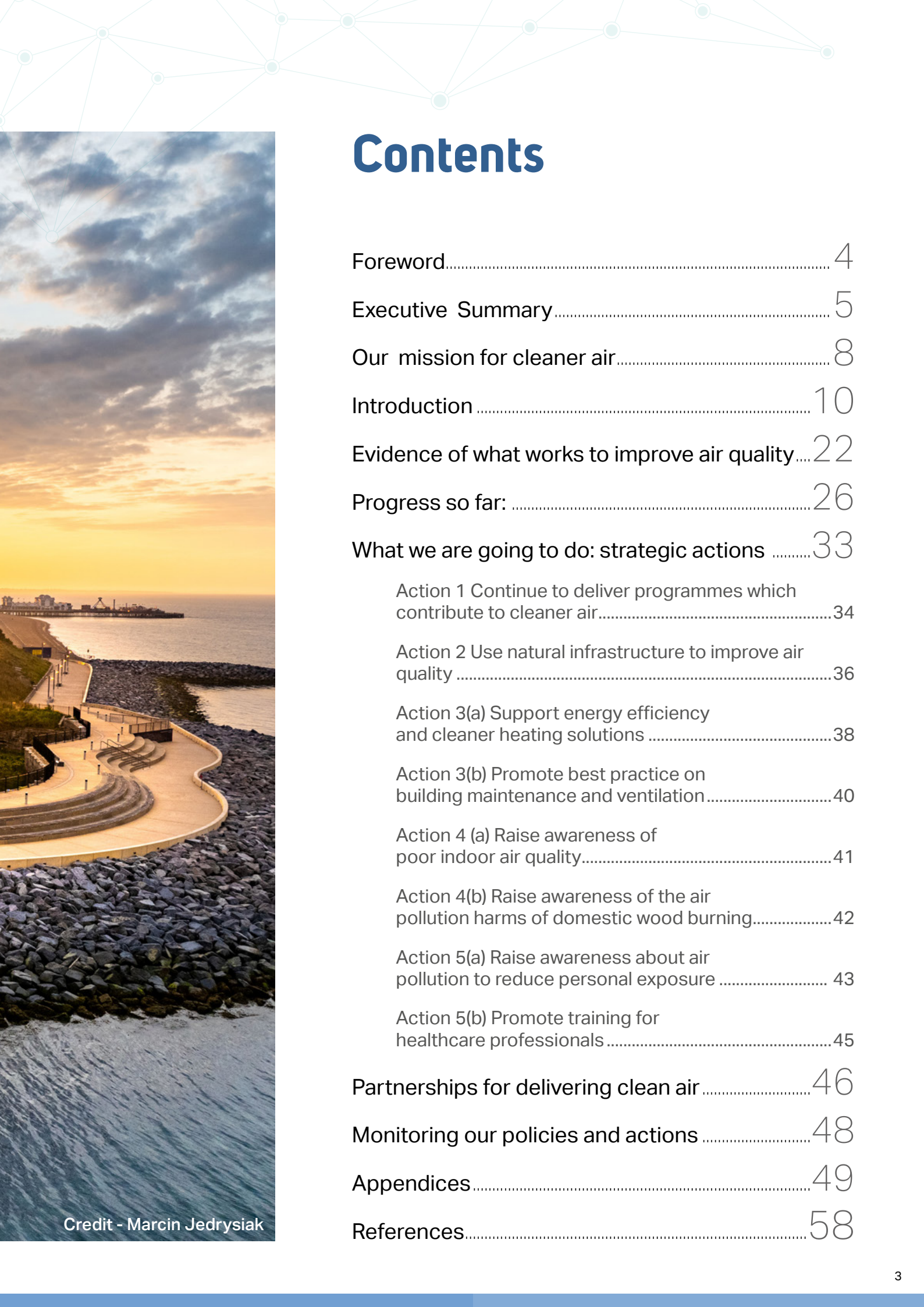


Clean Air Strategy 2026–2040

Improving Air Quality for a Green and Healthy Future







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Credit - Marcin Jedrysiak



Foreword

The evidence is clear that air pollution impacts our environment and our bodies in many harmful ways. Among those who are most affected are children, the elderly, and those with pre-existing health conditions.

Recognising this priority, the Clean Air Strategy 2026–2040 takes a long-term approach to tackling air pollution in the city, putting our residents with the greatest needs at the heart of our efforts.

The strategic actions in this strategy provide a focus for efforts to deliver cleaner air for our city, building on all the existing good work across the Council which contributes to improved air quality.

The strategy emphasises the role we can all play in achieving cleaner air in Portsmouth.

It also recognises that air pollution respects no boundaries, so to improve air quality locally, we must work with all local, regional and national partners.

While there are significant challenges to address to achieve cleaner air, we are confident that by working together we can really make a difference.

Cllr Kimberly Barrett, Cabinet Member for Climate Change and Greening the City

Cllr Peter Candlish, Cabinet Member for Transport

Cllr Darren Sanders, Cabinet Member for Housing and Tackling Homelessness

Cllr Matthew Winnington, Cabinet Member for Community Wellbeing, Health & Care

Executive Summary

Clean air is essential for a good quality of life and good health. The air that we breathe and the quality of that air affects us all, whether we live, work, study or play in the city. 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.

The World Health Organisation (WHO) has called air pollution (both indoor and outdoor) 'the biggest environmental risk to health'.¹ There is strong evidence that air pollution causes the development of coronary heart disease, stroke, respiratory disease, and lung cancer, exacerbates asthma and has a contributory role in mortality.² It is estimated that long-term exposure to outdoor air pollution in the UK has an annual effect equivalent to between 29,000 to 43,000³ deaths and 328,000 to 416,000 life years lost.⁴

In 2023, the proportion of adult deaths attributable to long-term exposure to particulate air pollution in Portsmouth was estimated to be 5.2% (around 1 in 20 deaths), the same as the value for England as a whole.⁵ In previous years, the proportion was higher in Portsmouth than in England. Ongoing monitoring will confirm if this improvement is a downward trend.

Air quality affects everyone, but there are inequalities in exposure, and air pollution has the greatest impact on the most vulnerable. Those who are the most susceptible to the effects of air pollution are children, older people, those with long-term health conditions, and those living close to main roads where pollution is worst.

Air pollutants of concern to health include particulate matter, nitrogen dioxide and ozone,

among others. Currently, the pollutants causing the most significant health impacts in the UK are emissions of nitrogen dioxide and particulate matter (NO₂, PM_{2.5} and PM₁₀).

The main source of air pollution from nitrogen oxides in the UK is transport, which accounts for 49%.⁶ Other sources are industrial, commercial, domestic, and background and trans-boundary pollution (unavoidably brought into the city via weather systems).

The Clean Air Strategy 2026 – 2040 presents **a new mission for cleaner air** in the city.

Everyone in Portsmouth should be able to breathe air that does not damage their health and wellbeing. We will:

- **Prevent sources of pollution**
- **Limit exposure to pollution**
- **Protect the most vulnerable**

This approach prioritises prevention of pollution first, focusing on limiting exposure to pollution next. Action will be taken to protect the most vulnerable in particular, to avoid exposure to pollution. To do this, we will focus on areas of highest pollution and sites where those more vulnerable to air pollution live, learn and visit - schools, care homes and healthcare sites.

We are taking a 'One Council' approach to tackling air pollution in the city. This means that all relevant directorates and departments — Transport, Regulatory Services, Planning, Housing, Neighbourhoods & Buildings, Portsmouth International Port, Climate Resilience & Natural Environment, and Public Health — are working together to improve air quality, building on the good work that has already been



undertaken. Existing strategies that support cleaner air in the city include the Portsmouth Transport Strategy 2021–2038 (also known as Local Transport Plan 4 or LTP4), the Green Infrastructure Plan and the Clean Air Zone. Focusing on air quality specifically, the Clean Air Strategy recognises their contribution and

recommends additional strategic actions, listed in the table below.

For the first time these apply to both outdoor and indoor air quality. All the actions contribute to the mission for cleaner air for Portsmouth.

Strategic action	Prevent	Limit	Protect	Improves indoor AQ	Improves outdoor AQ
1. Continue to deliver transport, environmental, energy services and planning programmes which contribute to cleaner air	✓	✓	✓	✓	✓
2. Use natural infrastructure to improve air quality	✓	✓		✓	✓
3. (a) Support energy efficiency and cleaner heating solutions	✓			✓	✓
3. (b) Promote best practice on building maintenance and ventilation to improve indoor air quality	✓	✓		✓	
4. (a) Raise awareness of poor indoor air quality and provide solutions	✓	✓	✓	✓	
4. (b) Raise awareness of the air pollution harms of domestic wood burning and offer recommendations regarding exposure to air pollution	✓		✓	✓	✓
5. (a) Raise awareness about air pollution to reduce personal exposure			✓	✓	✓
5. (b) Promote training for healthcare professionals			✓	✓	✓

Reducing air pollution has many well-evidenced co-benefits. Some air pollutants are also greenhouse gases, which contribute to climate change. Additional co-benefits include increasing active travel and consequently physical activity,^{7,8} increasing workers' productivity,^{9,10} and improving the health of vulnerable groups (children, elderly and socioeconomic deprived) and those with chronic conditions such as asthma and other respiratory diseases¹¹ which can be exacerbated by air pollution.

Striving to achieve the targets set out by the World Health Organisation in its Global Air Quality Guidelines¹² will motivate Portsmouth City

Council to go further and faster for the benefit of residents than is currently required by the UK's national legal standards. We have set interim levels for NO₂, PM_{2.5} and PM₁₀ at five-year staging posts for the lifetime of the strategy, against which we will judge its effectiveness.

The Clean Air 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.



Our mission for cleaner air

Mission statement

Everyone in Portsmouth should be able to breathe air that does not damage their health and wellbeing. We will:

- **Prevent sources of pollution**
- **Limit exposure to pollution**
- **Protect the most vulnerable**

While the UK government sets regulatory standards for air quality (against which we assess ourselves every year), the World Health Organisation (WHO) has stated that in terms of human and environmental health, **'there is no evidence of a safe level of exposure or a threshold below which no adverse health effects occur.'**¹³

While not legally binding, striving to achieve the targets set out by WHO in its [Global Air Quality Guidelines](#)¹⁴ will motivate Portsmouth City Council to go further and faster for the benefit of residents than is currently required by the UK's national legal standards (most recently updated by the Environmental Improvement Plan 2025).¹⁵ These targets are set out in the table below. There is also a clear economic rationale: in achieving the clean air targets set by WHO, the UK economy could benefit in the region of £1.6 billion per year.¹⁶ The CBI estimate that the economic benefit associated with reducing NO₂ in Portsmouth amounts to £0.5 million.¹⁷

There are clear co-benefits for both health and the environment if we tackle air pollution and climate change together. Many sources of air pollution are also sources of greenhouse gas emissions. Combustion results in carbon dioxide and air pollutants, while emissions from road transport, energy and domestic solid fuel burning are some of the most common sources contributing to both climate change and air pollution. Evidence suggests that it is potentially more cost-effective for local authorities to integrate air quality and climate change policy. Integrating policy helps to manage any trade-off and to justify measures.¹⁸

Our mission statement reflects both national public health guidance¹⁹ and the thematic approach of the Portsmouth Public Health Strategy.²⁰

The timeframe 2026 to 2040 aligns with both the [Portsmouth Local Plan](#) and the [Imagine Portsmouth 2040 vision](#) for the city.

Particulate Matter (PM_{2.5} & PM₁₀) and Nitrogen Dioxide (NO₂) target levels 2026–2040

Pollutant	Portsmouth highest mean annual concentration level 2024	UK limit levels prior to Environmental Improvement Plan 2025	New UK target by 2030 and 2040	Local interim target 2030	Local interim target 2035	Local target 2040	WHO Air Quality Guidance level (no specific target date)
PM _{2.5}	10	10 by 2040. Target 35% in pollution exposure reduction measured against 2018	35% reduction by Dec 2040 compared with 2018. 10 by 2040. Interim targets: Population exposure reduction of 30% compared to 2018 by Dec 2030, concentration target 10 by 2030	9	7	5	5
PM ₁₀	16.5	20	-	15	12.5	10	15
NO ₂	35	40	Reduce by 73% from 2005 baseline	30	20	10	10

Notes:

- Measurements are micrograms per cubic metre (µg/m³).
- Actions taken to reduce PM_{2.5} concentrations are expected to also help in managing and reducing PM₁₀.
- For more about how each pollutant affects human health, see the [table on page 15](#).
- Highest annual levels are derived from the city's six continuous monitoring stations, which provide the most accurate data available to us.
- WHO Air Quality Guidance levels in the above table are over an 'annual averaging time'. Achieving WHO targets will ensure that UK targets are also attained.
- Target levels are subject to revision should WHO guidance and/or national government policy change and may also be subject to revision following devolution and/or local government reorganisation.

Introduction

Air quality in Portsmouth

Nationally, outdoor air quality has improved for all major pollutants over the last decades.

