24 September 2019

ENVIRONMENT AND GROWTH OVERVIEW AND SCRUTINY COMMITTEE – 3 OCTOBER 2019

A meeting of the Environment and Growth Overview and Scrutiny Committee will be held at 6pm on Thursday 3 October 2019 in Committee Room 1, Town Hall, Rugby.

Councillor Neil Sandison
Chair of Environment and Growth Overview and Scrutiny Committee

A G E N D A

PART 1 – PUBLIC BUSINESS

1. Minutes

   To confirm the minutes of the meetings held on 15 July 2019.

2. Apologies

   To receive apologies for absence from the meeting.

3. Declarations of Interest

   To receive declarations of:

   (a) non-pecuniary interests as defined by the Council's Code of Conduct for Councillors;

   (b) pecuniary interests as defined by the Council's Code of Conduct for Councillors;

   (c) notice under Section 106 Local Government Finance Act 1992 – non-payment of Community Charge or Council Tax.

Note: Members are reminded that they should declare the existence and nature of their non-pecuniary interests at the commencement of the meeting (or as soon as the interest becomes apparent). If that interest is a pecuniary interest, the Member must withdraw from the room unless one of the exceptions applies.

Membership of Warwickshire County Council or any Parish Council is classed as a non-pecuniary interest under the Code of Conduct. A Member does not need to declare this interest unless the Member chooses to speak on a matter relating to their membership. If the Member does not wish to speak on the matter, the Member may still vote on the matter without making a declaration.

4. Air Quality Monitoring and Management – Annual Update.

5. Review of Public Spaces Protection Orders and a policy relating to Gating Orders.

6. Overview and Scrutiny Work Programme 2019/20.

Any additional papers for this meeting can be accessed via the website.

Membership of the Committee:

Councillors Sandison (Chair), Bearne, Brader, Mrs Bragg, Ellis, Gillias, Mrs New, Picker and Mrs Roberts

If you have any general queries with regard to this agenda please contact Linn Ashmore, Democratic Services Officer (01788 533522 or e-mail linn.ashmore@rugby.gov.uk). Any specific queries concerning reports should be directed to the listed contact officer.

If you wish to attend the meeting and have any special requirements for access please contact the Democratic Services Officer named above.

Agenda No 4

AGENDA MANAGEMENT SHEET

Report Title:	Air Quality Monitoring and Management – Annual Update
Name of Committee:	Environment and Growth Scrutiny Committee
Date of Meeting:	3 October 2019
Contact Officer:	Henry Biddington, Principal Environmental Health Officer, Commercial Regulation Team, Rugby Borough Council Tel: 01788 533607
Summary:	The Principal Environmental Health Officer will attend the meeting to provide an update on air quality monitoring by the Council.
Financial Implications:	There are no financial implications arising from this report at present. There are risks associated with future developments where a decision to object or not object may be challenged. The council could also be challenged on its action plan.
Risk Management Implications:	There are risk management implications arising from this report as detailed in the Financial Implications.
Environmental Implications:	Air quality monitoring and management delivers environmental and public health benefits.
Legal Implications:	The Council is required to review and assess air quality under the Environment Act 1995.
Equality and Diversity:	No new or existing policy or procedure has been recommended.

Agenda No 4

Environment and Growth Scrutiny Committee - 3 October 2019

Air Quality Monitoring and Management – Annual Update

Summary
The Principal EHO will attend the meeting to provide an update on air quality monitoring by the Council.

1. BACKGROUND

The Committee has an ongoing role in scrutinising air quality monitoring reports and management arrangements. The Principle EHO will attend the meeting to update the Committee on:

- The progress of Council's latest statutory Air Quality Annual Status Report which has been submitted to DEFRA.
- Progress made on the Local Air Quality Management Action Plan Annual Status Report
- Implications of new residential and infrastructure developments planned in the borough

The council has completed a public consultation on the website and consulted key stakeholders on its 2019 Air Quality Annual Status Report. The report has been submitted to the Department for Environment, Food and Rural Affairs (Defra) for review and approval as part of the consultation process although a response has not been received.

2. ANNUAL STATUS REPORT

This report will provide an overview of air quality in the Rugby Borough during 2018. It fulfils the requirements of Local Air Quality Management (LAQM) as set out in Part IV of the Environment Act (1995) and the new relevant Policy and Technical Guidance documents for 2018 issued by Defra.

The LAQM process places an obligation on Rugby Borough Council to regularly review and assess air quality, and to determine whether or not the air quality objectives are likely to be achieved within the Borough. Where an exceedance is considered likely, Rugby Borough Council must declare an Air Quality Management Area (AQMA) and prepare an Air Quality Action Plan (AQAP) setting out the measures put in place in pursuit of the objectives. This Annual Status Report (ASR), is an annual requirement showing the strategies employed by Rugby Borough Council to improve air quality and any progress that has been made. The report is submitted to Defra for appraisal and approval.

2.1 Annual Status Report Findings

The report has been submitted to Defra and we are awaiting approval. During 2018 the annual mean NO_2 objectives was exceeded at two diffusion tube locations. Most notable of these was in Dunchurch Square. Although there was a decrease in 2017 the concentrations in 2018 saw an increase from 40.7 µg/m^3 (2017) to 43.3 µg/m^3.

The monitoring location on the roundabout joining Hillmorton Road and Whitehall Road exceeded air quality objectives in the 2017, this increase was suggested to be a result of major road works on Hilmorton Road either side of the Whitehall Road roundabout. Concentrations of NO2 have now dropped from 43.7 µg/m^3 to 34 µg/m^3, this is similar to concentrations seen in years prior to 2017, confirming that the exceedance in 2017 was due to the road works occurring at the time.

The roadside location on the Warwick Street gyratory system near the centre of town within the existing AQMA has fallen below the air quality objective in 2018. In 2017 NO_2 concentrations were 43.3 µg/m^3 but have now dropped to 38.7 µg/m3. Major improvement works occurred to the gyratory system, part of the AQAP and were completed in May 2015. 2018 is the third year where it was possible to assess whether changes to the road layout has had the intended impact of decreasing the impact of traffic on the town centre, in particular the annual mean NO2 concentration. In Figure A.4 it can be seen that NO_2 concentrations at this location have been declining since 2016, indicating that the improvement works carried out on the gyratory appear to be successful. Due to limited data periods this data should be considered with some caution and that full year results will be reported in the next ASR.

Previously there was an exceedance at a monitoring location at Shilton outside the AQMA. However the results from 2017 show that there is no longer an exceedance. Monitoring at this location in 2018 has shown an increase and an exceedance. NO_2 concentrations at the site fell from 47.1 µg/m^3 (2016) to 37.6 µg/m^3 in 2017 but have now increased again to 46.1 µg/m^3 in this reporting year. The site is considered a location of relevant exposure. However, due to limited data periods this data should be considered with some caution and monitoring is continuing in 2019 to further investigate the exceedance.

2.2 Ongoing work in relation to the previous ASR and Priorities for 2020

Rugby Borough Council's Local Plan 2011 – 2031 has been updated and was adopted by the elected members on 4 June 2019. This sets out specific planning policies in relation to air quality, and states:

Policy HS5: Traffic Generation and Air Quality

"Any development that results in significant negative impacts on health and wellbeing of people in the area as a result of pollution, noise or vibration caused by traffic generation will not be permitted unless effective mitigation can be achieved.
Any development that results in significant negative impacts on air quality within identified Air Quality Management Areas or on the health and wellbeing of people in

the area as a result of pollution should be supported by an air quality assessment and, where necessary, a mitigation plan to demonstrate practical and effective measures to be taken to avoid the adverse impacts."

The following areas have been identified in the Local Plan in conjunction with WCC as areas of concern where improvements could be made as part of offsite mitigation for impacts of developments on air quality (see attached document):

- Dunchurch Crossroads
- Rugby Gyratory
- Leicester Road Corridor
- Hillmorton Road/Whitehall Road

Warwickshire County Council is currently reviewing the Rugby Transport Strategy in partnership with Rugby Borough Council as part of a wider review of Warwickshire's Local Transport Plan (LTP3). This will consider possible measures for addressing congestion and improving safety and air quality at key locations in Rugby, including the Warwick Street Gyratory.

Identify strategies for the reducing levels of $PM_{2.5}$. This will include the launch of a social media campaign targeting residents of the Borough in relation to the use of open fires and wood-burning stoves.

Rugby Borough Council are currently part of a bid by Warwickshire County Council for funding for electric charging points. Rugby Borough Council are planning up to 9 charging points, however exact numbers and locations are yet to be finalised. Provisional locations include Newbold Road long-stay car park, Evreux Way car park and the John Barford long-stay multi-storey car park.

Within the AQMA itself, many non-automatic monitoring sites have been measuring concentrations below 30 $\mu g/m^3$. These monitoring locations around Hillmorton Paddock, Long Lawford, Newbold-on-Avon and Brownsover. Exceedances of the AQO continue to be experienced at S24, near to Dunchurch. Rugby Borough Council will continue to monitor the area around S24. Additionally, the Council will seek to consider relocating monitoring locations where there have been consistently low concentrations to locations with extensive new housing developments, all of which are within the existing AQMA. This will be implemented at the end of 2019 and will be reflected in monitoring data for 2020.

Name of Meeting: Environment and Growth Scrutiny Committee

Date of Meeting: 3 October 2019

Subject Matter: Air Quality Monitoring and Management – Annual Update

Originating Department: Environment and Public Realm

DO ANY BACKGROUND PAPERS APPLY ☐ **YES** ☒ **NO**

LIST OF BACKGROUND PAPERS

Doc No	Title of Document and Hyperlink
1	2019 Air Quality Annual Status Report
2	Rugby Wide Area Paramics Model Air Quality Assessment

Rugby Wide Area Paramics Model

Air Quality Assessment

06/12/2017

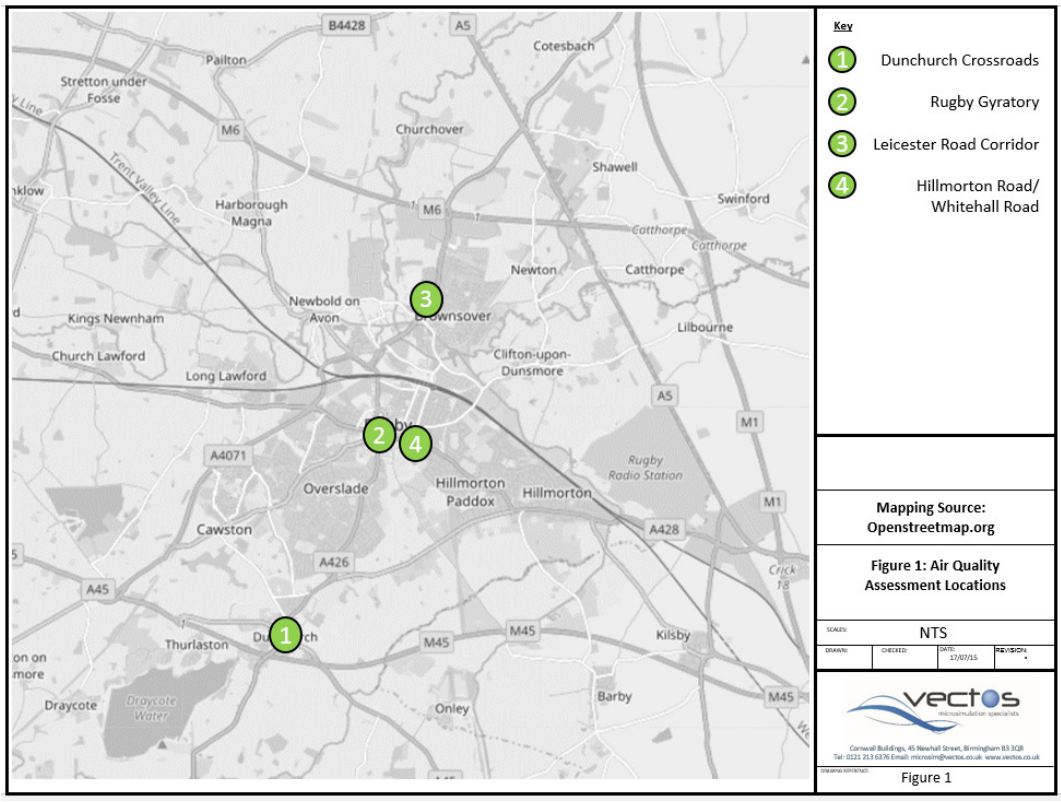
VM175149.TN001

Introduction

1. The following note presents the air quality outputs that have been extracted and processed through the PARAMICS Analysis of Instantaneous Road Emissions (AIRE) add on, related to Rugby Wide Area (RWA) modelling assessment. This note specifically presents the impact on air quality within four of the most congested areas of the RWA model network. These locations are listed below, and demonstrated in **Figure 1**:

- Dunchurch Crossroads
- Rugby Gyratory
- Leicester Road Corridor
- Hillmorton Road/Whitehall Road

Figure 1 Air Quality Assessment Locations



2. Following discussions between Rugby Borough Council (RBC), Warwickshire County Council (WCC) and Vectos Microsim (VM), it has been determined that this air quality assessment will present impacts from the following model scenarios, across the entire AM and PM modelled hours (0700-1000 and 1600-1900)

    - 2016 Baseline Scenario
    - 2031 Reference Case Scenario
    - 2031 Local Plan Scenario

3. Each of the study areas above have been reviewed on the basis that they represent the most congested parts of the model network. In each instance the junctions within the study area, along with approach links have been selected for assessment, in order that the full impact of the congestions related to each location is captured.

4. **Figures 2-5** outline the study areas considered in this assessment.

