Swale Borough Council Air Quality Action Plan (2023 - 2028)

Supersedes 2018 – 2022 AQAP

In fulfilment of Part IV of the
Environment Act 1995
Local Air Quality Management

2023

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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 strategic and local actions we will take to improve air quality in Swale Borough Council between 2023 and 2028.

This Strategic action plan replaces the previous action plan which ran from 2018 to 2022. The measures detailed within this updated action plan are largely district-wide with some localised measures and are relevant to all AQMAs listed in table 1.

Projects delivered through the past action plan include:

- Clean Air Zone (CAZ) Feasibility study – Options for this were given thorough consideration between Swale and relevant services in KCC to review the viability of implementing a non-charging CAZ (further details in section 3.3.3).
- Anti-idling campaign was launched to lower NO_x and PM_{10} emissions in idling hotspots. The Council continues work on the campaign, assessing new hot spot locations within the district, preparing installation of new signs and additional enforcement patrols at hotspot locations, whilst liaising with schools where hotspot areas have been identified.
- Faversham Car Club launched successfully - Low emission mobility which can help to break dependency on private car use. This can encourage alternative and more sustainable travel options.
- Business Travel Plans – Engagement with businesses to encourage business modal shift and active travel. KCC and district distribution support local businesses to switch to ULEV vans through the Kent REVS Up for Cleaner Air scheme (30+ businesses took part in Swale).
- Local school travel plans
    - Three schools signed up to the ‘Clean Air for Schools’ Scheme, taking part in anti-idling campaign activities. This included signposting all schools to Kent Smarter Travel scheme for travel plans and capital grant funding to support more sustainable travel.

- Green School Forum was set up in 2022 by the Council to engage with schools on range of schemes related to air quality and climate action. This includes Youth Climate Project Competitions funded by the Council.
- Funded by the Defra Air Quality Grant Pollution Patrol digital resource for schools was set up aimed at children aged 5-11 (and their parents). The aim being to educate, raise awareness and promote behaviour change.

- The Swale Borough Local Plan Review Regulation 19 Document (February 2021) includes an Air Quality Policy (DM 33). Swale's Air Quality and Planning Guidance was updated in 2021.
- Swale's Parking SPD was adopted in 2020. This includes requirements for Parking for Ultra Low Emission Vehicles with the objective of improving air quality.
- New Taxi licencing policy developed and an electric vehicle charging point for taxi's was installed at Central Avenue.
- Swale's Electric Vehicle Strategy (adopted June 2022) and charge points were implemented -18 new charging spaces (+18 existing spaces from 2022 works).
- "20 is plenty" zones in Faversham (led by Faversham Town Council and KCC) and Newington (led by Newington Parish Council and KCC)
- The St Paul's Street source apportionment study was completed to assist the authority to correctly target the most important sources of NOx and PM_{10}, to focus the principal measures for their reduction.
- Improved air pollution alerts and information for Swale - Kent and Medway Air Quality Partnership Group now have a new website managed by a new data management team at Ricardo. This includes improvements to the resources and content of materials including more interactive guidance for vulnerable groups.

Additions for the 2023 to 2028 AQAP include:

- Identified four new priority themes
- An update on general air quality trends within Swale
- Inclusion of the Keycol Hill AQMA declaration for NO_2 annual mean exceedance and an amendment to St Paul's Street AQMA for Particulate Matter (PM_{10}) 24 hour mean exceedance
- Information on changes to Defra's Technical Guidance (TG22) and Policy Guidance (PG22) (section 3.2.4).
- Information on recent changes to The Environment Act 2021 (Part 1) which established two new air quality targets (section 3.2.5).
- New AQAP measures to reduce NO_x, PM_{10} and $PM_{2.5}$ (section 5.1)
- Appendix C. Monitoring measures
- Appendix D. Explanation on evaluating the cost effectiveness and rag rating of measures

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[1,2,3]. The annual health cost to society of the impacts of particulate matter alone in the UK is estimated to be around £16 billion[4]. Swale Borough Council is committed to reducing the exposure of people in Swale Borough to poor air quality in order to improve health. We have developed actions that can be considered under the following themes below (section 3.6):

Theme 1: Public Health and Wellbeing

Theme 2: Active Travel, Public Transport and Low Emission Vehicles

Theme 3: Transport, Transport Planning and Traffic Management

Theme 4: Local Planning Policy and Development Management

[1] Environmental equity, air quality, socioeconomic status, and respiratory health, 2010
[2] Air quality and social deprivation in the UK: an environmental inequalities analysis, 2006
[3] Chief Medical Officer's Annual Report 2022 publishing.service.gov.uk
[4] Defra. Abatement cost guidance for valuing changes in air quality, May 2013

The themes include various measure categories:

- Alternatives to private vehicle use
- Policy guidance and development control
- Promoting low emission transport
- Promoting travel alternatives
- Public information
- Transport planning and infrastructure
- Traffic management
- Vehicle fleet efficiency
- Environmental permits

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

This action plan takes a collaborative approach with the Council's Climate and Ecological Emergency Action Plan and evidence-based Transport Strategy. We worked closely with officers from Kent County Council's Highways, Public Health and Active Travel departments to ensure that the measures detailed within this action plan continue to provide a holistic approach to tackling the sources of poor air quality in the borough.

Responsibilities and Commitment

This AQAP was prepared by the Mid Kent Shared Environmental Health Service on behalf of Swale Borough Council (SBC) with the support and agreement of the following officers and departments:

Tracey Beattie: Mid Kent Environmental Health Environmental Health Manager
Clare Lydon: Mid Kent Environmental Health Senior Scientific Officer
SBC Economic Development/ Culture and Places Team
SBC Climate Team
SBC Planning Policy Team
Kent County Council departments: Public Health and Highways

This AQAP has been approved key Council Members:

Swale Borough Council Elected Members	Signature
Councillor Rich Lehmann Chair of Environment Committee	 07.07.23
Councillor Dolley Wooster Vice-Chair of Environment Committee	To be added
Director of Public Health	 19.07.23

This AQAP has been signed off by the Director of Public Health for Kent with the recognition of its limitations due to the resources Local Authorities have to enforce restrictions and reduce pollution as highlighted by the Association of Directors of Public Health Consultation Response to the National Air Quality Strategy.

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

If you have any comments on this AQAP, please send them to our Environmental Health admin team at:

Address Swale Borough Council
Swale House
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Kent ME10 3HT
Telephone 01622 602184 Email EHadmin@midkent.gov.uk

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List of figures and tables:

1. Introduction

This report outlines the actions that Swale Borough Council will deliver between 2023 and 2028 to reduce concentrations of air pollutants and receptor exposure to air pollution; thereby positively impacting on the health and quality of life of residents and visitors to the Swale area.

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.

This Plan is active but will be fully reviewed every five years at the latest and progress on measures set out within this Plan will be reported on annually within Swale Borough Council's Annual Status Reports.

The Swale Strategic AQAP (2023 - 2028) will include:

1. A clear vision and direction for the Swale Strategic Air Quality Action Plan (AQAP);
2. Strategic and focused local measures to improve air quality across the borough as well as within the declared Swale Air Quality Management Area's;
3. The update AQAP will review any existing and new source apportionment work for actions and measures.
4. Consultation and engagement process with all stakeholders and delivery partners on the key actions and measures within the AQAP; and
5. Implementation and delivery plan for the Strategic AQAP through 2023 -2028.

2. Summary of Current Air Quality in Swale Borough Council.

2.1. Location and context

Swale district is located on the centre of the North Kent Coastline, with the western side of the Borough linking to the Thames Gateway and on the eastern side with Canterbury and the Port of Dover. Census[5] 2021 shows in Swale, the population size has increased by 11.7%, from around 135,800 in 2011 to 151,700 in 2021. Since 2011, there has also been an increase of 27.3% in people aged 65 years and over, an increase of 8.3% in people aged 15 to 64 years, and an increase of 9.4% in children aged under 15 years.

The Borough is predominately rural, with three main urban areas: Sittingbourne, Faversham and Sheerness. The Isle of Sheppey is isolated from the mainland by the Swale and linked by the A249 bridge. The port at Sheerness provides a gateway to mainland Europe for freight trade with both international and national markets. Canterbury, Ashford, Maidstone and The Medway Towns surround Swale creating a high demand on transport infrastructure. Central London is just 40 miles away with good access for commuting.

Swale is directly connected to the motorway network at junctions 5 in the west & 6 in the east of the M2, with the M20, M25 and M26 a short distance away. The historically built Roman road renowned for its straightness, the A2 was a major road in south-east England connecting London with the English Channel, through the Port of Dover. The M2 now replaces part of the A2 as the most strategic route. The primary road links west and east of the borough rely predominantly on the A2 corridor or the M2.

2.2. Air Quality Management Areas and overview of monitoring network

The A2 corridor through the Borough suffers from heavy traffic and congestion which has led to the declaration of five Air Quality Management Areas (AQMAs) along the A2

[5] Census 2021: https://www.ons.gov.uk/visualisations/censuspopulationchange/E07000113/

(AQMA's 1, 2/6, 3, 5 and 7) and another along the B2006 road, located within Sittingbourne's urban and industrial areas (AQMA 4).

The estimated population for each AQMA is shown in table 1. This data has been estimated by multiplying the number of properties by 2.4. According to the Office for National Statistics, "The average household size in England and Wales in 2021 was 2.4 people per household". The AQMA location maps are provided below (Figure 1 to 7) and are on the Defra website "List of Local Authorities with AQMA's"[6]. Census data was not used, as it is provided at an aggregate level which is too broad to pick out each individual address.

Table 1. The estimated population within the AQMAs

AQMA	Properties	Occupants
East Street AQMA	75	180
Keycol Hill AQMA	75	180
Newington AQMA	187	449
Ospringe Street AQMA	112	269
St Paul's Street AQMA	47	113
Teynham AQMA	37	89

Swale Borough Council has a comprehensive monitoring network of nitrogen dioxide (NO_2) monitoring sites including measurement by automatic analysers at three locations and 78 locations with passive diffusion tube devices (2021). One automatic analyser location (Ospringe) monitoring NO_2 and two locations (Newington and St Paul's Street) monitoring NO_2, PM_{10} and $PM_{2.5}$ (particulates less than 10 and 2.5 microns in diameter).

The Environmental Health Team started monitoring PM_{10} in Ospringe in 2004 and stopped in 2023. This is mainly for three reasons. Firstly, the unit is approaching the end of its serviceable life and parts are increasingly difficult to purchase. Secondly, the Tapered Element Oscillating Microbalance (TEOM) at this site is causing higher than normal temperatures in the monitoring cabinet which affect NO_2 data collection and damage to multiple air conditioning units in the cabinet. Thirdly, the need to continue to record PM_{10} at Ospringe has decreased, as the site has been shown no exceedances for PM_{10} over the last five years.

[6] https://uk-air.defra.gov.uk/aqma/list

The comprehensive network of monitoring within the district helps the Council to review and report the effectiveness of Action Plan measures to reduce NO_2, PM_{10} and $PM_{2.5}$ concentrations. Monitoring has identified six locations that exceed the annual Air Quality Objective (AQO) level for NO_2 and subsequently declared six Air Quality Management Areas (AQMAs) within Swale Borough. AQMA declaration details are listed below in table 2.

Table 2. AQMA location, year of declaration and Air Quality Objective that has been exceeded

AQMA	Location	Year declared	Level of the exceedance (2021)	AQO Exceedances
AQMA 1	Newington, (A2/High St)	March 2009	32µg/m3	Annual average for nitrogen dioxide (NO_2)
AQMA 2/ 6	Ospringe Street, Faversham (A2/Ospringe)	June 2011 Revised (as AQMA 6) to the Mount in May 2016. AQMA 2 has now been revoked and renamed and consolidated into one as AQMA 6	34µg/m3	
AQMA 3	East Street, Sittingbourne (A2/Canterbury Road)	January 2013	28µg/m3	
AQMA 4	St Paul's Street, Milton, Sittingbourne (B2006)	January 2013 and amended in October 2020	32µg/m3 59 Exceedances of 50µg/m3	Annual average for nitrogen dioxide (NO_2) and Particulate Matter (PM_{10}) 24 hour mean
AQMA 5	Teynham (A2 /London Rd)	December 2015	26µg/m3	Annual average for nitrogen dioxide (NO_2)
AQMA 6	Ospringe Street, Faversham (A2/Ospringe)	See details in AQMA 2 above.		
AQMA 7	Keycol Hill (A2)	October 2020	36µg/m3	

2.3. AQMA location maps

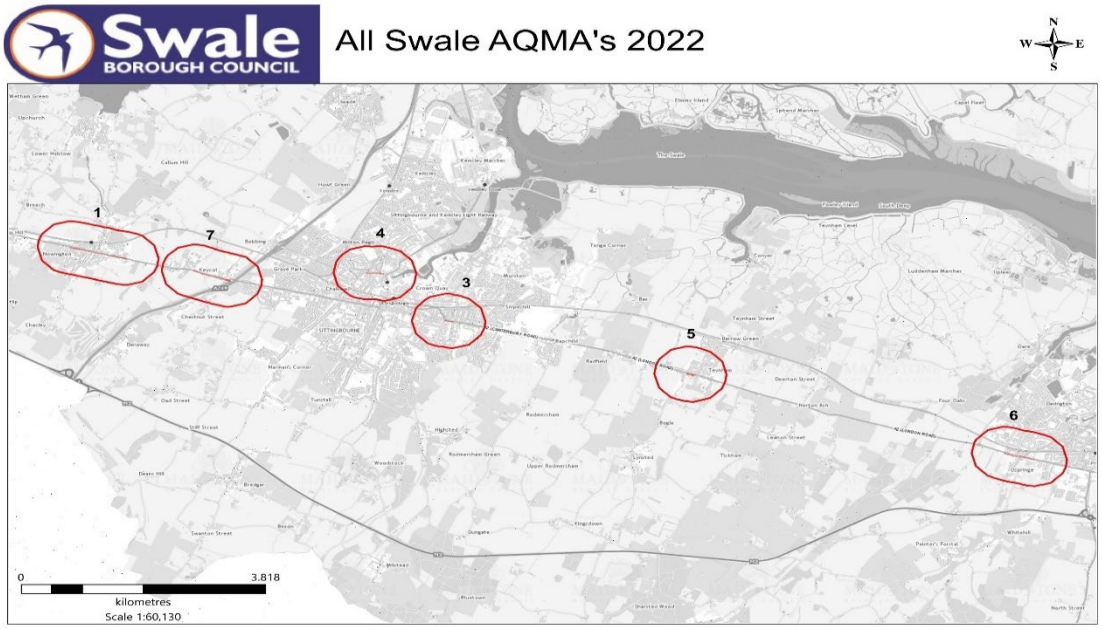


Figure 1. All Swale AQMA's 2022

NB. The small red outlines are the AQMAs. This includes buffer areas to aid viewing and have no reflection on the size or spatial context of the AQMAs.

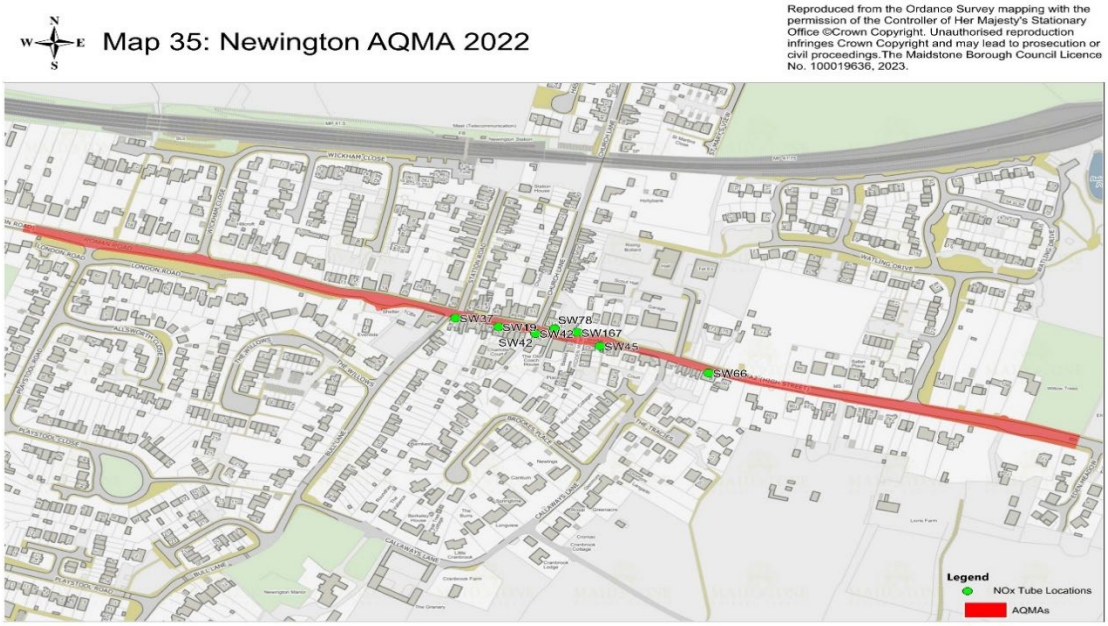


Figure 2. Newington AQMA 1 with tube locations (2022)

Figure 3. Ospringe AQMA 6 with tube locations (2022)

Figure 4. East Street AQMA 3 with tube locations (2022)

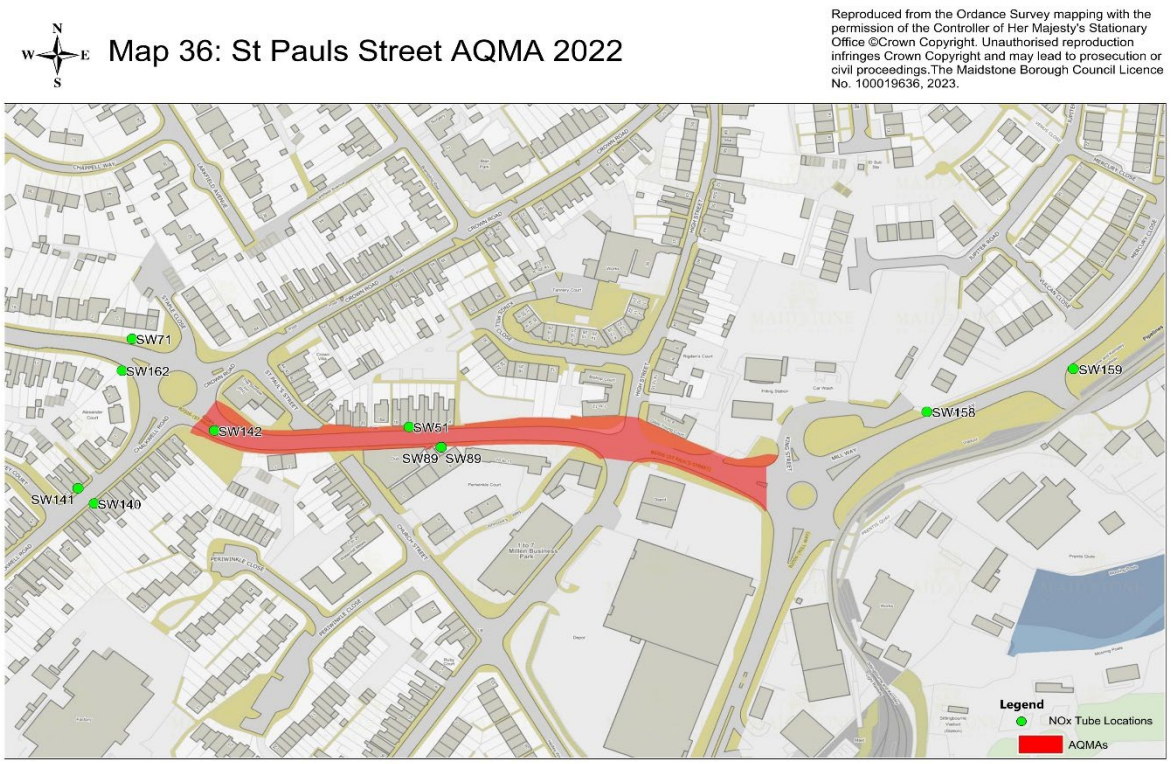


Figure 5. St Paul's Street AQMA 4 with tube locations (2022)

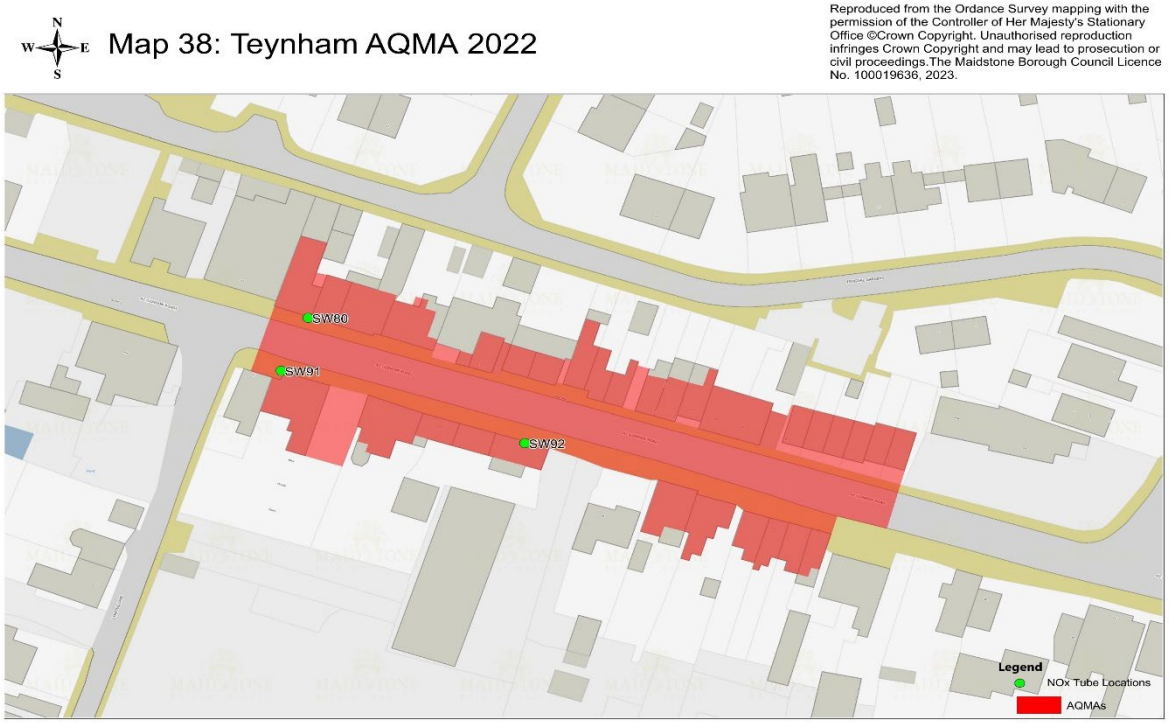


Figure 6. Teynham AQMA 5 with tube locations (2022)