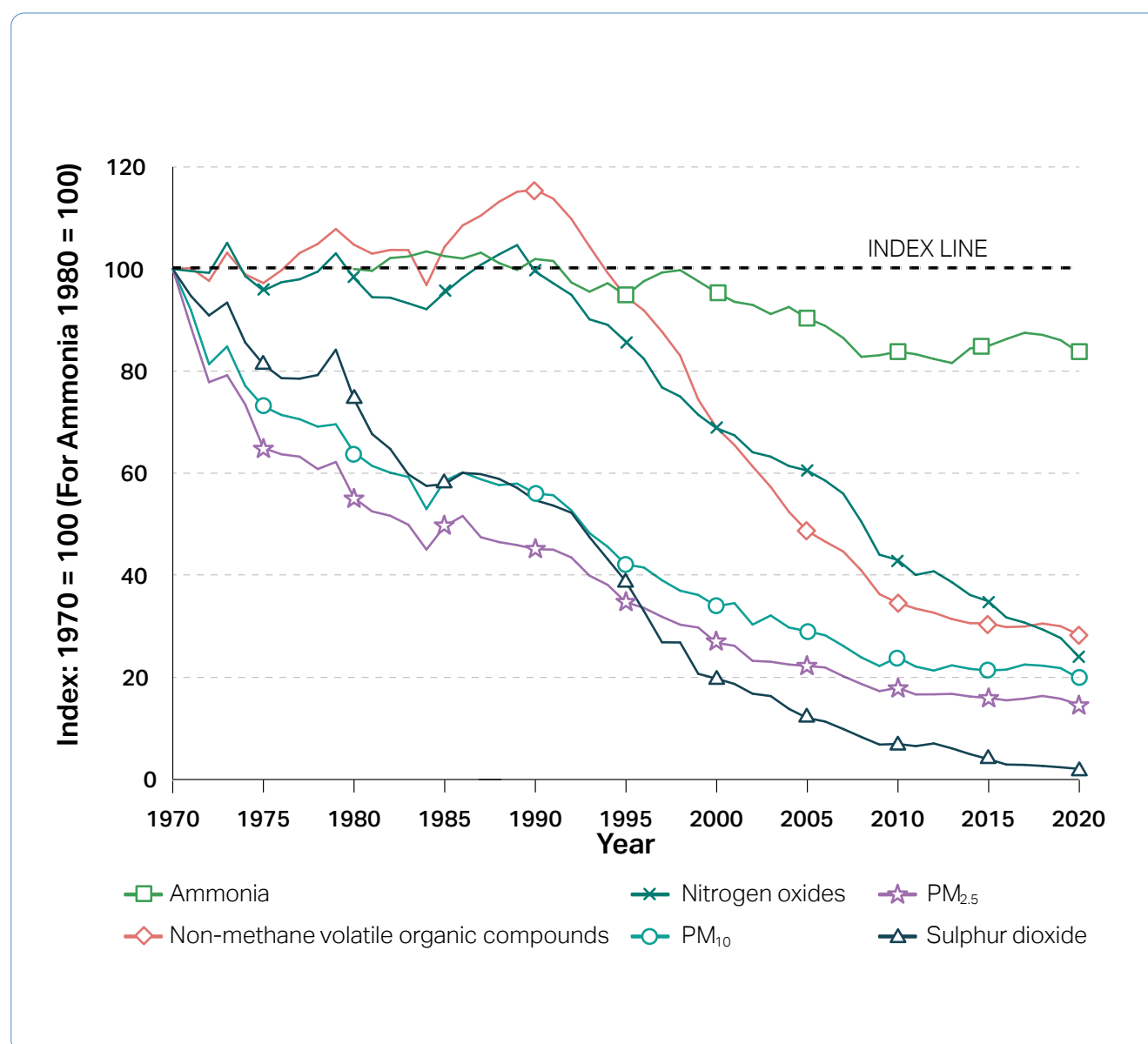


Figure 1: UK air pollution emissions between 1970 to 2020. Defra. Emissions of air pollutants in the UK, 2022.²¹

The main source of air pollution from nitrogen oxides in the UK is transport, which accounts for 49%.²² Other sources are industrial, commercial,

domestic, and background and trans-boundary pollution (unavoidably brought into the city via weather systems).

However, sources of air pollution change over time, and we must work with our regional partners and national government to address these, adapting policy and plans accordingly. Defra's Air Quality Expert Group have identified seven potential risks in years to come:²³

- Systemic underperformance of technical and regulatory air pollution abatement
- Multi-causal increases in atmospheric ammonia over the UK
- Increasing concentrations and health impacts of ultrafine particles (UFP)
- Emergence of novel airborne materials and health effects
- Climate-driven drought effects and increasing particulate matter (PM) pollution
- Enhanced emissions of biological particles and antimicrobial resistance (AMR)
- Loss of confidence in air pollution science and increasing uncertainty in forecasting

D01 - Fraction of mortality attribute to particulate air pollution (new method); trend among persons aged 30+ years in Portsmouth and comparator areas, 2018 to 2023

Proportion (%) and 95% confidence intervals (where available)

Area Name ■ England ○ Portsmouth △ South East Region ◇ Southampton

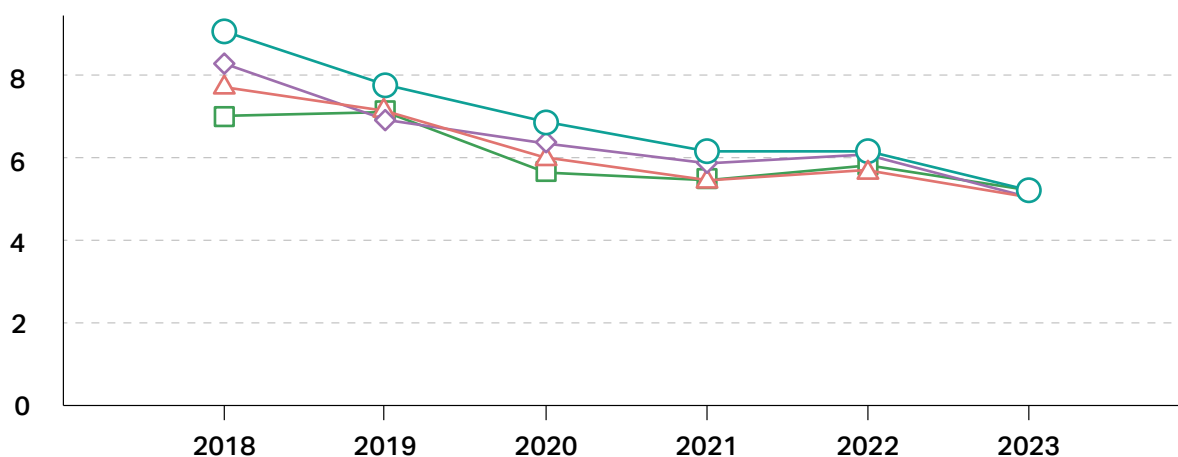


Figure 2: Fraction of mortality attributable to particulate air pollution — trend among persons aged 30+ years in Portsmouth and comparator areas, 2018 – 2023. Source: Public Health Outcomes Framework. Office for Health Improvement and Disparities, 2025.

In 2023, the proportion of adult deaths attributable to long-term exposure to particulate air pollution in Portsmouth was estimated to be 5.2% (around 1 in 20 deaths), the same as the value for England as a whole.²⁴ In previous years,

the proportion was higher in Portsmouth than in England. We will continue to monitor figures over coming years to confirm if this improvement is an ongoing downward trend.

Statutory requirements

The UK sets annual average limits for nitrogen dioxide and particulate matter. The UK's legal limit for nitrogen dioxide is $40 \mu\text{g}/\text{m}^3$ (micrograms per cubic metre of air). However, the World Health Organisation is clear that 'there is no evidence of a safe level of exposure or a threshold below which no adverse health effects occur.'²⁵ The WHO guideline states that annual average

concentrations of nitrogen dioxide should not exceed $10 \mu\text{g}/\text{m}^3$.²⁶

In 2023, nitrogen dioxide annual mean levels in Portsmouth were $42 \mu\text{g}/\text{m}^3$ and above at three locations in the city, all along major road links.²⁷ While the downward trend over the years since the pandemic is encouraging, more can be done to protect the health of residents from the harms of air pollution.

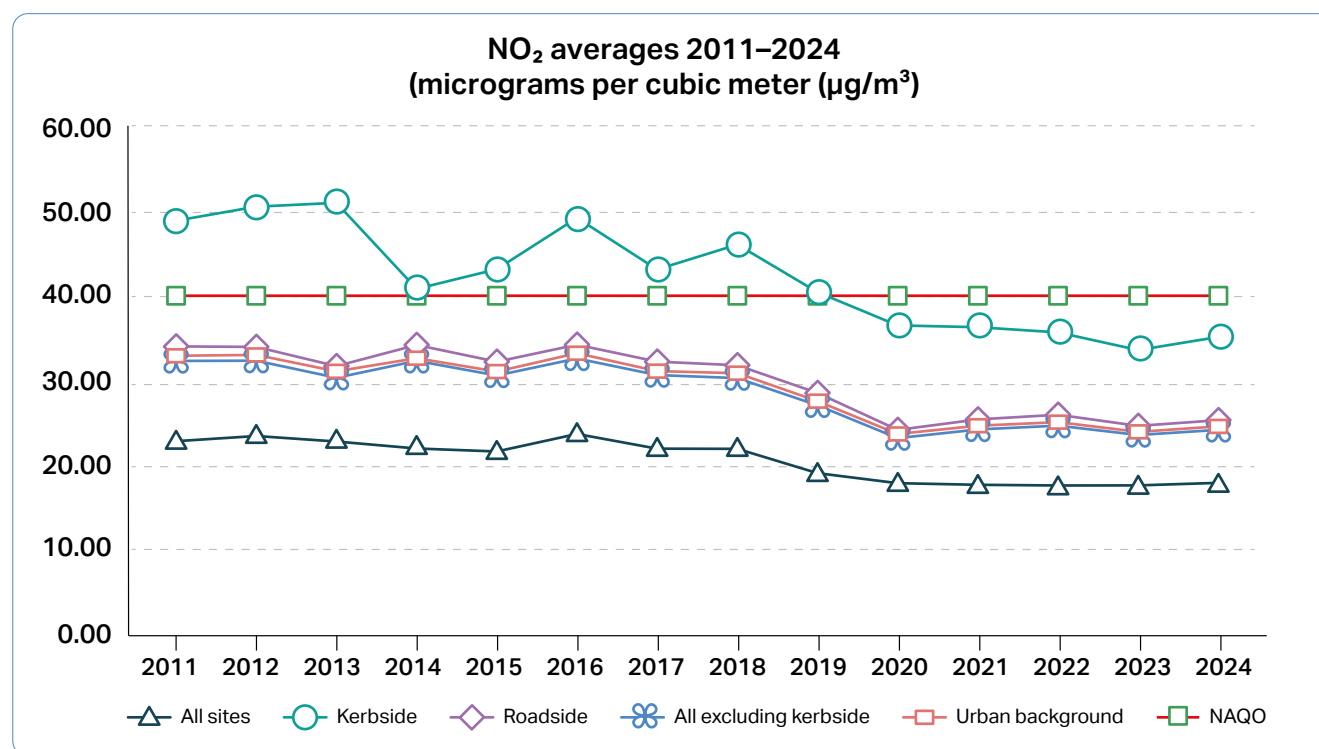


Figure 3: Average NO₂ air pollution reduction in Portsmouth, 2012–24. Source: Portsmouth City Council. The graph shows the 27 longest running monitoring locations (diffusion tubes). The results have been averaged for each year at each location (Kerbside - within 1m of the road; only one location); Roadside (within 2m of the road); and Urban background - streets with low traffic volumes).

Local authorities have a duty to address air pollution in their area which exceeds legal limits. This includes declaring Air Quality Management Areas (AQMAs) and publishing Air Quality Action Plans (AQAPs) setting out the measures they will

take to reduce pollution. There are currently five AQMAs in Portsmouth. In 2017 around 3% of the Portsmouth population lived within an Air Quality Management Area.

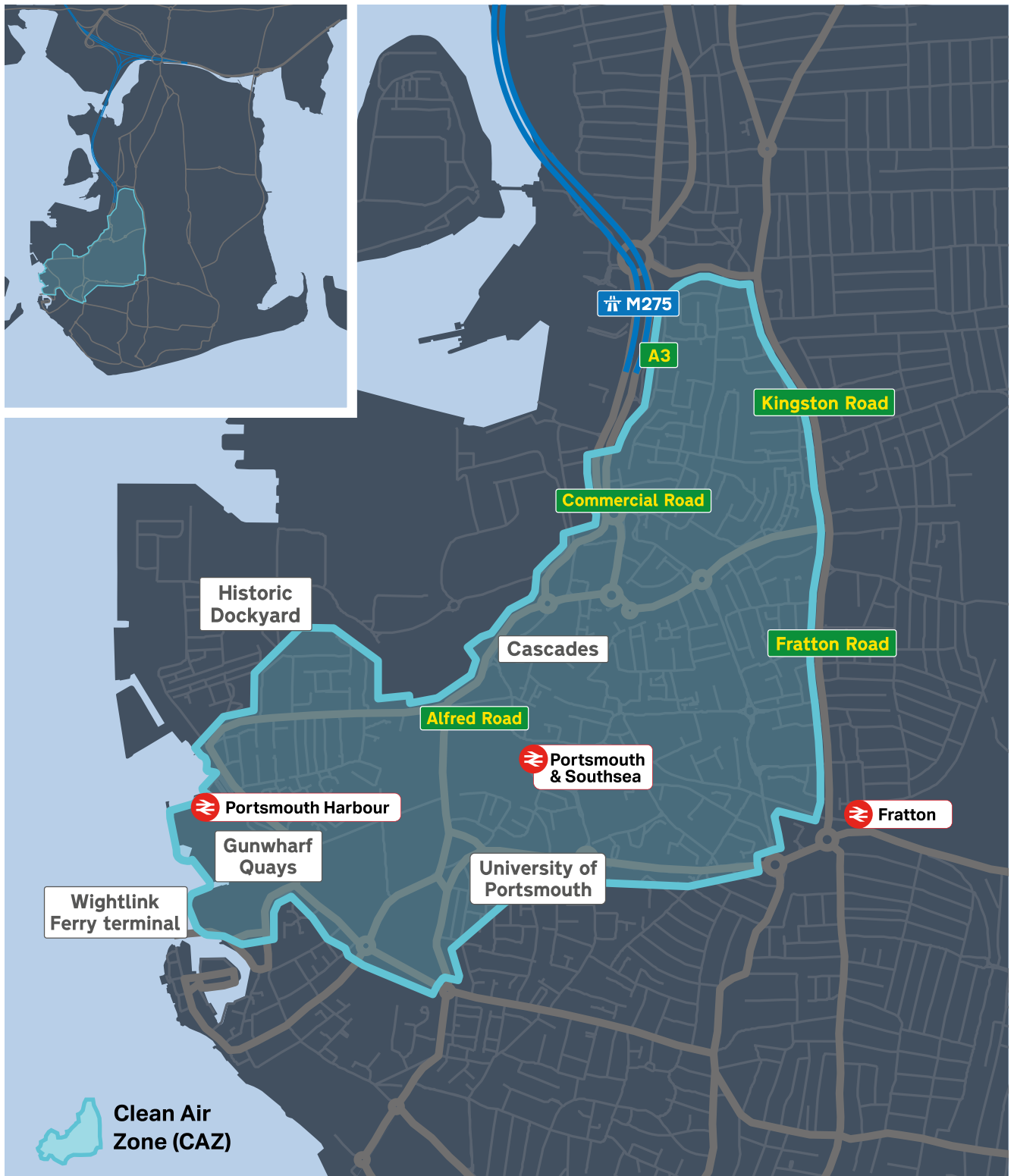


Figure 4: Map showing Portsmouth's Clean Air Zone

Portsmouth has been issued with ministerial directions identifying the city as one which needs to reduce air pollution levels as quickly as possible.²⁸ The Council has worked closely with Government's Joint Air Quality Unit (JAQU) to develop an Air Quality Local Plan which aims to reduce levels of nitrogen dioxide in the city to below legal limits in the shortest possible time. A charging Clean Air Zone was introduced in 2021. Non-compliant vehicles are those which do not meet Euro 6 (diesel) or Euro 4 (petrol) standards for emissions in the categories mentioned. These may include older Heavy Goods Vehicles (including some larger motorhomes), buses and coaches, taxis and private hire vehicles.

No single intervention to improve air quality is most effective alone. Combined interventions tailored to specific places work best. Many are already underway in the city, including promotion of active travel and public transport, provision of infrastructure to enable a transition away from fossil fuels for road vehicles and ferries, comprehensive air quality monitoring and clean energy through the Switched On Portsmouth programme, together with improvements to building efficiency. These are explored in more detail below.

