



Rushcliffe Borough Council Air Quality Action Plan

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

December 2021

Rushcliffe Borough Council

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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 will take to improve air quality in Rushcliffe Borough between December 2021 and December 2026.

This action plan replaces the following previous action plans

- Air Quality Action Plan for Rushcliffe ([Update of the AQAP 2007](#)¹) which ran from 2010 until adoption of this Plan; and
- [Air Quality Action Plan for AQMA 1/2011](#)² (A52/Stragglethorpe Road Junction) which ran from 2013 until adoption of this Plan.

RBC currently has two active Air Quality Management Areas (AQMAs) declared for exceedances of the air quality threshold for the annual mean concentration of nitrogen dioxide (NO₂) of 40µg m⁻³. AQMA No 1 Trent Bridge (declared in 2005) covers an area around Trent Bridge and AQMA No 1/2011 Stragglethorpe Road (declared in 2011) covers an area along part of the A52 at Radcliffe on Trent. Since declaration of the AQMAs and the publication of the above Action Plans there has been a significant decrease in NO₂ levels in both areas. Within AQMA No 1 Trent Bridge monitoring indicates the annual mean concentration of NO₂ has been at or below the air quality threshold for the past four years; and within AQMA No1/2011 Stragglethorpe Road the annual mean concentration of NO₂ was at or below the threshold for a number of years with a slight increase in 2019 to 41µg m⁻³. This is the context within which this AQAP has been prepared. Full details of the annual monitoring can be found in the Annual Status Reports (ASRs) available on our [air quality webpages](#).

The reduction in NO₂ concentrations has been achieved through a range of measures implemented by RBC and its partners, including Nottinghamshire County Council and National Highways (formerly Highways England). Some of the main projects delivered through the past action plans include:

¹ Rushcliffe Borough Council Update of the Air Quality Action Plan 2010

<https://www.rushcliffe.gov.uk/media/1/rushcliffe/media/documents/pdf/environmentandwaste/environmentalhealth/airquality/AQAP%20revision.pdf>

² Rushcliffe Borough Council 2013 Air Quality Action Plan for AQMA No 1/2011

<https://www.rushcliffe.gov.uk/media/1/rushcliffe/media/documents/pdf/environmentandwaste/environmentalhealth/airquality/Stragglethorpe%20air%20quality%20action%20plan%202013.pdf>

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- Update of the Air Quality Strategy for Nottingham and Nottinghamshire in 2019;
- Development and adoption of Nottinghamshire County Council's Environmental Strategy in 2020;
- Rushcliffe Borough Council's Local Plan Part 2 was adopted in 2019. It includes several new policies relating to air quality and transport infrastructure, provisions for alternatives to car use and travel plans;
- The inclusion of 'the environment' as one of the four priorities in the Rushcliffe Borough Council Corporate Strategy (2019-2023);
- Development and adoption of Rushcliffe Borough Council's Carbon Management Plan in 2020;
- A heavy commercial vehicle (HCV) priority trial on the A52 at the junction with Stragglethorpe Lane (AQMA No 1/2011 Stragglethorpe Road). The traffic lights are programmed to identify HCVs thereby minimising the number that have to stop and re-start at the junction, consequently reducing emissions;
- In 2016, £6.12m funding was secured by Nottingham City Council, Nottinghamshire County Council and Derby City Council, from the Office for Low Emissions Vehicles (OLEV) to support measures across the Nottingham, Nottinghamshire and Derby areas for a package of measures to support the uptake of Ultra-Low Emission Vehicles up to 2019-20 (Nottingham Go Ultra Low);
- As part of the Nottingham Go Ultra Low (GUL) project £2m has been invested in creating a publicly accessible vehicle charging infrastructure network and over 400 charging points have been installed across the D2N2 area. There is now a mix of fast and rapid charge points at strategic locations across the D2N2 area - in Council owned carparks, public transport interchanges (e.g. park and rides & retail outlets) and in public car parks in residential areas. Charge points have been installed at 3 locations within the Borough -
 - o Barton in Fabis: Clifton South Park and Ride – 6 charge points (one rapid and 5 fast);
 - o West Bridgford: Rushcliffe Arena – 4 fast charging points installed; and
 - o West Bridgford: Nottinghamshire County Council County Hall – 1 rapid charge point.

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- More recently in 2021 a successful funding bid to the Office of Zero Emissions Vehicles (OZEV) has enabled RBC to provide residents with off street charging provision in Keyworth and Radcliffe on Trent (six charging points across 3 locations);
- In addition to the delivery of the annual programme of integrated transport measures to address congestion and increase active travel, following a successful Local Growth Fund bid, more than 5km of new on-road and off-road cycle routes have been delivered by the County Council to create a strategic cycle network in West Bridgford providing cohesive north-south, east-west and circular routes to encourage more cycling;
- Personal travel planning with over 4000 households in West Bridgford in 2016 and 5000 households in 2018 to make them more aware of their travel choices. Travel planning with employees at businesses located in AQMA No 1 Trent Bridge was also undertaken during 2014-15;
- Funding was secured to convert and retrofit 14 bus services which pass through AQMA No 1 Trent Bridge to low emission vehicles to reduce emissions from public transport fleets;
- Nottinghamshire County Council secured funding from a number of partners to increase passenger rail services and enable a faster peak service on the Nottingham to Lincoln rail line. These improvements were subsequently secured permanently through the rail franchise renewal.

Air pollution is associated with a number of adverse health impacts. It is recognised as a contributing factor in the onset of heart disease, cancer, stroke, diabetes, respiratory disease and premature mortality. 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^{3,4}.

The annual health cost to society of the impacts of particulate matter alone in the UK is estimated to be around £16 billion⁵. Rushcliffe Borough Council is committed to

³ Environmental equity, air quality, socioeconomic status and respiratory health, 2010

⁴ Air quality and social deprivation in the UK: an environmental inequalities analysis, 2006

⁵ Defra. Abatement cost guidance for valuing changes in air quality, May 2013

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reducing the exposure of people in Rushcliffe to poor air quality in order to improve health.

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

- Traffic management;
- Transport planning and infrastructure;
- Policy guidance and development control;
- Alternatives to private vehicle use;
- Promoting low emission transport;
- Promoting travel alternatives;
- Public information; and
- Vehicle fleet efficiency.

Our priorities are:

- To continue to monitor nitrogen dioxide levels at AQMA No1 Trent Bridge and at AQMA No1/2011 Stragglethorpe Road and to revoke them (in consultation with Defra) if and when there is sufficient robust data to demonstrate concentrations are well below the air quality standard objectives⁶ for a period of four to five years;
- To work with Nottinghamshire County Council, as the highway authority at the location of AQMA No 1 Trent Bridge, to implement the relevant actions set out within this plan to manage traffic volume and flow and enable residents to make smarter travel choices;
- To work with National Highways, as the highway authority at the location of AQMA No 1/2011 Stragglethorpe Road to implement the relevant actions set out within this plan to manage traffic volume and flow; and
- Rushcliffe Borough Council will continue to work with partners to actively promote policies to encourage an increased use of low emission travel options in the Borough; and to secure funding for the installation of a publicly accessible vehicle charging network infrastructure across our estate.

The aim of these priorities is to maintain sustained compliance with the air quality standards, to encourage a shift to low emission transport options and smarter travel

⁶ Air Quality Standards 2010

https://www.legislation.gov.uk/ukxi/2010/1001/pdfs/ukxi_20101001_en.pdf#:~:text=The%20Air%20Quality%20Standards%20Regulations%202010%20Made%20-to%20the%20environment.%20makes%20the%20following%20Regulations%20under

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choices to facilitate and encourage walking, cycling and public transport use, all of which have co-benefits on health and well-being.

In this AQAP we (RBC and our partners) 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 our direct influence.

It should be noted this AQAP was developed during the COVID-19 pandemic which began in March 2020. For periods of time up to the present (December 2021) the country has been subjected to a range of restrictions including national and regional lockdowns; Government direction and guidance to work from home; and travel restrictions which have had an impact on the day to day activities of the population. Within Rushcliffe, in 2020 reductions in NO₂ annual mean concentrations of between 17% and 35% were observed across the network when compared to the 2019 data. As expected, reductions were more pronounced during the initial months at the start of the national lockdown (March 2020) when lockdown measures were most restrictive. The impact of the COVID-19 pandemic and any long-term changes in population behaviour that may impact on air quality remains to be seen.

Responsibilities and Commitment

This AQAP was prepared by the Environmental Health Department of Rushcliffe Borough Council with the support and agreement of the following officers and departments:

- Rushcliffe Borough Council – Executive Management Team, Planning Policy, Development Control, Economic Growth, Community Development;
- Nottinghamshire County Council – Transport Planning & Programme Development; and
- National Highways (formerly Highways England).

The highways programmes set out in the AQAP for delivery by Nottinghamshire County Council are determined by its members as part of its strategy delivery plans and annual highway improvements programmes. The programmes detailed within

Rushcliffe Borough Council

this AQAP are therefore subject to annual review and are dependent on the necessary County Council member approvals and funding allocations.

An appraisal of progress in implementing the measures in this AQAP will be reported in the Annual Status Report (ASR) produced by Rushcliffe Borough Council as part of our statutory Local Air Quality Management duties.

If you have any comments on this AQAP please send them to Environmental Health:

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Table of Contents

Executive Summary	i
Responsibilities and Commitment.....	v
1 Introduction	1
2 Summary of Current Air Quality in Rushcliffe Borough Council	3
2.1 Existing Air Quality Action Plans.....	7
3 Rushcliffe Borough Council’s Air Quality Priorities	11
3.1 Public Health Context.....	11
3.2 Planning and Policy Context.....	14
3.2.1 Local Plans and Policies	15
3.2.2 Development Control	16
3.2.3 Nottinghamshire Local Transport Plan.....	17
3.3 Relevant Air Quality Related Strategies.....	18
3.3.1 Clean Air Strategy 2019	18
3.3.2 Air Quality Strategy for Nottingham and Nottinghamshire 2020-2030.....	19
3.3.3 The Joint Health and Wellbeing Strategy for Nottinghamshire 2018-22.....	21
3.3.4 National Highways (formerly Highways England) Air Quality Strategy.....	22
3.3.5 Nottinghamshire County Council Corporate Environmental Policy and Strategy	22
3.3.6 Rushcliffe Borough Council Corporate Strategy	23
3.3.7 Rushcliffe Borough Council Carbon Management Plan 2020	23
3.4 Other relevant Legislative Frameworks	23
3.4.1 Environment Bill 2020	23
3.5 Source Apportionment.....	24
3.5.1 Source apportionment for NO ₂ in the Air Quality Management Areas.....	24
3.5.2 Source Apportionment for Particulate Matter.....	27
3.6 Required Reduction in Emissions.....	28
3.7 Key Priorities	29
4 Development and Implementation of Rushcliffe Borough Council	
AQAP	31
4.1 Consultation and Stakeholder Engagement.....	31
4.2 Steering Group.....	Error! Bookmark not defined.
4.3 Summary of Consultation Engagement	32
4.3.1 Public Consultation	32
5 AQAP Measures	36
Appendix A: Response to Consultation	58
Appendix B: Calculations	64

Rushcliffe Borough Council

Appendix C Maps of AQMAs and Monitoring Locations.....	69
Glossary of Terms	71
References	73

List of Tables

Table 2-1 Summary of Active Air Quality Management Areas.....	4
Table 4-1 Consultation Undertaken	31
Table 5-1 Air Quality Action Plan Measures	39

List of Figures

Figure 2-1 Trends in Annual Mean NO ₂ Concentrations at AQMA No 1 Trent Bridge.	5
Figure 2-2 Trends in Annual Mean NO ₂ Concentrations – Continuous Monitors in both AQMAs	5
Figure 2-3 Trends in Annual Mean NO ₂ Concentrations in AQMA No 1/2011 (Stragglethorpe Road)	6
Figure 3-1 Health effects of air pollution (source: Public Health England, 2019).....	11
Figure 3-2 The relationship between NO _x and NO ₂	12
Figure 3-3 Strategy Objectives of the Air Quality Strategy for Nottingham and Nottinghamshire 2020-2030	21
Figure 3-4 Source Apportionment in AQMA No 1 Trent Bridge	25
Figure 3-5 Source Apportionment in AQMA No 1/2011 Stragglethorpe Road.....	26

1 Introduction

This report outlines the actions that Rushcliffe Borough Council and its partners will deliver between December 2021 and December 2026 (subject to periodic review) 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 Rushcliffe.

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.

It should be noted this AQAP was developed during the COVID-19 pandemic which began in March 2020. For periods of time up to October 2021 the country was subjected to national or regional lockdowns and travel restrictions which have had an impact on the day to day activities of the population. During the first national lockdown announced at the end of March 2020 the population was directed by Government to stay at home. This direction had a subsequent impact on road traffic levels and the air quality monitoring data associated with roadside emissions. The Air Quality Expert Group (AQEG)⁷ estimated the most pronounced changes in UK air quality during lockdown have been in the urban environment, notably for nitrogen oxides (NO_x). The changes in PM_{2.5} concentrations were less marked than those of NO₂ as PM_{2.5} concentrations are affected by both local sources and the transport of pollution from wider regions, often from well beyond the UK. However, the impact of the COVID-19 pandemic and any long-term changes in population behaviour that may impact on air quality remains to be seen. Within Rushcliffe, reductions of between 17% and 35% in the annual mean NO₂ concentrations were observed across the network for 2020 in comparison to 2019. As expected, reductions were more pronounced during the initial months at the start of the national lockdown (March 2020) when lockdown measures were most restrictive.

This Action 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 Rushcliffe Borough Council's air quality Annual Status Report (ASR), which can be found on our

⁷ Air Quality Expert Group, Estimation of changes in air pollution emissions, concentrations and exposure during the COVID-19 outbreak in the UK, June 2020

Rushcliffe Borough Council

webpage [Air quality - Rushcliffe Borough Council](#). The Plan is also based on current central government funding allocations and therefore the actions contained within it may need to be revised as part of the ASR review to reflect any changes to funding and deliverability.

2 Summary of Current Air Quality in Rushcliffe Borough Council

Below is a summary of current air quality in the Borough. We are required to prepare an air quality Annual Status Report (ASR) for submission to and approval by Defra. For further detail on current air quality within RBC please refer to our latest ASR which is available on our webpage [Air quality - Rushcliffe Borough Council](#). The ASR contains the full data set of air quality monitoring data for 2019 and details of trends for the last five years.

Road traffic is the main source of air pollution within the Borough and nitrogen dioxide (NO₂) is the primary pollutant of concern. RBC currently monitors NO₂ at 32 locations across the Borough. Thirty of these locations are passive sites, monitoring NO₂ using diffusion tubes which sample over a one month period (approximately) prior to being sent to a laboratory for analysis. Diffusion tubes are changed at each location every month and provide an inexpensive way of air quality monitoring at multiple sites providing general indicators of concentrations and trends of pollutants over time. RBC also have two continuous analysers (automatic monitors) where air is continuously pumped into the analyser and the level of NO₂ recorded. These provide more accurate data on NO₂ concentrations however they are a more expensive way of monitoring air quality. Where necessary raw data from each monitoring location is adjusted for bias and corrected for distance to the receptor. All data is reported each year in the ASR.

RBC currently has two active Air Quality Management Areas (AQMAs) for NO₂. An AQMA is an area where air pollutant concentrations exceed/are likely to exceed the relevant air quality objectives⁸. AQMAs are declared for specific pollutants and objectives and in RBC both AQMAs were declared for NO₂ and exceedance of the annual mean concentration of 40µg m⁻³.

⁸ The Air Quality Standards Regulations 2010;

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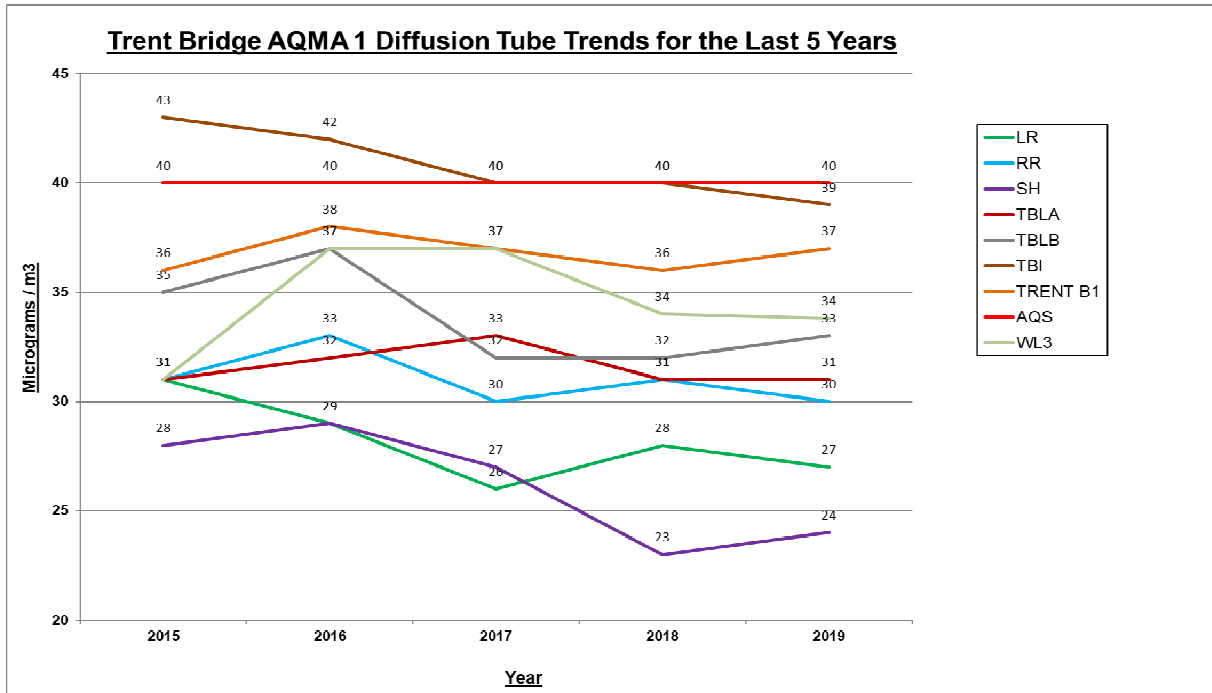
Table 2-1 Summary of Active Air Quality Management Areas

AQMA Name	Date of Declaration	Pollutants and Air Quality Objectives	Location	Description	Level of Exceedance (maximum monitored concentration at a location of relevant exposure)* $\mu\text{g m}^{-3}$	
					At Declaration	Now (2019 data)
AQMA No 1 Trent Bridge	Sept 2005	NO ₂ Annual Mean	West Bridgford	An area including Lady Bay Bridge, Radcliffe Road, Trent Bridge, Loughborough Road junctions	47	37
AQMA No1/ 2011 Stragglethorpe Rd	Oct 2011	NO ₂ Annual Mean	Radcliffe on Trent	Land adjacent to A52 at Stragglethorpe Lane Junction	50.5	41

* note this is at point of relevant exposure following adjustment for fall-off with distance, as detailed in the ASR 2020.

