



ADUR DISTRICT  
C O U N C I L

# **Adur District Council Air Quality Action Plan - for Consultation**

In fulfilment of Part IV of the Environment Act 1995

Local Air Quality Management

Draft - November 2022

Information	Adur District Council Details
Local Authority Officer	Nadeem Shad
Department	Public Health & Regulation
Address	Portland House, 44 Richmond Road, Worthing, West Sussex, BN11 1HS
Telephone	01273 263301
E-mail	publichealth.regulation@adur-worthing.gov.uk
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## Forward by Councillor Kevin Boram, Cabinet Member for Communities and Wellbeing

The quality of air is fundamental to our health and wellbeing. Therefore, it is important that we monitor closely and act accordingly to continually improve the quality of air that we breath. Particularly as our communities rapidly change to provide a sustainable, both environmentally and financially, place to live and work now and for the future.

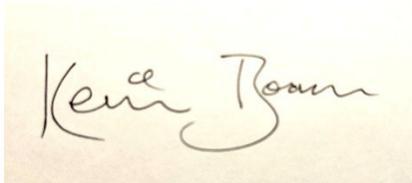
Adur has changed significantly since the last full Air Quality Plan was prepared. Since that time much needed housing is and will continue to be provided consistent with the delivery of the Adur Local Plan and Shoreham Harbour Joint Area Action Plan. So, it is only right that we now take the opportunity to fully reflect on the emerging direction of travel for our communities. In addition, we need to better understand the long-term trends arising from the impact of the pandemic in respect of air quality. Both issues will be closely monitored, and this plan changed accordingly to ensure that Adur continues to have effective air quality policies.

Notwithstanding the above, air quality in Adur is improving. Steps are now being taken to remove the Air Quality Management Area in Southwick on the A270 following five years of pollution levels lower than that required to take specific action.

## **Adur District Council**

Adur District Council will continue to work closely with the many stakeholders that can contribute to better quality air. This includes the departments for Environment, Food and Rural Affairs (Defra) and Transport, Highways England and West Sussex County Council as highways authorities, the Sussex Air Quality partnership (Sussex-air), our neighbouring communities and transport companies to mention a few. We also continue to work within our communities to promote a modal shift to active and sustainable travel and deliver campaigns to continue to improve the health and wellbeing of all.

In summary, although the population of Adur continues to grow, air quality in Adur is improving. However, there is much to do by both the council and many others to deliver great air quality throughout Adur.

A handwritten signature in black ink on a light-colored background. The signature reads "Ken Bann" in a cursive, flowing script.

## Executive Summary

This Air Quality Action Plan (AQAP) has been produced as part of our statutory duties required by the Local Air Quality Management framework. It outlines the action we will take to improve air quality within and near to the Shoreham Air Quality Management Area (AQMA) located in Adur District between 2022 and 2027.

The Shoreham AQMA is an area encompassing the High Street, Shoreham-by-Sea, between the Ropetackle Roundabout and Surry Street. It was declared in 2005 for exceedances of the annual mean air quality objective for nitrogen dioxide (NO<sub>2</sub>). Emissions of NO<sub>2</sub> in this area are likely derived mainly from road traffic emissions.

The other Adur AQMA in Southwick is planned for revocation following 5 years of sustained compliant monitoring data and has therefore not been included within this plan.

This action plan replaces the previous action plan which was implemented in 2007.

Projects delivered through the past action plan include:

- Implementation of an Adur Car Club.
- Embedding Air Quality Emissions Mitigation Planning Guidance for Sussex into the planning process, including updating this as necessary when guidance is revised.
- Improving emissions from the Council's vehicle fleet. All pool cars are now hybrids.
- Reducing the air quality impact of Council staff travel. This included the introduction of the [EASIT scheme](#) for staff and local businesses This has been further encouraged as a result of the COVID-19 pandemic.
- Supporting Brighton & Hove City Council, Brighton & Hove Buses, and other partners with bids to retrofit buses in and around the city, as some of these buses pass through Adur and the AQMA.
- Optimising traffic lights and pelican crossings as far as reasonably practicable.
- Promoting sustainable travel such as walking, cycling, car sharing and the use of LEVs throughout the district.

- Displaying air quality information and monitoring data on the [Sussex-air](#) website, linked to the Councils website.
- Carrying out campaigns to promote anti-idling, including the introduction of anti-idling signs at stationary traffic hotspots.

Air pollution is associated with a number of adverse health impacts. It is recognised as a contributing factor in the onset of heart disease and cancer. Additionally, air pollution particularly affects the most vulnerable in society: children and older people, and those with heart and lung conditions. There is also often a strong correlation with equalities issues, because areas with poor air quality are also often the less affluent areas<sup>1,2</sup>.

The annual health cost to society of the impacts of particulate matter alone in the UK is estimated to be around £16 billion<sup>3</sup>. Adur District Council is committed to reducing the exposure of people in Adur to poor air quality in order to improve health.

This Action Plan aims to tackle the main causes of poor air quality within Adur and the AQMA, namely emissions from combustion engines, particularly diesel vehicles. We have developed actions that can be considered under 6 Measure Categories:

- Policy guidance and development control.
- Traffic management.
- Promoting travel alternatives.
- Public information.
- Promoting low emission transport.
- Transport planning and infrastructure.

The Council have identified a number of priorities to help achieve this aim:

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

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

<sup>3</sup> Defra. Abatement cost guidance for valuing changes in air quality, May 2013

- **Policy Guidance and Development Control** – Continue to implement and update existing strategies and policies such as the Air Quality Emissions Mitigation Guidance for Sussex and Adur Local Plan policies.
- **Improvements to Traffic Management** – Improvements to road and roundabout networks, traffic light and pelican crossing optimisation as well as scheduling business delivery hours.
- **Active Travel, Public Transport and Low Emission Vehicles** - Encouraging the uptake of alternatives to cars through improving cycling and walking opportunities, supporting sustainable public transport, car clubs and travel plans, encouraging the uptake of electric vehicles, improving the electric vehicle charging infrastructure and other initiatives.
- **Public Information and Behavioural Change Campaigns** - Providing information on the causes and implications of poor air quality. Encouraging changing travel patterns with reduction of single occupancy car trips, promotion of clean air days, and promoting the switch to sustainable options.
- **ADC, Bus and Taxi Vehicle Fleet** – Procuring low emission vehicles for council owned fleet, collaboration with bus operators to introduce ultra-low emission vehicle into bus fleet, and introducing EV taxi hubs.

In this AQAP we (Adur DC and West Sussex County Council) outline how we plan to effectively tackle air quality issues within our control. However, we recognise that there are a large number of air quality policy areas that are outside of our influence (such as vehicle emissions standards agreed in Europe), but for which we may have useful evidence, and so we will continue to work with regional and central government on policies and issues beyond Adur District Council's direct influence.

## **Responsibilities and Commitment**

This consultation draft of the AQAP was prepared by Bureau Veritas and the Public Health and Regulation Team of Adur District Council with the support of officers from West Sussex County Council (WSCC).

## **Adur District Council**

This AQAP will be subject to an annual review and appraisal of progress. Progress each year will be reported in the Annual Status Reports (ASRs) produced by Adur District Council, as part of our statutory Local Air Quality Management duties.

**Any red text in this draft will be amended in the final version**

If you have any comments on this AQAP, please send them to Nadeem Shad at:

Adur & Worthing Councils, Public Health & Regulation, Portland House,  
44 Richmond Road, Worthing, West Sussex, BN11 1HS

Tel: 01273 263331

Email: [publichealth.regulation@adur-worthing.gov.uk](mailto:publichealth.regulation@adur-worthing.gov.uk)

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## Introduction

This report outlines the actions that Adur District Council will deliver between 2023 – 2028 in order to reduce concentrations of air pollutants and exposure to air pollution; thereby positively impacting on the health and quality of life of residents and visitors to the district.

It has been developed in recognition of the legal requirement on the local authority to work towards Air Quality Strategy (AQS) objectives under Part IV of the Environment Act 1995 and relevant regulations made under that part and to meet the requirements of the Local Air Quality Management (LAQM) statutory process.