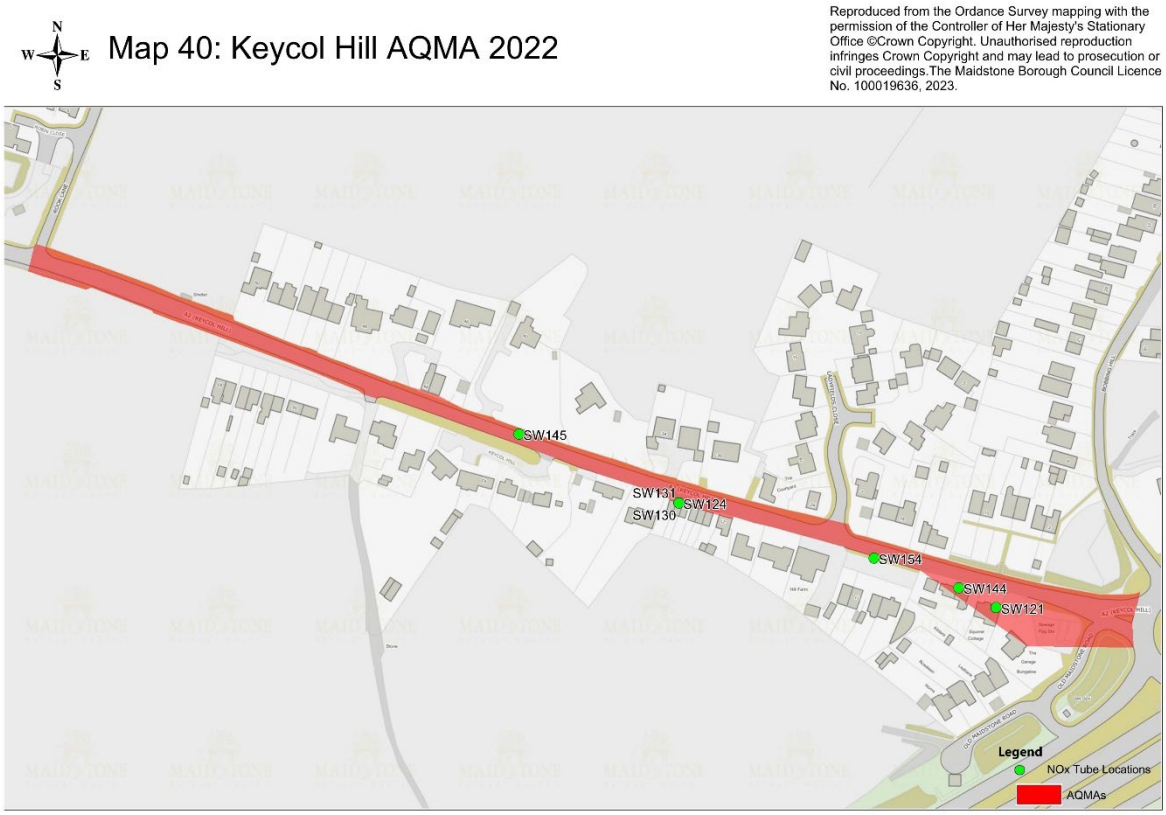


Figure 7. Keycol Hill AQMA 7 with tube locations (2022)

2.4. General air quality trends within Swale

The Annual Status Report (2022)[7] shows that during 2021, all passive monitoring sites reported compliance against the annual mean Air Quality Standard (AQS) objective for NO_2 (below 40µgm^{-3}). One site reported a concentration within 10% of the AQS objective at Keycol Hill AQMA. This is the second year that there has been full compliance at all passive monitoring locations across Swale. Despite this, there has been a 10% increase in concentrations across the overall network in Swale from the previous year. The impact of COVID-19 in 2020 caused a 29% average reduction (the decreases ranged across the diffusion tube network from 17% to 38%) in passive monitored concentration, due to government restrictions on travel and disrupting usual traffic volumes.

[7] https://swale.gov.uk/__data/assets/pdf_file/0005/435821/Swale-Borough-Council-2022-ASR_Final_v5.pdf

Table 3. Annual Mean NO_2 Monitoring Results: Automatic Monitoring (μgm^{-3})

Site ID	AQMA	2017	2018	2019	2020	2021
ZW3	Ospringe	-	31.6	31.4	25.1	23.5
ZW8	St Paul's Street	35.1	39.7	39.1	31.6	30.6
ZW10	Newington	-	-	-	-	22.6

Table 3 shows automatic monitoring results for the annual Mean NO_2 and a decreasing trend at Ospringe and St Paul's Street sites. With all sites below the AQS objective. Separately, no sites exceeded the 1 hour mean (200 μgm^{-3} not to be exceeded more than 18 times a year).

Table 4. Annual Mean PM_{10} Monitoring Results (μgm^{-3})

Site ID	AQMA	2017	2018	2019	2020	2021
ZW3	Ospringe	23	27.6	24.8	22.2	23.3
ZW8	St Paul's Street	-	-	28.1	31.5	37.1
ZW10	Newington	-	-	-	-	17.1

Table 4 shows automatic monitoring results for the annual mean PM_{10}. Ospringe Street has been compliant for 5 years and St Paul's Street for 3 years. Although both have shown a slight increase in 2021 with St Paul's Street being within 10% of the AQS objective of 40 (μgm^{-3}).

Table 5. 24-Hour Mean PM_{10} Monitoring Results, Number of PM10 24-Hour Means > 50μgm^{-3}

Site ID	AQMA	2017	2018	2019	2020	2021
ZW3	Ospringe	5	5	15	13	12
ZW8	St Paul's Street	0	11	**42**	**59**	**59**
ZW10	Newington	-	-	-	-	0

Table 5 shows automatic monitoring results for the 24-Hour Mean PM_{10} (50 μgm^{-3} not to be exceeded more than 35 times a year). St Paul's Street has not been compliant for the last 3 years, with both 2020 and 2021 exceeding the 50μgm^{-3} limit 59 times. The concentrations at the remaining two monitors do not exceed the 24-mean limit for PM_{10}.

Table 6. Annual Mean $PM_{2.5}$ Monitoring Results (μgm^{-3})

Site ID	AQMA	2017	2018	2019	2020	2021
ZW8	St Paul's Street	-	-	-	13.1	11.3
ZW10	Newington	-	-	-	-	11.8

Table 6 shows automatic monitoring results annual mean $PM_{2.5}$ with both sites being compliant of the AQS for $PM_{2.5}$.

The latest Annual Status Report (ASR) was submitted to Defra and is available on the Kentair[8] and Swale BC website for air quality[9]

The 2022 ASR (2021 data) provided a recommendation to revoke Teynham AQMA (5) following three consecutive years of annual mean NO_2 concentrations being lower than 36$\mu g/m^3$ (i.e., within 10% of the annual mean NO_2 objective).

Swale Borough Council have reviewed its position in relation to revoking AQMA 5, and in addition AQMA 3 and 4 which also show trends of compliance; that we want to collect more data to ensure the rational for revoking is robust, and give consideration to the reduced concentrations during the Covid Pandemic. To this end we intend to collect data for 2023 before making this decision. This will provide confidence in the data, as well as, considering national trends in emissions, any local factors that may affect the AQMAs and measures introduced as part of our Air Quality Action Plan update (2023 – 2028). If 2023 monitoring results for the AQMAs are below 36$\mu g/m^3$ we will need to revoke all three in 2024. If this happens, AQMA 4 located St Paul's Street will continue for PM_{10} exceedances declaration.

[8] http://www.kentair.org.uk/
[9] https://swale.gov.uk/bins-littering-and-the-environment/air-quality/monitoring#h2

It is likely that in expectation of this happening Swale will develop a local Air Quality Strategy to ensure air quality remains a high-profile issue and respond to changes in pollutant levels should there be any deterioration in monitored levels. Any changes to the AQMAs and future Air Quality Strategy will be incorporated into this Air Quality Action Plan.

3. Swale Borough Council's Air Quality Priorities

This chapter presents the main priorities and approach taken by Swale Borough Council for the development and subsequent selection of measures included within this AQAP. Contained within this section of the AQAP are descriptions of the existing strategies and policies that relate to air quality within the district.

The AQAP measures presented in this report target the predominant sources of emissions for the entire District, as well as the six AQMAs where air quality has failed to meet National Air Quality Objective levels. Details can be found in section 3.3.

In conjunction, with the strategies and policies currently in place, the conclusions of the source apportionment and CAZ Feasibility study have been used to identify and prioritise the measures presented within section 5.

3.2. Public Health Context

Air pollution is associated with several adverse health impacts. Some individuals such as those with pre-existing respiratory or cardiovascular disease are particularly susceptible, but the effects of air pollution can be seen across the population. The mortality burden of air pollution in England is estimated to be between 26,000 and 38,000 a year, but in addition many people suffer avoidable chronic ill health as a result of it [10].

There is gathering evidence regarding the impact of gaseous and particulate matter pollutants on respiratory and cardiac health from sources such as the Committee on the Medical Effects of Air Pollutants (2010) and the Royal College of Physicians and Royal College of Paediatrics and Child Health (2016)[11]. Research has linked air pollution with cancer and dementia, as well as the additional impact on mental health from the traffic noise affecting residents in homes in air quality management areas.

[10] Chief Medical Officer's Annual Report 2022: https://assets.publishing.service.gov.uk/mwg-internal/de5fs23hu73ds/progress?id=i8m5J5egGiRk9LeevIwAnFThInUFKlpi6fR82MnB2s8,&dl
[11] Every Breath We Take: www.rcplondon.ac.uk/projects/outputs/every-breath-we-take-lifelong-impact-air-pollution

Figure 8 below outlines the air pollutants, sources and potential health impacts for NO_x and particulate matter, focusing on $PM_{2.5}$ which has the greater potential to cause damage to health due to the smaller micron particle size.

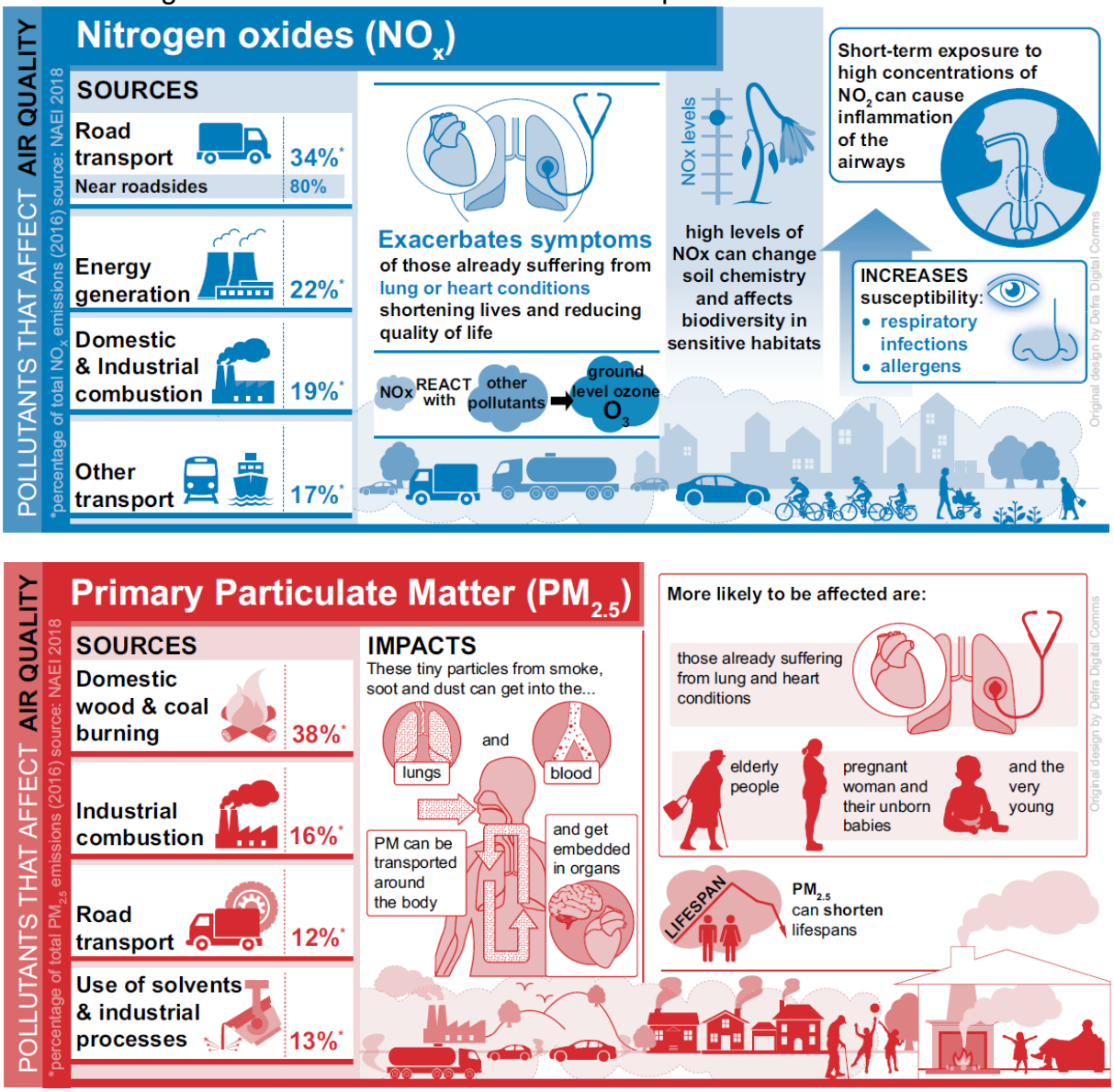


Figure 8. Air pollutants, sources and potential health impacts of NO_x and $PM_{2.5}$ from the Clean Air Strategy 2019[12]

Figure 9 outlines the health effects of air pollution throughout life. Air pollution can be harmful to anyone; however, some people are more affected as a result of where they live, the concentration of air pollution they are exposed to in their day-to-day lives, or their inherent susceptibility to health problems caused by air pollution. Those who are more susceptible include[13]: children and older people, and those with heart and lung

[12] Clean Air Strategy 2019: https://www.gov.uk/government/publications/clean-air-strategy-2019
[13] https://laqm.defra.gov.uk/wp-content/uploads/2022/08/LAQM-Policy-Guidance-2022.pdf

conditions. There is also often a strong correlation with inequalities because areas with poor air quality are also often the less affluent areas.

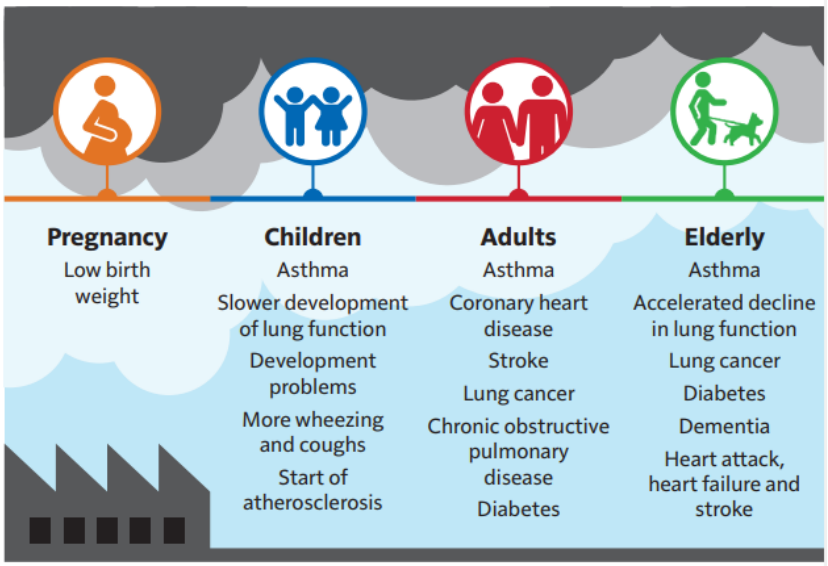


Figure 9. Health effects of air pollution throughout life[14]

Alongside this, in 2020 the first person in the UK had air pollution listed as a cause of death, because of being exposed to annual average exceedances of NO_2. Although currently there are no legislative outcomes because of this, this further increases the pressure and duty of care that Local Authorities have to protect their residents. The Prevention of Future Deaths[15] report, that followed Ella Adoo-Kissi-Debrah's tragic death, highlighted the public's low awareness of the about national and local pollution levels including the health impacts. It calls for better communication of these risks from local authorities and healthcare professionals and what people can do about them.

Swale Borough Council will work closely with Kent County Council (KCC) Public Health team on identifying pollution/ deprivation/ vulnerability hotspots. This will help target communications and focus for the most effective actions in terms of improving public health.

As part of the consultation shown in appendix A, KCC Public Health provided recommendations, some include "to further understand the demographics of Swale's

[14] PHE. Health matters: Air pollution. London: Public Health England; 2018.
Available from: https://www.gov.uk/government/publications/health-matters-air-pollution/health-matters-airpollution.
[15] https://www.judiciary.uk/wp-content/uploads/2021/04/Ella-Kissi-Debrah-2021-0113-1.pdf

local population, so that residents affected by poor air quality within the existing AQMAs may be adequately supported". Another recommendation is to "consider ways of disseminating messages about air quality, especially in poor air quality locations in Swale BC. Communications on air pollution alerts and information directed at vulnerable people (chronic obstructive pulmonary disease and asthma) and information of health effects".

This is also supported by the successful Air Quality Grant award awarded in 2023. The project is to develop a digital training resource for Health Care Practitioners (HCPs) across Kent and Medway providing training, local evidence and resources to enable practitioners to advise patients with cardiovascular disease or respiratory disease on how to reduce their exposure to air pollution. The aim is for HCPs to integrate information on air pollution into routine practice and create a community across Kent and Medway to support continuous professional development and future collaboration. Support from KCC Public Health will be essential in delivering this project.

Through Defra Air Quality Grant match funding Swale Borough Council currently provides a digital education package called 'Pollution Patrol'[16]. Pollution Patrol is an interactive learning resource, developed for primary schools to raise awareness of the causes and harmful effects of air pollution through fun, engaging and practical strategies that promote less polluting travel behaviour, and empower children to act as advocates for reducing air pollution.

3.2. Planning and Policy Context

Land-use planning plays an important role in improving air quality, strategically by setting out the broad location for development and locally through individual planning applications. Air quality is a material planning consideration to be reflected in relevant planning decisions.

New policies, plans and guidance factored into this AQAP:

[16] https://pollutionpatrol.org.uk/

- The Swale Borough Local Plan (2017 – 2031)
- National Planning Policy Framework (2021)
- The Swale Borough Local Plan Review Regulation 19 Document, February 2021 which includes an Air Quality policy (DM 33)
- Swale Borough Council Parking Standards (2020)
- Swale Borough Council Transport Strategy – evidence base (2022 – 2037)
- Annual Status Reports (ASRs) up to the most recent submission in (2022)
- Cycling and Walking Guidance Statement (2018 - 2922)
- Swale Local Cycling & Walking Infrastructure Plan (LCWIP) (2023 –2033)
- Climate Change and Ecological Emergency Action Plan (2020)
- Air Quality and Planning Technical Guidance (2021)
- Defra's Air Quality Policy (PG22) and Technical Guidance (TG22)

3.2.1. The National Planning Policy Framework

The National Planning Policy Framework, 2021 (NPPF)[17] sets out the Government's planning policies for England and how these should be applied. It states that the purpose of the planning system is to contribute to the achievement of sustainable development and to achieve this the planning system has three overarching objectives: economic, social and environmental. The chapter on ground conditions and pollution sets out how planning policies and decisions should factor in air quality issues.

3.2.2. Swale's Local Plan

The Swale Borough Local Plan was adopted in July 2017 and contains several references to air quality, Action Plans and the Air Quality Management Areas. The Local Plan identifies the need to ensure new developments are assessed for air quality and have nil-detriment (air quality objectives are not compromised) to air quality within AQMAs and are consistent with the local Air Quality Action Plans. The Plan also recommends innovative mitigation measures that may be required to address any impacts regarding air quality (Policies ST5, ST7, A9, A10, A16, A18, A19, MU4, MU5, MU7, DM6, DM10, DM20, CP7). The SBC Local Plan Review

[17] https://www.gov.uk/government/publications/national-planning-policy-framework--2

Regulation 19 Document (February 2021) includes an Air Quality policy (DM 33) which links with the Councils Air Quality and Planning Technical Guidance, 2021. Swale adapted the KMAQP guidance and produced its own Air Quality and Planning Technical Guidance in Dec 2016 (updated in 2019 and 2021). Through its use in development management, greater acceptance of the importance of air quality in the planning process has been developed and resultant damage costs calculations in larger developments have provided mitigation.

3.2.3. Draft Swale Borough Council Transport Strategy, 2022 – 2037 (evidence base)

The draft Transport Strategy seeks to ensure that sustainable and active travel become real choices for people in the borough, so that the borough can become a less car dependent place.

The Strategy has six overarching objectives:

Objective 1 To promote active and sustainable travel enabling residents to take up these modes.

Objective 2 To reduce and mitigate the impact of poor air quality related to transport whilst striving for net zero.

Objective 3 To improve the journey time reliability and resilience across the transport network.

Objective 4 To support the economic growth and development projected in the Local Plan Review.

Objective 5 To consider the needs of all users across the transport network.

Objective 6 To substantially reduce all road casualties and progress towards zero killed and seriously injured (KSI) casualties.

Part of the evidence base for this Strategy is the Swale's Transport Model. The model has been used to forecast the development and traffic growth in the borough from the base year (2017). In the 'Do Something' scenario, the allocated development can be accommodated with mitigations identified in the Strategy, some of which align with the AQAP measures. The Strategy will be delivered in partnership by Swale Borough Council and Kent County Council (KCC) as the Highways Authority.