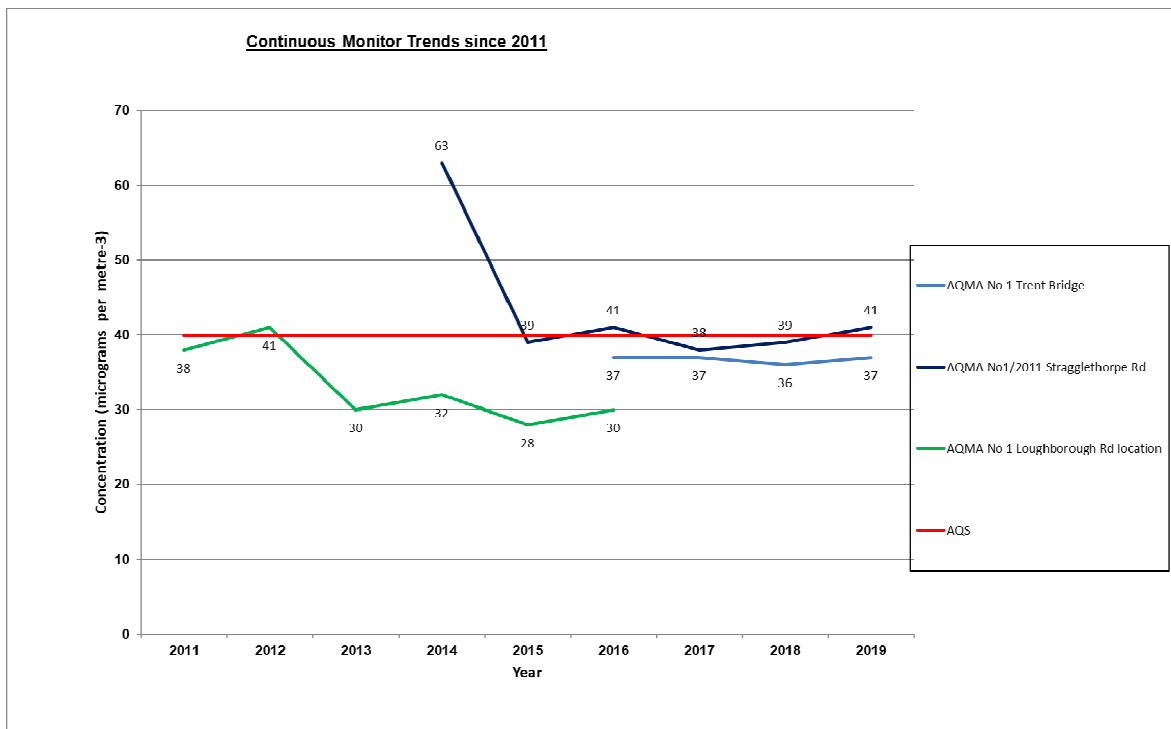
AQMA No 1 Trent Bridge covers an area of West Bridgford, including Lady Bay Bridge, Radcliffe Road, Trent Bridge and Loughborough Road junctions, the extent of which can be seen in Appendix C. This AQMA was declared in 2005 due to a NO₂ annual mean concentration of $47\mu\text{g m}^{-3}$ which is an exceedance of the Air Quality Standard objective (AQS) of $40\mu\text{g m}^{-3}$. Air quality monitoring is undertaken at a number of locations within the AQMA via a continuous monitor (active monitoring) and a series of diffusion tubes (passive monitoring). The 2019 monitoring data indicated an annual mean concentration of $37\mu\text{g m}^{-3}$ at the continuous monitoring location which is considered most representative of receptor exposure. Over the past four years the annual mean concentrations of NO₂ across the diffusion tube network within AQMA No 1 Trent Bridge have remained fairly consistent as shown in Figure 2-1 continuing the downward trend from the peaks measured around 2015-2016. The continuous monitor data indicates annual mean concentrations of NO₂ have remained consistently below $40\mu\text{g m}^{-3}$ for the past 4 years, since the monitor was installed in its current location (as shown in Figure 2-2). Prior to this the continuous monitor was located on Loughborough Road and was relocated to better reflect a worst case in terms of receptor exposure. Data from the Loughborough Road location (2011 -2016) has also been included in Figure 2-2.

Figure 2-1 Trends in Annual Mean NO₂ Concentrations at AQMA No 1 Trent Bridge



(Note: LR, RR, SH, TBLA, TBLB, TBI, Trent B1 and WL3 are the diffusion tube locations across AQMA No 1 Trent Bridge: AQS = Air Quality Standard)

Figure 2-2 Trends in Annual Mean NO₂ Concentrations – Continuous Monitors in both AQMAs

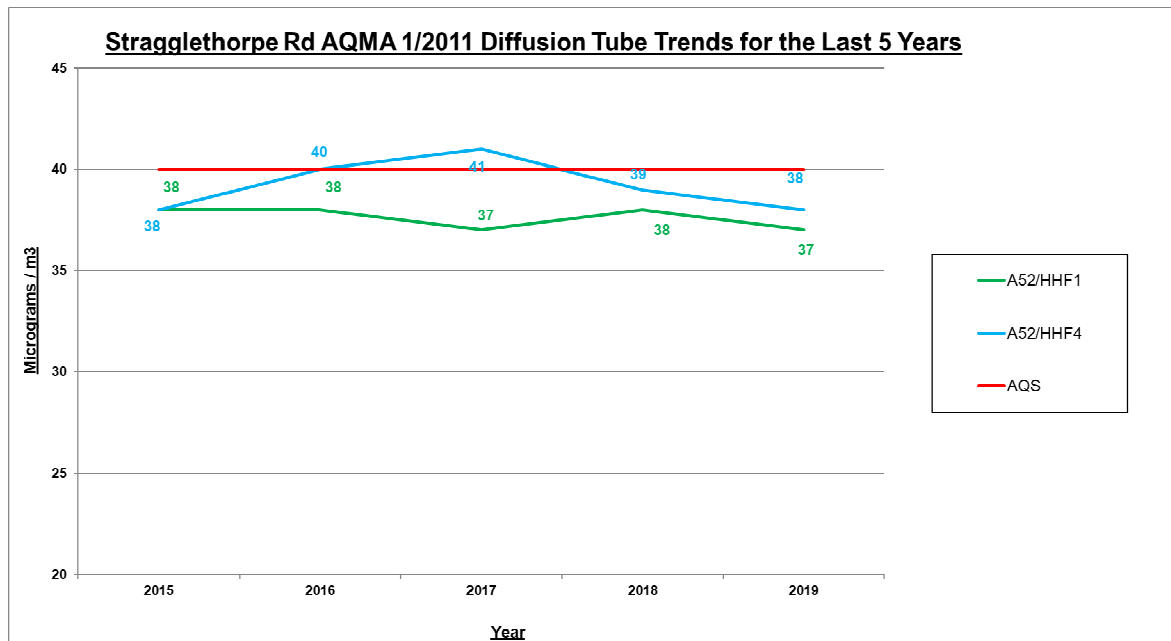


(Note: continuous monitor relocated from Loughborough Road location to current location in 2016)

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AQMA No 1/2011 Stragglethorpe Road at Radcliffe on Trent is located at the Stragglethorpe junction of the A52 dual carriageway which is one of the main easterly routes into/out of Nottingham. The general aspect is open with a small group of residential properties in one area adjacent to the junction. The extent of the AQMA can be seen in Appendix C. This AQMA was declared in 2011 due to a NO₂ annual mean concentration of 50.5µg m⁻³. Since then the level of NO₂ has dropped and trend data for the past five years from both the passive and active monitoring indicates the annual mean concentration of NO₂ remains fairly consistent within AQMA No1/2011 at between 37 and 41µg m⁻³ (Figure 2-2 and Figure 2-3). In 2019 the monitoring data indicated an annual mean concentration of NO₂ of 41µg m⁻³ recorded by the continuous monitor.

Figure 2-3 Trends in Annual Mean NO₂ Concentrations in AQMA No 1/2011 (Stragglethorpe Road)



(Note: A52/HHF1 and A52/HHF4 are the diffusion tube locations across AQMA No 1/2011 Stragglethorpe Road: AQS = Air Quality Standard)

At the current time there is no indication of any other sites in the Borough outside the current AQMAs that are likely to be a cause for concern. As part of our annual data review we make adjustments to the monitoring network, removing locations where the data show the monitored NO₂ levels are well below the air quality threshold and introducing new locations where concerns have been raised about air quality or where there may be the potential for an increase in NO₂ levels or exposure e.g. increased traffic flow. Any adjustments to the monitoring network are discussed in more detail in the ASRs.

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The intention is to maintain the AQMAs until such a time as to confirm the downward trend in NO₂ concentrations and monitored levels are consistently below the air quality threshold. Consideration can then be given to the revocation of the AQMAs. Revocation of an AQMA is done in consultation with Defra and will need to be supported by sufficient robust data to demonstrate that concentrations of nitrogen dioxide are well below (in the region of 10% below) the AQS objective for a sustained period of time, usually in the region of 4 to 5 years.

2.1 Existing Air Quality Action Plans

RBC has two existing air quality action plans, both of which are available on our [air quality webpage](#):

- Air Quality Action Plan for Rushcliffe (Update of the AQAP 2007) which ran from 2010 until adoption of this plan; and
- Air Quality Action Plan for AQMA 1/2011 (A52/Stragglethorpe Road Junction) which ran from 2013 until adoption of this plan.

This action plan replaces both of the above documents and whilst the two have been consolidated into one AQAP, there remains (where appropriate) measures specific to each of the AQMAs.

As the data demonstrates there have been improvements in air quality since the publication of the existing AQAPs and this can be attributed to the measures developed and put in place to achieve a reduction in emissions and exposure. The most significant measures relating to AQMA No 1 Trent Bridge were undertaken by Nottinghamshire County Council through the integration of the AQAP measures into the Local Transport Plan. This continues to be a key component of improving air quality. With respect to AQMA No1 1/2011 Stragglethorpe Road the most significant measures related to changes in the junction to improve traffic flow.

Key completed measures are:

- Update of the Air Quality Strategy for Nottingham and Nottinghamshire in 2019;
- Development and adoption of Nottinghamshire County Council's Environmental Strategy in 2020;

Rushcliffe Borough Council

- Rushcliffe Borough Council's Local Plan Part 2 was adopted in 2019. It includes several new policies relating to air quality and transport infrastructure; and in particular provisions for alternatives to car use and travel plans;
- Inclusion of 'the environment' as one of the four priorities in the Rushcliffe Borough Council Corporate Strategy (2019 – 2023);
- Development and adoption of Rushcliffe Borough Council's Carbon Management Plan in 2020;
- A heavy commercial vehicle (HCV) priority trial on the A52 at the junction with Stragglethorpe Lane (AQMA No 1/2011 Stragglethorpe Road). The traffic lights are programmed to identify HCVs, minimising the number required to stop and re-start at the junction and consequently reducing emissions;
- In 2016, £6.12m funding was secured by Nottingham City Council, Nottinghamshire County Council and Derby City Council, from the Office for Low Emissions Vehicles (OLEV) to support measures across the Nottingham, Nottinghamshire and Derby areas for a package of measures to support the uptake of Ultra-Low Emission Vehicles up to 2019-20 (Nottingham Go Ultra Low);
- As part of the Nottingham Go Ultra Low project £2m has been invested in creating a publicly accessible vehicle charging infrastructure network and over 400 charging points have been installed across the D2N2 area. There is now a mix of fast and rapid charge points at strategic locations across the road network, in Council owned carparks, public transport interchanges (e.g. park and rides, retail outlets) and in public car parks in residential areas. Charge points have been installed at 3 locations within the Borough -
 - Barton in Fabis: Clifton South Park and Ride – 6 charge points (one rapid and 5 fast)
 - West Bridgford: Rushcliffe Arena – 4 fast charging points installed;
 - West Bridgford: Nottinghamshire County Council County Hall – 1 rapid charge point;
- More recently in 2021 a successful funding bid to the Office of Zero Emissions Vehicles (OZEV) has enabled RBC to provide residents off street charging provision in Keyworth and Radcliffe on Trent (six charging points across 3 locations);

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- In addition to the delivery of the annual programme of integrated transport measures to address congestion and increase active travel, following a successful Local Growth Fund bid, more than 5km of new on-road and off-road cycle routes have been delivered by the County Council to create a strategic cycle network in West Bridgford providing cohesive north-south, east-west and circular routes to encourage more cycling;
- Personal travel planning (PTP) with over 4000 households in West Bridgford in 2016 and 5000 households in 2018 to make them more aware of their travel choices. Travel planning with employees at businesses located in AQMA No 1 Trent Bridge was also undertaken during 2014-15.
 - The PTP undertaken in 2016 resulted in a 5% reduction of journeys to work by car amongst participants, and
 - The PTP undertaken in 2018 resulted in a 10% reduction in single occupancy car journeys to work amongst participants; and an 8% reduction in single occupancy journeys for shopping;
- Personalised travel planning travel clinics undertaken at major workplaces within AQMA No 1 Trent Bridge, including at the County Council;
- School travel plans developed by the County Council at schools in the Borough;
- Development of an outline school travel toolkit available to schools to help them implement actions to encourage more walking and cycling to school as part of the return to classrooms following the COVID-19 restrictions;
- Funding was secured to convert and retrofit 14 bus services which pass through AQMA No 1 Trent Bridge to low emission vehicles to reduce emissions from public transport fleets;
- Nottinghamshire County Council secured funding from a number of partners to increase passenger rail services and enable a faster peak service on the Nottingham to Lincoln rail line. These improvements were subsequently secured permanently through the rail franchise renewal;
- Awareness and training undertaken by the County Council amongst staff and works promoters to ensure that powers are used effectively and to make works promoters aware of their requirement to reduce traffic disruption and

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encourage alternative working methods that reduce peak period working/disruption on County Council managed roads;

- The upgrade and optimisation of traffic signals within the AQMAs;
- Eco-driver training amongst County Council employees;
- The introduction of advisory 20mph speed limits outside all schools in the Borough and the introduction of mandatory area-wide 20mph speed limits in two areas of West Bridgford to encourage more people to walk and/or cycle;
- NET tram extensions to the south and west of the city (the line travelling to the south travels through part of West Bridgford which could potentially reduce vehicle journeys through AQMA No 1 Trent Bridge);
- Eco-Stars programme which ceased to be delivered when the Local Sustainable Transport Fund funding ceased (a total of 51 members had joined the scheme when LSTF funding expired);
- Review and upgrade of County Council fleet vehicles;
- Major transport scheme improvements such as the A453 trunk road and the A6514 ring road improvements.

Previous AQAPs have been concerned with exceedances of the air quality threshold for nitrogen dioxide which resulted in the declaration of the AQMAs. Current policy guidance also indicates that local authorities are expected to work towards reducing emissions and/or concentrations of PM_{2.5} (particulate matter with an aerodynamic diameter of 2.5µm or less) as there is clear evidence that PM_{2.5} has a significant impact on human health, including premature mortality, allergic reactions, and cardiovascular diseases. Background levels of PM_{2.5} across some parts of the Borough are modelled to be over the World Health Organisation (WHO) guideline level of 10µg m⁻³. Further detail is available in our latest ASR. This Action Plan will consider actions that can be taken to reduce levels of PM_{2.5} in relation to the AQMAs. This has also been considered within the recently launched [Air Quality Strategy for Nottingham and Nottinghamshire 2020-2030](#)⁹.

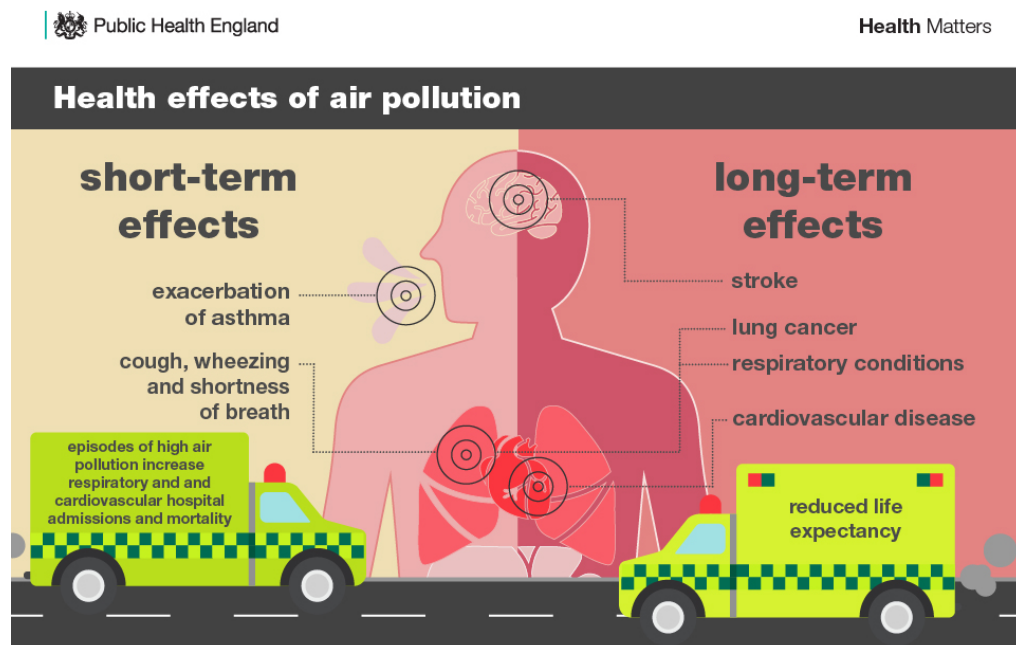
⁹ Air Quality Strategy for Nottingham and Nottinghamshire 2020-2030
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3 Rushcliffe Borough Council's Air Quality Priorities

3.1 Public Health Context

Poor air quality is the largest environmental risk to public health in the UK, as long term exposure to air pollution can cause chronic conditions such as cardiovascular and respiratory diseases as well as lung cancer, leading to reduced life expectancy. In 2010 the Environmental Audit Committee considered the cost of health impacts of air pollution was likely to exceed estimates of £8 to £20 billion. ([Public Health England Health Matters: Air Pollution](#)¹⁰). It is known that harm to human health can occur at very low levels of pollution, and there is currently no known safe level of exposure below which there is no risk of health effects. Air pollution is associated with a number of short and long-term adverse health impacts which can contribute to reduced life expectancy (Figure 3-1). It can negatively affect the development of babies during pregnancy and the growth of children and contributes towards asthma and other breathing and lung conditions. It is recognised as a contributing factor in the onset of cardiovascular disease and lung cancer, and there is growing evidence for its associations with dementia, low birthweight and Type 2 Diabetes.

