

# **Thurrock Air Quality & Health Strategy**

**December 2016**

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## 1 Introduction

Recent evidence has shown that some pollutants are more dangerous than previously thought and we need to act faster and take further measures to reduce levels of harmful emissions and the related impact on our health. Although our air is becoming cleaner, poor air quality still causes serious adverse effects and there are significant benefits to be gained from improving air quality further.

In Thurrock, air quality issues have been highlighted in relation to two regulated air pollutants – Nitrogen Dioxide (NO<sub>2</sub>) and Particulate Matter (PM<sub>10</sub>). The 2014 Detailed Assessment highlighted their prevalence in the borough, particularly concentrated in the west along primary transport corridors supporting the designation of 18 Air Quality Management Areas (AQMA) in Thurrock.

Alongside the irrefutable evidence of poor air quality, the understanding of the effect that poor air quality has on human health has increased considerably in the last 20 years including the impact on premature mortality, respiratory and cardio-vascular admissions and exacerbation of asthma.

In 2015, a decision was taken by Thurrock Council to develop an integrated Air Quality & Health Strategy through which to tackle the health problems associated with and exacerbated by air pollution within the borough. As part of this strategy, the opportunity was also taken to review the existing Air Quality Action Plans (AQAPs) associated with Thurrock's 18 AQMAs.

The impacts and management of air quality is an issue many UK local authorities are committing resources to improve and although there is not a universal solution, developing a cross-directorate strategy which seeks to improve air quality and health is seen as good practice.

### 1.1 National Agenda

#### **Air Quality Strategy for England, Scotland, Wales and Northern Ireland**

The UK *Air Quality Strategy* (2007) sets out a way forward for work and planning on air quality issues. It also reiterates the air quality standards and objectives to be achieved and introduces a new policy framework for tackling fine particles. Furthermore, the strategy identifies potential new national policy measures which modeling indicates could give further health benefits and move closer towards meeting the strategy's objectives.

The aim of the strategy is to achieve a steady decrease in ambient levels of pollutants towards the objectives over the period of implementation. It is recognised some areas in the UK will find it easier than others to achieve the objectives and conversely, some areas will face different challenges.

#### **Air Quality Management Regime**

Action to manage and improve air quality is largely driven by EU legislation. The most recent EU Ambient Air Quality Directive (2008/50/EC) sets out long-term air quality objectives and introduces new air quality standards. The 2008 directive was made law in England through the Air Quality Standards Regulations 2010, which establishes

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mandatory standards for air quality and sets limits and guide values for sulphur and nitrogen dioxide, suspended particulates and lead in air.

Through this legislation, local authorities are required to review and assess local air quality in a staged process, whereby AQMAs are designated should the assessment indicate that air quality standards will not be met within the required timescales, and AQAPs produced to set out how it intends to improve air quality in these AQMAs.

This strategy reflects the new technical and policy guidance that was issued in November 2015 where it is recommended that local authorities consider linking air quality strategies with public health as is done in this Thurrock Air Quality & Health Strategy.

### 1.2 Local and regional background pollution

Air pollution standards are a combination of pollutants from local sources (e.g. pollutants that have been emitted from vehicles travelling on roads or industry in the local authority) and regional background sources (e.g. pollutants that have been emitted from vehicles or industry outside the local authority and travelled into the local area by wind). Regional background sources are difficult for local authorities to influence and manage and typically make up 40% of pollutants at monitored sites as shown in Figure 1.

Regional background pollution has been reducing at monitoring sites in Thurrock in recent years and modelling forecasts anticipated the trend to continue as industry become cleaner and new vehicle technology continues to improve emissions.