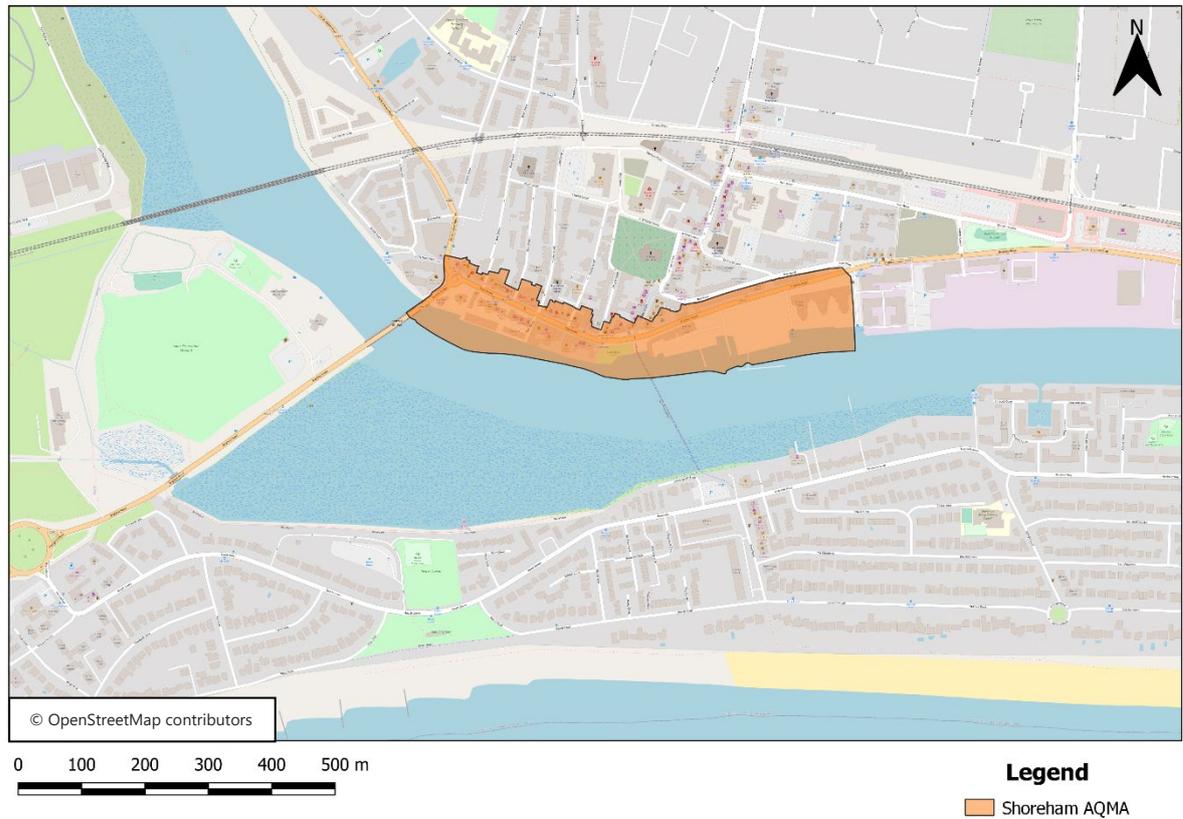
It should be noted that the Environment Act 1995 was amended in 2021. The Environment Act 2021 establishes a legally binding duty on government to bring forward at least two new air quality targets in secondary legislation by 31 October 2022. New legally binding targets are to be set for PM<sub>2.5</sub>. At the time of writing the 31 October deadline had passed with no dates for new targets suggested.

This Plan will be reviewed every five years at the latest and progress on measures set out within this Plan will be reported on annually within Adur District Council's air quality Annual Status Report (ASR).

This Plan focuses on actions to improve air quality across the entire district, with a specific focus on the Shoreham Air Quality Management Area (AQMA) declared by Adur District Council. The Shoreham AQMA is shown in Figure 1.1 overleaf.

The Southwick AQMA is planned for revocation in 2023 following 5 years of sustained compliant monitoring data as presented in the Council's latest ASR and has therefore not been included within this plan.

Figure 1.1 – Overview Map of Shoreham AQMA



## Summary of Current Air Quality in Adur

Adur District is located within West Sussex in the South of England. As of 2021, there are approximately 65,000 residents<sup>4</sup> within the District. The main source of air pollution within the District originates from vehicular emissions of nitrogen dioxide (NO<sub>2</sub>) and particulate matter (PM<sub>10</sub> and PM<sub>2.5</sub>). It is noted that there is a significant amount of development due to take place within the district, particularly to the west of Brighton City Airport (north-west of Shoreham High Street AQMA) and to the east along Shoreham Harbour.

This includes the New Monks Farm Strategic Allocation, allocated for a mixed use development with a minimum of 600 homes, West Sompting Strategic Allocation with a minimum of 480 residential dwellings and regeneration projects around Shoreham Harbour.

In addition, an update of the Adur Local Plan (adopted in 2017) has commenced. Work is being undertaken to address meeting additional needs for housing and development in the area.

Due to the COVID-19 pandemic, many developments had slow or minimal progression in development, as such it is considered that these new development have the potential to increase the traffic volumes in the district, therefore impacting on air quality.

The major roads passing through the district include the A27 (Shoreham Bypass) along the north of the district, alongside the A259 (Brighton Road) and A270 (Upper Shoreham Road). These roads link Adur to the neighbouring local authority areas of Worthing and Brighton & Hove. Shoreham High Street is situated on the A259 and serves as the main coastal route from Brighton as well as connecting to Shoreham

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<sup>4</sup> From the 2021 Census - <https://www.adur-worthing.gov.uk/about-the-councils/facts-and-figures/census/#:~:text=Key%20fact%201%3A%20The%20populations,residents%20across%20Adur%20and%20Worthing.>

Port. The A283 runs north from Adur, connecting to the A24 which links to London. As a result, there is commuter traffic that runs across the south coast alongside residential traffic, but also HGVs operating to and from the Port. ]

The A27 through the District is part of the National Highways Strategic Road Network, while the A259 and A283 which are managed by West Sussex County Council are part of the Department for Transport Major Road Network. However unlike the A283 to the north of its junction with the A27 connecting to the A24, the West Sussex Transport Plan 2022-2036 explains that the A259 and A283 in Shoreham are not part of the County Strategic Road Network<sup>5</sup>.

Congestion commonly occurs on both carriageways along the A259 through Shoreham, from the Ropetackle Roundabout to Eastern Avenue. This creates an air pollution hotspot along Shoreham High Street and has led to exceedances of the annual mean NO<sub>2</sub> air quality objective of 40µg/m<sup>3</sup>.

Air quality monitoring is carried out across the District via a network of 26 diffusion tube sites and one automatic monitoring location. Specifically within the Shoreham AQMA, there are 2 diffusion tube sites and 1 automatic monitor, with an additional 3 diffusion tubes located near to the AQMA boundary. Monitoring data for the past 5 years is presented in the following section so that the trends and the frequency of any exceedances can be considered. It should be noted that there is a degree of uncertainty with regard to the 2020 and 2021 monitoring data following the COVID-19 pandemic and its impacts on traffic volumes and air quality.

Detailed dispersion modelling as part of the AQMA assessment was undertaken by Phlorum in 2020 at relevant sensitive receptors within and near to the AQMA boundary, for the assessment year of 2018. A summary of the dispersion modelling results is also discussed in the following section.

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<sup>5</sup> West Sussex Transport Plan 2022-2036 - <https://www.westsussex.gov.uk/media/17428/wstp.pdf>

There have been no exceedances of any of the AQS objectives outside the Shoreham AQMA in the last 5 years once considered at the nearest relevant exposure. However, as mentioned above, due to the COVID-19 pandemic, there is a degree of uncertainty with regard to the 2020 and 2021 monitoring data due to the impacts on traffic volumes and as such air quality concentrations.

## 1.1 AQMA1 – High Street, Shoreham-by-Sea

Adur District Council AQMA1, High Street, Shoreham-by-Sea was designated in 2005 for exceedances of the annual mean NO<sub>2</sub> objective. The AQMA encompasses the A259 High Street, Shoreham, between Ropetackle Roundabout and Surry Street. Figure 1.1 above shows the extent of this AQMA.

As mentioned above, there are 2 diffusion tube sites and 1 automatic monitor located within the AQMA boundary, with an additional 3 diffusion tubes located near to the AQMA boundary. The annual mean NO<sub>2</sub> concentrations reported at these sites over the past 6 years are presented in Table 2.1 below.

Most of the current monitoring sites within and near to the AQMA have only been installed in the last three years, with a degree of uncertainty over the 2020 and 2021 monitoring data due to the COVID-19 pandemic. However, monitoring at various other sites within the AQMA has been undertaken for the last 15 years.

**Table 2.1 – AQMA1 Annual Mean NO<sub>2</sub> Concentrations**

Site ID	Within AQMA ?	X OS Grid Ref.	Y OS Grid Ref.	Site Type	Annual mean NO <sub>2</sub> concentration (µg/m <sup>3</sup> )					
					2016	2017	2018	2019	2020	2021
AD1	Y	521399	105039	Kerbside	n/a	n/a	29.2	26.0	20.0	19.6
S17/18 /19	Y	521399	105040	Kerbside	39.5	37.5	33.0	30.3	24.0	24.8
S27*	Y	521381	105119	Kerbside	33.5	33.9	32.1	26.9	-	-
S37	N	522103	105126	Roadside	n/a	36.2	32.6	29.1	23.4	23.8
S39	N	523329	104960	Kerbside	n/a	n/a	26.1	21.9	17.4	17.4
S46	Y	521363	105082	Roadside	n/a	n/a	n/a	n/a	18.3	18.8
S47	N	521375	105101	Roadside	n/a	n/a	n/a	n/a	16.3	16.8

S49 <sup>+</sup>	Y	521405	105031	Roadside	n/a	n/a	n/a	n/a	14.9	-
S50	Y	521478	105002	Roadside	n/a	n/a	n/a	n/a	n/a	22.2

**Notes**

Kerbside – A site sampling within one metre of the kerb of a busy road

Roadside - A site sampling typically within one to five metres of the kerb of a busy road

(although distance can be up to 15 m from the kerb in some cases)

\*S27 was closed in 2020 in favour of the creation of S46 and S47

+ S49 was added in 2020

A detailed modelling assessment, undertaken by Phlorum in 2020 is shown below. This assessment has assessed the baseline air quality concentrations for NO<sub>2</sub>, PM<sub>10</sub> and PM<sub>2.5</sub> at relevant sensitive receptors within and near to the AQMA boundary for the years 2018 and 2021.