How air pollution affects health

'Air pollution affects us all. It is associated with impacts on lung development in children, heart disease, stroke, cancer, exacerbation of asthma and increased mortality, among other health effects. Except for air quality in our own homes, we have little control as individuals over the level of pollution that we and our families breathe – this must be seen as a societal problem to solve.' — Chief Medical Officer, Annual Report 2022: Air pollution

Research suggests that air pollution has negative effects on human health throughout the course of people's lives, from before birth to old age (as summarised in Figure 5). There is strong evidence that air pollution causes the development of coronary heart disease, stroke, respiratory disease, and lung cancer, exacerbates asthma, and has a contributory role in early death.²⁹ In the UK, outdoor air pollution contributes to approximately 29,000 to 43,000 deaths³⁰ and as many as three million sick days each year,³¹ resulting in a detrimental societal impact to both the population's health as well as its economy.

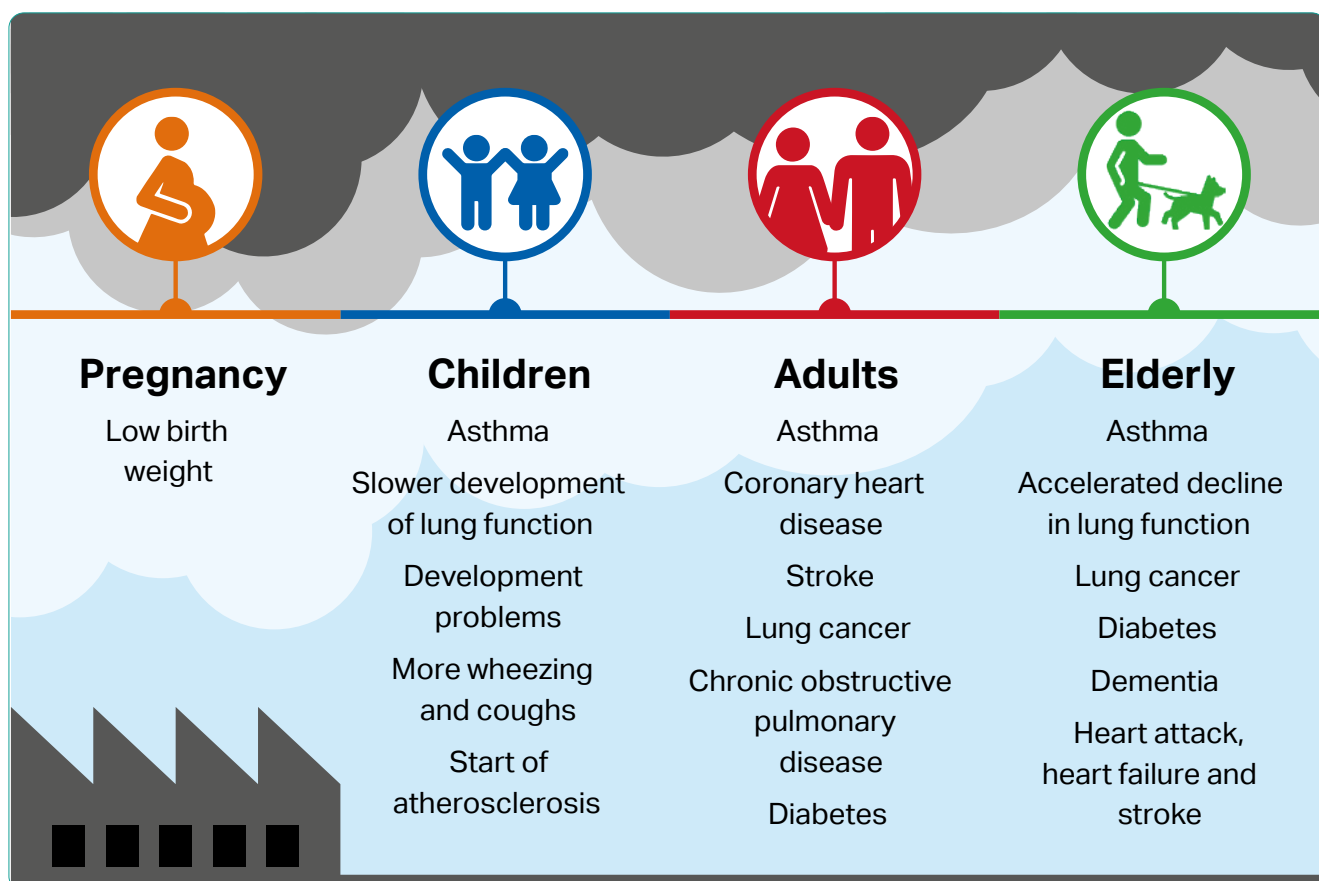


Figure 5: Health effects of air pollution throughout life. Chief Medical Officer's Annual Report 2022: Air Pollution.³²

Air pollutants of concern to health include particulate matter, nitrogen dioxide and ozone, among others. Currently, the pollutants causing the most significant health impacts in the UK are emissions of nitrogen dioxide and particulate matter (NO₂, PM_{2.5}, and PM₁₀).

Pollutant	Health effects at very high levels
Nitrogen dioxide, sulphur dioxide, ozone	These gases irritate the airways of the lungs, increasing the symptoms of those suffering from lung diseases
Particulate matter	Fine particles can be carried deep into the lungs where they can cause inflammation and worsening of the heart and lung diseases.
Carbon monoxide	This gas prevents the uptake of oxygen by the blood. This can lead to a significant reduction in the supply of oxygen to the heart, particularly in people suffering from heart disease.

These pollutants put us in danger of developing ill health at an increasingly younger age. They affect us throughout our lifetime and play a significant role in health outcomes.

Increasingly it is recognised that indoor air pollution can affect health as much as outdoor emissions, particularly as air quality outside improves. It is estimated that people spend 80–90% of their time indoors (homes, schools, workplaces, other public spaces and transport).³³

The negative impacts of poor air quality are unequally distributed. Air pollution particularly

affects the most vulnerable in society: children, the elderly, and those with existing heart and lung conditions. Additionally, people living in less affluent areas are most exposed to dangerous levels of air pollution.³⁴

Asthma and Lung UK have identified that 99.8% of schools in England are in areas where PM_{2.5} exceeded WHO recommended limits³⁵ while 37% of GP surgeries in England and 26% of care homes in England are similarly located.³⁶ The NHS is committed to reducing its contribution to air pollution through the NHS Green Plan.³⁷

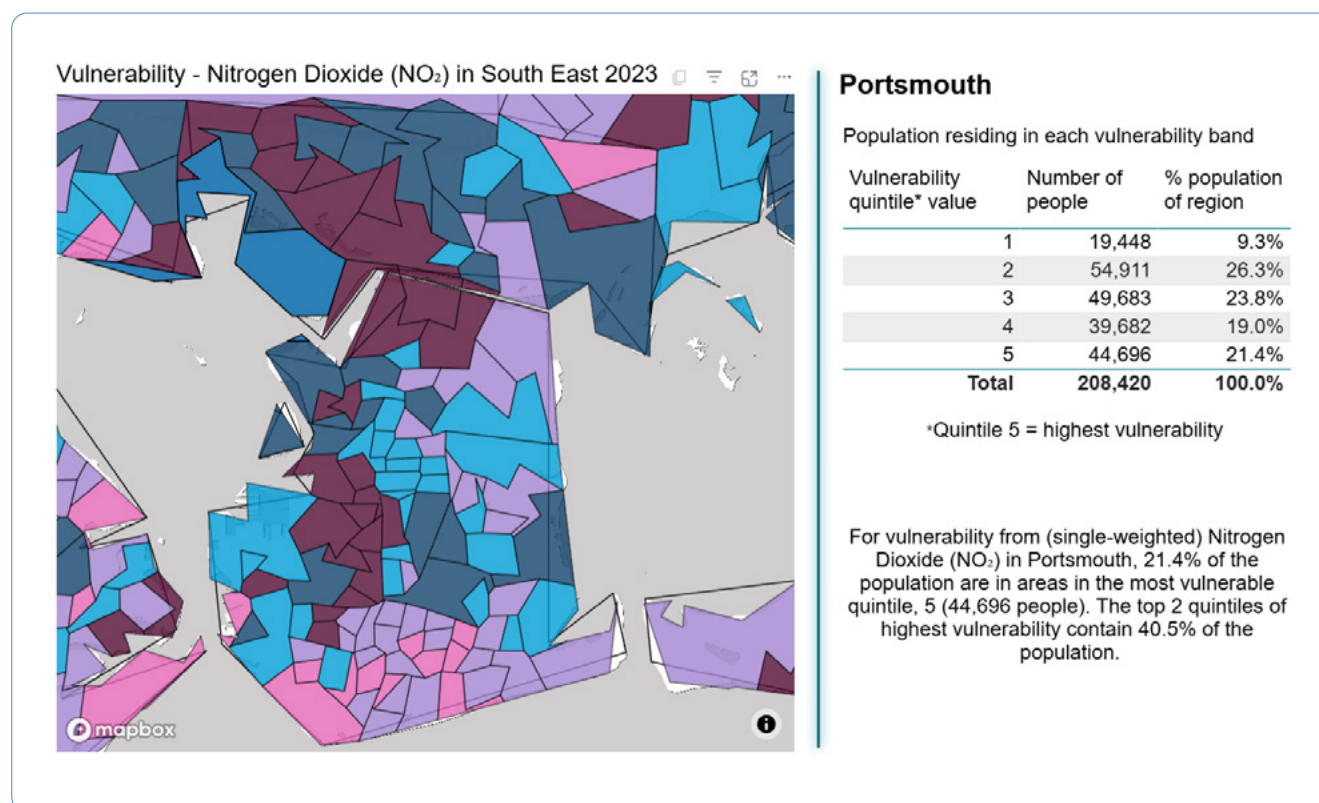


Figure 6: Vulnerability to nitrogen dioxide (NO₂) in Portsmouth. Source: UKHSA, Air quality vulnerability index, pilot data.

Deprived communities are disproportionately exposed to higher levels of pollutants and therefore experience more severe consequences. For example, areas of deprivation tend to be located closer to heavy road traffic (where air quality is worse). Those living in more deprived areas are also more likely to be

living with other factors associated with health inequality, such as obesity and heart disease, which exacerbate the effects of air pollution, while also being more likely to smoke.³⁸ Portsmouth's five Air Quality Management Areas (AQMAs) largely sit in the most deprived and densely populated areas of the city.

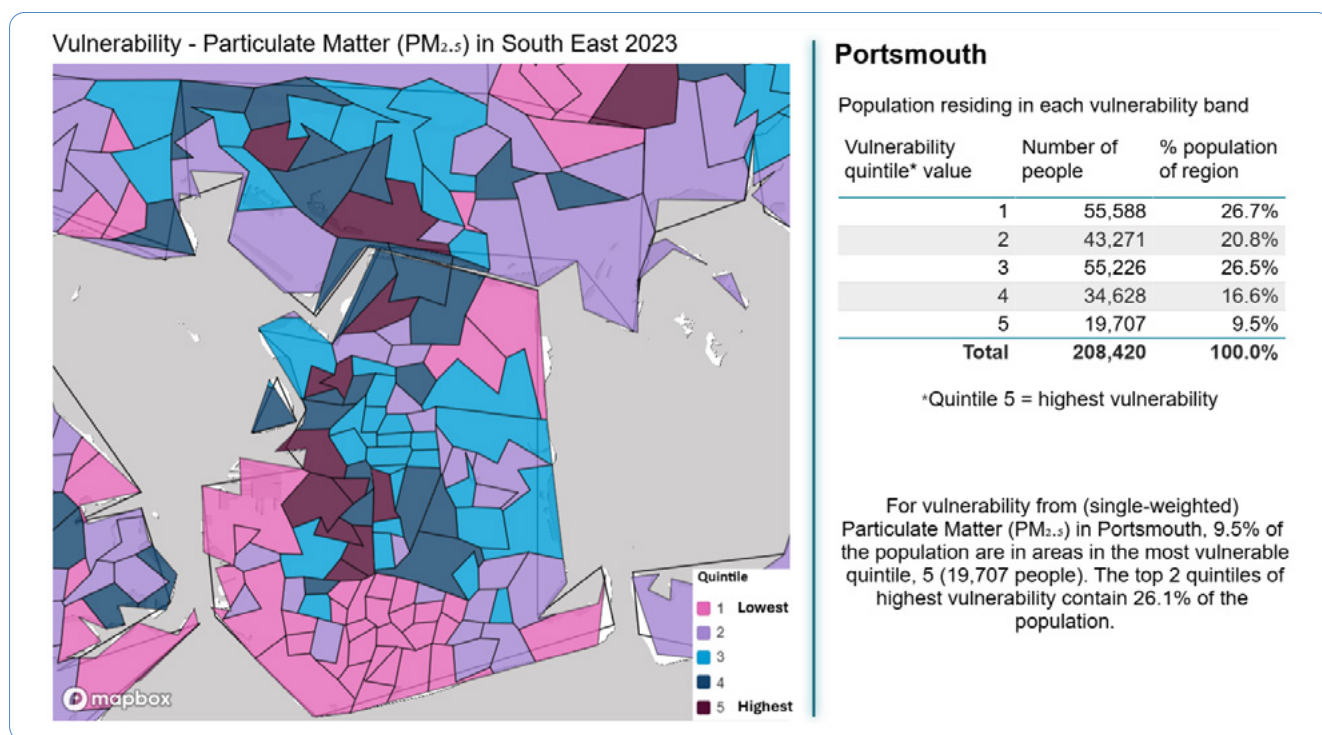


Figure 7: Vulnerability to particulate matter (PM_{2.5}) in Portsmouth. Source: UKHSA, Air quality vulnerability index, pilot data.