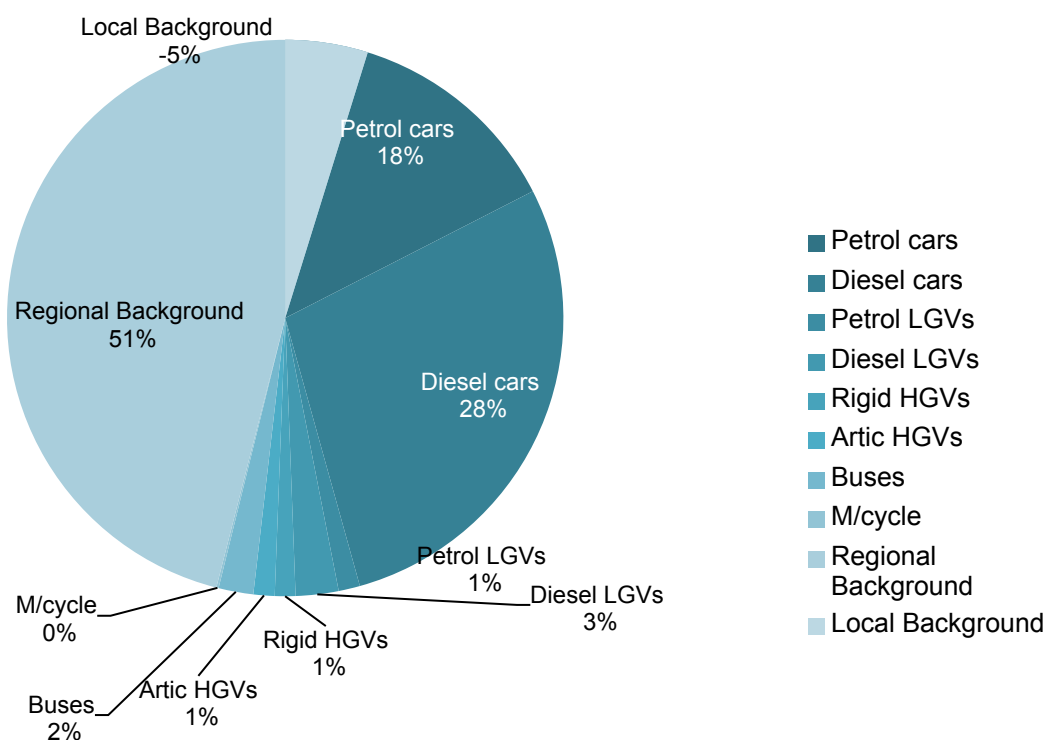


Figure 1 – This shows NO<sub>2</sub> source contribution in Dock Road (Tilbury). This graphic illustrates the typical distinction between local and background sources at monitoring sites as it is not possible to calculate the accumulative source contribution of all monitoring sites in Thurrock.

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### **1.3 Governance**

Air quality in the United Kingdom is managed by the Department for Environment, Food and Rural Affairs (DEFRA) who set targets and thresholds for local air pollution standards. The responsibility for ensuring air quality is within these thresholds is passed onto local authorities who are obliged to declare AQMAs when local air quality thresholds are exceeded.

As part of that responsibility, Thurrock is responsible for 18 AQMAs. To meet the targets set by DEFRA, Thurrock Council convened an Air Quality Officers Task Group comprised of representatives from transportation, planning, public health, environment and public protection.

The group was tasked with developing an integrated Air Quality & Health Strategy. Led by Transportation & Highways, the task group will continue to meet to discuss progress against the strategy and action plans.

### 2 Issues

The Thurrock Air Quality Evidence Base highlights a number of issues pertaining to health and air quality in Thurrock and these are summarised below.

#### 2.1 Air Quality in Thurrock

In Thurrock, air quality issues have been highlighted in relation to two regulated air pollutants – Nitrogen Dioxide (NO<sub>2</sub>) and Particulate Matter (PM<sub>10</sub>).

Particulate Matter is generally categorised on the basis of the size of the particles and is made up of a wide range of materials and arises from a variety of sources. Concentrations of PM comprise primary particles emitted directly into the atmosphere from combustion sources and secondary particles formed by chemical reactions in the air.

PM derives from both human-made and natural sources, but in the UK the biggest human-made sources are stationary fuel combustion and transport. Road transport gives rise to primary particles from engine emissions, tyre and brake wear and other non-exhaust emissions. Other primary sources include quarrying, construction and non-road mobile sources.

All combustion processes in air produce oxides of nitrogen (NO<sub>x</sub>). Nitrogen Dioxide (NO<sub>2</sub>) and Nitric Oxide (NO) are both oxides of nitrogen and together are referred to as NO<sub>x</sub>. Road transport is typically the main source, followed by the electricity supply industry and other industrial and commercial sectors.