### 1.1.1 Detailed Modelling

Phlorum consultants undertook a detailed dispersion model at relevant receptor locations within the Shoreham AQMA. This detailed dispersion modelling assessed baseline annual average NO<sub>2</sub>, PM<sub>10</sub> and PM<sub>2.5</sub> concentrations at sensitive receptor locations for the years 2018, 2021, 2023 and 2025 to determine the effects of the assessed pollutants at sensitive receptors in the future.

The location and details of the assessed receptors within the Shoreham AQMA are shown in Table 2.2 and Figure 2.1 below.

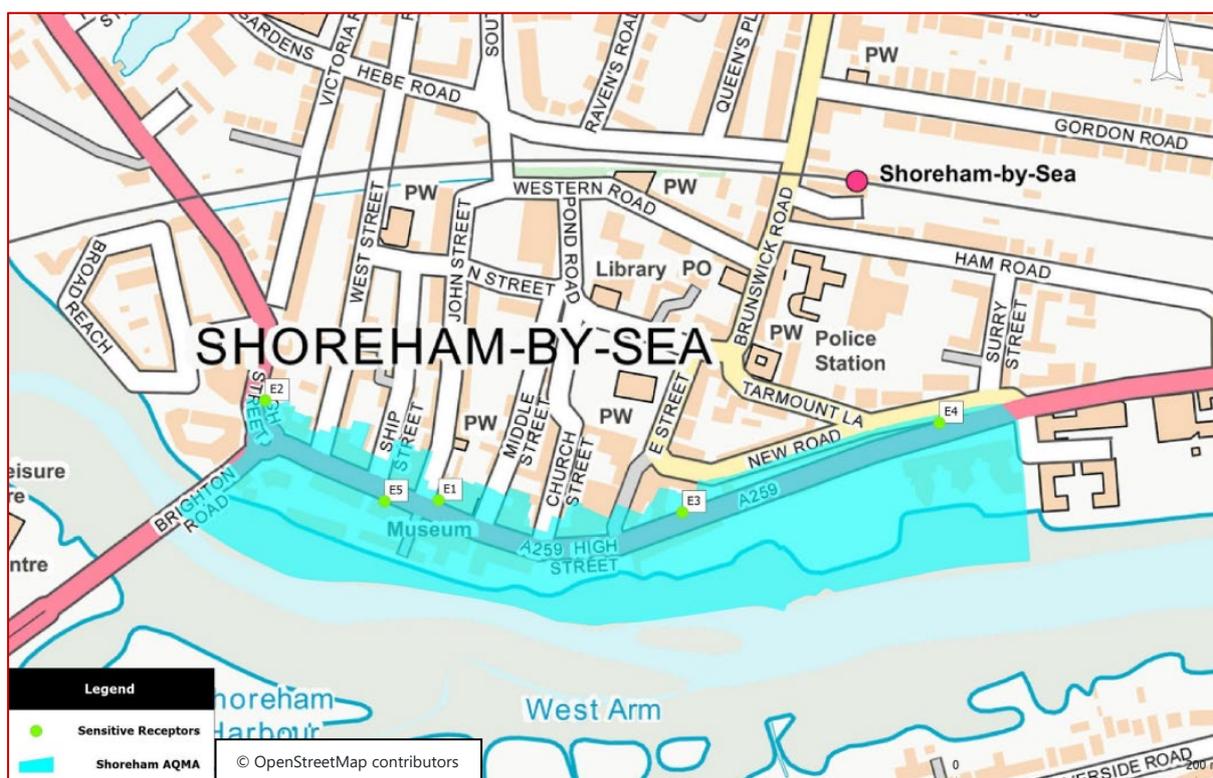
**Table 2.2 – Detail Dispersion Modelling Receptors**

Site ID	Location	X OS Grid Ref.	Y OS Grid Ref.	Height (m)
E1	Shoreham Hight Street (1 <sup>st</sup> Floor Residence)	521414.8	105029.5	4.5
E2	A283 (Opposite Ropetackle)	521315.6	105114.0	1.5
E3	A259 (Opposite Yacht Club)	521662.9	105022.4	1.5
E4	A259 (Opposite Free Wharf Development)	521877.1	105096.8	1.5

Site ID	Location	X OS Grid Ref.	Y OS Grid Ref.	Height (m)
E5	Shoreham High Street (1 <sup>st</sup> Floor Residence)	521460.0	105030.4	4.5

Prior to the assessment of the above receptors, a model verification using the 2018 monitoring data within Adur District Council was undertaken. The results at the above receptors for NO<sub>2</sub>, PM<sub>10</sub> and PM<sub>2.5</sub> are shown in Table 2.3.

**Figure 2.1 - Location of Detailed Dispersion Modelling Receptors**



**Table 2.3 – Detailed Dispersion Modelling Results**

Site ID	Location	Annual Mean NO <sub>2</sub> (µg/m <sup>3</sup> )		Annual Mean PM <sub>10</sub> (µg/m <sup>3</sup> )		Annual Mean PM <sub>2.5</sub> (µg/m <sup>3</sup> )	
		2018	2021	2018	2021	2018	2021
E1	Shoreham High Street (1 <sup>st</sup> Floor Residence)	27.5	27.5	16.8	16.8	11.5	11.5
E2	A283 (Opposite Ropetackle)	29.8	29.8	17.3	17.3	11.7	11.7
E3	A259 (Opposite)	29.0	29.0	17.5	17.5	11.8	11.8

Site ID	Location	Annual Mean NO <sub>2</sub> (µg/m <sup>3</sup> )		Annual Mean PM <sub>10</sub> (µg/m <sup>3</sup> )		Annual Mean PM <sub>2.5</sub> (µg/m <sup>3</sup> )	
		2018	2021	2018	2021	2018	2021
	Yacht Club)						
E4	A259 (Opposite Free Wharf Development)	31.7	31.7	18.0	18.0	12.1	12.1
E5	Shoreham High Street (1 <sup>st</sup> Floor Residence)	22.0	22.0	16.1	16.1	11.0	11.0

It should be noted that, despite the growth in traffic volumes accounted for, the 2021, 2023 and 2025 detailed dispersion modelling assessment scenarios have taken a worst-case approach, assuming no improvements in background concentrations of the pollutants assessed, as well as no improvements in vehicle emissions from the baseline year of 2018. The traffic data used considered the growth in traffic through Shoreham associated with the Adur District Local Plan (2018-2025) and as such consider specific large scale developments that are proposed to be implemented during this time period. Further modelling will be undertaken to assess options for delivering additional housing and other development needs as part of the update of the Adur Local Plan.

As such only 2018 and 2021 results are shown for simplicity as there is no change or very minor changes in baseline concentrations between 2018, 2021, 2023 and 2025. This is due to the baseline year of 2018 being used for both the background concentration data and vehicle emission year data as a worst-case approach.

Overall, the assessment results demonstrate that NO<sub>2</sub>, PM<sub>10</sub> and PM<sub>2.5</sub> concentrations at the sensitive receptors within the AQMA will be below their respective AQO.

It should be noted that despite NO<sub>2</sub> concentrations within AQMA1 being below the annual mean air quality objective, measured levels within the AQMA will be continually reviewed before making a decision on the future of the AQMA. A large number of major developments and schemes were delayed due to the COVID-19 pandemic and have yet to commence construction. These developments are primarily to the west of Brighton City Airport (just north-west of Shoreham High

## **Adur District Council**

Street), New Monks Farm Strategic Allocation for a mixed use development with a minimum of 600 homes, West Sompting Strategic Allocation for a minimum of 480 residential dwellings and regeneration around Shoreham Harbour. Overall, the developments have the potential to increase the traffic volumes in the district, therefore impacting the air quality. As such it is understood that revocation of the AQMA is not currently a reasonable option, a view supported by Defra in their recurrent view of Adur's ASR's.

## Adur's Air Quality Priorities

This chapter presents the main drivers and the approach taken by Adur District Council for the development and subsequent selection of measures that have been included within this AQAP. Included within this section of the AQAP are descriptions of the existing strategies and policies that relate to air quality within the district.

### 1.2 Public Health Context

There is increasing scientific evidence that poor ambient air quality has a significant negative impact on health. Research shows that the most common air pollutants of concern, NO<sub>2</sub>, PM<sub>10</sub> and PM<sub>2.5</sub> (particulate matter of less than 10 microns and 2.5 microns in diameter respectively), are linked to various health complications, impacting the cardiovascular and respiratory systems. Exposure to these pollutants can bring about symptoms such as nose and throat irritation, followed by bronchoconstriction and dyspnoea, alongside increasing reactivity to natural allergens, increasing the risk of respiratory infections through the pollutants interaction with the immune system<sup>6</sup>, and may lead to reduced lung function.

