IPSWICH
BOROUGH COUNCIL

Ipswich Borough Council
Air Quality Action Plan
2019
DRAFT FOR CONSULTATION

In fulfilment of Part IV of the
Environment Act 1995
Local Air Quality Management

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Executive Summary

This Air Quality Action Plan (AQAP) has been produced as part of our statutory duties required by the Local Air Quality Management framework. It outlines the action we want to see delivered to improve air quality in Ipswich.

This action plan replaces the previous action plan which ran from September 2008. Projects delivered through the past action plan include:

- Bus timetable improvements;
- Improved facilities at bus stations, including the provision of real time passenger information;
- The implementation of a new Urban Traffic Management and Control (UTMC) system to reduce congestions within Ipswich; and
- Improvements to town centre pedestrian and cycle routes.

Air pollution is associated with a number of adverse health impacts. It is recognised as a contributing factor in the onset of heart disease and cancer. Additionally, air pollution particularly affects the most vulnerable in society: children and older people, and those with heart and lung conditions. There is also often a strong correlation with equalities issues, because areas with poor air quality are also often the less affluent areas[1,2].

The annual health cost to society of the impacts of particulate matter alone in the UK is estimated to be around £16 billion[3]. Ipswich Borough Council is committed to reducing the exposure of people in Ipswich to poor air quality in order to improve health.

We have developed actions that can be considered under the following broad topics:

- Public Information
- Promoting Travel Alternatives
- Promoting Low Emission Transport
- Alternatives to Private Vehicle Use
- Traffic Management
- Vehicle Fleet Efficiency

[1] Environmental equity, air quality, socioeconomic status and respiratory health, 2010
[2] Air quality and social deprivation in the UK: an environmental inequalities analysis, 2006
[3] Defra. Abatement cost guidance for valuing changes in air quality, May 2013

- Freight and Delivery Management
- Policy Guidance and Development Control
- Transport Planning and Infrastructure
- Promoting Low Emission Plant

Our priorities are:

- Priority 1 – Public health, behaviours and awareness - Facilitating a modal shift away from private vehicles towards public transport and active travel, to improve air quality and create a healthy community.

- Priority 2 – Transport - Incentivise switching to cleaner vehicles, developing effective yet realistic renewal strategies for the town's bus fleet, taxis and corporate fleets, to reduce poor air quality and to create a more sustainable environment.

- Priority 3 - Policy, planning and infrastructure - By embedding air quality measures into policy development, planning applications and major developments, to bring future improvements to air quality and create an enjoyable and sustainable place to live and work, and build a strong Ipswich economy.

- Priority 4 – Wider strategic approach- Reducing exposure to air pollution by tackling the sources of pollution from further transport initiatives and domestic sources.

In this AQAP we outline how we plan to effectively tackle air quality issues within our control. However, we recognise that there are a large number of air quality policy areas that are outside of our influence (such as vehicle emissions standards agreed in Europe), but for which we may have useful evidence, and so we will continue to work with regional and central government on policies and issues beyond Ipswich Borough Council's direct influence.

Responsibilities and Commitment

This AQAP was prepared by the Environmental Protection Department at Ipswich Borough Council with the support and agreement of the following officers and departments:

Public Protection, Ipswich Borough Council

- Caroline Talbot Principal Environmental Health Officer (Environmental Protection)
- Andrew Coleman Environmental Health Officer (Environmental Protection)

Planning and Development, Ipswich Borough Council

- Carlos Hone Operations Manager Planning and Development
- Sarah Barker Planning Policy Team Leader

Growth, Highways and Infrastructure, Suffolk County Council

- Steve Merry Transport Policy and Development Manager
- Sharon Payne Principal Transport Planner

Health, Wellbeing and Children's Services (HWC), Suffolk County Council

- Marc Rolph Health Protection Manager

This AQAP has been approved by:

- Ian Blofield Head of Housing and Community Services, Ipswich Borough Council

This AQAP will be subject to an annual review, appraisal of progress and reporting to the relevant Council Committee. Progress each year will be reported in the Annual Status Reports (ASRs) produced by Ipswich Borough Council, as part of our statutory Local Air Quality Management duties.

The Air Quality Action Plan is a live document. Measures will be added and developed throughout the lifetime of this plan.

If you have any comments on this AQAP please send them to the Environmental Protection Department at:

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1. Introduction

This report outlines the actions that Ipswich Borough Council want to see delivered between 2019 and 2024, in order to reduce concentrations of air pollutants and exposure to air pollution; thereby positively impacting on the health and quality of life of residents and visitors to the Borough of Ipswich.

It has been developed in recognition of the legal requirement on the local authority to work towards Air Quality Strategy (AQS) objectives under Part IV of the Environment Act 1995 and relevant regulations made under that part and to meet the requirements of the Local Air Quality Management (LAQM) statutory process.

This Plan will be reviewed every five years at the latest and progress on measures set out within this Plan will be reported on annually within Ipswich Borough Council's air quality ASR.

2. Summary of Current Air Quality in Ipswich Borough

In order to assess local air quality, the Council operates one continuous analyser sited in Chevallier Street, Ipswich providing highly accurate data on levels of nitrogen dioxide. In addition, diffusion tubes measure levels of nitrogen dioxide at 76 locations across Ipswich.

To date, Ipswich Borough Council has declared a total of five Air Quality Management Areas (AQMA) at locations where the annual mean concentration of nitrogen dioxide (NO_2) is, or is likely to, exceed the national objective level of 40µg/m^3 on a consistent basis:

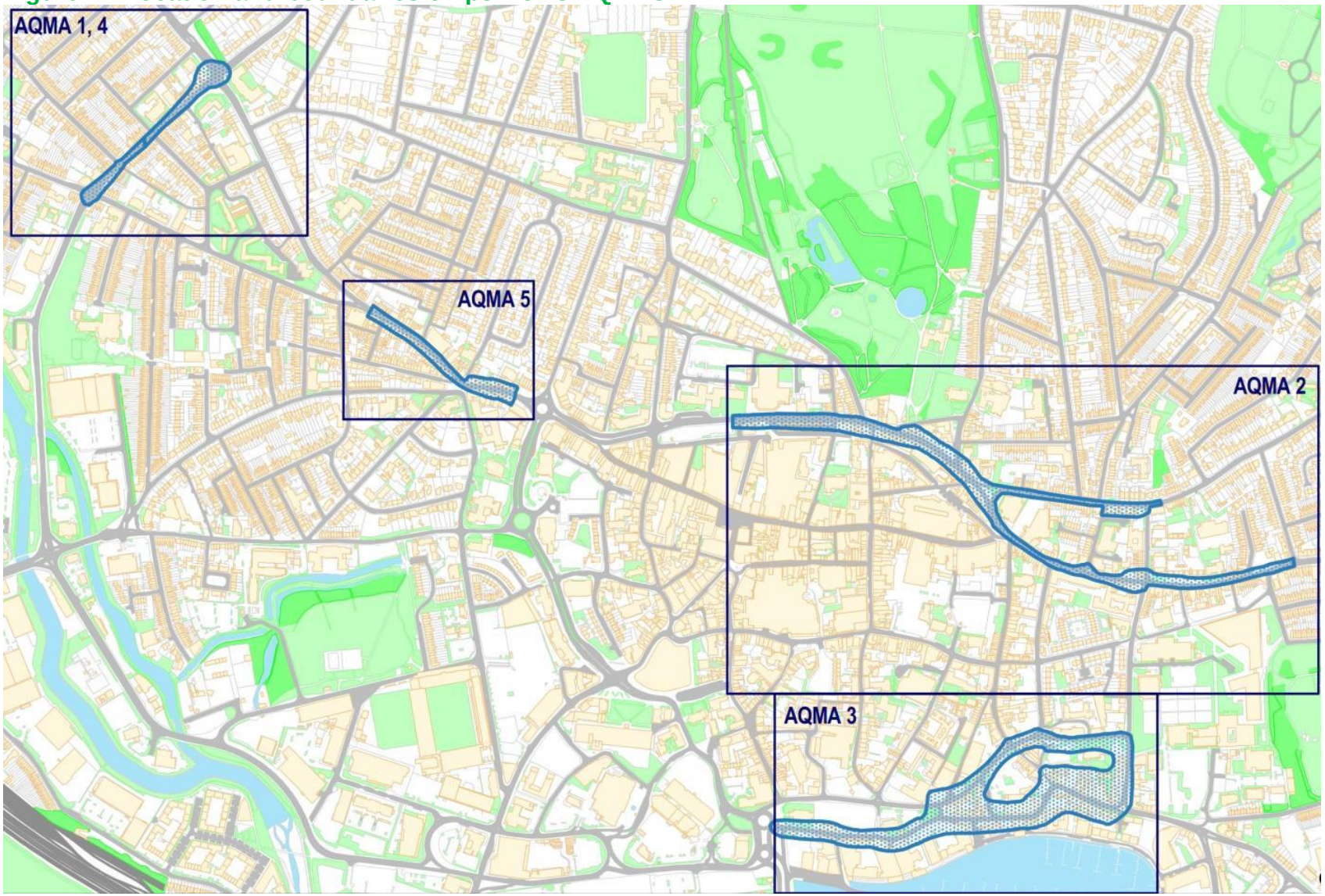
- *Ipswich AQMA No.1* - Encompassing the land in and around the junction of Norwich Road, Chevallier Street and Valley Road, extending along Chevallier Street to beyond the junction with Waterloo Road (declared 2006; amended 2017);
- *Ipswich AQMA No. 2* - From the junction with Peel Street, extending along Crown Street, St Margarets Street and St Helens Street to the junction with Palmerston Road, and from St Margarets Street extending up Woodbridge Road to just beyond the junction with Argyle Street. (declared 2006; amended 2017);
- *Ipswich AQMA No. 3* - Following the route of the Star Lane / Key Street / College Street gyratory clockwise from the junction with Lower Orwell Street, extending along Star Lane, Grimwade Street, Fore Street, Salthouse Street, Key Street and College Street, terminating at the junction with Bridge Street (declared 2006; amended 2017);
- *Ipswich AQMA No. 4* - Incorporating the Bramford Road / Yarmouth Road / Chevallier Street junction and part of Chevallier Street (declared 2010);
- *Ipswich AQMA No*. 5 - Incorporating the land in or around St. Matthews Street / Norwich Road between the Civic Drive roundabout and Bramford Road (declared 2017).

Further information on the above AQMAs (shown in Figure 1 below) is available on Ipswich Borough Council's AQMA webpage on the DEFRA website – https://uk-air.defra.gov.uk/aqma/local-authorities?la_id=133.

For the most up-to-date air quality monitoring data for the AQMAs and across the Borough, please refer to the latest ASR available on the from Ipswich Borough Council Air Quality Management website - https://www.ipswich.gov.uk/airqualitymanagement.

Both nationally and locally the main source of high levels of nitrogen dioxide is from vehicle emissions, so the AQAP will focus primarily on ways to reduce these emissions, as well as reducing other sources of air pollution.

Figure 1 - Location and boundaries of Ipswich's AQMAs



3. Ipswich Borough Council's Air Quality Priorities

3.1 Public Health Context

A major public health risk

Air pollution is a major public health risk ranking alongside cancer, heart disease and obesity (DoH, 2011). Causing more harm than passive smoking (Defra, 2018), a review by the World Health Organization (WHO) concluded that long-term exposure to air pollution reduces life expectancy by increasing deaths from lung, heart and circulatory conditions (WHO, 2013).

Conditions caused or exacerbated by air pollution include asthma, chronic bronchitis, chronic heart disease, and strokes. These conditions significantly reduce quality of life. They also mean that people are less able to work and need more medical care, resulting in higher social costs and burdens to the National Health Service (Defra, 2018).

Affects the most vulnerable in society

Although poor air quality can affect health at all stages of life, those most affected are the young and old (NICE, 2017). In the womb, maternal exposure to air pollution can contribute to low birth weight, premature birth, stillbirth or organ damage. Whilst in children there is evidence of a link to reduced lung capacity (RCP/RCPCH, 2016). In old age, a life-time of exposure to air pollution can result in reduced life-expectancy and reduced wellbeing at end of life. There is also emerging evidence of a link between air pollution and an acceleration of the decline in cognitive function (RCP/RCPCH, 2016).

Another group disproportionally at risk from air pollution are the socio-economically disadvantaged. Deprived communities are more likely to experience adverse health effects from poor air quality because they are more exposed to air pollution, for example, by being close to major roads (NICE, 2017). They are also less likely to live close to well-maintained green spaces associated with lower levels of air pollution, increased physical activity, and improved mental wellbeing (Defra, 2018).

The local picture

As of 2016, in Ipswich 19.9% of the population were aged 0-15, and 16.0% were aged 65 or over (ONS, 2018). This means that over 35% of the population (approximately 50,000 individuals) are especially vulnerable to the harmful effects of air pollution by virtue of their age. This susceptibility is further potentiated by disproportionately high income deprivation rates amongst these groups; rates of 21.9% affecting children and 17.5% affecting older people compared to a headline income deprivation rate within Ipswich of 16.3% (Suffolk Community Foundation, 2016).

Modelling has estimated that in 2010 across Ipswich anthropogenic $PM_{2.5}$ air pollution was responsible for the equivalent of 63 excess deaths amongst over 25s, resulting in an estimated 653 life-years lost (PHE, 2014).