Road transport is a key source of many air pollutants, particularly in urban areas. There are two main trends in the transport sector working in opposite directions: new vehicles are becoming individually cleaner in response to European emission standards legislation, but total vehicle kilometres are increasing. Overall emissions of key air pollutants from road transport have fallen by about 50% over the last decade, despite increases in traffic, and are expected to reduce by a further 25% or so over the next decade. This is mainly a result of progressively tighter vehicle emission and fuel standards agreed at European level and set in UK regulations.

The vast majority of AQMAs in the UK are designated as a result of road traffic, a situation replicated in Thurrock. Traffic trends throughout Thurrock in general and within the AQMAs in particular, show that in 2014 there were 10% more motor vehicles travelling in Thurrock than in the year 2000, although this equates to only a 1% annual average rate of change. Growth in HGV traffic – an important factor in Thurrock due to its extensive logistics industry – has been more stable, with only 4% more HGV traffic on Thurrock roads in 2014 than in 2000.

#### 2.2 Air Quality and Health Evidence

The understanding of the effect that air pollution has on human health has increased considerably in the last 20 years, largely through the findings of many health and disease studies undertaken for populations in various parts of the world. It had previously been recognised that air pollution episodes with very high levels of ambient air pollution are associated with clear and measurable increases in adverse health effects. Recent studies also reveal smaller increases in adverse health effects at the current levels of ambient air pollution typically present in urban areas. The health effects associated with short-term (acute) exposure include premature mortality (deaths brought forward), respiratory and

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cardio-vascular hospital admissions, and exacerbation of asthma and other respiratory symptoms. It is now reasonably common in the UK for warnings to be issued recommending people avoid exercise or to stay indoors at times of poor air quality.

According to the Government<sup>1</sup> the evidence associating NO<sub>2</sub> with health effects has strengthened substantially in recent years, as noted by the Committee on the Medical Effects of Air Pollutants (COMEAP). It is estimated that the effects of NO<sub>2</sub> on mortality are equivalent to 23,500 deaths annually in the UK. Many of the sources of NO<sub>x</sub> (NO<sub>2</sub> and NO) are also sources of particulate matter (PM). The impact of exposure to particulate matter pollution (PM<sub>2.5</sub>) is estimated to have an effect on mortality equivalent to nearly 29,000 deaths in the UK. The combined impact of these two pollutants represents a significant public health challenge.

In summary, short term consequences of air pollution include:

- Worsening of frequency and severity of symptoms for those with respiratory disease (including asthma); and
- Increased hospital admissions for cardiopulmonary related conditions.

Long term consequences of air pollution include:

- Premature death from cardiovascular and respiratory diseases, including lung cancer; and
- Permanent impairment of lung function.

Some sections of the population are more vulnerable or susceptible to the adverse effects of air pollution. Factors can be related to:

- Population aspects , in that older people and young children are especially vulnerable;
- Chronic health issues, such as asthma, Chronic Obstructive Pulmonary Disease, and other cardio-vascular/ respiratory related ill-health;

### 2.3 Air Quality and Health Correlation

In terms of the relationship between air quality and health, as highlighted in the Thurrock Air Quality & Health Strategy Evidence Base report (October 2015), it is possible to observe a correlation between the recorded health issues within the borough and presence of AQMAs. For example, declared AQMAs in areas such as Tilbury Riverside and Thurrock Park Way alongside West Thurrock and South Stifford have above average incidences of lung cancer within their populations. Similarly, West Thurrock, South Stifford, Purfleet, Aveley and Tilbury – all of which include one or more AQMAs - had extremely high emergency admissions for Chronic Obstructive Pulmonary Disorder (COPD).

AQMAs within Purfleet, West Thurrock, and Aveley also fall within the 20% most deprived areas in the country for living environment, one of the indicators for which includes air pollution. These examples start to build a picture of the negative relationship between occurrences of AQMAs and above average incidences of poor health and hospital admissions.

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<sup>1</sup> Draft plans to improve air quality in the UK. Tackling nitrogen dioxide in our towns and cities. UK overview Document (Defra, September 2015)

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A common link with nearly all of these areas is the prevalence of HGVs. The disproportionate level of emissions from HGVs compared to regular motor vehicles means areas with a heavy presence are likely to see exacerbated problems.

