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| <b>6 February 2020</b>  |                             | <b>ITEM: 7</b> |
| <b>Cleaner, Greener and Safer Overview and Scrutiny Committee</b>   |                             |                |
| <b>Air Quality &amp; Health Strategy and Modelling Assessment update</b>  |                             |                |
| <b>Wards and communities affected:</b><br>All   | <b>Key Decision:</b><br>Key |                |
| <b>Report of:</b> Mat Kiely, Transportation Services Strategic Lead   |                             |                |
| <b>Accountable Assistant Director:</b> Leigh Nicholson – Interim Assistant Director – Planning, Transport and Public Protection |                             |                |
| <b>Accountable Director:</b> Andrew Millard - Director of Place   |                             |                |
| <b>This report is public</b>  |                             |                |

## **Executive Summary**

Thurrock Council recognises the need to improve air quality for its residents and in order to do this successfully, it is necessary to reassess the existing baseline conditions across the Borough and appropriately refresh the Council’s Air Quality and Health Strategy.

A scoping report is required to identify the necessary requirements to update the Air Quality modelling assessment for the borough and examine how the existing Air Quality and Health Strategy will need to be reviewed and refreshed to account for new baseline information and the effects of new air quality measures and interventions. It is also necessary to consider air quality and health issues as the Council looks to deliver growth through the new Local Plan.

This paper sets out the recommended content of the scoping report, covering the existing situation in relation to air quality in Thurrock, Government guidance and the input and resource that will be required to gain more robust baseline data to inform a new Air Quality and Health strategy.

The council also recognises the issues surrounding the wider Climate Change agenda and the need to set out plans about how it will address this.

This document focuses upon the scoping work for Air Quality Modelling and a refreshed Air Quality and Health Strategy which will be progressed over the coming year.

## **1. Recommendation(s)**

- 1.1 That the Committee note and endorse the key elements that are to be addressed and taken forward in order to develop the required air quality modelling and a review and refresh of the Air Quality & Health Strategy.**
- 1.2 That the Committee endorse the need for appropriate funding and resource to be explored and provided within the 2020/21 financial year to undertake the work identified in this report.**
- 1.3 That the Council, working in conjunction with Cabinet and CGS Overview and Scrutiny Committee develop and agree a range of encompassing KPIs for the 2021/2022 financial year, supported by re-modelling data.**

## **2. Introduction and Background**

- 2.1 Following a request from the Cabinet Member for Environment and Sports & Leisure and input and feedback from CGS O&S Committee, the Transport Development Team (in collaboration with Public Health and Environmental Protection) have been asked to develop a scoping report to inform a new Air Quality & Health Strategy.
- 2.2 The scoping report is intended to set out the requirements for updating the Air Quality modelling assessment for the borough and how the existing Air Quality & Health Strategy will need to be reviewed and refreshed to account for new baseline information, implementing Air Quality measures and interventions and how Air Quality & Health issues need to be addressed as the Council looks to deliver growth to 2038 and beyond.
- 2.3 The key elements that need to be considered and taking forward from the scoping report are set out in the following section.
- 2.4 Approach to refreshing the Strategy

The approach to the preparation of a revised strategy involves the following steps:

1. Commission a borough-wide air quality assessment to develop a better understanding of local air quality issues. Re-testing will also:
  - Provide accurate data to decision makers;
  - Provide a strong evidence baseline on which to monitor future air quality and assess impacts of local initiatives;
  - Provide data to understand whether local air quality is below the UK/EU air quality standards and the WHO air quality guidelines;
  - Identify key sources of air pollution;
  - Identify locations where the risks to health are likely to be greatest, enabling appropriate prioritisation;
  - Reduce uncertainty in the estimate of public health effects.

