

**GUILDFORD BOROUGH COUNCIL AND
SURREY COUNTY COUNCIL**



**GUILDFORD
BOROUGH**

GUILDFORD JOINT COMMITTEE

DATE: 21ST OCTOBER 2021

**LEAD OFFICER: GARY DURRANT, SENIOR SPECIALIST - ENVIRONMENTAL
PROTECTION (GBC)**

**SUBJECT: GUILDFORD TOWN CENTRE, AIR QUALITY MANAGEMENT
AREA**

**DIVISIONS: GUILDFORD SOUTH EAST, GUILDFORD SOUTH WEST
WARDS: FRIARY AND ST NICHOLAS, HOLY TRINITY**

SUMMARY OF ISSUE:

Guildford Borough Council air quality monitoring during 2018 and 2019 indicated that the annual national air quality objective for nitrogen dioxide may be exceeded at two locations in Guildford Town Centre. A detailed assessment of air quality within Guildford Town Centre determined that there are a number of residential properties at which levels of nitrogen dioxide exceed the air quality standard.

The Council has a statutory duty, under Section 83 of the Environment Act 1995, to declare an 'air quality management area' (AQMA) where a breach of the air quality standard has occurred.

The report proposes that the Council designate an 'air quality management area' for the pollutant nitrogen dioxide within the area and roads shown in Appendix 1.

RECOMMENDATIONS:

The Guildford Joint Committee is asked to:

- i. Agree that Guildford Borough Council designate an Air Quality Management Area as identified within the bold purple area shown in Appendix 1.
- ii. Authorise the Director of Service Delivery, Guildford Borough Council, to make the Order required under Section 83 of the Environment Act 1995 to implement recommendation (i).

REASONS FOR RECOMMENDATIONS:

To ensure the Council meets its statutory duties to designate an air quality management area and to improve air quality in an area of Guildford Town Centre.

1. INTRODUCTION AND BACKGROUND:

- 1.1 The purpose of the report is to provide details on the requirement to designate an Air Quality Management Area (AQMA) in an area of Guildford Town Centre due to breaches of the national annual mean level of nitrogen

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dioxide air quality standard (National Air Quality Objectives and European Directive limit and target value for the protection of Human Health).

Local Air Quality Management background

- 1.2 The Environment Act 1995 introduced the current system for Local Air Quality Management and requires every Local Authority to carry out a review of the current air quality and the likely future air quality within its area.
- 1.3 In carrying out the review, the Local Authority must assess whether air quality standards and objectives are being achieved or are likely to be achieved. The objectives are set out in the Air Quality (England) Regulations 2000, as amended by the Air Quality (England) (Amendment) Regulations 2002 and the UK Air Quality Strategy (DEFRA 2007).
- 1.4 To determine if there is an exceedance of the nitrogen dioxide (NO₂) objective at any location in the Borough a monitoring network of approximately 35 passive diffusion tubes, established for over 20 years, is in operation. We review the sites periodically to ensure we are monitoring in locations that could potentially exceed air quality objectives and meet the criteria specified in the Defra technical guidance.
- 1.5 The Government's Air Quality Strategy objectives and limit values for NO₂ are:
 - an annual mean concentration of 40 µg/m³; and
 - a one-hour mean concentration of 200 µg/m³, not to be exceeded more than eighteen times per year.
- 1.6 Results from NO₂ air quality monitoring along with actions taken to improve air quality across the Borough are in the Annual Status Reports (ASR) required by Defra.
- 1.7 If there are breaches or predicted breaches of air quality objectives the Council is legally required to designate an air quality management area (AQMA).
- 1.8 There are over 700 active AQMAs designated across UK Local Authorities, mostly for NO₂ with England accounting for nearly 600 of the AQMAs.
- 1.9 Guildford Borough has two existing AQMAs in Compton and Shalford. Both locations have active air quality action plans in place.

2. ANALYSIS:

- 2.1 In 2018 following the annual review of monitoring data across the Borough, the Council commenced a detailed and targeted monitoring strategy within the town centre as data indicated there may be breached in limit values for NO₂. Passive diffusion tubes were sited at locations where breaches in limit values were more likely to occur. Relevant factors were: traffic volumes, residences in close proximity to main roads on town centre approaches and topography such as canyons and gradients.