Figure 2 Dunchurch Crossroads Air Quality Assessment Boundary

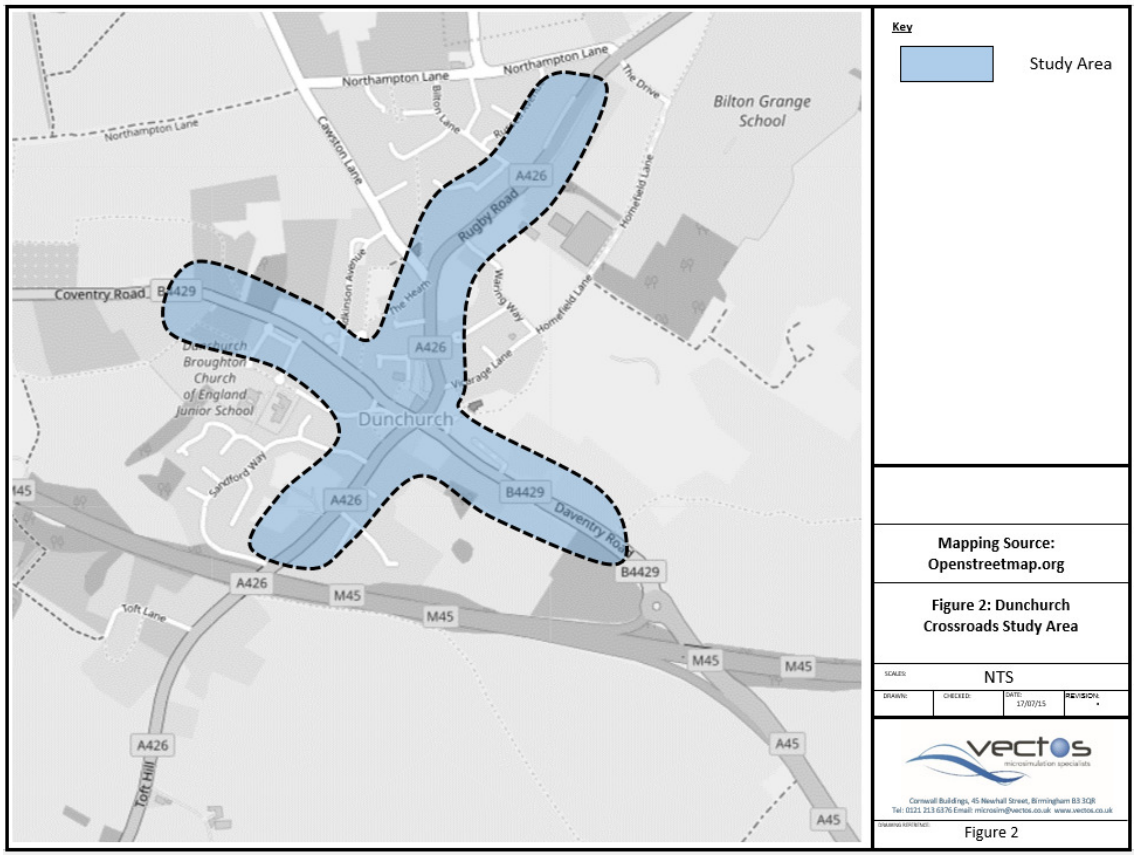


Figure 3 Rugby Gyratory Air Quality Assessment Boundary

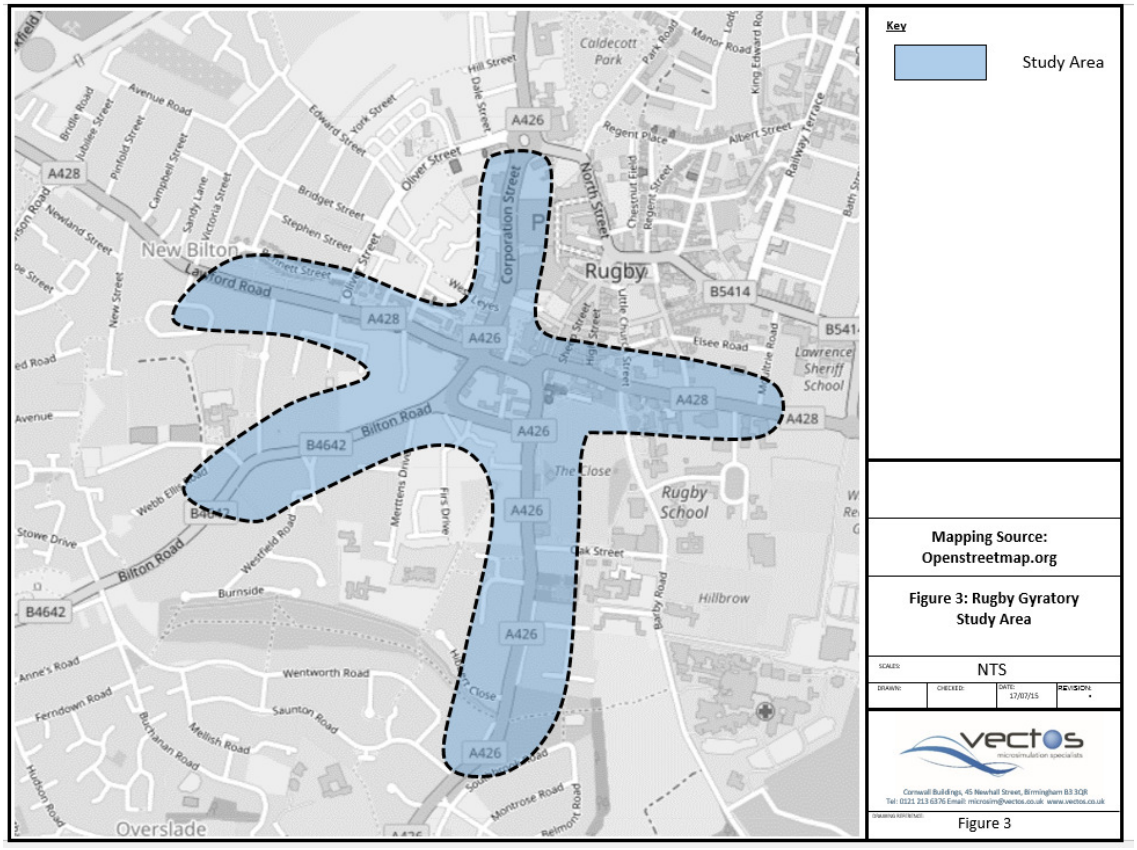


Figure 4 Leicester Road Corridor Air Quality Assessment Boundary

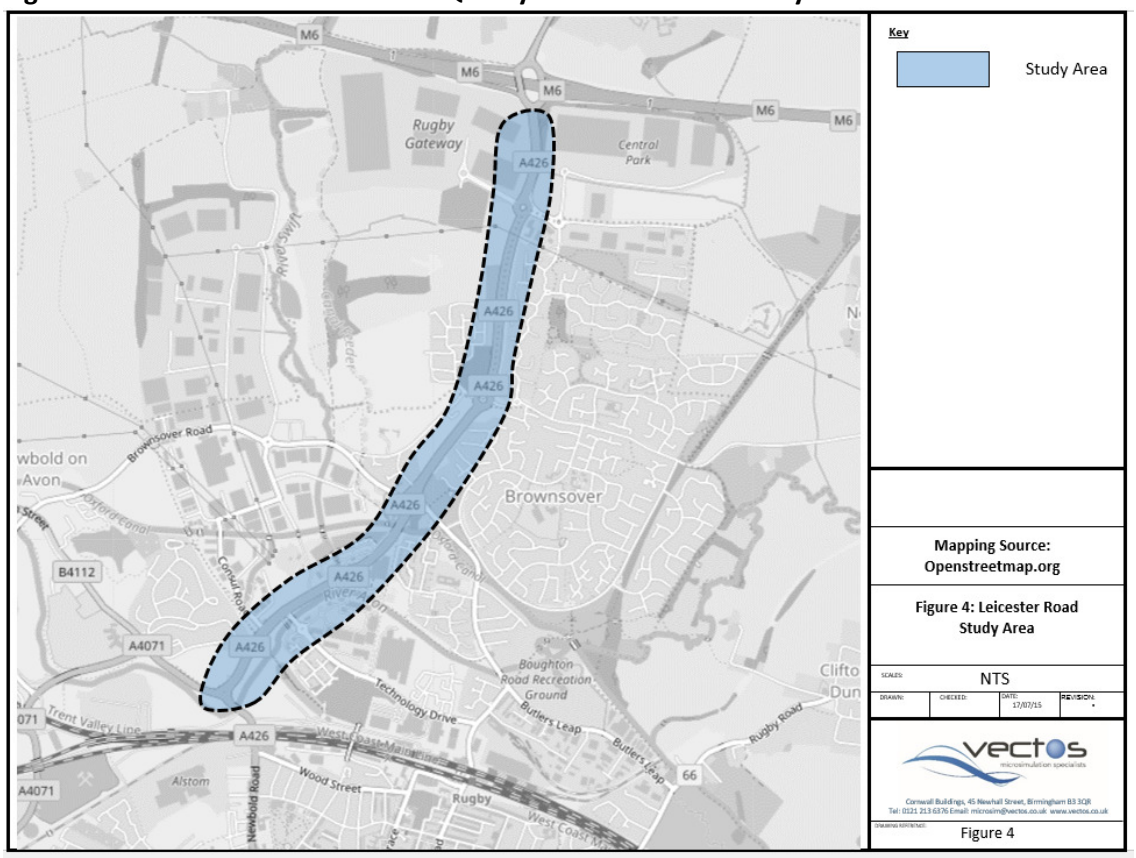
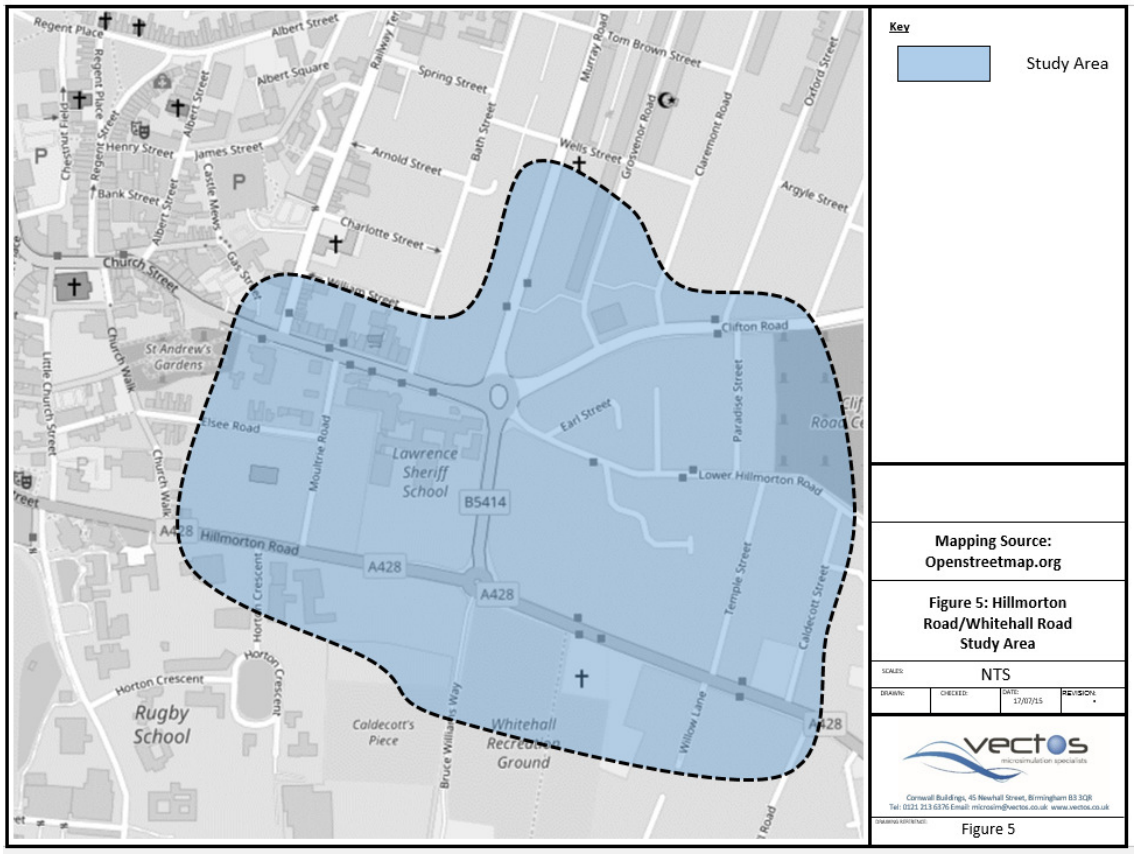


Figure 5 Hillmorton Road/Whitehall Road Air Quality Assessment Boundary



AIRE (Paramics Analysis of Instantaneous Road Emissions)

5. AIRE is an ancillary program specifically designed to process the outputs from traffic microsimulation models and calculate vehicle emissions. AIRE incorporates over 3,000 Instantaneous Emissions Modelling (IEM) tables which are used to estimate tailpipe emissions from individual simulated road vehicles. The IEM tables were derived from PHEM (Passenger car and Heavy Duty Emissions Model), which was developed by the Technical University of Graz. PHEM is a vehicle dynamics model with engine maps, enabling emissions to be output for various engine speeds and engine loads.

6. AIRE produces estimates of the oxides of nitrogen, particulate matter and total carbon that result from the combustion of fuel throughout each simulated vehicle's journey. The estimates are produced on a simulated time step by time step basis, so the detail and quality of the resulting output emissions estimates are directly related to the adopted simulation's fidelity and robustness.

7. The estimates produced by AIRE are for tailpipe emissions and do not include the impact of dispersion within the atmosphere, ambient factors, such as weather and temperature, or the local built environment.

Results Analysis

8. Completion of the AIRE assessment on the modelled scenarios and time periods outlined in this note, has enabled a comparison of the level of the following outputs to be made at each location assessed:

    - Nitrogen
    - Particulate Matter (PM10)
    - Carbon

9. The outputs have been compared between scenarios, with supporting text in the following section. Initially comparisons have been drawn between the 2016 Baseline and 2031 Reference Case results. This is then followed by a summary of the differences between the 2031 Reference Case and 2031 Local Plan results.

10. It was deemed appropriate to compare the 2031 Reference Case and 2031 Local Plan model, and not the 2016 Baseline and 2031 Local Plan model, on the basis that committed developments and external growth contained within the 2031 Reference model are consistent with those assumed within the Local Plan model.

Dunchurch Crossroads

11. Dunchurch Crossroads represents one of the most congested parts of the model network in 2016 Base model, with significant queues forming on all approaches to the crossroads in both the AM and PM peak periods.

12. The 2031 Reference Case model includes a committed scheme at the Dunchurch Crossroads, which provides additional right turn lanes on both the Rugby Road and Southam Road approaches to the junction.

13. The 2031 Local Plan model, includes both the Dunchurch proposed scheme and a further mitigation scheme in the form of the South West Relief Road, with this infrastructure being included as part of the South West Rugby development.

14. The impact on air quality at the Dunchurch Crossroads in each of these scenarios is presented in the following **Table 1** and in more detail in **Appendix A**.

Table 1 Air Quality Results for Dunchurch Crossroads

	Period	2016 Base	2031 Ref	Ref vs Base	2031 LP	LP vs Ref
Nitrogen Emissions (g)	AM	106975	92881	-13.17%	56308	-39.38%
	PM	155001	99055	-36.09%	81336	-17.89%
PM10 Emissions (g)	AM	82	56	-31.88%	43	-22.59%
	PM	86	49	-43.24%	42	-14.77%
Carbon Emissions (g)	AM	568470	424557	-25.32%	311797	-26.56%
	PM	596184	335992	-43.64%	297163	-11.56%

15. Analysis of the pollutant levels forecast within the 2016, 2031 Reference and 2031 Local Plan scenarios has been presented for the AM and PM periods within the **Table 1**. This demonstrates noticeable reductions in the levels of Nitrogen, PM10 and Carbon emissions in the 2031 Reference Case when compared to the 2016 Baseline conditions, and further reductions in emissions in the 2031 Local Plan model when compared to the 2031 Reference Case.

16. The results suggest that the inclusion of the Dunchurch scheme in the 2031 Reference Case delivers air quality benefits, particularly in the PM period with a 36% reduction in Nitrogen emissions, and around 43% reduction in PM10 and Carbon emissions.

17. When reviewing the differences between the 2031 Local Plan and 2031 Reference Case model, the 2031 Local Plan results show a further drop in emissions, with between a 23% and 39% reduction in nitrogen, PM10 and Carbon emissions in the AM period and between 12%-18% reduction in emissions in the PM period.

18. These results demonstrate that the inclusion of the Dunchurch Scheme within the modelling delivers a significant improvement at the crossroads in the 2031 Reference Case.

19. Once the South West Relief Road is included within the 2031 Local Plan model, further air quality benefits are modelled, with up to a 39% reduction in emissions in the 2031 Local Plan model when compared to 2031 Reference conditions.

Rugby Gyratory

20. As with the Dunchurch Crossroads, the Rugby Gyratory forms one of the most congested junctions within the modelled network. The 2031 Reference Case model forecasts significant increases in queue lengths during the AM and PM period, most noticeably on the Lawrence Sherriff Street, A426 Dunchurch Road and Bilton Road approaches.

21. Within the 2031 Local Plan model these queue increases are predicted to worsen, particularly on the Lawrence Sherriff Street entry/exit arms to the Gyratory.

22. The associated impact on air quality at the Rugby Gyratory, along with on the approach arms to the Gyratory, in the AM and PM period is demonstrated within the following **Table 2** and in more detail in **Appendix B**.

Table 2 Air Quality Results for Rugby Gyratory

	Period	2016 Base	2031 Ref	Ref vs Base	2031 LP	LP vs Ref
Nitrogen Emissions (g)	AM	258214	286789	+11.07%	355663	+24.02%
	PM	414420	506227	+22.15%	563995	+11.41%
PM10 Emissions (g)	AM	85	89	+4.49%	92	+3.28%
	PM	91	97	+6.65%	101	+4.03%
Carbon Emissions (g)	AM	575571	588060	+2.17%	739470	+25.75%
	PM	607919	724054	+19.10%	819042	+13.12%

23. Analysis of the pollutant levels forecast within the 2016, 2031 Reference and 2031 Local Plan scenarios has been presented for the AM and PM periods within the **Table 2**. This

demonstrates increases in the levels of Nitrogen, PM10 and Carbon emissions in the 2031 Reference Case when compared to the 2016 Baseline conditions, and further increases in emissions in the 2031 Local Plan model when compared to the 2031 Reference Case.

24. The results suggest that in the 2031 Reference Case, air quality reduces, particularly in the PM period with a 22% increase in Nitrogen emissions, a 7% increase in PM10 emissions and a 19% increase in Carbon emissions.

25. **Table 2** also demonstrates that the 2031 Local Plan sceanrio results in further reductions in air quality, when compared to the 2031 Reference Case, with Nitrogen emissions increasing by around 24% in the AM period and 11% during the PM period. Similarly PM10 emissions increase by around 3% and 4% in the AM and PM respectively whilst Carbon emissions increase by 26% in the AM and 13% in the PM.

These results demonstrate that in the 2031 Reference Case model, air quality at the Gyratory has reduced, with the most noticeable increase in emissions occurring during the PM period. The 2031 Local Plan model then demonstrates a further increase in emissions, with the most notable increase in emissions in the AM period.

Leicester Road Corridor

26. The Leicester Road corridor forms an important strategic route into and out of Rugby, and lies between Rugby town centre and the M6. The 2031 Reference Case includes a significant volume of additional trips along this corridor, as a result of the committed developments to be built close by, whilst the 2031 Local Plan further increases the number of trips along the corridor as a result of significant developments elsewhere on the network using this route to travel to and from the M6.

27. The associated impact on air quality along the entire corridor has been extracted from the modelling, and the changes in the level of emissions presented within the following **Table 3**, and in more detail in **Appendix C**.

Table 3 Air Quality Results for Leicester Road Corridor

	Period	2016 Base	2031 Ref	Ref vs Base	2031 LP	LP vs Ref
Nitrogen Emissions (g)	AM	1997490	2255170	+12.90%	2500456	10.88%
	PM	2781841	3390540	+21.88%	3933476	16.01%
PM10 Emissions (g)	AM	547	560	+2.29%	585	4.51%
	PM	549	561	+2.16%	629	12.08%
Carbon Emissions (g)	AM	3746822	4188052	+11.78%	4624240	10.42%
	PM	3469762	4152228	+19.67%	4829914	16.32%

28. Analysis of the pollutant levels forecast within the 2016, 2031 Reference and 2031 Local Plan scenarios has been presented for the AM and PM periods within the **Table 3**. This demonstrates increases in the levels of Nitrogen, PM10 and Carbon emissions in the 2031 Reference Case when compared to the 2016 Baseline conditions, and further increases in emissions in the 2031 Local Plan model when compared to the 2031 Reference Case.

29. The results suggest that in the 2031 Reference Case air quality reduces, particularly in the PM period, with a 22% increase in Nitrogen emissions and 20% increase in Carbon emissions. The results demonstrate a lower level of PM10 emission increases at around 2%. The AM emission results suggest around a 12-13% increase in Nitrogen and Carbon emissions when compared to the 2016 Baseline levels, and 2% increase in PM10 emissions.

30. Analysis of the differences in emissions between the 2031 Local Plan and 2031 Reference Case scenarios also demonstrate reductions in air quality in the 2031 Local Plan scenario, with Nitrogen emissions increasing by around 11% in the AM period and 16% during the PM period. Similarly PM10 emissions increase by around 4% and 12% in the AM and PM respectively whilst Carbon emissions increase by 10% in the AM and 16% in the PM.

31. These results demonstrate that in the 2031 Reference Case model, air quality along the corridor as a whole has reduced with the most noticeable increase in emissions occurring during the PM period.

32. The 2031 Local Plan model then demonstrates a further increase in emissions compared to the 2031 Reference Case, with the PM period demonstrating the highest level of emissions.

Hillmorton Road/Whitehall Road

33. The Hillmorton Road/Whitehall Road part of the model forms a critical route into and out of Rugby town centre, and lies between Rugby town centre and the A428 corridor and M1. The 2031 Reference Case and 2031 Local Plan models include a significant volume of additional trips along this corridor, as a result of the committed developments to be built nearby.

34. The assessment area for this section of the network includes the Hillmorton Road/Whitehall Road roundabout, and Clifton Road/Lower Hillmorton Road roundabout.

35. As part of the Rugby Strategic Transport Assessment, mitigation was included at this part of the network in the 2031 Local Plan model only, in the form of widening on the approach links and circulatory of the Hillmorton Road/Whitehall Road roundabout

36. The associated impact on air quality across this study area has been extracted from the modelling, and the changes in the level of emissions between each of the scenarios presented within the following **Table 4**, and in more detail in **Appendix D**.

Table 4 Air Quality Results for Hillmorton Road/Whitehall Road

	Period	2016 Base	2031 Ref	Ref vs Base	2031 LP	LP vs Ref
Nitrogen Emissions (g)	AM	304988	371777	+21.90%	339943	-8.56%
	PM	610849	802070	+31.30%	842870	5.09%
PM10 Emissions (g)	AM	92	100	+8.97%	90	-9.81%
	PM	119	127	+6.48%	130	2.56%
Carbon Emissions (g)	AM	606269	731820	+20.71%	687739	-6.02%
	PM	800857	1035447	+29.29%	1089945	5.26%

37. The results presented in **Table 4** demonstrate increases in the levels of Nitrogen, PM10 and Carbon emissions in the 2031 Reference Case when compared to the 2016 Baseline

conditions. The results demonstrate further increases in emissions in the 2031 Local Plan model when compared to the 2031 Reference Case model in the PM period, however, improvements in air quality are demonstrated by the Local Plan model during the AM period.

38. The results suggest that in the 2031 Reference Case air quality reduces, particularly in the PM period with a 31% increase in Nitrogen emissions and 29% increase in Carbon emissions. The AM emission results suggest around a 22% increase in Nitrogen and Carbon emissions when compared to the 2016 Baseline levels, and 9% increase in PM10 emissions.

39. When comparing the results between the 2031 Local Plan and 2031 Reference Case it is clear that the 2031 Local Plan results show air quality improvements during the AM period when compared to the 2031 Reference Case model, suggesting that the mitigation included in the Local Plan model has positive air quality benefits. Nitrogen emissions reduce by 9% in the AM period. Similarly, Carbon emissions reduce by 6% in the AM whilst PM10 emissions reduce by around 10%

40. During the PM however, the air quality benefits delivered by the mitigation are clearly offset by the additional traffic routing through this part of the network, as emissions increase in the Local Plan scenario compared to the Reference Case. A 5% increase in Nitrogen and Carbon emissions is reported, along with a 3% increase in PM10 emissions.

41. In summary the results for this part of the network demonstrate that in the 2031 Reference Case model, air quality has reduced, with the most noticeable increase in emissions occurring during the PM period.

42. The 2031 Local Plan model then demonstrates an improvement in air quality compared to the 2031 Reference Case during the AM period, and a slight worsening in the level of emissions during the PM period. The emissions during the AM period are less than those in the 2031 Reference Case AM, due to the benefits being delivered by the mitigation scheme within this part of the network.

Summary

43. This note has presented impacts on air quality at the most congested parts of the modelled Rugby network, with a specific focus on Nitrogen, Particulate Matter and Carbon emissions, using the Paramics air quality analysis add on tool, AIRE. The analysis has compared the modelled 2016 Baseline outputs with the 2031 Reference Case and the 2031 Local Plan scenario against the 2031 Reference Case.

44. The analysis has revealed that air quality improves at the Dunchurch Crossroads, by up to 43% in the 2031 Reference Case model, which is further enhanced in the 2031 Local Plan model, whereby emissions reduce by an additional 39% (during the AM period). This demonstrates the beneficial impact that the proposed Dunchurch Crossroads scheme, and delivery of the South West Relief Road has on air quality at the crossroads itself.

45. Analysis of the Rugby Gyratory, Leicester Road Corridor and the Hillmorton Road/Whitehall Road area of the model has revealed air quality reduces in the 2031 Reference Case when

compared to Baseline conditions, with increases in emissions generally highest during the PM Period.

46. In the 2031 Local Plan scenario the air quality reduces further when compared to the 2031 Reference Case, specifically at the Gyratory and along the Leicester Road corridor with around a 10%-20% increase in emissions during the AM period, and 10%-15% increase in the PM.

47. One area of improvement in air quality in the 2031 Local Plan scenario, when compared to the 2031 Reference Case, is at the Hillmorton Road/Whitehall Road study area, with the mitigation included within the model reducing emissions by around 10% during the AM period. However, during the PM period, emissions at this location do increase by around 5% when compared to the 2031 Reference Case.

Recommendations

48. This analysis has presented results from the 2016 Rugby Wide Area Base model, along with the 2031 Reference Case and 2031 Local Plan models. The analysis has been undertaken using the Paramics air quality analysis tool AIRE.

49. Based upon the results analysed this has revealed significant increases in emissions in the future year scenarios, as the volume of trips, and congestion within the modelled network increases.