2. Review the existing Air Quality Strategy for Thurrock (published in 2016), including any actions, and appraise the current situation.
3. Assess the current strategy against Government ambition for improving air quality outlined in the National Clean Air Strategy 2019, affiliating any recent evidence and research. Consideration should be given to broadening the scope of Thurrock's policy and action plans to align with the new Clean Air Strategy where appropriate.
4. Public Health to review evidence of interventions that have been proven to improve air quality and health, establishing the most practical interventions to reduce harm from outdoor air pollution by their health impact. Interventions should be assessed against evidence of effectiveness, the perceived ease of delivery and the possible magnitude of air quality benefits. The review will provide guidance for future strategy.
5. Consider the roles of different services in the Council for improving air quality, and the actions to be taken to ensure they work more closely together. Consideration should be given to what actions the council itself could undertake that would make a significant difference to air quality, recognising funding constraints.
6. Considering 1 – 5 above, create an updated Air Quality and Health Strategy for Thurrock.

This approach is discussed out in more detail in Section 3 of this report.

### **3. Issues, Options and Analysis of Options**

#### Existing situation

- 3.1 In Thurrock, air quality issues and the impact on human health have been highlighted in relation to Nitrogen Dioxide (NO<sub>2</sub>) and Particulate Matter (PM<sub>10</sub>). In 2004 detailed assessment work highlighted the prevalence of NO<sub>2</sub> and PM<sub>10</sub> in the Borough, particularly concentrated in the west along primary transport corridors.
- 3.2 The main pollutant of concern in Thurrock is nitrogen dioxide (NO<sub>2</sub>) and to a lesser extent particulate matter (PM<sub>10</sub>); both of these pollutants arise from road traffic emissions. Existing modelling suggests that Thurrock only has AQMAs which are declared for road traffic based emissions.
- 3.3 The AQMAs are primarily related to NO<sub>2</sub> and the long-term objective or annual mean 40 µg/m<sup>3</sup> objectives, which is the principal issue in all 18 AQMAs. Out of these AQMAs there are currently four declared for PM<sub>10</sub>, for the short-term objective or daily mean objective of 35 permitted exceedances of >50 µg/m<sup>3</sup>.

- 3.4 The total number of AQMAs has not changed and Thurrock still has 18 AQMAs all declared for annual mean NO<sub>2</sub>, and four of these AQMAs (5, 7, 8 & 10) are declared for Daily Mean PM<sub>10</sub>.
- 3.5 In 2016 the Council undertook a detailed modelling assessment to re-determine the extent of NO<sub>2</sub> & PM<sub>10</sub> exceedances over most of the borough and including all 18 AQMA's. This assessment found that 8 AQMA's should be revoked for NO<sub>2</sub> and all four for PM<sub>10</sub> should also be revoked.
- 3.6 Various schemes and measures have been applied to these AQMAs in order to address and manage air quality issues that exist. Measures have ranged from HGV restrictions to anti-idling campaigns, improved walking and cycling routes, through to the application of absorbent materials to mitigate air pollution.
- 3.7 In 2018 the air quality monitoring team instigated additional monitoring sites using NO<sub>2</sub> diffusion tubes in AQMAs 3, 4, 5, 8, 9 & 12. This will enable additional data trends to be understood so revocations can be made on the basis that monitoring shows that they are well below the annual mean objective limit of 40 ug/m<sup>3</sup> for NO<sub>2</sub>. Likely candidates for revocation are AQMA's 4, 5, 8, 9, 12, 15, 16 and possibly 21, and 26. In addition some AQMAs may be reduced in size: AQMAs 1, 3, 13 & 24.
- 3.8 The existing Air Quality Management Areas (AQMAs) in Thurrock are shown on the attached plan (Appendix A) accompanying this report.
- 3.9 The vast majority of AQMAs in the UK are designated as a result of road traffic. This situation is replicated in Thurrock, although it should be noted that local and regional background pollution (although reducing) does affect air quality in Thurrock.
- 3.10 In addition to specific targeting of AQMAs, a programme of borough wide initiatives to address air quality and health inequalities has been established as part of the 2017 Air Quality and Health Strategy. These are summarised below:
- 3.11 **South Essex Active Travel (SEAT)** – the council, along with Southend-on-Sea and Essex County Council are delivering a £3.3m programme which targets people in a transitional stage of life to encourage sustainable travel options.
- 3.12 **Weight Restrictions and HGV Management Schemes** – implemented schemes include the completion of Towers Road HGV routing scheme (phase1), Rectory Road width restriction scheme, Stifford Road Aveley Width restriction scheme, Ship Lane Freight Management Scheme and feasibility options for London Road, Purfleet Freight Management Scheme.
- 3.13 **Improvements to Walking and Cycling** – the Council continues to deliver an extensive programme of walking and cycle infrastructure improvements