The UK Health Security Agency has estimated air pollution vulnerability for Portsmouth, shown in figures 6 and 7:

- 40.5% of the population are estimated to be in the most vulnerable quintiles for nitrogen dioxide (NO₂) air pollution (around 84,378 people).
- 26.1% of the population are estimated to be in the most vulnerable quintiles for particulate matter (PM_{2.5}) pollution (around 54,335 people).³⁹

Using 2019 as a baseline and NO₂ as the pollutant, the UKHSA has estimated that if Portsmouth was able to move all of those residents classed as being in the high exposure group into the low exposure group (levels of less than 20.5 µg/m³), there could be a saving of £2.04 million per 100,000 people by 2030 and £6.63 million per 100,000 by 2040 for all cumulative combined costs for health and social care.⁴⁰

Using 2019 as a baseline and $PM_{2.5}$ as the pollutant, the UKHSA has estimated that if Portsmouth was able to move all of those residents classed as being in the high exposure group into the low exposure group (levels of less than $12.3 \mu g/m^3$), there could be a saving of £6.8 million per 100,000 people by 2030 and £19.53 million per 100,000 by 2040 for all cumulative combined costs for health and social care.⁴¹

Those with the greatest exposure are also the lowest emitters. Despite being one of the most polluted areas of the city, in the most deprived areas in Charles Dickens (our most deprived ward), a majority of households don't have access to a car.⁴²

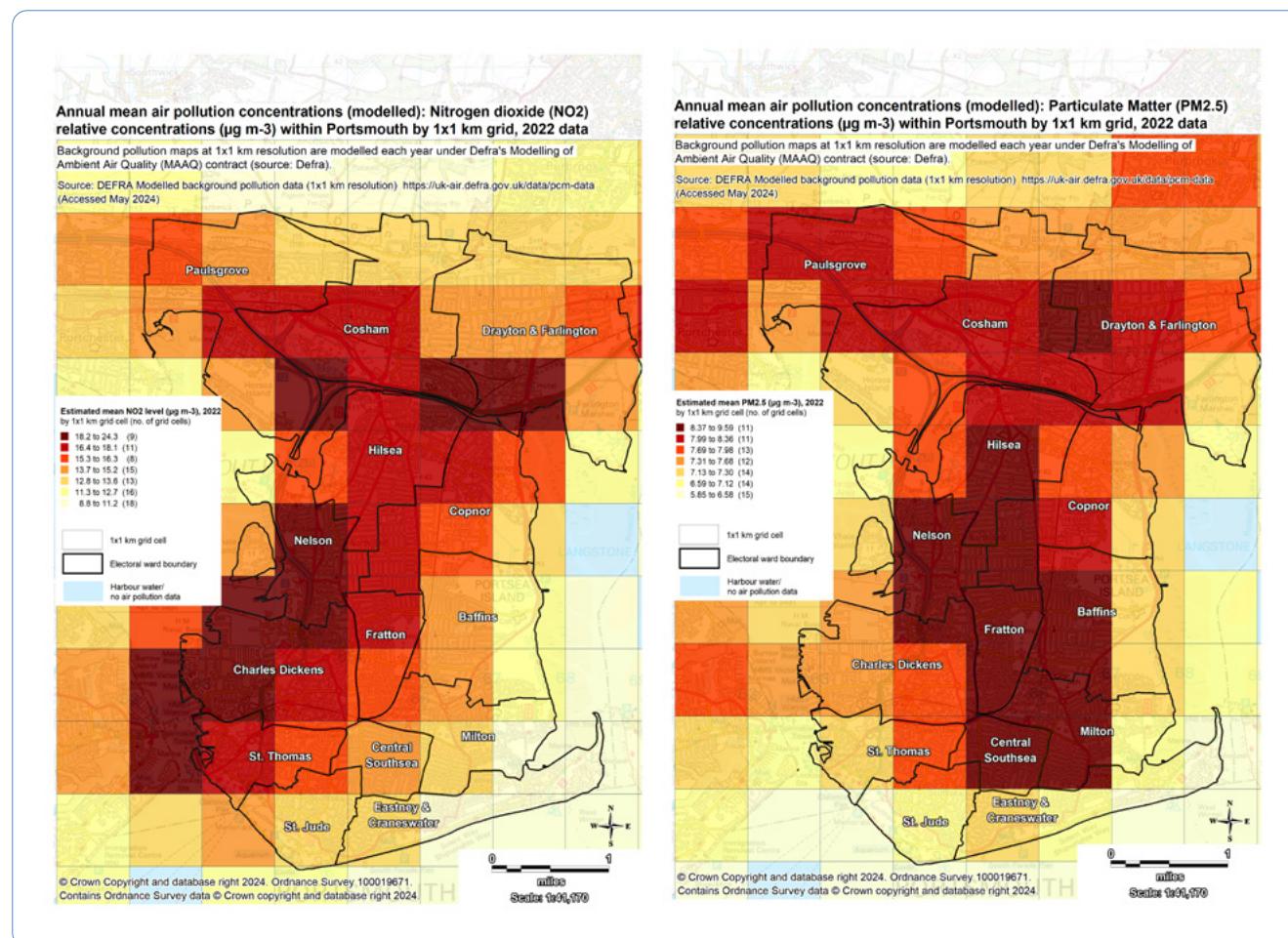


Figure 8: Annual mean air pollution concentrations (modelled): nitrogen dioxide (NO₂) and annual mean air pollution concentrations (modelled): particulate matter (PM_{2.5}). Source: Defra Indices of multiple deprivation, 2019.

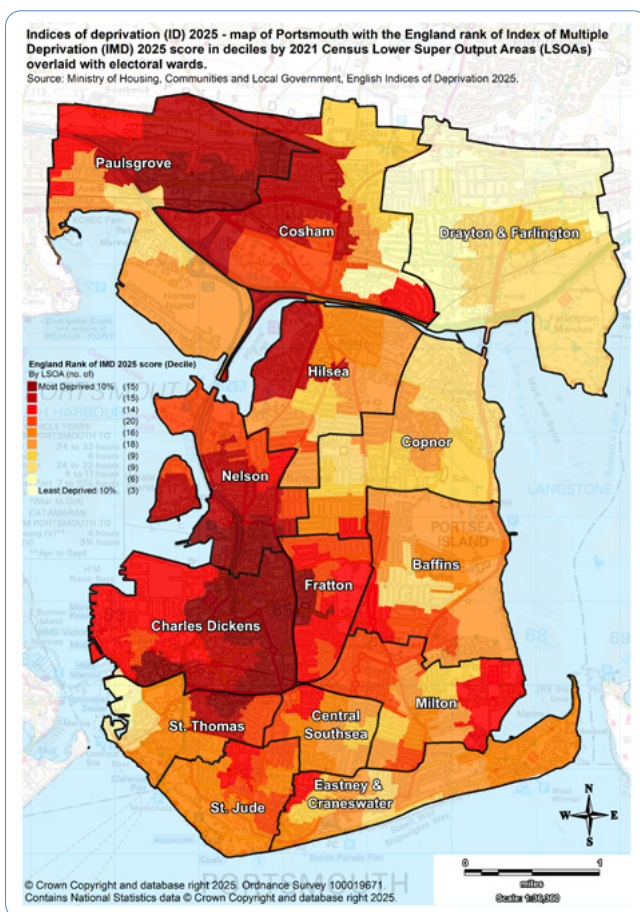


Figure 9: Indices of deprivation, 2025. Source: Ministry of Housing, Communities and Local Government.

It is clear from the maps in figures 8 and 9 that there is a correlation between the areas of greatest air pollution, and those where there are higher levels of socioeconomic deprivation.

Tackling air pollution is good for our city

Portsmouth is a fantastic coastal city with many assets and a real sense of community and place. We have an extraordinary natural environment, world-leading status in industries including marine technology, aerospace and defence, and a vibrant cultural sector. Our university is thriving and respected and we have plans for regeneration of the city, including sites in the city centre and at Tipner.

Portsmouth is home to over 210,000 people, with all the diversity, opportunities and the challenges that come with being one of the most densely populated local authorities outside London. It is largely an island city with several suburbs on the mainland to the north. Seventy-five per cent of the population lives on Portsea Island. The island has a flat landscape that lends itself well to journeys on foot and by bike. There are three roads onto the island and one rail line with five stations in Portsmouth. Over 7,500 businesses are located in the city.

Ensuring that the air we breathe is cleaner will help protect and enhance the city's assets and contribute to the vision of a green and healthy city in 2040.

Air pollution and climate change

When we improve air quality, we are also likely to be supporting the Council's decarbonisation/net zero programme. The World Bank has stated that 'air pollution and climate change are two sides of the same coin, but they are typically addressed separately. They should be tackled jointly, with a focus on protecting peoples' health'.⁴³ The co-benefits are set out in the Institution of Environmental Sciences' [Integrating Action on Air Quality & Climate Change: A Guide for Local Authorities](#). Many sources of air pollution are also sources of greenhouse gas emissions. Combustion results in carbon dioxide and air pollutants, while emissions from road transport, energy and domestic solid fuel burning are some of the most common sources contributing to both climate change and air pollution. Evidence suggests that it is potentially more cost-effective for local authorities to integrate air quality and

climate change policy; many of the transport interventions likely to benefit air quality are also estimated to result in the greatest carbon reduction. Integrating policy helps to manage any trade-off and to justify measures.⁴⁴

Imagine Portsmouth 2040

The [City Vision](#) sets out the aspirations the people of Portsmouth have for their city, how they want people to behave towards each other, and how it should feel to live here. The Vision sets out six clear aspirations, four of which are directly relevant to air quality and active travel — that in 2040 Portsmouth will be: a healthy and happy city; a green city; a city with easy travel; and a city with a thriving economy.

The health and economic benefits of improving air quality are shown in figure 10.

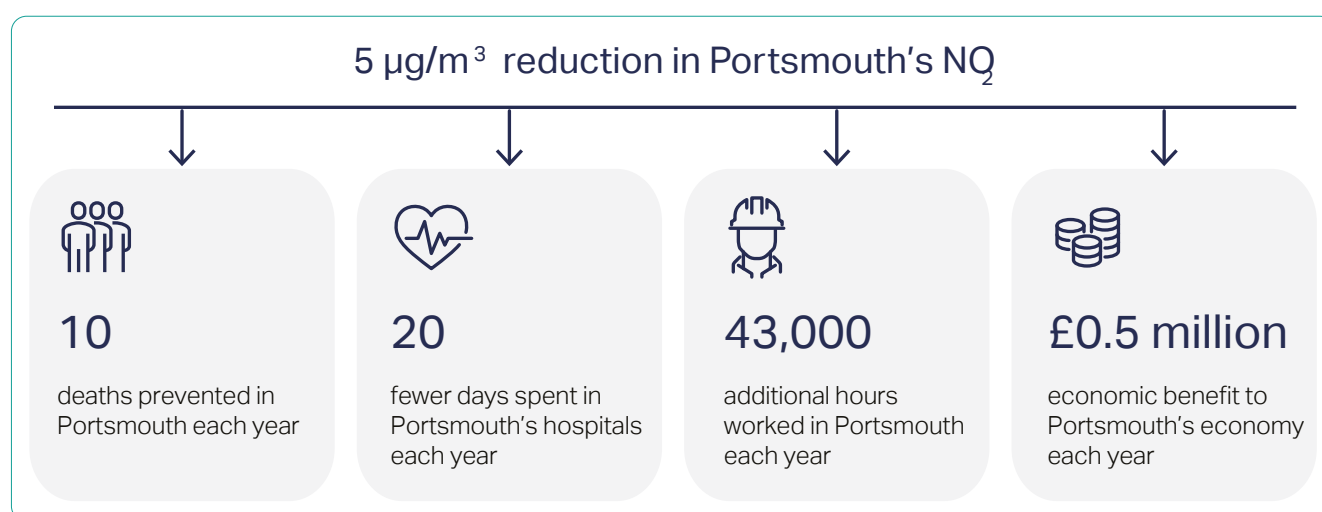


Figure 10: Economic and health benefits associated with reducing NO₂ in Portsmouth. Source: CBI Economics analysis⁴⁵

National policy and strategy

The national [Clean Air Strategy](#) (2019) and Defra's [Air Quality Strategy: Framework for Local Authority Delivery](#) (2023) set out the government's plans for dealing with all sources of air pollution, making our air healthier to breathe, protecting nature and boosting the economy.

The national Air Quality Strategy sets out the actions that Defra expects local authorities to take in support of the government's long-term air quality goals, including ambitious new PM_{2.5} targets. It suggests that local authorities should robustly assess the monetised benefits

of air quality interventions, implementing those which boost healthy life expectancy and are economically beneficial to their area.

The government publishes evidence of damage costs for pollutants, which local authorities can use to support economic assessment of air quality interventions. Local authorities should integrate climate change mitigation and adaptation measures with measures which improve air quality, while actions to reduce air pollution impacting biodiversity form an integral part of local authorities' duty to conserve and enhance biodiversity.



Evidence of what works to improve air quality

To establish what works best to improve air quality in a city like Portsmouth, an evidence review of local, national and international research and guidance was undertaken, and concluded the following:

- **A hierarchical approach to tackling air pollution** – prevent, mitigate, avoid – is the most effective. Our mission statement above reflects this.
- **No single intervention is most effective.** The cumulative impact and the context is important, in other words, where the intervention is taking place, and for the benefit of whom.

Interventions likely to deliver the most benefit are:



Transition to zero emission transport

Providing supporting infrastructure such as electric vehicle charging facilities, shore to ship power, and alternative fuel facilities, to enable transition of private cars, vans, buses, HGVs and ferries to zero emission propulsion. Also implementing arrangements (such as the CAZ and planned changes to Residential Parking Permits) to incentivise this transition.



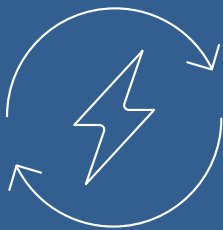
Increased use of walking, cycling & public transport

Promoting walking, wheeling, cycling, and public transport where possible, and creating infrastructure which separates these modes from general traffic to improve safety, reliability & speed. The Portsmouth Transport Strategy (LTP4) sets policies which strongly promotes this approach.



Urban planning, policy and environmental health regulation

Protecting urban populations from heavy industry emissions; measures to reduce traffic in urban neighbourhoods, such as the Active Pompey Neighbourhood scheme; smoke control areas; expanding public transit systems; clean construction; increased green infrastructure to capture pollutants; reducing waste/landfill emissions; managing traffic flow; clean energy generation.



Clean energy and building efficiency

For housing, public buildings and businesses.



Individual behaviour change

Training health and social care staff to give information to patients; promotion and incentives for greater use of walking/cycling/ public transport; driver education (e.g. anti-idling campaigns, eco-driving training), provision of air quality maps / information assisting vulnerable users to avoid polluted routes; indoor air quality awareness, including stopping smoking; fewer polluting wood burning stoves, used less often; and other avoidance actions for the most vulnerable.



Comprehensive air quality monitoring

Allowing us to understand how interventions contribute to improving air quality and amend our policies if necessary.



Figure 11: Sources of indoor air pollution. VOC: volatile organic compound.

We have used this evidence to develop the actions set out below and we encourage our partners in the city to consider how they can also implement interventions which contribute to cleaner air in the city.

As efforts to tackle outdoor air pollution have become more effective, greater emphasis has been placed on the importance of also addressing indoor air quality. Our evidence review looked at what works to improve indoor air quality. We spend as much as 80–90% of our time indoors and need to better understand the effect this may be having on our health and wellbeing.⁴⁶ Sources of indoor air pollution include cooking, solid fuel burning, and volatile organic compounds (VOCs) emitted from cleaning and other products.

