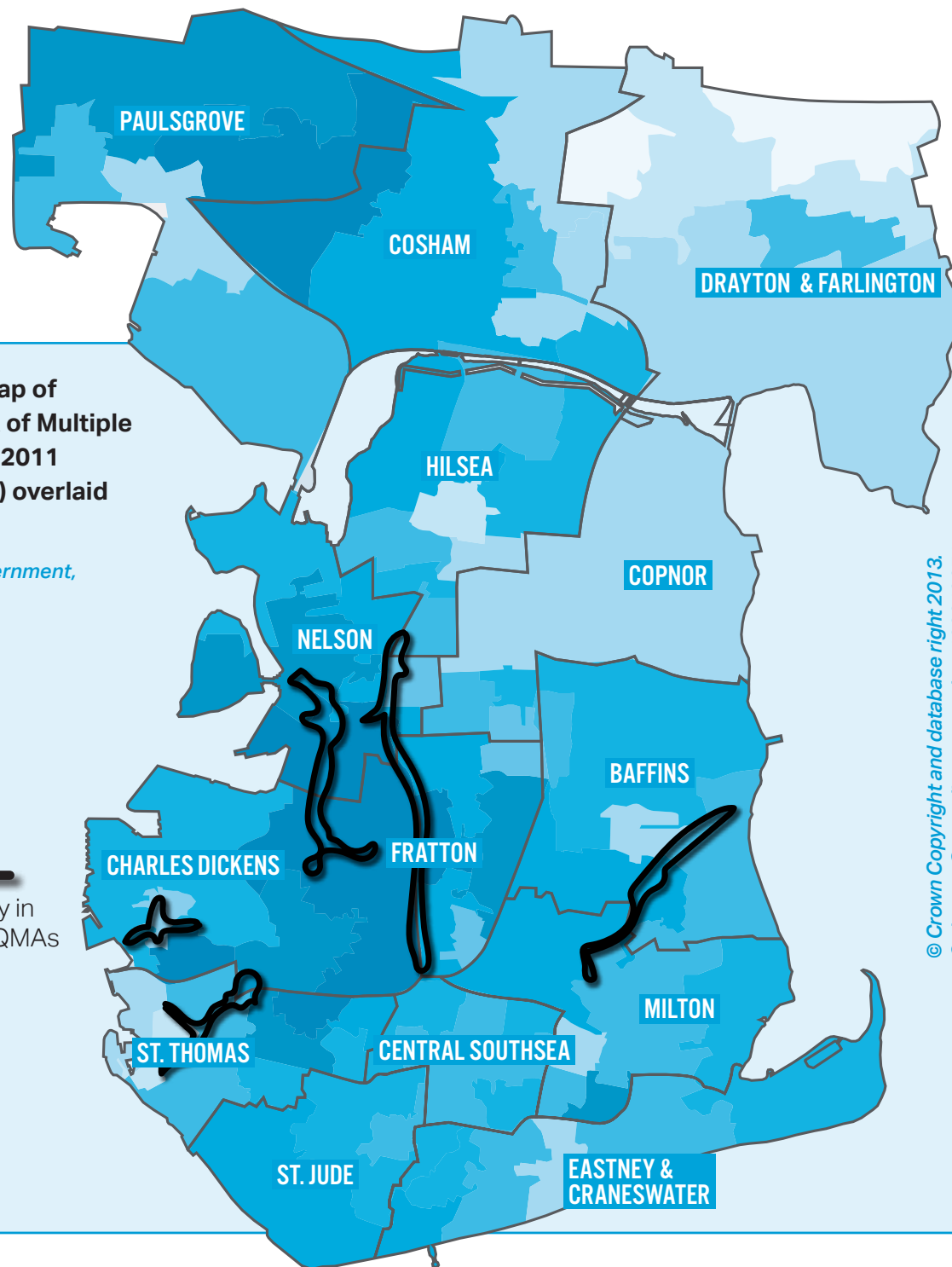
*Source: Department for Communities and Local Government, Indices of Deprivation 2015.*

**England Rank of IMD 2015 score (Decile)**

*By LSOA (no. of)*



 Currently in place AQMAs



PHE also calculate, based on 2010 data, that there is an effect on mortality in the city equivalent to 95 deaths each year at typical ages. In reality air pollution contributes a small amount to the deaths of a large number of exposed individuals (i.e. essentially all Portsmouth's residents) rather than being solely responsible for 95 deaths.