secured as part of planning consents, grant funding from Public Health and the Cycle Infrastructure Development Programme (CIDP).

- 3.14 **School and Workplace Travel Plans** – the council secures travel plans and monitoring provisions as part of development consents. 35 out of 51 schools in the borough are actively working on their School Travel Plans. Workplace travel plans have been adopted at numerous locations across the borough (including London Gateway, Amazon and Intu Lakeside) which help to assess and mitigate the negative transport impacts of development and promote sustainable travel behaviour.
- 3.15 **Road Safety** - The Road Safety team continue to deliver a wide-ranging programme of educational and practical initiatives with focus placed on encouraging and enabling sustainable travel choices for future generations. The initiatives include road safety walks in all schools, bikeability training, roadside activities and road safety campaigns to promote safer & sustainable journeys to school/colleges. Engine switch-off zones at schools continued to be supported in 2019.
- 3.16 **Highways Development Management** – the Development Management and Traffic team continue to deliver a programme of work which supports the Council's Air Quality and Health objectives.
- 3.17 **Freight Quality Partnership (FQP)** – the Council has re-established its Freight Quality Partnership to help manage the impact of HGVs in Thurrock. This group will focus upon the emerging Freight Strategy and to discuss issues arising from the Council's Road User Group and Congestion Task Force.
- 3.18 **A13 East facing Slip roads** - Following the announcement by the Secretary of State in October 2018 in support of the delivery of the East Facing Slips schemes, officers have been developing a process to move the scheme forward to ensure it can be delivered to the appropriate timescales. This scheme will provide relief to the road network in West Thurrock and Lakeside and will remove traffic flows from areas such as London Rd, Chafford Hundred and A1306.
- 3.19 **Vehicle Fleet** - The Council's Environment and Highways directorate have now completed the replacement of over 100 vehicles across all directorates. This process has now moved the council to almost a 100% euro 6 fleet which is the cleanest emission technology at this time for standard vehicles. The council have also steered away from diesel where possible using petrol alternatives in populated areas. During the next round of procurement for new waste and Environment and Highways vehicles, we will be exploring the reliability of electric vehicles with a possible pilot being implemented.
- 3.20 **Variable Message Signing (VMS)** – The council has acquired three (3) VMS signs that have been deployed at strategic locations on the network. The VMS

are used as a traffic management tool which supports minimising traffic impacts arising from incidents in the borough and at Dartford Crossing.