Alongside this, there is increasing interest and pressure from members of the public and Elected Members for Local Authorities to actively tackle and reduce air pollution in their areas. Previously, there had been no deaths officially linked to air pollution, however in 2020 the first person in the UK had 'air pollution' listed as a cause of death, as a result of failure to reduce pollution levels to legal limits within the London Borough of Lewisham. Although currently there are no legislative outcomes as a result of this, this further increases the pressure and duty of care that Local Authorities have in order to protect their residents.

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<sup>6</sup> Marilena Kampa and Elias Castanas, Human Health Effects of Air Pollution, June 2007

Poor air quality is considered to be a significant contributory factor to the loss of life, shortening lives by an average of 5 months. In 2010, the Department of Health's Committee on the Medical Effects of Air Pollutants (COMEAP)<sup>7</sup> reported that long-term exposure to outdoor air pollution contributes to the equivalent of 29,000 deaths in 2008 in the UK, and an associated loss to the population of 340,000 life-years. A further report by the Royal College of Physicians<sup>8</sup> reported in 2016 that it contributed to the equivalent of 40,000 deaths in 2015.

Local Authorities have a range of powers which can effectively help to improve air quality. However, the involvement of public health officials is crucial in playing a role to assess the public health impacts and providing advice and guidance on taking appropriate action to reduce exposure and improve the health of everyone within Adur District and in particular the Shoreham AQMA.

The Air Quality Indicator in the Public Health Outcomes Framework (England) provides further impetus to join up action between the various local authority departments which impact on the delivery of air quality improvements. The "Air Quality – A Briefing for Directions of Public Health"<sup>9</sup> document published in March 2017 provides a one-stop guide to the latest evidence on air pollution, guiding Local Authorities to use existing tools to appraise the scale of the air pollution issue in its area. It also advises Local Authorities how to appropriately prioritise air quality alongside other public health priorities to ensure it is on the local agenda.

The document comprises the following key guides:

- Getting to grips with air pollution – the latest evidence and techniques
- Understanding air pollution in your area
- Engaging local decision-makers about air pollution

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<sup>7</sup> <https://www.gov.uk/government/collections/comeap-reports>

<sup>8</sup> Royal College of Physicians, Every Breath we Take: The Lifelong Impact of Air Pollution, February 2016

<sup>9</sup> Defra, Air Quality: A Briefing for Directors of Public Health, March 2017.

- Communicating with the public during air pollution episodes
- Communicating with the public on the long-term impacts of air pollution
- Air Pollution: an emerging public health issue: Briefing for elected members

Besides NO<sub>2</sub>, there is an increasing focus on fine particulate matter. PM<sub>2.5</sub> is a pollutant of concern meaning particulate matter which is 2.5 microns or less in diameter. The UK has a national emission reduction commitment for PM<sub>2.5</sub>. The Local Air Quality Management (LAQM) Policy Guidance suggests that 'Local Authorities are expected to work towards reducing emissions and concentrations of PM<sub>2.5</sub> in their area as practicable.' The Policy guidance suggests that Authorities seek 'to move towards a specific objective in line with the annual average EU limit value for PM<sub>2.5</sub> of 25µg m<sup>-3</sup>.

The AQMA has not been declared for PM<sub>2.5</sub> and the modelling as part of the detailed assessment has shown predicted levels below the EU annual average objective of 20µg/m<sup>3</sup>. However many measures to improve NO<sub>2</sub> emissions will have a knock on effect in reducing PM<sub>2.5</sub> emissions.

The Public Health Outcomes Framework data tool compiled by Public Health England quantifies the mortality burden of PM<sub>2.5</sub> within England on a county and local authority scale. The 2019 fraction of mortality attributable to PM<sub>2.5</sub> pollution in Adur is 5.1%, which is on par with the national average of 5.1%, and slightly below the regional average (Southeast) 5.2%. It should be noted that this figure only accounts for one pollutant (PM<sub>2.5</sub>) for which stronger scientific evidence on links with mortality exist, and not NO<sub>2</sub>, for which the AQMA is declared, so the true figure is possibly even higher.

As such Adur District Council are looking to improve PM<sub>2.5</sub> concentrations within the Adur District and the Shoreham AQMA. This includes consideration of Smoke Control Areas. This would not only help improve PM<sub>2.5</sub> concentrations but also raise awareness about the health effects of PM<sub>2.5</sub> emissions.

Furthermore, following on from a review of research into the death burden associated with the air pollution mixture rather than single pollutants acting independently, the Committee on the Medical Effects of Air Pollutants (COMEAP) are currently reviewing the ability to link deaths to one specific pollutant. Many actions that seek to reduce NO<sub>2</sub> will also help to reduce particulate matter emissions.

With regards to health impacts as a result of air pollution within Adur and the Shoreham AQMA, this is largely associated with concentrations of NO<sub>2</sub>. Levels of PM<sub>10</sub> have been shown to comply with the AQS objectives. Evidence continues to show that there is no real safe threshold for PM<sub>2.5</sub> and the UK government should achieve reductions in levels of PM<sub>2.5</sub> as low as reasonably practicable below the current air quality standard. Monitoring of PM<sub>2.5</sub> shows that concentrations reported are considerably well below the recommended AQS objective and the more recent EU Exit Regulations limit value. It is expected that some of the measures implemented within this action plan for the achievement of reductions in NO<sub>2</sub> will have co-benefits in additionally reducing concentrations of PM<sub>10</sub> and PM<sub>2.5</sub>.

Adur District Council is partnered with Sussex Air. Sussex Air is a partnership of all Local Authorities within Sussex providing a wide monitoring network, helping Local Authorities meet statutory obligations to assess and report on local air quality, providing advice on reducing air pollutants and minimising exposure to pollutants as well as developing and delivering projects to improve local air quality.

### **1.3 Planning and Policy Context**

There are numerous existing and impending policies and strategies adopted at all levels (local, regional and national) that can exert significant effects, both positive and negative, on air quality across Adur. It is important to identify and consider these plans and strategies at an early stage of the development of the plan, as these will aid the establishment of the context in which specific options for improving air quality can be implemented.

Whilst certain policies and / or strategies may be outside of the influence of Adur District Council, there are a number of related policies and strategies at local and regional levels that can be tied directly with the aims of this AQAP. Some of these have a focus on air quality improvements within the district, whilst others relate to transportation issues and therefore have the added benefit of contributing to overall improvements in air quality across Adur and within the Shoreham AQMA.

The review of these strategies and policies also assists in preventing duplication of work within the AQAP but can instead work for mutual benefit whilst also focusing on direct measures outside those considered within the already developed strategies

and policies. This section outlines the strategies and policies that have the most significant potential to impact on pollutant concentrations within Adur District. Given their importance, the majority of measures listed below have been included as action measures within this Action Plan.

It should be noted that the Environment Act 1995 has recently been amended (2021). The Environment Act 2021 establishes a legally binding duty on government to bring forward at least two new air quality targets in secondary legislation by 31 October 2022. New legally binding targets are to be set for PM<sub>2.5</sub>.

The most relevant policies and strategic documents are detailed below.

### **1.3.1 Clean Air Strategy 2019**

The Clean Air Strategy<sup>10</sup> sets out the case for action at a national level, identifying a number of sources of air pollution within the UK including road transportation (relevant in terms of the Shoreham AQMA). It also sets out the actions required to reduce the impact upon air quality from these sources. It has been developed in conjunction with three other UK Government Strategies; the Industrial Strategy, the Clean Growth Strategy, and the 25 Year Environment Plan.

Key actions that are detailed within the strategy aimed at reducing emissions from transportation sources include the following:

- The publication of the Road to Zero strategy, which sets out plans to end the sale of new conventional petrol and diesel cars and vans by 2040.
- New legislation to compel vehicle manufacturers to recall vehicles and non-road mobile machinery for any failures in emission control systems, and to take effective action against tampering with vehicle emissions control systems.
- Develop new standards for tyres and brakes to reduce toxic non-exhaust

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<sup>10</sup> Department for Environment, Food and Rural Affairs (2019), Clean Air Strategy

particulate emissions from vehicles. [NB: This action would not necessarily target reductions in NO<sub>2</sub> for which the AQMA has been declared].

- The encouragement of the cleanest modes of transport for freight and passengers.
- Permitting approaches for the reduction of emissions from non-road mobile machinery, especially in urban areas.

### **1.3.2 UK Plan for Tackling Roadside Nitrogen Dioxide Concentrations**

Published in July 2017, the UK Plan for Tackling Roadside Nitrogen Dioxide Concentrations (Detailed Plan)<sup>11</sup> is the UK governments plan for bringing concentrations of NO<sub>2</sub> within statutory limits within the shortest possible time. It identifies that the most immediate air quality challenge within the UK is tackling the issue of NO<sub>2</sub> concentrations close to roads, especially within towns and cities. The plan identifies a number of Local Authorities that were required to complete feasibility studies to define NO<sub>2</sub> concentrations on road links which were identified by the national Pollutant Climate Mapping (PCM) model as exceeding the NO<sub>2</sub> annual mean AQS objective.