Care must be taken when considering transport measures that would encourage a shift to active modes of transport within AQMAs, particularly for those with existing health problems. Whilst active transport can help to overcome health issues and reduce traffic levels and thus air pollution emissions, encouraging activity in areas with poor air quality could exacerbate or lead to new pulmonary/respiratory health issues.



### 3 Strategy

#### 3.1 Aims & Objectives

The overall strategic aim of the Thurrock Air Quality & Health Strategy is:

To improve air quality in the borough to reduce the health impacts of air pollution.

In accordance with the above, the Strategy will be delivered through three main approaches:

- a) By implementing measures for managing air quality throughout the borough to prevent new AQMAs from arising;
- b) By implementing measures contained within the action plans for existing AQMAs; and
- c) By working with external bodies to reduce background pollution from inside and outside the borough.

#### 3.2 Policies

In order to meet the above aim the following policies have been developed for effectively managing air quality throughout the borough.

##### Reducing Transport Emissions

The council will deliver transport interventions aimed at reducing emissions from transport generally across the borough, but in particular within AQMAs as part of AQAPs. This will be achieved through:

- Implementing infrastructure to make walking, cycling and public transport more accessible to reduce the number of vehicle trips;
- Making it easier and more attractive for people to choose low emission cars through increasing the availability of electric vehicle charging points and implementing preferential parking schemes for low emission vehicles;
- Enabling people to reduce car use and vehicle trips, such as by car sharing and encouraging walking and cycling;
- Using travel planning and other means to promote low emission cars, car sharing, and modal shift to walking, cycling and public transport;
- Working with freight associations, ports and operators to reduce emissions from light & heavy goods vehicles and enabling the efficient movement of goods and services;
- Working with taxi companies to enable the use of low emission vehicles, including through the taxi licencing regime;
- Working with bus and coach operators to encourage the use of low emission buses and coaches; and
- Supporting eco-driver training initiatives, including engine switch off practices, for fleet drivers, taxi drivers, bus drivers and HGV drivers.

The Council will also ensure that transport interventions, such as those designed to improve road safety or reduce congestion, do not exacerbate air pollution in existing AQMAs or risk creating new AQMAs by worsening air pollution. An air quality assessment of the impact of road safety and congestion relief schemes will be undertaken to ensure such schemes do not increase air pollution levels from road transport.

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### **Policy AQS 1: Tackling Transport Emissions:**

The Council will deliver transport interventions aimed at:

- I. Reducing vehicle trips and promoting a modal shift where possible to active modes of travel to future proof Thurrock's transport network for sustainable growth.
- II. The business community and transport service providers to discourage the use of polluting vehicles travelling within Thurrock.
- III. Rerouting vehicles, particularly HGVs, to avoid residential dwellings
- IV. Reducing its own emissions and to influence emission reductions through its own procurement and operations.

### **Tackling health inequalities**

In a Borough which suffers from a number of public health issues, it is imperative that air quality and health issues are linked and that appropriate interventions to tackle issues are implemented.

### **Policy AQS 2: Tackle health inequalities and improve outcomes for those most affected by poor air quality**

- I. The areas of highest need, highest deprivation and poorest health outcomes in relation to air quality will be prioritised for action on initiatives to mitigate the impact of poor quality on health.
- II. Working with health partners to improve long-term condition management in primary care through the implementation of the GP balance scorecard and the development of integrated healthy living centres in areas of highest need (Tilbury and Purfleet).

Figure 2 below shows the Health and Well-Being Strategy's goals and objectives. Those objectives directly targeted by the Air Quality Strategy are highlighted in dark blue whilst those which may be more indirectly influenced by the work of the strategy are shown in light blue. Investing in improving air quality in the borough is going to have multiple benefits to the health and well-being strategy, contributing to a number of objectives highlighted, in addition serving to also tackle congestion and help manage traffic better.