- 3.21 **Electric Vehicle Charging** - Progress has been made in developing a partnership approach, with a suitable EV charging provider, to replace and enhance the on-street EV charging offer across the borough. Progress has been made in relation to the Council advising on the requirement for EV charging and car clubs (using EVs) within larger development proposals. Local bus operators are also adopting cleaner fleets with both Ensign and First using hybrid buses on selected routes.
- 3.22 **Sustainable, energy efficient buildings** - Through the application of Core Strategy policies by the Planning Service, the Council is driving the use of renewable energy sources for new development. Recent examples of development carried out by the Council's Education Team include:
- Woodside Primary – Sedum roof and PV Solar arrays;
  - Somers Heath – Electric Vehicle Charging Points;
  - East Tilbury Primary – Low energy ventilation system;
  - St Cleres - PV Solar arrays;
  - Benyon Primary – BMS energy management system to optimise heating and ventilation.
- 3.23 While Air Quality and Health are the key focus of the scoping process, it is important to note that the Council's emerging Local Plan will set out the core standards that developers, business and the Council will need to achieve when considering growth over the plan period. It is vital that the wider climate change and carbon management agenda is addressed, and supported through the Air Quality work, so that the Council can work collaboratively with key partners to address and manage wider issues.
- 3.24 Evidence to support the effectiveness of these measures has been difficult to quantify. However, improved modelling and ongoing monitoring will help to identify where measures have had an impact.

### **Modelling Assessment**

- 3.25 Existing air quality modelling data is largely based upon the detailed assessment undertaken in 2004. It is essential therefore that this baseline data is updated so that the current air quality situation in Thurrock can be better understood.
- 3.26 The Council's Environmental Protection Team (with input from the Air Quality Officer Group) are progressing a request for consultant support for air quality modelling to incorporate and model all major and primary roads within the Borough. The modelling will capture an array of pollutants, but specifically nitrogen dioxide (NO<sub>2</sub>) and particulate matter (PM<sub>10</sub> and PM<sub>2.5</sub>).

- 3.27 New, Borough wide, air quality modelling will provide a detailed overview of the areas of exceedance air quality objectives within the borough for NO<sub>2</sub>, PM<sub>10</sub> and PM<sub>2.5</sub>. This will highlight any potential new air quality issues within the Borough. It will also focus on existing AQMAs to test whether they are still relevant in terms of their spatial extent as the exposure levels are likely to be different than in 2004 when the council last modelled its AQMAs. This could provide the scientific evidence to possibly reduce or even revoke some of the current AQMAs.
- 3.28 It is anticipated that new modelling assessment will cost in the region of £50,000 - £75,000.
- 3.29 The modelling assessment will determine the level of review and refresh that is necessary to be applied to the Air Quality & Health strategy. The assessment will also inform how the Strategy will evolve and critically, it will help to identify the level of funding required to ensure that a bespoke resource is made available to address any issues at key locations identified as a result of the modelling assessment.

### **Growth**

- 3.30 Thurrock has one of the largest growth-led regeneration agendas in the Country and the new Local Plan will steer the delivery of over 30,000 new homes and 24,500 new jobs over the next 20 years. The levels of growth envisaged clearly has the risk to make air quality worse in Thurrock; however with investment and considered planning, it is possible for that growth to assist in improving air quality.
- 3.31 A new modelling assessment will provide more robust and reliable baseline data which can be used for planning purposes, enabling robust assessment of new developments within exceedance areas. Through the use of up-to-date modelling data, the Authority can also require developers to mitigate the impact of new development in the Borough (where it is shown that the development proposal would have an unacceptable impact, applications can be refused). Up-to-date baseline data is vital to inform this process.
- 3.32 The Planning Service is currently refreshing the Council's Design Strategy (2017) to ensure the Council's local planning policies account for the presence of AQMAs and the cumulative impacts from individual sites in local areas. Both the refreshed Design Strategy and Local Plan will have a strong emphasis on environmental improvements that can be secured through growth and investment.

### **Traffic Growth & Lower Thames Crossing**

- 3.33 The Transport Development team will continue to model and monitor traffic growth and HGV movements across the Borough. The impact of the Lower Thames Crossing (LTC) needs to be understood and data from Highways

England's Cordon Model and other sources will be used to understand the impacts on air quality and concerns arising from LTC.