The National Institute for Health and Care Excellence (NICE) issued an evidence-based guideline on [Indoor Air Quality at Home](#) in 2020. It included recommendations on:

- prioritising indoor air quality in local strategy or plans
- housing assessment referrals
- raising awareness of poor indoor air quality in the home and advice for the general public
- advice for people with pre-existing health conditions and pregnant women

- using standards to improve indoor air quality
- ensuring architects and designers take account of indoor air quality
- ensuring builders, contractors and developers comply with building standards
- ensuring rental properties comply with regulations

The actions we develop on indoor air quality will follow this guideline as well as the advice in the Chief Medical Officer's annual report 2022 on air pollution, which states that tackling indoor air quality can be split into three overriding principles: reducing sources, managing pathways and protecting people.⁴⁷

Reducing sources of pollution

There are many potential sources of air pollution that may contribute to the quality of air we breathe indoors (see figure 11).⁴⁸ Burning wood or other solid fuels in wood burners or on open fires releases PM_{2.5} — one of the most harmful pollutants to our health⁴⁹ — into the environment and also directly affects indoor air quality. In the UK, domestic combustion leads to the emission of approximately as much PM_{2.5} as from road transport.⁵⁰ PM_{2.5} is widely recognised as one of the most harmful pollutants to our health.

Switching to cleaner heating solutions can contribute to improving air quality both indoors and outdoors, so reducing the impact on the local population's health. Our energy advice service, Switched On Portsmouth, offers energy and money saving tips and advice as well as access to schemes offering cleaner heating solutions.

There is some evidence that air purifiers with high energy particulate air (HEPA) filter systems can improve indoor air quality. Evidence also suggests that some plants can also help to remove air pollutants from the indoor environment.

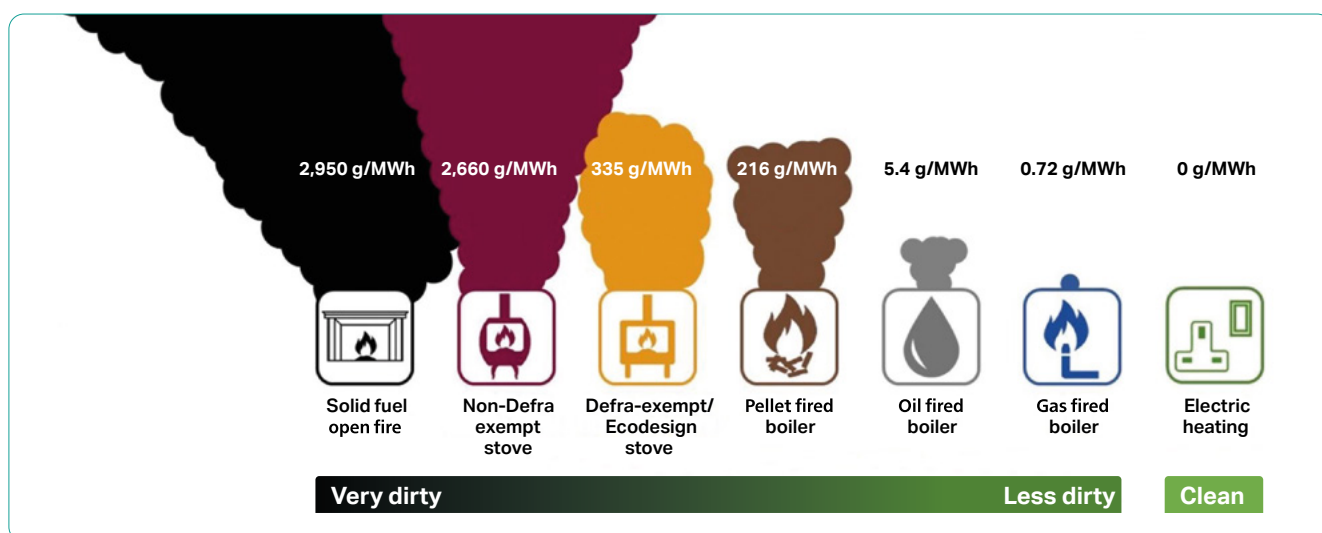


Figure 12: The relative PM_{2.5} emissions from domestic heating methods. Chief Medical Officer, Annual Report 2022: Air Pollution .

Improving ventilation

Alongside indoor sources of air pollution, outdoor air pollution can enter the indoor environment in a number of ways including natural ventilation (windows and doors), infiltration through cracks and leaks in the building, and (predominantly in workplace or public buildings) through mechanical ventilation, fans or air conditioning units.⁵¹ This can be a positive in areas of improved outdoor air pollution but is a negative in areas where air quality is poor, such as near busy roads and industrial sites.

Natural ventilation can aid dispersal of polluted indoor air through wind flow. To a degree,

vegetation such as trees and hedging can act as a barrier between heavily polluted roads and nearby buildings.

Protecting people from pollution

Protecting people involves the adoption of policies and actions to help residents reduce their exposure to air pollutants, such as:

- tackling damp and mould in social housing through the Council's [Local Authority Housing Damp and Mould Policy](#)
- behaviour change, raising awareness of the benefits to health from using personal and cleaning products containing fewer VOCs

Progress so far:

Existing Portsmouth City Council policy and plans which improve air quality

Portsmouth Transport Strategy 2021–2038

Much of the work to achieve cleaner air outdoors is already underway in the city. Around half of all air pollution comes from transport and a range of strategies which address this have recently been published by the Council's Transport team. The [Portsmouth Transport Strategy 2021–2038](#) (also known as Local Transport Plan 4 or LTP4), includes four objectives which contribute to cleaner air and in particular to our overall objective to reduce sources of pollution (Prevent).



Deliver cleaner air

Everyone who lives in, works in or visits the city should be able to breathe air that does not damage their health. To deliver the levels of reduction in pollution needed, a range of complementary measures is needed. These include: the Clean Air Zone, providing more electric vehicle (EV) charge points, including for taxis; progressive change of taxi licensing rules; using parking permit fees to encourage low emission and fewer vehicles; changes to parking capacity and pricing, including expanding park and ride and creating a transport hub; and exploring ways to discourage private off-street non-residential car parking while enabling alternatives to car use. Alongside these measures, the other strategic objectives support reductions in air pollution through their associated policies.



Prioritise walking and cycling

Most trips within the city are short but despite this, the car is too often the default choice. Without quality walking and cycling infrastructure, we know that people who walk or cycle find routes unappealing and have fears around safety, as well as a perception that private cars are more convenient.⁵² Following the Manual for Streets user hierarchy recommendations, we prioritise pedestrians and people who cycle followed by public transport users, specialist service vehicles and then other motor traffic. To do this we provide traffic-free cycle routes and high-quality walking connections, as well as a range of other supporting interventions. This also provides space to safely accommodate people with mobility issues, as well as new technologies, such as e-bikes and e-scooters. Promoting active travel can result in reduced emissions, helping to tackle climate change and improve air quality, while also contributing towards the Chief Medical Officer's recommended 150 minutes of physical activity for adults each week.⁵³



Transform public transport

While the city benefits from five rail stations and some high-frequency bus corridors, there are limited public transport services in some areas of the city, and a lack of priority slows buses down, making them less attractive. This means that it is routine for people to use private cars for very local journeys. We are gradually building the South East Hampshire Rapid Transit (SEHRT) network, which will provide a bus rapid transit network building on the existing Eclipse route between Fareham and Gosport and Star corridor from Waterlooville to Clanfield. We work with bus, rail and ferry operators to deliver wider improvements to services both across the city and to longer-distance destinations, improving journey times, creating higher frequency services and continue to simplify fares and support innovation to improve customer service. We also work with operators to try to ensure that all communities have adequate access to bus services. Improved interchanges at stops and stations alongside local 'hubs' help integrate public transport with 'first/last mile' transport such as cycling, cycle hire and e-scooters.



Support business and protect our assets

The success of the economy in Portsmouth is intertwined with the International Port and naval base. The ports, along with the thousands of other businesses and organisations within the city including industrial and business parks, must be served by an efficient transport network. Consequently, we seek to ensure the main highway accesses to the city are focused on supporting essential trips, particularly for freight, which cannot easily be made by other modes. Recognising the vital role goods vehicles play in the city we are working with stakeholders to understand how efficiency and sustainability can be increased. We support greater adoption of consolidated deliveries, to help reduce the number of goods vehicles on our streets, while boosting efficiency for business. We ensure that the road network and all highway infrastructure is well maintained, its performance monitored and is configured appropriately to enable traffic to flow effectively and efficiently. Technology and innovative approaches are employed to increase the capabilities of the network and to prepare for the vehicles of the future.

The [Portsmouth Transport Implementation Plan](#) provides an indicative prioritised delivery plan for the period 2025/26 to 2027/28, and an indicative plan up to 2038, of the actions which will enable us to achieve all the strategic objectives, including delivering cleaner air.

Portsmouth Transport Strategy policies The Portsmouth Transport Strategy sets out 18 policies, set out in the table below, which the Council is working to deliver. Most of these policies are expected to support cleaner air in the city, with Policies A to F being the ones that are most closely focused on supporting the strategic objective of delivering cleaner air .		Deliver cleaner air	Prioritise walking and cycling	Transform public transport	Support business and protect our assets
Policy A: Implement a government-directed city-centre Clean Air Zone in 2021. Portsmouth Clean Air Zone (CAZ) has been in operation since November 2021, charging the most polluting buses, coaches, taxis, private hire vehicles (PHVs), and heavy goods vehicles (HGVs) in five areas that exceed national air quality standards.		✓			
Policy B: Support infrastructure for alternative fuelled vehicles. Implement the On-street Residential Chargepoint Scheme (ORCS), providing a network of rapid charge points across the city, and support the electrification of buses.		✓		✓	
Policy C: Make parking easier in residential areas through encouraging fewer vehicles and supporting shared transport modes. Continue to expand the coverage of Residents Parking Zones (RPZs), adjust RPZ permit pricing to incentivise alternative fuel vehicles, and promote shared mobility options like car clubs and e-scooter/e-bike schemes.		✓	✓	✓	
Policy D: Expand the Portsmouth Park & Ride to create a transport hub to reduce pollution and congestion in the city and increase transport choices. Expand capacity at Tipner Park & Ride and encourage greater use of P&R through parking price and capacity changes in city centre area; and increase range of facilities such as cycle parking, electric vehicle charging, and rental e-scooter/e-bike bays; promotion to boost user numbers.		✓	✓	✓	✓
Policy E: Explore private non-residential parking restrictions to encourage mode shift and help pay for improved walking, cycling and public transport infrastructure. Investigate the potential for a Workplace Parking Levy (WPL) scheme to raise revenue for sustainable transport improvements and reduce non-residential parking spaces.		✓	✓	✓	
Policy F: Deliver and support residential and business behaviour change initiatives to encourage people to walk, cycle and use public transport and to travel more safely. Expand marketing and communications programs to provide information on sustainable travel, and run campaigns like Bikeability courses to promote cycle safety.		✓	✓	✓	✓



	Deliver cleaner air	Prioritise walking and cycling	Transform public transport	Support business and protect our assets
Policy G: Establish a cohesive and continuous network of attractive, inclusive, safe and accessible walking and cycling routes accompanied by cycle parking facilities.	✓	✓		✓
Policy H: Introduce a network of active pompey neighbourhoods and school streets that reduce through traffic in residential streets.	✓	✓		
Policy I: Improve the city centre, local and district centres by reducing or removing general traffic, with access focused on walking, cycling and public transport.	✓	✓	✓	✓
Policy J: Prioritise local bus services over general traffic to make journeys by public transport quicker and more reliable and support demand-responsive transport services.	✓		✓	✓
Policy K: Develop a rapid transit network that connects key locations in the city with South East Hampshire and facilitates future growth.	✓	✓	✓	✓
Policy L: Deliver high quality transport interchanges, stations and stops.	✓	✓	✓	✓
Policy M: Continue to work with public transport operators to deliver integrated, efficient, affordable, attractive services promoting local and regional connectivity.	✓	✓	✓	✓
Policy N: Protect the main road network and maintain access to the ports, HM Naval Base, Portsmouth and other key industry, business and retail sites.			✓	✓
Policy O: Deliver micro and macro freight-consolidation measures, supporting businesses and other organisations to consolidate their operational journeys, including use of zero emission vehicles for last mile delivery.	✓	✓		✓
Policy P: Explore a lane rental scheme to maximise co-ordination of street works and roadworks, in order to minimise impacts on traffic sensitive routes during peak periods.				✓
Policy Q: Maintain our highway infrastructure.		✓	✓	✓
Policy R: Proactively manage kerbside space to enable flexible use for essential access.	✓	✓		✓

Local Transport Plan supporting strategies

Other transport strategies and plans which contribute to cleaner air — the [Electric Vehicle Infrastructure Strategy](#), [Parking Strategy](#), [Bus Service Improvement Plan](#), [Public Transport Strategy](#) and [Local Cycling and Walking Infrastructure Plan](#) — are summarised in Appendix 2 on page 50.



Portsmouth International Port — ensuring the air we breathe is cleaner

Portsmouth International Port is committed to improving air quality as part of its broader Environment, Social and Governance (ESG) strategy, recognising the critical importance of clean air for public health, environmental sustainability, and the wellbeing of its surrounding communities. As a port owned and operated by Portsmouth City Council, we have a unique responsibility to address the impact of our operations on local air quality, align with citywide clean air initiatives, and contribute to the long-term health of Portsmouth's residents, visitors, and our workforce.

The port operates at the heart of a bustling urban area, amplifying the need for proactive air quality management. Our approach is grounded in measurable actions that will establish the emissions the Port is responsible for and implement initiatives to reduce air pollution from port activities, including emissions from vessels,

cargo handling equipment, and on-road vehicles. We are determined to meet, and exceed, national and international standards for air quality through innovative solutions and strategic investments.

Portsmouth International Port's priorities for clean air:

1. Sea Change

Through our Sea Change project, we are introducing 15MW of shore power capabilities to berths that will enable vessels to be supplied with clean energy while significantly reducing emissions from onboard power generators. It is estimated that the system will save over 20,000 tonnes of CO₂e per annum from 2027.

2. Low-emission vehicles and Non-Road Mobile Machinery (NRMM)

The Port is transitioning to low and zero-emission equipment for non-road mobile machinery and vehicles, including electric vehicles and the use of hydrotreated vegetable oil fuel in shunter units to reduce our greenhouse gas emissions with the intention to simultaneously improve air quality levels.

3. Sustainable fuel transition

In collaboration with our shipping partners, we will identify and encourage the adoption of alternative, cleaner fuels for vessels using the port, such as Liquefied Natural Gas (LNG), biofuels, or hydrogen. Brittany Ferries operates two vessels out of Portsmouth, the MV Saint-Malo and the MV Guillaume de Normandie, which are both fuelled by LNG. When entering and leaving the port, these vessels operate exclusively on battery power, creating a material step change in air quality impacts and reducing emissions in port to near zero.

4. Surface access to the Port

In the longer term, Portsmouth International Port aims to encourage sustainable surface access by promoting low-carbon transportation options for passengers and freight. In support of this, we are committed to enhancing public transport connectivity, supporting active travel initiatives such as cycling and walking and sustainable travel options, for example in partnership with local bus operators and collaborating with all who work at the port to reduce reliance on private vehicles. In addition, the Port will also explore partnerships for zero emission shuttle services for cruise passengers and further invest in infrastructure that supports electric vehicles (EVs), such as additional EV charging stations.