Across the UK the major pollutants of concern are particulate matter (*e.g.* $PM_{2.5}$) and nitrogen oxides (*e.g.* NO_2). Sources can include both natural and man-made processes such as construction, industry, power generation, agriculture, home heating, as well as motorised transport by road, rail, sea and air (SCC, 2017). Within Ipswich the major air pollutant of concern, and hence primary focus of this action plan, is nitrogen dioxide emitted from road transport. As summarised above, Ipswich currently has five AQMAs where the mean annual objective level for nitrogen dioxide is exceeded on a regular basis. In total the AQMAs cover approximately 9 hectares (or 0.23%) of the Borough.

Working together to deliver real improvement

Although primarily focused on addressing Ipswich Borough Council's LAQM responsibilities in respect of annual mean nitrogen dioxide exceedances, it is envisaged that this action plan will also help to reduce anthropogenic emissions of $PM_{2.5}$. Consequently, working in partnership with Public Health Suffolk it is hoped that this action plan can be used to drive both compliance with the national air quality objectives and improvements in the Public Health Outcomes Framework indicator 3.01 for Suffolk; indicator number 3.01 being the *"Fraction of all-cause adult mortality attributable to anthropogenic particulate air pollution (measured as fine particulate matter, PM2.5)"* (PHE, 2018).

3.2 Planning and Policy Context

On a county-wide basis air quality management in new developments has been made a priority by the Suffolk Air Quality Management Group (SCC, 2017), which has issued guidance for use across Suffolk - https://tinyurl.com/y85kgwoa. Aimed at maintaining and where possible improving air quality, this guidance is intended to ensure a consistent approach to local air quality management and new development by:

i. identifying circumstances where an air quality assessment would be required to accompany an application;

ii. providing guidance on the requirements of the air quality assessment; and

iii. providing guidance on mitigation and offsetting

In addition to this, the *Suffolk Guidance for Parking* [https://tinyurl.com/y789rjkp] includes provisions to increase the number of electric vehicles charging points in new parking developments.

With one of the twelve strategic objectives guiding the *Ipswich Local Plan* [https://tinyurl.com/y8zk2yw2] being *"To improve air quality and create a safer, greener, more cohesive town"* there are references throughout the document to measures to improve air quality, including:

i. providing infrastructure to support modal shift to active travel (walking and cycling) and public transport;

ii. the requirement for travel planning and car clubs at significant new developments;

iii. the importance of green infrastructure in mitigating the effects of air pollution; and

iv. the provision of electric vehicle charging points to support the uptake of ultra-low emission vehicles (ULEVs).

This commitment to safeguarding and improving air quality is most clearly expressed in *Policy DM17: Transport and Access in New Developments*, where in addition to the above the policy states:

> *"To promote sustainable growth in Ipswich and reduce the impact of traffic congestion, new development shall not result in a significant impact on air quality or an Air Quality Management Area."*

The Ipswich Local Plan is currently being reviewed and updated and will further embed air quality considerations.

To support the promotion of active travel, in 2016 Ipswich Borough Council issued a Cycling Strategy Supplementary Planning Document (SPD) [https://tinyurl.com/y7wag62m]. In addition to this, the Council is in the initial stages of preparing a Low Emissions Strategy SPD to provide additional guidance to policies contained in the Ipswich Local Plan. The new SPD will not set new policies but will be a material consideration in taking decisions on planning applications. Providing a consistent approach to dealing with air quality and planning in Ipswich, the SPD will provide guidance on measures that can be implemented to mitigate the potentially harmful impacts of new development (*e.g.* increased traffic and congestion; increased emissions from the heating of new homes). As such it will consider measures regarding the use and type of vehicles; the role of walking, cycling and public transport; boiler types; and the role of trees and hedgerows in absorbing pollutants (IBC, 2016). It is envisaged that the Steering Group instrumental in the delivery of this action plan will also take a prominent role in the development of the new SPD.

3.3 Required Reduction in Emissions

To enable resources to be focused on the areas where they could have the greatest benefit, prior to commissioning a source apportionment study the 2016 bias and distance corrected diffusion tube data was used to calculate the percentage reduction in traffic related NO_x emissions necessary to comply with the air quality objective. Calculated in accordance with the method described in Chapter 7 of the *Technical Guidance LAQM.TG16* (Defra, 2018) (see Appendix 8) the required reductions for the highest exceedance in each AQMA are shown in Table 3.1 below.

Table 3.1 – Required reductions in NO_2 / traffic related NO_x

AQMA	Required NO_2 Concentration Reduction [worst case] ($\mu g/m^3$)	Required Reduction in Road-Related NO_x Emissions [worst case] (%)	Monitoring Location [worst case]
5	11	36%	Tube 65
2	7	28%	Tube 12
1	7	26%	Tube 14
3	1	5%	Tube 5
4	-	-	-

3.4 Source Apportionment

The AQAP measures presented in this report are intended to be targeted towards the predominant sources of emissions within Ipswich Borough Council's area.

Prioritising the available resource on the two AQMAs with the most significant air quality problems, a source apportionment exercise was carried out by Ipswich Borough Council in 2018. This identified that within AQMAs No. 5 and 2 the percentage source contributions were as shown in Figures 2 and 3.

