

Chapter 6

Air

Policy context

International

6.1 The 2030 Agenda for Sustainable Development (2015) [See reference 172]: This initiative, adopted by all United Nations Member States, provides a shared blueprint for peace and prosperity for people and the planet and includes 17 Sustainable Development Goals (SDGs), designed to achieve a better and more sustainable future for all. Relevant to this topic are:

- SDG 15: Life on Land

National

6.2 The NPPF (2021) [See reference 173] states that planning policies and decisions should contribute to and enhance the natural and local environment. Policies should also prevent new and existing development from “contributing to, being put at unacceptable risk from, or being adversely affected by unacceptable levels of soil, air, water or noise pollution.”

6.3 The NPPF is supported by planning practice guidance relating to:

- **Air quality (2019) [See reference 174]** - Provides guidance on air quality considerations planning needs to take into account.

6.4 The Environment Act 2021 [See reference 175] sets statutory targets for the recovery of the natural world in four priority areas: air quality, biodiversity,

water, and resource efficiency and waste reduction. It also establishes the Office for Environmental Protection which will act as an impartial and objective body for the protection and improvement of the environment. The Act sets out legislation which covers:

- Local air quality management frameworks and the recall of motor vehicles etc; and

6.5 Clean Air Strategy 2019 [See reference 176]: The strategy sets out the comprehensive action that is required from across all parts of Government and society to meet these goals. This will be underpinned by new England-wide powers to control major sources of air pollution, in line with the risk they pose to public health and the environment, plus new local powers to take action in areas with an air pollution problem. These will support the creation of Clean Air Zones to lower emissions from all sources of air pollution, backed up with clear enforcement mechanisms. The UK has set stringent targets to cut emissions by 2020 and 2030.

6.6 A Green Future: Our 25 Year Plan to Improve the Environment [See reference 177]: Sets out goals for improving the environment within the next 25 years. It details how the Government will work with communities and businesses to leave the environment in a better state than it is presently. Identifies six key areas around which action will be focused. Those of relevance to this chapter are:

- Increasing resource efficiency and reducing pollution and waste:
 - e) Reduce pollution by tackling air pollution in our Clean Air Strategy and reduce the impact of chemicals.

6.7 The Road to Zero (2018) [See reference 178]: Sets out new measures towards cleaner road transport, aiming to put the UK at the forefront of the design and manufacturing of zero emission vehicles. It explains how cleaner air, a better environment, zero emission vehicles and a strong, clean economy will be achieved. One of the main aims of the document is for all new cars and vans to be effectively zero emission by 2040.

6.8 The UK Plan for Tackling Roadside Nitrogen Dioxide Concentrations

[See reference 179]: Sets out the Government's ambition and actions for delivering a better environment and cleaner air, including £1 billion investment in ultra-low emission vehicles, a £290 million National Productivity Investment Fund, a £11 million Air Quality Grant Fund and £255 million Implementation Fund to help Local Authorities to prepare Air Quality Action Plans and improve air quality, an £89 million Green Bus Fund, £1.2 billion Cycling and Walking Investment Strategy and £100 million to help improve air quality on the National road network.

6.9 The Air Quality Standards Regulations [See reference 180] set out limits on concentrations of outdoor air pollutants that impact public health, most notably particulate matter (PM₁₀ and PM_{2.5}) and nitrogen dioxide (NO₂). It also sets out the procedure and requirements for the designation of Air Quality Management Areas (AQMAs).

6.10 The Air Quality Strategy for England, Scotland, Wales and Northern Ireland (2007) [See reference 181]: Sets out a way forward for work and planning on air quality issues by setting out the air quality standards and objectives to be achieved. It introduces a new policy framework for tackling fine particles and identifies potential new national policy measures which modelling indicates could give further health benefits and move closer towards meeting the Strategy's objectives. The objectives of the Strategy are to:

- Further improve air quality in the UK from today and long term.
- Provide benefits to health quality of life and the environment.

6.11 Environmental Protection Act 1990 [See reference 182]: makes provision for the improved control of pollution to the air, water and land by regulating the management of waste and the control of emissions. Seeks to ensure that decisions pertaining to the environment are made in an integrated manner, in collaboration with appropriate authorities, non-governmental organisations and other persons.