Figure 3-1 Health effects of air pollution (source: Public Health England, 2019)

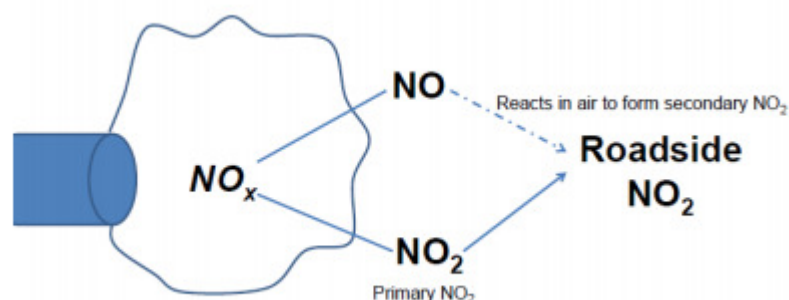


¹⁰ Public Health England Health Matters 2019: Air Pollution <https://www.gov.uk/government/publications/health-matters-air-pollution/health-matters-air-pollution>

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Nitrogen dioxide (NO_2) is a gas that is produced along with nitric oxide (NO) by combustion processes. Together they are often referred to as oxides of nitrogen (NO_x). It is estimated that 80% of NO_x emissions in areas where the UK is exceeding NO_2 limits are due to transport, with the largest source being emissions from diesel light duty vehicles (cars and vans). Other sources include power generation, industrial processes and domestic heating.

Figure 3-2 The relationship between NO_x and NO_2 ¹¹



According to PHE Health Matters, the Committee on the Medical Effects of Air Pollutants (COMEAP) has established that short-term exposure to NO_2 , particularly at high concentrations, is a respiratory irritant that can cause inflammation of the airways leading to - for example cough, production of mucus and shortness of breath. Studies have shown associations of NO_2 in outdoor air with reduced lung development, and respiratory infections in early childhood and effects on lung function in adulthood.

Epidemiological studies have also shown associations of outdoor NO_2 with adverse effects on health, including reduced life expectancy. It has been unclear whether these effects are caused by NO_2 itself, or by other pollutants emitted at the same time by sources such as road traffic.

Although the AQMAs were declared on the basis of exceedance of the air quality thresholds for NO_2 current government policy and guidance requires a consideration of particulate matter and where necessary, measures to reduce exposure. Particulate matter (PM) is a generic term used to describe a complex mixture of solid and liquid particles of varying size, shape, and composition. Some particles are emitted directly

¹¹ Defra and DfT UK Plan for Tackling Roadside Nitrogen Dioxide Concentrations – Detailed Plan (July 2017)
https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/633270/air-quality-plan-detail.pdf

Rushcliffe Borough Council

(primary PM); others are formed in the atmosphere through complex chemical reactions (secondary PM). The composition of PM varies greatly and depends on many factors, such as geographical location, emission sources and weather.

The main sources of man-made PM are the combustion of fuels (by vehicles, industry and domestic properties) and other physical processes such as tyre and brake wear. Natural sources include wind-blown soil and dust, sea spray particles, and fires involving burning vegetation.

PM is often classified according to by aerodynamic size and referred to as:

- coarse particles (PM₁₀; particles that are less than 10 microns (µm) in diameter)
- fine particles (PM_{2.5}; particles that are less than 2.5 µm in diameter)
- ultrafine particles (PM_{0.1}; particles that are less than 0.1 µm in diameter)

The size of particles and the duration of exposure are key determinants of potential adverse health effects. Particles larger than 10µm are mainly deposited in the nose or throat, whereas particles smaller than 10µm pose the greatest risk because they can be drawn deeper into the lung. The strongest evidence for effects on health is associated with fine particles (PM_{2.5}).

There is an extensive body of evidence that long-term exposure to PM increases mortality and morbidity from cardiovascular and respiratory diseases. Outdoor air pollution, particularly PM, has also been classified by the International Agency for Research on Cancer (IARC) as carcinogenic to humans (a Group 1 carcinogen) and as causing lung cancer. There is some experimental evidence, however, that ultrafine particles may also pass through the lungs into the bloodstream.

Every year in the UK, it is estimated that long term exposure to man-made air pollution in the UK has an annual effect equivalent to 28,000 to 36,000 deaths (PHE Health Matters).

Air pollution can be harmful to all people, but some people are more affected because they live in more polluted areas or are more susceptible to the harmful effects of air pollution. Groups that are more vulnerable include children and older people, pregnant women, and those with heart and lung conditions. People living in the most deprived, particularly urban areas of England have significantly higher air pollution levels (PM₁₀ and NO₂) than those living in least deprived neighbourhoods.

Rushcliffe Borough Council

People from these groups who live in more polluted places such as near busy roads are particularly affected. In 2020 for the first time in the UK (and possibly the world) air pollution was recognised as contributing to the death of a particular individual when Southwark Coroner's Court in London found that air pollution made a material contribution to the death of a nine year-old child¹².

The Air Quality Strategy for Nottingham and Nottinghamshire 2020–2030 provides estimated reductions in mortality and morbidity across Nottinghamshire for a ten year period from 2017 if levels of particulate matter (PM_{2.5}) and nitrogen dioxide (NO₂) were reduced to lower than 12µg m⁻³ and 20.5µg m⁻³ respectively. The modelled estimates for Rushcliffe indicate a reduction of approximately 1200 cases of heart disease, respiratory illness, stroke, diabetes and lung cancer and a reduction in the annual number of deaths of 113 with a reduction in PM_{2.5} exposure; and a reduction of approximately 132 cases of diabetes, lung cancer and asthma with a reduction in NO₂ exposure. The corresponding estimated cumulative costs avoided is in the region of £12.75million and £1.15million for PM_{2.5} and NO₂, respectively.

In 2019 PHE published a [review of interventions to improve outdoor air quality and public health](#)¹³ in the UK which provides a comprehensive overview of actions that national and local government and others can take to improve air quality and health. For local authorities the review provides an indication of a broad range of available interventions across five focal areas: vehicles and fuel; spatial planning; industry; agriculture; and people's behaviour. We will work with local partners on broader action and alignment of policies and action for air quality in line with the Air Quality Strategy for Nottingham and Nottinghamshire 2020-2030.

3.2 Planning and Policy Context

Rushcliffe Borough Council will take account of the following planning and policy documents in seeking improvements in air quality in the Borough. This AQAP also reflects local strategies related to public health which have been developed on a regional basis. Details of the most pertinent are given below.

¹² <https://www.judiciary.uk/wp-content/uploads/2021/04/Ella-Kissi-Debrah-2021-0113-1.pdf>

¹³ PHE 2019 Review of Interventions to Improve Outdoor Air Quality and Public Health <https://www.gov.uk/government/publications/improving-outdoor-air-quality-and-health-review-of-interventions>

3.2.1 Local Plans and Policies

The effective use of the Local Plan and associated policies will be particularly relevant to minimising emissions to air caused by local development. The following planning policy documents make specific reference to the need to improve air quality.

- [Rushcliffe Local Plan Part 1: Core Strategy](#)¹⁴ (adopted December 2014) which sets out the overarching spatial vision for development within Rushcliffe Borough to 2028:
 - *3.2.5 The Local Plan needs to ensure the use and development of land will help slow down the rate of climate change and be resilient to its effects. In this respect the Core Strategy's task is to:*

...reduce pollution to levels that do not damage natural systems and help improve air quality...
 - *3.3.20 Transport is a major contributor to climate change, and congestion has adverse economic impacts, as well as being detrimental to air quality. Upgrading existing infrastructure will therefore be aimed at reducing the need to travel, especially by private car. There will be a strong focus on changing people's travel behaviour and improving opportunities for journeys to be made by public transport. Major improvements to highway capacity for private cars will be a last resort.*
- [Rushcliffe Local Plan Part 2: Land and Planning Policies](#)¹⁵ (adopted October 2019) – Policy 41 relates to air quality:
 - *Planning permission will not be granted for development proposals that have the potential to adversely impact on air quality, unless measures to mitigate or offset their emissions and impacts have been incorporated;*
 - *In areas where air quality is a matter of concern, development proposals that are sensitive to poor air quality will be required to demonstrate that users or occupants will not be significantly affected by poor air quality, or that such impacts can be effectively mitigated;*

¹⁴ Rushcliffe Borough Council Local Plan Part 1: Core Strategy
<https://www.rushcliffe.gov.uk/planningpolicy/localplan/localplanpart1corestrategy/#d.en.27398>

¹⁵ Rushcliffe Borough Council Local Plan Part 2: Land and Planning Policies
<https://www.rushcliffe.gov.uk/planningpolicy/localplan/localplanpart2landandplanningpolicies/>

Rushcliffe Borough Council

- *Development proposals must not exacerbate air quality beyond acceptable levels, either through poor design or as a consequence of site selection.*

3.2.2 Development Control

The National Planning Policy Framework (NPPF) which sets out the government's planning policies for England was revised and updated in 2019¹⁶. The NPPF is underpinned by the principle of sustainable development and makes constant reference to the need to improve and enhance the environment, including air quality e.g. through the promotion of sustainable transport. Paragraph 170 states planning policies and decisions should contribute to and enhance the natural and local environment by preventing new and existing development from contributing to, being put at unacceptable risk from, or being adversely affected by, unacceptable levels of ...air pollution. Paragraph 181 makes explicit reference to the need for policies and decisions to ensure account is taken of AQMAs and opportunities to improve or mitigate air quality should be identified as far as possible at the planning stage to ensure a strategic approach. Also, planning decisions should ensure that any new development in AQMAs is consistent with the local AQAP.

Further guidance on how planning can take account of the impact of new development on air quality is provided by government on their webpages [planning practice guidance – air quality](#).

Our guide '[Air Quality Considerations for Developers¹⁷](#)' helps developers understand the impacts of their development on air quality and how they may go about assessing and mitigating any impacts. This document will be updated over the coming months to reflect current good practice guidance.

Recent and ongoing developments within AQMA No 1 Trent Bridge where air quality assessments have been requested and reviewed include the redevelopment of a former car sales site for residential and Class A & Class C uses; and a hybrid application for redevelopment at the Nottingham Forest Football Club City Ground which includes a proposal for 250 residential units.

¹⁶ Ministry of Housing, Communities & Local Government National Planning Policy Framework Feb 2019 revision https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/810197/NPPF_Feb_2019_revised.pdf

¹⁷ Rushcliffe Borough Council (2010) Air Quality Considerations for Developers https://www.rushcliffe.gov.uk/media/1/rushcliffe/media/documents/pdf/environmentandwaste/environmentalhealth/airquality/Air_Quality_Guidance_for_developers.pdf

3.2.3 Nottinghamshire Local Transport Plan

The integration of air quality with the Local Transport Plan (LTP) was a key component of the measures in the previous Air Quality Action Plan for AQMA No 1 Trent Bridge¹⁸ as the A60, the main road which runs through the AQMA is managed by Nottinghamshire County Council. The Local Transport Plan will continue to be key in this AQAP. The current [Local Transport Plan](#)¹⁹ runs from April 2011 to March 2026 sets out Nottinghamshire's transport plan (for all types of transport) and outlines a programme of measures to be delivered over the short, medium and long term. The LTP comprises a strategy document which details the County Council's strategy to deliver its transport vision; and an implementation plan which details the transport improvements that will deliver the strategy. The LTP strategy is reviewed at least every five years to ensure it considers any changes in transport conditions and priorities; and to make sure it is effective. The implementation plans are reviewed in line with Government's Comprehensive Spending Review periods and the fourth implementation plan will be developed following Government's next Spending Review (which was delayed due to the COVID-19 pandemic).

With specific reference to air quality the LTP strategy document highlights the County Council commitment to working in partnership with LAs to monitor and assess air quality; and produce specific AQAPs for air quality improvements in AQMAs. Given the close links between air quality and congestion the measures detailed in the LTP – Making the best use of existing transport networks - are used to manage congestion and help improve air quality. Where assessments identify existing or likely future exceedances of pollutants additional resources will be prioritised to address these.

The LTP implementation plan identifies two specific indicators directly relevant to air quality:

- LTP4 Number of AQMAs on County Council managed roads; and
- LTP14 Particulate levels in AQMAs.

Some of the local transport objectives associated with these indicators include tackling congestion and making journey times more reliable; addressing the transport impacts of planned housing and employment growth; encouraging people to walk,

¹⁸ Rushcliffe Borough Council (2010) Update of the Air Quality Action Plan 2007

<https://www.rushcliffe.gov.uk/media/1/rushcliffe/media/documents/pdf/environmentandwaste/environmentalhealth/airquality/AQAP%20revision.pdf>

¹⁹ Nottinghamshire County Council Local Transport Plan 2011-2026 <https://www.nottinghamshire.gov.uk/transport/public-transport/plans-strategies-policies/local-transport-plan>

Rushcliffe Borough Council

cycle & use public transport through promotion and the provision of facilities; reducing transport's impact on the environment, adapting to climate change & the development of a low carbon transport system; improving levels of health & activity by encouraging active transport and the provision of an affordable, reliable and convenient public transport network.

The LTP recognises the need for improved and effective traffic management to help reduce congestion and thereby help improve air quality. Many of the measures identified including the parking strategy, local accessibility transport studies, promotion of smarter choices, improved and integrated public transport and improvements to walking & cycling networks will help achieve improvements in air quality throughout the County.

The Implementation Plan specifies the types of integrated transport measures to be delivered during the plan period. The location and prioritisation of the measures is driven by a range of factors, one of which is '*enhancing the environment*'. These measures include active travel (walking & cycling) improvements, measures relating to freight, smarter choices (including car clubs, car share schemes, personalised travel plans, better high speed broadband, smarter work practices), targeted improvements at areas of poor air quality and the promotion of low carbon transport.

Highways and transport programmes are developed and approved annually following the County Council's budget decisions to reflect any changing priorities and to help ensure effectiveness of the measures and their value for money. This annual review allows the opportunity to reflect on any feasibility works undertaken to identify transport schemes that best help deliver County Council priorities.

The LTP is supported by a number of more detailed strategy and/or delivery plans, such as those relating to cycling and passenger transport.

3.3 Relevant Air Quality Related Strategies

Our proposed measures to improve air quality are set in the context of the following strategies.

3.3.1 Clean Air Strategy 2019

The national [Clean Air Strategy](#) was published by Government in January 2019 and shows how all sources of air pollution will be tackled, with the aim of making our air

Rushcliffe Borough Council

healthier to breathe, protecting nature and boosting the economy. The UK has adopted legally-binding international targets to reduce emissions of five of the most damaging air pollutants, including fine particulate matter and nitrogen oxides; and is also proposing new goals to cut public exposure to particulate matter pollution as recommended by the World Health Organisation (WHO). The strategy sets out the comprehensive action that is required from across all parts of government and society to meet these goals. New legislation will create a stronger more coherent framework for action underpinned by new England-wide powers to control major sources and new local powers to take action in areas with an air pollution problem. These powers will support the creation of Clean Air Zones backed by clear enforcement mechanisms.

The strategy includes actions to reduce emissions from transport, from farming, from industry and at home. By implementing the policies in the strategy Government states PM_{2.5} concentrations will be reduced across the UK so that the number of people living in locations above the WHO guideline level of 10µg m⁻³ is reduced by 50% by 2025. Road traffic is the main source of nitrogen dioxide in the AQMAs within Rushcliffe and the Clean Air Strategy refers to the Government plans to end the sale of conventional petrol and diesel cars by 2040. However, more recently in November 2020 the Government announced plans to phase out sales of new petrol and diesel cars and vans by 2030 as part of the Ten Point Plan for a [Green Industrial Revolution](#). In addition to accelerating this shift to zero emission vehicles the Ten Point Plan also includes a commitment to increase the share of journeys taken by green public transport, cycling & walking.

3.3.2 Air Quality Strategy for Nottingham and Nottinghamshire 2020-2030

In 2019 the Air Quality Strategy for Nottingham and Nottinghamshire 2020-2030 was launched with an overall strategic vision for all of Nottinghamshire residents and visitors to have clean air that allows them to lead healthy and fulfilling lives. The strategy was prepared via a collaborative effort between Nottinghamshire County Council, Nottingham City Council and the Nottinghamshire Borough/District Authorities, including Rushcliffe Borough Council. The Strategy can be accessed via our webpage [Air quality - Rushcliffe Borough Council](#).

This vision aligns with the ambition in the National Clean Air Strategy to protect the nation's health and the government's plans for reducing vehicle emissions. It also

Rushcliffe Borough Council

recognises that implementation of the strategy will have local system-wide co-benefits such as increased physical activity through active travel, reduced congestion, connecting people in their communities through better design of place, improvements in environmental quality and climate change mitigation.

The strategy is based around 2016 data indicating 5.7% of all adult deaths (equivalent to more than 410 deaths) in Nottinghamshire County were attributable to long term exposure to human-made particulate air pollution. When the effects of NO₂ are included the number of attributable adult deaths is estimated to increase to more than 450 in Nottinghamshire County.