Figure 2 - Road NO_x Emissions for Ipswich AQMA No. 5

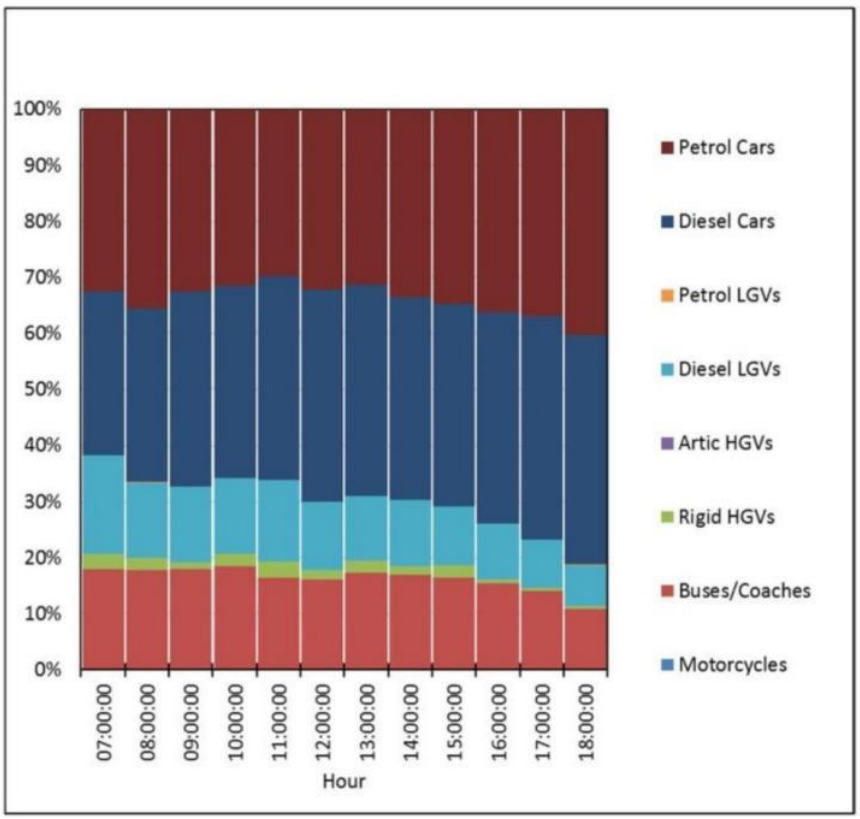


Figure 3 - Road NO_x Emissions for Ipswich AQMA No. 2

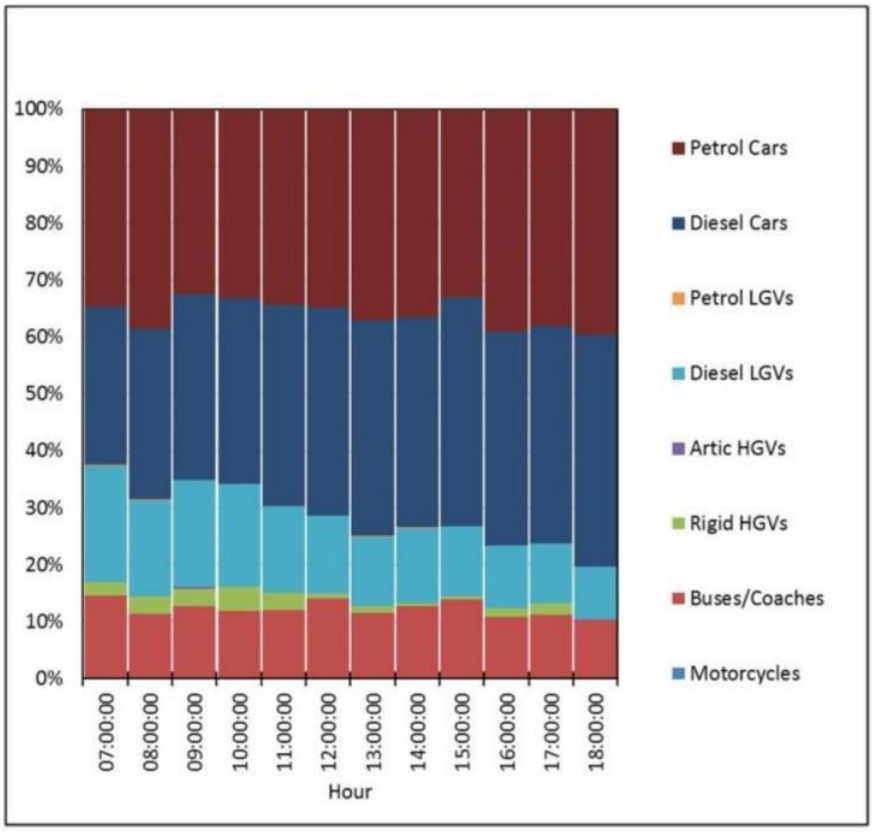


Figure 2 and Figure 3 show the percentage contribution to the total NO_x emissions by vehicle type and hour of the day for across the duration of the ANPR traffic survey undertaken as part of the source apportionment study. As such they illustrate how different vehicle types contributed to the total NO_x emissions by hour of day.

Both figures show that the NO_x emissions were dominated by car (petrol and diesel) emissions. This was to be expected as cars were the dominant vehicle types within the local fleet accounting for, on average, 35% of the total NO_x emissions each despite the number of petrol cars being higher than the number of diesel cars. Emissions from petrol LGVs, articulated HGVs and motorcycles were negligible (less than 1% each) across both AQMAs throughout the duration of the survey.

Comparison of Figure 2 to Figure 3 shows some differences between the sources of vehicle emissions in both AQMAs. Emissions within AQMA No. 5 had a greater contribution of bus and coach emissions, especially during the day, which accounted for 16% of NO_x emissions on average. Rigid HGVs accounted for just under 2% of emissions, rising to 3% around mid-morning (11:00hrs), whilst diesel LGVs accounted for around 17% of emissions first thing in the morning, falling to about 7% by the end of the day.

Figure 3 shows that diesel LGVs accounted for around 20% of emissions at the start of the day in AQMA No. 2, falling to about 7% by the end (comparable the levels seen in AQMA No. 5). As with AQMA No. 5, rigid HGVs accounted for up to 2% of emissions and their emissions double at peak times around mid-morning (10:00hrs). Bus and coach emissions accounted for 12% of the total NO_x emissions, two-thirds the level seen in AQMA No. 5, rising slightly by a further percent or two at peak activity times such as first thing in the morning (07:00hrs), midday (12:00hrs) and mid-afternoon (15:00hrs).

These observations would appear to be consistent with what we would expect for the two AQMAs; AQMA No.5 is located on St Matthews Street / Norwich Road which forms a key bus route connecting the suburbs of northwest Ipswich to the town centre. This was reflected in the higher proportion of bus and coach emissions at this site.

Encompassing the Crown Street Bus Station, AQMA No. 2 is located on a bus route serving Ipswich's eastern suburbs. The higher proportion of diesel LGV and rigid HGV emissions, especially mid-morning, may have been due to vehicles delivering to the shops in Ipswich town centre as St. Margaret's Street forms the northern boundary of the town centre and serves as a key access route.

3.5 Key Priorities

Based upon our findings and the source apportionment study, which identified that the main impact is from road vehicle emissions, the following areas are a priority for action:

- Priority 1: Public health, behaviours and awareness - Facilitating a modal shift away from private vehicles towards public transport and active travel, to improve air quality and create a healthy community.

  With the use of technology and providing information to inform the public, enable people to change their behaviours to reduce their exposure, as well as their contribution, to air pollution. This is particularly important for vulnerable members of society, such as the young, the elderly and those that may have heart or lung conditions.

  Discouraging short distance commuting journeys and investing in walking and cycling can help reduce emissions of relevant air pollutants, as well as bring about health benefits to the community.

- Priority 2: Transport - Incentivise switching to cleaner vehicles, developing effective yet realistic renewal strategies for the town's bus fleet, taxis and corporate fleets, to reduce poor air quality and to create a more sustainable environment.

  Influencing transport emissions through development of appropriate measures either under the council's direct control or via partnership work, which include reviewing traffic management systems, particularly around the current AQMAs, provision of electric charging points, renewing of bus fleets and taxi emissions standards.