Adur District Council were not one of the authorities identified. However, the UK Plan details a range of possible solutions to reduce NO<sub>x</sub> emissions from vehicles, and therefore lower NO<sub>2</sub> concentrations. The actions detailed within the UK Plan include:

- Implementation of Clean Air Zones (CAZs)
- New real world driving emissions requirements for light passenger and commercial vehicles.
- Additional funding to accelerate the uptake of low emissions buses and also

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<sup>11</sup> Department for Environment, Food and Rural Affairs, Department for Transport (2017), UK Plan for Tackling Roadside Nitrogen Dioxide Concentrations (Detailed Plan)

for the retrofitting of older buses.

- Additional funding to accelerate the uptake of hydrogen vehicles and associated infrastructure.
- New mandatory emissions standards for non-road mobile machinery.
- Local cycling and walking investment plans.

### **1.3.3 Adur Local Plan 2017**

The Adur Local Plan details the vision and strategy for the future of Adur. The local plan provides clear guidance on how new developments can address the challenges faced, opportunities for new development and seeks a balance between safeguarding natural assets and meeting needs for development.

The Adur Local Plan 2017 only covers that part of Adur which lies outside of the South Downs National Park (SDNP), the SDNP has its own Local Plan.

Two of the key issues for the local plan includes “The need to address road congestion and related pollution – air and noise – whilst improving the existing transport network and facilitating the development of sustainable transport measures” and “The need to improve health and wellbeing” in particular within the Shoreham AQMA.

The policies below from the Adur Local Plan are all relevant to air quality.

#### **Policy 28: Transport and Connectivity**

*In order to secure significant improvements to transport and mobility in Adur, new development should:*

- *“Ensure new development contributes to the mitigation of air pollution, particularly in Air Quality Management Areas. Air quality assessments may be required. Where practical, new development should be located and designed to incorporate facilities for electric vehicle charging points, thereby extending the current network.”*

#### **Policy 34: Pollution and Contamination**

*“Development should not result in pollution or hazards which prejudice the health and*

*safety of the local community and the environment, including nature conservation interests and the water environment.*

*New development in Adur will be located in areas most suitable to the use of that development to avoid risks from noise, air, odour or light pollution.*

*Mitigation measures will need to be implemented for developments that could increase levels of pollution or have a negative impact on drinking water supplies in Adur. Where there are significant levels of increased pollution that cannot be mitigated, development will be refused.*

*Where appropriate, air quality assessments and/or noise assessments will be required in conjunction with development proposals.*

*Investigations and assessments of all sites situated in or in close proximity to potentially contaminated land will be required in relation to relevant development proposals.”*

#### **1.3.4 West Sussex Transport Plan 2022 – 2036**

The West Sussex Transport Plan 2022 – 2036 (WSTP)<sup>12</sup> is the County Council’s main policy on transport and sets out how key challenges including improving, maintaining and managing the transport network will be addressed in the period up to 2036. The plan’s objectives cover the following themes:

- Prosperous West Sussex
- Healthy West Sussex
- Protected West Sussex
- Connected West Sussex

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<sup>12</sup> West Sussex Transport Plan 2022-2036 - <https://www.westsussex.gov.uk/media/17428/wstp.pdf>

The plan recognises the traffic-related air quality management area in Shoreham High Street as a key issue and identifies a range of measures including on-street electric vehicle charging infrastructure and active travel route improvements to address traffic congestion and emissions, including new cycle route infrastructure for the A259 between Shoreham and Brighton.

The A259 through Adur (and Worthing) is not part of the County Strategic Road Network (CSRN). The CSRN links the 10 largest urban areas in West Sussex and is intended to attract the majority of medium and long-distance travel and freight movements. The Plan highlights giving active travel and shared transport greater emphasis on local roads that do not form part of the CSRN, such as the A259, alongside the role they play for general traffic.

### **1.3.5 West Sussex – Creating Healthy and Sustainable Places**

The West Sussex public health and sustainability framework – *Creating healthy and Sustainable Places* details public health guidance about creating healthy and sustainable places and communities in West Sussex. The framework aims to provide clarity on how the requirements set out in the National Planning Policy Framework (NPPF) and Planning Policy Guidance (PPG) with regard to healthy and safe communities can be met.

The framework states that air quality is one of the key considerations for healthy developments. *“Healthy developments should deliver improvements to air quality by:*

- *Implementing measures to improve air quality.*
- *Facilitating sustainable modes of transport, use of low emission vehicles e.g., electric vehicles and enable active travel.*
- *Reducing the need to travel, especially by car.*
- *Locating key facilities, services and vulnerable communities away from traffic hotspots.*
- *Addressing mitigation from the outset, with a focus on design-led solutions.*

*The framework also details design elements to improve and consider air quality.”*

### **1.3.6 Adur and Worthing Councils Planning and Climate Change Live Position Statement November 2019**

Adur and Worthing Councils declared a Climate Emergency in July 2019 and is committed to work towards becoming carbon neutral by 2030. The Live Position Statement is to provide guidance on the relevant planning policies that must be considered when formulating development proposals.

With regard to air quality the statement discusses how reduced air quality will have a beneficial impact on health, details how green infrastructure such as trees and vegetation can in certain cases help to improve air quality and discusses the Air Quality and Emissions Mitigation Guidance for Sussex, discussed in more detail below.

### **1.3.7 Adur and Worthing Sustainability Plan**

Adur and Worthing Councils declared a Climate Emergency in July 2019 and is committed to work towards becoming carbon neutral by 2030. In July 2021, Adur and Worthing Councils produced the Sustainable AW 2021-2023 Framework to help identify the areas that both the council and the community can take towards becoming carbon neutral and improving sustainability. Although air quality is not the focus of this plan, the measures detailed to support the sustainability framework may also help local air quality pollutants.

### **1.3.8 Adur & Worthing Staff Travel Plan**

The Councils Staff Travel Policy aims to improve the health and wellbeing of employees and helps with the Council's aim to become carbon neutral by 2030. The Travel plan looks to achieve these goals by reducing the number of journeys made by car and encouraging active travel (e.g. walking and cycling) and the use of low carbon transport (e.g. electric pool vehicles or public transport).

### **1.3.9 Air Quality and Emissions Mitigation Guidance for Sussex (2021)**

The Air Quality and Emissions Mitigation Guidance for Sussex is a joint guidance for a range of councils and districts within Sussex including Adur District Council. The guidance primarily deals with transport derived pollutants regulated under the LAQM.

The guidance provides advice for developers on how to assess and mitigate the impact that new developments have on local air quality, detailing a consistent approach to address local air quality impacts and ensures optimum scheme design to reduce emissions or exposure.

The guidance discusses the different stages at which air quality should be considered, including pre-application, screening checklist, the emissions mitigation assessment, and an air quality assessment.

One of the key aspects of the mitigation guidance is the emissions mitigation assessment, where a value or cost of the air quality effects associated with the additional development generated road traffic can be calculated. These costs are then used to aid in determining the level of mitigation and additional mitigation measures that may be required for a proposed development. The guidance details good design measures, standard mitigation and a list of additional mitigation measures that can be implemented into a scheme.

#### **1.3.10 Electric Vehicle Strategy 2019 – 2030**

West Sussex County Council produced an Electric Vehicle Strategy in December 2019. This strategy was developed to focus on the role of electric vehicles to help to shift to ultra-low emission vehicles and how West Sussex County Council will support residents transition to electric vehicles. The strategy focuses on two main strands, 'encouraging' and 'enabling'. With regard to the 'encouraging' this includes a focus on communications to raise understanding of the options for and benefits of electric vehicle (EV) ownership, and a focus on incentives such as differential charges for residential parking permits for low emission vehicles. With regard to 'enabling', the strategy highlights a focus on ensuring EV charging infrastructure is provided through new development, and enabling a comprehensive and cohesive charging solution on community land. This has resulted in a partnership with Adur and Worthing, Arun, Crawley, Horsham and Mid Sussex district and borough councils, and the County Council, and a contract award to Connected Kerb to deliver thousands of charge points on street, in public sector car parks and at community facilities across the county in the coming years.

### **1.3.11 West Sussex Walking and Cycling Strategy 2016 - 2026**

West Sussex County Council developed the Walking and Cycling Strategy in 2016 which sets out the County Council's aims and objectives for walking and cycling as well as priorities for investment in infrastructure improvements. The strategy contains a list of more than 300 potential schemes suggested by a range of stakeholders.

### **1.3.12 West Sussex Bus Service Improvement Plan**

West Sussex County Council developed the Bus Service Improvement Plan which sets out the County Council's plans to sustain and improve local bus and community transport services. It outlines the key challenges and identifies new opportunities including reversing the shift in journeys away from public transport since COVID-19.