The strategy aims to reduce the two key pollutants known to impact on human health – NO₂ and fine particulate matter:

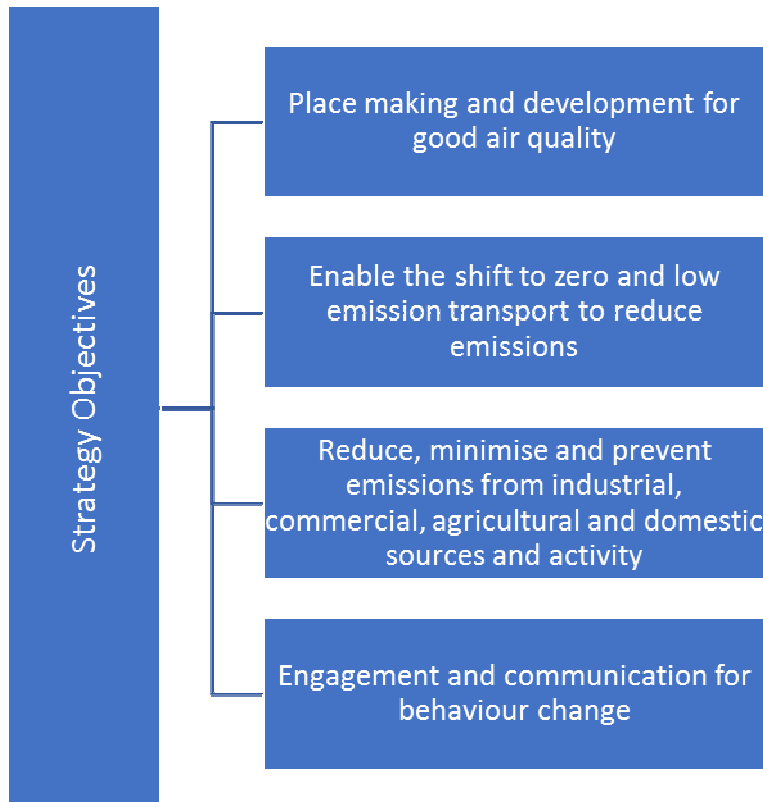
- To reduce average concentrations of nitrogen dioxide and fine particulate matter in Nottinghamshire (which will ultimately lead to a reduction in Air Quality Management Areas in Nottinghamshire); and
- To reduce the estimated proportion of disease and deaths attributable to air pollution (encompassing fine particulate matter, nitrogen dioxide and other pollutants).

The aims are aligned with the National Emissions Ceilings Regulations 2018 which seek to reduce national emissions for fine particulate matter and nitrogen dioxide; and also with the aim of the national Clean Air Strategy 2019 to reduce PM_{2.5} concentrations in all areas of the UK over the next decade.

The Air Quality Strategy for Nottingham and Nottinghamshire 2020-2030 recognises the importance of the Local Air Quality Action Plans, developed for the AQMAs across the City and County, as a key component in the delivery of the strategy in terms of reducing health risk and impacts in the most polluted areas.

The actions developed in this AQAP under the nine broad topics of traffic management; transport planning and infrastructure; policy guidance and development control; alternatives to private vehicle use; promoting low emission transport; promoting travel alternatives; public information; and vehicle fleet efficiency align well with the strategic priorities in the Air Quality Strategy for Nottingham and Nottinghamshire 2020-2030.

Figure 3-3 Strategy Objectives of the Air Quality Strategy for Nottingham and Nottinghamshire 2020-2030



3.3.3 The Joint Health and Wellbeing Strategy for Nottinghamshire 2018-22

In 2017 the second Joint Health and Wellbeing Strategy for Nottinghamshire was agreed by the Health and Wellbeing Board of Nottinghamshire County Council with a vision to work together to enable the people of Nottinghamshire, from the youngest to the oldest, to live happier and healthier lives in their communities, particularly where the need is greatest. Four ambitions were identified to help make the vision a reality:

- To give everyone a good start in life;
- To have healthy and sustainable places;
- To enable healthier decision-making; and
- To work together to improve health and care services.

Life expectancy and healthy life expectancy have been identified as headline indicators and progress will be measured through the use of the Slope Index of Inequality which measures the difference in life expectancy (or healthy life expectancy) between the most and least deprived sections of the Nottinghamshire

Rushcliffe Borough Council

population. The Strategy can be viewed via the Nottinghamshire County Council [Health and Wellbeing](#) webpage.

3.3.4 National Highways (formerly Highways England) Air Quality Strategy

The [Highways England Air Quality Strategy](#) outlines their approach to minimising harm and improving the environment, including air quality. As part of the Road Investment Strategy the government committed £100million to improve air quality through to 2021 and this strategy sets out National Highways approach and activities to achieve this outcome. The strategy is structured into four key areas

- Policy – which will include working with others to develop and deliver policies to improve air quality, including supporting local authorities as they explore options for air quality action plans;
- Planning – design out or mitigate poor air quality for their schemes, where appropriate;
- Monitoring – building a clear picture of air quality across the network; and
- Operational management – actively improve air quality by optimising the use of the network.

3.3.5 Nottinghamshire County Council Corporate Environmental Policy and Strategy

The County Council's Corporate Environmental Policy and Strategy - outlining the key principles, scope and approach to improving the Council's environmental performance and delivery of its proposed key strategic ambitions – was approved in March 2020 and includes the following themes:

- a) Natural environment
- b) Built environment
- c) Production and consumption of resources
- d) Travel and transport
- e) Community leadership, health and economy.

Nottinghamshire County Council as a local authority, major employer, service provider, community leader and partner plays a leading role in protecting and improving the environment for Nottinghamshire residents. The development of a

Rushcliffe Borough Council

Corporate Environmental Policy and Strategy is instrumental in fulfilling this role. Whilst the environment strategy is specifically for the activities undertaken by the County Council rather than a strategy for Nottinghamshire as a whole, it will seek to embrace how the Council can influence everyone who lives in, works in, or visits the County through its role as a service provider, community leader and partner.

3.3.6 Rushcliffe Borough Council Corporate Strategy

At a strategic level the Rushcliffe Borough Council Corporate Strategy (2019-2023) includes 'The Environment' as one of the four priorities. In March 2020 the Council made a commitment to work towards being carbon neutral for its own operations by 2030.

3.3.7 Rushcliffe Borough Council Carbon Management Plan 2020

RBC is working towards its direct operations becoming carbon neutral by 2030 and the [Carbon Management Plan 2020](#) sets out the measures to be implemented across key areas, including property assets, fleet, and policy & regulation. The implementation of some of these proposed changes will have a co-benefit of improving air quality across the Borough e.g. measures to accelerate the shift to low carbon transport across the Council fleet, promotion of active travel and the promotion of carbon reduction policies and guidance to developers.

3.4 Other relevant Legislative Frameworks

3.4.1 Environment Bill 2020

The Environment Bill which continues to make its way through the Parliament seeks to deliver cleaner air for all and requires government to set targets on air quality, including PM_{2.5}. It also seeks to update, simplify and strengthen the local air quality management framework, for example through the provision of additional and improved enforcement powers for local authorities to deal with issues around domestic burning in Smoke Control Areas.

Building on measures set out in the Environment Bill, government announced plans to phase out, between 2021 and 2023, the sale of coal and wet wood (the two most polluting fuels) for domestic burning and encourage the use of cleaner fuels in homes. Measures will also be put in place to ensure only the cleanest stoves are available for sale from 2022 and government will launch a dedicated communication

Rushcliffe Borough Council

campaign targeted at domestic burners highlighting the link between burning solid fuels and health and how small changes can result in improvements air quality.

3.5 Source Apportionment

The AQAP measures presented in this report are intended to be targeted towards the predominant sources of emissions within Rushcliffe Borough Council's area. The pollutant of concern within the Borough has been identified as nitrogen dioxide (NO₂) predominantly from road traffic.

Source apportionment allows us to gain a better understanding of the nature of the vehicles resulting in exceedances within the AQMAs.

3.5.1 Source apportionment for NO₂ in the Air Quality Management Areas

Although the NO₂ annual mean concentration in AQMA No1 Trent Bridge now falls below the air quality threshold; and in AQMA No1/2011 Stragglethorpe Road is marginally above the threshold a source apportionment exercise was carried out for both AQMAs. This was undertaken in accordance with the methodology provided in Box 7.5 of TG16²⁰. Full calculations are presented in Appendix B.

Within **AQMA No1 Trent Bridge** the continuous monitor was selected as the most appropriate to form the basis for the calculations with the highest 2019 annual mean concentration at a relevant receptor of NO₂ of 37µg m⁻³. This AQMA is located in a busy urban area along an arterial road into/out of Nottingham City Centre with a number of road junctions.

In summary, the source apportionment exercise identified within the AQMA, the percentage source contributions were as follows:

Regional background = 7.9µg m⁻³ (21%)

Local background = 12.5µg m⁻³ (34%)

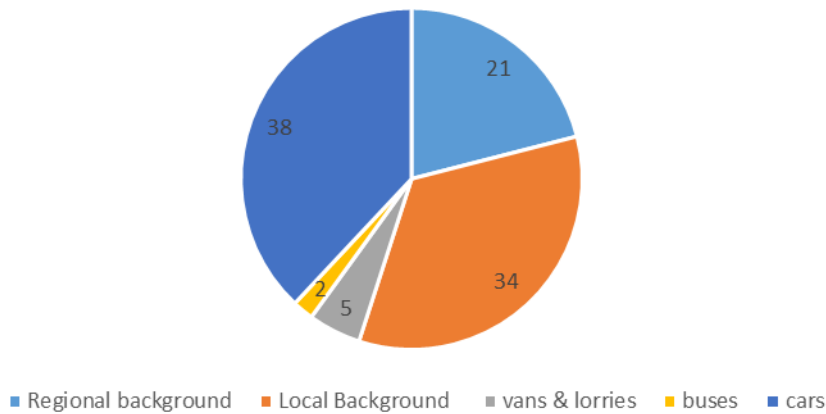
Local traffic:

- vans and lorries = 2.0µg m⁻³ (5%)
- buses = 0.5µg m⁻³ (2%)
- cars = 13.9µg m⁻³ (38%)

²⁰ Defra (2021) Local Air Quality Management Technical Guidance <https://laqm.defra.gov.uk/documents/LAQM-TG16-April-21-v1.pdf>

Figure 3-4 Source Apportionment in AQMA No 1 Trent Bridge

AQMA No 1 Trent Bridge Source Apportionment -
Percentage Contribution



In considering the traffic flow and composition within AQMA No 1 Trent Bridge data provided by the Department for Transport (DfT), Nottingham City Council and Nottinghamshire County Council have been taken into account. Summaries of the traffic data are provided in Appendix B. The DfT annual average daily flow traffic statistics²¹ have been used to determine the percentage by vehicle type. However, due to the way the DfT data is compiled and the use of estimates for years when a manual count has not been undertaken it is considered less robust for identifying trends in traffic flow. The Nottingham City Council data is likely to be more robust in terms of traffic count but does not provide a breakdown by vehicle type. Data indicates the annual average daily traffic has remained fairly consistent since 2014. The Nottinghamshire County Council data for a nearby location on Loughborough Road provides a count for articulated HGVs which indicates the numbers of this type of vehicle also remained fairly constant for the period between 2014 and 2019 for which data is available. Improvements in traffic flow and the significant investment in the bus fleet (converting it to a lower emission fleet) will have had a significant impact on the air quality at this location.

Within **AQMA No1/2011 Stragglethorpe Road** the continuous monitor was selected as the most appropriate as the basis for the calculations with the highest 2019 annual mean concentration at a relevant receptor of NO₂ of 41 µg m⁻³. To put into context, this AQMA is located at a junction on the A52 dual carriageway which is one of the

²¹ Department for Transport Road Traffic Statistics <https://roadtraffic.dft.gov.uk/manualcountpoints/17853>

Rushcliffe Borough Council

main easterly routes into/out of Nottingham. There are no industrial sources of NO₂ in this area and the general aspect is open with the exception of a small group of residential properties in one part of the junction.

In summary, the source apportionment exercise identified that within the AQMA, the percentage source contributions of NO₂ were as follows:

Regional background = 8.5µg m⁻³ (21%)

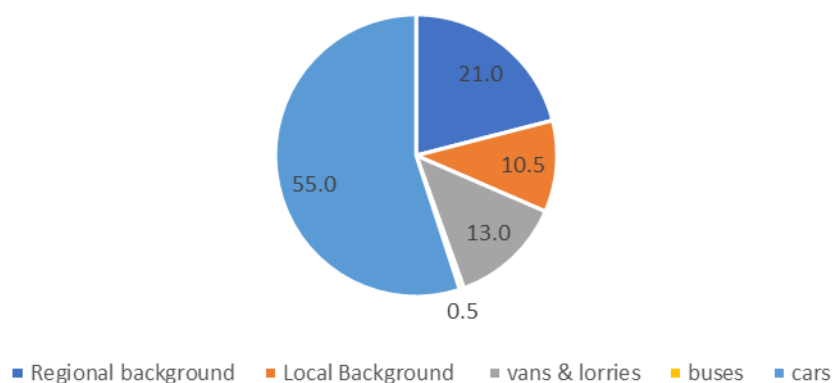
Local background = 4.3µg m⁻³ (10.5%)

Local traffic:

- vans and lorries = 4.7µg m⁻³ (13%)
- buses = 0.2µg m⁻³ (0.5%)
- cars = 20.2µg m⁻³ (55%)

Figure 3-5 Source Apportionment in AQMA No 1/2011 Stragglethorpe Road

AQMA No 1/2011 Stragglethorpe Road Source Apportionment - Percentage Contribution



Traffic data from DfT and Nottinghamshire County Council are available for AQMA No1/2011 Stragglethorpe Road. The data for the manual count are relatively consistent for the period from 2012 (when data are available from both sources) and follow the same general trend, showing an increase in overall traffic flow of 10-15% but with a larger increase in HGVs of 20-25%. The DfT data²² has been utilised in the source apportionment exercise as data provided for vehicle type whereas the NCC data provides a breakdown for articulated HGVs only. The reduction in monitored

²² Department for Transport Road Traffic Statistics <https://roadtraffic.dft.gov.uk/manualcountpoints/82107>

Rushcliffe Borough Council

NO₂ concentrations despite the increase in traffic flow may be attributed to improvements in vehicle emissions and to improvements in the junction which have reduced congestion and allowed the traffic to flow better. The stop/start traffic flow patterns at the junction was identified as the main source of the elevated NO₂ concentrations in the previous Air Quality Action Plan²³ prepared in 2013 following declaration of the AQMA in 2011.

3.5.2 Source Apportionment for Particulate Matter

RBC has not undertaken a source apportionment exercise for PM_{2.5} because neither of the AQMAs were declared on the basis of exceedances of any particulate matter guidelines. However, as the health impacts associated with exposure to fine particulate matter (PM_{2.5}) is becoming clearer in scientific literature we have included an overview of the current situation in the Borough.

Fine particulate matter can be either natural (e.g. soil dust, sea spray, pollen, spores) or anthropogenic (e.g. burning of solid and liquid fuels and vehicle emissions). Anthropogenic sources make a much more significant contribution to our overall exposure. There is understood to be no safe threshold below which no adverse effects would be anticipated, and it is known that long-term exposure to PM_{2.5} increases the age-specific mortality risk, particularly for cardio-vascular disease. Short term exposure to high concentrations will exacerbate respiratory and cardio conditions in the young, the elderly and those who may be particularly vulnerable due to underlying conditions.

Within towns and cities, road traffic is a significant source of PM_{2.5} emissions and consequently roadside levels tend to be much higher than those in background locations. Industrial emissions are also a source as is domestic burning which can also significantly increase levels of indoor air pollution.

The Defra air pollution maps for 2019²⁴ indicate a total annual mean concentration for PM_{2.5} in Rushcliffe Borough is 8.5µg m⁻³, with a maximum of 10.25µg m⁻³ and a minimum of 7.8µg m⁻³. According to this data the total annual mean concentration for PM_{2.5} across the East of England is 9.4µg m⁻³. The Public Health Outcomes Framework also provides data from 2017 for fine particulate matter – with an annual

²³ Rushcliffe Borough Council Air Quality Action Plan for AQMA No 1/2011 (2013) <https://www.rushcliffe.gov.uk/media/1/rushcliffe/media/documents/pdf/environmentandwaste/environmentalhealth/airquality/Stragglethorpe%20air%20quality%20action%20plan%202013.pdf>

²⁴ Defra UK-AIR Modelled Background Pollution Data <https://uk-air.defra.gov.uk/data/pcm-data>

Rushcliffe Borough Council

mean for Rushcliffe of $9.3\mu\text{g m}^{-3}$ compared to an annual mean for the East Midlands region of $9.0\mu\text{g m}^{-3}$. The Defra ambient air quality map indicates the annual mean concentration of $\text{PM}_{2.5}$ around the major roads in the Borough's urban centres, including the Trent Bridge area of West Bridgford is in the region of $10\text{-}12.5\mu\text{g m}^{-3}$.

Given that one of the main sources of $\text{PM}_{2.5}$ within the urban areas of the Borough is vehicle emissions the actions and initiatives to reduce congestion, promote smarter choices and encourage the uptake of greener vehicles will also bring a reduction in $\text{PM}_{2.5}$ concentrations.

3.6 Required Reduction in Emissions

Within **AQMA No1 Trent Bridge** monitoring data indicates the annual mean concentration of NO_2 has been falling over the past five years with annual mean concentrations at all eight passive monitoring locations at or below the AQS of $40\mu\text{g m}^{-3}$ for the past three years. The continuous monitor located within this AQMA has also recorded annual mean NO_2 concentrations of $36\text{-}37\mu\text{g m}^{-3}$ since 2016. Where robust data over a sustained period demonstrates compliance revocation of the AQMA can be considered. This is done in consultation with Defra and will need to be supported by sufficient robust data to demonstrate that concentrations of nitrogen dioxide are well below (in the region of 10% below) the AQS objective for a sustained period of time, usually in the region of 4 to 5 years.