- Priority 3: Policy, planning and infrastructure - By embedding air quality measures into policy development, planning applications and major developments, to bring future improvements to air quality and create an enjoyable and sustainable place to live and work, and build a strong Ipswich economy.

  Planning policies should sustain compliance with and contribute towards EU limit values or national objectives for pollutants, taking into account the presence of Air Quality Management Areas and the cumulative impacts on air quality from individual sites in local areas.
  Cooperation between transport, environmental health, public health and planning teams, as well as with partner organisations, to ensure a strategic approach to improving air quality and quality of life, especially for those living near busy roads and junctions.

- Priority 4: Wider strategic approach- Reducing exposure to air pollution by tackling the sources of pollution from further transport initiatives and domestic sources.

  By taking an active role in Suffolk wide campaigns and other air pollution initiatives such as domestic burning and improvements to housing stock, to create a more sustainable environment.

4. Development and Implementation of Ipswich Borough Council's AQAP

4.1 Consultation and Stakeholder Engagement

Ipswich Borough Council is not the Highways Authority for the town, these functions are performed by Suffolk County Council. Action to reduce vehicle emissions relies on commitment by a coalition of partners, both public and private sector. Therefore whilst this AQAP has been published by Ipswich Borough Council, there are a significant number of collaborative projects that will have to be taken forward in collaboration with others. Some of these projects will be independently run, by their own project boards and groups, and may undertake their own specific consultation or stakeholder engagement. For this reason, the consultation described below will not be the only consultation which will be undertaken on the measures.

In developing this AQAP, we have worked with other local authorities, agencies, businesses and the local community to improve local air quality. The Environment Act 1995 requires local authorities to consult the bodies listed in Table 4.1. As part of the consultation process on this draft AQAP we will seek views from all these bodies. In addition, we will undertaking the following stakeholder engagement:

- Ipswich Borough Council's Website and social medial channels
- Articles in the local press

The response to our consultation stakeholder engagement will be given in Appendix A.

Table 4.1 – Consultation Undertaken

Yes/No	Consultee
Undertaken	the Secretary of State
Undertaken	the Environment Agency
Undertaken	the highways authority
Undertaken	all neighbouring local authorities
Undertaken	other public authorities as appropriate, such as Public Health officials
Undertaken	bodies representing local business interests and other organisations as appropriate

4.2 Steering Group

Chair

- Ian Blofield — Head of Housing and Community Services, Ipswich Borough Council

Public Protection, Ipswich Borough Council

- Caroline Talbot — Principal Environmental Health Officer (Environmental Protection)
- Andrew Coleman — Environmental Health Officer (Environmental Protection)

Planning and Development, Ipswich Borough Council

- Carlos Hone — Operations Manager Planning and Development
- Sarah Barker — Planning Policy Team Leader

Growth, Highways and Infrastructure, Suffolk County Council

- Steve Merry — Transport Policy and Development Manager
- Sharon Payne — Principal Transport Planner

Health, Wellbeing and Children's Services (HWC), Suffolk County Council

- Marc Rolph — Health Protection Manager

The full Steering Group has met on 13th March 2018, 2nd July 2018, 17th September 2018 and 12th October 2018 prior to consulting on this action plan.

5. AQAP Measures

Table 5.1 shows the Ipswich Borough Council AQAP measures. It contains:

- a list of the actions that form part of the plan
- the responsible individual and departments/organisations who will deliver this action
- estimated cost of implementing each action (overall cost and cost to the local authority)
- expected benefit in terms of pollutant emission and/or concentration reduction
- the timescale for implementation
- how progress will be monitored

NB: Please see future ASRs for regular annual updates on implementation of these measures

Table 5.1 – Air Quality Action Plan Measures

#	Measure	EU Category	EU Classification	Lead Authority	Planning Phase	Implementation Phase	Key Performance Indicator	Target Pollution Reduction in the AQMA	Progress to Date	Estimated Completion Date	Comments
A	**Public health, behaviours and awareness**										
1	Development and implementation of an anti-idling campaign, including where appropriate an enforcement regime	Public Information	Other	Ipswich Borough Council	2019	2019 onwards	-	Low	-	2020	Planning Suffolk wide campaign.
2	Campaign to raise awareness of air quality issues in schools near AQMAs to subsequently influence behavioural change and improve air quality near schools	Public Information	Other	Ipswich Borough Council	2019	2019 onwards	-	Low	-	2020	-
3	Promote the Councils Green Travel Plan to employees, including use of agile working	Promoting Travel Alternatives	Workplace Travel Planning	Ipswich Borough Council	2019	2019 onwards	-	Low	-	-	To promote alternatives and reduce the need to travel everyday
4	Active participation in annual Clean Air Days	Public Information	Other	Ipswich Borough Council	Q1 2019	Q2 2019	-	Low	-	Ongoing	Includes annual promotion of anti-idling
5	Investigate the feasibility of promoting air quality messages on IBC variable message signs around Ipswich	Public Information	Other	Ipswich Borough Council	2019	2019	-	Low	Ongoing	Ongoing promotion if feasible	Messages can also link to other campaigns: anti-idling/ domestic burning/ clean air day/ discounted public transport promotions

#	Measure	EU Category	EU Classification	Lead Authority	Planning Phase	Implementation Phase	Key Performance Indicator	Target Pollution Reduction in the AQMA	Progress to Date	Estimated Completion Date	Comments
6	Promotion of travel alternatives e.g. walking, cycling, public transport, car sharing & air quality matters. Investigate the feasibility of promoting air quality messages on variable message signs around Ipswich (e.g. Bury Road)	Public Information	Other	Suffolk County Council	2019	2019 onwards	-	Low	Ongoing	Ongoing promotion if feasible	Messages can also link to other campaigns: anti-idling/ domestic burning/ clean air day/ discounted public transport promotions
B	**Transport**										
7	Explore opportunities to increase Ipswich's Park and Ride scheme, including consideration given to re-opening the Bury Road Park and Ride, and promote current schemes to incentivise people coming into Ipswich town centre to use public transport over private cars	Alternatives to Private Vehicle Use	Bus based Park & Ride	Ipswich Borough Council	2019	2019 onwards	Increase in Park and Ride uptake	Low	Ongoing	Ongoing – promotion. Annual updates.	Suffolk County Council to advise on position regarding re-opening Bury Road
8	Procurement of low emission vehicles in Ipswich Borough Council Fleet	Promoting Low Emission Transport	Public Vehicle Procurement - Prioritising uptake of low emission vehicles	Ipswich Borough Council	2019	2019 onwards	Provision of new vehicles	Low	8 pool cars to be replaced with electric vehicles in 2019	2022	3 year replacement plan for small vehicle fleet to zero emission. Larger vehicles to euro VI standard