The Local Plan and cleaner air

The [Portsmouth Local Plan](#) is the statutory development plan that will guide development in the city up to 2040. This Plan allocates sites for development and sets targets for new homes and jobs. It also introduces city wide policies on design, greening and the climate emergency.

The Plan (due for submission by Spring 2026) will contain a Development Management Policy on Air Quality and Pollution. The purpose of the policy is to improve air quality and improve the health of the city's residents. It states that planning permission will only be granted for development proposals when it can be demonstrated, in a proportionate manner, that they will not contribute to and will not be subject to unacceptable levels of pollution, which cannot be mitigated. This includes noxious gases, dust and particulate matter.

Planning permission will be granted where development proposals demonstrate how health inequalities and the wider determinants of health

and wellbeing have been incorporated into the design, layout and the use of the development, and its impact on the mental and physical health and wellbeing of occupiers. **Major development proposals** will be required to undertake an accompanying **Health Impact Assessment**, demonstrating how the planning application has been informed by the findings of the assessment about air quality. Planning permission will be granted where it addresses any potential impacts of airborne pollution on the natural environment.

Proposals will need to take account of where development is likely to have an adverse effect on air quality, especially in areas where it is already known to be poor and could affect the living conditions or health of occupiers, and where it could be impacted by Portsmouth's Local Air Quality Local Plan, Air Quality Management Areas and the Clean Air Zone, as well as the potential for cumulative impacts. Opportunities to improve air quality or mitigate impacts should be maximised by traffic and travel management or green infrastructure provision and enhancement.

What we are going to do: strategic actions

In addition to the policies and initiatives detailed above, there are further actions that can be taken to deliver cleaner air in the city and to support those most vulnerable to the harms of air pollution to avoid them. These are set out in the table below, together with their contribution to our three overriding objectives:

- Prevent sources of pollution
- Limit exposure to pollution
- Protect the most vulnerable

Strategic action	Prevent	Limit	Protect	Improves indoor AQ	Improves outdoor AQ
1. Continue to deliver transport, environmental, energy services and planning programmes which contribute to cleaner air	✓	✓	✓	✓	✓
2. Use natural infrastructure to improve air quality	✓	✓		✓	✓
3. (a) Support energy efficiency and cleaner heating solutions	✓			✓	✓
3. (b) Promote best practice on building maintenance and ventilation to improve indoor air quality	✓	✓		✓	
4. (a) Raise awareness of poor indoor air quality and provide solutions	✓	✓	✓	✓	
4. (b) Raise awareness of the air pollution harms of domestic wood burning and offer recommendations regarding exposure to air pollution	✓		✓	✓	✓
5. (a) Raise awareness about air pollution to reduce personal exposure			✓	✓	✓
5. (b) Promote training for healthcare professionals			✓	✓	✓

Strategic actions

Action 1

Prevent

Limit

Protect

Improves indoor AQ

Improves outdoor AQ

Continue to deliver transport, environmental, energy services and planning programmes which contribute to cleaner air

Why this action?

There are already significant evidence-based programmes of work underway which contribute to cleaner air. These are respectively led by the Council's Transport, Planning Policy, and Energy Services teams, and Portsmouth International Port.

How will it be delivered?

The Local Transport Plan 2021–2038 and the strategies which sit underneath it are the driver of actions relating to our mission for cleaner air. The section above on existing Portsmouth City Council policy and plans which improve air quality gives further detail. Short-term and medium to long-term Transport action programmes have been developed to deliver the strategic objectives. These are detailed in [Appendix 3 on page 53](#).

The contributions of Portsmouth International Port and the Local Plan to cleaner air are also detailed above.

The Energy Services team seek to reduce greenhouse gas emissions (and through that, pollutants) and contribute to delivering cleaner air through utilities procurement and management, carbon and energy compliance, investment in capital energy projects, and fuel poverty and domestic energy efficiency programmes (through Switched On Portsmouth), including air-source heat pumps, insulation, and Solar PV (photovoltaic) systems.

Portsmouth City Council's Health & Wellbeing Strategy 2022–2030 includes active travel and air quality as one of its five priorities, while the air quality strategies and action plans of our neighbouring local authorities also contribute to clean air throughout the region.

Case study: Electric buses rollout

As set out in the [Bus Service Improvement Plan](#), the Council is aiming for almost all bus services in Portsmouth to be operated by zero emission buses by 2030.

In 2022 a partnership between Portsmouth City Council, Hampshire County Council and First Solent secured £12.7m of government funding alongside an additional investment of £15.9m from First Bus for 62 battery electric buses to enter service on the Portsmouth network from March 2024. These vehicles serve routes across Portsmouth, Fareham and Gosport, and mean that about 27% of the city's bus fleet is now zero emission. Use of these vehicles supports better air quality in the city centre Clean Air Zone and in four of the city's five Air Quality Management Areas. It also supports efforts to tackle air pollution hotspots outside of Portsmouth.

In their first nine months in service, nearly 4 million passengers made journeys on the electric buses, and the fleet travelled 1.3 million miles. As

well as emitting no tailpipe air pollutants, a co-benefit has been the saving of over 2,400 tonnes of CO2e emissions. The project also included the electrification of Hoeford depot in Fareham, creating electric infrastructure to support the electric vehicle (EV) charging.

First Solent is currently developing an all-electric bus depot at Hilsea which will support a fully electric fleet. Work to expand the electric bus fleet continues — in 2025, First Solent introduced [four newly converted electric buses into service in Portsmouth, Fareham and Gosport](#). Originally diesel, these buses have been refurbished and converted to electric power and are used on various routes including those serving the University of Portsmouth. Conversion of existing vehicles to electric helps to extend vehicle lifespans while cutting waste and emissions.

The Council continues to work with bus operators and neighbouring authorities to seek funding enabling us to deliver plans for further expansion of the electric bus fleet in the city.



Strategic actions – Action 2

Action 2

Prevent

Limit

Improves indoor AQ

Improves outdoor AQ

Use natural infrastructure to improve air quality

Why this action?

The Council's Greening Strategy (2023) identified the contribution to cleaner air that natural or green infrastructure (trees and greenery) — sometimes called nature-based solutions — can offer. Evidence suggests that urban greening can improve air quality, health, biodiversity, and climate resilience.⁵⁴ Planting trees can contribute to a reduction in air pollution dispersion, while vegetation can also act as a barrier to sources of air pollution. Additionally, green spaces can offer people a travel route away from the kerbside.⁵⁵ There are multiple co-benefits from natural infrastructure initiatives, including cooling the city during heatwaves and helping to protect it against flooding in periods of heavy rainfall.

How will it be delivered?

The Council's Climate and Natural Environment team are already working on climate resilience and natural infrastructure initiatives with colleagues across the Council, including those with responsibilities for landscape architecture and highways and urban design. They are also working on an Urban Forest Master Plan to create a diverse and resilient treescape that benefits everyone. Around £900,000 of extra investment from a successful Nature Towns and Cities bid to the National Lottery Heritage Fund will help reinforce Portsmouth as a nature positive city over the next three years.

There will be a particular focus on settings where those most vulnerable to air pollution are found (schools, healthcare premises, and care homes).

Case study: The co-benefits of natural infrastructure design at Arundel Court Primary Academy

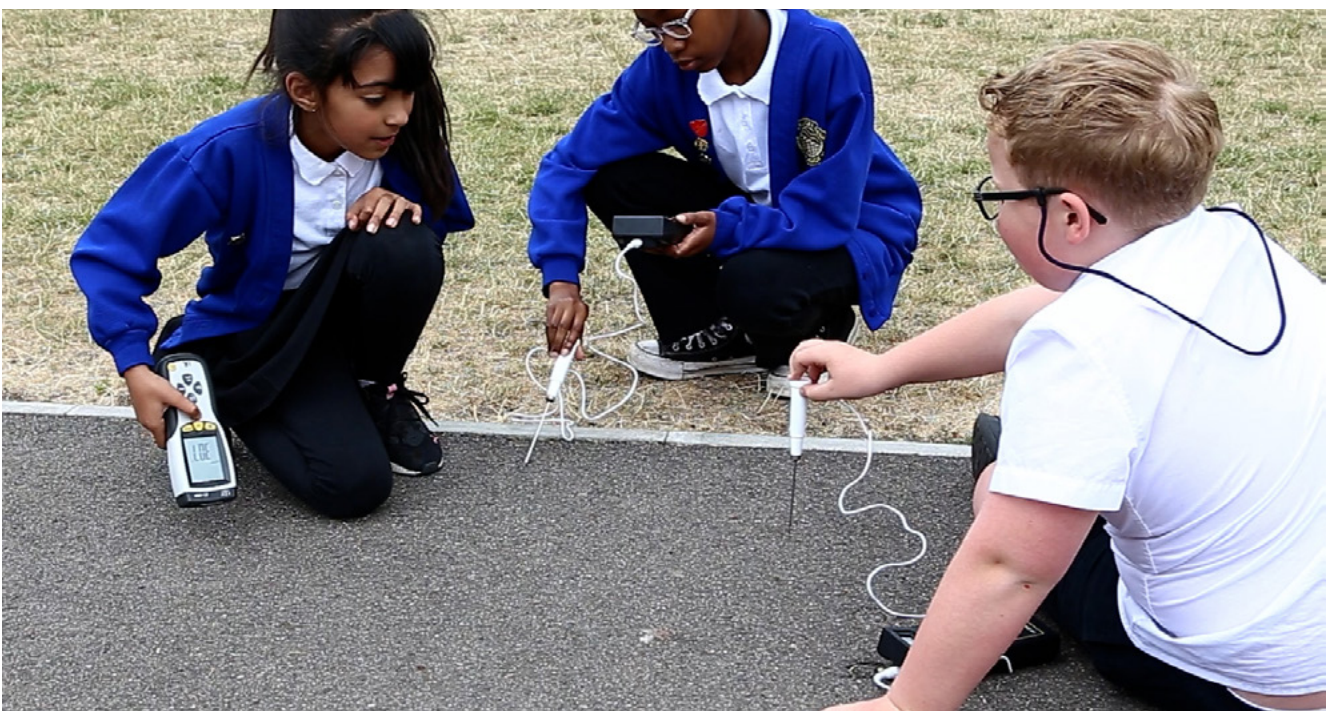
Over the last two years, Portsmouth City Council has been working with Arundel Court Primary Academy to improve their school grounds. Several opportunities were identified, including reclaiming use of the woodland edge which had been affected by recent building work. This involved moving a natural walkway as well as play and learning areas away from the school's border with a busy road.

The Council's Landscape Architect team prepared a design which helps avoid exposure to air quality by bulking up the planting near the border, creating a natural barrier against particulate matter and additionally creating habitat for wildlife. Hedgerows funded by the Tree Council and planted by Portsmouth's Tree Wardens further contributed to screening

the road. Parents have also been involved in developing the Forest School area. Future work includes enhancing and regenerating planting on the highway side of the border to further screen against air pollution.

Separately, children in the school's Eco-Club noticed that parts of the grounds were frequently flooding. This restricted play on the field and the playground, and often meant the entrance was flooded, leading to children arriving in class with wet feet. Children and the school worked with the Council to design a bio-swale or rain garden on the field to limit flooding and enhance biodiversity on the site.

The Council is also working with schools and partners such as Southern Water to support SUDS in school grounds, limiting flooding and delivering cooling benefits enabling grounds to be used for play and learning throughout the year. It is hoped that up to 18 schools may benefit.



Strategic actions – Action 3(a)

Action 3(a)

Prevent

Improves indoor AQ

Improves outdoor AQ

Support energy efficiency and cleaner heating solutions

Why this action?

There are co-benefits from tackling decarbonisation and air pollution together. Simple changes in behaviour can help residents reduce energy use in their home, saving money on bills and reducing their carbon footprint. Cleaner heating solutions result in reduced emissions of noxious gases.

How will it be delivered?

In messaging about cleaner air, we will refer residents to the advice, support and large energy efficiency measures offered by [Switched On Portsmouth](#) and [My Home Made Better](#). This messaging will also form part of the content of the training offer delivered to occupational groups working with vulnerable people under [Action 3\(b\)](#) and [Action 5\(b\)](#).

The Capital Projects Design Team (including the City Architects) will continue to design energy-efficient new build and retrofit projects in the city. Other improvements to council-owned housing stock will also continue to lead to a reduction in emissions.

Case study: Ecofriendly council homes to reduce energy use and greenhouse gas emissions, and improve indoor air quality

Three four-bedroom houses are being built to a new, ecofriendly standard for the first time by Portsmouth City Council. These family homes, designed to offer cheaper energy costs for residents, are being built in Bunting Gardens, Wecock Farm using Passivhaus design principles.

The development will mark the first new build Passivhaus Development delivered by Portsmouth Homes, the landlord function of Portsmouth City Council. Passivhaus is a building standard that aims to reduce energy use and carbon emissions, and improve resident comfort.

The buildings have been designed and delivered by the Council's in-house architects, landscape architects, surveyors, energy officers and construction inspectors in the capital projects team.

Tenants will benefit from improved comfort levels, reduced energy bills, and a significant decrease in the risk of energy poverty. Houses will be kept at a consistent and comfortable temperature using a mechanical ventilation system that recovers heat from extracted air and uses this to warm incoming air. High-quality ventilation ensures fresh, filtered air, improving indoor air quality and reducing allergens. In addition, each home will be highly insulated and very airtight with triple glazed windows helping to reduce heat loss and eliminate cold draughts.



Strategic actions – Action 3(b)

Action 3(b)

Prevent

Limit

Improves indoor AQ

Promote best practice on building maintenance and ventilation to improve indoor air quality

Why this action?

National Institute for Health and Care Excellence guidance on Indoor Air Quality at Home sets out recommended standards for both new housing and existing homes. Under the reformed [Decent Homes Standard](#) for social and privately rented homes and [Awaab's Law](#) guidance for social landlords, damp and mould hazards that present a significant risk of harm to tenants must be addressed to fixed timeframes.

How will it be delivered?

The Council's Housing, Neighbourhoods and Buildings (HNB) team will work with Public Health, Planning Policy and other relevant officers and partners to raise awareness of the health impacts of indoor air quality including damp and mould to ensure that health threats are addressed in a timely manner to prevent acute episodes. Existing HNB programmes to tackle damp and mould will continue, through the offer and provision of training on the health impacts of poor indoor air quality to HNB staff and other relevant officers and partners.

Action 4 (a)

Prevent

Limit

Protect

Improves indoor AQ

Raise awareness of poor indoor air quality and provide solutions

Why this action?

Evidence shows that exposure to poor indoor air quality is linked to a range of health issues, including common respiratory conditions such as coughing, wheezing or asthma, and allergic symptoms such as a runny nose or eye irritation. Certain groups are more vulnerable, either because of their age and/or pre-existing conditions, or because of where they live. Because poor indoor air quality is a hidden health threat, raising awareness is a first step in reducing the risk of long-term health issues, especially for vulnerable groups. Advice given on sources of poor indoor air quality could reduce people's risk of exposure. This includes general advice on ventilation and more specific advice about particular situations and activities.