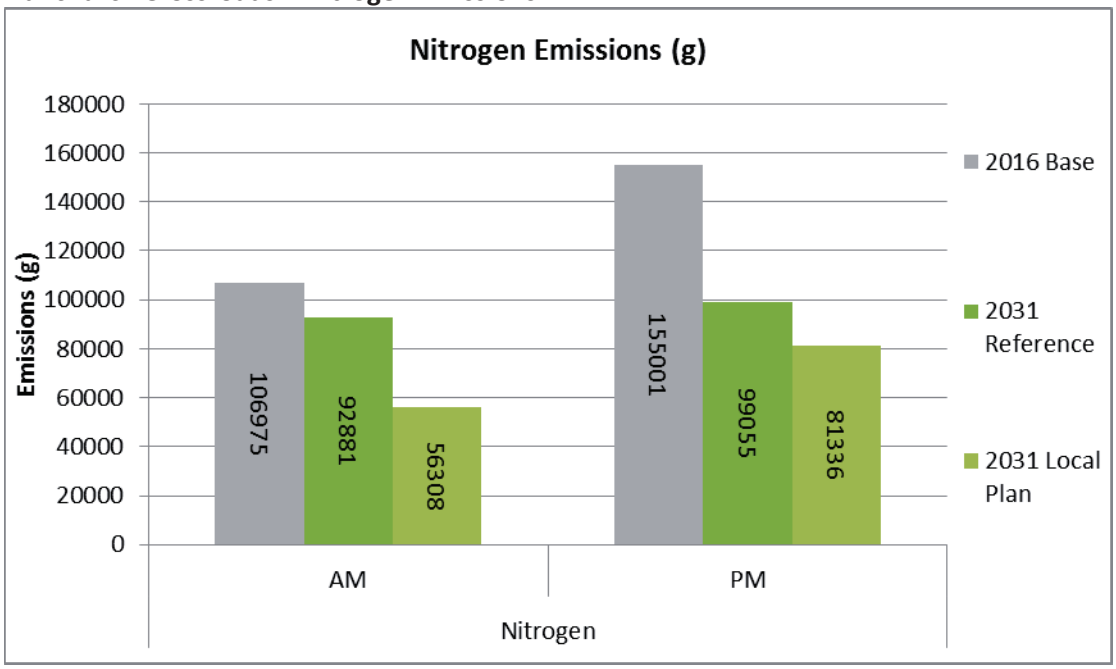
50. The results presented for the 2031 Reference Case and 2031 Local Plan scenarios, based upon the AIRE outputs, are calculated on the current day vehicle characteristics, with the predicted 2031 flows. The AIRE tool does not specifically take into account the potential for less pollutant vehicles which may become common place on the network by 2031.

51. Accordingly the results of this analysis may be considered to represent a ‘worst case’ scenario, on the basis that by 2031, vehicles are likely to be less polluting than current day levels, in terms of their emissions, through the development of cleaner engines and associated technology.

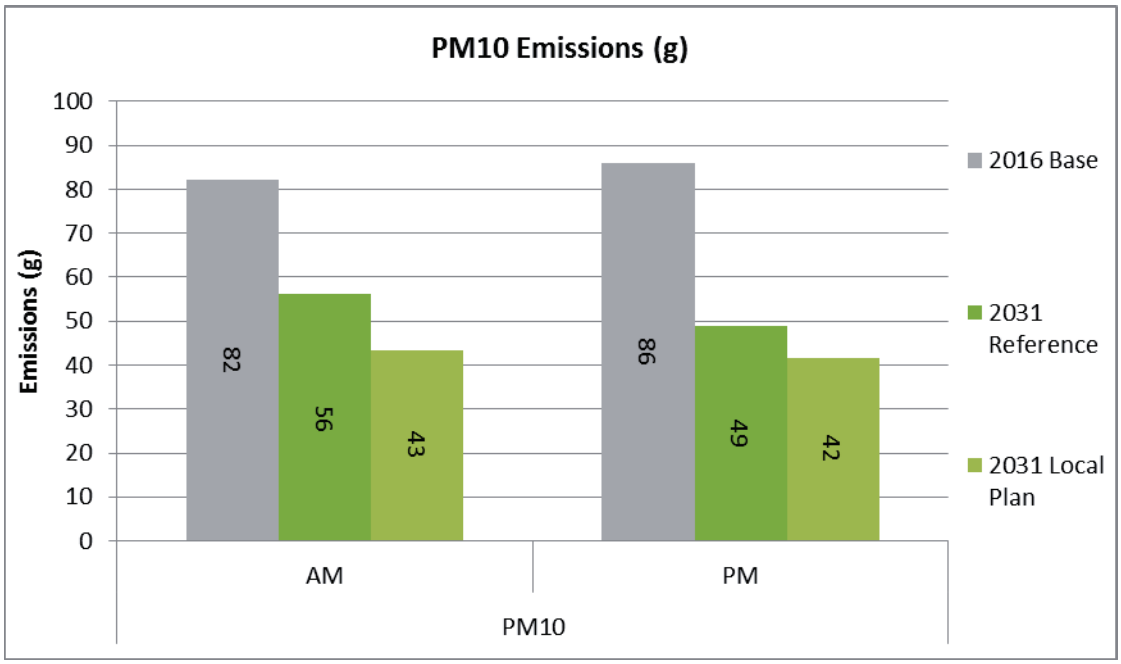
APPENDIX A

Dunchurch Crossroads Air Quality Outputs

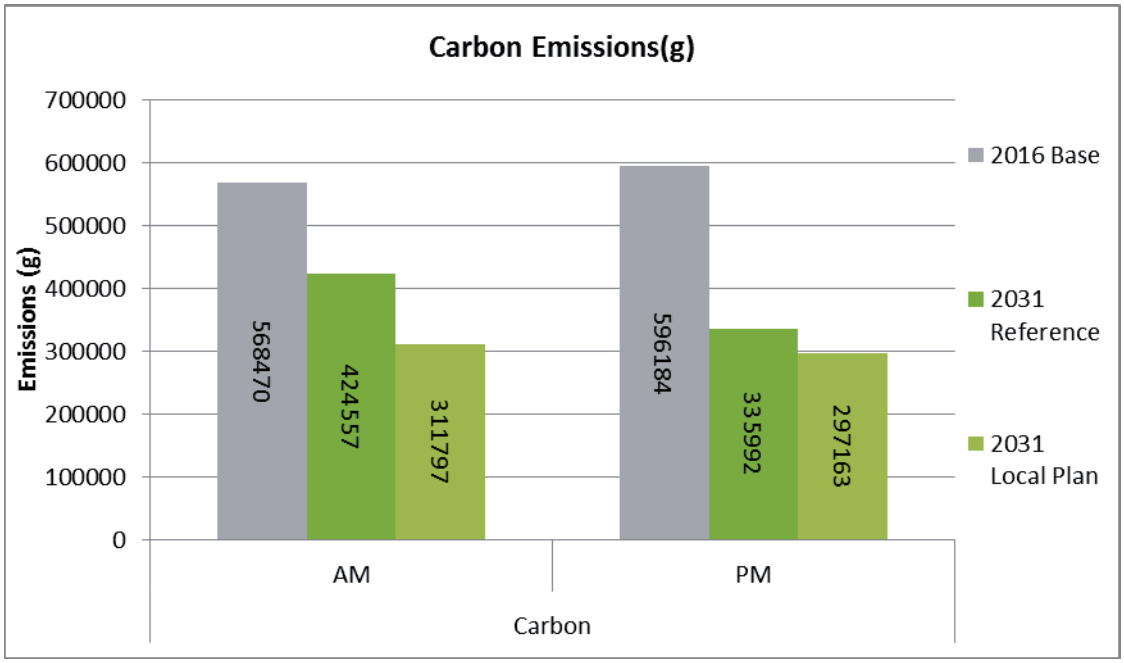
Dunchurch Crossroads – Nitrogen Emissions



Dunchurch Crossroads – PM10 Emissions



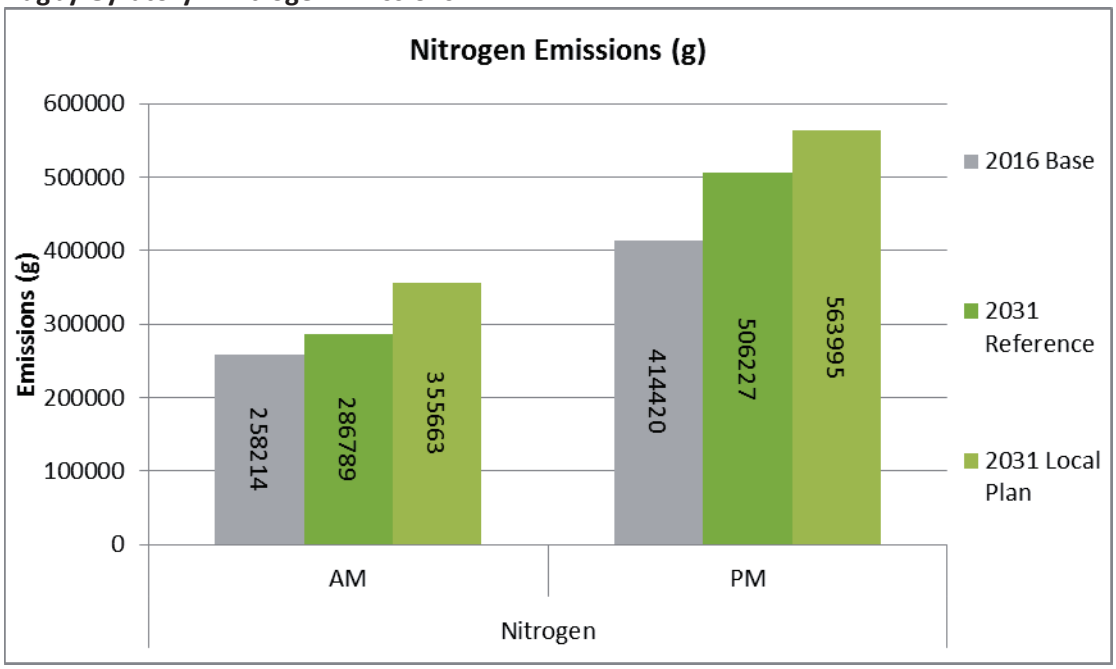
Dunchurch Crossroads – Carbon Emissions



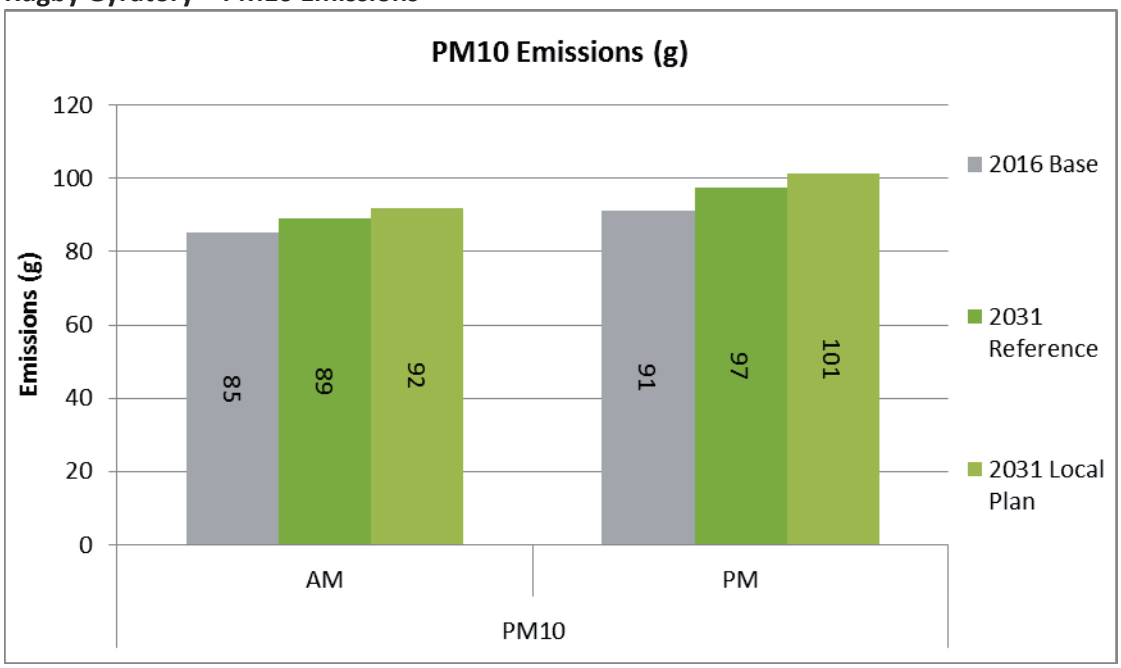
APPENDIX B

Rugby Gyratory Air Quality Outputs

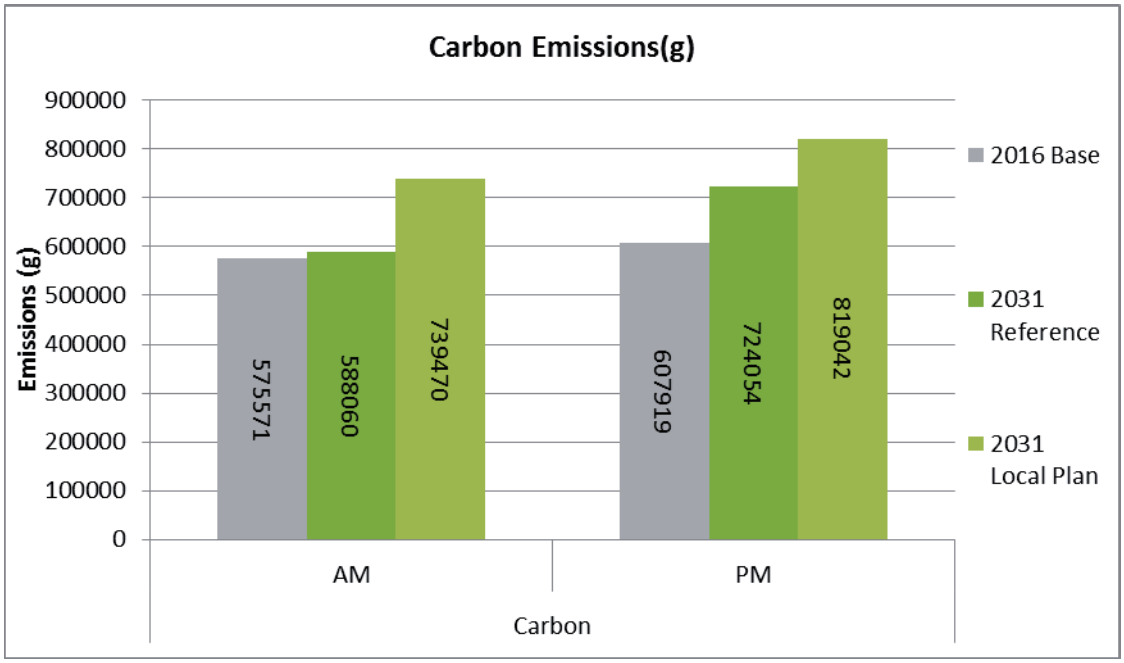
Rugby Gyratory – Nitrogen Emissions



Rugby Gyratory – PM10 Emissions



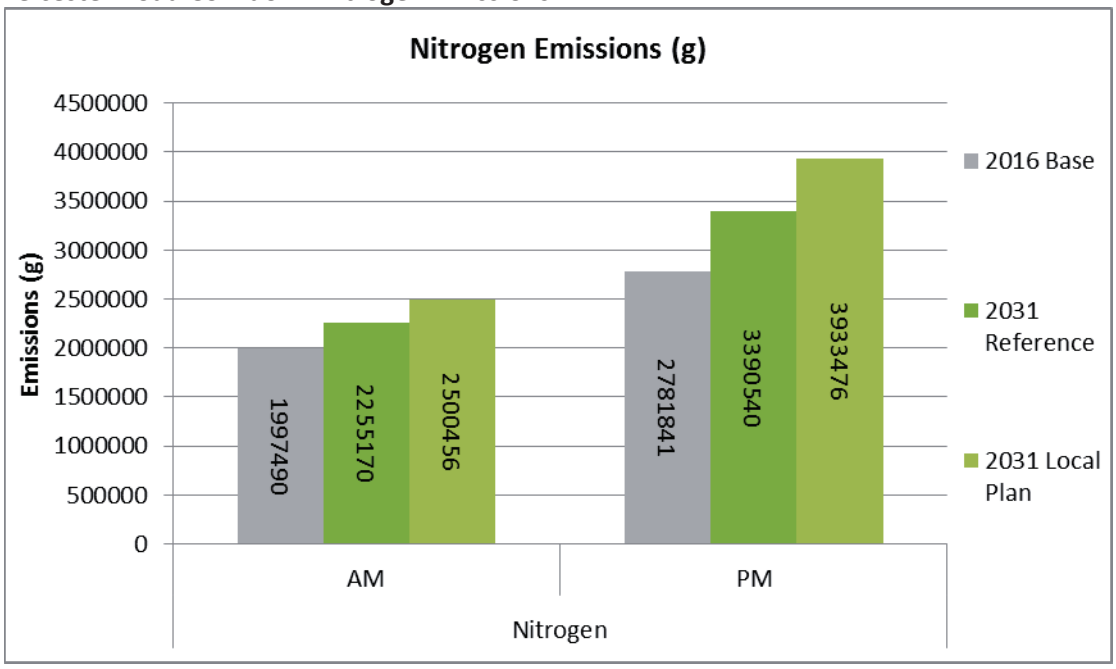
Rugby Gyratory – Carbon Emissions



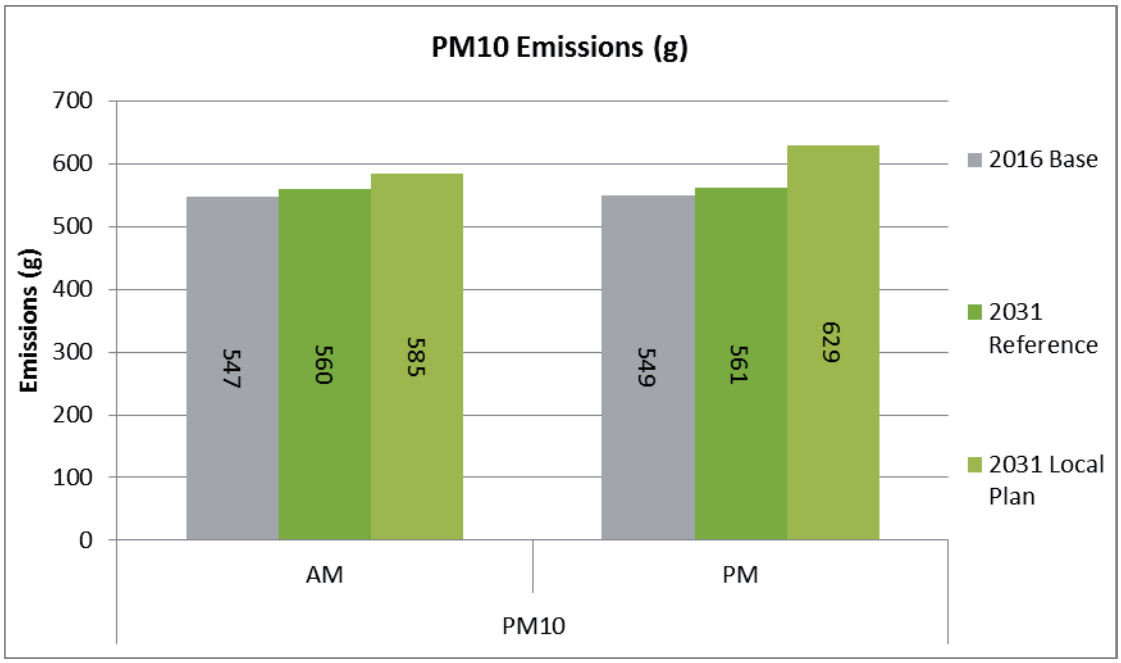
APPENDIX C

Leicester Road Corridor Air Quality Outputs

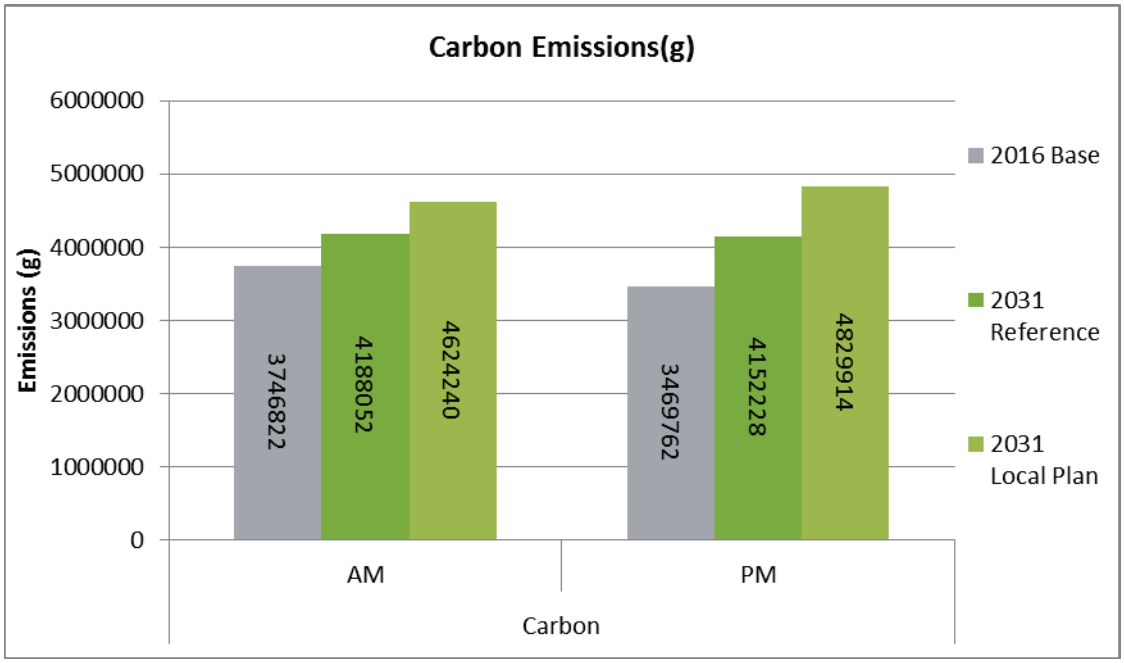
Leicester Road Corridor – Nitrogen Emissions