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Goals	A. Opportunity For All	B. Healthier Environments	C. Better Emotional Health And Wellbeing	D. Quality Care Centred Around The Person	E. Healthier For Longer
Objectives	A1. All children in Thurrock making good educational progress	B1. Create outdoor places that make it easy to exercise and to be active	C1. Give parents the support they need	D1. Create four integrated healthy living centres	E1. Reduce obesity
	A2. More Thurrock residents in employment, education or training.	B2. Develop homes that keep people well and independent	C2. Improve children's emotional health and wellbeing	D2. When services are required, they are organised around the individual	E2. Reduce the proportion of people who smoke.
	A3. Fewer teenage pregnancies in Thurrock.	B3. Building strong, well-connected communities	C3. Reduce social isolation and loneliness	D3. Put people in control of their own care	E3. Significantly improve the identification and management of long term conditions
	A4. Fewer children and adults in poverty	B4. Improve air quality in Thurrock.	C4. Improve the identification and treatment of depression, particularly in high risk groups.	D4. Provide high quality GP and hospital care to Thurrock	E4. Prevent and treat cancer better

**Figure 2 - Health and wellbeing strategy goals with objectives relevant to Air Quality Strategy highlighted** (dark blue indicates outcomes directly affected by air quality strategy, light blue indicates outcomes indirectly affected)

### Thurrock Clean Air Zones & Low Emissions Zones

A Clean Air Zone or Low Emission Zone is a vehicle restricted area where vehicles not meeting a specific emission standard, or other criteria, are not allowed to enter the specified area without incurring a penalty. Local conditions will determine the scope of the emission based access controls, underpinned by national and local monitoring and modelling. Restrictions can be linked to specific vehicle types and related to Euro emission standards, vehicle age or technology. They can also be in the form of an outright ban or through variable charging. Emission based access controls can be aimed at various vehicle types from heavy duty vehicles, such as buses, taxis, lorries, vans and cars. They can also be used as a tool to incentivise the cleanest vehicles.

The concept of a Clean Air Zone has been considered by Thurrock to primarily deal with the significant number of HGV movements in the borough. Policy AQS 3 below outlines how the Council will investigate Clean Air Zones further.

#### Policy AQS 3: Clean Air Zone

The Council will undertake a detailed review of the merits of the wider use Clean Air Zones or Low Emission Zones within Thurrock. A range of options for implementing a Clean Air Zone or Low Emission Zone in Thurrock to tackle poor air quality will be appraised. A firm proposal for a Clean Air Zone or Low Emission Zone will be developed provided that detailed consideration suggests that it is:

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- Feasible and practicable;
- Represents value for money; and
- Likely to have local support and improves public health.

### Future Developments and Regeneration

Planning practice guidance makes clear that local plans can affect air quality in a number of ways, including through what type of development is proposed and where, and the encouragement given to sustainable transport. Therefore in plan making, it is important to take into account AQMAs and areas nearing air quality limit values.

Whether or not air quality is relevant to a planning decision will depend on the proposed development and its location. Concerns could arise if the development is likely to generate air quality impacts in an area where air quality is known to be poor. They could also arise where the development is likely to adversely impact upon the implementation of air quality strategies and action plans and/or, in particular, lead to a breach of EU legislation (including that applicable to wildlife).

The council is currently in the process of reviewing the Local Plan and consideration will be given during this process to incorporating a standalone air quality policy as well the potential development of an air quality Supplementary Planning Document (SPD). However, until such time as air quality is fully integrated into the Local Plan, the Council will undertake planning decisions in accordance with the criteria set forth below. These policies are a direct, but local, reflection of planning practice guidance on air quality and therefore should be treated as a material consideration in planning decision making.

When deciding whether air quality is relevant to a planning application, considerations will include whether the development would:

- Significantly affect traffic in the immediate vicinity of the proposed development site or further afield. This could be by generating or increasing traffic congestion; significantly changing traffic volumes, vehicle speed or both; or significantly altering the traffic composition on local roads. Other matters which will be considered include whether the proposal involves the development of a bus station, coach or lorry park; adds to turnover in a large car park; or results in construction sites that would generate large HGV flows over a period of a year or more.
- Introduce new point sources of air pollution, such as furnaces, extraction systems (including chimneys), biomass boilers or biomass-fuelled CHP plant; centralised boilers or CHP plant burning other fuels within or close to an air quality management area or introduce relevant combustion within a Smoke Control Area;
- Expose people, particularly vulnerable people such as the elderly, children or those with respiratory conditions, to existing sources of air pollutants. This could be by building new homes, workplaces or other development in places with poor air quality.
- Give rise to potentially unacceptable impacts (such as dust) during construction for nearby sensitive locations.
- Affect biodiversity. In particular, is it likely to result in deposition or concentration of pollutants that significantly affect a European-designated wildlife site, and is not directly connected with or necessary to the management of the site, or does it otherwise affect biodiversity, particularly designated wildlife sites?
- Lead to the declaration of a new Air Quality Management Area.