3.2.4. Defra's Policy and Technical Guidance 2022 for Local Air Quality Management

In 2022 Defra updated their Technical (TG22)[18] and Policy (PG22)[19] Guidance for Local Air Quality Management. Key updates in the Policy Guidance relate to this action plan, providing clearer requirements for both district and county level councils to work together to ensure air quality is improved, as shown below:

- In paragraph 3.2, chapter 3 **- "*There are obligations on both district and county councils within Part IV of the Environment Act 1995. The Environment Act 2021 ensures that responsibility for solutions to poor air quality is shared across local government*"**

- Paragraph 3.8 chapter 3 states **"*The County Council will be required to commit to appropriate actions the county council will take to secure that air quality objectives are achieved"***.

- Paragraph 3.14, chapter 3 states "***the legislation requires county councils to bring forward measures in relation to addressing the transport impacts for inclusion in any AQAP***".

3.2.5. Changes to The Environment Act 2021 (Part 1) - Fine Particulate Matter targets

The guidance in section 3.2.4 above encourages greater emphasis being put on measures to reduce $PM_{2.5}$ in support of the recent changes to The Environment Act 2021 (Part 1) which established legally binding duty on government to bring forward at least two new air quality targets. In the Environment Act 2021 (Part 1) - The Environmental Targets (Fine Particulate Matter) (England) Regulations 2022 proposed air quality targets are:

- Annual Mean Concentration Target ('concentration target') - a maximum concentration of 10µg/m^3 to be met across England by 2040

[18] Technical Guidance (TG22): https://laqm.defra.gov.uk/wpcontent/uploads/2022/08/LAQM-TG22-August-22-v1.0.pdf
[19] Policy Guidance (PG22): https://laqm.defra.gov.uk/wpcontent/uploads/2022/08/LAQM-TG22-August-22-v1.0.pdf

- Population Exposure Reduction Target ('exposure target') - a 35% reduction in population exposure by 2040 (compared to a base year of 2018).

At present the new $PM_{2.5}$ targets are not incorporated into Local Air Quality Management (LAQM) and there is no statutory requirement to review or assess $PM_{2.5}$ for LAQM purposes. Whilst the responsibility for meeting the $PM_{2.5}$ targets sits with national government; local authorities have a role to play in delivering reductions in $PM_{2.5}$.

The Swale Borough Council monitors $PM_{2.5}$ and PM_{10} at both Newington and St Paul's Street AQMAs. St Paul's Street has been declared an AQMA for PM_{10} exceedances. The Council have undertaken various studies to identify the pollutant source (s) at St Paul's Street. Details of this can be found in section 3.4. The Council and Kent County Council are also reviewing the feasibility of recommended measures, such as traffic management options to reduce PM_{10} emissions at St Paul's Street. The outcomes of these will be reported in the Councils Annual Status Reports and any adopted measures will be added to this action plan.

As a Council we are determined to support the national targets and make improvements locally by ensuring measures in this action plan take positive action to reduce $PM_{2.5}$, as well as co-benefits upon multiple pollutants. Action to tackle PM_{10} and NO_2 can also be expected to contribute towards $PM_{2.5}$ reductions.

3.2.6. Climate Change and Ecological Emergency Action Plan (2020)

Swale Borough Council declared a Climate and Ecological emergency on the 26 June 2019. The declaration sets the goals for carbon emissions. The action plan outlines the steps the council will take towards making their operation carbon neutral by 2025, followed by the borough in 2030. One of the top ten actions is air quality.

This AQAP takes a collaborative approach with the Council's Climate and Ecological Emergency Action Plan. Officers have worked closely with officers from Kent County Council's Highways, Public Health and Active Travel departments to ensure that the measures detailed within this action plan continue to provide a holistic approach to tackling the source of poor air quality, as well as reducing carbon emissions in the borough.

3.2.7. Swale Borough Council Parking Standards (2020)

The Councils Parking Standards (2020) ensures new developments provide the necessary infrastructure to cater for the future demand from ULEVs.

3.3. Source Apportionment

Summary:

This Action Plan update includes data from three separate air quality studies commissioned by the Council for evidence. The most recent source apportionment study, completed in 2021 focused on the concerning trends in PM_{10} being recorded for St Paul's Street (AQMA 4) and looked specifically at sources of pollutants (NO_2, PM_{10} and $PM_{2.5}$). This source apportionment study identified that diesel cars and light good vehicles (LGVs) contributed the highest percentage of emissions (section 3.3.1). The conclusion was supported by the findings of an older source apportionment study completed in 2018 for all AQMAs commissioned for the AQAP 2018 -2022 (section 3.3.2).

The 2018 study showed the traffic data taken from across all AQMA locations (included Key Street located close to Keycol Hill AQMA) on average that 82% vehicle movements were cars, with 15% being Light Goods Vehicles and 3% combined Other Goods Vehicles. This is comparable to the St Paul's Street study which showed cars (63%) and LGV (18%) were also responsible for the greatest contribution of PM_{10} concentrations. This was similar picture across all pollutants which should mean that any interventions will benefit all pollutants. The 2021 study identified the fleet mix in Swale was an older fleet when compared to the National fleet statistics.

Both source apportionment studies recommended mitigation measures. The 2021 St Paul's Street study recommended incentives for electric vehicle charging/ ownership, a distribution hub and traffic management measures. The 2018 study suggested strategic and localised measures to deliver compliance for all AQMAs by 2022 (excluding Keycol Hill). This earlier study also suggested options of a Clean Air Zone (CAZ) and localised measures such as 20mph zones, car clubs, local business and travel plans.

A third study completed in 2020, specifically considered the feasibility of introducing a CAZ (section 3.3.3). The report recommended a non-charging CAZ, however, this was not supported by the highway's authority although they would support some non-charging CAZ measures which have been included in this AQAP.

3.3.1. Source Apportionment (2021) at St Paul's Street (AQMA 4)

Vehicle Origin Destination (OD) movement and source apportionment analysis was carried out by Swale Borough Council in 2021. The findings of this survey supported the identification of potential mitigation measures within the St Paul's Street (AQMA 4). The study identified that diesel cars and light good vehicles (LGVs) contributed the highest percentage of emissions. This was also identified in the 2018 study for all Swale AQMAs.

A dispersion model was used to predict the percentage contribution of annual mean concentration from each vehicle type within the St Paul's Street AQMA for all pollutants (NO_x, PM_{10} and $PM_{2.5}$) for the modelled road contribution. The results of that analysis are presented below.

Figure 10 identified that car emissions contributed to 44% of annual mean NOx concentrations with LGV emissions being responsible for the next highest single contribution, 21%. HGV's and buses making up the remaining 30% and 5%, respectively.

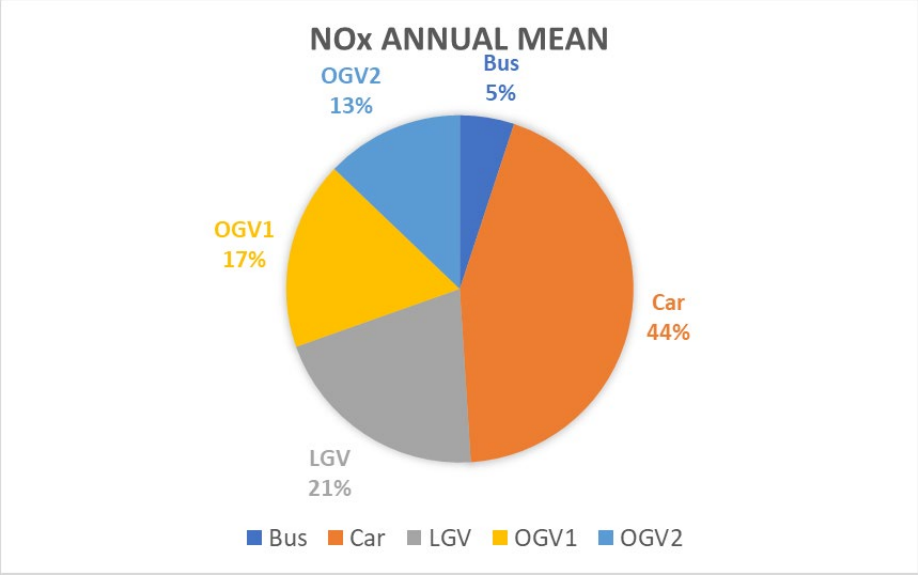


Figure 10. NOx Source Apportionment at St Paul's Street (AQMA 4)

Figure 11 shows cars and LGV's were also responsible for the greatest contribution of PM_{10} concentrations 63% and 18%, respectively. This is similar to results shown for $PM_{2.5}$ in figure 12, with the remaining 19 % made up of 17% from HGV and 2% from the bus fleet.

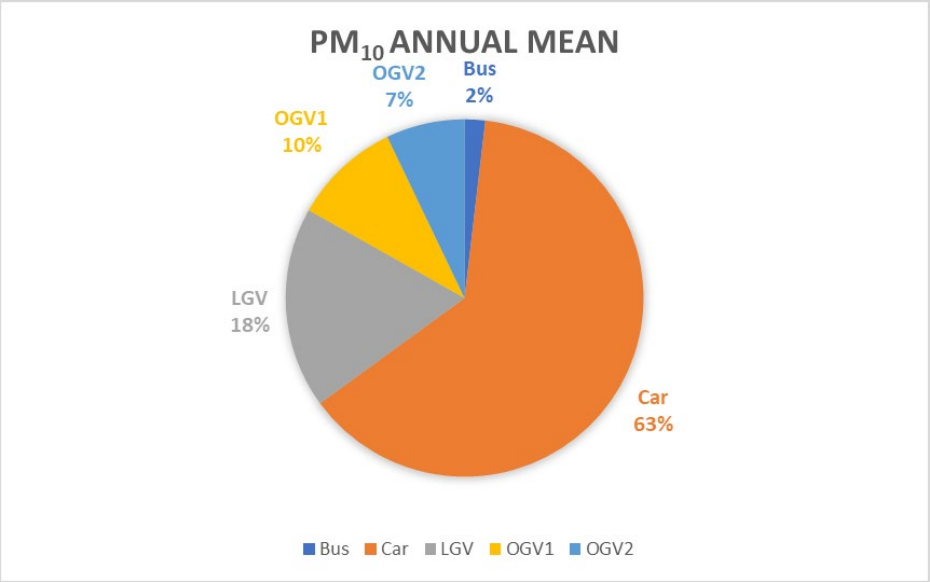


Figure 11. PM_{10} Source Apportionment at St Paul's Street (AQMA 4)

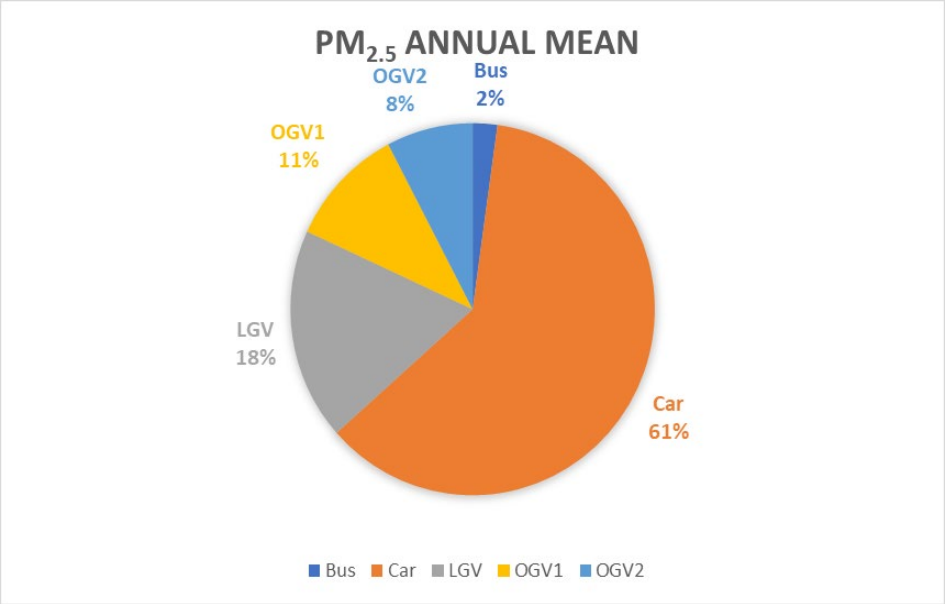


Figure 12. $PM_{2.5}$ Source Apportionment at St Paul's Street (AQMA 4)

Figure 13 shows the breakdown of each euro class by vehicle type. The ANPR results allowed for the development of a bespoke Emission Factor Toolkit (EFT) which indicated that the fleet mix in Swale in 2021 was an older fleet when compared to the National fleet statistics. An example of this, is the petrol car fleet where 46% of the Swale fleet is Euro 6 or better, compared to the national fleet average of 68%.

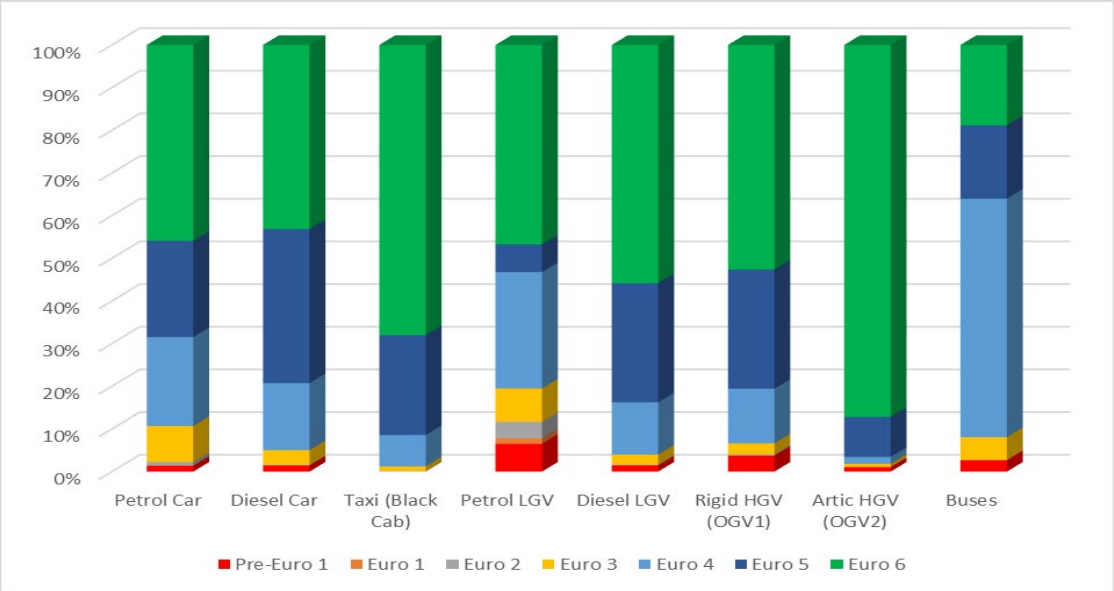


Figure 13. Euro classification by vehicle type at St Paul's Street (AQMA 4)

From the source apportionment analysis there is a similar picture across all pollutants which should mean that any interventions will benefit all pollutants. The analysis of the source apportionment would indicate that the highest contributor is from car emissions closely followed by Light Goods Vehicles (LGVs) then Other Goods Vehicles 1 (OGV's 1) and Other Goods Vehicles 2 (OGV's 2). LGVs include vehicles such as vans, pick-up trucks, <3.5 tonnes – single rear tyres. OGV's 1 include >3.5 tonnes – twin rear tyres, 2- axles rigid, and 3 axles- rigid. OGV's 2 include 4 or more axles rigid, 3-axles artic, 4 or more axles artic and other goods vehicles with a trailer.

The results of the ANPR survey (2021) and air quality source apportionment analysis identified mitigation measures, such as incentivising electric vehicle charging and ownership, the creation of a distribution hub and effective traffic management to positively impact the AQMA. These are further explained below:

Incentives Electric vehicle charging/ ownership

If this measure were to be introduced this could see the older car and LGV fleet being replaced. This would result in a reduction of both NO_x and PM_{10} emissions from the tailpipe and reduce potential elevated emissions during peak period when congestion may be an issue.

Distribution Hub

The analysis of the frequency of the same vehicle making multiple trips through the AQMA seems to suggest that there is a much higher incidences of single journeys or single trips in and out of the AQMA, with many of these being of the LGV and OGV1 category. If a Hub were to be introduced this could result in those local trips or deliveries being made by electric vehicles. Resulting in a positive impact on the AQMA but with the potential to have a wider air quality benefit across Swale.

Traffic management

While journey durations data is available for vehicles travelling between ANPR cameras, further analysis or additional data would be required to understand if extended journey times are due to congestion or if the vehicles are stopping and starting a new journey between the two points. Should congestion be identified as being a key issue then traffic management to control queuing traffic within the canyon section of the road may be an option. This has been shown to be an effective measure within other AQMAs. Traffic calming or similar could be introduced to make the route less appealing to those larger vehicles which currently use it. However, careful consideration would need to be given to ensure the air quality problem was not simply displaced.

3.3.2. Source Apportionment (2018)

A source apportionment exercise was carried out by the Council in at 3 locations (Key Street, Newington and Ospringe) in early 2018. This source apportionment analysis for traffic data taken from across all AQMA locations showed on average that 82% vehicle movements were cars, with 15% being LGV and 3% combined OGVs. The average vehicle movements are similar to those shown in the recent St Paul's Street source apportionment (section 3.3.1).

The ANPR survey at Key Street (A2) showed a typical ratio (percentage) of Euro categories for Cars and LGVs. This location was dominated by a high percentage of Euro 6 HGVs (64%), indicating a newer fleet than other locations.

The ANPR survey at Newington AQMA showed a similar ratio (percentage) of Euro categories for Cars and LGVs to Key Street (A2). The exception is that there was a higher ratio of LGVs Euro 4 and below (30%). This location was dominated by a high percentage of Euro 6 HGVs (56%); however, up to 24% of HGVs were Euro 4 or below.

The ANPR survey at Ospringe AQMA showed a similar ratio (percentage) of Euro categories for Cars and LGVs to Newington AQMA, with a similarly higher ratio of LGVs Euro 4 and below (30%). This location was dominated by a high percentage of Euro 6 HGVs (74%), with only 9% of HGV being Euro 4 or below.

The NO_x source apportionment study (2018) highlighted that targeting key vehicle types such as LGVs and OGVs are likely to produce the substantial NOx reductions within the AQMAs. However, had highlighted many OGVs and LGV operators are already operating Euro 6 category vehicles, thus the focus should be on older Euro category vehicles.

The 2018 study suggested both strategic and localised measure options. Strategic options included a Clean Air Zone (CAZ) along the A2 corridor with HGV fleet reductions. The report suggested two options, a charging and non- charging CAZ that could be reviewed as a strategic measure for the AQAP. This was investigated through the CAZ Feasibility study in 2020 and the results for this are explained in section 3.3.3. The 2018 study also recommended some locally focussed measures to be considered for the individual AQMAs:

- **Newington AQMA**
  Newington is north-east of the A2 and will benefit from a CAZ if implemented.
- **St Paul's Street AQMA**

St Pauls is situated within an urban setting, therefore localised traffic management options such as a 20mph zone ("20 is plenty zone") may benefit local air quality if implemented.

- **East Street AQMA**
  East Street AQMA will benefit most directly from the A2 CAZ. Localised measures to be considered may include a local low emission vehicle (LEV) car-club and local school and business travel plans.
- **Teynham AQMA**
  Teynham AQMA is directly associated with traffic movements on the A2 in the vicinity north-east of Faversham. It will benefit most directly from the A2 CAZ, however localised measures to be considered may include a local low emission vehicle (LEV) car-club, removal of pinch point parking on the A2 and local school and business travel plans.
- **Ospringe AQMA**
  Ospringe AQMA is directly associated with traffic movements on the A2 in the vicinity of Faversham. It will benefit most directly from the A2 CAZ, however localised measures to be considered may include a local low emission vehicle (LEV) car-club, removal of pinch point parking on the A2 and local school and business travel plans.

3.3.3. CAZ Feasibility Study (2020)

This study was a recommendation of the 2018 source apportionment and AQMA options. The CAZ feasibility study[20] incorporated some modelling which has provided information for the evidence-based section of this AQAP. The baseline air quality results in 2019 indicated areas where the NO_2 limit value was being exceeded, principally in Sittingbourne at Keycol Hill, St Paul's Street and East Street AQMAs. With a slight exceedance in Ospringe, in relation to the monitoring locations.

As part of the CAZ Feasibility Study various mitigation options were considered relative to air quality benefits (% reduction on NO_2 levels) and forecasted (to 2022) the number of sites still exceeding or at risk of exceeding the Air Quality Objective. In addition, associated costs (in million £) were reviewed. These costs were shown in

[20] Report 4: Clean Air Zone Feasibility study (2020) https://services.swale.gov.uk/meetings/documents/s16026/CAZ%20Appendix%20I.pdf

two ways – by Net Present Value (NPV) and implementation costs. NPV is an assessment of the total cost of an option, not just to the council but to residents and businesses because of an intervention or measure being brought in. In this respect a positive NPV is preferable. There were only two options that had a positive NPV, which was the freight package and pinch point parking. Although those two are positive they have the smallest effect (0.3%) percentage reduction in pollution from the sites. Details on the specific NPV values for each option are explained in the CAZ Feasibility report.

Following two stakeholder engagement workshops, a long list was reduced to a shortlist of six key mitigation options plus two combined packages to be taken forwards for an appraisal on their impact on air quality and an indicative cost benefit analysis. The final CAZ feasibility study considerations are outlined below:

- Modal Shift measures were given a high priority. A lot of work is already on going in this area by both SBC & KCC and this could be built on further with a more joined up approach. It was also felt that means to promote and encourage increased bus usage would be beneficial.

- A non-charging CAZ/Low Emission Zone (LEZ) bundle was also given a high priority and considered to be a viable option. This would build on existing work by both SBC and KCC in terms of modal shift. It would also emphasise other options such as Electric Vehicles which was given a mid- priority (mainly due to existing emphasis already given to this area of work in SBC). Exploration into 20mph zones and traffic calming are also measures that would be beneficial in some areas. In addition, an informative and educative campaign (including formal signage) would be a crucial part of this option.

- The cost of a charging CAZ (CAZ B or CAZ D) outweighed the air quality benefits. It was noted that the cost benefit of health improvements wasn't considered by the feasibility study. Charging CAZs were not considered to be an option to carry forwards for this AQAP update.