Leicester Road Corridor – PM10 Emissions



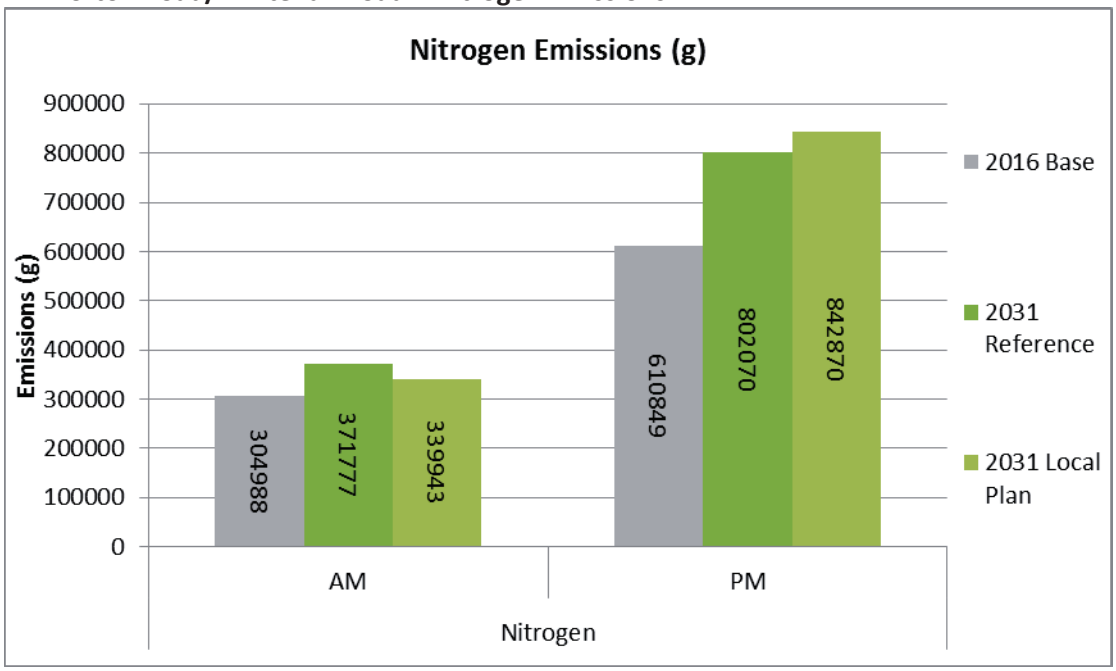
Leicester Road Corridor – Carbon Emissions



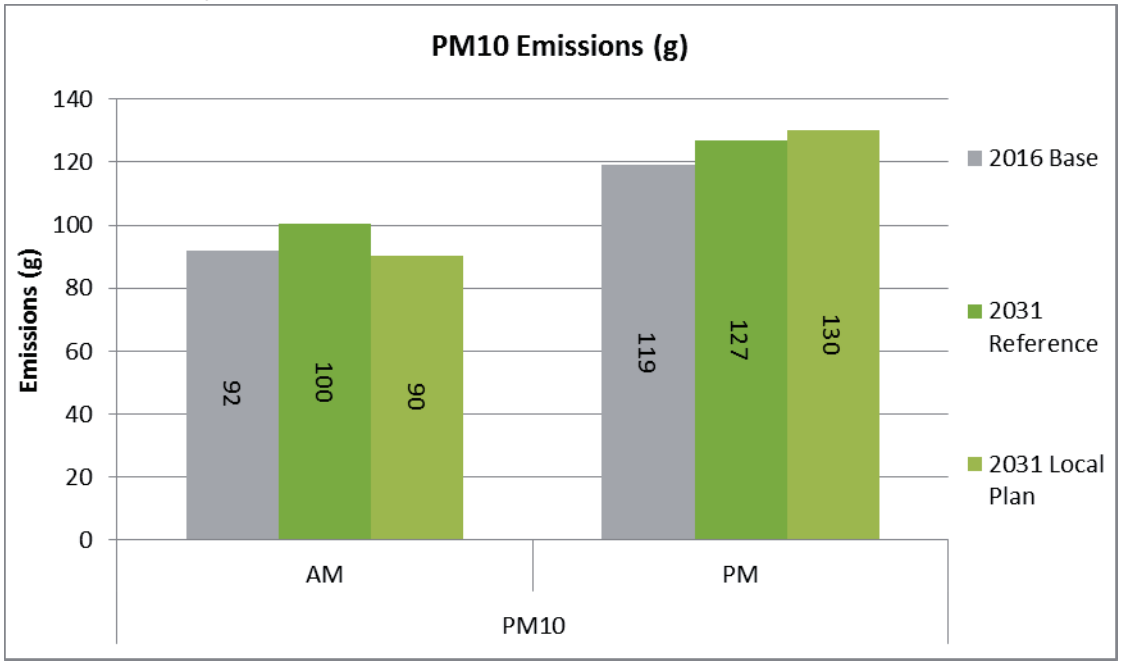
APPENDIX D

Hillmorton Road/Whitehall Road Air Quality Outputs

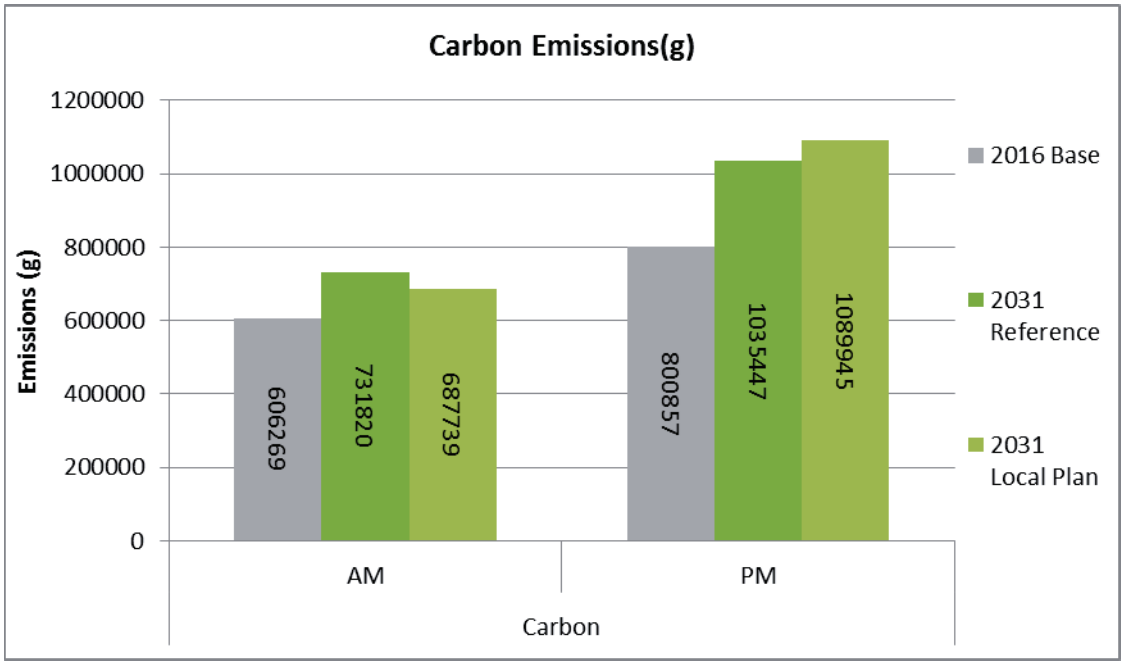
Hillmorton Road/Whitehall Road – Nitrogen Emissions



Hillmorton Road/Whitehall Road – PM10 Emissions



Hillmorton Road/Whitehall Road – Carbon Emissions



2019 Air Quality Annual Status Report (ASR)

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

August 2019

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Report Reference number	RBC-AQ-ASR-2019
Date	August 2019

Executive Summary: Air Quality in Our Area

Air Quality in Rugby Borough Council

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

The annual health cost to society of the impacts of particulate matter alone in the UK is estimated to be around £16 billion[3].

The main pollutants of concern in Rugby, as in most areas of the UK, are associated with road traffic, in particular NO_2 and particulate matter (PM) at locations close to busy, congested roads where people may live, work or shop. Previous Review and Assessment reports and local knowledge have identified areas where UK air quality objectives may be exceeded. Rugby Borough Council declared an Air Quality Management Area (AQMA) in 2004 for exceedances of the annual mean NO_2 objective. This area covers the whole urban area of Rugby bounded by the southern boundary with Daventry District Council, A5, M6, minor roads to the west of Long Lawford, A45 and M45 (https://uk-air.defra.gov.uk/aqma/details?aqma_ref=267#109).

Monitoring data for 2018 showed an overall increasing trend in annual mean NO_2 concentrations compared to 2017, with increases in annual mean concentration at 38 of the 56 monitoring sites in Rugby Borough Council's monitoring network. The greatest increase was monitored outside of the declared AQMA and resulted in an exceedance of the air quality objective at this location (S24). There was one exceedance of the annual mean objective for NO_2 within Rugby Borough Council's AQMA in 2018 (S54a).

Actions to Improve Air Quality

Rugby Borough Council has continued its work alongside Coventry and Warwickshire Air Quality Alliance, a partnership comprising Environmental Health, Public Health,

[1] Wheeler and Ben-Shlomo, Environmental equity, air quality, socioeconomic status and respiratory health, 2005
[2] Defra. Air quality and social deprivation in the UK: an environmental inequalities analysis, 2006
[3] Defra. Abatement cost guidance for valuing changes in air quality, May 2013

Planning and Transport officers from the Coventry and Warwickshire local authorities to implement the Air Quality objectives of the Health Protection Strategy 2017-2021. The Strategy provides:

- Practical solutions to promote behaviour shifts and initiatives that reduce car journeys and promote physical activity, including in school and workplace environments;
- More 'active' travel infrastructure solutions with increased cycle ways, and improved public transport infrastructure;
- Evidence of designing in health through planning processes; and
- Exploration of wider opportunities for improving fleet vehicles, and green procurement opportunities.

Rugby Borough Council's Local Plan 2011 – 2031 has been updated and was adopted by the elected members on 4 June 2019. This sets out specific planning policies in relation to air quality, and states:

Policy HS5: Traffic Generation and Air Quality

"Any development that results in significant negative impacts on health and wellbeing of people in the area as a result of pollution, noise or vibration caused by traffic generation will not be permitted unless effective mitigation can be achieved.

Any development that results in significant negative impacts on air quality within identified Air Quality Management Areas or on the health and wellbeing of people in the area as a result of pollution should be supported by an air quality assessment and, where necessary, a mitigation plan to demonstrate practical and effective measures to be taken to avoid the adverse impacts."

Several other policies also address air quality:

- ED2 (Employment development within Rugby urban area), requiring applicants to demonstrate that any potential impacts on neighbouring land uses, particularly those sensitive to noise, visual amenity or air quality impacts arising from industrial uses are avoided, or mitigated to an acceptable level;
- SDC1 (Sustainable Design), outlining that developers are to consider the impact of environmental factors such as poor air quality to ensure such sensitive sites

achieve relevant statutory compliance and/or are adhering to current best practice; and

- D1 (Transport), detailing the importance of reducing the impact of vehicular movements to mitigate the significant adverse impact road traffic can have on environmental factors such as air quality.

In conjunction with the Air Quality Alliance, Consultants and Planning Policy Officers, Rugby Borough Council has developed a new Air Quality Supplementary Planning Document to provide guidance to planners. This document outlines the criteria against which developments are assessed in order to determine whether or not an Air Quality Assessment is required. Furthermore, the Document outlines suitable mitigation measures for minimising negative impacts on air quality within AQMAs and ensuring that future development remains air quality neutral.

Following adoption of the Local Plan, Rugby Borough Council seeks to implement the Air Quality Supplementary Planning Document in due course.

Conclusions and Priorities

The main priorities for addressing air quality set out by Rugby Borough Council are:

- Complete the review of the Rugby Transport Strategy in conjunction with Warwickshire County Council in order to consider possible measures to address congestion at key locations in Rugby, including the Warwick Street Gyratory. This will help to improve safety and air quality in these areas.
- Identify strategies for the reducing levels of $PM_{2.5}$. This will include the launch of a social media campaign targeting residents of the Borough in relation to the use of open fires and wood-burning stoves.
- Behaviour Change Intervention Project – developed by Coventry and Warwickshire Public Health and the Air Quality Alliance, this project aims to develop a shift in public behaviour that will ultimately reduce exposure to air pollution whilst simultaneously increasing levels of physical activity. A key objective of the project is to highlight the opportunities available to members of the public to allow them to adopt more sustainable forms of transport, in addition to understanding the barriers faced by members of the public to walking, cycling or travelling via public transport to their place of work. This understanding will

be used to develop, implement and evaluate a behaviour change intervention that promotes active/sustainable travel while reducing exposure and contribution to air pollution. This project will also explore the role personal air pollution monitors can play in both educating people on the impacts of air pollution and in changing their travel behaviour. It will pilot the use of personal air pollution monitors across a study group and include a series of quantitative questionnaires to identify if an intervention can be developed that can be replicated in multiple settings (such as schools, other work locations, etc.) to increase active travel and reduce exposure to air pollution.

- Rugby Borough Council are currently part of a bid by Warwickshire County Council for funding for electric charging points. Rugby Borough Council are planning up to 9 charging points, however exact numbers and locations are yet to be finalised. Provisional locations include Newbold Road long-stay car park, Evreux Way car park and the John Barford long-stay multi-storey car park.
- Rugby Borough Council are currently investigating the possibility of joining the Coventry and Warwickshire car share scheme. This would enable Council workers to have better access to shared journeys and in doing so reduce the number of vehicle trips in and out of the town centre. This will be promoted to staff internally through the internet communication platforms. The Car Share scheme will also be promoted to the public via a social media campaign and website links.
- During 2019 Rugby Borough Council will conduct an extensive review of non-automatic (diffusion tube) monitoring sites. With the exception of site S54a, at which exceedances of the annual mean NO_2 objective have occurred, annual mean NO_2 concentrations at all but one non-automatic monitoring sites outside of the AQMA, have been below 25µg/m^3 for the past 5 years, with the remaining site, S51, measuring concentrations below 35µg/m^3. In 2016 and 2018, S54a has monitored concentrations of above 45µg/m^3. Rugby Borough Council will consider refocussing the non-automatic monitoring locations outside of the AQMA and closer to S54a to fully investigate the exceedances seen at this site.
- Within the AQMA itself, many non-automatic monitoring sites have been measuring concentrations below 30 µg/m^3. These monitoring locations around Hillmorton Paddock, Long Lawford, Newbold-on-Avon and Brownsover.

Exceedances of the AQO continue to be experienced at S24, near to Dunchurch. Rugby Borough Council will continue to monitor the area around S24. Additionally, the Council will seek to consider relocating monitoring locations where there have been consistently low concentrations to locations with extensive new housing developments, all of which are within the existing AQMA. This will be implemented at the end of 2019 and will be reflected in monitoring data for 2020.

One of the key challenges to improving air quality in Rugby is predominantly in the form of planning applications for developments that may impact negatively on existing air quality, as is the case for most local authorities. There have been several recently completed major developments in Rugby, along with a considerable number of large-scale developments in the pipeline and numerous smaller developments.

1. A replacement primary school, new secondary school, and new Special Education Needs school at Rokeby Estate, Rugby. Please note that this is currently subject to a legal challenge.
2. Coton Park East – An allocation in the Local Plan for around 800 dwellings.
3. Land to the north of Ashlawn Road – allowed on appeal decision for development of up to 860 dwellings and associated school. Planning Appeal Reference: APP/E3715/W/16/3147448.
4. Urban Expansion South West of Rugby – an allocation in the Local Plan for around 5,000 residential dwellings with associated infrastructure comprising of link road, health/community facility, and employment uses, including a local centre, together with primary and secondary schools. This site also covers the development proposal for Ashlawn Road.
5. Oakdale Nursery, Rugby Road, Coventry, CV8 3GJ - Outline planning permission for the redevelopment of the former Garden Centre / Nursery site to provide a 'Care Village' residential retirement development of 124 independent living units and a 36-bed care centre.
6. Brandon Stadium (Coventry Stadium) Rugby Road Demolition of existing buildings and outline planning application for residential development of up to 137 dwellings.

The following developments are either under construction or are completed / occupied:

1. Rugby Radio Station (SUE) – Urban extension to Rugby providing up to 6,200 dwellings and up to 130,000 square metres of space for various land uses (including mixed use district centre, 3 primary schools and 1 secondary school). Phase 2 is currently under construction. Phase 3 is due to start construction in Autumn 2018.
2. Rugby Gateway (Eden Park) – Outline application for up to 1,300 residential units and employment zone. Phase I and the employment zone has been completed. Phase II (230 dwellings), and Phase 4 (147 dwellings) is under construction.
3. Leicester Road/Technology Drive – permission granted for 620 dwellings. The first three phases comprised of 87 dwellings for phase 1, 40 apartments for phase 2, and 75 dwellings for phase 3 and have been completed. On the south side of the development site, three further sites were granted planning permission for Leicester Road West for 87 dwellings, Butterfield Gardens for 101 dwellings (both of which were completed) and Land South of Technology Drive was granted planning permission for 230 dwellings which represents the final phase and is under construction.
4. Elliot's Retail Park (Phase I) – 27,000 m^2 retail development now fully constructed and occupied.
5. Elliot's Retail Park (Phase II) – bulky goods retail park is now fully constructed and occupied.
6. Junction 1 Retail Park – 5,670 m^2 retail park is now completed and occupied.
7. Coton House – 82 residential properties completed and substantially occupied.
8. Cawston Extension – Outline planning permission granted for up to 600 homes under reference R11/0114. However, the site has been divided into four sections with four different developers. Each of the four sections have been substantially completed and partly occupied. The northern most section has been constructed by William Davis for 184 dwellings under reference R16/1721. The southern site has been constructed by Linden Homes for a total of 246 dwellings (from combined planning permissions of R16/1780 and R17/1885). To the east of these two sites, Redrow Homes constructed 113 dwellings (from planning permission R15/0540), whilst the furthest site to the east has been

constructed by Triosquare and comprises 10 dwellings granted under combined references of R12/1947 and R16/2295 (it should be noted that these last two permissions were not part of the original outline under R11/0114). In total, these four sections comprise 553 dwellings, substantially completed, and partly occupied.

Local Engagement and How to get Involved

The general public can take simple measures to help improve air quality, the main ones being, where possible, making short trips and journeys on foot or by bike instead of by car, or using public transport. Car sharing with colleagues, or with other parents on the school run, are some other examples of ways to reduce traffic congestion, for example. Other measures are listed below:

- Purchasing low-emission electric and/or hybrid vehicles, with government funding and grants available.
- Upgrading boilers to newest and most efficient gas condensing boilers with lowest NO_x (and carbon) emissions.
- Renewable energy generation via solar photovoltaics or wind turbine installation (although individual effect on air quality is minor and non-local)
- Reducing the use of open fires and wood-burning stoves;
- Ensuring only permitted appliances and fuels are burnt in the 'Smoke Free Zone' across the urban area; and
- Following good practices.

Further information can be found on the Council's website[4], and Defra's Local Air Quality Management (LAQM) website[5].

[4] Rugby Borough Council Air Pollution website: https://www.rugby.gov.uk/info/20021/pollution/217/air_pollution
[5] Defra LAQM website: http://laqm.defra.gov.uk/

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1 Local Air Quality Management

This report provides an overview of air quality in Rugby Borough Council during 2018. It fulfils the requirements of Local Air Quality Management (LAQM) as set out in Part IV of the Environment Act (1995) and the relevant Policy and Technical Guidance documents.

The LAQM process places an obligation on all local authorities to regularly review and assess air quality in their areas, and to determine whether or not the air quality objectives are likely to be achieved. Where an exceedance is considered likely the local authority must declare an Air Quality Management Area (AQMA) and prepare an Air Quality Action Plan (AQAP) setting out the measures it intends to put in place in pursuit of the objectives. This Annual Status Report (ASR) is an annual requirement showing the strategies employed by Rugby Borough Council to improve air quality and any progress that has been made.