How will it be delivered?

Following NICE guidance,⁵⁶ communication and marketing will be used to ensure residents and relevant professionals (those involved in planning, designing, building, renovating and maintaining homes) are aware of:

- the causes of poor indoor air quality
- how residents' activities can affect indoor air quality
- how health is affected by poor indoor air quality, both in the short-term and long-term
- who is particularly vulnerable

- how to prevent or reduce poor indoor air quality (including information on smokefree homes, the impact of second-hand smoke on babies, children, young people and those with long-term conditions, as well how we can support smokers to quit)

We will use training opportunities to ensure local authority, NHS and voluntary and community sector staff who visit people in their homes:

- know about indoor air pollutants and how they can affect health
- can give general advice on how to avoid activities that increase the level of indoor air pollution
- can give general advice on how to improve ventilation if the source of the pollutant cannot be controlled
- are aware that affordability may be a barrier to effective and efficient heating and ventilation
- know who can provide help with repairs and necessary improvements (for example, the local authority, housing association, or a home improvement agency)
- can advise people on how to request a housing assessment

Concentrating initially on people's homes, guidance could subsequently be extended to schools, healthcare premises, businesses, organisations and commercial premises.

Strategic actions – Action 4(b)

Action 4(b)

Prevent

Protect

Improves indoor AQ

Improves outdoor AQ

Raise awareness of the air pollution harms of domestic wood burning and offer recommendations regarding exposure to air pollution

Why this action?

Communicating clearly about the connection between wood burning and air pollution could improve public health. Burning wood is the most polluting way to heat a home. Smoke from wood burning contains fine particle air pollution, which enters the bloodstream when inhaled and can, over time, lead to heart and lung disease, diabetes, and dementia.

Wood burning not only harms people's health, but also the environment. For the same amount of heat or energy, burning wood releases more carbon emissions than oil or gas, contributing to climate change.

How will it be delivered?

In our communications and campaigns, we will make use of the recommendations put forward by environmental charity Global Action Plan in their toolkit, A Behavioural Approach to Understanding and Addressing Wood-Burning.⁵⁷ The toolkit summarises research about how to talk about wood burning, incorporating behavioural market research into people's attitudes toward wood burning and the most effective ways to communicate about it. The toolkit is for local authorities, campaigners and anyone who wants to raise awareness of the health effects of air pollution and reduce or prevent wood burning in urban areas.

Smoke Control Areas

National government wrote to local authorities in October 2025 giving notice that they will be providing them with funding for measures introduced through the Environment Act to improve the enforcement and management of smoke emissions in Smoke Control Areas (SCAs). The overarching policy objective is tackling PM_{2.5} in smoke emissions from domestic combustion of solid fuels, recognising that reducing public exposure will deliver significant public health benefits. Enforcement will be advice-led supported by the ability to issue civil penalties, focused on helping individuals to prevent smoke emissions.

In Portsmouth, a [Smoke Control Area](#) is in place in the south-western part of the city. The Council will consider how to apply the government's new advice and recommendations on SCAs.

Action 5(a)

Protect

Improves indoor AQ

Improves outdoor AQ

Raise awareness about air pollution to reduce personal exposure

Why this action?

From a vulnerable group perspective, focusing efforts on reducing exposure to air pollution is vitally important. Vulnerable groups include pregnant women, children, people with pre-existing health conditions, and the elderly. Behaviour change through engagement and awareness-raising can lead to reductions in terms of exposure to air pollution over the course of lifetimes, resulting in better long-term health outcomes.⁵⁸ Changing people's behaviours is key to improving urban air quality but works best when done in a way that involves the community. Providing a range of actionable information can reduce disengagement due to feelings of powerlessness.⁵⁹ And as our Air Quality Hero case studies show, whether we are particularly vulnerable or not, there are things that we can all do to prevent and limit sources of air pollution, as well as avoid it.

How will it be delivered?

Campaigns will highlight the importance of vulnerable people checking the [Daily Air Quality Index](#) for high air pollution alerts and following the recommended advice to reduce their exposure to air pollution.⁶⁰

Delivery will be led by the Council's Communications and Marketing team, with input from Public Health, including lessons from social media and social marketing initiatives and previous behaviour change campaigns, for example, incorporating lessons from the smoking ban on messaging to promote behaviour change.

Strategic actions – Action 5(a)



Princess Ufuoma, [Air Quality Hero](#)

'I love living in Portsmouth and I feel like a tourist every day just walking by the sea, seeing children play. Financially, cycling, walking, taking the bus gives me great benefits. I love cycling. If you're on the main road, we have bicycle lanes, which makes me feel safe as an individual, and we have lots of parks where you can cycle through. It's carbon free. So, you're doing the environment good and you're doing yourself good. Make a change in your travel means. There's so many advantages for you as an individual and you're keeping the environment safe, most importantly.'



Molly-Mae Copping, [Air Quality Hero](#)

People travelling from outside or north of the city can leave their car at Portsmouth Park and Ride as an alternative to driving into the city. It's convenient and sustainable, helps to reduce the number of cars on our city's roads and helps to make our air safer for everyone to breathe.

It's great for commuters like Molly-Mae, who live in more remote areas where public transport is less accessible than it is in Portsmouth. As well as helping to improve our air quality, there are numerous benefits to using park and ride, whether you're visiting for the day or travelling to work, with frequent daily services and an additional summer weekend service.

Leaving your car at park and ride reduces the hassle of driving in congested traffic, eliminates the anxiety of finding a parking space and allows time for commuters to improve their wellbeing when they enjoy quiet reflection or catch up on emails before starting the working day.

Plus, it's great value for money with a range of flexible fares and easy ways to pay.

Action 5(b)

Protect

Improves indoor AQ

Improves outdoor AQ

Promote training for healthcare professionals

Why this action?

We recently adapted Global Action Plan's Clean Air Champions training resource for use with local clinicians and health professionals.

The training aims to:

- Increase air quality awareness among healthcare staff leading to patients receiving improved education on air pollution.
- Train a subset of clinicians as Clean Air Champions able to deliver personalised advice to patients and to cascade learning to their colleagues.
- Increase patient understanding of pollution impacts on health and encourage them to adopt habits that reduce both their exposure and contribution to air pollution, using a combination of existing written materials and conversations with health professionals.

The training focuses on empowering healthcare staff to support:

- Carers of young children with health conditions exacerbated by pollution
- Adults with health conditions exacerbated by pollution.

This strategy also supports the NHS Hampshire and Isle of Wight Green Plan aims to reduce air pollution emissions at NHS sites and increase active travel among staff.

How will it be delivered?

We will work with Hampshire and the Isle of Wight Integrated Care System to continue to deliver the training on a regular basis, with a focus on respiratory, cardiovascular, and primary care clinicians and health professionals.



Doctor Kent Yu, Clean Air Champion

'Clean air has a huge impact on our health. Air pollution affects people of all ages, from children all the way up to the elderly. As well as lung conditions, it increases the risk of strokes and heart attacks and even premature birth. I've seen this personally in my own practice, at both the hospital and the surgery. It costs the NHS around £22.6 billion a year and causes around 6 million sick days per year. Clean Air Champions is an initiative set up to raise awareness to both clinicians and allied health professionals, enabling them to talk about the impacts of clean air with their patients. By being more conscious of air pollution, we hope to improve health outcomes.'

Partnerships for delivering clean air

Multi-agency partnerships

The multi-agency Air Quality and Active Travel Board was established in February 2022 to take forward the aims of the Health and Wellbeing Strategy priority. It exists as a network to support existing organisational aims to improve air quality and enable collaborative working on this topic.

Portsmouth City Council also supports NHS Hampshire and Isle of Wight's Integrated Care Board to help deliver NHS Green Plan ambitions on air quality, including reducing polluting emissions and raising awareness of the issue with patients and staff.

The Portsmouth Enhanced Partnership is a collaboration between Portsmouth City Council, local bus companies, and the Department for Transport (DfT), aimed at improving bus services in Portsmouth. This partnership aims to increase bus usage by making the bus network faster, more reliable, and more affordable.

Transport for the South East (TfSE; see Appendix 3 on page 53) is a sub-national transport body for the South East of England, including Portsmouth. TfSE aims to improve the transport network by focusing on public transport, cycling, and walking, and by investing in projects that support economic growth and address congestion. In Portsmouth, this includes supporting initiatives such as South East Hampshire Rapid Transit (SEHRT), which aims to improve bus services and integrate them with rail and ferry connections, and the Solent Rail Connectivity business case, which aims to improve local rail services between Portsmouth, Southampton and other destinations on the local rail network.

The Council is also a member of Solent Transport. The Solent Transport Prospectus⁶¹ (see Appendix 2 on page 50) promotes a number of schemes across the Solent area (including Portsmouth) which will improve air quality, such as active travel improvements, electric vehicle charging, rapid transit networks, zero emissions public transport, and transport hubs.





Research partnerships

Portsmouth City Council are part of the Clean Air South Network, a partnership striving to accelerate improvements in air quality and health through innovation and research.

Funding from the National Institute for Health and Care Research (NIHR) has established a Health Determinants Research Collaboration (HDRC) in Portsmouth. This partnership combines local government, community sector and academic expertise to help foster the development and delivery of local research to support decision-making in the city, including on clean air initiatives.

For indoor air quality, Portsmouth City Council are supporting the Greening the Indoors: Transformation of Indoor Environments in a Changing Climate (GREENIN) project and network led by University of Surrey's Global Centre for Clean Air Research (GCARE). The project should significantly benefit us by fostering connections with partners and deepening our understanding of the potential impacts of indoor plants and trees on urban environments.

Devolution

Hampshire and the Solent devolution consultation — GOV.UK

The English Devolution White Paper sets out plans for a new Mayoral Strategic Authority, with a statutory duty for improvements in health and health inequalities. The Mayoral Strategic Authority will also have strategic influence over transport and economic development – both relevant to Portsmouth's Clean Air ambitions. At the time of writing, much of the proposed detail around powers aligns with the plans set out in the Portsmouth Transport Strategy.

Monitoring our policies and actions

Every local authority in England is required to submit an Annual Status Report of Air Quality (ASR) to Defra. The report details the levels of key pollutants — nitrogen dioxide (NO₂), sulphur dioxide (SO₂), particulate matter (PM₁₀ and PM_{2.5}) — from monitoring data obtained each year by officers of Regulatory Services from its network of monitoring locations. It provides a comparison with data sets from previous years and assesses compliance with the relevant UK air quality legal limits. The monitoring network allows us to make two separate assessments — firstly the impact of the Council's activities to reduce key pollutants beyond legal limits across the city over the longer-term, and secondly to monitor and evaluate the impact of the Clean Air Zone (CAZ), the aim of the latter being to bring persistent air quality exceedances within legal limits in the shortest possible time.

We can also track air quality improvement through measures relating to the work of our Transport team. The Local Transport Plan 2021–2038 (LTP4) commits us to preparing an Annual Monitoring Report (AMR). For two years out of

three, this is a snapshot report providing a write-up of activities delivered over the previous year contributing against each of the policies in the strategy. Every third year we are committed to preparing a report which provides data analysis of trends and performance against a list of Key Performance Indicators. The first of these three-year reports is due in the second half of 2025. We will adopt relevant indicators from this report as part of monitoring the effectiveness of our Cleaner Air Strategy monitoring and evaluation, alongside indicators on data and trends in transport.

Alongside the ASR and LTP4, this strategy will inform an updated Air Quality Action Plan. Using targets in WHO guidance, we have set interim levels for NO₂, PM_{2.5} and PM₁₀ at five-year staging posts for the lifetime of the strategy, against which we will judge its effectiveness. We will adopt relevant indicators from the ASR and AMR as part of monitoring the effectiveness of the strategy. Key performance indicators will be developed alongside strategic actions 2–5.





Appendices

Appendix 1 — Monitoring and regulatory framework

Further information is available via the following web links:

- A. [Annual Status Report \(ASR\) summary](#)
- B. [Defra Air Quality Strategy — Framework for local authority delivery](#) (2023)
- C. [Clean Air Zone](#)
- D. [Air Quality in Portsmouth](#) (technical data, reports and studies)

Appendix 2 — Portsmouth City Council and regional transport strategies and plans which contribute to cleaner air

Portsmouth Electric Vehicle Infrastructure Strategy 2024–2034

The Portsmouth Electric Vehicle Infrastructure Strategy, adopted in 2024,⁶² aims to improve air quality and tackle climate change by accelerating the transition to electric vehicles. Between 2018 and 2023, the number of plug-in cars in Portsmouth increased by 768%. The city has installed 98 on-street EV charge points to date and supported the launch of 62 electric buses in 2024.

A central focus is on-street charging, with a target of 4,000 on-street residential chargers by 2030. Other policies include EV infrastructure at car parks, introducing EVs to the Car Club, supporting taxi EV adoption, and further electrifying public transport.

This strategy is crucial for achieving cleaner air and net zero emissions in Portsmouth.



Portsmouth Parking Strategy 2024–2034

The Portsmouth Parking Strategy 2024–2034⁶³ supports the Portsmouth Transport Strategy (LTP4) by managing parking to improve air quality and promote sustainable travel. Key objectives and policies include:

1. **Encourage sustainable development and prosperity:** Expand Park and Ride and Implement sustainable parking initiatives.
2. **Deliver cleaner air and reduce carbon emissions:** Regularly review Resident's Parking Zones, explore private non-residential parking restrictions, and develop sustainable travel options

National Bus Strategy — Portsmouth Bus Service Improvement Plan (BSIP) and Public Transport Strategy (2026)

The Portsmouth Bus Service Improvement Plan (BSIP)⁶⁴ updated in 2024, and Public Transport Strategy (2026) aim to reduce bus travel times, enhance service reliability, and elevate passenger satisfaction. These actions are already resulting in significant growth in bus usage, which the Council aims to sustain. Through more trips being made by bus rather than private vehicles, this will improve air quality, mitigate congestion, and stimulate the local economy.