Based on local measurement, the gaseous pollutant nitrogen dioxide is of particular relevance and concern to Portsmouth, impacting upon human health. In the broader context, particulate matter,

especially the smallest of these airborne particles known as PM2.5, are an increasing concern.

#### **What are the views of Portsmouth residents?**

During 2016, Rapid Participatory Appraisals were carried out in areas across the city. These studies are conducted in order to gain insights into the perceived needs and perspectives of local communities. During these appraisals, concerns over levels of pollution in some parts of the city were expressed. Anxieties over

asthma, heart problems and lung disease were all apparent during this community engagement work, demonstrating the importance attributed to good air quality by residents. In short, the desire to act to improve and maintain a healthy air quality is very much shared by those most closely affected: the people of Portsmouth.





## PROGRESS SO FAR

Despite the challenges, significant progress has been made to improve air quality within the Portsmouth boundary. The current legal limits on ambient air quality are now being met across the majority of Portsmouth, with the trend

emerging from each of the four continuous monitoring stations exhibiting a downward trend in NO<sub>2</sub> annual mean levels in the last three years. However, of greatest concern is that levels of particulate matter are increasing on an annual basis.

Work towards raising awareness of, and promoting sustainable and active travel and encouraging less polluting forms of travel has been undertaken.

## SOME KEY ACHIEVEMENTS THAT HAVE BEEN MADE INCLUDE:



### WEIGHT RESTRICTION

Establishment of a weight restriction to prevent HGV's entering London Road, south of Stubbington Avenue, and at Anchorage Park.



### OPTIMISATION

Completion of the ORTMCS (Optimisation of Road Traffic Management Control Systems) work stream which explored the potential for improving air quality through regulation of traffic flow.



### SUSTAINABLE MEASURES

Delivery of a wide package of infrastructure measures to encourage a modal shift from car to more sustainable modes of travel for residents, visitors and commuters, eg. critical east-west links such as Havant Road and Goldsmith Avenue, and Wayfinding system of totem-style waymarkers in support of walking.



### SUSTAINABLE TRAVEL

Delivery of a package of supporting marketing and behaviour change measures to encourage & promote sustainable transport as a viable choice.

# WHAT WE ARE GOING TO DO

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Our commitment to improving the city's air quality is founded on working closely with all relevant partners - both internal and external. This strategy will provide the impetus for dynamically driving forward the local Air Quality Action Plan, updating and reviewing it as necessary, bringing together key stakeholders across the city. The strategy will support the development of a framework for joint working, and embed local air quality at the heart of the council's decision making.

## AIM

**The aim of this strategy is to drive forward Portsmouth's Air Quality Action Plan, which seeks to achieve continual citywide reductions in air pollution, specifically:**



**WITHIN EXISTING AIR QUALITY MANAGEMENT AREAS**



**THROUGHOUT THE CITY AS A WHOLE  
(BACKGROUND AIR QUALITY LEVELS)**



**WITH REGARD TO FULFILLING STATUTORY DUTIES FOR  
LOCAL AIR QUALITY MANAGEMENT AND PUBLIC HEALTH  
(NATIONAL AIR QUALITY)**

This strategy will therefore contribute to the protection of public health and the environment, generate economic benefits, and help towards making Portsmouth a healthier and more sustainable and prosperous city.

# STRATEGIC OBJECTIVES





We will seek to achieve the following strategic objectives (SO):



1

Foster closer working relationships between council directorates and external partners.



2

Create a focus on sustainable travel, including the promotion of a modal shift in transport from the car to active travel.



3

Provide high quality information and guidance on local air quality to members of the public.



4

Develop and implement measures to reduce traffic and congestion-related emissions, addressing road network flow and functionality.



5

Support and stimulate sustainable citywide economic growth, including a focus on reducing carbon emissions.



6

Ensure that as a council we lead by example in supporting sustainable working practices, minimising our own emissions and carbon footprint.

# HOW ARE WE GOING TO IMPROVE AIR QUALITY?

**THE STRATEGIC OBJECTIVES ARE UNDERPINNED BY A SET OF CORE PRINCIPLES, WHICH ARE:**



## 1. EVIDENCE-BASED PRACTICE

Decisions on actions to address air quality will be based on robust, up-to-date evidence. Keeping this evidence under review will ensure the best decisions are made at all times.