The statutory air quality objectives applicable to LAQM in England can be found in Table E.1 in Appendix E.

2 Actions to Improve Air Quality

2.1 Air Quality Management Areas

Air Quality Management Areas (AQMAs) are declared when there is an exceedance or likely exceedance of an air quality objective. After declaration, the authority must prepare an Air Quality Action Plan (AQAP) within 12-18 months setting out measures it intends to put in place in pursuit of compliance with the objectives.

A summary of AQMAs declared by Rugby Borough Council can be found in Table 2.1. Further information related to declared or revoked AQMAs, including maps of AQMA boundaries are available online at https://uk-air.defra.gov.uk/aqma/local-authorities?la_id=214. Alternatively, see Appendix D: Map(s) of Monitoring Locations and AQMAs, which provides a map of air quality monitoring locations in relation to Rugby Borough Council's AQMA.

Table 2.1 – Declared Air Quality Management Areas

AQMA Name	Date of Declaration	Pollutants and Air Quality Objectives	City / Town	One Line Description	Is air quality in the AQMA influenced by roads controlled by Highways England?	Level of Exceedance (maximum monitored/modelled concentration at a location of relevant exposure)				Action Plan		
						At Declaration		Now		Name	Date of Publication	Link
Rugby AQMA (NO_2)	16/12/2004	NO_2 Annual Mean 40 µg/m^3	Rugby	The area covers the whole urban area of Rugby bounded by the southern boundary with Daventry District Council, A5, M6, minor roads to the west of Long Lawford, A45 and M45.	YES	> 40	µg/m^3	43.3	µg/m^3	Rugby Borough Council AQAP	2010	Currently being updated; available from the Council on request.

☒ **Rugby Borough Council confirm the information on UK-Air regarding their AQMA(s) is up to date**

2.2 Progress and Impact of Measures to address Air Quality in Rugby Borough Council

Defra's appraisal of last year's ASR concluded that although there have been significant improvements in local air quality in recent years, progress on action plan measures was limited since the previous reporting year. It was however noted that several of the traffic management schemes implemented by Rugby Borough Council have resulted in improved air quality.

Rugby Borough Council has taken forward a number of direct measures during the current reporting year of 2018 in pursuit of improving local air quality. Details of all measures completed, in progress or planned are set out in Table 2.2.

More detail on these measures can be found in Rugby Borough Council's Air Quality Action Plan. All actions from 2018 are ongoing; there are no additional completed measures to report.

Rugby Borough Council expects the following measures to be completed over the course of the next reporting year:

- Adoption of the Air Quality Planning Policy Guidance;
- Complete the review of the Rugby Transport Strategy in conjunction with Warwickshire County Council;
- Implement the Behaviour Change Intervention Project;
- Install up to 9 charging points at the provisional locations: Newbold Road long-stay car park, Evreux Way car park and the John Barford long-stay multi-storey car park; and
- Conduct an extensive review of non-automatic (diffusion tube) monitoring sites and identify areas for new monitoring or relocation.

Additionally, Warwickshire County Council is currently reviewing the Rugby Transport Strategy in partnership with Rugby Borough Council as part of a wider review of Warwickshire's Local Transport Plan (LTP3). This will consider possible measures for addressing congestion and improving safety and air quality at key locations in Rugby, including the Warwick Street Gyratory.

Rugby Borough Council anticipates that the measures stated above and in Table 2.2 will achieve compliance in the Rugby AQMA. It is however noted that Rugby Borough Council will monitor the recorded exceedance outside of the AQMA and consider declaring an additional AQMA upon receipt of 2019 monitoring data, should exceedances continue. This will be addressed in the next reporting year.

Table 2.2 – Progress on Measures to Improve Air Quality

Measure No.	Measure	EU Category	EU Classification	Organisations involved and Funding Source	Planning Phase	Implementation Phase	Key Performance Indicator	Reduction in Pollutant / Emission from Measure	Progress to Date	Estimated / Actual Completion Date	Comments / Barriers to implementation
A	Rugby Western Relief Road (RWRR)	Transport Planning and Infrastructure	Other	WCC	1996-2007	2007-2011	Implementation of the scheme in full	12%	The road was fully opened to traffic in September 2010.	Completed September 2010	N/A
B	Warwick Street Gyratory Improvements	Transport Planning and Infrastructure	Other	WCC	2007-2014	2014/15	Implementation of the scheme in full	N/A	The major improvement to the Gyratory was completed in May 2015.	Completed May 2015	N/A
C	Improvements to Church Street/ North Street	Transport Planning and Infrastructure	Other	WCC	2018	Post 2016/17	Implementation of the scheme in full	N/A	A scheme to extend the pedestrianised area of the town centre on Church Street/North Street was previously developed and consulted upon, however it was jointly agreed by Warwickshire County Council and Rugby Borough Council not to implement the scheme at that time. The Borough Council is now considering a number of public realm improvements as part of a wider strategy for the town centre, which for this area would supersede the previously developed proposals for Church Street/North Street	TBC	The timescales for implementation of the scheme have changed as a result of the further consultation, which has been carried out on the revised proposal.

D	Decriminalisation of Parking Enforcement within Rugby Borough	Traffic Management	Other	WCC	2000-2005	2005-2006	Implementation of the scheme in full	N/A	Scheme fully implemented in 2006	2006	Since the commencement of Decriminalisation of Parking (now referred to as Civil Parking Enforcement CPE) on 02/10/06 in Rugby, the introduction of parking charges on some town centre streets together with a high level of enforcement has resulted in less vehicles being parked on the streets and less congestion, and therefore emissions, due to inconsiderate parking.
E	Re-routing traffic - Lorry Route Maps and agreements	Traffic Management	UTC, Congestion management, traffic reduction	WCC	Ongoing	N/A	Reduction in complaints regarding inappropriate lorry movements	N/A	An initial Advisory Lorry Route Map for the County was produced in 2005. This was subsequently revised and reissued in 2009. HGV routing agreements are stipulated through the planning process with WCC	N/A	
F	Variable Message Signing	Traffic Management	UTC, Congestion management, traffic reduction	WCC	2006-2008	2009	Implementation of the scheme in full	N/A	Scheme fully implemented in 2009	Completed in 2009	Evidence from other towns in Warwickshire that Variable Message Signing reduces the unnecessary distance travelled by vehicles looking for parking spaces. In Rugby town centre the impact of Variable Message Signing may have been masked by overall reductions in road traffic brought about by the opening of RWRR and road infrastructure

											improvements to the Warwick Street Gyratory.
G	Improve the Borough Council Fleet (interims of emissions)	Promoting Low Emission Transport	Company Vehicle Procurement - Prioritising uptake of low emission vehicles	RBC	Ongoing	Ongoing	N/A	N/A	Euro 6 is now the latest technology with no further advancement on the horizon. Currently the Euro 6 vehicles we have consists of 13 x refuse freighters', 1 x road sweeper 1 x highways tipper and 7 x housing vans/tippers 3.5t. All replacement vehicles will be Euro 6.	Ongoing	Euro 6 is the most advanced technology available and is anticipated to deliver NOx emissions reductions
H	Improve Bus Emissions	Vehicle Fleet Efficiency	Promoting Low Emission Public Transport	RBC/ WCC	Ongoing	Ongoing	N/A	N/A	Urban Quality Bus Corridor improvements have been made on routes between the Town Centre and Lower Hillmorton/Long Lawford, between Woodlands and the Town Centre, and on the Inter-Urban route between Rugby and Coventry. Finance has been provided through developers of committed planning developments	Ongoing	A lack of resources by the bus operators. However the update older public service vehicles with those of the latest technologies should result in measureable emissions reductions of NOx and PM10
I	Cycling	Promoting Travel Alternatives	Promotion of cycling	WCC	Ongoing	Ongoing	Increase in cycling as a result of individual scheme implementation	N/A	The basis of a cycle network has been delivered in phases over the last 15 years, using a combination of on and off-carriageway routes. Additional routes will come forward as resources permit and in	Ongoing	

									conjunction with new development. WCC and RBC provide cycle training for young people and adults who are keen to improve their cycle skills. Cycle facilities have been provided as part of RWRR. The Leicester Road viaduct Connect2 scheme opened in 2014. The A428 Lawford Road cycleway between Long Lawford and the RWRR was completed in 2014. A bid to the DfT's Cycle Safety fund was successful for a scheme to extend this cycleway from the RWRR to the Town Centre. The extension was completed in 2015.		
J	Walking	Promoting Travel Alternatives	Promotion of walking	WCC	Ongoing	Ongoing	Increase in walking (footfall) as a result of individual scheme implementation	N/A	The LTP Walking Strategy sets out a series of improvements for pedestrians, including new or upgraded pedestrian crossings, new/widened footways, improved street lighting, provision of new dropped kerbs, and footway resurfacing/ reconstruction.	Ongoing	

K	Workplace Travel Plans	Promoting Travel Alternatives	Workplace Travel Planning	WCC	Ongoing	Ongoing	Number of Travel Plans agreed with existing employers and as part of new development	N/A	Workplace Travel Plans are secured through a S106 agreement as part of new development.	N/A	
L	School Travel Plans and Safer Routes to School	Promoting Travel Alternatives	School Travel Plans	WCC	Ongoing	Ongoing	Reduction in the number of car-based journeys to school	N/A	The majority of Local Authority run schools within the Borough now have a School Travel Plan in place.	N/A	
M	Public Transport Strategy, including the Bus Strategy	Promoting Travel Alternatives	Other	WCC	Ongoing	Ongoing	Increase in bus patronage	N/A	Ongoing implementation of the various strategies which make up the Public Transport Strategy, including the Bus Strategy, Passenger Rail Strategy, Community Transport Strategy, Public Transport Information Strategy and Public Transport Interchange Strategy.	N/A	
N	Travel Awareness Campaigns	Promoting Travel Alternatives	Personalised Travel Planning	WCC	Ongoing	Ongoing	Reduction in the number of car-based journeys being made within the Borough	N/A	Ongoing implementation of the Changing Travel Behaviour Strategy and other relevant LTP strategies.	N/A	
O	Energy efficiency improvements to Rugby housing & the reduction of fuel poverty.	Policy Guidance and Development Control	Low Emissions Strategy	RBC	Ongoing	Ongoing	HECA report published March 2017, and will be updated at two yearly intervals	N/A	Across the borough we have provided the following services: * Worked with our partner, Act on Energy, to provide an energy advice phone line * Organised advice sessions held at the Town Hall & library, flu clinics, Children's Centres and Older People's Drop-in session * Held training	N/A	DECC statistics show that CO_2 emissions by domestic use (Units kt CO_2) have reduced from 215.7 in 2009 to 213.3 in 2013, a per capita reduction from 21.8 to 19.8 We aim to reduce CO_2 emissions in the housing sector to 172.6kt $CO_2$of 2009 (215.7kt CO_2) levels by 2020. This will be

									sessions for front-line staff and community and voluntary workers * Provided media coverage with Press Releases; articles in Tenant Times; twitter posts on coping with cold weather, energy savings tips, etc.; cold weather alerts issued to front-line staff and 100 community organisations * Sent mail out to 1970 households in the Benn area with information about ECO funding for energy improvements, plus support available from Act on Energy * Held presentation for local landlords about the Minimum Energy Efficiency Standards and provided information about new Carbon Monoxide legislation * Carried out initial feasibility assessment for District Heating Council tenants have benefitted from these improvements and services: * electric to gas conversions for 262 properties * new windows and doors to 3420 properties with windows and doors * central heating		equivalent to a 20% reduction.

									renewals – 49 gas to gas upgrades * energy advice session held for tenants at Woodside Travellers Site * mail out to Sheltered Tenants and High Rise Residents about Warm Home Discount		
P	Control Of Industrial Emissions	Environmental Permits	Measures to reduce pollution through IPPC Permits going beyond BAT	RBC	Ongoing	Ongoing	97.5% compliance improvements	N/A	37 Permitted Industrial Pollution Process (100% inspections completed) achieved 97.3% compliance improvements.	N/A	One site was not compliant making 97.3% compliance improvements achieved
Q	Emissions from Domestic and Commercial Sources	Environmental Permits	Other	RBC	Ongoing	Ongoing	Reduction in complaints	N/A	Low priority. Low number of complaints.	N/a	Designated smoke Control Area (chimneys) and section 79 of the EPA 1990 actively implemented where problems are identified.
R	Control of Bonfires	Policy Guidance and Development Control	Other policy	RBC	Ongoing	Ongoing	Reduction in complaints	N/A	Low priority. Low number of complaints.	N/A	Section 79 of the EPA 1990 actively implemented where problems are identified
S	Planning Development and Planning Applications	Policy Guidance and Development Control	Air Quality Planning and Policy Guidance	RBC	Ongoing	Ongoing	N/A	N/A	. Rugby Borough Council's Local Plan 2011 – 2031 has been updated and this was adopted by the elected members on 4 June 2019. This sets out specific planning policies in relation to air which states: Policy HS5: Traffic Generation and Air Quality	N/A	Work on new Air Quality Supplementary Planning Guidance continues alongside the Local Plan.

									Any development that results in significant negative impacts on health and wellbeing of people in the area as a result of pollution, noise or vibration caused by traffic generation will not be permitted unless effective mitigation can be achieved. Any development that results in significant negative impacts on air quality within identified Air Quality Management Areas or on the health and wellbeing of people in the area as a result of pollution should be supported by an air quality assessment and, where necessary, a mitigation plan to demonstrate practical and effective measures to be taken to avoid the adverse impacts.		
T	Installing EV Charging Points in RBC Car Parks	Promoting Low Emission Transport	Procuring alternative Refuelling infrastructure to promote Low Emissions Vehicles, EV recharging, Gas fuel recharging	WCC	2019-20	2020	N/A	N/A	RBC are currently part of a bid by Warwickshire County Council for funding for electric charging points. The bid is on behalf of WCC and all the districts and boroughs. The application for grant funding is to the	2020	

									Energy Saving Trust and if granted we intend to find a commercial company to provide the remainder of the funding. RBC are planning up to 9 charging points. Numbers and locations to be agreed, but provisional locations are Newbold Road car park (long stay), Evreux Way car park (in front of the Town Hall) and the John Barford car park (our long stay multi-storey car park).		
U	Promotion of Practical Guidance for use of open fires and wood burning stoves in domestic settings	Public Information	Via Internet	RBC	2019	2019	N/A	N/A	RBC are planning a promotion campaign using promotional guidance provided by DEFRA in relation to open fires and wood burning stoves. This will be done via the web page and social media communication platforms	Ongoing	
V	Promotion of Car Share Scheme	Promoting Travel Alternatives	Personalised Travel Planning	RBC/ WCC	2019	2019	Reduction in the number of car-based journeys being made within the Borough	N/A	There is car share scheme operating across Coventry and Warwickshire. RBC looking at options for staff to join the scheme as an organisation with internal promotion though emails and updates Promotion of the scheme externally via	Ongoing	

									the website and Social Media platforms		

2.3 $PM_{2.5}$ – Local Authority Approach to Reducing Emissions and/or Concentrations

As detailed in Policy Guidance LAQM.PG16 (Chapter 7), 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). There is clear evidence that $PM_{2.5}$ has a significant impact on human health, including premature mortality, allergic reactions, and cardiovascular diseases.

Between 2011-15, Rugby has been below the national average for the Public Health Framework Indicator, 'Fraction of mortality attributable to particulate air pollution'. However in 2016, the fraction value increased markedly from 4.6% to 5.5% and was higher than the national average (5.3%) for that time[6]. In 2017, the fraction value decreased to 5.0% and was below the national average of 5.1%. This trend is not dissimilar to the neighbouring councils; Coventry, Warwick and Stratford-on-Avon, with all councils experiencing the peak in 2016. Since 2011, Rugby remains to have higher fraction values than Stratford-on-Avon but below that of Warwick and Coventry. With the latter council having fraction values higher than the national average.

Public Health Coventry (Coventry City Council) and Public Health Warwickshire (Warwickshire County Council) have established the joint Arden Health Protection Committee. Included in the members are the Environmental Health managers in Warwickshire and Coventry comprising representatives from Public Health England, NHS, Public Health Coventry, Public Health Warwickshire and local authority Environmental Health officers.

Rugby Borough Council have worked alongside Coventry and Warwickshire Air Quality Alliance to implement the Air Quality objectives of the Health Protection Strategy 2017-2021. The success of this strategy and the measures it proposes will be demonstrated by reductions in ambient concentrations of NO_2 and $PM_{2.5}$, reductions in the use of private cars for short journeys and increased development and use of cycle ways.

Rugby Borough Council are currently identifying strategies for reducing levels of $PM_{2.5}$. This will include a launch of a campaign using social media and website links educating residents in the Borough in relation to use of open fires and wood burning stoves.

[6] Public Health Outcome Framework (2019), 'Health Protection'. Available at: https://fingertips.phe.org.uk/profile/public-health-outcomes-framework/data#page/0/gid/1000043/pat/6/par/E12000008/ati/101/are/E07000094

3 Air Quality Monitoring Data and Comparison with Air Quality Objectives and National Compliance

3.1 Summary of Monitoring Undertaken

3.1.1 Automatic Monitoring Sites

This section sets out what monitoring has taken place and how it compares with objectives.

Rugby Borough Council no longer undertakes automatic (continuous) monitoring, as the continuous particulate monitor at Parkfield Road was taken out of use in December 2017.

3.1.2 Non-Automatic Monitoring Sites

Rugby Borough Council undertook non-automatic (passive) monitoring of NO_2 at 56 sites during 2018; with one triplicate site (S54) being relocated midway through the reporting year. Table A.1 in Appendix A shows the details of the sites.

Maps showing the location of the monitoring sites are provided in Appendix D. Further details on Quality Assurance/Quality Control (QA/QC) for the diffusion tubes, including bias adjustments and any other adjustments applied (e.g. “annualisation” and/or distance correction), are included in Appendix C.

3.2 Individual Pollutants

The air quality monitoring results presented in this section are, where relevant, adjusted for bias, “annualisation” and distance correction. Further details on adjustments are provided in Appendix C.

3.2.1 Nitrogen Dioxide (NO_2)

Table A.2 in Appendix A compares the ratified and adjusted monitored NO_2 annual mean concentrations for the past 5 years with the air quality objective of 40µg/m^3.

For diffusion tubes, the full 2018 dataset of monthly mean values is provided in Appendix B. Rugby Borough Council does not undertake continuous monitoring of NO_2.

During 2018, the annual mean NO_2 objective was exceeded at two diffusion tube locations (S24 and S54a). Site S24 in Dunchurch Square is the only diffusion tube site

to have consistently exceeded the air quality objective, year on year, since 2014. S24 is positioned within the existing AQMA and is considered a location of relevant exposure NO_2 concentrations at S24 did display a downward trend between 2014 and 2017 but have now increased from 40.7 µg/m^3 (2017) to 43.3 µg/m^3 (2018) (Figure A.2).

Site 54a, located on the junction of Church Road and Bulkington Road in Shilton, north of Coventry, exceeded the air quality objective for the second time since monitoring started in 2016. NO_2 concentrations at the site fell from 47.1 µg/m^3 (2016) to 37.6 µg/m^3 in 2017 but have now increased again to 46.1 µg/m^3 in this reporting year. The site is considered a location of relevant exposure. However, due to limited data periods this data should be considered with some caution and monitoring is continuing in 2019 to further investigate the exceedance.

Two sites in 2018 have fallen below the air quality objective, these were S49 and S54b. Site S49 is located on the roundabout joining Hilmorton Road and Whitehall Road and exceeded the air quality objective for the first time in 2017 since monitoring began in 2012. In the 2017 ASR, the increase in concentration in 2017 was suggested to be a result of major road works on Hilmorton Road either side of the Whitehall Road roundabout. Concentrations of NO_2 have now dropped from 43.7 µg/m^3 to 34 µg/m^3, this is similar to concentrations seen in years prior to 2017, confirming that the exceedance in 2017 was due to the road works occuring at the time.

Site S54b, formally known as W2, is located at the roadside of the Warwick Street gyratory system near the centre of town within the existing AQMA. In 2017 NO_2 concentrations were 43.3 µg/m^3 but have now dropped to 38.7 µg/m^3, below the air quality objective. Major improvement works occurred to the gyratory system, part of the AQAP and were completed in May 2015. 2018 is the third year where it was possible to assess whether changes to the road layout has had the intended impact of decreasing the impact of traffic on the town centre, in particular the annual mean NO_2 concentration. In Figure A.4 it can be seen that NO_2 concentrations at S54b have been declining since 2016, indicating that the improvement works carried out on the gyratory appear to be successful. Due to limited data periods this data should be considered with some caution and that full year results will be reported in the next ASR.

3.2.2 Particulate Matter (PM_{10})

Rugby Borough Council ceased PM_{10} monitoring in December 2017. Monitoring at the Parkfield Road location was originally commenced to investigate particulate matter concentrations at sensitive receptors near to the Cemex Climafuel facility, but there were no monitored exceedances of the PM_{10} annual mean or short-term mean objectives after several years of monitoring.

