

Local Plan Panel Meeting	
Meeting Date	8 th October 2020
Report Title	Air Quality Modelling for the Swale Local Plan Review
Cabinet Member	Cllr Mike Baldock, Cabinet Member for Planning
SMT Lead	James Freeman
Head of Service	James Freeman
Lead Officer	Anna Stonor
Key Decision	No
Classification	Open
Recommendations	It is recommended that Members note the content of the draft Air Quality Modelling Report and Technical Note and recommend to the Cabinet that it be finalised and published and used as part of the evidence base for the Local Plan Review.

1 Purpose of Report and Executive Summary

- 1.1 As part of the Local Plan Review (LPR), air quality modelling of the impacts of the emerging local plan has been undertaken.
- 1.2 The air quality modelling for the Swale Local Plan Review has been carried out by Sweco's Air Quality Technical Team, led by Jennifer Simpson. Jennifer has over 25 years' experience in air quality and is the co-chair of the Environmental Protection Scotland (EPS) Air Quality Expert Advisory Group (AQEAG). The team are currently supporting a number of local authorities across the UK in assessing air quality within their areas through measurement; air quality dispersion modelling and assisting the development of Air Quality Action Plans and Clean Air Plans. As such the team at Sweco are well placed to support Swale Borough Council in assessing the air quality impacts of the Local Plan Review.
- 1.3 The Sweco Transport Team have been working with Kent County Council and Swale Borough Council over several years in developing the Swale Highway Model. The air quality modelling is carried out by a separate team within Sweco. However, transport and air quality are intertwined issues and the air quality and transport teams have worked closely together to deliver this report.
- 1.4 The Air quality modelling DRAFT report is attached as Appendix I. The technical elements of the report are included in a Technical Note. Once finalised both parts of the report will be published and made available on the Council's website (<https://www.swale.gov.uk/the-emerging-local-plan/>).

2 Background

- 2.1 Air Quality is an issue of significant concern to residents, businesses and the Council within Swale. There are currently 5 declared Air Quality Management Areas within the borough at: Newington High Street; Ospringle Street, Faversham; East Street, Sittingbourne; St Paul's Street, Sittingbourne; and London Road, Teynham. All of these have been declared for exceedances relating to nitrogen dioxide (NO₂). An AQMA at Keycol Hill is soon to be declared for exceedances of NO₂ and the AQMA at St Paul's Street is to be amended to include exceedance of Particulate Matter (PM₁₀).
- 2.2 Paragraph 180 of the NPPF states that 'Planning policies and decisions should ... ensure that new development is appropriate for its location taking into account the likely effects (including cumulative effects) of pollution on health, living conditions and the natural environment, as well as the potential sensitivity of the site or the wider area to impacts that could arise from the development'. Paragraph 181 adds that 'Planning policies and decisions should sustain and contribute towards compliance with relevant limit values or national objectives for pollutants, taking into account the presence of Air Quality Management Areas and Clean Air Zones, and the cumulative impacts from individual sites in local areas. Opportunities to improve air quality or mitigate impacts should be identified, such as through traffic and travel management, and green infrastructure provision and enhancement. So far as possible these opportunities should be considered at the plan-making stage, to ensure a strategic approach and limit the need for issues to be reconsidered when determining individual applications. Planning decisions should ensure that any new development in Air Quality Management Areas and Clean Air Zones is consistent with the local air quality action plan.'
- 2.3 Planning Practice Guidance states that 'It is important that the potential impact of new development on air quality is taken into account where the national assessment indicates that relevant limits have been exceeded or are near the limit, or where the need for emissions reductions has been identified.' Later it states 'consideration of air quality issues at the plan-making stage can ensure a strategic approach to air quality and help secure net improvements in overall air quality where possible'. The PPG also makes clear that 'air quality is also an important consideration in habitats assessment (HRA), strategic environmental assessment and sustainability appraisal which can be used to shape an appropriate strategy, including through establishing the 'baseline', appropriate objectives for the assessment of impacts and proposed monitoring'. Sweco have liaised with the Council's HRA consultants, Aecom, during this study and have included receptors requested by those consultants which will assist the HRA process.
- 2.4 The air quality modelling study has been carried out in close co-operation with the Council's Environmental Health team.
- 2.5 The main source of air pollution in Swale is vehicle emissions. As such the air quality modelling which has been undertaken is based on the transport modelling undertaken by Sweco and reported to Local Plan Panel in June 2020. Details of

the transport modelling can be found in the background papers listed at the end of this report.