- 2.2 Particular focus of the new monitoring location was on the A31 Farnham Road, A3100 Portsmouth Road, A281 Horsham Road, A25 Woodbridge Road, Stoke Road and Woodbridge Road York Road.
- 2.3 The locations of the monitoring points are shown in in the table below

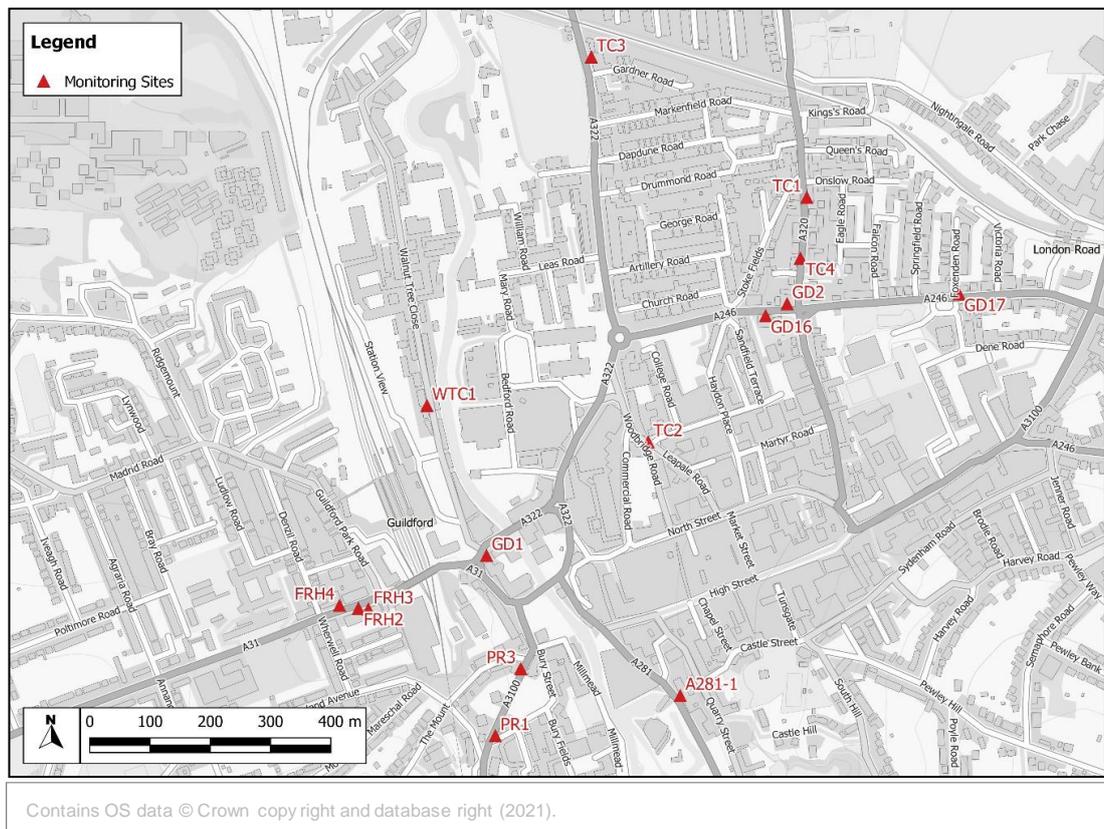


Figure 1 GBC diffusion tubes monitoring locations

- 2.4 The 2019 monitoring results reported in the 'Guildford Borough Council Annual Status Report 2020' concluded that a detailed assessment was required because two monitoring points (one on the Portsmouth Road (PR1) and one on Millbrook, Horsham Road A281-1) exceeded the annual mean national air quality objective concentration of $40 \mu\text{g}/\text{m}^3$. The purpose of the detailed assessment is to define the whole area of exceedance and understand the reasons.
- 2.5 During 2020 the Covid 19 pandemic restrictions heavily influenced the traffic flows in and around the study area, hence the results for 2020 are not considered as accurate in terms of the annual mean and were not used within the detailed assessment.