3.2.3 Particulate Matter ($PM_{2.5}$)

Rugby Borough Council ceased $PM_{2.5}$ monitoring at the Parkfield Road location in December 2017, as there were no monitored exceedances of the $PM_{2.5}$ annual mean target value after several years of monitoring.

Appendix A: Monitoring Results

Table A.1 – Details of Non-Automatic Monitoring Sites

Site ID	Site Name	Site Type	X OS Grid Ref	Y OS Grid Ref	Pollutants Monitored	In AQMA?	Distance to Relevant Exposure (m) (1)	Distance to kerb of nearest road (m) (2)	Tube collocated with a Continuous Analyser?	Height (m)
S1	10 Newbold Road	Kerbside	449000	277178	NO2	YES	0	0.5	NO	2.5
S2	Marton A423	Kerbside	440830	269008	NO2	NO	5	1	NO	2.5
S3	69 School Street	Urban Background	447316	276162	NO2	YES	0	15	NO	2.5
S4	St Margaret's School, Wolston	Urban Background	441131	275648	NO2	NO	0	90	NO	2.5
S5	Ryton Village Hall, High Street	Kerbside	438642	274418	NO2	NO	25	0.5	NO	2.5
S6	2 West Field Road	Urban Background	449671	274795	NO2	YES	0	10	NO	2.5
S7	68 Cymbeline Way	Urban Background	448863	272786	NO2	YES	0	10	NO	2.5
S8	EHO Treatment, Newbold Road	Kerbside	450138	275557	NO2	YES	10	1	NO	2.5
S9	(Argyle Street) Cambridge Street	Roadside	451187	275334	NO2	YES	0	5	NO	2.5

S10	Webb Ellis Pub, Corporation Street	Roadside	450069	275040	NO2	YES	0	5	NO	2.5
S11	15 Oliver Street	Roadside	449787	275224	NO2	YES	0	5	NO	2.5
S12	Boughton Leigh School, Hollowell Way	Urban Background	451445	277245	NO2	YES	0	56	NO	2.5
S13	Avon Mill Pub, Newbold Road	Roadside	450088	276229	NO2	YES	15	3	NO	2.5
S14	Binley Woods, Village Hall	Urban Background	439450	277523	NO2	NO	0	20	NO	2.5
S15	Lawford Road / Jubilee Street, Arnie's Batch	Kerbside	449168	275411	NO2	NO	0	0.5	NO	2.5
S16	Hotel, London Road A45, Ryton	Roadside	436867	275275	NO2	NO	0	19	NO	2.5
S17, S18, S19	Stamford Gardens Rugby Road	Roadside	431271	266404	NO2	NO	N/A	6	YES	2.5
S20	Newbold Road	Roadside	450137	275849	NO2	YES	25	3	NO	2.5
S21	Corner of Percival Road and	Roadside	451698	273273	NO2	YES	15	2	NO	2.5

	Ashlawn Road									
S22	Corner of Fisher Avenue and Ashlawn Road	Roadside	452403	273567	NO2	YES	18	5	NO	2.5
S23	Paddox Pub Corner	Roadside	452672	273633	NO2	YES	13	3	NO	2.5
S24	Dun Cow, Dunchurch Square	Kerbside	448496	271244	NO2	YES	0	0.5	NO	2.5
S25	Southam Road, 'Crystal', Dunchurch	Roadside	448414	271175	NO2	YES	0	2	NO	2.5
S26	Lawford Road, (former Simms Scrap Yard)	Roadside	448999	275505	NO2	YES	0	12	NO	2.5
S27	Leamington Road, Ryton on Dunsmore	Roadside	449435	275543	NO2	NO	7	2.5	NO	2.5
S28	256 Parkfield Road	Roadside	449011	276329	NO2	YES	0	2	NO	2.5
S29	Avon Valley School	Urban Background	449575	276540	NO2	YES	0	35	NO	2.5
S30	Murray Road (Bus Stop Nr Rail Station)	Kerbside	451107	275838	NO2	YES	0	0.5	NO	2.5
S31	Wood Street / Park Road	Roadside	450848	275849	NO2	YES	0	3	NO	2.5

S32	Railway Terrace, Station Bar	Roadside	450750	275547	NO2	YES	0	3	NO	2.5
S33	Albert Street, Alma Lodge Hotel	Roadside	450510	275355	NO2	YES	0	3	NO	2.5
S34	Regent Street, near Oxfam	Roadside	450405	275329	NO2	YES	0	3	NO	2.5
S35	Church Street, Town Fryer	Roadside	450444	275236	NO2	YES	0	3	NO	2.5
S36	Whitehall Road junction with Clifton Road Roundabout	Roadside	450870	275043	NO2	YES	12	3	NO	2.5
S37	Lower Hillmorton Road junction with Clifton Road. Roundabout	Roadside	450897	275059	NO2	YES	5	2	NO	2.5
S38	Clifton Road before railway bridge	Kerbside	451868	275501	NO2	YES	9	0.5	NO	2.5
S39	Clifton Road Roundabout Murray Road	Roadside	450852	275116	NO2	YES	0	5	NO	2.5

S40	Lawrence Sherriff Street, Drury Lane	Roadside	450181	275029	NO2	YES	0	5	NO	2.5
S41	Bilton Road, Big Yellow House	Roadside	450010	274998	NO2	YES	0	15	NO	2.5
S42	Bilton Road, near Crow Pie Pub	Roadside	448855	274352	NO2	YES	10	5	NO	2.5
S43	Dunchurch Gyratory Residential	Roadside	450162	274898	NO2	YES	4	3	NO	2.5
S44	Barby Lane/ Ashlawn Road	Roadside	453394	273633	NO2	YES	15	2	NO	2.5
S45	Bretford- electricity pole near 3 Avon Cottages	Roadside	442963	277071	NO2	YES	11	3	NO	2.5
S46	Oxford Road, Ryton Belvedere	Kerbside	437555	274561	NO2	NO	30	1	NO	2.5
S47	Regent Place	Kerbside	450445	275495	NO2	YES	5	0.5	NO	2.5
S48	North Street, Nat. West. Bank	Roadside	450304	275314	NO2	YES	0	2	NO	2.5
S49	Lesley Suiter House, Whitehall Road, Hillmorton	Roadside	450864	274896	NO2	YES	13	3	NO	2.5

S50	Bilton Church	Roadside	448169	273625	NO2	YES	18	3	NO	2.5
S51	Brinklow, Brays Close	Roadside	443433	279208	NO2	NO	6	3	NO	2.5
S52	Daventry Road East, Dunchurch	Roadside	448537	271195	NO2	YES	1	3	NO	2.5
S53	Conventry Road West, Dunchurch	Roadside	448361	271334	NO2	YES	0	1.5	NO	2.5
S54a	3 Church Rd Shilton	Roadside	440416	284401	NO2	NO	0	1.5	NO	2.5
S54b	Rugby School Lampost 6	Roadside	450269	274998	NO2	YES	0	1.5	NO	2.5
S55	Main St Stretton	Roadside	445004	281330	NO2	NO	5	2	NO	2.5

Notes:

(1) 0m if the monitoring site is at a location of exposure (e.g. installed on/adjacent to the façade of a residential property).

(2) N/A if not applicable.

Table A.2 – Annual Mean NO_2 Monitoring Results

Site ID	Site Type	Monitoring Type	Valid Data Capture for Monitoring Period (%) [1]	Valid Data Capture 2018 (%) [2]	NO_2 Annual Mean Concentration (µg/m³) [3]				
					2014	2015	2016	2017	2018
S1	Kerbside	Diffusion Tube	83.3	83.3	19.5	20.4	18.8	17.8	17.6
S2	Kerbside	Diffusion Tube	100	100	18.4	16.3	16.5	13.4	14.6
S3	Urban Background	Diffusion Tube	100	100	15.5	15.6	15.5	12.2	14.2
S4	Urban Background	Diffusion Tube	100	100	13.5	13.7	14.0	12.3	12.1
S5	Kerbside	Diffusion Tube	100	100	29.6	27.9	28.5	25.0	24.0
S6	Urban Background	Diffusion Tube	100	100	15.7	17.3	16.3	14.1	14.9
S7	Urban Background	Diffusion Tube	100	100	13.1	12.7	13.2	10.4	11.6
S8	Kerbside	Diffusion Tube	91.6	91.6	33.5	38.2	33.6	29.3	30.0
S9	Roadside	Diffusion Tube	91.6	91.6	18.9	18.8	23.3	15.9	15.8
S10	Roadside	Diffusion Tube	100	100	**40.9**	**41.6**	**41.0**	34.8	30.8
S11	Roadside	Diffusion Tube	100	100	25.2	25.6	24.3	21.8	21.8
S12	Urban Background	Diffusion Tube	91.6	91.6	21.7	23.9	25.8	21.3	19.6
S13	Roadside	Diffusion Tube	91.6	91.6	33.4	38.3	39.5	36.5	34.8
S14	Urban Background	Diffusion Tube	100	100	17.9	19.0	18.2	14.7	15.1

Site ID	Site Type	Monitoring Type	Valid Data Capture for Monitoring Period (%) [1]	Valid Data Capture 2018 (%) [2]	NO_2 Annual Mean Concentration ($\mu g/m^3$) [3]				
					2014	2015	2016	2017	2018
S15	Kerbside	Diffusion Tube	100	100	28.9	30.9	28.3	25.6	26.9
S16	Roadside	Diffusion Tube	100	100	22.1	21.3	22.8	18.2	19.6
S17	Roadside	Diffusion Tube	100	100	20.5	20.2	21.4	17.1	18.9
S18	Roadside	Diffusion Tube	100	100	21.3	20.2	20.7	17.1	18.6
S19	Roadside	Diffusion Tube	100	100	20.7	20.5	20.4	16.7	17.7
S20	Roadside	Diffusion Tube	91.6	91.6	32.6	30.9	32.4	26.7	27.8
S21	Roadside	Diffusion Tube	100	100	24.7	24.2	24.2	22.2	22.5
S22	Kerbside	Diffusion Tube	100	100	22.9	23.2	24.4	20.8	21.3
S23	Roadside	Diffusion Tube	100	100	24.2	23.1	25.1	21.7	21.0
S24	Roadside	Diffusion Tube	100	100	**46.4**	**48.9**	**47.1**	**40.7**	**43.3**
S25	Roadside	Diffusion Tube	100	100	31.5	33.8	34.5	28.0	29.3
S26	Roadside	Diffusion Tube	100	100	21.0	20.3	22.4	18.3	19.1
S27	Urban Background	Diffusion Tube	100	100			27.5	21.3	18.2
S28	Kerbside	Diffusion Tube	100	100	19.7	20.9	19.7	16.1	17.2
S29	Roadside	Diffusion Tube	100	100	23.0	24.9	21.7	18.7	19.8

Site ID	Site Type	Monitoring Type	Valid Data Capture for Monitoring Period (%) [1]	Valid Data Capture 2018 (%) [2]	NO_2 Annual Mean Concentration ($\mu g/m^3$) [3]				
					2014	2015	2016	2017	2018
S30	Roadside	Diffusion Tube	100	100	36.1	36.6	36.4	32.3	34.5
S31	Roadside	Diffusion Tube	100	100	31.6	32.1	29.7	26.1	27.3
S32	Roadside	Diffusion Tube	100	100	29.7	32.6	30.4	28.2	29.3
S33	Roadside	Diffusion Tube	100	100	25.4	25.6	25.4	21.6	22.4
S34	Roadside	Diffusion Tube	100	100	26.9	33.9	27.8	25.5	24.8
S35	Roadside	Diffusion Tube	100	100	34.0	34.8	32.3	28.4	31.7
S36	Kerbside	Diffusion Tube	100	100	34.0	34.7	35.3	29.5	28.9
S37	Roadside	Diffusion Tube	100	100	29.9	31.6	30.1	24.1	23.9
S38	Roadside	Diffusion Tube	100	100	27.9	27.8	29.9	25.7	26.5
S39	Roadside	Diffusion Tube	100	100	30.0	31.9	30.0	25.9	27.9
S40	Roadside	Diffusion Tube	100	100	30.1	32.8	34.7	30.5	26.5
S41	Roadside	Diffusion Tube	100	100	25.4	27.0	27.4	23.0	25.7
S42	Roadside	Diffusion Tube	100	100	26.4	23.7	24.2	20.7	22.8
S43	Roadside	Diffusion Tube	83.3	83.3	27.7	28.7	31.1	25.2	25.9
S44	Kerbside	Diffusion Tube	100	100			29.8	23.8	27.4

Site ID	Site Type	Monitoring Type	Valid Data Capture for Monitoring Period (%) (1)	Valid Data Capture 2018 (%) (2)	NO_2 Annual Mean Concentration ($\mu g/m^3$) (3)				
					2014	2015	2016	2017	2018
S45	Kerbside	Diffusion Tube	91.6	91.6	28.3	27.7	26.7	22.5	22.5
S46	Roadside	Diffusion Tube	100	100	39.5	38.1	39.3	36.5	36.7
S47	Roadside	Diffusion Tube	83.3	83.3	33.0	33.9	35.2	30.8	32.6
S48	Roadside	Diffusion Tube	100	100	36.6	34.5	37.5	34.3	31.0
S49	Roadside	Diffusion Tube	91.6	91.6	39.9	39.1	36.6	**43.7**	34.0
S50	Roadside	Diffusion Tube	100	100	24.8	25.1	25.3	21.5	22.9
S51	Roadside	Diffusion Tube	91.6	91.6	32.3	33.6	32.4	28.3	29.4
S52	Roadside	Diffusion Tube	100	100	23.0	24.9	24.0	20.9	20.8
S53	Roadside	Diffusion Tube	100	100			24.6	20.1	21.8
S54a*	Roadside	Diffusion Tube	100	66.7			**47.1**	37.6	**46.1**
S54b*	Roadside	Diffusion Tube	100	33.3		**46.5**	**45.5**	**43.3**	38.7
S55	Roadside	Diffusion Tube	83.3	83.3			25.3	20.6	20.8

☒ **Diffusion tube data has been bias corrected**

☒ **Annualisation has been conducted where data capture is <75%**

Notes:

Exceedances of the NO_2 annual mean objective of 40µg/m^3 are shown in **bold**.

NO_2 annual means exceeding 60µg/m^3, indicating a potential exceedance of the NO_2 1-hour mean objective are shown in **bold and underlined.**

(1) Data capture for the monitoring period, in cases where monitoring was only carried out for part of the year.

(2) Data capture for the full calendar year (e.g. if monitoring was carried out for 6 months, the maximum data capture for the full calendar year is 50%).

(3) Means for diffusion tubes have been corrected for bias. All means have been "annualised" as per Boxes 7.9 and 7.10 in LAQM.TG16 if valid data capture for the full calendar year is less than 75%. See Appendix C for details.

* Due to limited data capture at these sites, data should be viewed with caution. A full year of results will be reported on in next year's ASR.

Figure A.1 – Trends in Kerbside Annual Mean NO_2 Concentrations

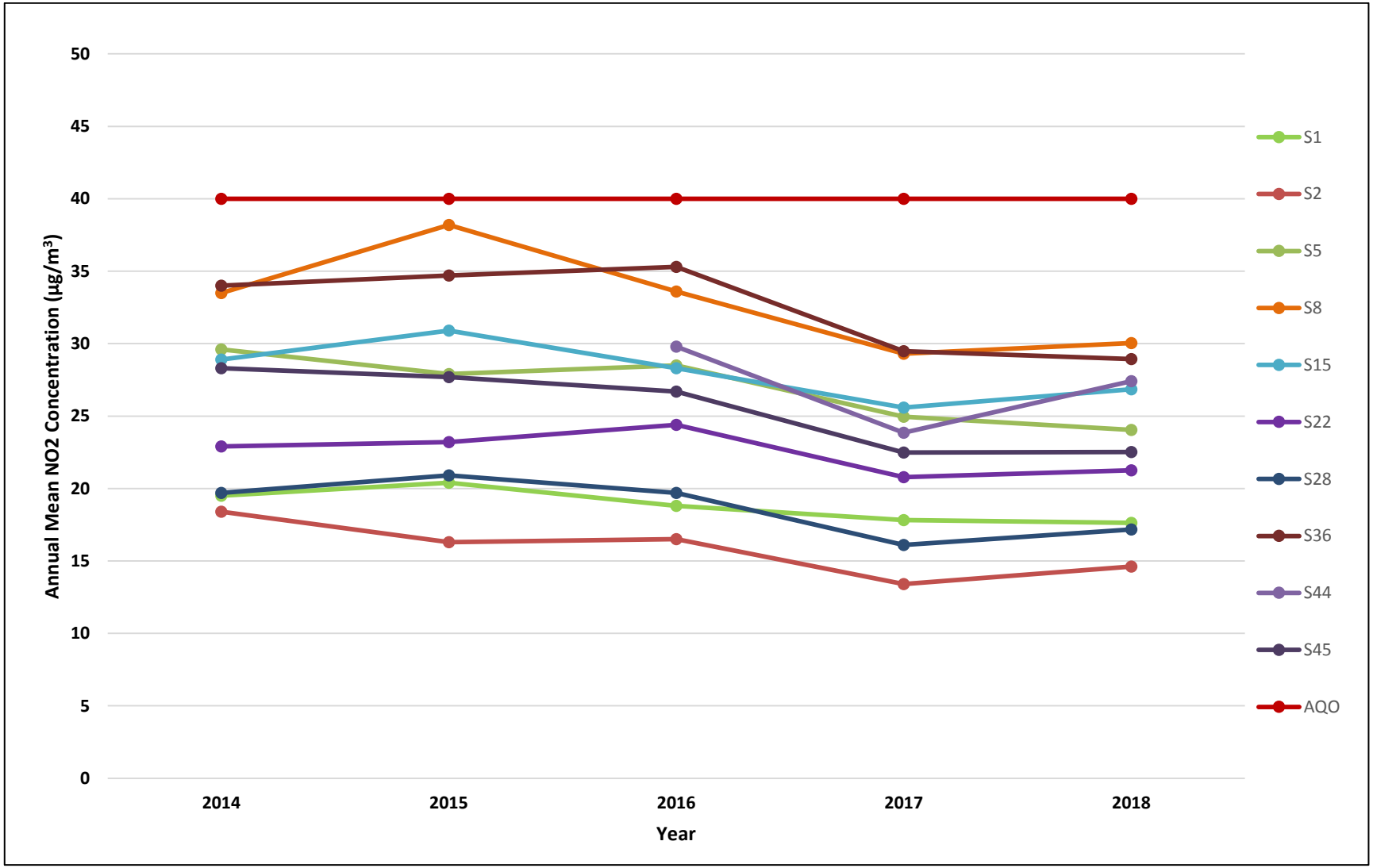


Figure A.2 – Trends in Roadside Annual Mean NO_2 Concentrations (1)

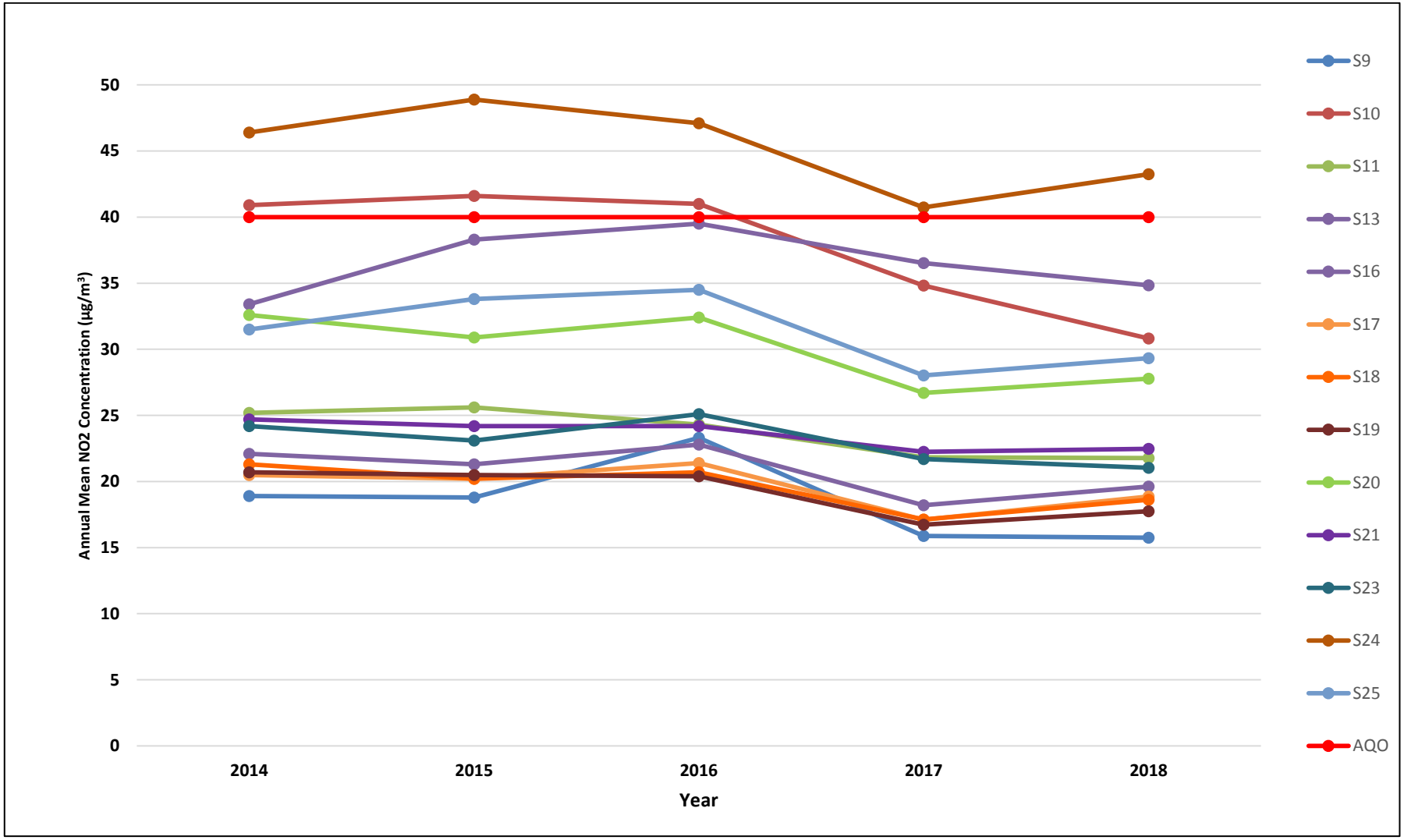


Figure A.3 – Trends in Roadside Annual Mean NO_2 Concentrations (2)