- The freight package, although considered innovative was given a very low priority due to anticipated external costs associated with land purchase for freight consolidation centres. It was felt that this option may be better delivered in conjunction with major developments and reviewed in conjunction with Swale Local Cycling and Walking Infrastructure Plan.

- Removing pinch point parking was also given a low priority – it was felt that cost implications were not fully considered in the feasibility study.

A CAZ feasibility study report was presented to Cabinet in 2020 with a recommendation that discussions between SBC and relevant services in KCC take place to review the viability of implementing Swale's preferred measures from the report including a non-charging CAZ. Options for this was given thorough consideration. Kent County Council confirmed that they were unable to support the implementation of a non- charging CAZ along the A2 and felt such schemes, without enforcement inevitably fail to deliver the good intention they seek to achieve. However, they were open to the possibility of taking forward several measures contained within the non-charging CAZ which would contribute to an overall improvement to air quality. For example, actions from the Local Cycling and Walking Infrastructure Plan and traffic management options are now included as actions in this AQAP update.

3.4. St Pauls Street - PM_{10} exceedances

3.4.1. Overview of monitoring

St Pauls Street was declared an Air Quality Management Area (AQMA 4) for the exceedance of the annual average Air Quality Standard (AQS) for NO_2 in January 2013. An amendment to the AQMA declaration order to include PM_{10} was actioned in October 2020. In 2018 Swale Borough Council installed equipment to measure PM_{10} at this site. The data capture from 2019 to 2021 has shown consistent exceedances of the AQS annual allowance of daily exceedances of PM_{10}. The AQS is 35 exceedances of the daily limit of 50 μgm^{-3}.

3.4.2. Onsite observations

St Paul's Street sits along the B2006 road within the industrialised area of Swale, with many LGV vehicles transporting materials from particularly dusty environments, such as aggregate, mineral and waste processing industries. A HGV lorry park is also located close by which currently doesn't have hard surfacing, and currently under review in the planning process.

The B2006 is busy road as it is the main through route to retail and business units in the Milton Creek area with a direct link through the Bobbing junction to the A249. In addition, smaller more isolated business units on Staplehurst Road and Chalkwell Road increase the commercial movements. The B2006 narrows east of the Chalkwell Road roundabout, as it becomes St Paul's Street. The congestion at this location is exacerbated by vehicles, particularly HGVs, turning into Chalkwell Road, being unable to exit the roundabout due to parked vehicles consequently blocking the movement of traffic from St Paul's Street.

3.4.3. Research projects completed to identify PM_{10} sources at St Paul's Street (2021)

Project 1: Assessment of fugitive emissions from industry

The research project, using the R OpenAir package, aimed to identify if a relationship exists over time between wind direction and frequent exceedances of the 24-hour objective for particulate matter (PM_{10}) at St Paul's Street. As it was possible the results could identify a dominant wind direction and location of source (s) relative to the trends. However, the project was unable to determine with any certainty which sources of PM_{10} are leading to exceedances of the daily mean objective.

Project 2: Vehicle Origin Destination (OD) movement and source apportionment analysis (2021)

The modelling results suggested that the elevated levels of PM_{10} measured within the AQMA may not be due to road transport emissions in isolation but may be due to emissions from other sources. The results of the vehicle source apportionment study are detailed in section 3.3.1.

The report noted an interesting anomaly with the air quality readings. The normal correlation between vehicle sourced emissions for NO_2 and PM_{10} did not occur. In other words, the normal fluctuations of peaks in NO_2 should roughly be followed by peaks in PM_{10}. Instead, PM_{10} showed high readings even when NO_2 were low. The consultant recommended the council to undertake additional real time measurements in other locations within the AQMA to better understand the spatial extent of the particulate emissions. This is underway but is not specifically included in the AQAP measures.

The above findings may indicate other sources of particulate from non-exhaust emissions (NEE). NEE from road traffic refers to particles released into the air from brake wear, tyre wear, road surface wear and resuspension of road dust during on-road vehicle usage. These emissions arise regardless of the type of vehicle and can contribute to the total ambient particulate matter.

Advice from the Air Quality Expert Group for reducing NEE:
The most effective mitigation strategies for NEE are to reduce the overall volume of traffic, lower the speed where traffic is free-flowing (e.g., trunk roads and motorways), and promote driving behaviour that reduces braking and higher-speed cornering. Resuspension of particles from the road surface can be lowered by reducing the material that is tracked onto public road surfaces by vehicle movements in and out of construction, waste-management, and similar sites.

The St Paul's Street source apportionment analysis study recommended a range of potential mitigation measures based on the source apportionment analysis or traffic split:

- Incentives for electric vehicle charging/ ownership
- Distribution Hub - The distribution hub will be reviewed as part the councils LCWIP
- Traffic management to control queuing traffic within the canyon section of the road, this has been shown to be an effective measure within other local authority AQMAs, for example, traffic relief options for a one-way streets system; parking restrictions; additional parking; minor walking & wheeling improvements and other traffic calming options, to make the route less

appealing to larger vehicles, however, this would require KCC approval and implementation.

- Recommendation for Swale undertake additional real time measurement in other locations within the AQMA to better understand the spatial extent of the particulate emissions.

Project 3: Additional real time measurements in other locations within the AQMA to better understand the spatial extent of the particulate emissions.
The Environmental Protection Team are completing a research project using a low-cost particulate sensor to identify and compare PM_{10} at the air quality monitoring station to another location along St Paul's Street. This project will allow us to see if the receptors along St Paul's Street are experiencing the same high concentrations in PM_{10} and to better understand the spatial extent of the particulate emissions.

The project will also help inform any additional measures to minimise emissions of dust and particulate matter to air. Additional measures focusing on increasing levels of dust suppression at source (e.g., wheel washing) will be reviewed as part of the AQAP following the IAQM guidance on construction dust.

3.5. Required Reduction in Emissions

The improvement in road NOx emissions to meet the objective at monitored locations where concentrations exceeded the objective in 2019, is shown in Table 7, categorised by AQMAs.

As set out in LAQM Technical Guidance TG22, Chapter 7, paragraph 7.107, any required percentage reductions of local emissions should be expressed in terms of NOx due to local road traffic. This is because the primary emission is NOx and there is a non-linear relationship between NOx concentrations and NO_2 concentrations. The following calculations use the 2019 monitored NO_2 concentrations presented in the Annual Status Report 2020, and the methodology set out in TG16, chapter 7, Box 7.6. Percentage Decrease in Road NOx required to Meet Annual Mean NO_2 Objective at Relevant Modelled Receptors (µg/m3) in 2019 are shown below in Table 7. The equivalent reduction in NO2 required is also provided for reference.

Table 7 demonstrates that we must achieve reductions on road NOx of between 10% and 45% to achieve the government's current air quality objectives. A 15% decrease in 2019 road NOx emissions is required to meet the objective at the worst-case diffusion tube in AQMA 1 (SW42). In AQMAs 4 and 6, approximately 40% reduction in road NOx emissions is required to achieve the objective, based on 2019 emissions. No exceedances in East Street or Teynham, so no reductions required.

Apart from the exceedance for PM_{10} at St Paul's Street and Keycol Hill for NOx the general trend over the last four years to 2021 is one of improving air quality in the AQMAs. This does need cautious interpretation, given the potential pandemic impact on traffic movements during this period. Additonal, updates can be added to this action plan once the most recent 2023 ASR is completed and approved. Section 2.4. provides additional information on the general air quality trends within Swale.

Diffusion Tube	Annual Mean Contribution (µgm ^{3}) Monitored NO_2 Concentration	% Decrease in Road NOx to Meet Objective	% Decrease in Road NO_2 to Meet Objective
AQMA 1 Newington			
SW35	42.5	10.4 %	9.3 %
SW42 (triplicate)	43.9	15.4 %	13.8 %
AQMA 4 St Pauls Street			
SW82	53.1	40.8 %	37 %
AQMA 6 Ospringe			
SW28	43	11.7 %	10.5 %
SW95	54.3	40 %	35.8 %
SW22	42.4	9.6 %	8.5 %
SW29	40.9	3.8 %	3.4 %
Keycol Hill / Key Street			
SW124	52.3	39.5 %	35.8 %
SW130	55.5	45.4 %	41.2 %
SW131	55	44.6 %	40.4 %
SW121	42.7	12 %	10.9 %

Table 7. Percentage Decrease in Road NO_x required to Meet Annual Mean NO_2 Objective at Relevant Modelled Receptors (µgm^{-3}) in 2019

Strategic measures outlined within this AQAP will contribute to further emission reductions with some specific measures directed at the above AQMAs such as measures 8 (AQMA traffic management options) at St Paul's Street and measure 11 (work in partnership with Medway Council and KCC to agree mitigation and mechanism to manage transboundary impacts from development on air quality between Newington and Rainham) for Keycol Hill AQMA.

Some measures outlined in section 5 have specific timelines for delivery and others are still in the planning and development phase. Task and finish groups responsible for managing the delivery of measures will outline further sub-actions and associated measurable milestones. Measures with specific delivery dates confirmed are predominantly behaviour change measures, which are extremely hard to predict and quantify the impact of and a significant level of uncertainty will be present. Therefore, these measures have not been modelled. Other measures such as AQMA traffic management options will undergo quantification of the emission impacts and the

outcome of these assessments can be added to the AQAP once completed. These will be reported to the AQAP Steering Group and will be published through future Annual Status Reports.

3.6. Key Priority themes

Key priority themes, identified from the evidence above, have been integrated into the actionable measures to deliver compliance with Air Quality Objectives (AQO) for the AQMAs. This will improve air quality within the district as whole. The themes are not numbered relative to their importance.

Theme 1 - Public Health and Wellbeing (Health Promotion, Public information, Behaviour change/modal shift,) We want to protect those most exposed and vulnerable to air quality impacts. Improving air quality is largely driven by a change in attitude and travel behaviours, and as a Council, we have strong role in encouraging and facilitating this change. We aim to continue to inform health impacts associated with poor air quality and provide information and guidance to our residents as to how they can protect themselves and be part of the solution.
Theme 2 - Active Travel, Public Transport and Low Emission Vehicles Encouraging the uptake of alternatives to the car through improving cycling and walking opportunities, supporting sustainable public transport, car clubs, travel plans, electric vehicles, improving the electric vehicle charging infrastructure and other initiatives.
Theme 3 – Transport, Transport Planning and Traffic Management (Traffic management, Licensing, Parking, and Public Transport) The Council will work with its wider strategic partners, such as Kent County Council, on matters of traffic management and public transport that extend beyond the SBC's direct control. This will help mitigate existing areas of traffic and transport issues, whilst also allowing us to seek opportunities for alternatives and improvements.

Theme 4 - Local Planning Policy and Development Management

Various policy documents are already in place within the Council. It is therefore considered important to utilise these and introduce mutually beneficial measures as key mechanisms to reduce emissions from road transport. Also, to continue to develop Air Quality standards and guidance within the Local Plan Review and the Air Quality Planning and Technical Guidance.

4. Development and Implementation of Swale Borough Council AQAP.

4.1. The AQAP framework approach

Swale Borough Council has declared six AQMA's for exceedances of the annual average Air Quality Standard for nitrogen dioxide (NO_2) with one AQMA (St Paul's Street) recently being amended to include particulate matter (PM_{10}). Five of the AQMA's declared since 2009 have had separate AQAPs developed for each location. The previous interim AQAP framework approach was designed to bring together the pre-existing AQAP measures and develop a strategic approach under one AQAP. Due to the location of the AQMAs, either being adjacent to or near to the A2 strategic route through Swale, there are several action plan options and measures common to all the AQMA's within Swale which form the basis of a range of strategic measures developed to deliver improvements across the borough. These will be complemented by some locally focussed AQMA measures to consider local conditions, circumstances and community views.

This framework approach follows the approach recommended in Defra LAQM TG (22)[14], chapter 2, paragraph 2.6 which states: "*Where a local authority has designated multiple AQMAs in its area, particularly if these are related to a similar emissions source, it is advised that a single AQAP should be submitted, but this should clearly address each individual AQMA in the area*"

A Strategic AQAP will provide Swale Council with an Action Plan that includes:

- Strategic borough-wide AQAP measures
- Incorporate local focused AQMA measures
- Strategic partnership working through a wider strategic AQAP Steering Group including Task and Finish groups for some measures and local AQMA community groups.

4.2. Consultation and Stakeholder Engagement

In 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 8. As part of the AQAP update SBC provided an online consultation and undertaken the following stakeholder engagement:

- Social media and the Council's website
- Letters distributed directly to households within and near the AQMAs. These included a link to the consultation through the SBC website address and a QR code, as well as the option to request a printed questionnaire.
- Swale news Business e-Bulletin and mailing lists to businesses and statutory consultees.
- Flyers were also distributed to libraries and shown on communal community centre screens.

The response to our consultation stakeholder engagement is given in Appendix A

Table 8. Consultation Undertaken

Yes/No	Consultee
No	the Secretary of State
Yes	the Environment Agency
Yes	the highways authority
Yes	all neighbouring local authorities
Yes	other public authorities as appropriate, such as Public Health officials
Yes	bodies representing local business interests and other organisations as appropriate

4.3. Steering Group

The AQAP Steering Group was formed in early 2022 to develop and deliver the Strategic AQAP update for Swale. The Steering Group will also be responsible for the implementation and monitoring of the delivery of the AQAP to ensure measures are kept on-track and report progress back to Defra.

The Steering Group is composed of Swale and KCC officers from key service areas that can influence and impact air quality improvements. The Steering Group is led by senior officers within Swale Borough Council to ensure engagement at political and senior management levels across the Council and with external partners continues. The steering group include representatives from:

SBC Environmental Health
SBC Development Management Team
SBC Economic Development Team
SBC Planning Policy
SBC Active Travel and Climate Action Officers
SBC Director of Resources
Kent County Council (Highways, Public Health, Planning and Public Right of Way).

The Steering Group assessed the AQAP options proposed, including a review of the 2018 – 2022 AQAP measures, including the recommended measures from the CAZ Feasibility and Source Apportionment studies shown in section 3.3. The group also collaborated to identify what traffic management interventions were required; what may influence the local pollution in the future (i.e., five to ten years); and other existing projects in Swale that could contribute to emission reductions (or increases).

Greater consideration was placed on measures that Swale can deliver and influence within the time frame of the action plan. For example, amending Swale policies, development of strategies for use in development control and government or county funding opportunities. The steering group review also considered the viability of measures and used cost benefit analysis to prioritise measures relative to the cost effectiveness, air quality and non- air quality benefits.

The steering group agreed provisional timescales for the implementation of the proposed measures, how measures will be monitored for both air quality and non-air quality benefits using surveillance monitoring, such as possibly commissioning the installation of walking and cycling counters in fixed or mobile positions, work with volunteer groups to record active travel journeys to measure the success of specific active travel improvements including air quality monitoring and traffic counts.

The steering group will meet quarterly every three to four months throughout the lifetime of this action plan. Task and finish sub-groups who will be responsible for implementing and delivering specific measures will meet more regularly and report back to the steering group. The task groups will also be responsible for providing further sub-actions and associated measurable milestones.

5. AQAP Measures

The measures in this action plan focus on improving air quality across the whole borough, as well as in our six air quality management areas (AQMAs). The AQAP includes a package of measures that have been prioritised relative to their viability, cost effectiveness of air quality and non- air quality benefits. Appendix D shows the metric used to prioritise measures and rag rating for delivery of measures. The LAQM Toolkit[21] from TG22, Annex A, Table A.1 has been used as a guide for the effect on reducing NO_x and PM_{10} emissions for each measure.

Table 9 shows the Swale Borough Council AQAP measures. The AQAP measure tables contain:

- 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
- 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.
- Information on why some measures have been amended, removed or not included can be found in appendix B.

5.1. Strategic and localised measures

The proposed measures set out in this AQAP are predominantly strategic with some localised measures such as AQMA specific traffic management options and EV charging.

[21] LAQM Measures Toolkit: https://laqm.defra.gov.uk/wp-content/uploads/2022/08/LAQM-TG22-August-22-v1.0.pdf

5.2.1 Plans set under each measure

The feasibility of each measure has been assessed and measures that are deliverable have been included in the AQAP update. Some measures have specific timelines for delivery, others are still in the planning and development phase.
Each measure will have a plan providing specific details of what needs to be accomplished, who is responsible for completion, what steps need to be taken to achieve it and funding opportunities (if applicable). These will be managed by task and finish working groups which will include relevant SBC and KCC officers. Each measure will also be monitored in alignment with key performance indicators. Task and finish groups will provide further sub-actions and associated timescales for breaking down the actions into more measurable milestones. Updates on milestones will be reported to the AQAP Steering Group and will be published through the Annual Status Reports. Appendix C provides information on monitoring options for each measure.

Below provides information related to measures, their priority scoring and consultation feedback.

Measure 1 - Continue to develop Air Quality standards and guidance within the Local Plan Review and the Swale Air Quality Planning and Technical Guidance:

Measure 1 incorporates essential planning resources to ensure air quality standards, policy and guidance for improving air quality are delivered in the lifetime of the action plan (details on progress to date can be found in table 9). This 'medium term' (<5 year) measure is active, with a 'high' cost effective and feasibility scoring, a medium air quality, and non-air quality impacts at a low cost to the Council.
As part of the public consultation this measure was considered the highly achievable with 63% of all respondents answering this way. It was also felt to have the potential for greatest impact with 45% responding major or moderate impact.

Measure 2 - Complete a Local Cycling and Walking Infrastructure Plan (LCWIP) for the district and work with KCC to improve of Swale's walking and cycling infrastructure.

Measure 2 provides a roadmap for investment in active travel improvements. This investment has several co-benefits including tackling air pollution, noise pollution, the health crisis, the climate & ecological crisis, the cost-of-living crisis, as well as reducing congestion, so improving the economic prospects of the borough. But ultimately, the active travel investment road map will restore the balance on our streets away from cars, back to people, creating nicer places to be with liveable neighbourhoods; streets where we can play, meet & chat; places where we all feel safe and comfortable. This active travel investment road map integrates with measures 7, 10, 12 and 13, as well as measure 2.

This ‘long term’ (>5 year) measure was prioritised as ‘medium’ scoring measure because it provides ‘high’ non-air quality impacts, with a ‘medium’ cost effectiveness score. For air quality improvements it was given medium impact, as air quality benefits are variable. This is because district and county council partners can improve the walking and cycling infrastructure, however, to ensure an air quality improvement are made it relies on two factors, public behaviour change and pressures of convenience. Practicality was also considered and with this measure already underway it was given a high feasibly score.

As part of the public consultation this measure was considered the highly achievable with 60% of all respondents answering this way. It was also felt to have the potential for with 37% responding major or moderate impact.

Measure 3 - Air pollution alerts, information and to raise awareness on impacts and solutions

This measure is supported through multiple areas of work the council will be doing to provide alerts, information and to raise awareness of the air quality impacts and solutions. The Council and Kent Partners have already established the ‘Kentair’ website which free air pollution alerts and information. Emails are issued whenever air quality is forecast ‘Moderate’ or above for the following day. The email includes

Defra's recommended actions and health advice. This will continue to be funded as part of this AQAP. This measure includes joint working with the Kent and Medway Air Quality Partnership on improvements of the website and promoting air quality related messaging, for example, through Kentair week and Clean Air Day.

This measure can also encourage active travel in drivers and update of vehicles, both commercial and private vehicle owners, with the focus on cars and LGVs, as these were identified as dominant sources within the source apportionment studies. Various promotional events will take place via social media, Green Schools Forum, Swale Means Business e-Bulletin and mailing lists will continue. This will require interdepartmental working with SBC and KCC communication teams and Kent and Medway Air Quality Partnership members.

This 'short term' (<1 year) measure is ongoing and already active, so was given a 'medium' cost effectiveness and 'high' feasibility scoring, with 'low to medium' air quality and non-air quality benefits at a 'low' cost. However, impacts will vary related the type of project or promotion that is completed for this measure.

As part of the public consultation the air pollution alerts measure was considered the highly achievable with 66% of all respondents answering this way. It was also felt to have the potential for with 36% responding major or moderate impact.

The Promote and encourage active travel and change of transport modes measure was considered less achievable as a measure on its own. This has been integrated into the air pollution alerts, information and to raise awareness on impacts and solutions measure.

Measure 4 - To apply for Defra Air Quality Grant scheme to facilitate future funding for most suitable AQAP measures

This measure will ensure the Council continues to apply Defra Air Quality Grant scheme to facilitate the most suitable AQAP or supporting measures. Recent successful grants include:

- In 2022 'Pollution Patrol'[22] was launched. This is a free interactive website for primary schools, children and their families developed to help raise awareness of air pollution, the damage it can cause and ways that individuals can help to

[22] https://pollutionpatrol.org.uk/

reduce their impact by changing behaviours. The website includes games, an immersive 360 story mode, curriculum-linked teaching resources and a school assembly plan amongst other elements.

- In 2023 the MidKent Partnership received funding for a 5-year project to develop a digital training resource for Health Care Practitioners across Kent and Medway to enable practitioners to advise patients with cardio-vascular disease or respiratory diseases on how to reduce their exposure to air pollution.

This measure was given a ‘medium’ cost effective score because it is considered a low cost, with high public health benefit. Reason for this, is that the Council must match fund projects by 10% of the full amount. Therefore, the cost can be lower and can be done jointly through our Midkent Partnership and neighbouring authorities. This measure is also highly feasible.

This measure has since been added and was not included in the public consultation. The steering group felt it was essential that this measure is included to ensure it continues to be completed each year to improve air quality and public health.

Measure 5 - To reduce emissions from activities with Environment al Permits

Under regulation Reg 13 (Grant of an Environmental Permit) of the Environmental Permitting (England and Wales) Regulations 2016 (as amended), the Council must regulate certain types of factory and industrial activities that produce polluting emissions into the air. The permitting scheme enforces industry to reduce any air pollution they may cause and to help improve air quality. Local authorities decide whether to give a permit. If they do so, they must write down how the air pollution is to be minimised. The premises are known as "installations". These can be known as 'Part B' or ‘Part A2’ installations. ‘Part B’ directly relates to emissions to air and is only enforced by local authorities, giving the Council a direct link to industry and a strong understanding of what, and how much, pollution is being emitted through enforcement activities. Installations are required to ensure Best Available Techniques (BAT) measures are used to reduce emissions.