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When there are concerns about air quality, the council may request that the following air quality information is submitted with planning applications:

- the baseline local air quality situation in and around the development proposal;
- whether the proposed development could significantly change air quality during the construction and operational phases;
- whether there is likely to be a significant increase in the number of people exposed to a problem with air quality, such as when new residential properties are proposed in an area known to experience poor air quality;
- for major development, 24-hour traffic counts in and around the proposed development; and any mitigation measures proposed.

Air quality mitigation measures will be location specific and will depend on the proposed development and should therefore be proportionate to the likely impact. The council will therefore work with applicants to consider appropriate mitigation so as to ensure the new development is appropriate for its location and unacceptable risks are prevented.

Any air quality mitigation plans should show that consideration has been given to the following measures and that these are incorporated where possible into a development proposal:

- the design and layout of development to increase separation distances from sources of air pollution;
- using green infrastructure, in particular trees, to absorb dust and other pollutants;
- means and positioning of ventilation;
- promoting infrastructure to promote modes of transport with low impact on air quality;
- controlling dust and emissions from construction, operation and demolition; and
- contributing funding to measures, including those identified in air quality action plans and low emission strategies, designed to offset the impact on air quality arising from new development.

[Planning conditions](#) and [obligations](#) will be used to secure mitigation measures where necessary to make a development acceptable in planning terms.

### **Policy AQS 4: Future Developments and Planning**

Air quality policies will be incorporated into the preparation of the new Local Plan. This is to provide the planning framework to safeguard existing areas and to ensure that the type or location of proposed development will not adversely impact air quality and where possible bring about improvements, through either relocation of polluting activities or negotiation of appropriate mitigation.

In addition, existing Planning Practice Guidance on air quality (ID 32-001-20140306) will continue to be adhered to ensure new developments contribute positive to air quality improvements. The new Local Plan will be fully aligned with national guidance on air quality to ensure measures to improve air quality can be applied as Thurrock continues to grow.

### 4 Action Plans

In accordance with the Environment Act (1995) Thurrock Council has a duty to produce an Air Quality Action Plan (AQAP) for all areas declared as AQMAs. AQAPs set out the measures to be implemented to work towards meeting the air quality objectives in the designated areas.

In developing this Strategy, the council also took the opportunity to review and revise the existing air quality action plans for each AQMA, as well as develop AQAPs for the new AQMAs in Tilbury (AQMA 24), Aveley (AQMA 25) and Purfleet Bypass (AQMA 26). These action plans focus primarily on the period from 2016 to 2020, although in some cases include some longer term actions as well.

In developing the new AQAPs and reviewing those existing, a long list of options were generated and assessed for feasibility and impact in terms of improving air quality and health within the AQMAs as well as throughout the borough. These options are detailed in the Thurrock Air Quality and Health Strategy: Issues and Options Report.

#### 4.1 Prioritisation

A prioritisation exercise was undertaken to enable the Council to focus its resources on those areas where the issues are most pronounced. Borough wide interventions have been identified to contribute to improving air quality across the borough including within the 18 existing AQMAs.

Eight AQMAs have not been assigned specific measures as air quality modelling indicates that air quality has improved in these areas and by continuing to implement the borough wide measures combined with technological advancements the AQMA will fall below the threshold limits. It is intended that the borough wide interventions will enable the council to revoke a number of AQMAs in 2017 subject to DEFRA approval, including:

- AQMA 8 (Premier Inn West Thurrock)
- AQMA 9 (Thurrock FC)
- AQMA 12 (Watts Wood)
- AQMA 13 (Aveley)
- AQMA 15 (South Ockendon)
- AQMA 16 (Kemps Cottages)
- AQMA 21 (Stonehouse Lane Inn)
- AQMA 26 (Purfleet By-Pass)

The remaining AQMAs were prioritised in order of importance based on:

- Where pollutant concentrations are highest
- Those AQMAs within the most 20% health deprived LSOA in England (note that no AQMA met this criteria)
- AQMAs where the forecast pollutant concentrations three years in the future is less than 20% below the limit value.