### **1.3.13 Adur and Worthing Councils Local Cycling and Walking Infrastructure Plan**

The Adur and Worthing Councils Local Cycling and Walking Infrastructure Plan has been developed to provide a network plan for walking and cycling identifying preferred routes, core zones for future development and gaps in the current network.

## Source Apportionment

A source apportionment study has been completed, focusing on the Shoreham AQMA. The source apportionment study has allowed the most significant sources of oxides of nitrogen ( $\text{NO}_x$ ) vehicle contributors to be identified.  $\text{NO}_x$  is predominantly emitted into the atmosphere in the form of nitric oxide (NO) which is then converted to nitrogen dioxide ( $\text{NO}_2$ ) through chemical processes in the atmosphere. Under most atmospheric conditions, the dominant pathway for  $\text{NO}_2$  formation is via the reaction of NO with ozone ( $\text{O}_3$ ).

In conjunction with the strategies and policies that are currently in place, the conclusions of this source apportionment exercise have been used to identify and prioritise the action measures presented within Section 5.

The AQAP measures presented in this report are intended to be targeted towards the predominant sources of emissions within the Shoreham AQMA within Adur's area. Vehicular activity has been identified as the principal source of emissions, therefore the relative contributions from different vehicle types (cars, HGVs, LGVs, Buses) have been determined to identify whether a particular vehicle type represents the most significant source of pollution within the AQMA.

A source apportionment exercise was carried out by Phlorum on behalf of Adur District Council for a baseline year of 2018. This disregards any changes arising in 2020 as a result of the effects of changes in vehicle patterns arising from restrictions associated with COVID-19, which may not be representative of future year concentrations.

The source apportionment process has been completed in order to:

- Quantify the proportions of  $\text{NO}_x$  that are attributable to local road emissions.
  - The total concentration of a pollutant comprises those from explicit local emission sources such as, roads, chimney-stacks, and those that are transported into an area by the wind. If all the local sources were removed, all that would remain is that which comes in from further away; it is this component that is called 'background'.
  - It should be noted that the Phlorum Source Apportionment assessment has not considered the proportion that background concentrations

account for within the Shoreham AQMA and just provides the NO<sub>x</sub>, PM<sub>10</sub> and PM<sub>2.5</sub> apportionment attributable to road traffic.

- Determine the relative contributions from different vehicle types (cars, Heavy Good Vehicles (HGVs), Light Goods Vehicles (LGVs), buses and coaches, and motorcycles).
- Determine whether action plan measures would need to be applied on a local / regional / national scale to have a significant impact upon reducing NO<sub>x</sub> emissions within the existing AQMA.

It should be noted that emission sources of NO<sub>2</sub> are dominated by a combination of direct NO<sub>2</sub> (f-NO<sub>2</sub>) and oxides of nitrogen (NO<sub>x</sub>), the latter of which is chemically unstable and rapidly oxidised upon release to form NO<sub>2</sub>. Reducing levels of NO<sub>x</sub> emissions therefore reduces levels of NO<sub>2</sub>. As a consequence, the source apportionment study has considered the emissions of NO<sub>x</sub> which are assumed to be representative of the main sources of NO<sub>2</sub>.

The source apportionment was undertaken for the Shoreham AQMA, with Shoreham High Street the main source of emissions where the AQMA encompasses.

The source apportionment findings within the Shoreham AQMA are shown below in Table 4.1.

Traffic within the Shoreham AQMA is dominated by cars and LGVs which represent 77.7% and 17.0%, respectively, of the total volume of traffic currently operating within the area. Total vehicles and percentage proportions in the AQMA are shown in Table 4.2

**Table 4.1 – Shoreham-by-Sea Source Apportionment**

Vehicle Category	NO <sub>x</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Petrol Cars	5.9%	27.8%	27.8%
Diesel Cars	43.5%	34.0%	34.0%
Full Hybrid Petrol Cars	0.1%	1.1%	1.1%
Plug-In Hybrid Petrol Cars	0.0%	0.6%	0.5%
Full Hybrid Diesel Cars	0.2%	0.2%	0.2%

Vehicle Category	NO <sub>x</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Petrol LGVs	0.1%	0.5%	0.5%
Diesel LGVs	31.4%	20.8%	21.4%
Rigid HGVs	8.9%	6.7%	6.8%
Artic HGVs	2.7%	2.8%	2.8%
Buses/Coaches	6.8%	3.6%	3.9%
Motorcycles	0.4%	0.9%	0.9%

**Table 4.2 – Shoreham-by-Sea 2018 AQMA Traffic Data (Annual Average Daily Traffic)**

Vehicle Category	AADT	Percentage (%)
Petrol/ Diesel Cars	12,610	77.7%
Petrol/ Diesel LGVs	2,753	17.0%
Rigid HGVs	298	1.8%
Artic HGVs	109	0.7%
Buses/Coaches	142	0.9%
Motorcycles	321	2.0%

The source apportionment of emissions from each vehicle category are similar across all pollutants, with some differences as follows. NO<sub>x</sub> emissions are dominated by the diesel sector, whereas particulates are predominately sourced from the car and LGV sectors.

A graphical representation of the NO<sub>x</sub> emissions source apportionment can be seen in Figure 4.1 below.

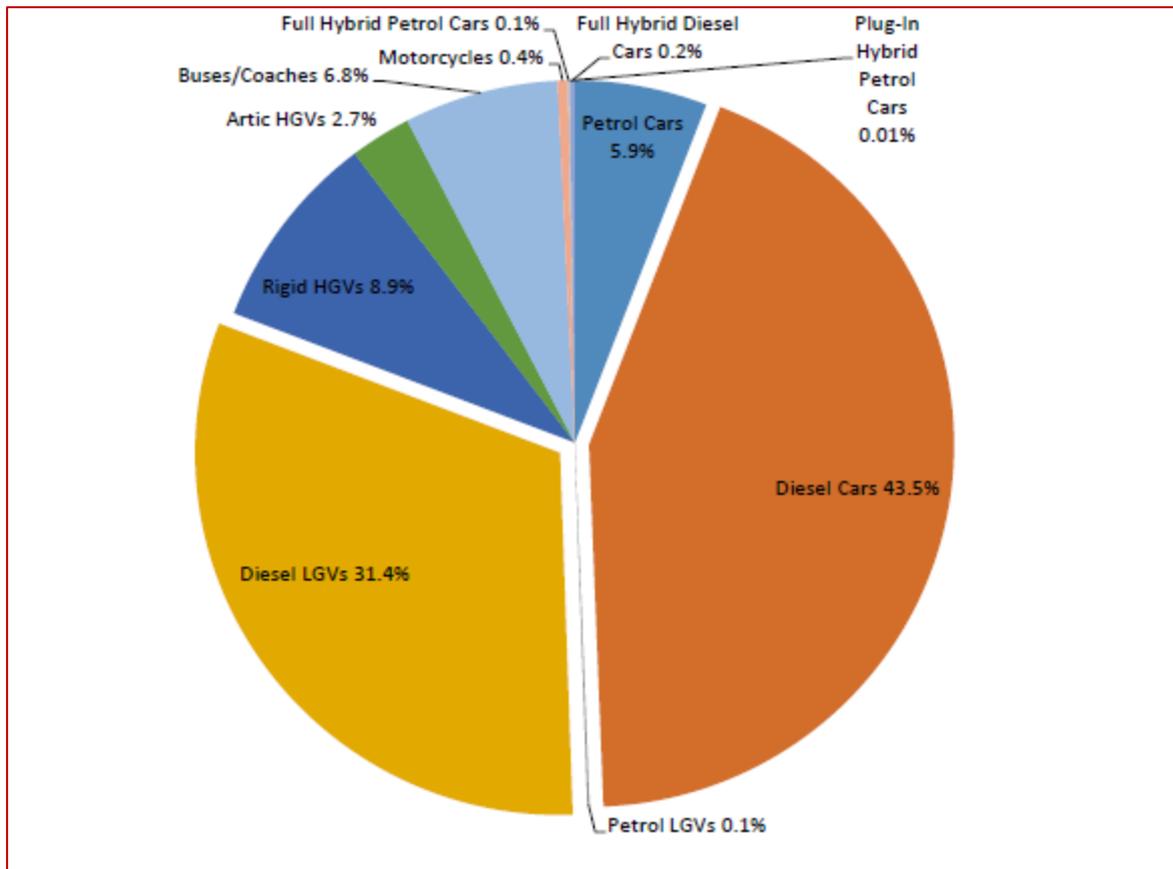
Figure 4.1 – Detailed Source Apportionment of NO<sub>x</sub> Concentrations

Table 3.1 details the source apportionment percentage results for NO<sub>x</sub>, PM<sub>10</sub> and PM<sub>2.5</sub> and Figure 4.1 the NO<sub>x</sub> source apportionment within the Shoreham AQMA.