This measure was given a ‘high’ cost effective score because it is considered a low cost to the Council with ‘medium’ air quality impacts. This measure is also highly feasible, as it is currently active.

This measure has been added in line with recommendations outlined in the LAQM Toolkit from TG22, Annex A, Table A.1, as it shows emission reduction from permitting can be considered in the AQAP. The Council complete permit inspections for installation and can provide data relative to emission reductions via Defra returns. Where an installation is located close to sensitive receptors, such as housing or an Air Quality Management Areas, a higher risk score can be applied at the risk assessment stage, resulting in more stringent enforcement and more regular inspections, thus improving air quality.

Measure 6 - “20 is plenty” zones - to be monitored and reviewed for AQMAs

Faversham town centre and Newington area now has 20 mph speed limit applied as safety measure and to encourage active travel. The air pollution impact is unknown; therefore, the Council will assess changes PM_{10}, $PM_{2.5}$ and NO_2 with continuous monitoring at Newington to see if any long-term air quality changes occur within the AQMA. Other AQMAs can be reviewed in response to the findings.

This ‘medium term’ (<5 year) measure was given a ‘medium’ cost effectiveness score because it is considered a ‘low’ cost measure with ‘low’ air quality and ‘medium to high’ non-air. This measure is also highly feasible as it is currently active.

This measure was considered the most achievable traffic and transport measure with 48% of responding this way. However, it was felt to have the least potential for impact with 47% responding slight impact or no impact.

Measure 7 - Continue to improve and develop the EV infrastructure in line with the Electric Vehicle Strategy 2022-2030.

The Council has already started improvements with new charging spaces within the district, as well as electrifying its own fleet. The EV strategy has actions that will contribute to an improvement to the EV infrastructure within the district. This measure will align with the Councils plans to improve EV infrastructure via the EV Strategy and through development using the Parking Standards SPD. As part of this we will be

reviewing locations to provide additional disabled accessible facilities for EV charging installations.

This ‘medium term’ (<5 year) measure was given a ‘low’ cost effective with a ‘high’ feasibility scoring, with a ‘low’ air quality and non-air quality impact score, at a ‘high’ cost.

This measure was considered the most achievable with 65% answering this way Active Travel & Low Emission Vehicles section. It was felt to have the potential for greatest impact with 41% responding major or moderate impact.

Measure 8 - Explore AQMA specific traffic management options

Discussions have taken place between SBC and KCC highways in relation to traffic management mitigation options for the AQMAs. A lot of the AQMAs along the A2 are restricted, in what can be changed due to the road layout, however options are still being considered. More traffic management options are being considered for the B2006 road along St Paul’s Street as it is located off the A2 corridor. A feasibility study for this will be completed to support any decisions made.

This ‘medium term’ (<5 year) measure was given a ‘medium’ cost effective and feasibility scoring, with ‘medium’ air quality and non-air quality impacts, at a ‘medium to high’ cost. The effectiveness will vary dependent on which measure is taken forward following the feasibility study.

It was clear that more detail is required for this measure as 38% of people answered unsure and 36% agreeing it was achievable. The Council are reviewing traffic management options but cannot confirm these until further evidence has been collected.

Measure 9 - Continue anti-idling enforcement and educational campaign

Swale Borough Council has worked with residents, schools and parish councils to identify several hotspot locations in the borough where drivers regularly leave their engines idling. Most of these are located outside of schools during afternoon pick up times, as well as high streets and town and village centres. The hotspot areas are clearly signed with a total of 70 signs installed within the district. The Council has also carried out patrols across these hotspots with the aim to raise awareness, but drivers fail to switch off their engines when asked can be issued with a £20 fixed

penalty notice. The Council is committed to continuing this work which will include further engagement with schools and raising awareness of this campaign.

This ‘short term’ (<1 year) measure which was given a ‘medium’ cost effectiveness and ‘high’ feasibility scoring, with ‘low’ air quality and non-air quality impacts at a ‘low’ cost.

The results from the consultation 49% answered it would be achievable from the total of 145 responses. Comments were made that this was an affordable measure, however they were unsure on what the impact would be.

Measure 10 - Car clubs and EV bike hire schemes in development and public spaces in line with Swale Borough Council EV Strategy and CEE plan.

This measure is underway and will continue to expand spatially. Faversham Car Club was launched successfully and has shown to be popular with regular usage. A recently launched car club in Sittingbourne has been established and Isle Sheppey will be reviewed. Car clubs are encouraged in new development.

This ‘medium term’ (<5 year) measure was given a ‘low’ cost effectiveness and ‘high’ feasibility scoring. With ‘low’ air quality and non-air quality impacts at a ‘medium’ cost.

This measure was least popular within the public consultation overall, but this was at demographic discretion with a liner relationship between age and feeling around the achievability. The proportion respondents showed achievability decreasing as age increased. Contrary to this, we have seen a successful and high uptake of users for the Faversham car club, so there is some evidence it is achievable. However, uptake and impact may differ relative to location and other demographics.

Measure 11 - Work in partnership with Medway Council and KCC to agree mitigation and a mechanism to manage transboundary impacts from development on air quality between Newington and Rainham.

The Council are looking into how we can work with Medway Council for a joint air quality mitigation strategy, or mechanism to manage transboundary air quality impacts from development. This stems from previous air quality assessments that

have identified transboundary air quality impacts between Newington/ Keycol Hill and Rainham development sites.

This ‘long term’ (>5 year) measure was given a ‘low’ cost effective and ‘medium’ feasibility scoring, with ‘low to medium’ air quality and non-air quality impacts, although at a ‘medium to high’ cost.

The results from the consultation showed 37% answered it would be achievable but 42% were unsure of its achievability. The impact of the measure was variable among consultees with 24% answering some impact.

Measure 12 - Explore opportunities for EV charge points at AQMA's: Newington (Village Hall), Ospringe (SBC car park), East Street (Tesco car park or nearby schools), St Paul's Street (businesses nearby); Teynham (Parish car park)

The Council will work with Parish Councils to assess the option of installing EV charge points within each AQMA or nearby area. The Council will identify funding opportunities for these projects to assist in the set-up of the charge points.

This ‘medium term’ (<5 year) measure was given a ‘low’ cost effectiveness and ‘medium’ feasibility scoring. With ‘low’ air quality and non-air quality impacts at a ‘medium’ cost.

As part of the public consultation this measure was considered the most achievable with 65% responding this way. It was also felt to have the potential for greatest impact with 41% responding major or moderate impact.

Measure 13 - Public transport improvements to bus infrastructure/service

There are significant pressures on the public transport network with usage significantly lower since the Covid pandemic and lack of funding opportunities to improve the service. Swale Borough Council are committed to supporting public transport providers in a lobbing role for improvements to infrastructure and service improvement. As well as partnership working and recommendations through developer S106 contributions.

This ‘long term’ (>5 year) measure was given a ‘low’ cost effective and ‘low’ feasibility scoring. With ‘low to medium’ air quality and non-air quality impacts, although at a ‘very high’ cost.

From the public consultation it was felt this measure had the potential for greatest impact with 46% responding major or moderate impact but was considered the least achievable from the responses.

Table 9. Air Quality Action Plan Measures

Measure No.	Measure	Lead department	Category	Classification	Estimated Year Measure to be Introduced	Estimated / Actual Completion Year	Organisations Involved	Funding Source	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	Continue to develop Air Quality standards within Local Plan Review and KCC development control policies	Planning Policy and Development (SBC/KCC)	Policy Guidance and Development Control	Local Plan Review; Air Quality Policy and other policies; Air Quality Planning and Policy Guidance; Low Emissions Strategy	2024	Ongoing	SBC and KCC planning policy	Staff costs	Funded	n/a	Ongoing	Lower NOx and PM10 emissions - Air Quality standards to reduce district-wide emissions	Implementation of policy and planning responses	SBC Parking Standards SPD includes requirements for Parking for Ultra Low Emission Vehicles with the objective of improving air quality. Air Quality and Planning Technical Guidance document (2021) updated as policies and guidance evolves	Air Quality will be considered in the site selection for allocations. The emerging Local Plan will include a policy on Air Quality. Air Quality policy (DM 33)
2	Complete a Local Cycling and Walking Infrastructure Plan (LCWIP) for the district and work with KCC to improve of Swale's walking and cycling infrastructure	Culture and Places (SBC) and Active Travel Interventions (KCC)	Transport Planning and Infrastructure	Cycle network	2034 (10 year plan for SBC implement measures	2024	SBC (Active Travel; GIS and Planning) and KCC (PRW, Highways)	Developers & highway infrastructure funding. Apply to Defra Air Quality Grant scheme – unknown outcome	LCWIP Partly Funded. No present funding for future measures	£10k-£20k plus additional cost for future measures (to be confirmed)	Stage 2	n/a	Completion of improved walking and cycle routes	Managed by the Active Travel Co-ordinator. The plan has completed Stage 1, with Stage 2 to 4 still to be completed.	Funding resources to complete Stages 3 (network planning) & 4 (prioritisation of measures) could delay completion. Need LCWIP to apply for future funding of measures.
3	Air pollution alerts, information to raise awareness on impacts and solutions	Environmental Health (SBC)	Public Information	Via the Internet, leaflets and other mechanisms	Active	Ongoing	MidKent Partnership and Kent and Medway Authorities	SBC budget for website and data management	Funded	Approx. <£1000 per year plus staff costs	Active	Lower NOx and PM10 emissions	Number of (vulnerable) people using the alert service in Swale	Kentair website has free air pollution alerts and information. Emails are issued whenever air quality is forecast to be moderate or above for the following day. The email includes Defra's recommended actions and health advice. There are currently 336 registered users for the email service.	Kent and Medway local authorities have been awarded a DEFRA AQ Grant funding to deliver an online tool for health professionals to use to assist patients with CHD/COPD in navigating air quality information.

														Through match funding DEFRA AQ Grant - SBC now provides a digital education package 'Pollution Patrol'. This resource is aimed at children aged 5-11 (and their parents).	Kent and Medway Partnership Group have created a communication subgroup - attendees include various district councils, Kent County Council and Public Health representatives.
4	To apply for Defra Air Quality Grant scheme to facilitate funding for the most suitable AQAP measures	Environmental Health team	Not determined	Not determined	n/a	Ongoing	SBC	Defra and SBC match funding	Part Funded	to be confirmed	to be confirmed	Lower NOx and PM10 emissions in AQMA(s) and public health benefits	Number of successful Defra bids	As above two successful Defra bids through match funding: 1. digital education package 'Pollution Patrol' and 2. Online tool for health professionals to use to assist patients with CHD/COPD in navigating air quality information.	Match funding affordability
5	To reduce emissions from activities with Environmental Permits	Environmental Health team	Environmental Permits	Measures to reduce pollution through Best Available Technique (BAT)	2023	Ongoing	SBC	SBC staff cost	Funded	n/a	Active	Lower NOx and PM10 emissions in AQMA(s)	Number of measures and performance monitoring data	SBC currently review a case load of installations	
6	"20 is plenty" zones - to be monitored and reviewed for AQMAs	Environmental Health (SBC) for monitoring AQ changes	Traffic Management	Strategic highway improvements	2022	2023	KCC and SBC	SBC staff costs	Funded	n/a	Active	Lower NOx and PM10 emissions - impact unknown - being viewed	Smoothing Traffic flow to reduce emissions plus more people walking and cycling	Faversham town centre and Newington (including A2 - AQMA) now has 20 mph speed limit	Newington AQ and 20 mph will be assessed through continuous monitoring to assess long-term air quality changes within the AQMA and potential impact of speed change.
7	Continue to improve and develop the EV infrastructure within the district	Environment and Leisure (SBC)	Promoting Low Emission Transport	Low Emission Vehicles, EV recharging	2022	2030	SBC and KCC Network Innovations	OZEV (ORCS & LEVI); SBC; Private Investment	Received funding from ORCS 2022/23 – provided 75% of the funding for 20 EV charge points spread across the borough; Future funding for LEVI being investigated with KCC for on street EV's - Funding to be confirmed	£500k - £1 million	Implementation	Lower NOx and PM10 emissions	No. charge points/ No. charge points per population	18 new charging spaces by Sep 22 (+ 18 existing spaces from 2022 works)	Difference in strategy between SBC & KCC could be a barrier. DNO costs and grid capacity also is a barrier

8	Explore AQMA specific traffic management options	Highways and Planning (KCC), Environmental Health and Planning Policy (SCB)	Traffic Management	Strategic highway improvements	2025	2028	SBC and KCC highways	S106 available for St Paul's Street.	Part funded	£50K - £200K	Planning	Lower NOx and PM10 emissions in AQMA(s)	Number of measures and performance monitoring data	Planning stage	KCC highways facilitated projects and measures. Lack of engagement and support from KCC highways. SBC are undertaking a scoping assessment with external transport consultants to assist KCC in reviewing traffic management measures.
9	Continue anti-idling enforcement, signage and educational campaign	Environmental Health (SBC)	Traffic Management	Anti-idling enforcement	2022	Ongoing	Environmental Response Team (SBC)	SBC budget and S106	Part funded	<5k	Ongoing	Lower NOx and PM10 emissions at hotspot areas	Sustainable business, cleaner greener Swale	43 signs installed in 2021 and 27 new locations in 2023 with additional enforcement patrols at hotspot locations. Mainly around schools. Working with some schools to engage with parents	Staffing and funding resources for enforcement patrols on a focused needs basis at hotspot locations
10	Car clubs and EV bike hire schemes on development and public spaces in line with SBC EV Strategy, CEE plan.	Environment and Leisure (SBC)	Alternatives to private vehicle use	Public car and cycle hire	2022	2025	SBC	SBC (e.g., I&R); S106; new Active Travel Fund?	Part funded Two car clubs fully funded through S106 contributions and I & R funding.	£30k per town centre car club. £30k per town EV hire scheme. After 3 years the scheme should be self-funding. No direct cost to SBC if on development.	Ongoing	Lower NOx and PM10 emissions	Scheme utilisation and statistics from KCC through the Kent and Medway Energy and Low Emissions Strategy (ELES)	Faversham and Sittingbourne Car Clubs launched successfully. Car clubs encouraged in developments. Isle Sheppey options are being reviewed.	Varying views on back to base bike hire schemes. Drop off bike schemes have a much higher cost and risk level. Will need to consider the results from the Faversham Town Council scheme.
11	Work in partnership with Medway Council and KCC to agree mitigation and mechanism to manage transboundary impacts from development on air quality between Newington and Rainham.	Planning Policy and Environmental Health (SBC)	Policy Guidance and Development Control	Other policy	2023	2028	SBC, Medway District Council and KCC highways	S106 contributions and SBC staff costs	Part funded	Currently unknown	Planning	Lower NOx and PM10 emissions in Newington and Keycol Hill AQMAs	Implementation of actions	Initial discussions taking place with MBC and SBC. Independent air quality assessment is being completed as part of the decision-making process	Cross boundary barriers exist. An agreement between both districts needs to be made for collaborative measures and funding
12	Explore opportunities for EV charge points at AQMA's: Newington (Village Hall), Ospringe (SBC car park), East Street (Tesco car park or nearby schools) St Paul's Street (businesses nearby)	Environment and Leisure (SBC)	Promoting Low Emission Transport	EV recharging	2023	2028	SBC	OZEV (ORCS & LEVI); SBC; Private Investment; S106 contributions	LEVI funding being investigated with KCC - Funding to be confirmed	£50K - £200K	Planning	Lower NOx and PM10 emissions	No. charge points/ No. charge points per population	Ospringe site being reviewed as part of funding bid	Difference in strategy between SBC & KCC. DNO costs and grid capacity.

13	Public transport improvements to bus infrastructure/service	Public Transport and Highways (KCC)	Transport Planning and Infrastructure	Public transport improvement	2025	2028	SBC and KCC	No current funding sources. SBC revenue for staff costs	n/a	No specific cost required	Not started	Unquantifiable	Greater uptake of usage	Recommendations made with planning responses and S106 contributions to improve bus services Climate team engaged with community rail partnership but project work yet to commence	Support public transport providers in a lobbing role for improvements to infrastructure and service improvement

Appendix A. Public Consultation (2023 -2028 AQAP update)

Background

Swale Borough Council's current air quality action plan ended in December 2022; this consultation is to support how improving air quality in the borough area will continue from 2023 to 2028.

Feedback was sought from residents and stakeholders on the proposed actions. The proposed plan focuses on improving air quality across the whole borough, as well as in the six air quality management areas (AQMAs). The draft consultation was approved by the Environment Committee on 3 November 2022.

Methodology

Swale Borough Council undertook a consultation between 3 November 2022 and 15 January 2023
The survey was carried out online with paper copies of the survey available on request. The survey was open to all Swale Borough residents aged 18 years and over as well as visitors to the borough. SBC provided the following stakeholder engagement:

- Letters distributed directly to households within and near the AQMAs.
- Social media and the Swale Borough Council's website
- Swale news Business e-Bulletin and mailing lists to businesses and statutory consultees
- Flyers put up in libraries and post offices

The Consultation asked respondents their opinions about the proposed actions for the Air Quality Action Plan. There was an opportunity throughout the survey to provide additional comments. There was a total of 148 responses to the survey. There were also two stakeholders that sent in detailed essays on their organisation's views of the proposals, these responses are shown in full at Appendix A & B. There were also some additional comments sent in by a resident, these had been included in the additional comments sections.

Please note not every respondent answered every question; therefore, the total number of respondents, refers to the number of respondents for that question, not to the survey overall. Comments have been categorised according to content with some covering more than one category. Demographic differences only relate to non-stakeholder responses.

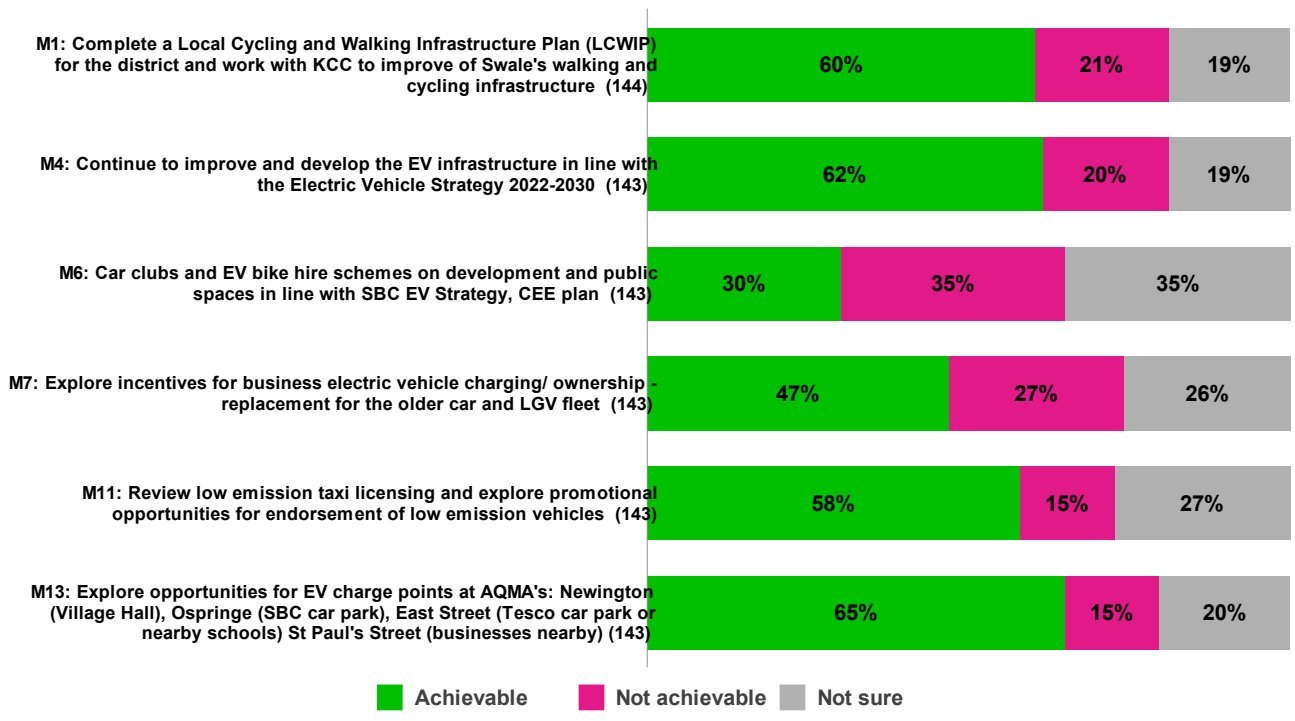
NB: The responses from this consultation have contributed to the decision-making process for Swale Borough Council's Air Quality priorities and measures outlined in section 5.

Section 1: Active Travel & Low Emission Vehicles

Achievability of measures

Respondents were asked to review the proposed measures relating to Active Travel and Low emission Vehicles and indicate if they felt each measure was achievable or not. A total of 144 answered this question set.

Measure 13: Explore opportunities for EV charge points at AQMA's: Newington (Village Hall), Ospringe (SBC car park), East Street (Tesco car park or nearby schools) St Paul's Street (businesses nearby) was considered the most achievable with 65% responding this way.
Measure 6: Car clubs and EV bike hire schemes on development and public spaces in line with SBC EV Strategy, CEE plan was considered the least achievable with the greatest proportion answering 'not achievable' in response to the measures relating to Active Travel and Low Emission Vehicles.



Demographic Differences

The data show that younger respondents (44 years and under) were more likely to respond in favour of Measure 4: 'continue to improve and develop the EV infrastructure in line with the Electric Vehicle Strategy 2022-2030'. Respondents aged 75 years and over had the lowest proportion that said measure 4 was achievable at 40.0%.

The data also suggests a liner relationship between age and feeling around the achievability of measure 6. The proportion responding that measure 6 was achievable decreases as age increases.

There was a significantly greater proportion of female respondents that said measure 11 was achievable with 67.2% answering this way compared to 48.4% of male respondents.

Active Travel & Low Emission Vehicles Measures Comments

Respondents that said a measure was unachievable, were prompted to explain why they felt this way.
Their comments are summarised and themed for each of the measures below.