## 2. INNOVATION

We will embrace different ways of working and innovative, evidence-based approaches where these have the potential to bring about improvements in air quality.



## 3. COLLABORATIVE WORKING

Reductions in air pollution can only be achieved with buy-in, co-ordination and commitment from all stakeholders, including members of the public.





#### 4. MONITORING & EVALUATION

We will monitor and assess the impact of actions we take to improve air quality in order to keep improving what we do and best inform subsequent steps. This will help to shape the local AQAP.



#### 5. AMBITION

We will strive to reduce air pollution to levels that do not merely meet national targets, but exceed them wherever possible. Such ambition is reinforced by evidence: there are pollutants with no safe level with regard to their negative impact on human health.



#### 6. SEEKING FUNDING

We will seek funding opportunities to assist with air quality initiatives wherever and whenever this is possible.



#### 7. ANALYSIS

Wherever possible, we will analyse the impact of our actions - for example in health or financial terms – that are anticipated or realised from interventions to improve air quality.

# THE APPROACHES WE WILL TAKE

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The various approaches and actions we intend to take to improve local air quality are detailed in the table below. Each approach links to one or more of the key strategic objectives, and will help to guide the development of the Air Quality Action Plan.

WHAT DO WE PROPOSE TO DO?	KEY LINKS TO STRATEGIC OBJECTIVES
Set up multi-disciplinary Air Quality Steering Group to drive forward the clean air agenda	1
Seek opportunities for effective partnership working at all levels	1
Work with the housing sector to minimise domestic sources of air pollution	1
Take opportunities to engage with academic sector and community groups to reinforce shared learning and seek solutions to improve air quality	1
Work with schools to promote active travel and cycling proficiency	1,2
Seek funding opportunities to support the possible introduction of electric buses in Portsmouth	1,2
Investigate the role that green infrastructure can play in Portsmouth in helping to remove contaminants from the air	1,4
Empower businesses and industry to take responsibility for their contribution to air quality and drive down pollution	1,5
Work with Portsmouth International Port and the freight industry to support measures to reduce air pollution from shipping and haulage	1,5
Encourage, incentivise and empower residents and commuters in adopting active travel, for example through improvements in the walking and cycling infrastructure	2
Maximise the availability of sustainable travel options	2,5
Work towards minimising emissions from the city council's vehicle fleet through the uptake of low-emission engine technology and alternative vehicle fuels	2,6

## WHAT DO WE PROPOSE TO DO?

## KEY LINKS TO STRATEGIC OBJECTIVES

Raise awareness of air pollution amongst city residents and workers

3

Consider ways of disseminating messages about air quality during periods of high pollution

3

Continue to implement measures to reduce traffic congestion, particularly on strategic routes and within AQMA's

4

Reduce emissions related to suboptimal traffic flow, through the upgrade of key road junctions with MOVA (Microprocessor Optimised Vehicle Actuation) technology and the development of a sensor network collecting real-time traffic flow information

4

Investigate and trial alternative new technologies to reduce delays across the traffic network

4, 5

Encourage all new commercial, industrial and property developments have a focus on sustainability, and minimise carbon emissions

5

Encourage sustainable regeneration and growth, particularly through transport policies

5

Ensure that businesses that work/contract with the council have green fleet and carbon neutral ambitions.

6

Lead by example as a council in seeking to promote sustainability and reduce our own emissions - for example via our procurement practices and measures that focus on the operation of our vehicle fleet

6

Ensure future revisions of Portsmouth's strategic plans fully recognise air quality issues and where possible minimise their impacts

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# LOOKING TO THE FUTURE

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PORTSMOUTH CITY COUNCIL WILL CONTINUE TO WORK,  
IN PARTNERSHIP, TOWARDS MAKING PORTSMOUTH A  
MORE ATTRACTIVE PLACE TO LIVE IN, WORK IN AND VISIT.

THE DEVELOPMENT OF OUR PORTSMOUTH AIR  
QUALITY STRATEGY WILL DRIVE IMPROVEMENTS  
TOWARDS A HEALTHIER CITY FOR ALL.





## References

*Air Quality Plan for NO<sup>2</sup> in the UK (2015)*

*Air Quality Strategy for England, Wales, Scotland, NI (2007)*

*National Air Quality Objectives*



You can get this information in large print, Braille, audio or in another language by calling 023 9283 4672

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