Passive monitoring data for **AQMA No1/2011 Stragglethorpe** shows a fall in the annual mean concentrations of NO_2 for the past three years with concentrations at both monitoring locations below the AQS in 2018 and 2019. Data obtained from the continuous monitor located in AQMA No1/2011 indicates the annual mean concentration of NO_2 has increased slightly from a low in 2017 of $38\mu\text{g m}^{-3}$ to $41\mu\text{g m}^{-3}$ in 2019. Therefore, on the basis of this worst-case data there is a $1\mu\text{g m}^{-3}$ reduction in NO_2 required for the annual mean concentration to meet the $40\mu\text{g m}^{-3}$ threshold. The reduction in pollutant emissions needs to be expressed in terms of NO_x due to the local road traffic and in accordance with the guidance provided in Box 7.6 of Technical Guidance LAQM.TG16 this reduction is calculated to be almost 5%. Full calculation details are provided in Appendix B. By way of comparison, the required reduction in roadside NO_x emissions in the 2013 Action Plan was 37% and the significant decrease in the required reduction demonstrates the effectiveness of the measures put in place since declaration of the AQMA.

Rushcliffe Borough Council

Further detail on the data collected and collated across our monitoring network can be found in the most recent [Annual Status Report](#).

3.7 Key Priorities

The primary required outcome of this AQAP is to ensure that the downward trend in NO₂ levels continues in both AQMAs to a point where there is sustained compliance with the AQS which will enable the revocation of the AQMA. The priorities for Rushcliffe Borough Council are detailed below.

These priorities have been developed on the basis of the current circumstance which indicates the annual mean concentration of NO₂ in AQMA No1 Trent Bridge has shown a sustained decline and now falls below the air quality threshold; and in AQMA No1/2011 Stragglethorpe Road the annual mean concentration of NO₂ has been hovering around the threshold for the last five years.

- **Priority 1** - Rushcliffe Borough Council is to continue to monitor nitrogen dioxide levels at AQMA No1 Trent Bridge and at AQMA No1/2011 Stragglethorpe Road and to revoke them (in consultation with Defra) if and when there is sufficient robust data to demonstrate concentrations are well below (in the region of 10%) the AQS for a period of four to five years. The COVID-19 lockdowns and restrictions which have been in place to varying degrees since March 2020 are likely to have impacted traffic movement and will need to be factored into any decision-making on the revocation of the AQMAs;
- **Priority 2** - To work with Nottinghamshire County Council, as the highway authority at the location of AQMA No 1 Trent Bridge, to implement the relevant actions set out within this plan to manage traffic volume and flow and enable residents to make smarter travel choices;
- **Priority 3** - To work with National Highways, as the highway authority at the location of AQMA No 1/2011 Stragglethorpe Road to implement the relevant actions set out within this plan to manage traffic volume and flow; and
- **Priority 4** - Rushcliffe Borough Council will continue to work with partners to actively promote policies to encourage an increased use of low emission travel options in the Borough; and to secure funding for the installation of a publically accessible vehicle charging network infrastructure across our estate.

Rushcliffe Borough Council

The aim of these priorities is to maintain sustained compliance with the air quality standards and strive for continued improvements in air quality, to encourage a shift to low emission transport options and smarter choices to facilitate and encourage walking, cycling and public transport use, all of which have co-benefits on health and well-being.

4 Development and Implementation of Rushcliffe Borough Council AQAP

4.1 Consultation and Stakeholder Engagement

In developing this AQAP, we have worked with other local authorities, agencies, businesses and the local community to improve local air quality. Schedule 11 of the Environment Act 1995 requires local authorities to consult the bodies listed in Table 4-1.

It should be noted extensive consultation with our partners, Nottinghamshire County Council Transport Planners and National Highways took place during the drafting of the AQAP and the development of the measures for inclusion in Table 5-1.

In addition, we undertook the following stakeholder engagement:

- Website – public consultation;
- Articles in local newspapers; and
- Awareness via social media platforms i.e. Twitter and Facebook.

The response to our consultation stakeholder engagement was reviewed and any required revisions or adjustments were made to the final document prior to publication. A summary of the response to the consultation is provided below with further details provided in Appendix A.

Table 4-1 Consultation Undertaken

Yes/No	Consultee
Yes	the Secretary of State
Yes	the Environment Agency
Yes	the highways authority (Nottinghamshire County Council and National Highways (formerly Highways England))
Yes	neighbouring local authorities
Yes	other public authorities as appropriate, such as Public Health officials
Yes	bodies representing local business interests and other organisations as appropriate

Rushcliffe Borough Council

In developing this AQAP, we have worked and/or consulted with the following organisation/bodies:

Table 4-2 Stakeholder Consultation

Rushcliffe Borough Council			
Executive Management Team	Ward Members	Planning Policy	Development Management
Community Development	Wastes & Contracts Management	Human Resources	Community Relations/Media Officers
Parish Councils			
Holme Pierrepont & Gamston			
Nottinghamshire County Council			
Transport	Public Health		
Other Bodies			
National Highways (formerly Highways England)	UK Health Security Agency (formerly Public Health England)	Environment Agency	Neighbouring authorities – Nottingham City Council & Broxtowe Borough Council

RBC are committed to delivering this Action Plan and we will continue to liaise and engage with the above and other relevant bodies/organisations (as necessary) to ensure the success of the plan through the implementation phase.

4.2 Summary of Consultation Engagement

4.2.1 Public Consultation

A total of 57 responses were received from individual members of the public via the public consultation survey and a further six responses received by email.

The survey asked:

Rushcliffe Borough Council

- The draft Air Quality Action Plan sets out a number of priorities for improving air quality, do you agree with these priorities?
- Are there any other priorities that you would like to see included in the draft Air Quality Action Plan?
- Do you think the Council (and its partners) should be taking the actions outlined in Table 5.1?
- Do you think there are other actions the Council should be taking to improve air quality?

Sixty-one percent of the survey respondents agreed with the AQAP priorities with a further 18% saying they agreed in part or to some extent.

When asked what other priorities they would like to see contained in the AQAP the responses included better public transport provision; improved cycling infrastructure, including a cycle lane on Trent Bridge; measures to improve traffic flow at specific locations; a reduction in vehicle speeds; penalisation of diesel vehicles; air quality monitoring; improved electric vehicle charging provision; an additional crossing on the River Trent and a reduction in the level of housebuilding.

Thirty-two of the 57 survey respondents agreed the Council and its partners should be undertaking the measures outlined in Table 5.1. Nine respondents said the Council and its partners should not be taking the measures outlined with some commenting air quality is good. A few respondents indicated they could not access the table of measures. In their accompanying comments respondents made reference to the need to reduce car travel and increase sustainable travel at the expense of existing traffic capacity. Some were also of the opinion the measures need to go further to help address the wider climate change issues.

When asked what other actions the Council should be taking to improve air quality respondents provided a range of responses, including:

- Improve walking and cycling networks: reallocate road space away from vehicles; introduce a cycle lane on Trent Bridge;
- Provide improved cost-effective and comfortable public transport: electrified buses to serve villages and rural areas; extend tram line to Bingham; improve

Rushcliffe Borough Council

local train and tram network and provide park and ride facilities to encourage uptake;

- Discourage vehicle use and reduce traffic volumes: encourage home/flexible working, introduce a 4-day working week;
- Schools/education establishments: encourage walk to school routes; ensure school transport is greener; do not allow schools to be built in areas with poor air quality;
- Encourage cleaner vehicles: electrify the Council fleet; penalise the use of diesel vehicles; improve EV charging network through provision of rapid charging points in retail parks and existing petrol stations;
- Traffic flow: improve on the A52 around Radcliffe on Trent; improve in the City as this is the cause of the back-up on the outer/ring roads;
- Better manage traffic flow: increase traffic calming measures; reduce and enforce vehicle speeds; enforce on parking violations; introduce measures to reduce congestion on event (football/cricket) days;
- Minimise commercial vehicles in urban areas: restrict HGVs across Trent Bridge, restrict HGVs to dual carriageways;
- New developments: stop/reduce house building; ensure new development favours active transport and reduces dependency on vehicles;
- Build another bridge over the River Trent;
- Plant more trees; use of impregnation products to purify the air;
- Monitor the population health for air pollution impacts; and
- Ensure new reliable emerging evidence on air pollution and its impacts is fed into relevant strategies and policies as soon as possible.

A number of responses made specific reference to plans to build a new school campus to the east of West Bridgford, between Lady Bay and Radcliffe on Trent. Concerns were raised around the proximity of a school to the Stragglethorpe Road AQMA and the distance to residential communities necessitating car travel to access the school. However, at the time of writing a planning application has not been submitted for a school campus in this location. If such an application is submitted it

Rushcliffe Borough Council

will be considered by Nottinghamshire County Council with the Borough Council as a consultee to the process. Any application will be considered in line with our policies and the AQAP, where appropriate.

During the consultation period Nottingham City Council announced their proposals to build a new cycle and pedestrian bridge across the River Trent between the Waterside regeneration area on the north side of the river and the Lady Bay/West Bridgford area to the south. The project is being led by Nottingham City Council, working in partnership with RBC and in consultation with Nottinghamshire County Council. A new bridge will enhance connections between communities, green spaces and riverside paths making it easier for people living and working in Nottingham to travel in a more sustainable way. New and enhanced connecting paths and crossing points will connect the bridge to the wider walking and cycling network and the preferred location at Trent Basin will provide links between new developments on the north side of the river with significant new housing developments in Nottingham City and West Bridgford.

5 AQAP Measures

In this section we provide an overview of the measures to be implemented to improve air quality in the Air Quality Management Areas and across the wider Borough. This overview is presented relative to each of the previously identified priorities. Details of the specific measures, the organisation responsible for their implementation and an indication of the timescale involved are provided in Table 5-1.

With respect to Priority 1 we will continue to monitor nitrogen dioxide levels via our passive (diffusion tube) and active (continuous monitor) networks in both AQMAs and across the Borough. Data is assessed on an annual basis as part of the preparation of the ASR and if and when, the monitoring data shows sustained compliance we will consider the revocation of the AQMA(s). This will be done in consultation with Defra when there are sufficient robust data to demonstrate concentrations are well below (in the region of 10% below) the AQS for a period of four or five years. The COVID-19 lockdowns and restrictions which have been in place to varying degrees since March 2020 are likely to have impacted traffic movement and will need to be factored into any decision-making on the revocation of the AQMAs.

With respect to Priority 2 Nottinghamshire County Council (NCC) is a key partner in the development and implementation of the AQAP. Since declaration of AQMA No 1 Trent Bridge there have been significant reductions in measured NO₂ concentrations, primarily due to the integration of air quality into the Local Transport Plan (LTP). The LTP will continue to be key in ensuring NO₂ levels within AQMA No 1 continue to remain below the air quality standard objective. As detailed in Table 5-1 below NCC are the lead authority for a comprehensive range of measures to manage traffic and improve the travel infrastructure; and promote travel alternatives to the private vehicle.

Priority 3 seeks to address air quality within AQMA No 1/2011 Stragglethorpe Road. National Highways is the highway authority for the A52 trunk road which is the main source of vehicle emissions in AQMA No 1/2011. The A52 Junctions scheme announced in 2014, as part of the government's Road Investment Strategy, consists of a package of measures to improve several junctions along the A52 corridor to help reduce congestion and build capacity. As part of this the Stragglethorpe Road Junction scheme includes a proposal to remove the existing U-turn from the A52 eastbound to westbound carriageway to help improve the flow of traffic and thereby

Rushcliffe Borough Council

reduce emissions from stationary and slow-moving traffic. A notice of the intention to make an Order to stop the U-turn movement was made in November 2020 and National Highways are currently considering the comments received during the public consultation exercise. Although the 2019 annual mean NO₂ concentration of 41 µg m⁻³ recorded by the continuous monitor exceeded the air quality standard objective of 40 µg m⁻³, the majority of the measured annual mean concentrations at locations within the AQMA have been at or below the objective since 2015. If traffic flow can be further improved this should result in a reduction in the number of vehicles standing at the junction which will bring about a change in emissions and a reduction in measured NO₂ concentrations.

With respect to Priority 4 RBC are committed to working with our partners to bring about improvements in air quality and will continue to promote policies to achieve this and enable our residents to make smarter choices. Some examples include:

- Working together with Nottingham City Council to secure investment via the Transforming Cities Fund to increase the provision of electric vehicle charging points in the D2N2 area with sites at Cotgrave, Radcliffe on Trent and Keyworth;
- Working with the relevant organisations/bodies to try to resolve infrastructure constraints (for example electricity supply capacity) that may be limiting the ability to expand the charging point network to other locations;
- The RBC private hire and hackney vehicles policy refers to the increased use of Ultra Low Emission Vehicles (ULEV) and is likely to be enhanced further in the near future;
- Securing via planning condition the provision of electric vehicle charging points in new build residential and commercial developments;
- Requiring the submission of air quality assessments for developments in or close to the AQMAs prior to determination of a planning application;
- Increasing residents' awareness of changes in legislation that seek to improve air quality e.g. the phasing out of the sale of wet wood and coal for domestic burning between 2021 and 2023; and taking enforcement action, where necessary.

Rushcliffe Borough Council

Across the Council there are several strategies and policies in place or under development, from our Carbon Management Strategy to our procurement policies, that can provide a mechanism for introducing changes with a co-benefit of improving air quality. As always we would seek to lead by example and as part of our Carbon Management Plan we are considering options with respect to our direct operations e.g. potential replacement or upgrade of our refuse vehicle fleet.

This AQAP seeks to address air quality in two AQMAs, both of which have been declared due to exceedances of the air quality standard for the annual mean concentration of NO₂. The primary source of emissions in both AQMAs is vehicle emissions. The major road (A60) in AQMA No 1 Trent Bridge is managed by Nottinghamshire County Council whereas the A52 which is the source of the vehicle emissions in AQMA No1/2011 Stragglethorpe is managed by National Highways. Therefore, for clarity and ease of reference Table 5-1 has been subdivided into three sections based on the organisation with the main responsibility for implementation of the measures – the NCC measures relate (predominantly) to AQMA No 1 Trent Bridge; the National Highways measures relate (predominantly) to AQMA No 1/2011 Stragglethorpe Road and the RBC measures apply to both AQMAs. Although it should be noted many of the actions will benefit the whole of the two highway authorities' road network and bring about wider improvements in air quality across the Borough and wider county.

Table 5-1 shows the AQAP measures. It contains, where known:

- 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; and
- 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

Measures to be implemented by Nottinghamshire County Council (mainly relevant to AQMA No 1 Trent Bridge)

Nottinghamshire County Council Measures (The major road (A60) in AQMA No1 Trent Bridge is managed by Nottinghamshire County Council)											
Measure No.	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
NC01	Optimisation of traffic signals	Traffic Management	UTC, congestion management, traffic reduction	Nottinghamshire County Council (NCC)/Via EM Ltd: integrated transport block funding	N/A	As required	Restrain average journey times in the morning peak to a 1% increase per year	Sustain compliance & reduce NO ₂ concentrations to well below the AQS objective (in the region of 10%)	SCOOT/MOVA installed at signals within AQMA. A60/Bridgford Rd signals upgraded but require periodic review	Ongoing	SCOOT and MOVA equipped signals are relayed back to the Traffic Control Centre so that they can be altered in real time as required.
NC02	Traffic control and management - traffic control centre that monitors traffic movement and provides real time traffic control over many traffic signal installations	Traffic Management	UTC, congestion management, traffic reduction	NCC/Via EM Ltd/Nottingham City Council (NCiC): NCC and NCiC revenue funding	N/A	Ongoing	Restrain average journey times in the morning peak to a 1% increase per year	Sustain compliance & reduce NO ₂ concentrations to well below the AQS objective (in the region of 10%)	Implementation ongoing	Ongoing	
NC03	Co-ordination of street works to minimise traffic disruption and unnecessary congestion	Traffic Management	UTC, congestion management, traffic reduction	NCC/Via EM/NCiC: NCC and NCiC revenue funding	N/A	Ongoing	Restrain average journey times in the morning peak to a 1% increase per year	Sustain compliance & reduce NO ₂ concentrations to well below the AQS objective (in the region of 10%)	Implementation ongoing	Ongoing	

Rushcliffe Borough Council

Nottinghamshire County Council Measures (The major road (A60) in AQMA No1 Trent Bridge is managed by Nottinghamshire County Council)											
Measure No.	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
NC04	Incident management and effective contingency planning to minimise traffic disruption and unnecessary congestion	Traffic Management	UTC, congestion management, traffic reduction	NCC/Via EM/NCiC/ National Highways: NCC, NCiC, National Highways revenue funding	N/A	Ongoing	Restrain average journey times in the morning peak to a 1% increase per year	Sustain compliance & reduce NO ₂ concentrations to well below the AQS objective (in the region of 10%)	Implementation ongoing	Ongoing	Information conveyed by all forms of media (press, radio, website, social media etc.).
NC05	Bus stop clearways	Traffic Management	UTC, congestion management, traffic reduction	NCC/Via EM Ltd: NCC revenue funding	N/A	Ongoing		Sustain compliance & reduce NO ₂ concentrations to well below the AQS objective (in the region of 10%)	Bus stop clearways introduced in and on approaches to the AQMA. CCTV enforcement car introduced in 2016, second vehicle purchased in 2018; and third vehicle introduced in 2019.	Complete	Further clearways will only be considered should vehicles parking in bus stops be identified as impeding traffic flows
NC06	Real time travel information	Public Information	Other	NCC; NCC revenue funding	N/A	Ongoing		Sustain compliance & reduce NO ₂ concentrations to well below the AQS objective (in the region of 10%)	Implementation ongoing	Ongoing	Information conveyed by all forms of media (press, radio, website, social media, bus real time etc.).