Figure 3 **Error! Reference source not found.** outlines the remaining AQMAs prioritised for interim transport actions, the dominant pollution sources and the magnitude level of action required.

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AQMA	Notes	Level of Action Required
Purfleet AQMA 10	Highest NO <sub>2</sub> concentration, predominantly from HGVs	High
A1012 AQMA 3 (Elizabeth Road Only)	Focussed on HGVs and cars.	High
North Stifford AQMA 5 (B186 to Clockhouse Lane only)	Focussed on HGVs and cars.	High
Tilbury AQMA 24	Focused on cars.	Medium
Aveley high Street AQMA25	Focused on HGVs.	Medium
South Stifford AQMA 2	Focused on HGVs and cars.	Low
West Thurrock AQMA 23		Low
Grays Town Centre AQMA 1 (London Road Only)		Low

**Figure 3 - AQMAs Prioritised for Actions**

### 4.2 Action Plan

#### Borough wide interventions

The borough wide interventions are detailed in the table below. These interventions will contribute to improving air quality across the borough including within the 18 existing AQMAs.

Action reference	Action description	Outcome	Action Lead	Delivery Date	Comments and Status
1	Land Use Planning	No increase	Strategic Planning (SN)	Adoption of Local Plan – 2019	
2	Weight Restrictions	2.0 µg/m <sup>3</sup> per site	Transport Development – lead: Senior Engineer	March 2018	Feasibility work to be completed early 2017
3	Freight Partnership Quality	N/A	Transport Development – lead: Principal Transport Planner	March 2018	First meeting to be set up in early 2017
4	Eco-Driver Training	0.5 µg/m <sup>3</sup>	Transport Development – lead: Principal Transport Planner	March 2020	
5	School/ Workplace Travel Plans	0.5 µg/m <sup>3</sup>	Transport Services – lead: Road Safety/Active Travel Co-ordinator	March 2020	
6	Improved Walking and Cycling Infrastructure	3.0 µg/m <sup>3</sup> across Borough	Transport Development – lead: Principal Engineer Traffic and Development Management	March 2020	Tranche 1 schemes to be constructed from January 2017
7	AQ Mitigation in new developments	No increase in at risk population	Air Quality Monitoring Officer	March 2020	
8	Revoke AQMAs where exceedances fall below pollutant thresholds	Nine AQMAs revoked	Air Quality Monitoring Officer	December 2017	Likely to result in revocation of nine AQMAs

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9	Improve efficiency of Council Fleet	N/A	Fleet Manager and Transport Development	December 2017	Preliminary discussions need to influence procurement process
10	Encourage urban greening and influence landscaping and tree planting programmes in AQMAs	N/A	Environment and Transport Development	December 2017	Agree standards for vegetation on highway which reduce pollutants
11	Variable Message Signing (VMS)	1.0 µg/m <sup>3</sup>	Transport Development – lead: Principal Engineer for Traffic and Development Management	April 2017	Refurbished portable VMS signs are being donated by Highways England
12	HGV Traffic Management Scheme	8.0 µg/m <sup>3</sup>	Transport Development - – lead: Principal Transport Planner	To be confirmed	Dependent on funding
13	Taxi licensing requirements	Unknown	Licensing and Transport Development	March 2017	Requirement for Euro 6 compliant taxis
14	Utility work permit scheme	5% reduction in utility works	Network Manager	April 2017	All utility works to require a permit so works can be planned and managed and disruption on network reduced.
15	Weight Restriction & Routing Enforcement	N/A	Transport Development – lead: Principal Transport Planner & Police	March 2018	Need to initiate discussions with Police
16	Engine Switch-Off Zone	0.5 – 1.0 µg/m <sup>3</sup> per site (Measures 1 and 2 combined)	Transport Development – lead: Principal Transport Planner	To be confirmed	Dependent on funding
17	Roadside Emissions Testing		Transport Development – lead: Principal Transport Planner	To be confirmed	Dependent on funding
18	Pollution Equipment Retrofit	15.0+µg/m <sup>3</sup>	Transport Development – lead: Principal Transport Planner	To be confirmed	Subject to Defra funding bid submission
19	Clean Air Zone	15.0+µg/m <sup>3</sup>	Transport Development – lead: Principal Transport Planner	To be confirmed	Subject to result of feasibility study

	In progress
	Risk to progress
	Significant barrier to progress



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### AQMA specific interventions

The interventions to be implemented in specific AQMAs are detailed in the table below.