### **Air Quality Measures & Initiatives**

- 3.34 Various measures and initiatives have been implemented to address and manage air quality issues in Thurrock. These measures have included specific interventions within AQMAs and more general measures and improvements which deliver wider benefits for the borough. The existing Air Quality and Health Strategy (2016) identifies a range of measures and it is anticipated that similar initiatives will be delivered as the Strategy is reviewed and refreshed.
- 3.35 There is also a need for the revised Strategy to focus on additional elements such as promotion, education, awareness raising and prevention to help address and support air quality issues in the borough. A refreshed Strategy should also set out 'softer' measures, such as awareness raising and education campaigns such as school switch-off areas and anti-idling campaigns. These can be explored and taken forward to support the more traditional physical measures that can be delivered through the ITB capital programme and developer contributions.
- 3.36 Appropriate external advice will be considered to ensure that suitable measures and initiatives are identified and implemented, thereby reducing the potential for ineffective measures to be applied. The need for expert guidance on 'what works' and 'what does not work' will help the Council to focus on measures that will have an impact and benefit and which utilise budgets effectively.
- 3.37 To ensure the Air Quality Strategy develops appropriately, it is essential that the Council work more collaboratively with local businesses to understand opportunities that will support air quality improvements in the borough. This could include initiatives such as driver training, retro-fitting old vehicles with new technology, vehicle routing, active travel alternatives and general awareness raising for businesses in Thurrock.
- 3.38 It is likely that a number of 'quick-win' measures can be identified and implemented as the modelling assessment is undertaken and as the strategy evolves. Quick-wins could include the future procurement of cleaner bus, taxi and Council vehicle fleets (although this will require substantial budget support), planting and landscaping and the roll-out of education and promotion campaigns. Identifying the link between AQMAs and existing areas of concern (health centres or GP practices, schools etc) will also be explored as a quick-win opportunity to understand if vulnerable and young members of our communities are visiting AQMAs on a regular basis.
- 3.39 Some of the 'quick-wins' that are already being actioned, or will be developed in the near future, to address Air Quality and Health (and also wider Climate and Carbon concerns) include:



- Engine switch-off campaigns at schools;
  - Introduction of powers to enforce against engine idling;
  - A new tree planting strategy, exploring opportunities to support AMQAs;
  - Proposals increased tree planting to be applied at strategic locations across the borough;
  - Sustainable and carbon efficient proposals for new Council buildings and school developments;
  - Road network and infrastructure improvements such as Grays Town Centre / Orsett Rd.
  - Internal procurement changes taking into account impact on Climate Change and Air Quality
- 3.40 Longer term measures will include physical infrastructure improvements, delivered through the ITB programme and mitigation measures that can be delivered or funded by developers through the planning process.

### **Clean Air Strategy 2019 and Public Health England Evidence Review**

- 3.41 The Government's Clean Air Strategy sets out plans for dealing with all sources of air pollution, making our air healthier to breathe, protecting nature and boosting the economy. The strategy sets out comprehensive actions required across all parts of *government and society to improve air quality*.
- 3.42 The recently published Public Health England review on air quality interventions states *'it is better to reduce air pollution at source than to mitigate the consequences'*, outlining a hierarchy of interventions with preventing, reducing or replacing polluting activities as the first priority. The hierarchy for the most effective approaches is to reduce emissions, then reduce concentrations, then reduce exposure. Suggested additional initiatives include anti-idling campaigns, active travel infrastructure and promotion, awareness raising, educational programmes for vulnerable groups and effective public communication on the health impacts of air pollution.
- 3.43 The Clean Air Strategy and Public Health review (2019) underpins much of what has been identified within the Thurrock Air Quality and Health Strategy. It is encouraging to see that the Government strategies identify a range of important and relevant areas for action and a range of new legislation, powers and guidance which can be integrated within a refreshed AQ & Health Strategy.
- 3.44 Again, it is worth noting that wider Climate Change issues, and the way they integrate with the Air Quality and Health strategy is becoming more prominent within guidance and legislation such as the Environment Bill. It is clear that the Council's Air Quality strategy and future climate change policy will interlink and gain direction and valuable information from the proposed scoping exercise and the evolving air quality modelling assessment.