Detailed assessment and dispersion modelling

- 2.6 In March 2021 specialist consultants Air Pollution Services were commissioned to carry out a detailed assessment and modelling on the conditions relating to the nitrogen dioxide levels in the Guildford town centre area. The study area considered in the detailed assessment is shown in Figure 2 below:

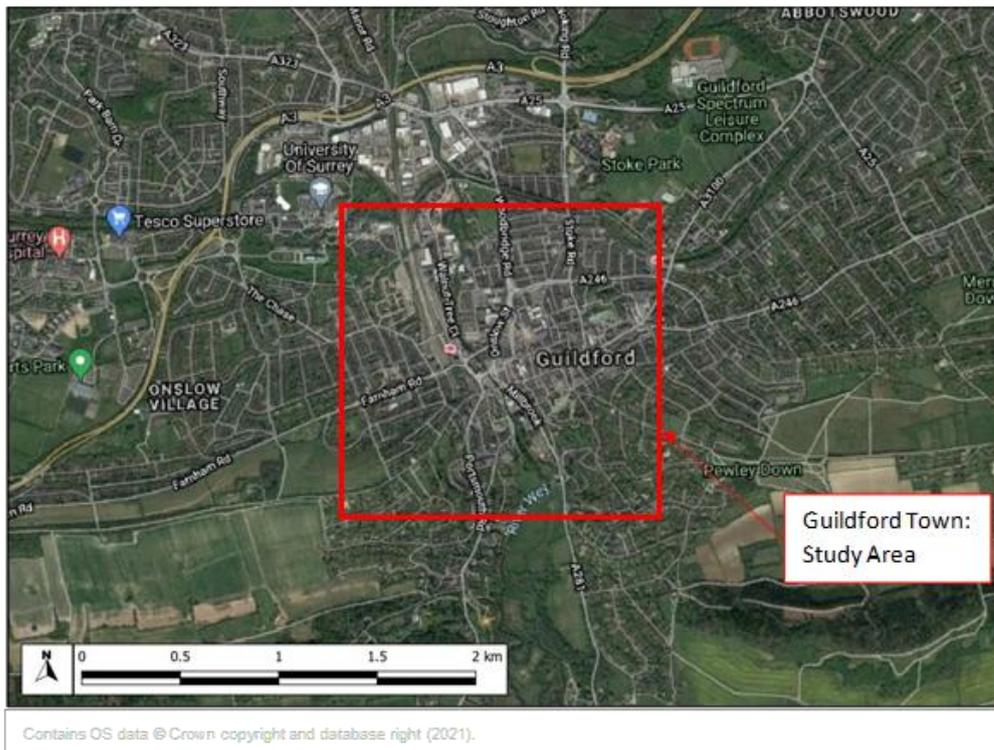


Figure 2 Detailed AQ Assessment Study Area

- 2.7 The detailed assessment and prediction of annual mean NO₂ concentrations have been predicted using the ADMS-Roads atmospheric dispersion model (v5). It is a validated package that is used throughout the country and is an accepted tool used by many local authorities.
- 2.8 The model requires a range of key inputs which are: traffic flow and speed data provided by Surrey County Council; receptors' locations and distances from the kerb; road link lengths, widths, and heights, the street canyons and the road gradients in the study area.
- 2.9 The air quality modelling predicted the NO₂ annual mean concentrations for 2019 within the study area. This modelling approach was adopted because the 2020 traffic data is likely to have been impacted by the Covid-19 restrictions.