When considering the average NO<sub>x</sub> concentration across the Shoreham AQMA, the following observations were found:

- Petrol and diesel vehicles account for the majority of road traffic NO<sub>x</sub> emissions, with 49.4%, of that, 43.5% derives from just diesel cars.
- Diesel LGV's hold the second highest contributing vehicle accounting for 31.4% of NO<sub>x</sub> emissions.
- Rigid HGV's then follow with 8.9%, with Buses/Coaches accounting for 6.8% and Arctic HGV's accounting for 2.7% of NO<sub>x</sub> emissions.
- Motorcycles, Petrol LGV's, Fully Hybrid Diesel and Petrol cars and Plug in Hybrid petrol cars all account for <1% of NO<sub>x</sub> emissions.

The NO<sub>x</sub> source apportionment exercise demonstrates a largely consistent ranking of contributing vehicle classes exhibited throughout all scenarios (Cars, LGVs, HGVs, Buses and Coaches, and Motorcycles), where diesel Cars (alongside LGVs) are found to be the main contributors to total road NO<sub>x</sub> concentrations within the Shoreham AQMA. Although diesel and petrol cars account for the largest proportion of NO<sub>x</sub> emissions at 49.4%, with Diesel LGV and Rigid HGV's accounting for 31.4% and 8.9% respectively, Table 3.2 shows that Petrol/Diesel LGVs and Rigid HGVs account for much smaller proportions of the overall vehicle volumes at 17.0% and 1.7% respectively, as opposed to petrol/diesel cars which account for 77.7% of vehicles.

Additionally, when reviewing the source apportionment for both PM<sub>10</sub> and PM<sub>2.5</sub>, similar trends are observed, however, there is a more even split between PM<sub>10</sub> and PM<sub>2.5</sub> emissions for petrol and diesel cars on average 25% petrol and 35% diesel.

This indicates that measures to reduce emissions from diesel cars and LGVs are considered to be most important as they have the most significant influence on emissions within this AQMA.

The source apportionment assessment detailed above illustrates that although the AQMA has not been declared for PM<sub>2.5</sub> emissions, Petrol and Diesel cars are the highest contributing sources from the vehicle's classifications with 27.8% and 34.0% respectively, followed by Diesel LGV's with 21.4%. It should be noted that although PM<sub>2.5</sub> emissions are in part derived from vehicles, their source in nature is different to that of NO<sub>x</sub> as background concentrations of PM<sub>2.5</sub> contribute a large proportion of total PM<sub>2.5</sub> concentrations. As such, although some localised emissions of PM<sub>2.5</sub> can be reduced, the overall concentrations cannot be reduced to the extent of NO<sub>x</sub> as the existing background plays a greater role in overall PM<sub>2.5</sub> levels.

## **1.4 Required Reduction in Emissions**

It should be noted that NO<sub>2</sub> concentrations within the Shoreham are currently below the annual mean air quality objective; measured levels within the AQMA will be continually reviewed before making a decision on the future of the AQMA.

A large number of major developments were delayed due to the COVID-19 pandemic and have yet to commence construction, as such it is understood that revocation of the AQMA is not currently a reasonable option and the AQMA will still remain. It should also be noted that Defra have also approved and support this position following their review and approval of the air quality annual status report, where this has been discussed.  $\mu\text{g}/\text{m}^3$

## **1.5 Key Priorities**

Overall, the main priority of this Air Quality Action Plan is to maintain and improve concentrations of  $\text{NO}_2$ ,  $\text{PM}_{10}$  and  $\text{PM}_{2.5}$  to ensure they are below their respective Air Quality Objectives.

Based on the information presented within the Source Apportionment, Section 3.3, which has identified road transport, in particular diesel cars and LGV's, as the main source of emissions, we have defined the following areas for action.

- **Priority 1 – Transport** (Parking, Public Transport, Procurement, Fleet)
  - Road traffic and transport is the major contributor for emissions within the AQMA. The Council, working in partnership with the Highway Authority West Sussex County Council, therefore wishes to control these via measures contained within this AQAP as a priority.
  - The Council is able to influence this via areas of direct control, such as taxi licensing, the composition of its own fleet, encouraging the use of and facilitating electric charging points to encourage electric vehicle uptake and improvements of cycle parking and facilities.
  - We will work with West Sussex County Council and other local authority partners to progress the roll out of EV charging infrastructure across the District.
  - We will lead by example by looking to improve our own vehicle fleet and operations in order to reduce harmful emissions whilst increasing efficiency.
  - We will collaborate with bus operators to introduce ultra-low emission vehicles into the bus fleet.

- The council will work with its wider strategic partners, particularly West Sussex County Council, on matters of traffic management and public transport, including delivery of any future agreed improvements to the A259/A283 Norfolk Bridge Roundabout. This will help to mitigate existing traffic and transport issues within the AQMA. We will review the size of the bus stops in the High Street to ensure they remain fit for purpose and in particular, that buses are able to pull into them properly so they do not obstruct the traffic.
- We will also collaborate with local businesses on High Street to review business delivery times and how these could be rescheduled away from peak hours.
- We will work with relevant partners to develop car clubs in the Adur District, particular in new developments.
- **Priority 2 – Public Health and Wellbeing** (Behaviour Change, Health Promotion, Modal Shift, Active Travel Campaigns)
  - Air pollution has a significant impact on public health and is therefore a major reason why the Council wishes to improve air quality. This will largely be driven by a change in attitude and travel behaviours, and as a Council, we have strong role in encouraging and facilitating this change. Central Government policy has also placed greater emphasis on Active Travel.
  - We will work with West Sussex County Council and other partners and community groups to develop designs, consultations and business cases for investment in walking and cycling infrastructure on key routes across the District in line with the priorities identified within the Adur and Worthing Local Cycling and Walking Infrastructure Plan.
  - Behavioural change campaigns will be undertaken to reduce single occupancy car trips and switch to more sustainable options. Social Media campaigns at schools, workplaces and communities. Promotion of district wide clean air days and homeworking where possible.
  - Anti-idling awareness campaigns will be undertaken. Introduction of anti-idling signage at taxi ranks, bus stops, and delivery drop off points.

- **Priority 3 – Policy Guidance** (Transport Plans and Air Quality Planning Guidance)
  - Existing strategies and policies adopted by Adur District Council are key mechanisms for reducing emissions across the AQMA.
  - We will continue to update and keep the local plan policies and the Air Quality Emissions Mitigation Guidance for Sussex documents live and embedded into the planning process.
  - We will ensure that new developments do not exacerbate any areas of existing poor air quality and provide appropriate mitigation measures where this is unavoidable.
  - We will continue to ensure that where required, air quality assessments, emissions mitigation assessments, travel plans, and strategic routing of HGV's is undertaken.
  - We will ensure those aspects of the Adur & Worthing Sustainability Plan that align with this Action Plan assist in the delivery of this Plan.

# Development and Implementation of Adur AQAP

## 1.6 Consultation and Stakeholder Engagement

In developing/updating this AQAP, we have worked with other Local Authorities, agencies, businesses and the local community to improve local air quality. Schedule 11 of the Environment Act 1995 requires Local Authorities to consult the bodies listed in Table 5.1.

To be completed upon completion of consultation.

The response to our consultation stakeholder engagement is given in Appendix A: Response to Consultation.

**Table 5.1 – Consultation Undertaken**

Consultee	Consultation Undertaken
The Secretary of State	<Yes/No>
The Environment Agency	<Yes/No>
The highways authority	<Yes/No>
All neighbouring Local Authorities	<Yes/No>
Other public authorities as appropriate, such as Public Health officials	<Yes/No>
Bodies representing local business interests and other organisations as appropriate	<Yes/No>

## **1.7 Steering Group**

A Steering Group will be set up to monitor and implement this Action Plan. The Group will include representatives from WSCC Highways, A&W Planning, A&W Environmental Protection, A&W Sustainability and Elected Members.

## AQAP Measures

Table 6.1 shows the Adur AQAP measures. It contains:

- A list of the actions that form part of the plan.
- The responsible individual and departments/organisations who will deliver this action.
- Estimated cost of implementing each action (overall cost and cost to the local authority).
- Expected benefit in terms of pollutant emission and/or concentration reduction.
- The timescale for implementation.
- How progress will be monitored.