M1: Complete a Local Cycling and Walking Infrastructure Plan (LCWIP) for the district and work with KCC to improve of Swale's walking and cycling infrastructure (30 Comments)		
Theme	No.	Nature
Safety	8	Cyclists feel unsafe, with the A2 cited as dangerous for cyclists. Recent bike fatality in Teynham.
Infrastructure	8	There is not enough space to have dedicated cycle lane. The road is too narrow.
Behaviour Change	7	People will not use active travel methods because: They are stuck in their ways. The car is convenient and practical. Distances between villages to long. Facilities such as schools and leisure activities are not local. Village populations tend to be older.
Development	5	Too many houses being built. Area is over-capacity. Further development means increased traffic.
Traffic Volume	5	Cycle lanes with increase congestion and pollution. Too many HGVs. Do more to improve traffic flow.
Cost	3	This measure will cost too much to implement. This measure would be a waste of money (cite removal at Newbury). Query if funds were available to implement this measure.

M4: Continue to improve and develop the EV infrastructure in line with the Electric Vehicle Strategy 2022-2030 (28 Comments)		
Theme	No.	Nature
EV Infrastructure	7	Development of full charging infrastructure is 20 years away. Where would charging points go – there is no room for them.
Cost of buying EV	7	Electric vehicles are too expensive for the average person. Cost of charging vehicle is going to increase.
Development	5	More development means more vehicles on the roads. Electric Network said to be at limit, and under more strain due to housing development.
Other	4	
Waste of money	3	Money should be spent elsewhere (invest in current infrastructure).
Cost of implementation	2	Query the availability of funds for implementation.
Parking	2	Lack of private parking and availability of charger makes EV unviable in rural and conservation areas.

M6: Car clubs and EV bike hire schemes on development and public spaces in line with SBC EV Strategy, CEE plan (48 Comments)		
Theme	No.	Nature
Little to no impact / Unlikely to be used	25	Current bike schemes are not used. Relies too much on commitment from the public for behaviour change. Older demographic and rural nature of area means uptake would be low.
Road safety	7	Roads are unsafe to cycle. Recent road traffic accidents cited.
Space for scheme	5	Lack of space to implement this measure – car parks/car share or space dedicated for cycle lane.
Cost	5	Where is the funding coming from to implement this measure. Concerns measure is not good value for money.
Working patterns	3	Car sharing unviable due to people having varied working patterns.
Traffic & Roads	3	There is too much traffic on the roads. Roads are too busy.
Other	3	Rural areas and villages are overlooked when it comes to these schemes. Query about how people access these schemes.

M7: Explore incentives for business electric vehicle charging/ ownership - replacement for the older car and LGV fleet (34 Comments)		
Theme	No.	Nature
Cost of scheme	17	Requires significant amount of funding to implement (expensive) – where will this funding come from. Concern cost of this measure will be passed onto local businesses – who are already struggling.
Cost of Electric Vehicles	9	Electric vehicles unaffordable for the average person. People can’t not upgrade their cars during the current cost of living crisis.
Charging infrastructure	3	There are not enough charging points – also space to park while charging and time to charge not ideal.
Incentive to change	3	There is not enough of an incentive and there is lack of trust in government incentives (history with diesel vehicles).
Other	3	Measure needs more action than exploration. EV are unreliable and have limited range.

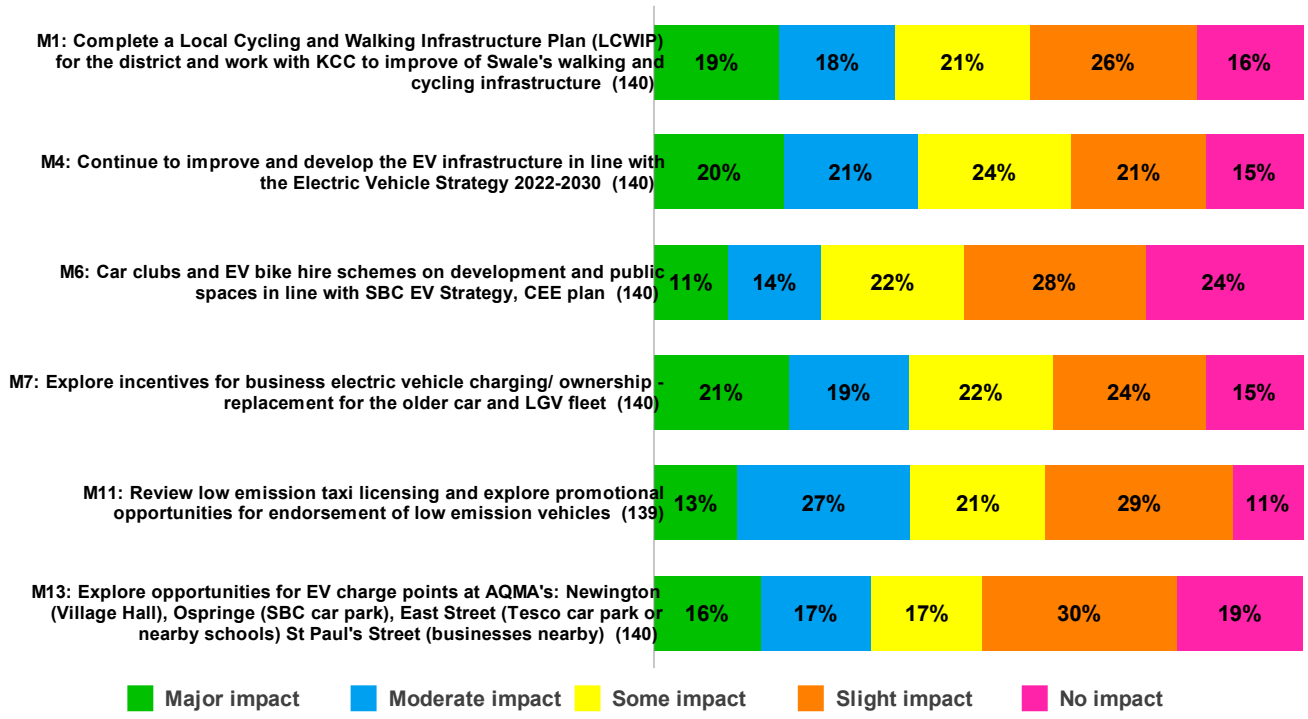
M11: Review low emission taxi licensing and explore promotional opportunities for endorsement of low emission vehicles (12 Comments)		
Theme	No.	Nature
Costs	9	This measure is not achievable due to high costs for drivers. EVs are too expensive.
EV Infrastructure	2	Limited charging network makes this unworkable.
Other	2	EVs will not solve congestion issues. Doubtful about take-up.

M13: Explore opportunities for EV charge points at AQMA's: Newington (Village Hall), Ospringe (SBC car park), East Street (Tesco car park or nearby schools) St Paul's Street (businesses nearby) (19 Comments)

Theme	No.	Nature
Teynham	5	Why are there no charging point for Teynham. Why is Teynham no longer within the AQMA.
Space for charging	4	Currently insufficient parking spaces. No room at current parking spots for EV chargers. No demand for EV charging points. Why are some areas of Swale no considered for EV charging points.
VFM	4	Waste of money as take up will be low. Funds would be spent elsewhere.
Cost of EV	2	EV are unaffordable – particularly considering current cost of living crisis.
No or little impact	2	One charging point will not resolve the issues. People do not care for EVs.

Impact

For each of the proposed measures, respondents were next asked to indicate what impact they thought each of the measures would have on air quality locally. Measure 4: Continue to improve and develop the EV infrastructure in line with the Electric Vehicle Strategy 2022-2030 was felt to have the potential for greatest impact with 41% responding major or moderate impact. Measure 6: Car clubs and EV bike hire schemes on development and public spaces in line with SBC EV Strategy, CEE plan was felt to have the least potential for impact with 52% responding slight impact or no impact.



Demographic Differences

There was a significantly greater proportion of female respondents that said measure 1 would have a major or moderate impact with 41.4% answering this way compared to 24.2% of male respondents. Across the age groups respondents aged 75 years and over has the lowest proportion responding that measure 1 would have a major or moderate impact with 13.3% answering this way.

There were no other significant differences in how different demographic groups responded to the questions about impact for the measures relating to active travel and low emission vehicles.

Active Travel & Low Emission Vehicles Additional Comments

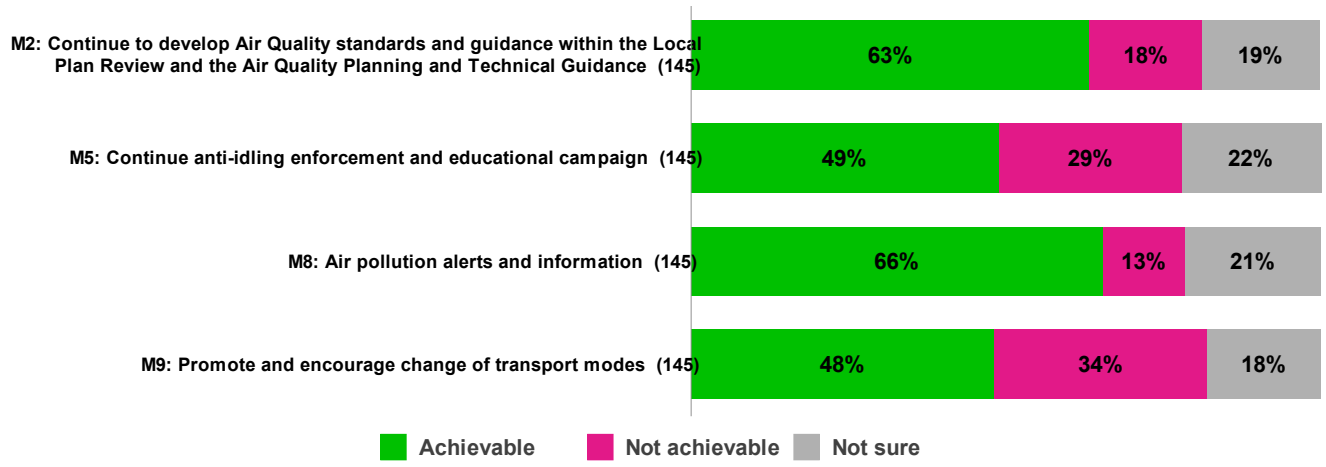
All respondents were given the opportunity to provide additional comments about the proposed measures around Active Travel and Low Emission Vehicles. A total of 70 additional comments were received.

Theme	No.	Nature
Impact	16	These measures will make no difference to congestion or pollution. The impact of these measure is marginal.
EVS	18	There is a lack of infrastructure for EVs. EVs are expensive, EV measures will not have any impact until EV vehicles are cheaper. EV charging point should be standardised.
Active travel	17	Cycle routes need to be safe. Introduce bookable bikes and low-cost taxis. Local roads are not wide enough to accommodate cycle lanes. Those willing to walk or cycle already do so.
HGVs	9	Restricts HGVs. HGVs main cause of emissions. Chicanes will not work on A2 for HGVs.
Development	9	Too much housing development for road infrastructure. Stop building houses.
Traffic volume	8	Clear roads of parked cars to improve the traffic flow (Chalkwell Road). Only way to improve air quality is to reduce traffic volume.
Other	5	Need to set achievable targets. Query about research between pollution and health locally. Request for speed cameras in Teynham. Add junction to M2 by science park.
Teynham	3	Why are there no EV charger in the parish car park. Impacts of traffic in Teynham is being ignored. Clarification requested on future of AQMA relating to Teyham.

Section 2. Public Health, Engagement & Planning Control
Achievability of measures

Respondents were asked to review the proposed measures relating to 'Public Health, Engagement & Planning Controls' and indicate if they felt each measure was achievable or not.

There was a total of 145 responses to this question. Measure 8: Air pollution alerts and information was considered the most achievable measure with 66% of all respondents answering this way. Measure 9: Promote and encourage change of transport modes, was considered the least achievable of the measures relating to Public Health, Engagement and Planning Control with the greatest proportion answering, 'not achievable'.



Demographic Differences

A significantly greater proportion of male respondents said that Measure 5 was unachievable with 41.3% answering this way compared to 22.6% of female respondents.

The age group 45 to 54 years had a significantly lower proportion that said measure 9, promote and encourage change of transport modes was achievable with 20.0% answering this way.

Public Health, Engagement & Planning Control Measures Comments

Respondents that said a measure was unachievable, were prompted to explain why they felt this way.
Their comments are summarised and themed for each of the measures below.

M2: Continue to develop Air Quality standards and guidance within the Local Plan Review and the Air Quality Planning and Technical Guidance (21 Comments)		
Theme	No.	Nature
Development	6	Too much development. More house building means more traffic and congestion.
Other	5	Removal of AQMA 5 would be a danger to people's health. Air quality will not improve until public transport improves. There are too many diesel cars on the roads. No action in Ospringe. Less regulation.
No impact	4	This doesn't address the major factors affecting air quality. Regulations are not enforced. Nothing will change.
Monitoring	3	Monitoring sites should be expanded (sites pollutant and be continuous). Not measuring PM2.5. Following wrong standards for monitoring air quality.
Cost	3	This is a waste of money. Concern about cost.

M5: Continue anti-idling enforcement and educational campaign (38 Comments)		
Theme	No.	Nature
Enforcement	23	This is not monitored or enforced. This is not practical or enforceable – would require significant resources. Unless there is enforcement this will be ignored.
Traffic flow	9	Traffic flow is too poor to prevent people from idling. How will this work when local roads at standstill.
Impact	3	Difficult to change attitudes and behaviour. Unlikely to get public buy-in.
Older vs newer vehicles	3	Older vehicles do not have provisions for cutting engine when stationary to prevent idling.
Development	2	More house building causes more traffic.
Other	2	KCC & SBC are not listening. This measure could be dangerous and Council has no right to interfere with how private individuals operate their vehicles.

M8: Air pollution alerts and information (16 Comments)		
Theme	No.	Nature
No impact	6	Alerts do not reduce pollution. Pollution has been high for years and nothing changes. People don't believe scientists/that there is an air pollution issue.
Development	4	Too much house building.

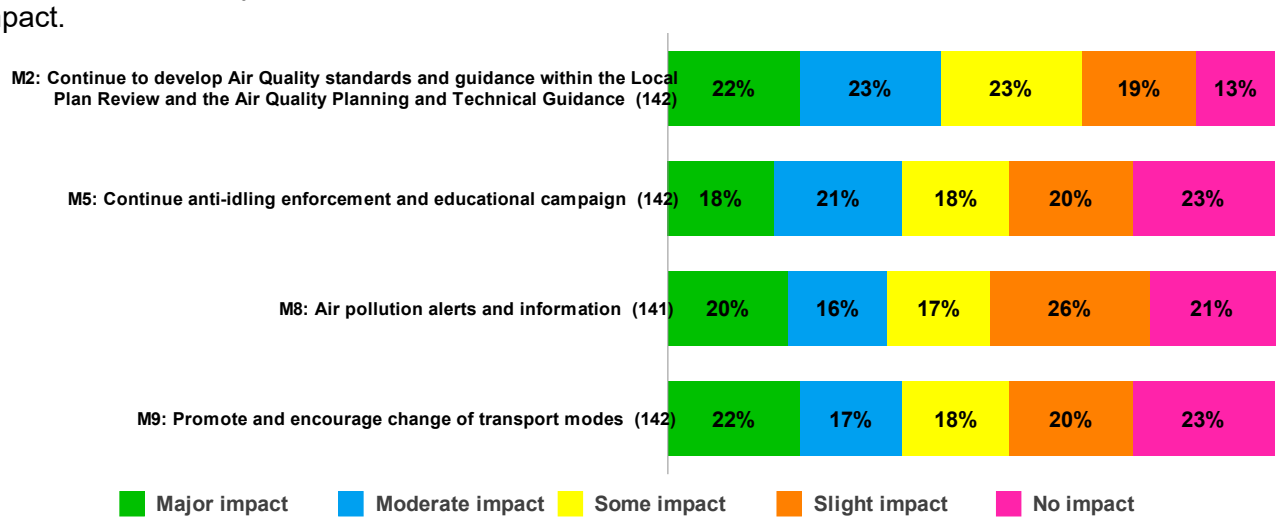
		Housing developments have been placed in areas of high air pollution.
Air Quality Updates/ Information	3	SBC does not advertise air quality information. I have never received any information from SBC about air quality levels.
Traffic levels & flow	2	There is too much traffic on the roads. Traffic levels will continue to increase.
Other	2	Funds for this could be better spent elsewhere. Expand monitoring sites to give more confidence to air quality alerts.

M9: Promote and encourage change of transport modes (47 Comments)		
Theme	No.	Nature
Public Transport	22	Bus services have been cut. Bus services are unreliable and inconvenient.
Little to impact	10	Cars are used out of necessity. Cars are the most convenient and practical transport mode for most.
Active travel	5	Alternative transport modes limited in rural areas. Roads unsuitable for cycling. Cycling unsuitable for older members of the community and children.
EVs	4	EV are unaffordable for most.
Cost	3	Concern over funding for this measure, in current economic climate.
Other	3	Do not want low emission zone like London. A2 through Ospringe requires more examination. Poor press on EVs making people reluctant to switch.
Development	2	No more house building.

Impact

For each of the proposed measures, respondents were next asked to indicate what impact they thought each of the measures would have on air quality locally.

Measure 2: Continue to development Air Quality Standards and guidance within the Local Plan Review and Air Quality Planning and Technical Guidance was felt to have the potential for greatest impact with 45% responding major or moderate impact.
Measure 8: Air quality pollution alerts and information was felt to have the least potential for impact with 47% responding slight impact or no impact.



Demographic Differences

There was a significantly greater proportion of female respondents that said measure 5 would have a major or moderate impact with 48% answering this way compared to 29% of male respondents.

There were no other significant differences in how different demographic groups responded to the questions about impact for the measures relating to Public Health, Engagement & Planning Control.

Public Health, Engagement & Planning Control Additional Comments

All respondents were given the opportunity to provide additional comments about the proposed measures around Public Health, Engagement & Planning Control. A total of 33 additional comments were received.

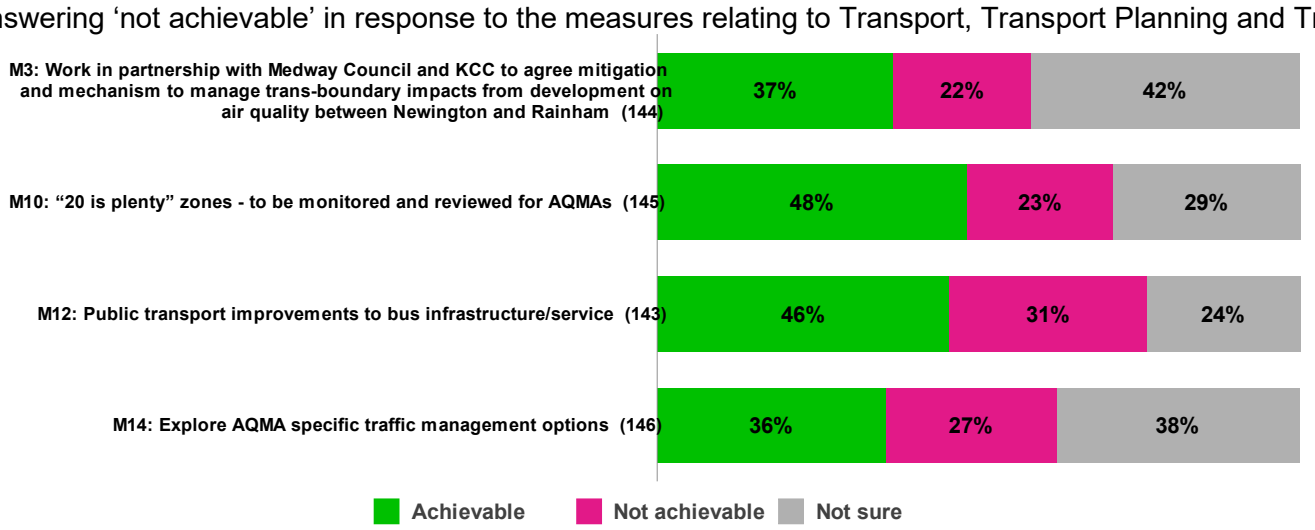
Theme	No.	Nature
Traffic Flow	8	The A2 is busy with slow moving traffic. Review traffic light settings to improve traffic flow. Review necessity for traffic lights at roundabouts to improve traffic flow. There are too many vehicles on the roads.
Public Transport	7	Funding for public transport is being cut. Public transport is not a cost-efficient way to commute.
HGVs	5	There are too many lorries on the roads. Remove HGVs from residential areas. Businesses using HGVs must be encouraged to make changes.
Idling	5	An education campaign on idling will have little impact. More publicity on idling required. Anti-idling campaign would be a cheap and positive measure to carry out.
Development	5	Too many new homes being built. New developments should have storage for bikes and less parking. Planning guidance for offsetting developments along borough boundaries
Active Travel	5	Safe cycling infrastructure needed. Invest in sensible walking and cycling routes.

Little or No impact	4	The impact of the proposed measured will be limited. Measures are not SMART.
Data & Monitoring	3	Consider adopting lower WHO standards for particulate pollution. Increase number of air quality monitoring sites (Murston Road). Monitoring sites should be expanded (sites pollutant and be continuous).
Other	3	Whole electric vehicle plan is not the answer. Plant more trees and vegetation.

Section 3: Transport, Transport Planning and Traffic Management

Achievability of measures

Respondents were asked to review the proposed measures relating to 'Active Travel and Low emission Vehicles' and indicate if they felt each measure was achievable or not.
146 respondents answered this question.
Measure 10: '20 is plenty' zone to be monitored and reviewed for AQMAs was considered to be the most achievable measure with 48% of responding this way.
Measure 12: Public transport improvement to bus infrastructure/service was considered the least achievable with the greatest proportion answering 'not achievable' in response to the measures relating to Transport, Transport Planning and Traffic Management.



Demographic Differences

There was a significantly greater proportion of male respondents that said Measure 10 was unachievable with 33% answering this way compared to 18% of female respondents.

The 45 to 54 years age group had a significantly lower proportion that said Measure 10, '20 is plenty' zone to be monitored and reviewed for AQMAs was unachievable with 12% answering this way, compared to respondents in the age groups 65 years and over where 40% said that this measure was unachievable.

The 35 to 45 years age group had a significantly lower proportion that said Measure 12, Public transport improvements to bus infrastructure/services was unachievable with 15% answering this way, compared to respondents in the 45 to 54 years age group where 49% said that this measure was unachievable.