2.10 The Figure 3 below presents the contour of predicted NO₂ concentrations:

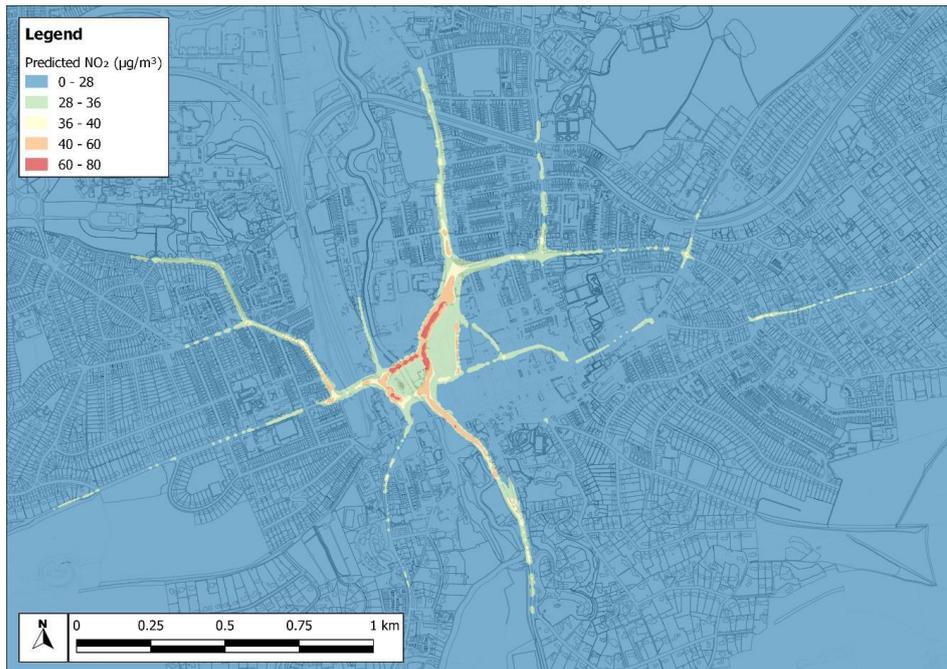


Figure 3 Contour plot of predicted NO₂ concentrations

2.11 The results suggest that there are potential exceedances of the annual mean or 1-hour NO₂ AQO at the following five roads:

- Onslow Street – Although predicted concentrations exceed the annual mean NO₂ AQO, there is no relevant exposure on this street. An AQMA in this area is not needed, but any future development plans must be considered for suitability if relevant exposure is introduced.
- Bridge Street: Potential exceedances of the 1-hour mean NO₂ AQO (of 200 µg/m³) have been predicted along the pavement. The queuing is likely here by the patrons of licensed establishments. The street is also regularly used as main thoroughfares for users of the train station.
- Millbrook (A281) – Exceedance has been predicted at several properties along this road.
- Commercial Road – There are currently no relevant exposure on this road; however, there are redevelopment proposals including residential use currently seeking planning permission in this area.
- Park Street – Concentrations have been predicted to exceed the annual mean NO₂. The relevant exposures are only located to the west side of the Park Street.

2.12 The source apportionment is a vital part of this detailed assessment study and will be used as baseline data to formulate the future Air Quality Action Plan. The main sources of NO₂ are cars and background levels, which together contribute over half the NO₂ in the areas of potential exceedance. Therefore, any plan to improve air quality should focus on these vehicles. In addition, HGVs, LGVs and buses/coaches are also important contributors to be considered in the Park Street/Bridge Street area.