**NB:** Please see future ASRs for regular annual updates on implementation of these measures

Table 6.1 – Air Quality Action Plan Measures

Measure No.	Measure	Category	Classification	Estimated Year Measure to be Introduced	Estimated / Actual Completion Year	Organisations Involved	Funding Source	Defra AQ Grant Funding	Funding Status	Estimated Cost of Measure	Measure Status	Target Reduction in Pollutant / Emission from Measure	Key Performance Indicator	Progress to Date	Comments / Potential Barriers to Implementation
1	<b>Air Quality Planning Guidance</b>	Policy Guidance and Development Control	Air Quality Planning and Policy Guidance	In Progress	Ongoing	ADC/WBC, Sussex Air/WSCC	ADC	No	Funded	<£10k	Implementation	NO <sub>2</sub> - Well designed and mitigated development should reduce overall emissions in AQMA and Adur.	Increase in well design mitigated schemes and increase in additional mitigation measures from developments	Currently ongoing	Continue to implement Local Plan and Air Quality Emissions Mitigation Guidance for Sussex. Including requiring air quality assessments, emissions mitigation assessments where appropriate mitigation measures is provided by developers, support Council's monitoring, strategic routing of HGVs, improving transport network infrastructure surrounding new developments. Installation and use of low carbon and NOx energy

Measure No.	Measure	Category	Classification	Estimated Year Measure to be Introduced	Estimated / Actual Completion Year	Organisations Involved	Funding Source	Defra AQ Grant Funding	Funding Status	Estimated Cost of Measure	Measure Status	Target Reduction in Pollutant / Emission from Measure	Key Performance Indicator	Progress to Date	Comments / Potential Barriers to Implementation
															options/boilers.
2	Traffic Management/Road/Junction improvements and Anti Idling	Traffic Management	UTC, Congestion management, traffic reduction	2023	2025	WSCC/ADC/WBC	To be determined – developer contributions	No	Part funded	£1m – £10m	Planning	Reduction in NO <sub>2</sub> concentrations	Reduction in NO <sub>2</sub> Emissions	Anti idling signs placed at known hotspots; Shoreham Town Centre study assessments of potential options for town centre.	Improvements to A259/A283 Norfolk Bridge roundabout. Traffic light/pelican crossing optimisation/MOVA traffic control. Review of Shoreham parking and parking restrictions. Scheduling business delivery time away from peak hours, waiting and loading restrictions/ keep clear zones. Review of bus stop locations within AQMA, traffic signage, routing and car park signposting. Anti-idling campaigns

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															targeted at commercial businesses, taxi ranks, bus stops and delivery drop off points within AQMA.
3	Active Travel Campaign	Promoting Travel Alternatives Transport Planning and Infrastructure	Promotion of cycling Promotion of walking Public cycle hire scheme	2023	ongoing	ADC/WBC/WSCC/Suss ex-air	ADC/WSCC/SUSSEX-AIR	Potentially linked to future Defra AQ Grant Funding	part funded	<£10k	planning	Reduction in NO <sub>2</sub> concentrations and raises public awareness	Number of those using active travel. Number of those using cycle facilities and number of cycle routes	The Living Streets 'Walk To' project from 2020 that worked with a number of schools, colleges and workplaces was unable to continue through large parts of 2021 due to the Covid-19 Pandemic. WSCC bid into the 2021 Capability fund with many activities taking place during 2022 due to the allocation of funds delayed until Nov 2021, schools in Shoreham were targeted based on their engagement with strategic local transport projects in the area.	Improving cycle parking facilities, cycle and scooter rental schemes, signage and providing new cycle and pedestrianised routes in line with Adur and Worthing Local Cycling and Walking Infrastructure Plan  Employer-based / school travel plans to encourage active travel including walking to school incentives.

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4	Public Health Information based campaigns and ongoing monitoring	Public Information	Other	2023	Ongoing	ADC/WBC/WSCC/Sussex-air	ADC/WSCC/Sussex-air	Yes (part)	Part funded	£100k	Implementation	NO <sub>2</sub> measure to raise public awareness	Number of Campaigns	Liaison with WSCC Public Health/Sustainability Teams who have supported the promotion of air Alert through part funding the service and supporting publicity. Sussex-air CleanBurn site promoted via website; continuous NOx and PM2.5 monitoring in Shoreham High St; NO2 diffusion tubes across Adur.	Continue to use Sussex AQ Alert and commitment to ongoing measurements of AQ pollutants within the Shoreham AQMA. Ongoing funding will be key.
5	Behavioural Change Campaign	Public Information	Other Encourage / Facilitate homeworking	2023	Ongoing	ADC/WBC/WSCC/Sussex-air	ADC/WSCC/Sussex-air		Part funded	<£10k	Planning	NO <sub>2</sub> measure to raise public awareness	Number of campaigns		Educational behaviour change campaigns at schools and workplaces to reduce single occupancy car trips and promote the switch to sustainable alternatives. Including promotion of

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															district wide clean air days, homeworking where possible. Linked to Carbon Neutrality policies and schemes.
6	Adur Car Club	Traffic Management	Car & lift sharing schemes	2022	Ongoing	ADC/WSCC	ADC/Developer Contributions	No	Part funded	~£500k	Implementation	Small impact upon NO <sub>2</sub> concentrations from measure individually, estimated to be less than 1µg/m <sup>3</sup> based upon a low to medium uptake.	Number of car sharing individuals		Encouragement of Car Clubs as well as Car Sharing schemes
7	Domestic emissions reduction campaigns focused on PM2.5	Public information	Other	2022	2025	ADC/WBC/Sussex-air	ADC/Sussex-air	Yes	Part funded	£10k-£50k	Implementation	PM <sub>2.5</sub> measure to raise public awareness	Number of Campaigns		Includes consideration of Smoke Control Areas and domestic and commercial emissions reduction work
8	Low Emission Vehicle Encouragement	Promoting Low Emission Transport	Company Vehicle Procurement -Prioritising uptake of low emission	2022	Ongoing	ADC/WBC/WSCC	ADC/WSCC/Sussex-air	No	Part funded	£1m-£10m	Implementation	Small impact upon NO <sub>2</sub> concentrations from measure individually,	Number of Low Emissions Vehicles within	Programme of fleet replacement with ev/hybrid vehicles continues, as and when vehicles are	Procuring low emission vehicles for council owned fleets. Including further

Measure No.	Measure	Category	Classification	Estimated Year Measure to be Introduced	Estimated / Actual Completion Year	Organisations Involved	Funding Source	Defra AQ Grant Funding	Funding Status	Estimated Cost of Measure	Measure Status	Target Reduction in Pollutant / Emission from Measure	Key Performance Indicator	Progress to Date	Comments / Potential Barriers to Implementation
			vehicles									estimated to be less than 1µg/m <sup>3</sup> based upon a low to medium uptake.	council fleet.	due for replacement. All pool cars hybrids. Explore alternative fuels for refuse vehicles.	development of alternative fuel, installing EV charge points on council land, in accordance with EV strategy. This also links to part of the West Sussex County Council EV Strategy to improve charging infrastructure.
9	Bus and Taxi fleet improvements	Promoting Low Emission Transport	Fleet efficiency and recognition schemes Promoting Low Emission Public Transport	2023	Ongoing	ADC/ WSCC/Sussex-air/bus operators	ADC/WSCC/Sussex-air	Yes	Part funded	£100k-£500k	Implementation	Small impact upon NO <sub>2</sub> concentrations from measure individually, estimated to be less than 1µg/m <sup>3</sup> based upon a low to medium uptake.	Number of ultra-low emission busses and EV Taxis	Defra funded WSCC taxi fleet study has begun, will look at what is needed for fleet electrification	Collaboration with bus operators to introduce ultra-low emission vehicles into the bus fleet. Target use of ULEV into the problem areas. Review taxi EV charging provision, taxi rank locations and update licence fees to encourage EV uptake
10	Public Transport Encouragement	Transport Planning and Infrastructure	Public transport improvements-	2023	Ongoing	WSCC/ADC/public transport operators	WSCC/ADC	No		£100k-£500k	Planning	Small impact upon NO <sub>2</sub> concentrations from	Number of campaigns and use of public		Improvements to public transport infrastructure, frequency,

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		re	interchanges stations and services									measure individually, estimated to be less than 1µg/m <sup>3</sup> based upon a low to medium uptake.	transport.		routes and incentivise usage, including rail travel services and information campaigns focusing on tourists to district/AQMA. This also links to the West Sussex Bus Service Improvement Plan.

## Appendix A: Response to Consultation

Table A.1 – Summary of Responses to Consultation and Stakeholder Engagement on the AQAP

Consultee	Category	Response
<Insert consultee e.g. Chamber of Commerce>	<Insert category e.g. Business>	<Insert text e.g. Disagree with plan to remove parking on High Street in favour of buses and cycles; consider it will harm business of members>

## Appendix B: Reasons for Not Pursuing Action Plan Measures

Table B.1 – Action Plan Measures Not Pursued and the Reasons for that Decision

Action category	Action description	Reason action is not being pursued (including Stakeholder views)
<Select from the categories in the blue instruction box above>	<Insert description of measure>	<Insert text here>

## Glossary of Terms

Abbreviation	Description
AQAP	Air Quality Action Plan - A detailed description of measures, outcomes, achievement dates and implementation methods, showing how the local authority intends to achieve air quality limit values'
AQMA	Air Quality Management Area – An area where air pollutant concentrations exceed / are likely to exceed the relevant air quality objectives. AQMAs are declared for specific pollutants and objectives
AQS	Air Quality Strategy
ASR	Air quality Annual Status Report
Defra	Department for Environment, Food and Rural Affairs
EU	European Union
LAQM	Local Air Quality Management
NO <sub>2</sub>	Nitrogen Dioxide
NO <sub>x</sub>	Nitrogen Oxides
PM <sub>10</sub>	Airborne particulate matter with an aerodynamic diameter of 10µm (micrometres or microns) or less
PM <sub>2.5</sub>	Airborne particulate matter with an aerodynamic diameter of 2.5µm or less

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