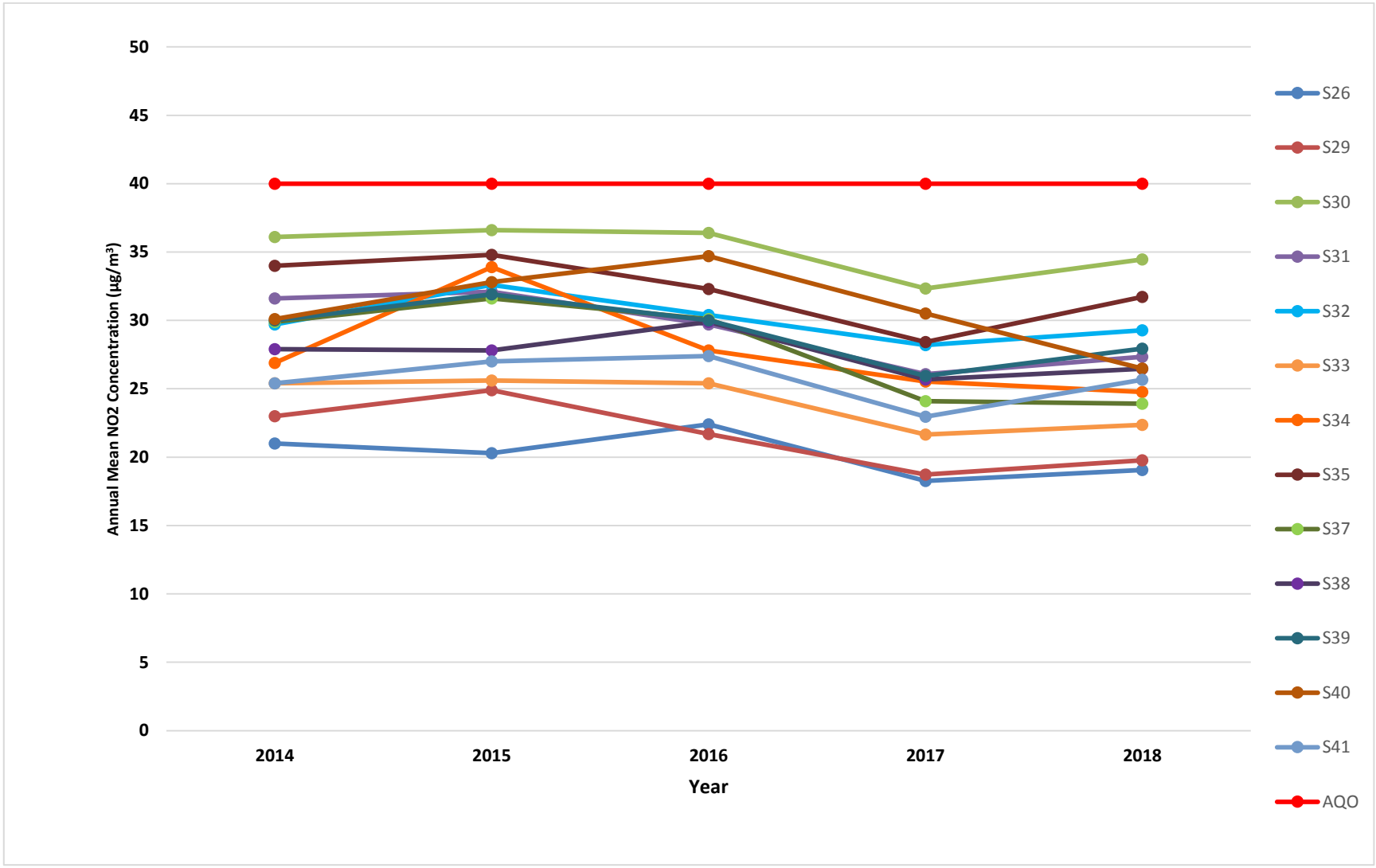
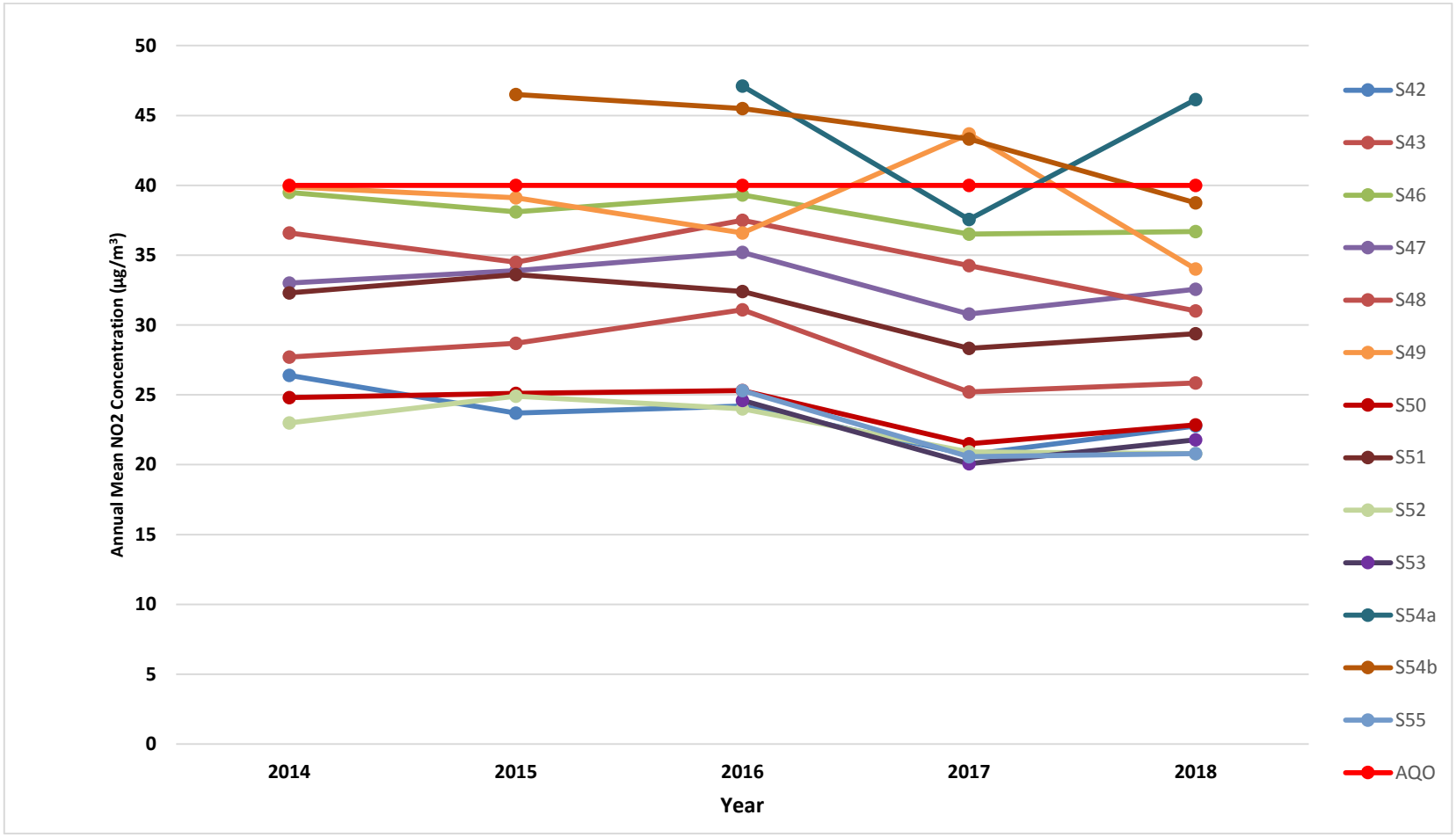


Figure A.4 – Trends in Roadside Annual Mean NO_2 Concentrations (3)



Appendix B: Full Monthly Diffusion Tube Results for 2018

Table B.1 – NO_2 Monthly Diffusion Tube Results - 2018

Site ID	NO_2 Mean Concentrations ($\mu g/m^3$)														
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual Mean		
													Raw Data	Bias Adjusted (factor) and Annualised (1)	Distance Corrected to Nearest Exposure (2)
S1	25.8			21.6	18.4	14.0	19.7	17.5	16.3	26.3	27.4	25.4	21.2	17.6	17.6
S2	21.2	19.3	22.2	15.1	15.7	14.7	11.7	13.4	12.2	20.3	22.7	22.8	17.6	14.6	13.1
S3	22.2	18.6	20.9	14.7	11.6	10	14.7	12.2	10.5	18.8	25.9	25	17.1	14.2	14.2
S4	18.5	16.5	17.9	13.2	10.7	9.2	11.4	12.5	10.6	18.5	19	17.1	14.6	12.1	12.1
S5	35	31.9	27.8	29.8	32.8	26.9	26.8	26.6	25.2	24.8	26.7	33.3	29.0	24.0	16.7
S6	22.3	21.7	19.4	16.1	14.4	12.9	13.7	12.4	13.8	21	24.8	22.4	17.9	14.9	14.9
S7	19.2	17	16.2	10.9	9.2	9	10	10.3	10.1	17.4	22.2	15.9	14.0	11.6	11.6
S8	**51.1**	33.2		9	39	32.3	39.4	34.6	30.2	**43.1**	38	**48.3**	36.2	30.0	24.7
S9	23	22.4		19.8	13.2	10.4	15.7	14.6	13.9	24.2	24	27.6	19.0	15.8	15.8
S10	**47.2**	**42.4**	**47.6**	35.4	**41.9**	31.2	37.9	**40.4**	35.1	2.2	**49.4**	35	37.1	30.8	30.8
S11	28.9	22.9	28.3	25.4	24.3	18	23.8	22.2	21.3	31.9	31.8	36.1	26.2	21.8	21.8
S12	35.1	26.3	29.2		15	14.6	15.3	18.2	19.9	26.5	29	30	23.6	19.6	19.6
S13	**51.5**	35.9	**46.1**	**44.5**	35.2	25.4	**45.7**	**44.1**		**44.6**	**41.1**	**47.6**	**42.0**	34.8	27.1
S14	20.6	22.9	22.8	17	14.4	11.6	14.8	14.2	15.1	22.8	21.8	20.8	18.2	15.1	15.1
S15	36.3	35.3	36.2	30.8	23.6	21.9	29.6	29	28.1	35.9	37.4	**44.1**	32.4	26.9	26.9

Site ID	NO_2 Mean Concentrations (µg/m^3)														
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual Mean		
													Raw Data	Bias Adjusted (factor) and Annualised (1)	Distance Corrected to Nearest Exposure (2)
S16	26.1	28.7	24.8	22	23.8	23.3	23.4	20.2	19.4	28.8	24.1	19	23.6	19.6	19.6
S17	27.6	26.4	26.3	21.1	19.3	14.9	15.9	16	13.6	38.2	26.8	26.8	22.7	18.9	18.9
S18	27.6	26.4	26.3	21.1	19.3	14.9	15.9	16	13.6	38.2	26.8	26.8	22.7	18.6	18.6
S19	27.6	26.4	26.3	21.1	19.3	14.9	15.9	16	13.6	38.2	26.8	26.8	22.7	17.7	17.7
S20		**40.1**	**40.7**	34.8	33.2	23.9	28.3	23.4	21.9	36.1	**47.5**	38.2	33.5	27.8	22.7
S21	34.5	24	31.2	25.7	23.4	16.3	21.1	25	24.1	30.9	32	36.6	27.1	22.5	16.8
S22	31.1	28.1	30.9	25.4	22.4	21.5	22.6	19.9	17.1	25.6	27.5	35.3	25.6	21.3	17.3
S23	30.8	32.1	34.5	25.6	26.2	19.5	1.9	20.9	20.9	31.3	28.5	31.9	25.3	21.0	17.2
S24	**57.6**	**58.8**	**53.1**	**53.5**	**57.1**	**50.3**	**49.8**	**48.4**	**44**	**54.8**	**44.2**	**53.8**	**52.1**	**43.3**	**43.3**
S25	39.1	36.1	37.3	34.5	35.8	29.9	33.3	30.4	30.7	**40.9**	37.4	38.6	35.3	29.3	29.3
S26	29.9	23	27.1	21.7	19	15.5	18.5	21.5	18.4	27.2	24.5	29.2	23.0	19.1	19.1
S27	36.2	29.8	23.1	12.3	3.3	14.8	15.9	7	25.5	31.4	28.2	36	22.0	18.2	17.1
S28	25.8	23.9	21.4	20.2	15.9	12.1	14.8	15.1	15.4	24.8	29.4	29.4	20.7	17.2	17.2
S29	25.5	25.9	31.2	23.7	21	16.5	19.3	17.5	19.2	24.6	31.3	30.2	23.8	19.8	19.8
S30	36.6	**41.5**	**47.9**	**42.7**	**48.6**	34.9	40	34.2	30.5	**46.1**	**49.9**	**45.2**	**41.5**	34.5	34.5
S31	**41.2**	38.2	36	31.2	30.5	21.7	27.7	27.3	26.9	39.2	39.7	35.6	32.9	27.3	27.3
S32	37.9	39.6	**42.7**	32.4	35.1	28.7	32.8	29.7	27.3	**40.9**	35.8	**40.5**	35.3	29.3	29.3
S33	34.9	24.8	30.1	24.4	24.3	15.5	23.9	22.7	21.6	33.4	32.8	35	27.0	22.4	22.4
S34	39.1	35	34.7	29.6	25.2	17.6	27.1	28	24.9	29.9	32.3	34.8	29.9	24.8	24.8
S35	**40.2**	37.1	39	32.1	33.2	28.5	**40.3**	37	37.6	**41.9**	**46.5**	**45.2**	38.2	31.7	31.7

Site ID	NO_2 Mean Concentrations ($\mu g/m^3$)														
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual Mean		
													Raw Data	Bias Adjusted (factor) and Annualised (1)	Distance Corrected to Nearest Exposure (2)
S36	38.6	38.7	**46.4**	40	35.1	27.9	33.5	32.3	29.9	7.3	**41.2**	**47.5**	34.9	28.9	25.2
S37	30.7	37	35	29	26	20.2	26.8	28.9	29.6	6.3	35.5	**40.8**	28.8	23.9	22.8
S38	37.7	38.9	34.1	29.3	31.4	25.4	25.7	27.3	25.7	34.7	33	39.3	31.9	26.5	20.3
S39	39.3	**41.2**	36	31.7	29.7	24.4	28.5	28.7	26.9	35.8	39.8	**41.9**	33.7	27.9	27.9
S40	37.2	39.5	38.3	30.6	32.1	27.5	32.5	29.7	30.4	5.3	36	**43.7**	31.9	26.5	26.5
S41	30.1	39.2	36.3	31.4	28.7	24.8	30	24.2	22.2	37.5	33.3	33.3	30.9	25.7	25.7
S42	31.2	30.8	31.3	26.8	26	28.1	22.1	20	17.1	30.8	32.6	32.3	27.4	22.8	20.6
S43	18.4	33.7	31.8	33.1			31	25.2	26.1	**40.2**	34.7	37.3	31.2	25.9	24.9
S44	34.3	39.7	**41**	29.1	34.6	31.4	28	24.5	26.5	35.6	30.7	**40.9**	33.0	27.4	19.5
S45	37.2	24.3	31.2	16.9	19.3	14.7	31.5	28.1	28.7	33.3	33.2		27.1	22.5	18.7
S46	**41.4**	**49.8**	**40.4**	**51.1**	**50.1**	39.2	**43.5**	35.7	34	**50.7**	**44.4**	**50.3**	**44.2**	36.7	20.7
S47	**40.4**	37.8	**45.3**	38.9	**41.5**		**41.4**	35.9	35.9	**43.7**	31.6		39.2	32.6	26.8
S48	**47.9**	31.4	35.6	38.3	35.7	25.3	39.6	31.8	34.3	39.4	**40.4**	**48.7**	37.4	31.0	31.0
S49	**88.3**	34.3	37.8	37.5	36.2	36.4	35.8	30.8	28.7		38.8	**46.2**	**41.0**	34.0	26.2
S50	33.8	30	34.5	25.7	22.4	14.4	23.1	22.2	23	32.2	32.4	36.8	27.5	22.9	17.7
S51	**41.2**	37.4	35.6	33.1	33.4	26.4	35.7	31		39.9	35.2	**40.4**	35.4	29.4	26.2
S52	29.5	24.3	31.5	21.1	27.5	20.2	22.3	21.8	20.3	30.5	28.3	23.4	25.1	20.8	23.7
S53	28.9	29	31.9	25.4	22.7	18.2	22.9	21.7	20.4	30.5	30.9	32.3	26.2	21.8	21.8
S54a*	**59.8**	**52**	**55.4**	**57.1**	**51.7**	38.9	**52.3**	**48.5**					**52.0**	**46.1**	**46.1**
S54b*									**44.2**	**54.6**	**51**	**61.3**	**52.8**	38.7	38.7

Site ID	NO_2 Mean Concentrations ($\mu g/m^3$)														
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual Mean		
													Raw Data	Bias Adjusted (factor) and Annualised (1)	Distance Corrected to Nearest Exposure (2)
S55	32.8	15	25.8	21.7		17.8		23	22	29.9	31.6	31	25.1	20.8	20.0

☒ **Local bias adjustment factor used**

☐ **National bias adjustment factor used**

☒ **Annualisation has been conducted where data a capture is <75%**

☒ **Where applicable, data has been distance corrected for relevant exposure**

Notes:

Exceedances of the NO_2 annual mean objective of 40µg/m^3 are shown in **bold**.

NO_2 annual means exceeding 60µg/m^3, indicating a potential exceedance of the NO_2 1-hour mean objective are shown in **bold and underlined.**

(1) See Appendix C for details on bias adjustment and annualisation.

(2) Distance corrected to nearest relevant public exposure.

* Due to limited data capture at these sites, data should be viewed with caution. A full year of results will be reported on in next year's ASR.

Appendix C: Supporting Technical Information / Air Quality Monitoring Data QA/QC

QA/QC of Diffusion Tube Monitoring Data

Rugby Borough Council's NO_2 diffusion tubes are supplied and analysed by SOCOTEC Didcot using the 50%TEA in Acetone method. This method conforms to the guidelines set out in Defra's 'Diffusion Tubes for Ambient NO_2 Monitoring: Practical Guidance' document.