Transport, Transport Planning and Traffic Management Measures Comments

Respondents that said that a measure was unachievable, were prompted to explain why they felt this way.
Their comments are summarised and themed for each of the measures below.

M3: Work in partnership with Medway Council and KCC to agree mitigation and mechanism to manage trans-boundary impacts from development on air quality between Newington and Rainham (25 Comments)		
Theme	No.	Nature
Partnership working	9	Each LA has their own agenda. History of poor partnership working.
Little or no impact	8	Nothing will change. This measure is pointless and not needed (area between Rainham and Newington is not the areas where the problem is). You cannot stop people commuting.
Development	6	Stop building housing. Development is not accompanied by updated transport infrastructure.
Traffic	2	Roads are gridlocked. The route of the issue is the road infrastructure.
Public transport	2	There is a lack of bus services.

M10: "20 is plenty" zones - to be monitored and reviewed for AQMAs (29 Comments)		
Theme	No.	Nature
Little to no impact	23	20mph is an inefficient speed to travel. This would cause more congestion and in turn more pollution. Research has shown this does not work. 20mph is an unrealistic speed to expect driver to do and will just annoy them
Enforcement	6	Current speeds limits not enforced. There are no resources to enforce this. This measure would be ignored as will not be enforced.
Monitoring	2	More monitoring sites needed. Data incomplete as monitoring sites change.
Other	2	Stop building housing.

M12: Public transport improvements to bus infrastructure/service (40 Comments)		
Theme	No.	Nature
Buses	29	Bus services have been cut. Bus companies cannot sustain current routes.

		If buses were a better option, then services wouldn't be cut.
Cost	7	There is no funding or public money for more bus services. This would cost too much to implement. Use of buses declining therefore this would be a poor use of funds.
Impact	3	No join up between LAs for infrastructure. SBC has little leverage in this area. Lack of faith in partnership working with KCC.
Development	1	Stop building housing.

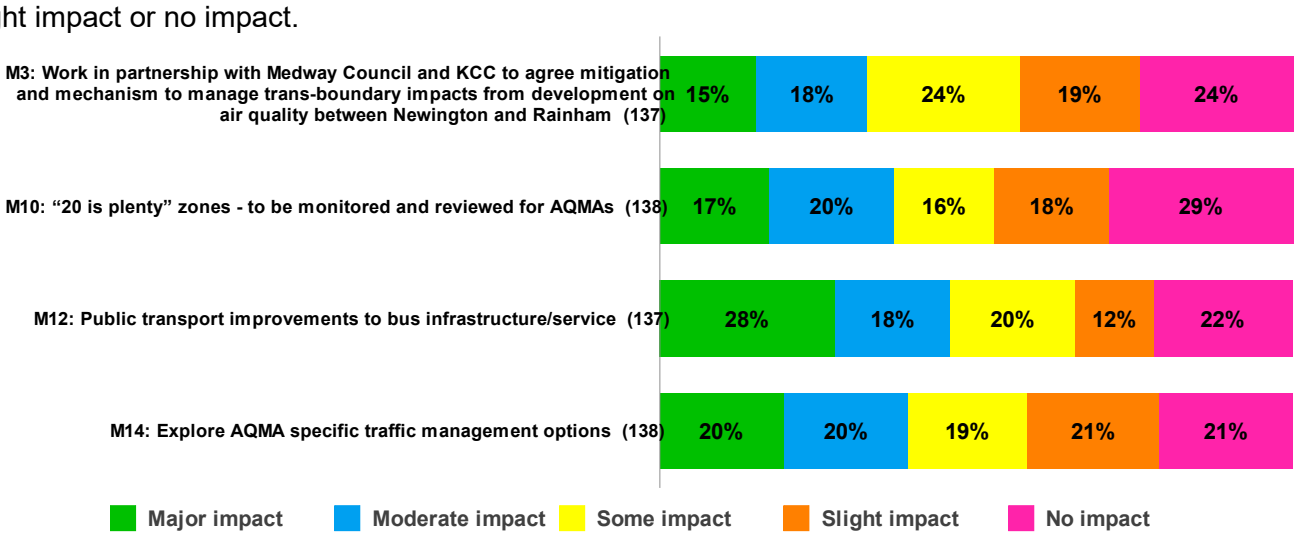
M14: Explore AQMA specific traffic management options (34 Comments)		
Theme	No.	Nature
Traffic flow	15	There is too much traffic – roads are gridlocked. Restrictions on volume of traffic rather than in specific locations. Do not want a LEZ. Traffic calming measure impractical.
Parking	9	People need to be able to park their car near where they live. Lack of parking is already an issue. Taking away car parking or adding additional car parking restrictions could damage local businesses.
Development	6	New housing development need sufficient parking facilities. New house building creates more traffic.
Impact	5	This will cause more problems than solve them. This will increase pollution. This will just slow traffic down further.
Other	5	Where will funding come from for this measure. Current pilots have not been evaluated; options should not make life more difficult. There is no funding for enforcement.

Impact

For each of the proposed measures, respondents were next asked to indicate what impact they thought each of the measures would have on air quality locally.

Measure 12: Public transport improvement to bus infrastructure/service was felt to have the potential for greatest impact with 46% responding major or moderate impact.

Measure10: '20 is plenty' zones to be monitored and reviewed for AQMAs was felt to have the least potential for impact with 47% responding slight impact or no impact.



Demographic Differences

There was a significantly greater proportion of male respondents that said Measure 3 would have a slight impact or no impact with 56% answering this way compared to 34% of female respondents.

There was a significantly greater proportion of female respondents that said Measure 10; '20 is plenty' zones to be monitored and reviewed would have a major or moderate impact with 46% answering this way compared to 24% of male respondents.

There was a significantly greater proportion of female respondents that said Measure 14; Explore AQMA specific traffic management options would have a major or moderate impact with 45% answering this way compared to 27% of male respondents.

There were no other significant differences in how different demographic groups responded to the questions about impact for the measures relating to Transport, Transport Planning and Traffic Management.

Transport, Transport Planning and Traffic Management Comments Additional Comments

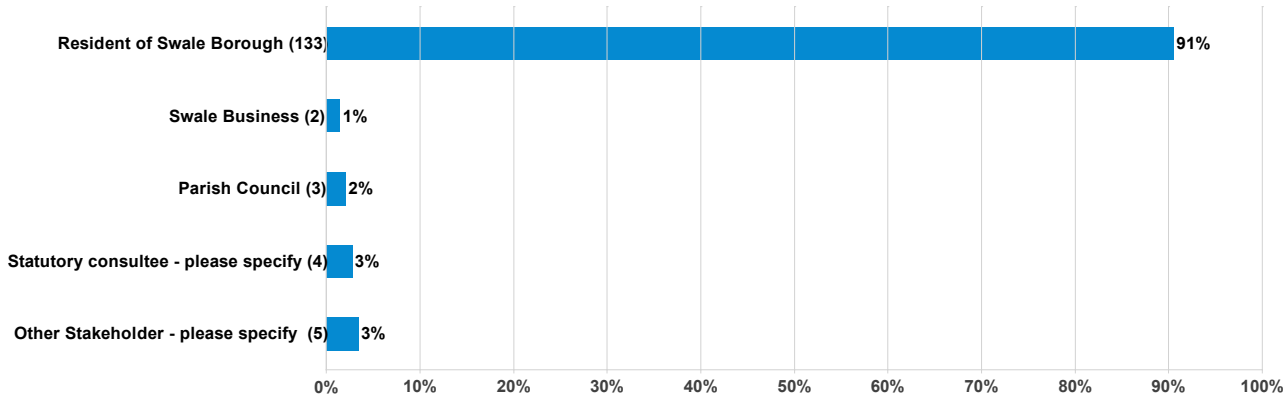
All respondents were given the opportunity to provide additional comments about the proposed measures around Transport, Transport Planning and Traffic Management Comments. A total of 30 additional comments were received.

Theme	No.	Nature
Traffic Flow	12	More needs to be done to keep the traffic moving. 20 is plenty hinders traffic flow. 20 is plenty should be adopted more widely by villages and towns.
Public transport	7	Introduce electric and hydrogen buses. Public transport has been cut and needs to improve.
HGVs	6	Restrict lorries on certain routes (A2, Ospringe & Keycol Hill). Restrict HGVs speed.
Impact	6	Measure will not change behaviour. Measures need enforcing or will be ignored. Each measure will have some impact but will not benefit drivers.
Other	4	Suggestion of a Winkle and Crab Walkway and Cycling Route. Already limited parking in Faversham. More monitoring zones required.

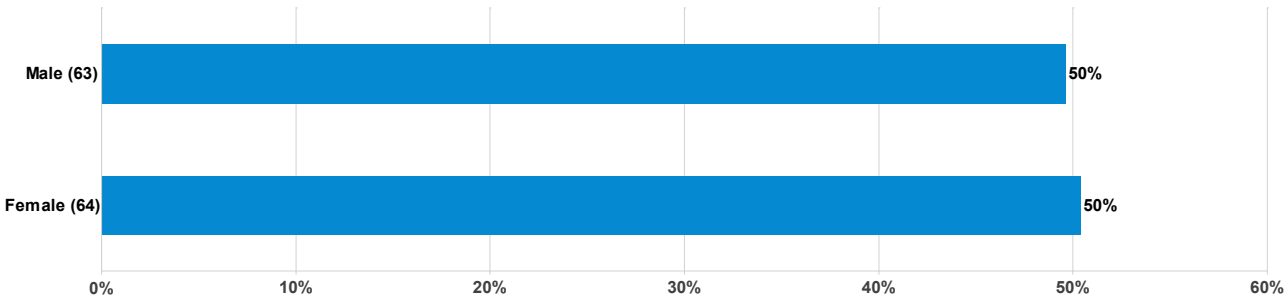
		More enforcement on bonfires.
Development	3	Stop building more houses. Local industry approves unhelpful – cement factory.

Demographics

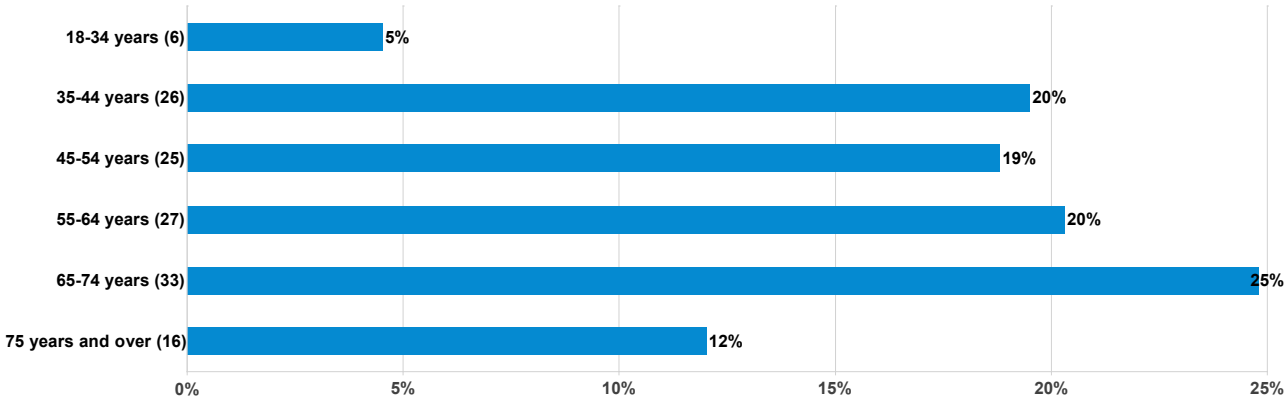
Respondent Type



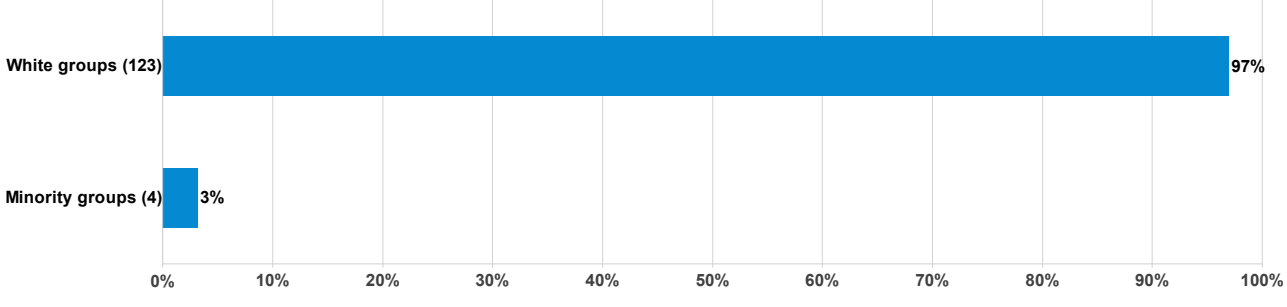
Gender



Age



Ethnicity

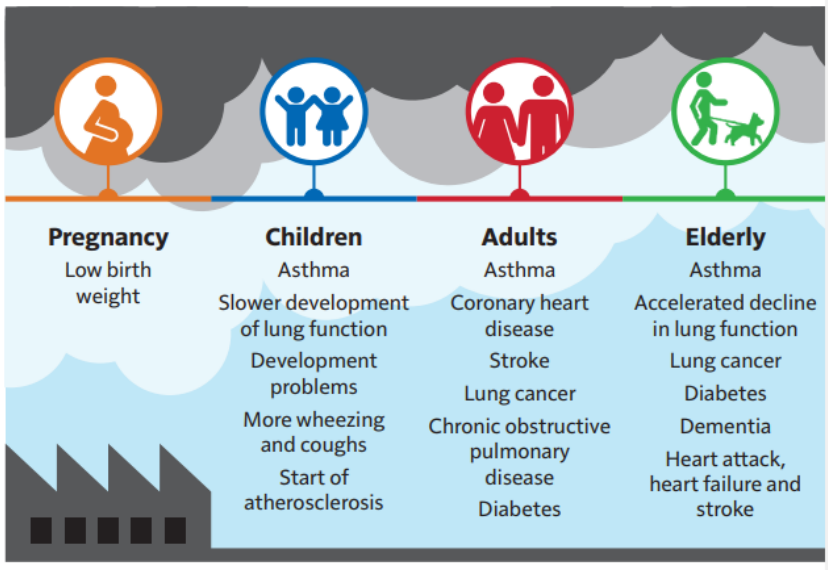


Kent County Council Public Health repsonse:

Response to Swale Air Quality Action Plan

Poor air quality is the largest environmental risk to public health in the UK[23] and why as the Kent Public Health Team we are pleased to be able to provide a more comprehensive response to the Swale Borough Council Air Quality Action Plan Consultation.
The quality of the air that we breathe plays a major part in the overall health of our community. We must, therefore, ensure all residents can enjoy good air quality that will not pose a risk to health and wellbeing.
Air pollution is a problem that affects everyone; however, the impact of air pollution on health is not distributed equally within a population and often effects the most deprived communities and most vulnerable individuals. Groups disproportionately affected include;
Older people
Children
Pregnant women
Individuals with existing medical conditions (cardiovascular and/or respiratory disease)
Communities in areas of higher pollution
Low-income communities

Figure 1: Health effects of air pollution throughout life



Source: Adapted from Public Health England (2018)

Understanding the local population of Swale

It is important that the local health needs of the current and future Swale population form part of the evidence in determining actions to improve air quality and particularly those groups which are disproportionately affected.
The information below has been collated from *Public Health Fingertips* and focuses on the AQMAs as outlined in the consultation. Please note that the data does not consider ambient air pollution levels; it focuses on certain characteristics identified in Figure 1 of the resident population that could lead to more adverse health impacts due to poor air quality. The data below should be used to offer insight into certain groups which may be disproportionately affected and used as suggestion only to inform future action planning. This should be used to compliment other forms of evidence including ambient air pollution levels and local area knowledge.

Vulnerable groups	AQMA average compared to district average
Older people - % of population aged 65 and over, 2020	In Swale, generally, there has been an increase of 27.3% in people aged 65 years and over[24]. When analysing the AQMA areas as per the consultation, 3 areas (AQMA 1, 2/6, 3) score significantly higher / have a greater number of older people aged 65 and over when compared to the district average of 19.3.
Children - % population aged under 16, 2020	In Swale, generally, there has been an increase of 9.4% in children aged under 15 years and an increase of 8.3% in people aged 15 to 64 years[25]. When analysing the AQMA areas as per the consultation, 1 area (AQMA 4) scores significantly higher / have a greater number of children age under 16 when compared to the district average of 20.5.
General fertility rate (used as a proxy for pregnant women) – live births per 1,000 women aged 15-44 years, 2016-2020	The general fertility rate: live births per 1,000 women aged 15-44 years is higher in Swale (65.9 per 1,000) in comparison to the England average of 59.2 per 1,000[26]. When analysing the AQMA areas as per the consultation, 3 areas (AQMA 1, 3 and 5) score significantly higher / have a greater number of general fertility rate when compared to the district average of 65.9.
Existing cardiovascular disease- CHD emergency admissions ratio, 2016/17-2020/21; stroke emergency admissions ratio, 2016/17-2020/21; heart attack emergency	When analysing the AQMA areas as per the consultation, 1 area (AQMA 5) scores significantly higher / has a greater number of CHD emergency admission ratio when compared to the district average of 96.2. In addition, when analysing the AQMA areas as per the consultation, 2 areas (AQMA 2/6 and 4) score significantly higher / have a greater number of heart attack emergency admissions ratio when compared to the district average of 94.1. The AQMA areas 4 and 5 had a significantly

19. Health matters: air pollution - GOV.UK (www.gov.uk)
[24] ibid
[25] ibid
Public health profiles - OHID (phe.org.uk)

admissions ratio, 2016/17-2020/21	higher / greater number of stroke emergency admissions ration when compared to the district average of 83.3.
Existing respiratory disease - COPD emergency admissions ratio, 2016/17-2020/21; lung cancer incidence ratio, 2015-2019	The mortality rate from respiratory diseases for individuals under 75 in Swale has increased over the last 5 years (42.3 per 100,000; years 2017-19) and is significantly worse than the national average of 33.6 per 100,000[27]. When analysing the AQMA areas as per the consultation, 3 area (AQMA 1, 3 and 5) score significantly higher / have a greater number of COPD emergency admission ratio when compared to the district average of 106.0. In addition, when analysing the AQMA areas as per the consultation, 2 areas (AQMA 1 and 7) score significantly higher / have a greater number of lung cancer incidence ratio when compared to the district average of 107.8.
Swale deprivation decile, 2019 (Kent deprivation deciles)	When analysing the AQMA areas as per the consultation, 3 areas (AQMA 1, 4 and 5) score moderately higher / have a greater number of individuals living within the deprivation decile.

In conclusion, any evidence-based intervention that is aimed at reducing air pollution can contribute to increased life expectancy and also help reduce premature deaths from cardiovascular and respiratory disease. We would encourage a focus on improving air quality as a whole, including interventions that reduce emissions, whilst also embracing measures that can be adopted at an individual level such as promoting active travel and awareness of the effects of air pollution on health. We would encourage the Council to maximise the potential health benefits of actions and potential associated co-benefits, such as increased physical activity; climate change mitigation and adaptation; road safety and anti-idling policies.
Recommendation: Swale BC to further understand the demographics of their local population, using the data links provided, so that residents affected by poor air quality within the existing AQMAs may be adequately supported.
Recommendation: Swale BC to consider undertaking borough wide air quality modelling exercise, based upon any proposed development in the Local Plan; ensuring there is a better understanding of the effects on future development upon air quality and any mitigation required.
Recommendation: Consider ways of disseminating messages about air quality; especially in poor air quality locations in Swale BC. Communications on air pollution alerts and information directed at vulnerable people (COPD and asthma) and information of health effects.
Recommendation: Focus on improving air quality as a whole, including evidence-based interventions that reduce emissions, whilst also embracing evidence-based interventions that can be adopted at an individual level, e.g., active travel, anti-idling policies, traffic restrictions around schools.

NB: The responses from this consultation have contributed to the decision-making process for Swale Borough Council's Air Quality priorities and measures outlined in section 5.

[27] ibid

Appendix B – Lynsted with Kingsdown Parish Council

SBC CONSULTATION on Air Quality Action Plan (2023-2028)

~ Response from Lynsted with Kingsdown Parish Council ~

CONTEXT/RATIONALE

SBC are obliged to take measures to reduce harmful pollutants below defined thresholds of harm identified by the European Union and, in due course, the thresholds identified by the World Health Organisation (WHO). The most pressing of harmful pollutants that need to be reduced is PM2.5, but this is not being measured at all by SBC. Instead, their primary focus is on NO2, which has been reducing at a national level through changes in Government/EU policies on emissions – e.g., HGVs and diesel fuel.

Broadly, SBC's response to their legal obligations is to rely on measurement of NO2 over which it has neither control nor accurate and timely measure within AQMAs. Worse still, within AQMAs where concentration of traffic and congestion has produced locally non-compliant levels of NO2, SBC relies on the notoriously inaccurate annualisation of periodic (one month) deployment of diffusion tubes along the A2 in Teynham/Lynsted.

This lack of granularity in the evidence-base means SBC simply cannot claim to 'meet' government targets neither for the four most harmful pollutants (NO2, PM2.5, PM10, and VOCs[1]) nor the intensity of harmful pollution events over one hour, one day, or one year.

SBC has introduced PM10 measurement in St Paul's Street (Sittingbourne) and Ospringe. They continue to reject "real-time" measurement uniformly across all declared AQMAs for all the pollutants identified in Government policy. This denies residents, workers and visitors any ability to judge their exposure to all four harmful products and change their behaviour accordingly, including active travel, gardening and exercising.

Rather than investing in their own network of comprehensive real-time monitoring stations for all pollutants in each AQMA, SBC officials rely on an argument of 'correlation' with 'equivalent' measurements found in Maidstone. SBC compares a fully urban topography with the through-traffic and congestion of AQMA5 [Source: Informal clarification by SBC Planning Officials at a public Working Group meeting in Swale House in July 2018 attended by LKPC].

Defra's examples of best practice promote the use of "real time" monitoring.
https://laqm.defra.gov.uk/air-quality/air-quality-assessment/detailed-modelling/

[1] Volatile Organic Compounds – which are also implicated in production of PM2.5 scale pollutants.

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- SBC should be invited to “take a lead” by integrating a harmonised ‘real time’ network of monitors covering all four traffic-related pollutants. This would:
    - give policymakers an honest view of the problem at different times of day and across the seasons.
    - give residents meaningful and timely information to inform their decisions on active travel, exercise, outdoor leisure pursuits, opening windows, enjoying gardens etc.