BSIP advocates for bus priority enhancements, improved interchanges, and advanced ticketing systems. It also proposes near-total electrification of the bus fleet by the late 2020s, contingent on funding. Many elements of the BSIP have been delivered between 2022 and 2026 through the £48 million BSIP programme.⁶⁵

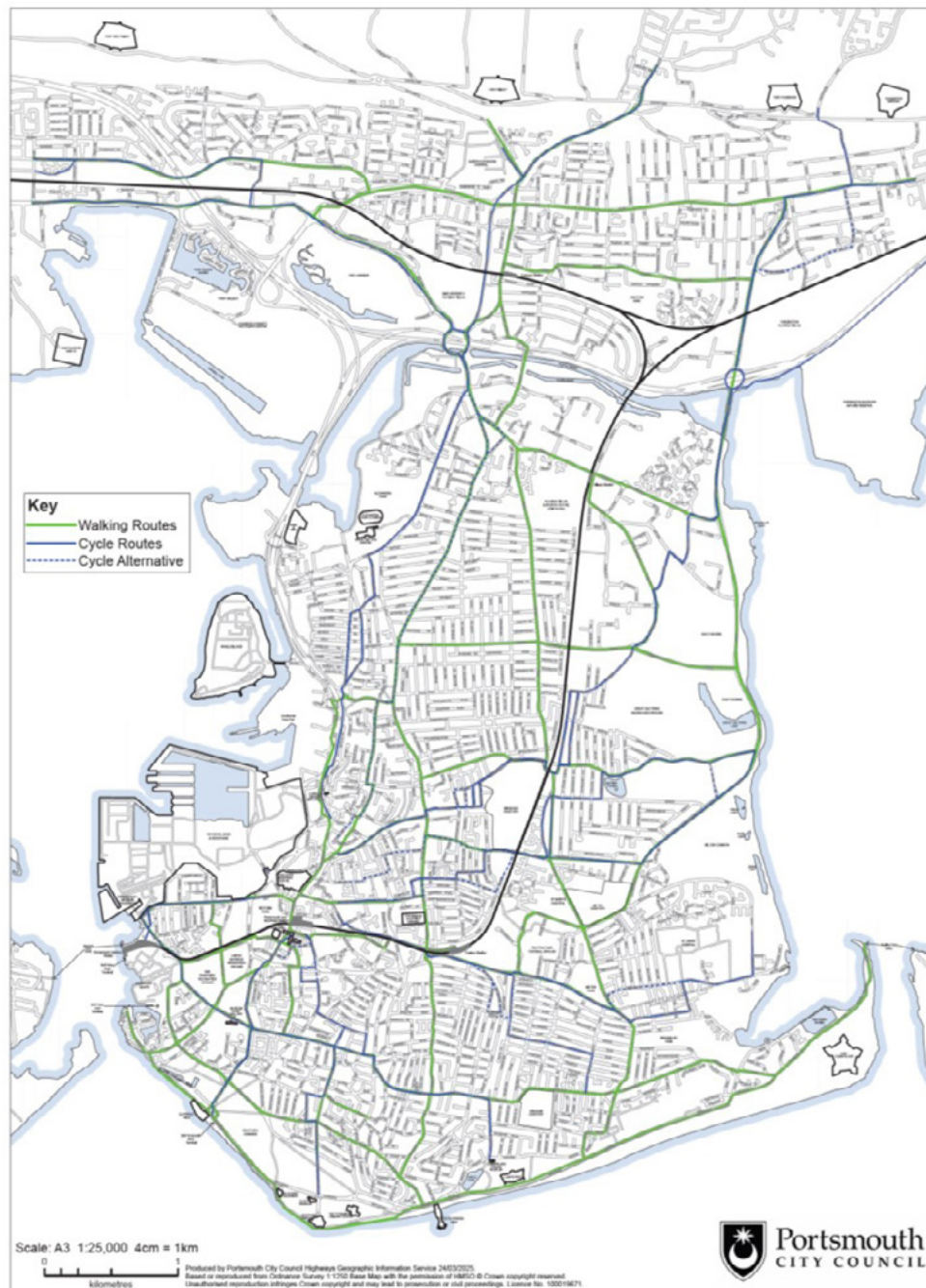


Figure 13: Map of walking and cycle routes in Portsmouth.

Local Cycling and Walking Infrastructure Plan (LCWIP)

The Portsmouth LCWIP⁶⁶ aims to establish a network of safe, convenient, and attractive walking and cycling routes for everyday journeys, such as work, education, and healthcare. Expanding this infrastructure is essential for shifting from car journeys to walking and cycling, delivering air quality benefits, improved

accessibility, health, reduced congestion, increased productivity, and economic gains.

The LCWIP identifies city-wide cycling and walking network plans (shown in the map below), a prioritized schedule of infrastructure improvements, and a background report. It covers all of Portsmouth and involves collaboration with neighbouring authorities, primarily Hampshire County Council, to implement cross-boundary active travel schemes.

Regional transport strategies and policies

Solent Transport Prospectus

Portsmouth City Council is a member of Solent Transport which is a sub-regional transport partnership between the councils of the Isle of Wight, Hampshire County, Portsmouth and Southampton.

The Solent Transport Prospectus⁶⁷ outlines the vision and key interventions for transport in the Solent area to 2040, emphasizing sustainable transport to support growth and meet net zero targets. It identifies transport-related pollution, particularly in deprived areas, as a key social challenge.

The strategy promotes major and cross-boundary interventions from the Portsmouth Transport Strategy, aiming to achieve modal shift and decarbonize transport to reduce emissions and improve air quality. It provides a framework for collaboration with local planning authorities to facilitate environmentally responsible growth.

The Prospectus promotes schemes such as active travel improvements, electric vehicle charging, South East Hants Rapid Transit development, zero emissions public transport, and transport hubs, aligning with PCC strategies to benefit air quality.

Transport For The South East Transport Strategy

Portsmouth City Council is also a Member of Transport for the South East (TFSE), which is the Sub-national Transport Body for the South East of England. TFSE's purpose is to determine what investment is needed to transform our region's transport system and drive economic growth.

The TFSE Transport Strategy⁶⁸ aims to enhance the South East's economy by delivering a safe, sustainable, and integrated transport system. This system will improve productivity, quality of life, and protect the environment. The strategy seeks to transform transport and door-to-door journeys for residents, businesses, and visitors.

Recognising poor air quality from road traffic pollution as a significant challenge, the strategy prioritises improving air quality through congestion reduction and promoting public transport. For urban journeys, the strategy proposes: Enhancing public transport quality and advocating for fare reductions, developing integrated transport hubs, prioritising vulnerable users, such as pedestrians and cyclists, over motorists, and Improving car parking management in urban areas. These actions align closely with the Portsmouth Transport Strategy's policies.

Appendix 3 — Transport programmes and actions contributing to cleaner air

a) Current Transport Programmes contributing to cleaner air

Priority schemes from Capital Programme / External funding	Description	Location	Expected AQ benefit...		Timescale & cost range		
			In general	in AQMAs	2025–26	2026–27	2027–28*
Class B Clean Air Zone (CAZ)	Scheme which was mandated by central government and introduced in November 2021, charging the most polluting buses, coaches, taxis, private hire vehicles (PHVs) and heavy goods vehicles (HGVs) to drive within the zone	City centre area	*	AQMA 7,11,12 *** AQMA 6 **	£££	£££	£££
Electric Vehicle Infrastructure	Roll out of 320 additional on-street EV chargers through ORCS phase 3, as well as further funding beyond 2025–26 through the Local Electric Vehicle Infrastructure (LEVI) funding	Citywide	*****	*****	£££ ORCS 3 £785k	££££ LEVI £3M	££££ LEVI £3M
Bus Service Improvement Plan (BSIP)	A programme delivering a wide range of bus improvements including simpler fares and discounts for some groups, improved services, bus priority and stop improvements, better information and higher service standards for users.	Citywide	*** to *****	*** to *****	£££££		
Other public transport services and schemes	Support for subsidised bus routes, park and ride, information provision, and other public transport services on an ongoing basis outside of the BSIP programme	Citywide	*** to *****	*** to *****	££	££	££
Active Travel Improvements — Infrastructure	General small to medium-scale infrastructure improvements across the city to support modal shift toward walking and cycling. Such as additional pedestrian crossings, cycle route and parking infrastructure, and improved access for people with disabilities.	Citywide	*	*	£££ £595k (plus CATF £400k+)	£££ £720k	£££ £720k
Eastern Rd Active Travel Corridor	Delivery of further section of off-road cycle route on Eastern Road, past Harbourside Park	Eastern Road corridor	*	AQMA 9 *	££££		
School Streets	Schemes to limit access by vehicles to streets close to participating schools at school start and finish times, increasing safety for children walking & cycling to school.	2 locations currently, further planned	*	*if within an AQMA	£ £40k	£ £80k	

Priority schemes from Capital Programme / External funding	Description	Location	Expected AQ benefit...		Timescale & cost range		
			In general	in AQMAs	2025–26	2026–27	2027–28*
Traffic signal & Variable Message Sign (VMS) improvements	To modernise and upgrade existing traffic signal and VMS infrastructure. New installation of technology at crossing points at key locations throughout the city, improving the efficiency of the network, reducing delays for all modes, and improving safety of the users of the network.	Citywide	*	*	£££ £200k plus green light fund (£500k)	££ £200k	££ £200k
Resident parking zones programme	Continuation of the resident parking zone programme including creation of additional zones (subject to consultation), review of existing zones, and possible changes to permit restrictions and pricing (potentially including pricing based on vehicle size and emissions).	Citywide	****	****	£	£	

Key

Expected AQ benefit:

* Small

**

*** Medium

***** Large

Expected Cost range

£ £0 – £100,000

££ £100,000 – £299,999

£££ £300,000 – £999,999

££££ £1million – £3 million

£££££ £3 million +

*Based on indicative LTP capital programme from 2025/26 budget published Feb 2025

Note: The Carbon Assessment Playbook tool has been used to generate expected air quality benefit, using carbon reduction as a proxy for emissions. Developed by England's Subnational Transport Bodies, the tool provides an evidence-informed, quantifiable approach to carbon reduction in the development of local transport strategies and plans.

b) Medium-term and long-term Transport actions contributing to cleaner air

Scheme name	Description	Scale/ location	Expected AQ benefit		Estimated cost range	Timescales		
			In general	In CAZ/ AQMA _s		2025 – 30	2030 – 35	2035 – 40
EV Infrastructure and related Schemes								
On-street residential charge point scheme (ORCS) phase 3,4 and future phases, and delivery of off-street charging facilities	Continued expansion of on-street residential EV charging provision as set out in EVI strategy, using £3.68m LEVI funding. Plus support for additional EV charging at off street car parks as required.	Citywide	*****	*****	£££	Y	Y	Y
Continued bus electrification	Continued electrification of bus fleet. PCC submitted bid to ZEBRA2 in 2023 and will work with operators to seek further support to continue & complete electrification of city's bus fleet	Citywide	*****	*****	££££	Y	Y	
Other actions supporting move to zero emissions vehicles	Measures to electrify or move towards other forms of zero emissions vehicles in business fleets, taxi and ferry fleets	Citywide	** to ***	** to ***	£ to ££££	Y	Y	Y
Park and Ride / parking measures								
Park and Ride & city centre parking pricing / promotion	Review park and ride and city centre pricing as city centre regeneration results in redevelopment of city centre parking ; continue summer P&R Southsea service; further promote P&R usage	Tipner/Portsea Island	**	***	£	Y	Y	Y
Expansion of Tipner Park & Ride to become a Transport Hub	Linked to city centre regeneration- expansion of existing P&R capacity, expansion of P&R bus services including frequency, operating hours, new destinations and events	Tipner/Portsea Island	**	***	£££££		Y	Y
Explore private non-residential parking restrictions	Investigate and if deemed viable, consider implementing a workplace parking levy	Potentially city-wide	*	*	££ to £££	Y	Y	
Continue Residents Parking Zone programme	Review of existing RPZs (including permit restrictions and pricing -potentially pricing based on vehicle size and emissions); and creation of new RPZs where required	Existing RPZ areas and adjoining areas	***	***	££	Y	Y	Y

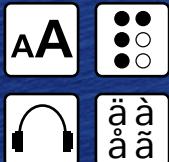
Scheme name	Description	Scale/ location	Expected AQ benefit		Estimated cost range	Timescales		
			In general	In CAZ/ AQMA _s		2025 – 30	2030 – 35	2035 – 40
Micromobility, Shared Transport and Active Travel								
Micromobility and shared transport trials/schemes	Continued delivery of Voi rental e-scooter trial (extended until May 2026), Voi e-bikes, and Dynamic Demand Responsive Transit trial in north of city (2025/26).	Citywide	*	*	£	Y	Y	Y
Develop, extend & electrify Portsmouth car club	Expand coverage and number of vehicles in car club scheme; increase number of users, use of hybrid and EV vehicles as scheme develops	Citywide	****	****	£	Y	Y	Y
Active travel improvements	Delivery of dedicated cycling + walking networks identified in LCWIP, quieter cycle routes, safer routes to schools, school streets, cycle parking improvements (including bike hangars in residential areas) and other related measures	Citywide	* to **	*	£ to £££ (individual schemes); £££££ (entire LCWIP network)	Y	Y	Y
Active Pompey Neighbourhoods (APNs)	Creation of areas with safer, greener and more pleasant streets with a focus on improving road safety and active travel choices	Selected neighbourhoods	**	*	£ to ££ (for each individual scheme)	Y	Y	Y
Transport schemes supporting regeneration								
City centre and road development	Realignment of road network north of city centre to reduce land fragmentation supporting development, and improved bus, cycle and pedestrian infrastructure in north of city centre	City centre	*	*	£££££	Y	Y	
Tipner/Horsea link bridge	Tipner/Horsea link bridge	Tipner area	*	*	£££££		Y	Y

Scheme name	Description	Scale/ location	Expected AQ benefit		Estimated cost range	Timescales		
			In general	In CAZ/ AQMA _s		2025 – 30	2030 – 35	2035 – 40
Behaviour change								
Communications and behaviour change campaigns and events	A range of campaigns and events to raise awareness of sustainable travel options and encourage uptake	Citywide	** to ***	***	£ to ££	Y	Y	Y
Sustainable Modes of Travel Strategy for Schools	Develop a Sustainable Modes of Travel Strategy for Schools	Citywide	*	*	£ to ££		Y	Y
Business and workplace travel plans	Development of travel plans at employers/ businesses across the city	Key employment areas	*** to ****	****	£ to ££	Y	Y	Y
Public Transport schemes								
Deliver future phases of South East Hampshire Rapid Transit	Bus based rapid transit network for the wider Portsmouth city region	Portsmouth+ wider city region	*** to ****	****	£££££	Y	Y	Y
Dynamic bus priority at signal-controlled junctions	Low cost measure to give priority to buses	Key junctions across city	** to ***	***	£ to ££	Y	Y	
Integrated public transport ticketing	To allow for easier travel across multiple modes through integrated digital/ app-based ticketing	Citywide	*	*	£	Y	Y	
Multi-modal transport hubs at key locations in city	Delivery of transport hub schemes improving interchange between multiple transport modes- at Cosham station, Southsea Clarence Pier, City Centre North, Tipner Park & Ride and potentially other locations	Selected locations	*	*	££ to £££££	Y	Y	
Solent Rail Connectivity scheme	Infrastructure improvements (poptentially including extra platforms at city centre stations) to enable operation of more frequent trains serving local stations between Portsmouth and Southampton	Citywide	*	* to **	£££££		Y	Y
Improved rail journey times to London	Improved rail journey times to London		*	*	£££££		Y	Y

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