Rushcliffe Borough Council

Nottinghamshire County Council Measures (The major road (A60) in AQMA No1 Trent Bridge is managed by Nottinghamshire County Council)											
Measure No.	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
NC07	On-street parking management and control	Traffic Management	Workplace Parking Levy, Parking Enforcement on highway	NCC; NCC revenue funding	N/A	Ongoing	Manage parking to improve journey time reliability	Sustain compliance & reduce NO ₂ concentrations to well below the AQS objective (in the region of 10%)	CPE introduced in 2008. Implementation ongoing	Ongoing	Parking restrictions already in place within AQMA. No additional side-road/off-line locations currently identified as requiring restrictions to aid traffic flow
NC08	Nottingham city workplace parking levy (WPL)	Traffic Management	Workplace Parking Levy, Parking Enforcement on highway	NCiC	Pre-2012	2012 and ongoing	Restrain average journey times in the morning peak to a 1% increase per year	Sustain compliance & reduce NO ₂ concentrations to well below the AQS objective (in the region of 10%)	NCiC introduced WPL within the city in 2012 and have used funding to make passenger transport improvements in the city	Introduced 2012 and ongoing	Whilst not within the county remit the scheme may reduce the number of vehicles travelling through the AQMA en-route to the City
NC09	NCC travel plan	Promoting Travel Alternatives	Workplace Travel Planning	NCC	N/A	Ongoing	Restrain average journey times in the morning peak to a 1% increase per year	Sustain compliance & reduce NO ₂ concentrations to well below the AQS objective (in the region of 10%)		Ongoing	NCC travel plan in operation for over 20 years
NC10	Personal travel planning (PTP) with residents	Promoting Travel Alternatives	Personalised Travel Planning	NCC/AECOM; integrated transport block/Access Fund funding	2017	2018	Restrain average journey times in the morning peak to a 1% increase per year	Sustain compliance & reduce NO ₂ concentrations to well below the AQS objective (in the region of 10%)	PTP undertaken with West Bridgford residents in 2016. Further Access Fund funded travel planning undertaken in West Bridgford during 2018	Complete	Future PTP will be delivered should revenue funding sources be identified and secured for its delivery

Rushcliffe Borough Council

Nottinghamshire County Council Measures (The major road (A60) in AQMA No1 Trent Bridge is managed by Nottinghamshire County Council)

Measure No.	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
NC11	Car sharing scheme	Alternatives to private vehicle use	Car & lift sharing schemes	NCC	N/A	Ongoing	Restrain average journey times in the morning peak to a 1% increase per year	1077kg (1.06t) of NOx reductions during 2020	4592 members currently registered. Implementation ongoing	Ongoing	
NC12	Development of ITSO public transport smartcard ticketing	Transport Planning and Infrastructure	Public transport improvements- interchanges stations and services	NCC/NCiC /PT operators	N/A	Ongoing	Increased passenger transport patronage	Sustain compliance & reduce NO ₂ concentrations to well below the AQS objective (in the region of 10%)	Integrated ticketing strategy developed in 2014/15. New smartcard platform introduced in 2014. Robin Hood card scheme introduced in 2015	Ongoing	
NC13	Countywide off-peak concessionary public transport fare scheme for the over 60s and disabled.	Transport Planning and Infrastructure	Public transport improvements- interchanges stations and services	NCC/NCiC /PT operators	N/A	Ongoing	Increase passenger transport patronage	Sustain compliance & reduce NO ₂ concentrations to well below the AQS objective (in the region of 10%)	Implementation ongoing	Ongoing	
NC14	Web based journey planners	Public Information	Other	NCC	N/A	Ongoing	Increased walking/cycling/ passenger transport trips	Sustain compliance & reduce NO ₂ concentrations to well below the AQS objective (in the region of 10%)	Implementation ongoing	Ongoing	Web based tools included on NCC Travel Choice website

Rushcliffe Borough Council

Nottinghamshire County Council Measures (The major road (A60) in AQMA No1 Trent Bridge is managed by Nottinghamshire County Council)

Measure No.	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
NC15	Enhancements to bus services operating within the AQMA	Transport Planning and Infrastructure	Other	NCC/PT operators	Ongoing		N/A	Sustain compliance & reduce NO ₂ concentrations to well below the AQS objective (in the region of 10%)			Capacity increases will be considered should passenger information demonstrate that there is insufficient capacity on existing services
NC16	Park and ride site to the east of Nottingham	Alternatives to private vehicle use	Bus based Park & Ride	NCC; no funding source secured	Up to 2026	Not known, scheme progress dependent on determining a business case for any proposal, feasibility findings and securing necessary funding	Restrain average journey times in the morning peak to a 1% increase per year		No site currently identified. No funding source identified	Not known	Scheme dependent on identifying appropriate site, business case for any proposals and securing funding for its delivery
NC17	Annual walking and cycling promotional marketing	Promoting Travel Alternatives	Promotion of cycling	NCC	Annually	Annually	Increased cycling trips		Implementation ongoing. PTP delivered during 2018 following completion of cycle route improvements. Greater Nottingham cycling maps published	Ongoing	
NC18	Annual walking and cycling promotional marketing	Promoting Travel Alternatives	Promotion of walking	NCC	Annually	Annually	Increased walking trips	Sustain compliance & reduce NO ₂ concentrations to well below the AQS objective (in the region of 10%)	Implementation ongoing. PTP delivered during 2018 following completion of cycle route improvements	Ongoing	

Rushcliffe Borough Council

Nottinghamshire County Council Measures (The major road (A60) in AQMA No1 Trent Bridge is managed by Nottinghamshire County Council)											
Measure No.	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
NC19	Adult and child cycle training	Promoting Travel Alternatives	Promotion of cycling	NCC; DfT funding			Increased cycling trips	Sustain compliance & reduce NO ₂ concentrations to well below the AQS objective (in the region of 10%)	9,383 people received cycle training in 2019/20, Implementation ongoing	Ongoing	
NC20	Walking and cycling infrastructure improvements	Transport Planning and Infrastructure	Cycle network	NCC	2015-17	Dependant on outcome of technical analysis prioritisation	Increased cycling trips	Sustain compliance & reduce NO ₂ concentrations to well below the AQS objective (in the region of 10%)	NCC secured funding to develop and deliver West Bridgford strategic cycling network during 2017/18. D2N2 LCWIP developed. Technical analysis being undertaken to identify future county-wide priorities.	Complete	Potential Active Travel Fund funded improvements planned for Regatta Way Gamston during 2021/22 (subject to consultation and Committee approvals). Potential new Trent walking/cycling bridge and improvements to it (subject to feasibility, consultation and Committee approvals). No further works to be undertaken unless prioritised through the technical analysis assessment and external/additional DfT funding secured for their delivery

Rushcliffe Borough Council

Nottinghamshire County Council Measures (The major road (A60) in AQMA No1 Trent Bridge is managed by Nottinghamshire County Council)

Measure No.	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
NC21	Bus fleet low emission vehicles	Promoting Low Emission Transport	Promoting Low Emission Public Transport	NCC/NCiC /PT operators; NCT (operator) and OLEV funding		Ongoing	Ongoing take-up of cleaner vehicles	Sustain compliance & reduce NO ₂ concentrations to well below the AQS objective (in the region of 10%)	Implementation ongoing. SQBP in place affecting all buses travelling through AQMA	Ongoing	All local buses operating into Nottingham City Centre and through the AQMA will meet Euro VI standards by the end of 2021. Operator NCT has invested £4.7m of OLEV funding to operate gas buses along two routes through the AQMA and invested a further £12.4m to upgrade its facilities to enable running of a gas fleet. In addition, NCT has invested £1.5m in 10 new Euro VI midibuses operating on four routes through the AQMA. Operator trentbarton has invested just over £2m in 12 new euro VI buses operating on three routes in the AQMA. By the end of 2021, NCC will have spent £0.9m from the Clean Bus Technology Fund to retrofit older buses to achieve Euro VI equivalent and this will include 8 routes operated by several operators in the AQMA
NC22	Introduction of wider network of EV charging points to encourage the take-up of alternative fuel vehicles	Promoting Low Emission Transport	Procuring alternative refuelling infrastructure to promote Low Emission Vehicles, EV recharging	NCC	2020/21	Ongoing	No. of EV charge points introduced in the Borough	Sustain compliance & reduce NO ₂ concentrations to well below the AQS objective (in the region of 10%)	Implementation ongoing. Review of on-street and rural EV charging infrastructure currently being undertaken and will be completed during 2021/22	Ongoing	Review seeks to identify potential on-street options and will inform future County Council EV infrastructure strategy, policy and delivery in the county (to link with district EV provision in off-street public car parks and vice versa)

Rushcliffe Borough Council

Measures to be implemented by National Highways (mainly relevant to AQMA No 1/2011 Stragglethorpe Road)

National Highways (NH) Measures (The major road (A52) in AQMA No1/2011 Stragglethorpe Road is managed by National Highways)											
Measure No.	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
NH01	Using new traffic light control technology to minimise the frequency of stops for large vehicles (lorries & buses predominantly). It is hoped that reducing stops for these vehicles it will reduce their emissions; further benefits may accrue by reducing their idle time and the capacity implications of larger, slower, vehicles pulling off at the front of a traffic queue.	Traffic management	Strategic highway improvements	NH	N/A	Ongoing	Improved traffic flow	Reduction in NO ₂ annual mean concentration of 1µg m ⁻³ required to achieve the AQS – further reduction (in the region of 10%) required to demonstrate well below the AQS and sustained compliance.	Under constant review	Ongoing	Technology is effective at detecting large vehicles and influencing signal control. Control set up used showed benefits in some cases but in others proved detrimental by overriding the well developed adaptive control system (MOVA). The net effect was shown to be negative on stops and delays however this did not translate into a material change in air quality readings; it is assumed therefore that even focussing on the positive elements the level of impact from this system is too small to have a meaningful impact on emissions at a single junction. NH have reverted out those changes shown to be detrimental but left in those they are confident were beneficial. As part of the proposed upcoming changes as part of the A52 Nottingham Junctions project NH are hoping to further review and see if some softer priority measures can be re-introduced for HGVs.

Rushcliffe Borough Council

National Highways (NH) Measures (The major road (A52) in AQMA No1/2011 Stragglethorpe Road is managed by National Highways)											
Measure No.	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
NH02	Proposals to ban the U-turn east to west and reconfigure the signals to improve efficiency, have been developed further and initial consultation with local stakeholders has been undertaken.	Traffic management	Strategic highway improvements	NH	November 2020 – publication of notice of intention to make an order to stop the U-turn movement	TBC – Final decision not yet made	U-turn ban	Data for the past five years (passive and automatic monitoring) indicates the annual mean NO ₂ concentration is hovering around the threshold. Reduction in NO ₂ annual mean concentration of 1µg m ⁻³ required to achieve the AQS – further reduction (in the region of 10%) required to demonstrate well below the AQS and sustained compliance.	Trials completed. Consultation on notice of intention ongoing – NH are currently considering the objections received to the draft order to implement the U-turn ban	Not known	If the Traffic Regulation Order (TRO) is approved and the order is made this will facilitate a reconfirmation of the signal control which will reduce the signal cycle time (and hence shorter red periods, queues and idling) and improve capacity. It is these further changes that will bring about any change in emissions and air quality.
NH03	Introduction of wider network of EV charging points to encourage the take-up of alternative fuel vehicles	Promoting Low Emission Transport	Procuring alternative refuelling infrastructure to promote Low Emission Vehicles, EV recharging	NH (EV infrastructure on the trunk road network)	2020/21		No. of EV charge points introduced in the Borough	Reduction in NO ₂ annual mean concentration of 1µg m ⁻³ required to achieve the AQS – further reduction (in the region of 10%) required to demonstrate well below the AQS and sustained compliance.	Implementation ongoing. Review of on-street and rural EV charging infrastructure to be undertaken during 2020/21	Not known	

Rushcliffe Borough Council

National Highways (NH) Measures (The major road (A52) in AQMA No1/2011 Stragglethorpe Road is managed by National Highways)											
Measure No.	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
NH04	Co-ordination of street works to minimise traffic disruption and unnecessary congestion	Traffic Management	UTC, congestion management, traffic reduction	NH	N/A	Ongoing			Implementation ongoing	Ongoing	
NH05	Walking and cycling infrastructure improvements	Transport Planning and Infrastructure	Cycle Network	NH	Ongoing – at strategic study stage	Unknown	Walking and cycling infrastructure improvements		NH seeking funding for a strategic study to identify further options and explore potential routes to funding and delivery	Not known – dependant on findings of strategic study	The A52 corridor from Bingham to Gamston (and further into Nottingham City) has been identified as having potential for wider walking, cycling and public transport improvements and NH are seeking funding for a strategic study to identify further options and explore potential routes to funding and delivery.

Rushcliffe Borough Council

Measures to be implemented by Rushcliffe Borough Council

Rushcliffe Borough Council Measures											
Measure No.	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
RB01	Off-street parking management and control (including review of car parking offer/charging)	Traffic Management	Other	RBC	N/A	Ongoing	N/A	Sustain compliance & reduce NO ₂ concentrations to well below the AQS objective (in the region of 10%)	Ongoing	Ongoing	Not relevant within AQMA No 1/2011 Stragglethorpe Road
RB02	Ensure sustainable development on sites within Borough that may impact on AQMA	Policy Guidance and Development Control	Other policy	RBC	N/A	Ongoing	No. of AQ impact assessments related to AQMA	Ensuring AQ is at the heart of planning decision. Sustain compliance & reduce NO ₂ concentrations to well below the AQS objective (in the region of 10%)	Developments within and potentially impacting on an AQMA supported by AQ assessments.	Ongoing	Development mainly limited to AQMA No 1 Trent Bridge; constraints around development in AQMA No 1/2011 Stragglethorpe Road. Propose to adapt and introduce EMAQN Air Quality and Emissions Mitigation – Guidance for Developers for RBC to ensure consistency of approach
RB03	Co-ordination of land-use planning and transport infrastructure	Policy Guidance and Development Control	Other policy	RBC/NC C/NH	N/A	Ongoing	No. of impact assessments related to AQMA	Ensuring AQ is at the heart of planning decision. Sustain compliance & reduce NO ₂ concentrations to well below the AQS objective (in the region of 10%)	Developments within and potentially impacting on an AQMA supported by transport assessments	Ongoing	Development mainly limited to AQMA No 1 Trent Bridge; constraints around development in AQMA No 1/2011 Stragglethorpe Road

Rushcliffe Borough Council

Rushcliffe Borough Council Measures											
Measure No.	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
RB04	Use of planning conditions for mitigation; inc. travel plans etc. and to ensure for planning applications within AQMAs that are introducing sensitive receptors to the area that air quality assessments are required, and developments with vulnerable end users that the assessment takes account of WHO guidelines on air quality and PM _{2.5}	Policy Guidance and Development Control	Other policy	RBC	N/A	Ongoing	No. of travel plans required as planning conditions and number of AQ assessments submitted with mitigation measures put in place	Sustain compliance & reduce NO ₂ concentrations to well below the AQS objective (in the region of 10%)	Ongoing	Ongoing	
RB05	Secure appropriate levels of developer contributions (Section 106 and/or CIL) for use on sustainable transport and air quality improvement projects	Policy Guidance and Development Control	Other policy	RBC/NC C		Ongoing	Sums collected for such infrastructure projects	Sustain compliance & reduce NO ₂ concentrations to well below the AQS objective (in the region of 10%)	Ongoing	Ongoing	
RB06	Promote carbon reduction policies and guidance to developers working within Rushcliffe with a co-benefit of improving air quality	Policy Guidance and Development Control	Other policy	RBC	Pre 2019	Ongoing - driven by the policies in the Local Plan adopted in 2019	No. of EV charge points introduced in the Borough through planning conditions.	Sustain compliance & reduce NO ₂ concentrations to well below the AQS objective (in the region of 10%)	Ongoing	Ongoing	Provision of/for EV charging points in new residential and commercial developments.

Rushcliffe Borough Council

Rushcliffe Borough Council Measures											
Measure No.	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
RB07	Workplace travel plans	Promoting Travel Alternatives	Workplace Travel Planning	RBC planning /NCC		Ongoing	Restrain average journey times in the morning peak to a 1% increase per year	Sustain compliance & reduce NO ₂ concentrations to well below the AQS objective (in the region of 10%)	Developed with businesses as part of planning conditions when secured by RBC. Targeted travel planning (funded by the County Council) was held at workplaces within the AQMA during 2014/15	Ongoing	
RB08	RBC travel plan	Promoting Travel Alternatives	Workplace Travel Planning	RBC/ RBC planning /NCC		2019	Restrain average journey times in the morning peak to a 1% increase per year	Sustain compliance & reduce NO ₂ concentrations to well below the AQS objective (in the region of 10%)			RBC developed travel plan as a planning condition for occupation of new premises

Rushcliffe Borough Council

Rushcliffe Borough Council Measures											
Measure No.	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
RB09	Flexible working arrangements	Promoting Travel Alternatives	Encourage / Facilitate home-working	RBC	New People Strategy under development – may result in some change to flexible/remote worker arrangements.	Ongoing	Restrain average journey times in the morning peak to a 1% increase per year	Sustain compliance & reduce NO ₂ concentrations to well below the AQS objective (in the region of 10%)	RBC operate flexible working arrangements for appropriate staff	Ongoing	Flexible/remote working arrangements have been updated/revised as part of the smarter ways of working framework in new People Strategy which was adopted in 2021
RB10	Travel planning with residents at new developments	Promoting Travel Alternatives	Personalised Travel Planning	RBC			Restrain average journey times in the morning peak to a 1% increase per year	Sustain compliance & reduce NO ₂ concentrations to well below the AQS objective (in the region of 10%)			Planning conditions secured by RBC to ensure residential travel planning is undertaken where appropriate

Rushcliffe Borough Council

Rushcliffe Borough Council Measures											
Measure No.	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
RB11	Introduction of wider network of off-street EV charging points to encourage take up of alternative fuel vehicles	Promoting Low Emission Transport	Procurng alternative Refuelling infrastructure to promote Low Emission Vehicles, EV recharging, Gas fuel recharging	RBC/NCiC;	RBC working in partnership with NCiC to develop the CP infrastructure along the D2N2 corridor – funding via Transforming Cities Fund	Ongoing	No. of EV charge points introduced across the Borough	Reduced vehicle emissions. Sustain compliance & reduce NO ₂ concentrations to well below the AQS objective (in the region of 10%)	20 charging points installed as part of Go Ultra Low Project. Other sites identified and due to come on board imminently ; Site investigation ongoing to determine feasibility of other sites	2022	Implementation ongoing. Constraints identified in some locations due to power supply issues. Working with electricity distributor to improve supply provision. Successful in funding bid to OZEV – residents off street charging provision in Keyworth and Radcliffe on Trent.
RB12	Develop a strategy for further EV provision across the Borough	Promoting Low Emission Transport	Procurng alternative Refuelling infrastructure to promote Low Emission Vehicles, EV recharging, Gas fuel recharging	RBC	Partnering with City under Transforming Cities Fund to increase D2N2 offering across the Borough; exploring wider options	Ongoing	No. of EV charge points introduced across the Borough	Reduced vehicle emissions. Sustain compliance & reduce NO ₂ concentrations to well below the AQS objective (in the region of 10%)	Installation of one solar canopy hub – others under consideration	2022/23	Constraints identified around power supply in some locations.