AQMA	Action description	Outcome	Action Lead	Delivery Date	Comments
AQMA 10 – London Road, Purfleet	HGV Distributor Road/ Dualling and associated weight restrictions	15.0+ µg/m <sup>3</sup> (Actions 3 and 4 combined)	Principal Transport Development Engineer	March 2021	Subject to developer negotiations
AQMA 3 – Hogg Lane/Elizabeth Road	Mature Landscaping Barrier	5.0+ µg/m <sup>3</sup> *	Landscape officer	November 2017	Dependent on landownership and location of utilities' apparatus
	30 mph limit	5.0+ µg/m <sup>3</sup> *	Principal Transport Development Engineer	September 2017	Subject to capital funding allocation
AQMA 5 – A1306 (Pilgrims roundabout)	Mature Landscaping Barrier	5.0+ µg/m <sup>3</sup> *	Landscape Officer	November 2017	Dependent on landownership and location of utilities' apparatus
	Variable Message Signing for Lakeside	1.0 µg/m <sup>3</sup>	Network manager	March 2021	Further feasibility information required
	Pilgrims Roundabout Signalisation	5.0+ µg/m <sup>3</sup> *	Principal Transport Development Engineer	Feasibility study due March 2017	Further transport modelling required to determine optimum solution
AQMA 24 – Tilbury (Calcutta Road)	Improved Walking and Cycling Infrastructure and marketing and promotion campaign	3.0 µg/m <sup>3</sup> overall	Transport development manager	March 2018	Schemes to be constructed in 2017/18 to tie in with s278 works
AQMA 25 - Aveyley	HGV Traffic Management Scheme: Stifford Road	8.0 µg/m <sup>3</sup>	Principal Transport Development Engineer	April 2017	Awaiting results of feasibility study
	HGV Traffic Management Scheme: Ship Lane	8.0 µg/m <sup>3</sup>	Principal Transport Development Engineer	April 2017	Awaiting results of feasibility study
AQMA 26 – Purfleet Bypass	Mature Landscaping Barrier	2.0+ µg/m <sup>3</sup> *	Landscape officer	November 2017	Dependent on landownership and location of utilities' apparatus
AQMA 1, 2, 23 Grays (London Road)	Enforcement of Weight Restriction	3.0 µg/m <sup>3</sup>	Principal Transport Development Engineer	September 2017	Awaiting results of feasibility study
	Land Use Planning (Gumley Road and Askey Farm Lane)	No increase	Principal Planning Officer	March 2019	To be identified in emerging Local Plan

### 5 Monitoring and Evaluation

The Council will continue to monitor and assess progress on air quality throughout the borough and the implementation, delivery and success of the AQAPs in improving air quality within AQMAs.

To this end, in addition to the LAQM regime of Annual Status Reports (ASRs), the AQAPs will be kept as live documents. Their success will be dependent upon the on-going assessment and reporting of progress in the implementation of measures and the evidence acquired from on-going evaluation of the impacts of measures that are reported through the ASRs.

The use of monitoring to show the decline in pollutant concentrations attributed to the implementation of measures is an obvious basis on which the council will provide evidence to show progress in helping to achieve the limit values within the prioritised AQMAs. However, for some measures alternative indicators have been included within the AQAPs and will also be used to report progress.

The Air Quality Steering Group will continue to meet on an annual basis after the adoption and implementation of measures contained within the AQAPs in order that a review of each AQAP and its progress is undertaken. Where, in undertaking the review, evidence shows that unforeseen barriers to progress have arisen, or measures are no longer suitable, the AQAPs will be updated to reflect the revised position. In doing so, the AQAPs will be maintained as “live” documents. Where necessary, updates to source apportionment will also be undertaken, along with a review of recent modelling and monitoring data, to ensure that the measures remain targeted, appropriate and focused within each AQAP.