Regional and local

6.12 Essex Transport Strategy [See reference 183]: The Essex Transport Strategy outlines the County Council's priorities and strategic objectives for improving the transport network across Essex, including by encouraging a modal shift towards public transport, walking and cycling over single occupancy car journeys. The Plan supports the use of cleaner, lower carbon transport technologies, and car share schemes.

6.13 Sustainable Modes of Travel Strategy [See reference 184]: The Sustainable Modes of Travel Strategy aims to reduce the number of private vehicles using the highway network and increase the use of more active and sustainable modes available to businesses, residents and schools within Essex. A key objective is to manage congestion during peak times and improve the environment by reducing the need to travel by car and potentially reducing CO₂ and other emissions.

6.14 South Essex Green and Blue Infrastructure Strategy: Resilient by Nature [See reference 185]: This strategy sets out a vision for an integrated green and blue infrastructure (GBI) network across South Essex and key objectives and projects to achieve this. The protection and enhancement of GBI will help to improve air, water and soil quality throughout the region.

6.15 Green Essex Strategy [See reference 186]: This Strategy seeks to enhance, protect and create an inclusive and integrated network of high-quality green infrastructure in Greater Essex, to create a county-wide understanding of green infrastructure – its functions and values, and to identify opportunities for implementing green infrastructure. The Strategy recognises the importance of GI in terms of environmental benefits, including improving air, water and soil quality. The Strategy highlights the importance of GI in providing ecological networks of all scales, from regional to neighbourhood scale.

6.16 South East Inshore Marine Plan [See reference 187]: The Plan introduces a strategic approach to planning within the inshore waters between

Suffolk and Kent, including the Thames Estuary. This includes building resilience and adaptations to climate change, as well as consideration of renewable energy and potential for carbon capture and storage.

6.17 Thurrock Climate Change Scoping Study [See reference 188]: The Thurrock Climate Change Scoping Study was commissioned in 2019 to inform the integration of climate change into the Council's planning policy, in accordance with NPPF. The study's aims are to provide a baseline assessment of the Borough's current climate impacts (emissions) and risks (hazards); summarise existing climate change legislation and policy; review existing documents, local plan processes, policy and operation; outline initiatives to focus on in the Local Plan; and to define what the requirements should be if a climate change strategy were to be developed for the Borough. The study provides a series of recommendations and next steps for the process including stakeholder engagement and establishing timescales and accountability. It also highlights core focus areas and priorities for the Borough including land-use and access issues, carbon emissions relating to buildings, retail and industry, infrastructure, natural resources, the environment and waste.

6.18 Thurrock Transport Strategy 2013-2026 [See reference 189]: The strategy sets out the aims, objectives and policies for delivering transport improvements in Thurrock, including (but not limited to) to respond to large scale growth at Lakeside, Tilbury Port and London Gateway. The strategy focusses on the need to address the following key areas: Delivering Accessibility, Tackling Congestion, Improving Air Quality and Addressing Climate Change, Safer Roads and Facilitating Regeneration. This strategy also sets out the long-term approach to walking and cycling in the Borough. An updated Transport Strategy for Thurrock is currently in preparation.

6.19 2020/2021 Air Quality Annual Status Report [See reference 190]: The 2020/21 Thurrock Air Quality Annual Status Report provides the most recent overview of air quality within Thurrock, as well as identifying actions that have been undertaken to improve it and the Council's future priorities. The report highlights that the main pollutant of concern in Thurrock is nitrogen dioxide (NO₂), and to a lesser extent particulate matter (PM₁₀), both arising from road

traffic emissions. NO₂ was monitored at 67 diffusion tube sites and three automatic monitoring sites across the Borough in 2020. The report notes the limitations of using 2020 data due to the travel restrictions as a result of the COVID-19 pandemic and provides 2019 figures for reference. The Council plans to conduct a detailed and up to date assessment of all declared AQMAs across the Borough.

6.20 Thurrock Air Quality and Health Strategy [See reference 191]: The overarching aim of the strategy is to improve air quality in the Borough in order to reduce the health impacts of air pollution. The report outlines the baseline conditions for both air quality and health in the Borough, and highlights the correlation between the two. It highlights the dangers of certain pollutants and the need to act faster to reduce levels of harmful emissions due to impacts on public health. The report presents a strategy which includes to reduce transport emissions; tackle health inequalities; explore options for the implementation of clean air zones; and ensure air quality policies will be incorporated into future development, regeneration and planning guidance. The strategy also outlines the Air Quality Action Plan (AQAP) for all AQMAs, as well as Borough-wide interventions. The implementation of the strategy will be monitored and progress on air quality assessed.