Rushcliffe Borough Council

Rushcliffe Borough Council Measures											
Measure No.	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
RB13	Promotion of low emission vehicles through taxi licensing	Promoting Low Emission Transport	Taxi emission incentives	RBC	Under consideration – exploring possible options	TBC	Review of taxi licence criteria/incentives for use of electric vehicles	Reduced vehicle emissions	Under consideration	Not known	Currently reviewing case studies
RB14	Procurement of new RBC vehicles	Vehicle Fleet Efficiency	Other	RBC			No. of electric and/or other low emission vehicles within RBC fleet	Reduced vehicle emissions			Applicable to RBC operations - link with Carbon Management Plan
RB15	Investigate potential replacement/upgrading of RBC refuse trucks & vans with ULEV, Biogas, hydrogen fuelled vehicles	Vehicle Fleet Efficiency	Other	RBC	Under investigation	Unknown – longer term action (5-10years)	No. of electric and/or other low emission vehicles within RBC fleet	Reduced vehicle emissions	Under investigation	Unknown	Applicable to RBC operations - link with Carbon Management Plan and accelerating shift to low carbon transport.
RB16	Integrate RBC driver training with annual certification and investigate in-cab monitoring and route optimisation	Vehicle Fleet Efficiency	Other	RBC	Under investigation	Short term (within 1 year)		Reduced vehicle emissions	Under investigation	Unknown	Applicable to RBC operations - link with Carbon Management Plan and accelerating shift to low carbon transport.
RB17	Widen access to staff cycle purchase scheme	Promoting Travel Alternatives	Promotion of cycling and walking	RBC		Ongoing	Increase in cycle purchases via staff scheme				RBC staff initiative

Rushcliffe Borough Council

Rushcliffe Borough Council Measures											
Measure No.	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
RB18	Work with partners to promote active travel to the public - (e.g. school travel plans including accreditation (stars) and walking bus; travel choice programme including active travel; well-being at work scheme / work place health; business e-bike scheme; healthy futures fund – cycling on prescription; community cycling groups; Ridewise training	Promoting Travel Alternatives	Promotion of cycling and walking	NCC/RBC		Ongoing	Increase cycling and walking		Ongoing		
RB19	Development of RBC cycling strategy	Promoting Travel Alternatives	Promotion of cycling and walking	RBC	Work on future cycling strategy being developed	Not known			Currently at development stage	Autumn 2021	Development of RBC cycling strategy to identify RBC priorities and help residents make smarter travel choices. The strategy will complement and support the NCC cycling strategy with RBC working in collaboration with NCC to develop the cycling infrastructure.

Rushcliffe Borough Council

Rushcliffe Borough Council Measures											
Measure No.	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
RB20	Raise awareness of the wider government initiatives to reduce air emissions e.g. ban on the sale of house coal and wet wood	Policy guidance and development control	Low emissions strategy	RBC			Reduction in complaints relating to domestic burning				Environment Bill proposes to streamline enforcement powers in Smoke Control Areas
RB21	Work with partners to encourage more sustainable travel	Promoting Travel Alternatives	Promotion of cycling and walking	NCC/RBC		Ongoing		Sustain compliance & reduce NO ₂ concentrations to well below the AQS objective (in the region of 10%)			Linking with public health to promote the health benefits of walking and cycling. Link with NCC Travel Choice programme https://travelchoice.nottinghamshire.gov.uk/
RB22	Working on a regional basis with other Local Authorities & partners to develop area-wide strategies and guidance as required	Policy Guidance and Development	Air Quality Planning and Policy Guidance	NCC/UK HSA/RBC & other district/Borough councils	N/A	Ongoing	Development of regional strategies, policies and guidance as required		Nottinghamshire Air Quality Strategy published 2020	Ongoing	RBC will continue to work with other authorities and relevant partners on a regional basis. RBC are a member of the East Midlands Air Quality Network
RB23	Regulation of Permitted Activities	Environmental permits	Introduction /increase of environmental funding through permit systems and economic instruments	Environment Agency and RBC		Ongoing	Conditions applied in line with Defra guidance and support best practice		Ongoing	Ongoing	

Rushcliffe Borough Council

Rushcliffe Borough Council Measures											
Measure No.	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
RB24	New Trent Crossing	Promoting Travel Alternatives	Promotion of cycling and walking	NCiC working in partnership with RBC & NCC	Ongoing	2021-23	Increase cycling and walking; reduction in number of car journeys	Sustain compliance within AQMA No 1	Options appraisal and public consultation ongoing; planning application due to be submitted in early 2022.	2023	The City Council secured £9.25m in 2020 from the Government's Transforming Cities programme to deliver this scheme as part of a programme to invest in local transport infrastructure that will improve sustainable transport, support growth, and encourage more low carbon journeys.

Appendix A: Response to Consultation

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

Consultee	Category	Response
Defra	General – comment on COVID-19 pandemic	Paragraph included in Section 1 Introduction
	References – update to refer to updated TG16 published in April 2021	References updated as appropriate
	Source Apportionment – error in calculation in Step 4 (AQMA No1/2011)	Error corrected
	Table 5-1 for some measures further sub-actions and associated timescales for breaking down the actions into more measurable milestones could be beneficial for monitoring progress	It is our view this can be better undertaken on an annual basis as part of the reporting on progress in the Annual Status Report
	Dispersion modelling of the quantification of measures' impacts would be beneficial to demonstrate which measures specifically are expected to contribute toward compliance with the AQO	Given the magnitude of the exceedances of the annual mean concentration of NO ₂ i.e. below in the AQO in AQMA No 1 Trent Bridge and marginally above (41µg m ⁻³) in AQMA No 1/2011 Stragglethorpe Road dispersion modelling is not considered necessary at this time.
	Limited information is currently provided on the co-impacts of the measures presented	Where relevant co-impacts/benefits with other regimes are included e.g. carbon management plan
	Care should be taken to continue engagement on the governance of the AQAP	RBC is committed to engagement with our partners and other stakeholders to deliver the AQAP measures and improvements in air quality. Reinforced in text of Section 4.2.
NCC Public Health	Page iii – suggest including stroke, diabetes, respiratory disease, and premature mortality as adverse health impacts of air pollution. Also suggest reference to “health inequalities” rather than “equalities” issues.	Text amended as suggested

Rushcliffe Borough Council

	Page ii and section 3.1. Health impact in Rushcliffe – May be worth referring to the modelled impact of PM and NO ₂ on morbidity, mortality and health and care costs set out in appendix 3 of the Notts AQ strategy	Section 3.1 paragraph included on modelled impact of PM and NO ₂ on morbidity, mortality and health and care costs set out in appendix 3 of the Notts AQ strategy.
	Page iii - Plan actions - these align well with the Notts AQ strategy strategic priorities. It may be worth mentioning this alignment	Reference to alignment with Notts AQ strategy included in Section 3.3.2.
	Page iii & section 3.7 Plan priorities - suggest a priority about working with local partners on broader action and alignment of policies and action for AQ in line with the Notts AQ strategy	Whilst we recognise the benefits of working with local partners to bring about improvements in air quality the AQAP is primarily concerned with introducing measures to achieve compliance with the AQO in the declared AQMAs. RBC are a contributing partner to the Notts AQ strategy and will continue to engage with partners to drive this forward.
	Page iii & section 3.7 – Plan priorities - The plan makes good reference to the positive policy in the Rushcliffe Local plan to mitigate the impact of development on AQ (which aligns well with the Notts AQ strategy). Suggest making this one of the plan priorities.	The requirement to consider planning applications within the context of the Local Plan is inherent in our consideration of all applications within the AQMAs (and indeed outside of the AQMAs).
	Page 3 Summary of AQ in Rushcliffe – Describes NO ₂ as the primary pollutant of concern. Suggest this statement is amended to describe the impact of particulates as well as NO ₂ (despite NO ₂ being the legal focus of the AQMA), as particulates have an estimated greater impact on mortality and morbidity on Rushcliffe residents as a whole.	Nitrogen dioxide has been identified as the primary pollutant of concern as the AQMAs have both been declared for exceedances of the annual mean concentration of NO ₂ . Reference to particulate matter, the health impacts and the need to reduce exposure is included in other parts of the AQAP and is also considered in the Annual Status Report.

Table A.2 Public Consultation: Summary of Responses

Question No.	Question	Response
Q1	Are you responding as an individual or on behalf of an organisation/group	100% responding as individuals
Q2	Name	-
Q3	Postcode	-
Q4	The draft Air Quality Action Plan sets out a number of priorities for improving air quality, do you agree with these priorities?	Yes = 61% (35/57) No = 21% (12/57)
	<p>Some respondents provided comments, which can be grouped as follows:</p> <p>Reliance on car travel: an active discouragement policy for car use is required; cars dominate our lives and there is no vision of how we might live differently and more sustainably; other places e.g. Paris are being reorganised around people not cars and your plans do not have this vision; due to the current COVID-19 pandemic restrictions on car usage should not be employed; concerns about the emphasis on 'traffic flow' and the potential for this to be used an argument for not putting in measures to help pedestrians if it risks causing some congestion which potentially creates a vicious circle of encouraging more car use.</p> <p>Traffic flow: build another bridge across the Trent which would help spread out vehicles and lower congestion.</p> <p>Monitoring: first priority should be to monitor air quality; agree with the priorities if there is particular emphasis on the health of people, such as nearby residents, who experience any low air quality at a site for lengthy periods; monitor levels for 2-3 years instead of 4-5 years.</p> <p>Public transport: vast improvements in public transport are required.</p> <p>Development: at the same time as feedback is requested on the AQAP plans are proceeding to build a school campus on the edge of a high pollution area - this is not creative or joined up thinking.</p> <p>Other: the priorities of this plan are over reliant on third parties, not specific or measurable; the focus should be residential areas - the Stragglethorpe junction, whilst potentially benefiting from improvement is not an area where air quality is a priority; reference to 'smarter' travel choices makes it sound as though you think I am currently not smart; the priorities are not clearly defined; monitoring will not improve air quality and there are no actual actions suggested; work with City Council not just County for the Trent Bridge area, 37µg m⁻³ may be below the legal limit at Trent Bridge but it is not good for residents in the area; pushing the problem to other places is not the answer; they are not priorities, they are courses of action and insufficient to make a rapid, concerted campaign to make improvements; agree with air quality improvement but not so much with how it's proposed to be implemented - small business will suffer along with local residents who have no doubt spent large amounts of disposable income on homes and vehicles. The policy on diesel vehicle use is a perfect example of incoherent governance.</p>	
Q5	Are there any other priorities that you would like to see included in the draft Air Quality Action Plan?	

	<p>Most of the responses could be grouped under the following headings:</p> <p>Public Transport: improved train routes; extension of the tram towards Bingham.</p> <p>Improvements to cycling infrastructure: better long-term strategy; make active transport infrastructure better.</p> <p>A52 traffic flow: stop the proposed U turn ban at Stragglethorpe Junction.</p> <p>Traffic flow: introduction of traffic calming measures; penalise drivers who block road junctions; restructure road network to reduce idling at junctions; reduce speed limits; close roads which do not meet the limits; reduce number of HGVs using roads; dual more roads; build a by-pass around Radcliffe on Trent.</p> <p>Trent Bridge: introduce a cycling lane on Trent Bridge.</p> <p>Monitoring: introduction of more defined targets; monitoring of health effects; monitor air quality close to A52.</p> <p>EV Charging: provision of EV charging facilities for people without driveways; increase charging provision at supermarkets, retail parks etc.</p> <p>Events: solution needed to deal with influx of vehicles during sporting events around Trent Bridge.</p> <p>Prioritisation: prioritise people not vehicles.</p> <p>Bridge/crossing: build a new bridge across the Trent.</p> <p>Vehicles: remove/penalise diesel vehicles.</p> <p>Planning: stop/reduce house building.</p> <p>Other: Use a colorless stain for outdoor porous mineral substrates to purify the air by degrading pollution.</p>	
Q6	<p>Do you think the Council (and its partners) should be taking the actions outlined in Table 5.1?</p>	<p>Yes = 56% (32/57) No = 16% (9/57)</p> <p>A small number of respondents reported a difficulty in viewing Table 5.1.</p> <p>Comments included:</p> <p>Traffic Flow: Actions are primarily concerned with management of motor vehicle traffic flows. The best way to reduce pollution is to reduce car travel and does not seem to be the focus. Need to reduce cars and lorries. Amend speed limit to reduce exhaust emissions. The outlined actions should be taken with the caveat that any measures to increase sustainable travel (by cycle, walking or public transport) must not be done at the expense of existing traffic capacity. Adjustments to traffic lights for lorries unlikely to be worth it, especially if buses slowed.</p> <p>Active Transport: Take a lane out on Trent Bridge (each way) for bus/cyclists. Measures NC17, NC18 or NC19 (which relate to walking & cycling promotional material & cycle training) sound like a waste of money.</p> <p>Other: There is an over reliance on partners to deliver solutions. Measures should be taken if warranted by effects identified from the weight of available evidence. Queries as to how the measures will be financed. Measures need to go further e.g. good low or no emission alternatives are required. Measures should have been undertaken ten years ago. Query as to how the key performance indicators will be measured and how the measures are integrated into wider development within the Borough e.g. building schools in areas where walking/cycling to school are not possible; and development around the football ground in AQMA No 1 Trent Bridge. Some aspects have not been thought through properly and is simply moving a problem or hiding behind figures.</p>

Q7	<p>Do you think there are other actions the Council should be taking to improve air quality?</p> <p>Suggestions can be grouped as follows:</p> <p>Public Transport: improve bus services to/from the villages; make public transport more attractive; improve ventilation on buses/trains; extend the tram network through Rushcliffe.</p> <p>Cycling & Walking Infrastructure: improve existing cycle lanes; provide more cycle lanes; explore joined up cycle routes from West Bridgford into Nottingham; introduce cycle lanes on Trent Bridge; penalise pavement parking; introduce walk to school routes.</p> <p>Traffic Flow & Management: install traffic calming measures; reduce speed limits; improve the Stragglethorpe Road junction; focus on unilateral actions to reduce traffic levels; RBC could be setting out plans for cost efficient active travel measures along key routes including around Trent Bridge and the A52; find solution to congestion during sporting events at Trent Bridge and Nottingham Forest Ground; restrict HGVs crossing Trent Bridge; set up a task force to take poorly maintained diesel vehicles off the road; introduce a park & ride at Radcliffe on Trent with tram/train connection to the city; reopen Victoria Embankment to traffic; make driving by car easier in Nottingham which would reduce congestion; deal with idling vehicles on A52.</p> <p>New bridge/river crossing: new road crossing required.</p> <p>Monitoring: monitor health of residents; monitor vehicle emissions.</p> <p>Electric Vehicles: better charging infrastructure required to encourage take up of electric vehicles; all Council vehicles should be electric; electric buses to outlying villages; charging networks at retail outlets & petrol stations.</p> <p>Development: stop developments that will lead to an increase in traffic & air pollution; ensure new developments are sited and designed to reduce car dependency; no Green Belt development.</p> <p>Other: encourage home working/flexible working; shorten the working week; more jobs outside of the city; plant more trees; discourage car travel; feed new reliable evidence into updates to strategy and its implementation; air quality is already good; reallocate road space back to pedestrians; introduce an emission based parking permit; treat the area with a colorless stain for outdoor porous mineral substrates which purifies the air by degrading pollution by photocatalysis.</p>
Q8	<p>If you have any other comments on the draft Air Quality Action Plan please provide them below.</p> <p>Trent Bridge: narrow lanes have created slower traffic movements and idling engines; closure of Clifton Bridge lanes since Feb 2020 has increased vehicle movements on Trent Bridge; visibility for cyclists is reduced since installation of anti-terrorism barriers; widen the bridge.</p> <p>Stragglethorpe junction: increased use of Stragglethorpe road during Aug 2021 roadworks on A52 near Radcliffe on Trent; sequence traffic lights so it is possible to turn left out of Stragglethorpe road (to go West on A52) at same time as cars are turning in to Stragglethorpe Road on the green filter light (from the East bound carriageway of A52); a roundabout rather than traffic lights at the junction.</p> <p>Active Transport: more cycle lanes.</p> <p>Traffic Flow: the Council should say it is determined to discourage motorists; car travel should not be limited until public transport is improved; take diesel vehicles off the road.</p> <p>Monitoring: Automated air sampling stations should be established at key points particularly before traffic lights; more monitoring stations need to</p>

be set up and consider the knock-on effect of traffic displacement.

Development: future developments such as schools should consider impact on air quality; stop building new houses and apartments.

Public Transport: improve rail facilities to Bingham and improve parking facilities at the rail station to encourage use.

Other: plan is superficial and over reliant on third parties; less time should be spent forcing people onto public transport and more time taking polluting vehicles off the road; more investment in public transport is required; no additional measures are required; implementing an effective Action Plan is more of a priority now and more costly because it was not done earlier; Plan is not ambitious enough; need to look at agricultural pollution; Plan will have minimal impact on air quality and shows little commitment to improving it.