#	Measure	EU Category	EU Classification	Lead Authority	Planning Phase	Implementation Phase	Key Performance Indicator	Target Pollution Reduction in the AQMA	Progress to Date	Estimated Completion Date	Comments
9	Provision of EV charging points across IBC offices, Crown Street and Elm Street public car parks and investigate the feasibility of additional charging points across IBC car parks	Promoting Low Emission Transport	Procuring alternative infrastructure to promote Low Emission Vehicles	Ipswich Borough Council	2019	2019	Provision of 4 charging stations (8 points) at Grafton House. Usage of EV charging points by the public	Low	28 charging points installed at Crown Car Park. 2 charging points (inc 1 rapid charging point) to be installed at Elm Street.	2019 for Grafton House. 2 charging points at Elm Street - TBC.	Provision of additional charging points depends on success of usage of current charging points
10	Promote the use of South Street (to be renamed Norwich Road Car Park), short term parking bays behind businesses on Norwich Road. Incentivising use of allocated parking and enforcement against unauthorised on street loading/ parking.	Traffic Management	Other	Ipswich Borough Council	2019	Q3, 2019	Reduction in congestion along Norwich Road. St Matthews Street.	Low	-	Ongoing promotion	To reduce unauthorised parking on Norwich Road / St Matthews Street
11	Investigate what other organisations in the town are doing with regards to fleet renewal (e.g. other Local Authorities and large businesses) and whether there are opportunities (and funding) for an accelerated take up of ULEVs in the town.	Promoting Low Emission Transport	Public Vehicle Procurement - Prioritising uptake of low emission vehicles	Ipswich Borough Council	2019	TBC	-	Low	-	-	-

#	Measure	EU Category	EU Classification	Lead Authority	Planning Phase	Implementation Phase	Key Performance Indicator	Target Pollution Reduction in the AQMA	Progress to Date	Estimated Completion Date	Comments
12	Assist the Councils Car Parking Services in the development of their policies and strategies to promote clean travel and improved air quality. Review use of short and long stay car parks	Promoting Low Emission Transport	Other	Ipswich Borough Council	2019	TBC	-	Low	-	-	-
13	Continue to explore the possibility and apply to DEFRA for grant funding under Air Quality Grant Schemes and any other appropriate funding	Promoting Low Emission Transport, Promoting Travel Alternatives & Public Information	Other	Ipswich Borough Council	2019	TBC	-	-	-	TBC	Other councils used grants to raise awareness of issues/ apply for charging points/ work with businesses to reduce emissions/ cycling infrastructure
14	Work with Ipswich Buses bus fleet to encourage the renewal of their fleet to cleaner i.e. Euro VI or better and/or low emission, hybrid buses, on certain routes	Vehicle Fleet Efficiency	Other	Ipswich Borough Council	2019	2020 (and 2026)	8 Euro III/IV's buses to be replaced in 2019/2020 with Euro V or VI. 18 buses to be replaced in 2026 with buses at least Euro V or better. Reduced fleet emissions	Low	Ongoing	2020 (and 2026)	Investigate IBC funding towards improvements of bus fleet.
15	Work with other Bus Operators in the town (i.e. First, Norse, Beestons) to encourage the renewal of their fleets to cleaner i.e. Euro VI or better and/or low emission, hybrid buses, on certain routes	Vehicle Fleet Efficiency	Other	Ipswich Borough Council	2019	TBC	Reduced fleet emissions	Low	Ongoing	TBC	Awaiting further details on renewal strategy from Bus Operators i.e. First & Norse. Investigate IBC funding towards improvements of bus fleet.

16	Introduction of taxi emissions standards policy. <u>From 2020:</u> *Non-wheelchair accessible users* - move to Euro 4 Petrol, Euro 6 Diesel or Ultra Low Emission. *Wheelchair accessible users: New* - move to Euro 4 petrol, Euro 6 diesel standard or ultra-low emissions and be less than 4 years old when first presented for licensing. *Wheelchair accessible users: Existing* – move to Euro 4 petrol, Euro 5 diesel standard or ultra-low emissions and be newer than the current licensed vehicle. <u>From 2025:</u> *Wheelchair and non-wheelchair accessible users* - Must meet Euro 5 petrol, Euro 6 diesel or ultra-low emissions and, for existing licensed vehicles, be newer than the current licensed vehicle.	Promoting Low Emission Transport	Taxi Licensing conditions	Ipswich Borough Council	Q2, 2018	Q1, 2019 / Q1 2025	Reduction in non-Euro 6 Diesel fleet	Low	-	Q1, 2020 / Q1 2025	Policy currently undergoing consultation. No cost to LA

#	Measure	EU Category	EU Classification	Lead Authority	Planning Phase	Implementation Phase	Key Performance Indicator	Target Pollution Reduction in the AQMA	Progress to Date	Estimated Completion Date	Comments
17	Review opportunities for alterations to traffic management to reduce congestion in AQMAs (including opportunities on Berners Street while still providing a convenient facility for pedestrians)	Traffic Management	Other	Suffolk County Council	TBC	TBC	Reduction congestion on Civic Drive / St Matthews Street roundabout	AQMA No. 5 approx. 2% reduction in NO_x	-	-	No funding available at present
18	Review (in conjunction with other IBC/ SCC work streams), the traffic management arrangements in the St Matthews St/ Norwich Rd corridor. Maintaining delivery facilities, whilst minimising disruption to traffic flows.	Freight and Delivery Management	Quiet & out of hours delivery	Suffolk County Council	Q1, 2019	Q2, 2019	Reduction in congestion along Norwich Road & St Matthews Street.	Low	-	Q2, 2019	£10k plus signage for a clearway order
C	**Policy, planning and infrastructure**										
19	Develop and implement a Low Emission Strategy SPD	Policy Guidance and Development Control	Low Emissions Strategy	Ipswich Borough Council	Q2, 2019	Q4, 2019	-	-	-	Q1, 2020	Costs for preparation out of existing budgets
20	Embed air quality considerations in the Councils Local Plan	Policy Guidance and Development Control	Air Quality Planning and Policy Guidance	Ipswich Borough Council	Q1.2019	2020	-	-	-	2020	Adopted Local Plan (February 2017) currently implemented