OBJECTIVES
SBC identified a series of ‘measures’ in their AQAP 2018-2022 that can and should be challenged on progress and/or validity/relevance. What is missing is an **evaluation**, which often happens with policies that “roll over” one year to the next.

For the 2023 ‘update’, residents and PCs are quizzed on their views on the *achievability* of a limited slate of ‘new’ ‘interventions’. If you say “no” to a question, you can elaborate in comment boxes on the following page.

> SBC’s overall objectives were (are?) (October 2018 AQAP Document):
> ***"Introduction***
> *This Air Quality Action Plan (AQAP) is being produced as part of the Council’s statutory duties required by the Local Air Quality Management framework. It outlines the strategic and local actions we will take to improve air quality in Swale Borough Council between 2018 and 2022.*
> *Our key priorities are to develop measures which deliver compliance of air quality objectives through a combination of strategic and local focused AQMA measures. We have identified measures which target reductions in emissions from vehicle fleets (HGV, LGV and cars), smooth traffic flows and reduce congestion and protect local communities."*

The Terms of Reference for the latest Consultation.

> *“The updated plan outlines how we’ll:*
> *- Set up more car clubs and new bike hire schemes*
> *- Install more electric vehicle charge points*
> *- Work with Kent County Council to improve bus services and public transport infrastructure*
> *- Explore traffic solutions such as creating one-way streets or installing chicanes to reduce or slow traffic in our AQMAs.”*

With the best will in the world, these ‘new ideas’ are little more than ‘greenwashing’ and are completely *out of scale* with the problems facing local communities - at least those communities outside our main towns. None of these can claim to make material inroads into the habitual reliance on private cars for domestic use and HGV/LGV use for commerce.

Indent 1: ***“We’ll set up more car clubs and new bike hire schemes”.*** A resident’s 24-hour manual count of traffic (21st/22nd July 2022) showed traffic volumes significantly higher (15,691) than the DfT manual count in 2019 (14,001 vehicles). This count predates the chaos created by M2/J5 shenanigans. Video files (x2) available on request.

The 2022 data reveals that 76.5% of traffic towards Faversham and 78.5% of traffic towards Sittingbourne is made up of private cars. In both directions there were only 27 bicycles (50% of which used pavements rather than the metalled road). Having more bicycles on hire is irrelevant to the conditions and lifestyles of people in the real world.

The national discussion of "active travel" is focussed solely on urban environments where distances are within the boundaries of willingness to use bicycles and alternative public transport exists.

In this context, the impact of Indent 1 is trivial and irrelevant to rural communities. Their impact on urban environments is also open to doubt.

The manual count referred to above reflects facts on the ground at a local level. At this local scale where the relationship between traffic and people is intimate – there are no mitigations. No opportunities to remove pollutants only feet away. National statistics for the period of Covid-19 dips in overall traffic at the height of the pandemic. At this national level, the differences between current and pre-2019 are narrowing. See, https://www.gov.uk/government/statistics/transport-use-during-the-coronavirus-covid-19-pandemic

Indent 2: ***"We'll install more electric vehicle charge points"***. Yet SBC has stated it has no plans to include Teynham/Greenstreet. We note in the consultation document under Q3 that the option to "explore opportunities for EV charge points at AQMAs" specifically excludes AQMA5. Why? Probably because SBC's thinking is well on its way to revoking AQMA5 based on flawed data. Without a perceived threat, the 'educational' value to our communities is discounted. However, this failure to install EV points in Teynham (pub car parks or the public car park) further downgrades the attractiveness and utility of investment in the future sustainability/relevance of Teynham/Lynsted.

Newington AQMA is comparable in topography/character but is not facing the same threats. *See Supplementary Note on AQMA5 status in SBC documentation below.*

Indent 3: ***"We'll work with KCC to improve bus services and public transport infrastructure".*** Is this an attempt to inject some humour into an otherwise dry subject? Public transport for rural communities has been emphatically revoked by KCC! The Council has withdrawn subsidies to private operators to run services that are not commercially viable. The consequence is that there will not be a single bus service in Lynsted with Kingsdown Parish and only an hourly service we understand along the A2 between Sittingbourne and Faversham. How exactly is SBC intending to work with KCC "to improve bus services" and what other "public transport infrastructure" are you referring to? The loss of 'feeder' services feels like the unintended consequences experienced after the Beeching hatchet-job on our railways.

This idea is another step in the process of cutting rural communities adrift to fend for themselves. In these circumstances, SBC may feel it has 'free licence' to dump on Greenstreet as it holds little value to them.

- Perhaps a more fruitful avenue for cooperation with KCC might include reclassifing/downgrading the KCC A2 stretch to make it less 'visible' to HGVs using satellite navigation. HGVs are not the problem on NOx but they are part of the generation of PM2.5 friction particles.

Indent 4: ***"We'll explore traffic solutions such as creating one-way streets or installing chicanes to slow traffic in our AQMAs".*** Traffic-calming measures are largely impossible along the A2 which provides a key emergency vehicle route in normal conditions but essentially during M2 incidents (or roadworks).

Current plans to reduce the speed-limit between Bapchild and Teynham/Lynsted to 30mph are largely irrelevant as speed throttling is designed to reduce severity of injury and death in

urban environments. Predominantly, that 'problem' only exists INSIDE Bapchild, Teynham and Ospringe. Is this idea preparatory to the coalescence of Teynham and Bapchild?

AQMAs are, almost by definition, the busiest and most congested environments. Further throttling 'by design' without reducing volume does very little to address the generation and impact of pollution. The evidence-base is ambiguous on how and whether speed restrictions are (a) observed and (b) effective in tackling pollution. This field of analysis is exclusively focussed on complex town and city conditions rather than a 'through route' between larger centres A and B.

Reducing traffic speed does not remove the count of vehicles and their generation and recirculation of friction particles as wind and traffic pass along the road surface. If friction particulates are to be reduced, there would need to be a change in driving behaviours (instead of braking/accelerating when vehicles are close to each other).

- Slower traffic reduces distances between vehicles with the consequence that there are fewer "pauses" creating opportunities for pedestrians to cross the A2.
- Shorter distances also lead to greater 'soot'/PM2.5 intake by following vehicles.
- TfL evidence base assessment. https://content.tfl.gov.uk/speed-emissions-and-health.pdf. Slower traffic does not correlate with, or lead to, reduced pollution - as traffic contends with the many dimensions of physical restriction and competition/conflict in driver (and pedestrian) decision-making.

If SBC succeed in revoking AQMA5, they can remove any need to address the impact on pollution and its harms from high volumes of transit traffic through a narrowed and built-up area where vehicles are suddenly exposed to complexity/vulnerabilities created by pedestrians, cyclists, rural lane ingress, parking, deliveries, agricultural traffic and large numbers of wide Commercial (HGV/LGV) traffic (20-22% of total traffic along the A2 at Teynham).

THE "MISSING INDENT" – Developments and pollution (NPPF)

Under NPPF, SBC is obliged to make decisions on planning that REDUCE impacts on AQMAs. They are obliged to consider "cumulative impacts" of their decisions.

Unable to address this linkage in AQMA5 it appears to be SBC's preferred option to revoke AQMA5. Removing this status opens up opportunities to dump housing in this area without consequences.

We strongly oppose the suggested revocation of AQMA5.

We recommend the following initiatives:

- An air quality strategy designed to reduce **volume** in order to have any impact. There should be a MORATORIUM (a new and direct Policy) on ALL planning proposals between the Eastern side of Sittingbourne and Ospringe.
- Introduce real-time, continuous measurement across all declared AQMAs for the four pollutants identified in Government policy - NO2, PM2.5, PM10, and VOCs.
- Enforcement of bicycle use of pavements as they now have stronger (paper) protection amongst other road-users.

In short,

- This consultation exercise is TRIVIAL in terms of its impacts and relevance in the real world;
- the likelihood of an attempt to revoke AQMA5 is the greater threat to our health and well-being because the decision is entirely dependent on NO2 measurement. It also threatens arguments against future development proposals.

NB: The responses from this consultation have contributed to the decision-making process for Swale Borough Council's Air Quality priorities and measures outlined in section 5.

Appendix B. Reasons for not pursuing some Action Plan Measures (2023 – 2028)

Table B.1. Reasons for not pursuing some Action Plan Measures

	2018 – 2022 measures	Comments
Strategic measures	HGV "Clear Air Corridor"	Clean Air Zone (CAZ) Feasibility study – Options for this was given thorough consideration. The non – charging CAZ option without enforcement, was not supported by the highway's authority. A package of priority measures is supported and incorporated in this AQAP update and Swale's Transport Strategy. These measures aim to improve active travel, reduce car use, improve traffic flow and improve the vehicle fleet along the A2.
	Air Quality and Low Emission Strategy	This measure has been removed, as we do not currently have an Air Quality and Low Emission strategy. Other action plans and strategies that this will come under include: AQAP 2023 – 2028; Climate and Ecological Emergency Action Plan (22 April 2020); SBCs EV Strategy. This measure could be revisited through the life of the AQAP.
	Development of Air Quality standards within new Local Plan	We have pulled together measures (Updated name Continue to develop Air Quality standards and guidance within the Local Plan Review and the Air Quality Planning and Technical Guidance), as both come under 'Policy Guidance and Development Control'
	"Clear Air Corridor" signage and information scheme"	Please see comments above
	KCC development control policies	Removed – please see above
	Swale Freight Management Plan (2016)	This measure has been removed. This will link with and be reported on through SBCs Transport Strategy.
	Eco Stars	This measure has been discontinued due to Eco-stars not having the Emissions Toolkit to measure the direct improvement on air quality from members implementing improvement measures. This could be revisited through the life of the AQAP if toolkits are improved.
Localised measures	Local school and business travel plans	This measure will be removed and will come under the air pollution alerts, information and to raise awareness on impacts and solutions
	Pinch-point parking alternatives (red-route)	Further research is required and is to be delivered as part of the Local Plan via any new developments. This will also be reviewed as part of the Explore AQMA specific traffic management options measure.
	"20 is plenty" zones	Edited – "20's plenty" zones – to be monitored and reviewed for AQMAs
	Quiet delivery zones	Measure removed because it has not been completed. To be reviewed as part of the Councils LCWIP.
	Local LEV car-club	Renamed: Car clubs and EV bike hire schemes on development and public spaces in line with Swales EV Strategy and CEE Action Plan.
Other measures not pursued	Explore opportunities to set up a Bus Gate – limiting LGV or HGV using St Paul's Street and cars on East Street	This measure will be included in the: Explore AQMA specific traffic management options measure
	Cut back and regular maintenance of trees on KCC owned land that are creating canyon effects and reducing air quality	This measure was reviewed by SBC and KCC officers. Agreed no enforcement powers to control overgrown treetops along Keycol Hill as trees are privately owned and were not causing Health and Safety issues along the highway.
	Distribution Hub	The distribution hub will be reviewed as part the councils LCWIP
	Explore incentives for business electric vehicle charging/ ownership - replacement for the older car and LGV fleet.	Recorded as a high to very high cost for the Council. Feasibility of this measure is very low. Limitations in funding and staff resource for this action during this AQAP period. This could be revisited through the life of the AQAP.
	Promote and encourage active travel and change of transport modes	This was considered less achievable as a measure on its own in the public consultation. This will come under air pollution alerts, information and to raise awareness on impacts and solutions measure.
	Review low emission taxi licencing and explore promotional opportunities for endorsement of low emission vehicles	Feasibility of this measure is low with low air quality improvements.

Appendix C. Monitoring measures

Table C1. Monitoring measures

Measure		Monitoring options	Other performance indicators
1	**Continue to develop Air Quality standards and guidance within the Local Plan Review and the Air Quality Planning and Technical Guidance**	Implementation of policy and planning responses	Number of effective mitigation measures provided through development
		Fixed traffic counts to compare with SBCs 2017 Local Plan Transport model data – may commission additional recordings to compare years	Data collected from travel plans
		NO_2 and Particulate monitoring	
2	**Complete a Local Cycling and Walking Infrastructure Plan (LCWIP) for the district and work with KCC to improve of Swale's walking and cycling infrastructure**	To consider commissioning the installation of walking and cycling counters in fixed or mobile positions. Best counter locations are where width is constricted, and adjacent vehicular traffic is limited. Costs for equipment and operating/maintenance costs for five years should be considered within costs for all large-scale walking and cycling improvements to measure the pre and post intervention levels of active travel journeys. The collation of walking and cycling figures can also measure the success of development plans e.g., LCWIPS, and behaviour change programs.	Completion of improved walking and cycle routes
		Data collection for LCWIP: use existing traffic data; analyse traffic flows, origin, and destination traffic data to evaluate level of intervention needed; Dft traffic data; Swale Local Plan traffic data model; Censors**.** Ensure that when traffic data collated for other purposes and includes walking and cycling counts, this information is centralised.	More people walking and cycling
		Work with volunteer groups to record active travel journeys to measure the success of specific active travel improvements.	
3	**Air pollution alerts, information and to raise awareness on impacts and solutions**	Kentair subscriber uptake	
4	**To apply for Defra Air Quality Grant scheme to facilitate funding for the most suitable AQAP measures**	Monitor the number of bids and each successful project. Monitoring will be shown in each project schedule.	
5	**To reduce emissions from activities with Environmental Permits**	Emissions data collected through Environmental Permit inspections	
6	**"20 is plenty" zones - to be monitored and reviewed for AQMAs**	Newington will be assessed through continuous air quality monitoring to see if any long-term air quality changes occur within the AQMA.	
		Work with volunteer groups and the Parish Council to identify if active travel has improved in Newington	
7	**Continue to improve and develop the EV infrastructure in line with the Electric Vehicle Strategy 2022-2030**	No. of charge points/ No. charge points per population. Usage of charge points.	
8	**Explore AQMA specific traffic management options**	Fixed traffic counts to compare with SBCs 2017 Local Plan Transport model data – could commission additional recordings to compare changes in traffic flow overtime. Developers may have done some addition monitoring that could be used.	Number of measures and positive performance monitoring data
		SBC and KCC officers are working together to explore AQMA specific traffic management options. Impacts will be investigated as part of the decision-making process. For example, St Paul's Street traffic relief options for a one-way streets system; parking restrictions; additional parking; minor walking & wheeling improvements and other traffic calming options	
9	**Continue anti-idling enforcement and educational campaign**	Monitor NO_2 at hotspot areas	
		Record number of cars idling and approached by Environmental Enforcement Wardens. Compare data overtime. Liaise with schools to see if they have noticed a difference in the number of cars idling since the campaign	
10	**Car clubs and EV bike hire schemes on development and public spaces in line with SBC EV Strategy, Climate Ecological Emergency plan (CEE).**	Scheme utilisation and statistics from KCC through the Kent and Medway Energy and Low Emissions Strategy (ELES), as well as feedback through the CEE	

11	**Work in partnership with Medway Council and Kent County Council to agree mitigation and mechanism to manage transboundary impacts from development on air quality between Newington and Rainham.**	NO_2, PM_{10} and $PM_{2.5}$ monitoring. Other monitoring can be considered when mitigation is agreed.	
12	**Explore opportunities for EV charge points at AQMA's: Newington (Village Hall), Ospringe (SBC car park), East Street (Tesco car park or nearby schools) St Paul's Street (businesses nearby)**	EV registrations in Swale	
13	**Public transport improvements to bus infrastructure/service**	Quarterly reporting of data from bus operators of passenger uptake and progress reporting from KCC on funding or resource support opportunities for bus operators. Record lobbying actions by members.	Greater uptake of usage

Appendix D. Explanation on evaluating the cost effectiveness and rag rating of measures

A cost-effective assessment was first applied to all measures and rag ratings were added relative to their progress status. The cost-effective assessment total values were given relative to the feasibility, and air quality and non- air quality benefit value shown below. This information was then discussed and assessed against the cost using the cost effectiveness criteria shown in table D1. Table D2 provides an example of this and table D3 provide the complete list of all scored measures that are being taken forward in this AQAP.

The table below provides a suggested means of describing the cost effectiveness for options using a cost band (high-medium-low) ascribed to each proposed measure against four cost descriptors. The 'High' is greater than £200K, 'Medium' is between £50K and £200K, and 'Low' is less than £50K. All variables were then used to prioritise the measures relative to their total numerical score relative to their cost effectiveness. The objective of the exercise was to prioritise a number of proposed options and measures that have been identified through the steering group.

Table D1. Example of cost effectiveness criteria used

		Cost			
		Very High	**High**	**Medium**	**Low**
Air quality impact	**High**	Medium	Medium	High	Very high
	Medium	Low	Low	Medium	High
	Low	Very low	Very low	Low	Medium

Example:

Measure: Complete a Local Cycling and Walking Infrastructure Plan (LCWIP) for the district and work with KCC to improve of Swale's walking and cycling infrastructure.

This measure is prioritised as 'medium' cost effectiveness scoring measure because it provides high non-air quality impacts and medium air quality benefits, with a medium cost estimate (£50K and £200K). For air quality improvements it was given medium impact (score: 3) as the air quality benefits are variable. This is because district and county council can improve the walking and cycling infrastructure, however, to ensure an air quality improvement is made it requires a dual factor dependent on a public behaviour change and pressures of convenience.

Practicality was considered and with this measure already underway, it was given a high feasibly score (score: 4).

Table D2. Example to explain process for prioritising measures

Proposed Measure	**Cost Effectiveness**	**Cost**	**Reduces PM2.5 emissions**	**Effect on reducing NOx and PM10 emissions (low, medium, high)**	**Non AQ Impacts**	**Feasibility**	**Total**	**Timescale**
	See Matrix below	**High, Medium, or low**		**1 = Low**	**1 = Low**	**1 = Low**		**Short = <1yr**
				5 = High	**5 = High**	**5 = High**		**Med = <5yr**
								Long = > 5yr
Complete an LCWIP for the district and work with KCC to improve of Swale's walking and cycling infrastructure	Medium	Medium	✔	3	4	4	11	Long = > 5yr

The rag rating colour code of red, yellow, and green have been applied to all measure's relative delivery or funding status.

Action on hold, significantly behind schedule with a risk of non-delivery or not started, or does not have funding	**Action changed and/or timeline revised, but on track for delivery. Further or additional funding is needed which may cause some delay in delivery**	**Action on track or completed**

Table D3. Cost effectiveness assessment used to prioritise measures

Defra Technical Guidance TG22 has provided guidance on the impacts of measures Table A.1 – Action Toolbox

Measure number	Proposed Measure	Cost Effectiveness	Cost	Reduces PM2.5 emissions	Effect on reducing NOx and PM10 emissions (low, medium, high)	Non AQ Impacts	Feasibility	Total	Timescale
		See Matrix below	High, Medium, or low		1 = Low 5 = High	1 = Low 5 = High	1 = Low 5 = High		Short = <1yr Med = <5yr Long = > 5yr
1	Continue to develop Air Quality standards within new Local Plan and KCC development control policies	High	Low	✔	3	3	5	11	Med = <5yr
2	Complete an LCWIP for the district and work with KCC to improve of Swale's walking and cycling infrastructure	Medium	Medium	✔	3	4	4	11	Long = > 5yr
3	Air pollution alerts, information and to raise awareness on impacts and solutions	Medium	Low	✔	2	3	5	10	Short = <1yr
4	To apply for Defra Air Quality Grant scheme to facilitate future funding for AQAP measures	Medium	Low	✔	2	4	5	11	Med = <5yr
5	To reduce emissions from activities with Environment al Permits	High	Low	✔	3	2	4	9	Short = <1yr
6	“20's plenty” zones - to be monitored and reviewed for AQMAs	Medium	Low	✔	1	4	4	9	Med = <5yr
7	Continue to improve and develop the EV infrastructure within the district	Low	High	✔	3	2	4	9	Med = <5yr
8	Explore AQMA specific traffic management options	Medium	Medium	✔	3	3	3	9	Med = <5yr
9	Continue anti-idling enforcement, signage and educational campaign	Medium	Low	✔	1	2	5	8	Short = <1yr
10	Car clubs and EV bike hire schemes on development and public spaces in line with SBC EV Strategy, CEE plan.	Low	Medium	✔	1	3	4	8	Med = <5yr
11	Work in partnership with Medway Council and KCC to agree mitigation and mechanism to manage transboundary impacts from development on air quality between Newington and Rainham.	Low	Medium	✔	2	3	3	8	Long = > 5yr
12	Explore opportunities for EV charge points at AQMA's: Newington (Village Hall), Ospringe (SBC car park), East Street (Tesco car park or nearby schools) St Paul's Street (businesses nearby); Teynham (Parish car park)	Low	Medium	✔	2	2	3	7	Med = <5yr
13	Public transport improvements to bus infrastructure/service	Low	Very high	✔	3	2	2	7	Long = > 5yr

Appendix E. Additional supporting reports

Swale Strategic AQAP 2018 - 2022 reports:

Report 1: Source Apportionment and Options Assessment [28]
Report 2: Swale Borough Council AQAP Consultation Committee Report (November 2022)[29]
Report 3: Source Apportionment Study at St Paul's Street AQMA 4 (2021). Available on request
Report 4: Clean Air Zone Feasibility study (2020)[30]

[28] Report 1: Source Apportionment and Options Assessment https://services.swale.gov.uk/meetings/documents/s9627/Appendix%20II.pdf
[29] Swale Borough Council AQAP Consultation Committee Report (November 2022 https://services.swale.gov.uk/meetings/documents/s24524/SBC%20Report_Committee%20System%20-%20AQAP_final_20_10_22%20-%20Final%20Final.pdf
[30] Clean Air Zone Feasibility study (2020) https://services.swale.gov.uk/meetings/documents/s16026/CAZ%20Appendix%20I.pdf

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
CAZ	Clean Air Zone
Defra	Department for Environment, Food and Rural Affairs
DfT	Department for Transport
EU	European Union
JAQU	Joint Air Quality Unit (Defra and DfT)
LAQM	Local Air Quality Management
NO_2	Nitrogen Dioxide
NO_x	Nitrogen Oxides
PM_{10}	Airborne particulate matter with an aerodynamic diameter of 10µm (micrometres or microns) or less
$PM_{2.5}$	Airborne particulate matter with an aerodynamic diameter of 2.5µm or less
HCPs	Health Care Practitioners

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