Appendix B: Calculations

Source Apportionment calculations for NO₂ undertaken in accordance with the methodology contained in Box 7.5 of TG16 (Defra 2021)

Source Apportionment – AQMA No 1 Trent Bridge

AQMA No1 Trent Bridge		Concentration µgm ⁻³
Selected Annual Mean NO ₂ Concentration at location TBI (2019)	[T-NO ₂]	37.0
Step 1: Establishing and deriving background NO₂ and NO_x		
total background NO ₂ (for grid square within which location TBI is located ²⁵)	[TB-NO ₂]	20.4
total background NO _x	[TB-NO _x]	29.0
regional background NO _x	[RB-NO _x]	11.3
derive a local background NO _x [LB-NO _x] = [TB-NO _x] - [RB-NO _x]	[LB-NO _x]	17.7
Step 2: Apportion the total background NO₂ into regional and local using regional and local NO_x proportions		
Regional NO ₂ [RB-NO ₂] = [TB-NO ₂] x ([RB-NO _x] / [TB-NO _x])	[RB-NO ₂]	7.9
Local NO ₂ [LB-NO ₂] = [TB-NO ₂] x ([LB-NO _x] / [TB-NO _x])	[LB-NO ₂]	12.5
Step 3: calculate the local NO₂ contribution at the worst-case location [L-NO₂] from the total measured minus background		
[L-NO ₂] = [T-NO ₂] - [TB-NO ₂]	[L-NO ₂]	16.6
Step 4: Apportion the local contributions to total NO₂ concentration		
NO ₂ vans and lorries = 12% ²⁶ x [L-NO ₂] =		2.0
NO ₂ buses = 3% x [L-NO ₂] =		0.5

²⁵ UK AIR Background Mapping for Local Authorities <https://uk-air.defra.gov.uk/data/laqm-background-maps?year=2018>

²⁶ DfT Road Traffic Statistics <https://roadtraffic.dft.gov.uk/manualcountpoints/17853>

Rushcliffe Borough Council

NO ₂ cars = 84% x [L-NO ₂] =	13.9
Final Source Apportionment of the worst-case NO ₂ 37µg m ⁻³ :	
Regional background = 7.9µg m ⁻³ (21%)	
Local background = 12.5µg m ⁻³ (34%)	
Local traffic:	
<ul style="list-style-type: none"> vans and lorries = 2.0µg m⁻³ (5%) buses = 0.5µg m⁻³ (2%) cars = 13.9µg m⁻³ (38%) 	

Source Apportionment – AQMA No 1/2011 Stragglethorpe Road

AQMA No1/2011 Stragglethorpe Road		Concentration µgm ⁻³
Selected Annual Mean NO ₂ Concentration at location A52/HHF4 (2019)	[T-NO ₂]	41.0
Step 1 Establishing and deriving background NO₂ and NO_x		
total background NO ₂ (for grid square within which location A52/HHF4 is located)	[TB-NO ₂]	12.8
total background NO _x	[TB-NO _x]	17.1
regional background NO _x	[RB-NO _x]	11.3
derive a local background NO _x [LB-NO _x] = [TB-NO _x] - [RB-NO _x]	[LB-NO _x]	5.8
Step 2: Apportion the total background NO₂ into regional and local using regional and local NO_x proportions		
[RB-NO ₂] = [TB-NO ₂] x ([RB-NO _x] / [TB-NO _x])	[RB-NO ₂]	8.5
[LB-NO ₂] = [TB-NO ₂] x ([LB-NO _x] / [TB-NO _x])	[LB-NO ₂]	4.3
Step 3: calculate the local NO₂ contribution at the worst-case location [L-NO₂] from the total measured minus background		

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$[L-NO_2] = [T-NO_2] - [TB-NO_2]$	$[L-NO_2]$	28.2
Step 4: Apportion the local contributions to total NO₂ concentration		
NO ₂ vans and lorries = 18.5% x $[L-NO_2]$ =		5.2
NO ₂ buses = 0.8% x $[L-NO_2]$ =		0.23
NO ₂ cars = 80.3% x $[L-NO_2]$ =		22.6
<p>Final Source Apportionment of the worst-case NO₂ 41µg m⁻³:</p> <p>Regional background = 8.5µg m⁻³ (20.7%)</p> <p>Local background = 4.3µg m⁻³ (10.5%)</p> <p>Local traffic:</p> <ul style="list-style-type: none"> vans and lorries = 5.2µg m⁻³ (13%) buses = 0.2µg m⁻³ (0.5%) cars = 22.6µg m⁻³ (55%) 		

Calculated Reduction in Road NO_x emissions in AQMA No1/2011 Stragglethorpe Road²⁷

AQMA No1/2011 Stragglethorpe Road	Concentration µgm ⁻³
Selected Annual Mean NO ₂ Concentration at location A52/HHF4 (2019)	41
Calculated NO _x concentration that equates to 41µgm ⁻³ NO ₂	82.1
Local background concentration NO _x	5.8
Local background concentration NO ₂	4.3
total background NO ₂ (for grid square within which location A52/HHF4 is located)	12.8
Road NO _x concentration (total NO _x (82.1 µgm ⁻³) minus local background concentration NO _x (5.8 µgm ⁻³)	76.3
Calculated Road NO _x concentration required to give to give a total NO ₂ of 40µgm ⁻³	72.75
Calculated road NO _x reduction required to go from road NO _x current to road NO _x required (76.3µgm ⁻³ – 72.75µgm ⁻³)	3.55 (4.7%)

²⁷ Defra LAQM Tools NO_x to NO₂ calculator <https://laqm.defra.gov.uk/review-and-assessment/tools/background-maps.html#NOxNO2calc>

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Traffic Data Provided by Nottinghamshire County Council

AQMA No 1 Trent Bridge

Growth in Annual Average Daily Traffic (AADT) & Annual Average Daily articulated HGV Flows (AADF) on the A60 Loughborough Road, West Bridgford (south of County Hall access) between 2008-19									
Growth Factors						% change			
Year	AADT	Artic HGV	Year	AADT	Artic HGV	Year	AADT	Artic HGV	
2008	33006		2008	100.0		2008	0.0%		
2009	32774		2009	99.3		2009	-0.7%		
2010	32160		2010	97.4		2010	-2.6%		
2011	31882		2011	96.6		2011	-3.4%		
2012	31385		2012	95.1		2012	-4.9%		
2013	31413		2013	95.2		2013	-4.8%		
2014	31360	252	2014	95.0	100.0	2014	-5.0%	0.0%	
2015	32372	252	2015	98.1	100.2	2015	-1.9%	0.2%	
2016	32184	270	2016	97.5	107.2	2016	-2.5%	7.2%	
2017	31787	267	2017	96.3	106.3	2017	-3.7%	6.3%	
2018	32661	248	2018	99.0	98.5	2018	-1.0%	-1.5%	
2019	34214	256	2019	103.7	101.9	2019	3.7%	1.9%	

Growth in Annual Average Daily Traffic (AADT) for A60 Trent Bridge				
Source: Nottingham City Council				
Year	AADT	GF	% Change (2009 base)	Change (year on year)
2009	43000	100.0	0.0%	0.0%
2010	42950	99.9	-0.1%	-0.1%
2011	38500	89.5	-10.5%	-10.4%
2012	38500	89.5	-10.5%	0.0%
2013	40550	94.3	-5.7%	5.3%
2014	46300	107.7	7.7%	14.2%
2015	46600	108.4	8.4%	0.6%
2016	46400	107.9	7.9%	-0.4%
2017	46700	108.6	8.6%	0.6%
2018	46900	109.1	9.1%	0.4%
2019	45250	105.2	5.2%	-3.5%

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Growth in Annual Average Daily Traffic (AADT) for A60 Trent Bridge

Source: DfT Count Point 17853

Year	AADT	GF	% Change (2009 base)	% Change (year on year)
2009	42707	100.0	0.0%	0.0%
2010	43044	100.8	0.8%	0.8%
2011	40426	94.7	-5.3%	-6.1%
2012	40174	94.1	-5.9%	-0.6%
2013	38503	90.2	-9.8%	-4.2%
2014	38762	90.8	-9.2%	0.7%
2015	42594	99.7	-0.3%	9.9%
2016	43412	101.7	1.7%	1.9%
2017	43278	101.3	1.3%	-0.3%
2018	42842	100.3	0.3%	-1.0%
2019	36837	86.3	-13.7%	-14.0%

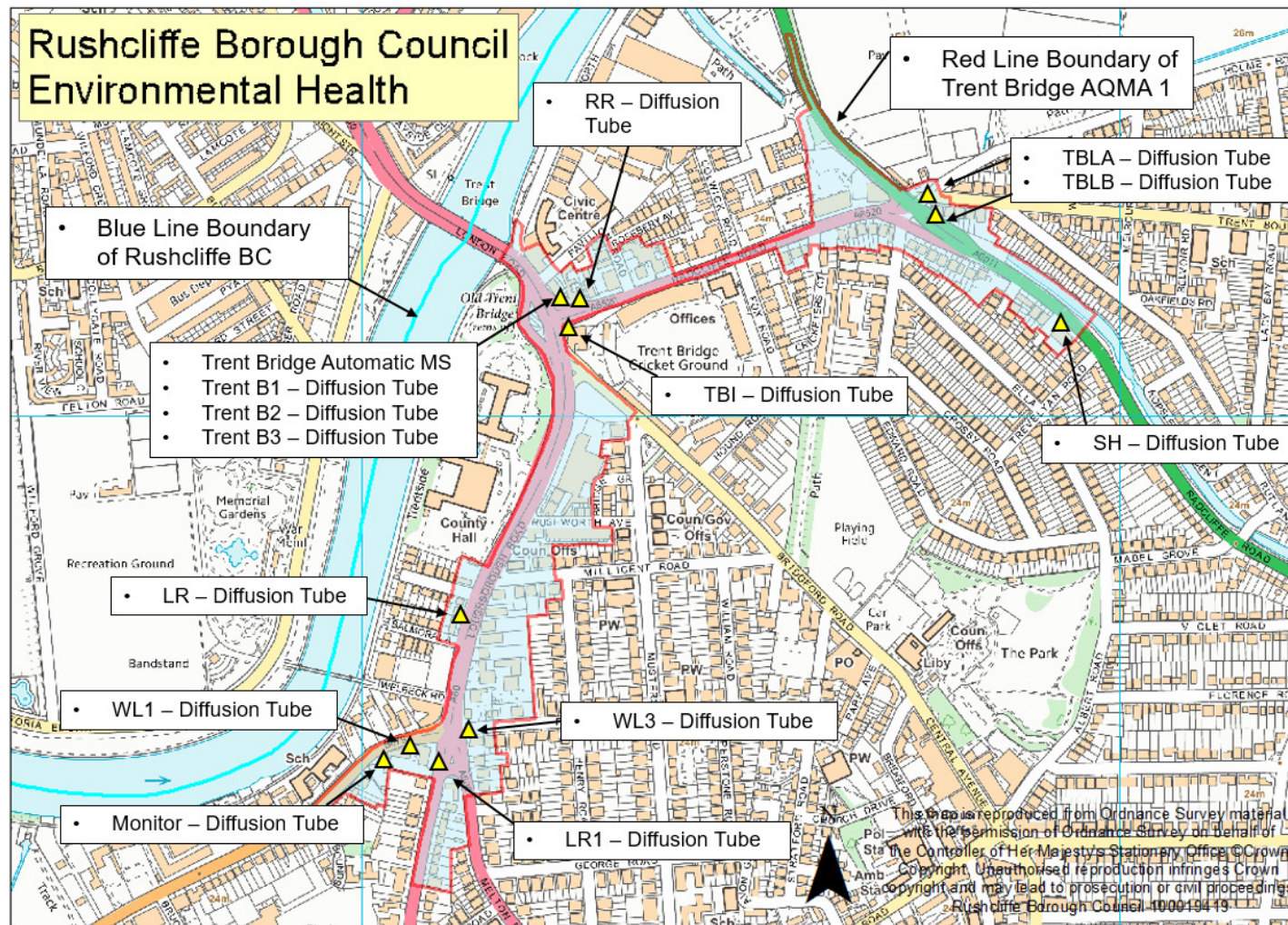
AQMA No 1/2011 Stragglethorpe Road

Growth in Annual Average Daily Traffic (AADT) & Annual Average Daily articulated HGV Flows (AADF) on the A52, Bassingfield (east of Gamston R't) between 2008-19

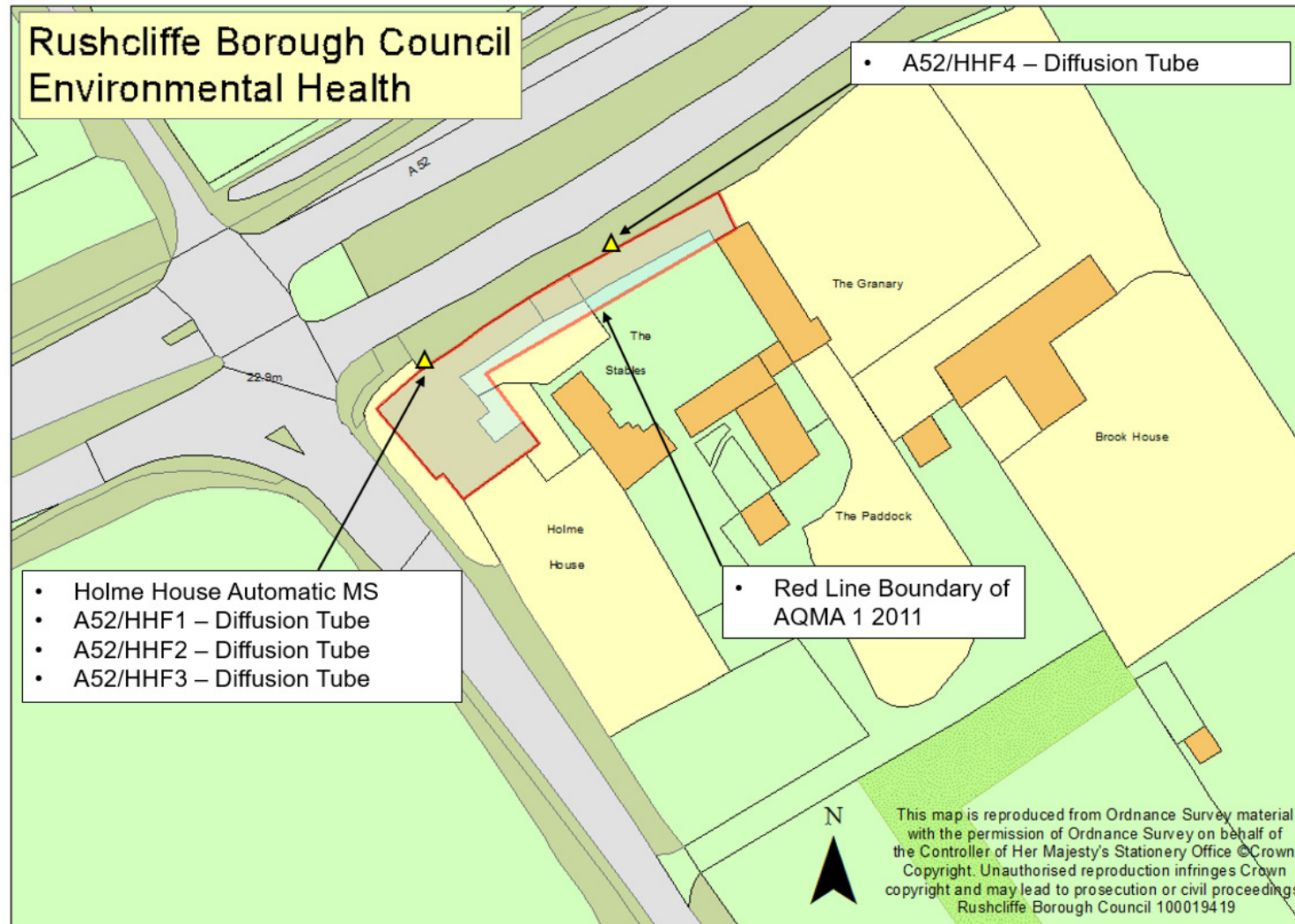
			Growth Factors			% change		
Year	AADT	Artic HGV	Year	AADT	Artic HGV	Year	AADT	Artic HGV
2008	40259	1201	2008	100.0	100.0	2008	0.0%	0.0%
2009	40889	1141	2009	101.6	95.0	2009	1.6%	-5.0%
2010	40615	1159	2010	100.9	96.5	2010	0.9%	-3.5%
2011	40334	1103	2011	100.2	91.8	2011	0.2%	-8.2%
2012	39162	1042	2012	97.3	86.8	2012	-2.7%	-13.2%
2013	40386	1127	2013	100.3	93.8	2013	0.3%	-6.2%
2014	40512	1119	2014	100.6	93.2	2014	0.6%	-6.8%
2015	41748	1224	2015	103.7	101.9	2015	3.7%	1.9%
2016	43296	1348	2016	107.5	112.3	2016	7.5%	12.3%
2017	43120	1350	2017	107.1	112.4	2017	7.1%	12.4%
2018	43923	1481	2018	109.1	123.3	2018	9.1%	23.3%
2019	44461	1526	2019	110.4	127.1	2019	10.4%	27.1%

Appendix C Maps of AQMAs and Monitoring Locations

AQMA No 1 Trent Bridge



AQMA No 1/2011 Stragglethorpe Road



Glossary of Terms

Abbreviation	Description
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
EMAQN	East Midlands Air Quality Network
EU	European Union
EV	Electric Vehicle
EVCP	Electric Vehicle Charging Point
HCV	Heavy Commercial Vehicle
HE	Highways England (now National Highways)
HGV	Heavy Goods Vehicle
LAQM	Local Air Quality Management
LTP	Local Transport Plan
NCC	Nottinghamshire County Council
NCiC	Nottingham City Council
NH	National Highways (formerly Highways England)
NO ₂	Nitrogen Dioxide
NO _x	Nitrogen Oxides
NEPWG	Nottinghamshire Environmental Protection Working Group

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OHID	Office for Health Improvement and Disparities (launched October 2021)
OLEV	Office for Low Emission Vehicles (part of Department for Transport and Department for Business, Energy & Industrial Strategy) – now known as OZEV
OZEV	Office for Zero Emission Vehicles (part of Department for Transport and Department for Business, Energy & Industrial Strategy)
PHE	Public Health England – replaced in October 2021 by UK Health Security Agency and Office for Health Improvement and Disparities
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
RBC	Rushcliffe Borough Council
SCOOT and MOVA	Split Cycle Offset Optimisation Technique and Microprocessor Optimised Vehicle Actuation – methods of controlling traffic signals based on the presence of vehicles detected on the approach to a signalised junction.
UKHSA	UK Health Security Agency (launched October 2021)
ULEV	Ultra Low Emission Vehicles

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