#	Measure	EU Category	EU Classification	Lead Authority	Planning Phase	Implementation Phase	Key Performance Indicator	Target Pollution Reduction in the AQMA	Progress to Date	Estimated Completion Date	Comments
21	Comment on best practice measures in relation to air quality in planning applications and major developments. Support alternatives to single occupancy car use arising from new developments, through the use of robust travel plans secured through the planning process	Policy Guidance and Development Control	Air Quality Planning and Policy Guidance	Ipswich Borough Council	2019	Q1, 2019	-	-	-	Ongoing	-
22	Support Suffolk County's development of Local Ipswich Cycling and Walking Infrastructure Plans, and work to improve existing cycle routes.	Policy Guidance and Development Control	Regional Groups Co-ordinating programmes to develop area wide strategies to reduce emissions and improve air quality	Suffolk County Council	2019	TBC	-	-	-	2024	Suffolk County Council to lead on this measure.
23	Support the Local Transport Plan to create a more efficient use of the highway network in and around the town, and across Suffolk.	Transport Planning and Infrastructure	Regional Groups Co-ordinating programmes to develop area wide strategies to reduce emissions and improve air quality	Suffolk County Council	TBC	-	-	-	-	-	-

D	**Wider strategic approach**										
24	Development and implementation of campaign to provide information about the impacts of domestic burning and good practice, including wood burners and burning of garden waste	Public Information	Other	Ipswich Borough Council	2019	2019 onwards	-	Low	-	Ongoing promotion	Planning Suffolk wide campaign
25	Consider and explore the feasibility of further measures that would improve air quality within both AQMAs and across the borough, including emissions testing within AQMAs, low emission zones and congestion charging	Promoting Low Emission Transport, Promoting Travel Alternatives & Public Information	Other	Ipswich Borough Council	2019	2019 onwards	-	-	-	Ongoing	
26	Provision of A rated boilers in IBC owned housing stock	Promoting Low Emission Plant	Emission control equipment for small and medium sized stationary combustion sources	Ipswich Borough Council	Completed	Ongoing	-	-	-	2022	All larger properties are to have low NOx boilers, defined as boilers that meet a dry NOx emission rating of 40mg/kWh. Continue to make improvements in this area
27	Work with the Private Sector Housing team to improve their renovation grant criteria and include air quality considerations	Policy Guidance and Development Control	Other policy	Ipswich Borough Council	2019	2019 onwards	-	-	-	Ongoing rollout of renovation grants	-

6. Appendix A: Response to Consultation

Table A.1 – Summary of Responses to Consultation and Stakeholder Engagement on the AQAP

Consultee	Category	Response

7. Appendix B: Reasons for Not Pursuing Action Plan Measures

Table B.1 – Action Plan Measures Not Pursued and the Reasons for that Decision

Action category	Action description	Reason action is not being pursued (including Stakeholder views)

8. Appendix C: Calculation for Required Reduction in Emissions for Each AQMA

8.1 Calculation of % reduction in Road-NO_x required to meet air quality objective in Ipswich AQMA No. 1

2016 Background NO_x and NO_2 Concentration in Ipswich AQMA No.1, µg/m^3

Relevant Grid Square centred at: 615500/245500

Pollutant	Mapped Total Background Concentration	Contribution to Background due to Traffic Sectors	Adjusted Background Concentration with contribution from Traffic Sectors removed
NO_x	21.9	7.7	14.2
NO_2*	15.7		10.5

* NO_2 concentration adjusted using the NO_2 Adjustment for NO_x Sector Removal Tool (v6.0)

Estimated Contributions of Road Traffic Emissions to Monitored NO_2 Concentrations for 2016

(Diff. tube data bias corrected)

Tube	2016 Annual Mean NO_2 Concentration (µg/m^3)	Background NO_2 Contribution (µg/m^3)	Background NO_x Contribution (µg/m^3)	Road-$NO_{x\text{-current}}$ Contribution* (µg/m^3)	Road-NO_x Contribution as % of Total	Road-$NO_{x\text{-required}}$ Contribution* (µg/m^3)	% Reduction in Road-NO_x Required to Meet Objective
14	47.4	15.7	21.9	69.5	76%	51.19	26%
45	27.4	15.7	21.9	23.2	51%	51.19	-
46	27.4	15.7	21.9	23.2	51%	51.19	-
47	27.6	15.7	21.9	23.6	52%	51.19	-
45, 46, 47	27.5	15.7	21.9	23.3	52%	51.19	-

* Road-NO_x Contribution calculated using the NO_x to NO_2 Calculator (v6.1) [2016/Ipswich/All UK Traffic]

8.2 Calculation of % reduction in Road-NO_X required to meet air quality objective in Ipswich AQMA No. 2

2016 Background NO_x and NO_2 Concentration in Ipswich AQMA No.2, µg/m^3

Relevant Grid Square centred at: 616500/244500

Pollutant	Mapped Total Background Concentration	Contribution to Background due to Traffic Sectors	Adjusted Background Concentration with contribution from Traffic Sectors removed
NO_x	28.1	11.1	16.9
NO_2*	19.5		12.3

* NO_2 concentration adjusted using the NO_2 Adjustment for NO_x Sector Removal Tool (v6.0)

Tube 72 - Relevant Grid Square centred at: 617500/244500

Pollutant	Mapped Total Background Concentration	Contribution to Background due to Traffic Sectors	Adjusted Background Concentration with contribution from Traffic Sectors removed
NOx	23.5	6.5	17.0
NO_2*	16.6		12.3

* NO_2 concentration adjusted using the NO_2 Adjustment for NO_x Sector Removal Tool (v6.0)

Estimated Contributions of Road Traffic Emissions to Monitored NO_2 Concentrations for 2016

(Diff. tube data corrected for bias and distance)

Tube	2016 Annual Mean NO_2 Concentration (µg/m^3)	Background NO_2 Contribution (µg/m^3)	Background NO_x Contribution (µg/m^3)	Road-$NO_{x\text{-current}}$ Contribution* (µg/m^3)	Road-NO_x Contribution as % of Total	Road-$NO_{x\text{-required}}$ Contribution* (µg/m^3)	% Reduction in Road-NO_x Required to Meet Objective
11	44.7	19.5	28.1	54.3	66%	43.15	21%
12	46.9	19.5	28.1	59.7	68%	43.15	28%
19	44.7	19.5	28.1	54.4	66%	43.15	21%
21	36.3	19.5	28.1	34.6	55%	43.15	-
22	35.7	19.5	28.1	33.5	54%	43.15	-
24	38.0	19.5	28.1	38.5	58%	43.15	-
25	35.9	19.5	28.1	33.7	55%	43.15	-
27	38.5	19.5	28.1	39.7	59%	43.15	-
66	35.0	19.5	28.1	31.8	53%	43.15	-
68	41.3	19.5	28.1	46.3	62%	43.15	7%
72	35.8	16.6	23.5	39.6	63%	49.25	-
76	34.2	19.5	28.1	30.0	52%	43.15	-
80	32.4	19.5	28.1	26.2	48%	43.15	-
81	32.7	19.5	28.1	26.7	49%	43.15	-
82	32.5	19.5	28.1	26.4	48%	43.15	-
80,81,82	32.5	19.5	28.1	26.4	48%	43.15	-