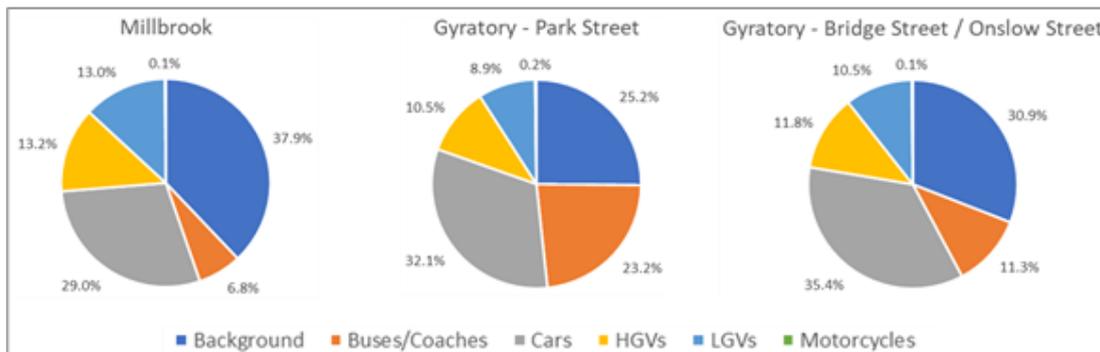


Figure 4 Approximate source apportionment of NO₂

- 2.12 Figure 5 below shows the extent of the proposed AQMA and considers the area where either the potential current exposure is located or may be in the very near future.
- 2.13 A precautionary approach has been taken by using a delineation line based on the annual mean concentration of 38 µg/m³, in contrast to 40 µg/m³ objective level.
- 2.14 The recommended AQMA is centred on Millbrook, Commercial Road, and the Park Street, Bridge Street/Onslow Street sections of the Gyratory. It also includes a section of Portsmouth Road due to measured exceedance in 2018 on AQO at a diffusion tube located at the Wycliffe Buildings.
- 2.15 The precautionary approach is supported by including parts of Farnham Road, Guildford Park Road, Street, North Street (between the Gyratory and Commercial Road) and Woodbridge Road (between Leas Road and Commercial Road). Adoption of these roads will help to focus the air quality action plan on the promotion measures that help reduce pollution both in the areas with exceedances and those with a risk of future exceedances.
- 2.16 Furthermore, an area of North Street (between the Gyratory and Commercial Road) requires examination of the relevant 1 hour mean air quality objective for nitrogen dioxide.