2.6 Section 2 of Appendix I outlines the background to the study and the approach taken to the modelling. As with the transport modelling this study looked at two main scenarios of growth to 2037 (the end date of the Local Plan Review):

- 776 dwellings per annum plus employment sites to 2037
- 1054 dwellings per annum plus employment sites to 2037

2.7 To understand the impacts of the local plan review on air quality the model:

- Chose 2017 as the baseline year as this was the base date of the transport model
- In line with the transport model, the air quality model produced results for the following:
 - 2017 base year
 - 2027 reference case (projection to 2027 as if LPR development was not happening)
 - 2037 forecast year reference case (projection to 2037 as if LPR development was not happening)
 - 2037 forecast year for 776 dwellings per annum plus employment
 - 2037 forecast year for 1054 dwellings per annum plus employment
- Also modelled results for 2019 in order to compare results with measurements taken for that year.
- Examined the impact on NO₂ and PM₁₀ (bearing in mind that in 2017 there were 85 locations measuring NO₂ and only 1 measuring PM₁₀)
- Carried out Dispersion Modelling – a computer simulation which predicts the dispersion of emissions from a variety of sources in the atmosphere
- Examined road layout and geometry, including road width, street canyon height and road elevation as well as flow, volume and speed of traffic
- Used air quality background data as provided by Defra
- Examined impact at 155 sensitive receptors which included residential properties and schools. To determine worst case, the receptors closest to the road network were chosen as they would have the greatest exposure to the change in road traffic emissions as a result of the Local Plan Review being in place
- Was verified by comparing modelled results against local monitoring data

2.8 Overall, the model demonstrates that levels of NO₂ are forecast to reduce between 2017 and 2027 and again by 2037. This follows a national trend and is mainly due to the assumption that emissions will fall as newer vehicles are introduced to the fleet at a renewal rate forecast by the Department for Transport. The two local plan scenarios (776 and 1054 dwellings per annum) do increase emissions slightly (from the reference case), but overall emissions remain well below exceedance levels for both scenarios. Full details, including mapping, are available in Appendix I and the Technical Note.

2.9 Modelling also demonstrated that there were no exceedances of PM₁₀ for any of the scenarios modelled. Further conclusions on PM₁₀s are drawn out in the report.

4 Alternative Options

- 4.1 Both the NPPF and Planning Practice Guidance make it clear that the air quality impacts of a local plan should be assessed. As such there is no reasonable alternative to carrying out a study such as this.

5 Consultation Undertaken or Proposed

- 5.1 No external consultation has been undertaken or is proposed as this is a technical piece of evidence based on data extracted from the Swale transport model, Swale's own air quality evidence and national datasets.

6 Implications

Issue	Implications
Corporate Plan	The proposals would align with: Priority 1: Building the right homes in the right places and supporting quality jobs for all. Priority 2: Investing in our environment and responding positively to global challenges.
Financial, Resource and Property	None identified at this stage – the work has been carried out within the Planning Policy budget.
Legal, Statutory and Procurement	None identified at this stage.
Crime and Disorder	None identified at this stage.
Environment and Sustainability	The new Local Plan will be subject to a Sustainability Appraisal.
Health and Wellbeing	None identified at this stage.
Risk Management and Health and Safety	None identified at this stage.
Equality and Diversity	None identified at this stage.
Privacy and Data Protection	None identified at this stage.

7 Appendices

- 7.1 The following documents are to be published with this report and form part of the report:

- Appendix I: Sweco UK Limited – Air quality modelling DRAFT report, September 2020 and Technical Note

8 Background Papers

- 8.1 The Air quality modelling report has been prepared using the data from the Swale Borough Local Plan Review: Transport Modelling Evidence, also prepared by Sweco and reported to [Local Plan Panel on 11th June 2020](#)