6.21 Thurrock Council is currently preparing a **Climate Change Strategy**, a **Green and Blue Infrastructure Strategy**, and an update to the **Air Quality and Health Strategy**, all of which will be taken into account in the next iteration of the SEA.

Implications of the policy review for the Interim TTS and SEA

In order to align with the international, national, regional and local policies outlined above, the Interim TTS should seek to reduce air pollutant emissions from road, rail and ports. The SEA is able to respond to this

through the inclusion of SEA objectives relating to protecting and improving air quality in the Borough.

Baseline information

6.22 Thurrock's Air Quality Annual Status Report 2020/21 [\[See reference 192\]](#) outlines the status and key issues associated with air quality in Thurrock. Thurrock currently has 18 Air Quality Management Areas (AQMAs) [\[See reference 193\]](#). These are located mainly in the west of the Borough, close to major transport routes such as the M25 and A13 and are a result of traffic related pollution along busy roads used for commuter traffic or logistical purposes. The routes are often saturated with traffic during peak hours and there are many areas where there is relevant public exposure, predominantly in the form of residential dwellings in close proximity.

6.23 The main pollutant of concern in Thurrock is nitrogen dioxide (NO₂) and to a lesser extent, particular matter (PM₁₀) - both of these pollutants arise from road traffic emissions. Thurrock only has AQMAs declared for road traffic-based emissions; there are no industrial based AQMAs. The AQMAs are all declared for exceedance of the long-term objective for NO₂ (40 µg/m³).

6.24 In 2016 the Council undertook a detailed modelling assessment to re-determine the extent of NO₂ and PM₁₀ exceedances over most of the Borough, including all AQMAs. It found that eight AQMAs should be revoked for NO₂ and all four for PM₁₀. The Council planned to monitor these locations for at least three years and make a determination in 2020. Due to the COVID-19 pandemic, the decision to revoke these AQMAs has been delayed.

6.25 Thurrock Council currently monitor PM_{2.5} at one location in Stanford-le-Hope (Thurrock 3). The annual mean has remained well below the objective of 25µg/m³ over the past 5 years, however an increase in the annual average concentration was recorded in 2019 and remained at a similar level in 2020.

6.26 There is also currently one location monitoring sulphur dioxide (SO₂) in the Borough located in Grays. SO₂ concentrations were below air quality objectives in 2019 and 2020, with no exceedances reporting in either year.

6.27 In addition to their potential negative effects on human health, emissions of nitrogen oxides (NO_x) and particulate matter (PM) can affect ecosystems. It is likely that the strongest effect of emissions of nitrogen oxides across the UK is through their contribution to total nitrogen deposition. All plants need nitrogen to grow but if too much nitrogen is present, it becomes a pollutant and can result in biodiversity change. Nitrogen deposition can also increase the risk from abiotic factors (e.g. drought and frost) or cause acidification of soils. As well as these effects of nitrogen deposition, direct effects can occur on habitats and species where there is high exposure (e.g. habitats adjacent to motorways and large highways, and habitats in and around urban centres). Particulates (i.e. PM₁₀, PM_{2.5}) are essentially dust emissions that can settle on vegetation **[See reference 194]**.

6.28 **Figure 6.1:** , **Figure 6.2**, and **Figure 6.3** shows air quality (including concentrations of NO₂, PM_{2.5} and PM₁₀) in the Borough. **Figure 6.4** shows where AQMAs are designated in the Borough and surrounding areas.

Figure 6.1: Air Quality (NO2 concentration)