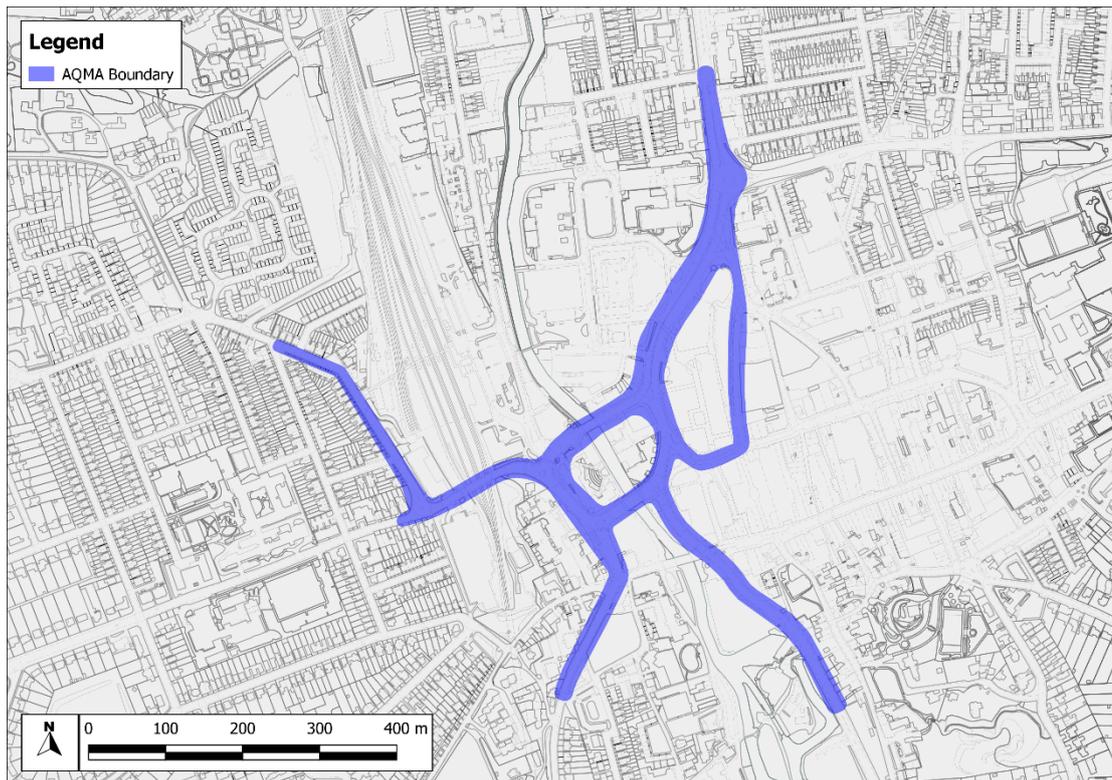


Figure 5 Proposed Guildford town centre AQMA

- 2.17 The report which can be read and which fully explains the reasoning and extent of the area to be declared is included in Appendix 1.
- 2.18 The report concluded with a recommendation to declare an Air Quality Management Area as shown in Appendix 3.
- 3. OPTIONS:**
- 3.1 As the Council must declare an Air Quality Management Area the options are limited to:
- A. Designate an Air Quality Management Area in Guildford Town Centre as shown in Appendix 3 based on the modelled delineation of the annual mean concentration of 38 $\mu\text{g}/\text{m}^3$.
 - B. Designate an Air Quality Management Area over a larger geographical area beyond the modelled delineation of the annual mean concentration of 38 $\mu\text{g}/\text{m}^3$.
- 3.2 Option A is a clearly defined area based on the results of the detailed air quality assessment. The modelling and monitoring results provide sufficient evidence to demonstrate a breach of the 40 $\mu\text{g}/\text{m}^3$ annual mean NO_2 air quality objective. Following consultation, the precautionary approach was more appropriate hence the amended 38 $\mu\text{g}/\text{m}^3$ delineation is proposed.
- 3.3 Option B is open to interpretation and declaring a larger area where the air quality limits are not in exceedance would distract attention and efforts from

areas where there is a known breach. As the current recommendation goes beyond the national objective level, it represents a precautionary approach, which may be subject to challenge from Defra. However, declaring an even larger area whilst potentially having greater benefit in improving air quality over an increased area it would be harder to justify. Measures over a wider area could be implemented outside this process as part of the GBC Air Quality Strategy or other policies.

- 3.4 Therefore, to ensure the Council meets its statutory duty to designate an AQMA, where there is a breach of the air quality objectives, officers recommend Option A.

4. CONSULTATIONS:

- 4.1 Following discussions with Councillor Jan Harwood, Lead Member for Environment, Guildford Borough Council, he supports the designation of the AQMA as described.
- 4.2 We have briefed the Borough ward members for Friary and St Nicholas (Councillors Angela Goodwin, Tom Hunt and Cait Taylor) and ward members for Holy Trinity (Councillors Maddy Redpath, John Redpath and John Rigg). Councillor Angela Goodwin is also the County Councillor for the Guildford South West Division. Councillor Fiona Davidson is the County Councillor for the Guildford South East Division. The County Cabinet Member for Highways Councillor Matt Furniss and the Vice Chair of the Joint Committee Councillor Fiona White have also been consulted.
- 4.3 We consulted an officer group of highways and transport planning officers from SCC and colleagues from planning, transport policy and major projects within the Borough Council.
- 4.4 We will advise the residents of properties within the proposed AQMA area and Experience Guildford before declaration plus formally consulted with them at the draft action plan stage.

Legal Implications

- 4.4 The provisions of Part IV of the Environment Act 1995 (the Act) establish a national framework for air quality management, which requires all local authorities in England, Scotland and Wales to conduct local air quality reviews.
- 4.5 Section 82(1) of the Act requires these reviews to include an assessment of the current air quality in the area and the predicted air quality in future years. Should the reviews indicate that the objectives prescribed in the UK Air Quality Strategy (DEFRA 2007) and the Air Quality (England) Regulations 2000 as amended will not be met, the local authority is required under Section 83(1) of the Act to designate an Air Quality Management Area.
- 4.6 To designate an AQMA the Council must make an Order containing the following details:
- Date the order will come into force

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- The pollutants to which it relates and the relevant objective exceedance
- Map of area to be designated
- Description of the area

4.7 Defra and members of the public must be made aware of the Order.

4.8 Guildford Borough Council must then produce and consult on an action plan, which details the proposed actions to ensure that air quality in the area improves.

5. FINANCIAL AND VALUE FOR MONEY IMPLICATIONS:

5.1 Currently there are no immediate financial implications with the assessment and air quality action plan (AQAP) being produced within budget.