3.45 Appendix B sets out a draft Mission Statement identifying the Council's commitment to improving air quality and creating a greener environment. This will help to inform and develop the direction of the Air Quality and Health Strategy and associated documents related to Climate Change, Carbon Reduction etc going forward.

#### **4. Reasons for Recommendation**

4.1 Good outdoor air quality is fundamental to the health and well-being of Thurrock's population; Thurrock has a significant growth agenda and it is vital that measures are introduced to control and reduce air pollution, and improve air quality for its communities.

4.2 Approving the recommendations set out in this report will enable fundamental work to progress in terms of updating the air quality modelling assessment, reviewing and refreshing the overarching strategy and addressing the need for appropriate resource and funding for this area of work.

#### **5. Consultation (including Overview and Scrutiny, if applicable)**

5.1 A refreshed version of the Air Quality and Health Strategy will be developed so that a draft document can be submitted to the Council's consultation portal. Consultation will run for a minimum of 6 weeks, allowing local residents, business and other interested parties to comment.

5.2 The consultation document will also be promoted to local residents, interest groups and key stakeholders through established meetings and groups including the Thurrock Road User Group, Congestion Taskforce, Bus User Group and Freight Management meetings.

#### **6. Impact on corporate policies, priorities, performance and community impact**

6.1 The Air Quality and Health Strategy and the associated modelling work will have an impact upon all communities within Thurrock. Identifying and addressing causes of poor air quality is vital to making Thurrock a place where people of all ages can work, play, live and stay in a clean environment that everyone has reason to take pride in.

#### **7. Implications**

##### **7.1 Financial**

Implications verified by: **Jonathan Wilson**  
**Assistant Director - Finance**

An operational and staffing budget is likely to be required to deliver the revised Air Quality Strategy however the level of budget necessary will be

dependent upon the findings of the initial modelling assessment. The cost of the modelling assessment is to be met from existing budgets

Additional and alternative sources of funding, including Environment Act funds and Air Quality Grants will also be explored.

## 7.2 **Legal**

Implications verified by: **Tim Hallam**  
**Acting Head of Law, Assistant Director of Law and Governance and Monitoring Officer**

Under Part IV Environment Act 1995 local authorities are required, from time to time, to carry out a review of air quality in their area and assess whether air quality standards and objectives are being or are likely to be achieved within the relevant period. The aim of the review is to make sure that national air quality objectives will be achieved throughout the UK by the relevant deadlines. If those standards and objectives are not being met or aren't likely to be achieved within the relevant period in a particular area, then local authorities must designate an air quality management area (AQMA) for that area. They must then prepare an action plan for that area including time periods for the implementation of measures in the plan. The local authority may, from time to time, revise an action plan. They may also revoke an AQMA. Legal Services will be able to advise on any direct legal implications arising from this report.

## 7.3 **Diversity and Equality**

Implications verified by: **Rebecca Price**  
**Team Manager - Community Development and Equalities**

An Equality Impact Assessment will be undertaken for the refreshed Air Quality and Health Strategy to identify interventions that will support improved air quality in the Borough.

The assessment will focus on key groups and locations across the borough to identify if this work has any adverse impact upon them and the mitigation measures that should be considered and applied, taking account of legislative considerations such as the Equality Act.

## 7.4 **Other** implications (where significant) – i.e. Staff, Health, Sustainability, Crime and Disorder)

None.

**8. Background papers used in preparing the report** (including their location on the Council's website or identification whether any are exempt or protected by copyright):

- Modelling Assessment Consultant Brief
- Air Quality and Health Strategy 2016
- Clean Air Strategy 2019
- Public Health England 'Review of Outdoor Activity'

**9. Appendices to the report**

- Appendix A - AQMA Location Plan
- Appendix B – Portfolio Holder Mission Statement

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