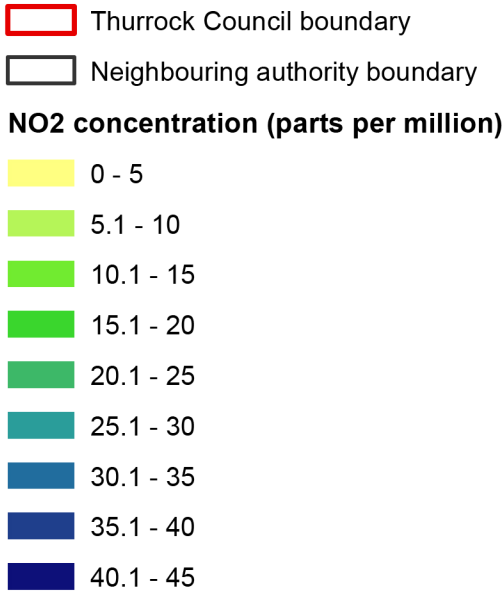
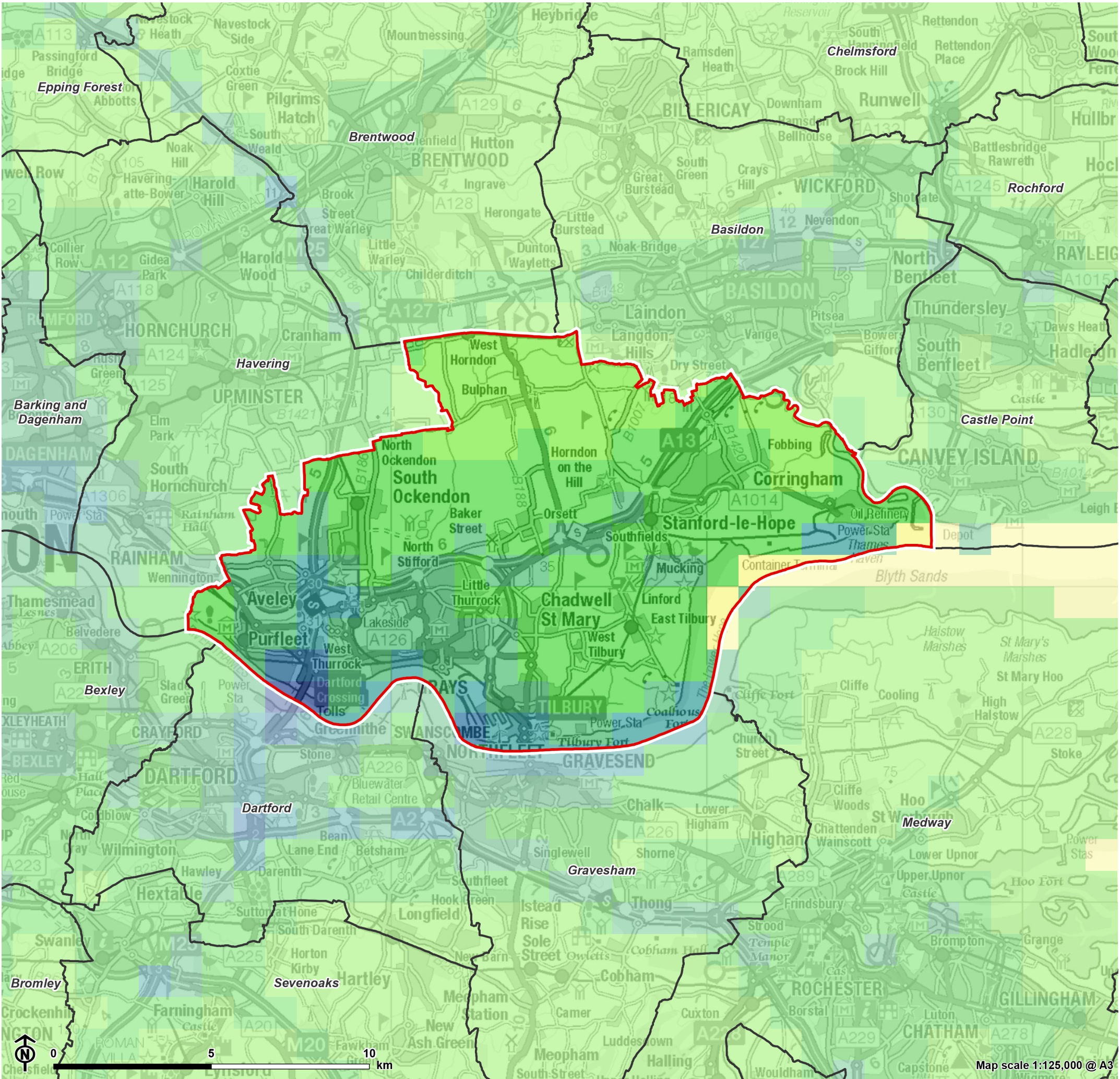
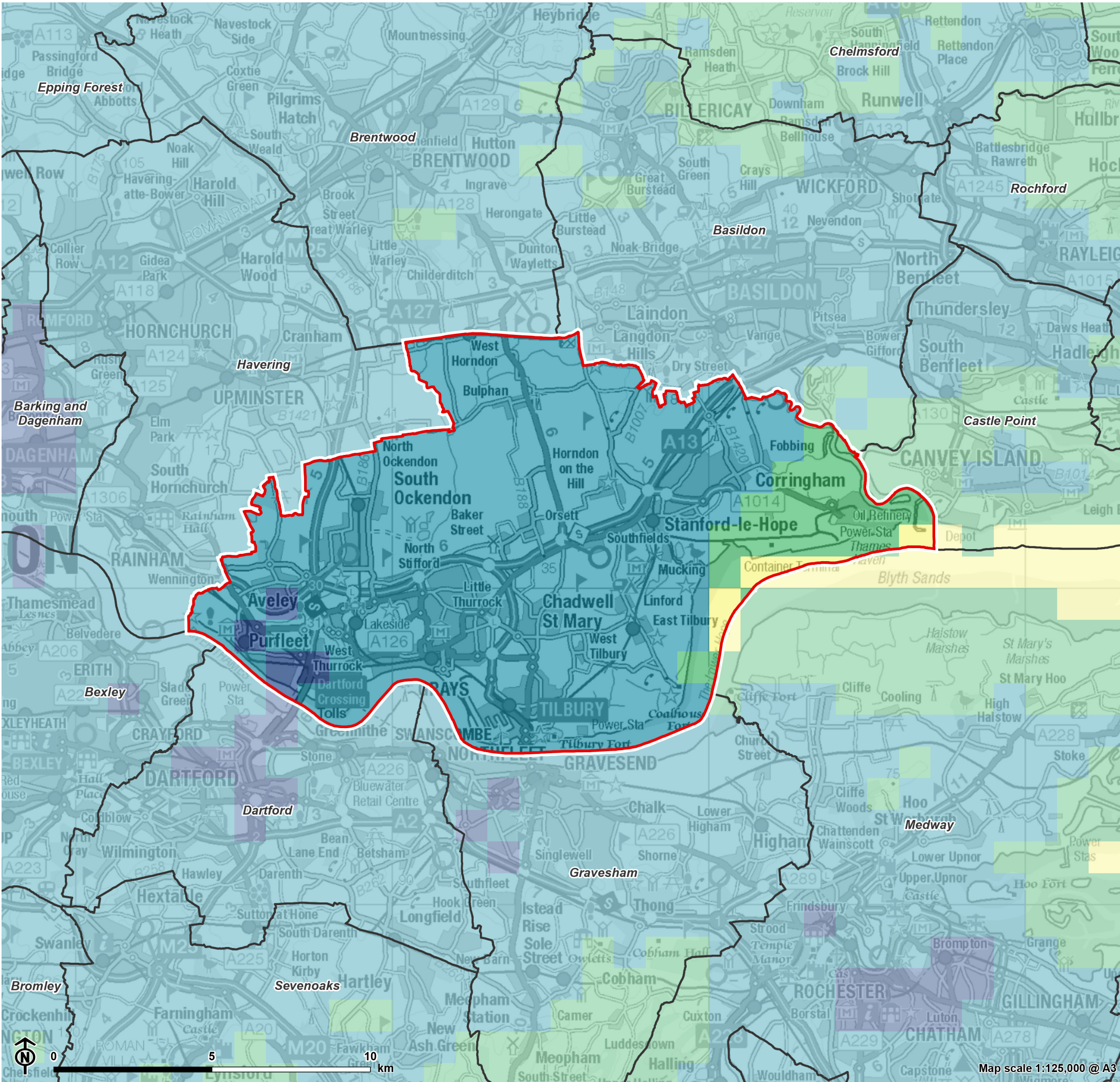


Figure 6.2: Air Quality (Particulate matter 2.5 concentration - PM 2.5)



- Thurrock Council boundary
Neighbouring authority boundary
- PM 2.5 (parts per million)**
- 0 - 2.5
 - 2.6 - 5
 - 5.1 - 7.5
 - 7.6 - 10
 - 10.1 - 12.5
 - 12.6 - 15
 - 15.1 - 17.5