* Road-NO_x Contribution calculated using the NO_x to NO_2 Calculator (v6.1) [2016/Ipswich/All UK Traffic]

8.3 Calculation of % reduction in Road-NO_X required to meet air quality objective in Ipswich AQMA No. 3

2016 Background NO_x and NO_2 Concentration in Ipswich AQMA No.3, µg/m^3

Relevant Grid Square centred at: 616500/244500

Pollutant	Mapped Total Background Concentration	Contribution to Background due to Traffic Sectors	Adjusted Background Concentration with contribution from Traffic Sectors removed
NO_x	28.1	11.1	16.9
NO_2*	19.5		12.3

* NO_2 concentration adjusted using the NO_2 Adjustment for NOx Sector Removal Tool (v6.0)

Estimated Contributions of Road Traffic Emissions to Monitored NO_2 Concentrations for 2016

(Diff. tube data corrected for bias and distance)

Tube	2016 Annual Mean NO_2 Concentration (µg/m^3)	Background NO_2 Contribution (µg/m^3)	Background NO_x Contribution (µg/m^3)	Road-$NO_{x\text{-current}}$ Contribution* (µg/m^3)	Road-NO_x Contribution as % of Total	Road-$NO_{x\text{-required}}$ Contribution* (µg/m^3)	% Reduction in Road-NO_x Required to Meet Objective
5	41.0	19.5	28.1	45.5	62%	43.15	5%
33	33.0	19.5	28.1	27.5	49%	43.15	-
34	37.0	19.5	28.1	36.3	56%	43.15	-
39	40.7	19.5	28.1	44.7	61%	43.15	3%

* Road-NO_x Contribution calculated using the NO_x to NO_2 Calculator (v6.1) [2016/Ipswich/All UK Traffic]

8.4 Calculation of % reduction in Road-NO_x required to meet air quality objective in Ipswich AQMA No. 4

2016 Background NO_x and NO_2 Concentration in Ipswich AQMA No.4, µg/m^3

Relevant Grid Square centred at: 615500/245500

Pollutant	Mapped Total Background Concentration	Contribution to Background due to Traffic Sectors	Adjusted Background Concentration with contribution from Traffic Sectors removed
NO_x	21.9	7.7	14.2
NO_2*	15.7		10.5

* NO_2 concentration adjusted using the NO_2 Adjustment for NOx Sector Removal Tool (v6.0)

Estimated Contributions of Road Traffic Emissions to Monitored NO_2 Concentrations for 2016

(Diff. tube data corrected for bias and distance)

Tube	2016 Annual Mean NO_2 Concentration (µg/m^3)	Background NO_2 Contribution (µg/m^3)	Background NO_x Contribution (µg/m^3)	Road-$NO_{x\text{-current}}$ Contribution* (µg/m^3)	Road-NO_x Contribution as % of Total	Road-$NO_{x\text{-required}}$ Contribution* (µg/m^3)	% Reduction in Road-NO_x Required to Meet Objective
2	39.43	15.7	21.9	49.8	69%	51.19	-
28	35.52	15.7	21.9	40.8	65%	51.19	-
43	37.09	15.7	21.9	44.4	67%	51.19	-

* Road-NO_x Contribution calculated using the NO_x to NO_2 Calculator (v6.1) [2016/Ipswich/All UK Traffic]

8.5 Calculation of % reduction in Road-NO_x required to meet air quality objective in Ipswich AQMA No. 5

2016 Background NOx and NO_2 Concentration in Ipswich AQMA No.5, µg/m^3

Relevant Grid Square centred at: 615500/244500

Pollutant	Mapped Total Background Concentration	Contribution to Background due to Traffic Sectors	Adjusted Background Concentration with contribution from Traffic Sectors removed
NOx	23.5	9.0	14.6
NO_2*	16.7		10.7

* NO_2 concentration adjusted using the NO_2 Adjustment for NOx Sector Removal Tool (v6.0)

Estimated Contributions of Road Traffic Emissions to Monitored NO_2 Concentrations for 2016

(Diff. tube data corrected for bias and distance)

Tube	2016 Annual Mean NO_2 Concentration (µg/m^3)	Background NO_2 Contribution (µg/m^3)	Background NO_x Contribution (µg/m^3)	Road-$NO_{x\text{-current}}$ Contribution* (µg/m^3)	Road-NO_x Contribution as % of Total	Road-$NO_{x\text{-required}}$ Contribution* (µg/m^3)	% Reduction in Road-NO_x Required to Meet Objective
42	**41.1**	16.7	23.5	51.7	69%	48.97	5%
49	**41.5**	16.7	23.5	52.5	69%	48.97	7%
50	25.9	16.7	23.5	18.1	43%	48.97	-
51	37.7	16.7	23.5	43.7	65%	48.97	-
52	**46.5**	16.7	23.5	64.9	73%	48.97	25%
53	**45.3**	16.7	23.5	61.8	72%	48.97	21%
64	**50.0**	16.7	23.5	73.8	76%	48.97	34%
65	**50.9**	16.7	23.5	76.2	76%	48.97	**36%**
64, 65	**50.4**	16.7	23.5	75.0	76%	48.97	35%

* Road-NO_x Contribution calculated using the NO_x to NO_2 Calculator (v6.1) [2016/Ipswich/All UK Traffic]

9. Glossary of Terms

Abbreviation	Description
ANPR	Automatic Number-Plate Recognition
AQAP	Air Quality Action Plan - A detailed description of measures, outcomes, achievement dates and implementation methods, showing how the local authority intends to achieve air quality limit values'
AQMA	Air Quality Management Area – An area where air pollutant concentrations exceed / are likely to exceed the relevant air quality objectives. AQMAs are declared for specific pollutants and objectives
AQS	Air Quality Strategy
ASR	Air quality Annual Status Report
Defra	Department for Environment, Food and Rural Affairs
DoH	Department of Health
EU	European Union
HGV	Heavy Goods Vehicle
IBC	Ipswich Borough Council
LAQM	Local Air Quality Management
LGV	Light Goods Vehicle
NICE	National Institute for Health and Care Excellence
NO_2	Nitrogen Dioxide
NO_x	Nitrogen Oxides
PM_{10}	Airborne particulate matter with an aerodynamic diameter of 10µm (micrometres or microns) or less
$PM_{2.5}$	Airborne particulate matter with an aerodynamic diameter of 2.5µm or less
RCP	Royal College of Physicians
RCPCH	Royal College of Paediatrics and Child Health

Abbreviation	Description
SCC	Suffolk County Council
SPD	Supplementary Planning Document
ULEV	Ultra-Low Emission Vehicle
UTMC	Urban Traffic Management and Control
WHO	World Health Organization

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