5.2 Subject to the draft AQAP, subsequent consultation and approval of the final action plan finance will need to be reviewed, as it is anticipated that additional resources will be required to implement the measures approved in any action plan.

6. EQUALITIES AND DIVERSITY IMPLICATIONS:

6.1 No significant implications.

7. LOCALISM:

7.1 The declaration of the AQMA has no direct impact on any particular community. As the proposal affects the main town centre and administrative hub, it is intended to conduct a wide-reaching public consultation on the resultant draft air quality action plan.

7.2 The scope of consultation will include businesses, residents, workers, visitors and organisations operating within the designated area, who will be asked to comment on any benefits and/or disadvantages.

8. OTHER IMPLICATIONS:

Area assessed:	Direct Implications:
Crime and Disorder	No significant implications arising from this report.
Sustainability (including Climate Change and Carbon Emissions)	Set out below.
Corporate Parenting/Looked After Children	No significant implications arising from this report.
Safeguarding responsibilities for vulnerable children and adults	No significant implications arising from this report.
Public Health	Set out below.
Human Resource/Training and Development	No significant implications

8.1 Sustainability implications

It is predicted that there will be a reduction in carbon emissions as a result of implementing any action plan.

8.2 Public Health implications

There are predicted improvements in air quality, which will benefit those living, working and visiting in the vicinity of the AQMA.

9. CONCLUSION AND RECOMMENDATIONS:

9.1 A detailed air quality assessment and dispersion modelling has been carried out of Guildford Town Centre. The study has identified an area including a number of roads, which exceeds the annual mean objective for nitrogen dioxide. The Council is therefore required to designate an AQMA.

9.2 Officers recommend the Committee support the recommendations detailed in sections 3.1 to 3.5.

10. WHAT HAPPENS NEXT:

10.1 Subject to the recommendation being agreed, the Order to designate the said area of Guildford Town Centre will be signed and submitted to Defra. A draft is set out in Appendix 2.

10.2 A draft air quality action plan (AQAP) will be produced by a technical officer working group with representatives from Council's. The action plan identifies measures that are required to bring the air quality within the AQMA to below the national objective level for nitrogen dioxide. This will be presented to the March 2022 Joint Committee seeking approval for a public consultation.

10.3 The draft AQAP will be subject to a public consultation in January 2022. Subject to the consultation being completed the final AQAP will be presented to the 16 March 2022 Guildford Joint Committee for approval.

10.4 The final approved AQAP will immediately be submitted to Defra and implementation measures will commence on confirmation that they are satisfied with the content.

Contact Officer:

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Consulted:

Surrey County Council: William Bryans, Transport Studies and Frank Apicella, Area Highways Manager.

Guildford Borough Council: Director of Service Delivery, Corporate Management Team, Legal Services, Policy Planning, Majors Team, Finance, Communications Team and Human Resources

Annexes:

Appendix 1 – Detailed Assessment of Air Quality in Guildford Town Centre (Air Pollution Services)

Appendix 2 – Draft Order to declare an Air Quality Management Area in Guildford Town Centre

Appendix 3 – Map of proposed Air Quality Management Area in Guildford Town Centre

Sources/background papers:

Local Air Quality Management, Policy Guidance (PG16), Defra, April 2016
<https://laqm.defra.gov.uk/documents/LAQM-PG16-April-16-v1.pdf>

Local Air Quality Management, Technical Guidance (TG16), Defra, April 2016
<https://laqm.defra.gov.uk/technical-guidance/>

Air Quality (England) Regulations 2000
<http://www.legislation.gov.uk/uksi/2000/928/contents/made>

The Environment Act 1995 <https://www.legislation.gov.uk/ukpga/1995/25/contents>

The Air Quality (England) (Amendment) Regulations 2002
<http://www.legislation.gov.uk/uksi/2002/3043/contents/made>

UK Air Quality Strategy (DEFRA 2007)
https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/69336/pb12654-air-quality-strategy-vol1-070712.pdf

Guildford Borough Council - Annual Status Reports and air quality monitoring results
<https://www.guildford.gov.uk/article/19807/Air-quality-monitoring>

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