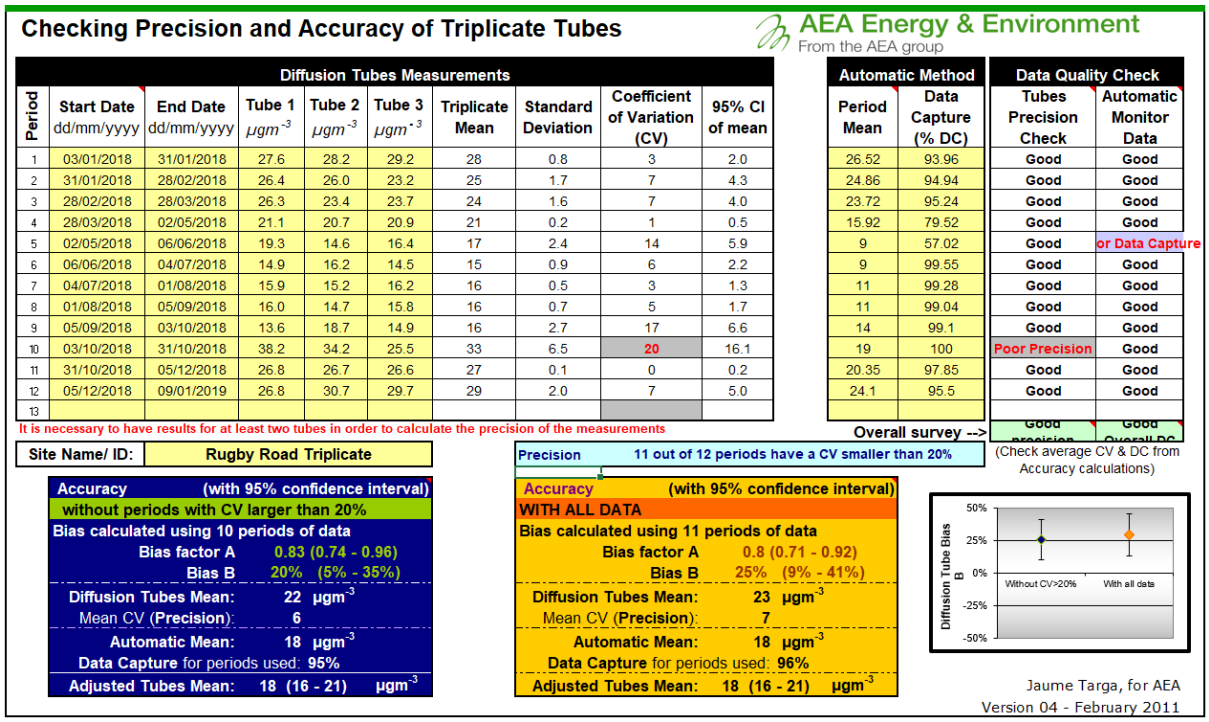
SOCOTEC Didcot participates in the AIR NO_2 PT scheme[7]. This scheme forms an integral part of the UK NO_2 Network's QA/QC, and is a useful tool in assessing the analytical performance of those laboratories supplying diffusion tubes to Local Authorities for use in the context of Local Air Quality Management (LAQM). In AIR NO_2 PT rounds AR030 SOCOTEC Didcot achieved 87.5% satisfactory scores and in AIR NO_2 PT rounds AR0024, 25, 27 and 28 SOCOTEC Didcot achieved 100% satisfactory scores.

Bias Adjustment of Diffusion Tube Data

A local bias adjustment factor was calculated from the triplicate co-location of diffusion tubes alongside the AURN monitoring station at Leamington Spa Rugby Road. The local bias adjustment factor was calculated as 0.83; details of the calculation are provided in Figure C.1.

7 LGC (2019) Summary of Laboratory Performance in AIR NO2 Proficiency Testing Scheme (April 2017 – February 2019) Available at: https://laqm.defra.gov.uk/assets/laqmno2performancedatauptofebruary2019v1.pdf

Figure C.1 – Local Bias Adjustment Factor calculation tool



Checking Precision and Accuracy of Triplicate Tubes

AEA Energy & Environment
From the AEA group

Diffusion Tubes Measurements

Period	Start Date dd/mm/yyyy	End Date dd/mm/yyyy	Tube 1 µgm^{-3}	Tube 2 µgm^{-3}	Tube 3 µgm^{-3}	Triplicate Mean	Standard Deviation	Coefficient of Variation (CV)	95% CI of mean
1	03/01/2018	31/01/2018	27.6	28.2	29.2	28	0.8	3	2.0
2	31/01/2018	28/02/2018	26.4	26.0	23.2	25	1.7	7	4.3
3	28/02/2018	28/03/2018	26.3	23.4	23.7	24	1.6	7	4.0
4	28/03/2018	02/05/2018	21.1	20.7	20.9	21	0.2	1	0.5
5	02/05/2018	06/06/2018	19.3	14.6	16.4	17	2.4	14	5.9
6	06/06/2018	04/07/2018	14.9	16.2	14.5	15	0.9	6	2.2
7	04/07/2018	01/08/2018	15.9	15.2	16.2	16	0.5	3	1.3
8	01/08/2018	05/09/2018	16.0	14.7	15.8	16	0.7	5	1.7
9	05/09/2018	03/10/2018	13.6	18.7	14.9	16	2.7	17	6.6
10	03/10/2018	31/10/2018	38.2	34.2	25.5	33	6.5	20	16.1
11	31/10/2018	05/12/2018	26.8	26.7	26.6	27	0.1	0	0.2
12	05/12/2018	09/01/2019	26.8	30.7	29.7	29	2.0	7	5.0
13									

It is necessary to have results for at least two tubes in order to calculate the precision of the measurements

Automatic Method		Data Quality Check	
Period Mean	Data Capture (% DC)	Tubes Precision Check	Automatic Monitor Data
26.52	93.96	Good	Good
24.86	94.94	Good	Good
23.72	95.24	Good	Good
15.92	79.52	Good	Good
9	57.02	Good	or Data Capture
9	99.55	Good	Good
11	99.28	Good	Good
11	99.04	Good	Good
14	99.1	Good	Good
19	100	Poor Precision	Good
20.35	97.85	Good	Good
24.1	95.5	Good	Good
	Overall survey -->	Good precision	Good Overall DC

(Check average CV & DC from Accuracy calculations)

Site Name/ ID:	Rugby Road Triplicate

Precision: 11 out of 12 periods have a CV smaller than 20%

Accuracy (with 95% confidence interval) without periods with CV larger than 20%	
Bias calculated using 10 periods of data	
Bias factor A	0.83 (0.74 - 0.96)
Bias B	20% (5% - 35%)
Diffusion Tubes Mean:	22 µgm^{-3}
Mean CV (Precision):	6
Automatic Mean:	18 µgm^{-3}
Data Capture for periods used:	95%
Adjusted Tubes Mean:	18 (16 - 21) µgm^{-3}

Accuracy (with 95% confidence interval) WITH ALL DATA	
Bias calculated using 11 periods of data	
Bias factor A	0.8 (0.71 - 0.92)
Bias B	25% (9% - 41%)
Diffusion Tubes Mean:	23 µgm^{-3}
Mean CV (Precision):	7
Automatic Mean:	18 µgm^{-3}
Data Capture for periods used:	96%
Adjusted Tubes Mean:	18 (16 - 21) µgm^{-3}

Jaume Targa, for AEA
Version 04 - February 2011

A national bias adjustment factor was obtained from the national Diffusion Tube Bias Adjustment Factors Spreadsheet for March 2019[8]. Based on the analytical laboratory (SOCOTEC Didcot) and tube preparation method (50%TEA/Acetone) a national bias adjustment factor of 0.76 was derived for 2018.

The use of the local bias adjustment factor is considered preferable, particularly when the data used for the calculation are precise and reliable. Given the good quality of the co-location data the local bias adjustment factor has been used to adjust the raw NO_2 diffusion tube results for 2018.

Annualisation

Data capture rates for 54 of the 56 diffusion tube monitoring sites exceed 75%, and therefore are considered representative of annual mean in accordance with Box 7.10 of LAQM.TG16. Consequently, it is not necessary to seasonally adjust any of these monitored concentrations.

However, due to a relocation of site 54 part-way through the year, seasonal adjustment was carried out for site 54a (prior to relocation) and site 54b (post-relocation) due to reduced data capture at these two locations. Seasonal adjustment was carried out

[8] Defra, 2019. Diffusion Tube Bias Adjustment Factors Spreadsheet, March 2019.

using AURN data from four nearby automatic monitoring stations: Coventry Allesley; Leamington Spa; Northampton Spring Park; and Leicester University. Details are shown in Table C.1 below.

Table C.1 – Seasonal Adjustment Factor Calculation

Site	Statistic	Coventry Allesley	Leamington Spa	Northampton Spring Park	Leicester University
	Annual Mean [Am]	20.6	17.5	13.0	23.6
54a	Period Mean [Pm]	19.1	16.4	12.1	22.2
	Average Am/Pm ratio	**1.07**			
54b	Period Mean [Pm]	23.4	19.6	14.9	26.3
	Average Am/Pm ratio	**0.88**			

Distance Correction

It is not always possible to measure concentrations at precisely the desired location. It is recommended by LAQM TG.16 that measurements recorded at a site not representative of relevant exposure should be distance-corrected to estimate the annual mean NO_2 concentration at the nearest "receptor".

In some cases, where a monitoring site is not representative of relevant exposure, an exceedance of the annual mean NO_2 objective at the monitoring site may not correspond to an exceedance at the closest point of relevant exposure.

Distance correction was undertaken for all appropriate sites using Defra's NO_2 Fall-Off with Distance Calculator[9]. The distances from tube to receptor and tube to kerb that are used for the distance correction calculations can be found in Table A.2, and the distance corrected concentrations, where applicable, are found in Table B.1.

[9] Defra (2018). NO2 Fall-Off with Distance Calculator (Version 4.2). Available at: https://laqm.defra.gov.uk/tools-monitoring-data/no2-falloff.html

Figure C.2 – Façade distance correction calculations

Enter data into the pink cells

Site Name/ID	Distance (m)		NO_2 Annual Mean Concentration ($\mu g/m^3$)			Comment
	Monitoring Site to Kerb	Receptor to Kerb	Background	Monitored at Site	Predicted at Receptor	
S2	1.0	5.0	9.8	14.6	13.1	
S5	0.5	25.0	13.4	24.0	16.7	Warning: your receptor is more than 20m further from the kerb than your monitor - treat result with caution.
S8	1.0	10.0	18.5	30.0	24.7	
S13	3.0	15.0	16.2	34.8	27.1	
S20	3.0	25.0	18.5	27.8	22.7	Warning: your receptor is more than 20m further from the kerb than your monitor - treat result with caution.
S21	2.0	15.0	10.4	22.5	16.8	
S22	5.0	18.0	11.0	21.3	17.3	
S23	3.0	13.0	11.0	21.0	17.2	
S27	2.5	7.0	13.9	18.2	17.1	
S36	3.0	12.0	18.5	28.9	25.2	
S37	2.0	5.0	18.5	23.9	22.8	
S38	0.5	9.0	14.4	26.5	20.3	
S42	5.0	10.0	12.4	22.8	20.6	
S43	3.0	4.0	13.3	25.9	24.9	
S44	2.0	15.0	10.6	27.4	19.5	

Enter data into the pink cells

Site Name/ID	Distance (m)		NO_2 Annual Mean Concentration ($\mu g/m^3$)			Comment
	Monitoring Site to Kerb	Receptor to Kerb	Background	Monitored at Site	Predicted at Receptor	
S45	3.0	11.0	11.2	22.5	18.7	
S46	1.0	30.0	13.4	36.7	20.7	Warning: your receptor is more than 20m further from the kerb than your monitor - treat result with caution.
S47	0.5	5.0	18.5	32.6	26.8	
S49	3.0	13.0	13.3	34.0	26.2	
S50	3.0	18.0	11.7	22.9	17.7	
S51	3.0	6.0	11.5	29.4	26.2	
S52	3.0	1.0	10.6	20.8	23.7	
S55	2.0	5.0	17.1	20.8	20.0	

Appendix D: Map(s) of Monitoring Locations and AQMAs

Figure D.1 – Rugby Borough Council Non-Automatic Monitoring Sites and AQMA Boundary

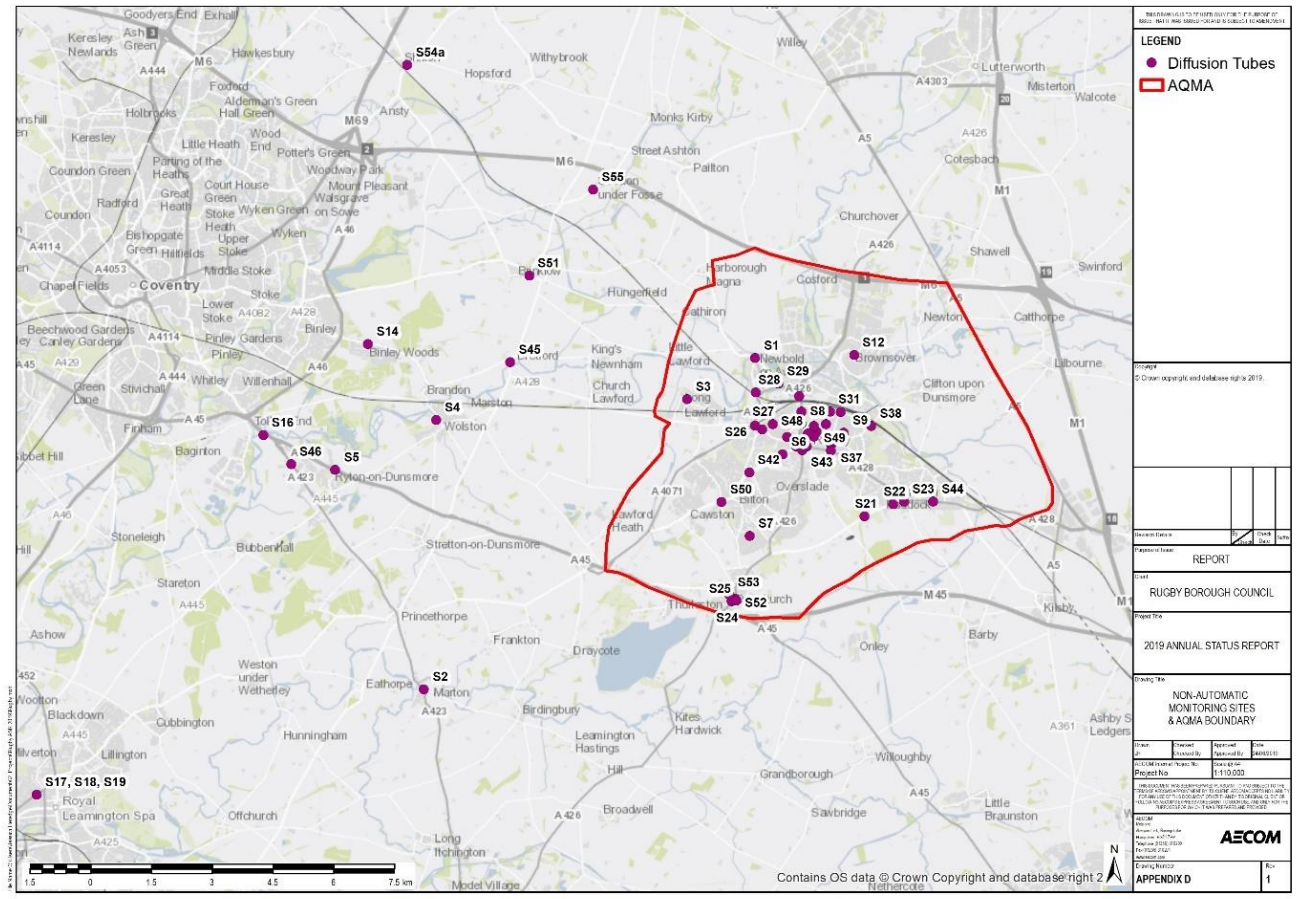
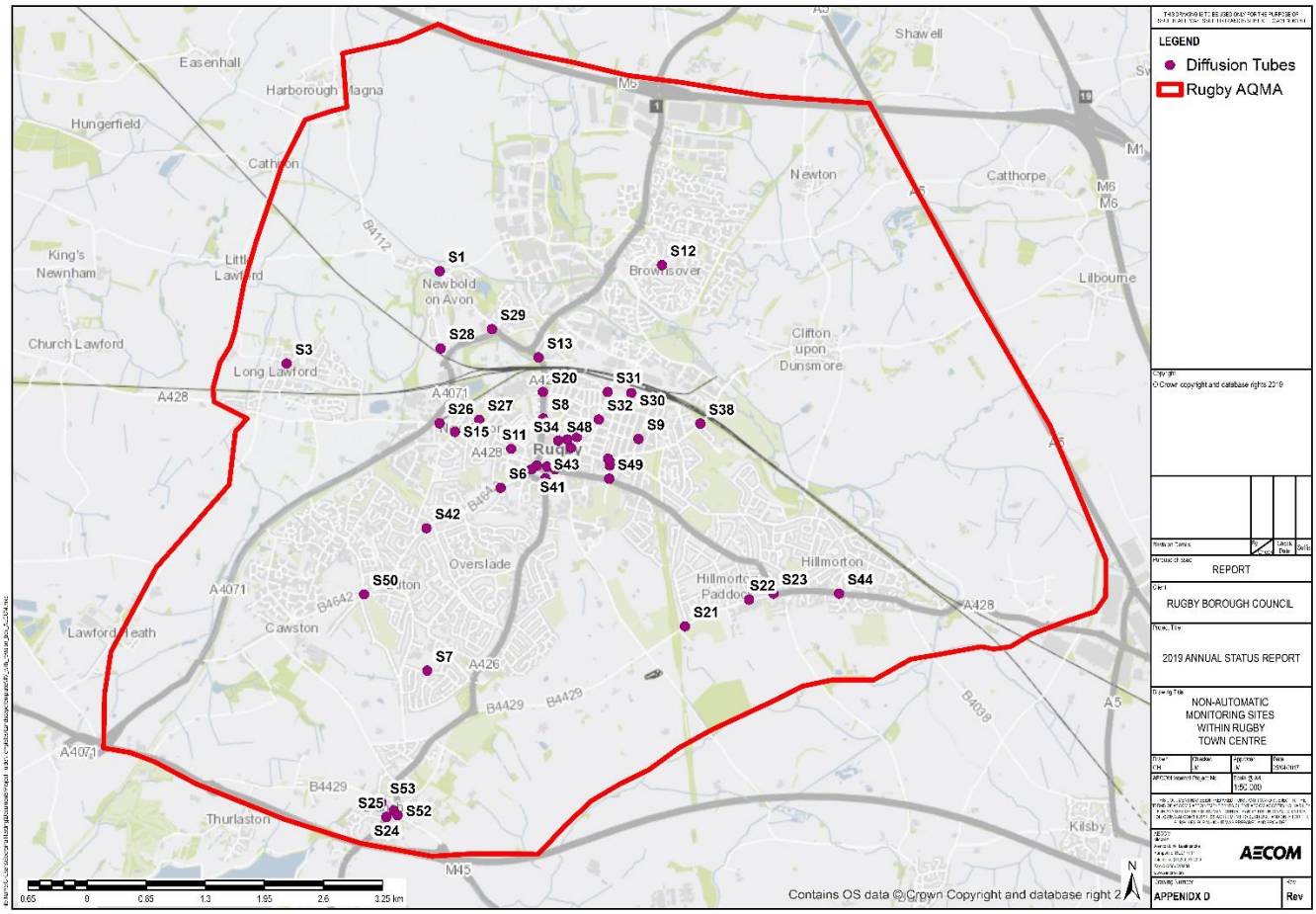


Figure D.2 – Map of NO_2 Diffusion Tubes in Rugby Town Centre



Appendix E: Summary of Air Quality Objectives in England

Table E.1 – Air Quality Objectives in England

Pollutant	Air Quality Objective[10]	
	Concentration	Measured as
Nitrogen Dioxide (NO_2)	200 µg/m^3 not to be exceeded more than 18 times a year	1-hour mean
	40 µg/m^3	Annual mean
Particulate Matter (PM_{10})	50 µg/m^3, not to be exceeded more than 35 times a year	24-hour mean
	40 µg/m^3	Annual mean
Sulphur Dioxide (SO_2)	350 µg/m^3, not to be exceeded more than 24 times a year	1-hour mean
	125 µg/m^3, not to be exceeded more than 3 times a year	24-hour mean
	266 µg/m^3, not to be exceeded more than 35 times a year	15-minute mean

[10] The units are in micrograms of pollutant per cubic metre of air (µg/m^3).

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
ASR	Air quality Annual Status Report
Defra	Department for Environment, Food and Rural Affairs
DMRB	Design Manual for Roads and Bridges – Air quality screening tool produced by Highways England
EU	European Union
FDMS	Filter Dynamics Measurement System
LAQM	Local Air Quality Management
NO_2	Nitrogen Dioxide
NO_x	Nitrogen Oxides
PM_{10}	Airborne particulate matter with an aerodynamic diameter of 10µm (micrometres or microns) or less
$PM_{2.5}$	Airborne particulate matter with an aerodynamic diameter of 2.5µm or less
QA/QC	Quality Assurance and Quality Control
SO_2	Sulphur Dioxide

References

Rugby Borough Council Air Pollution website: https://www.rugby.gov.uk/info/20021/pollution/217/air_pollution

Defra LAQM website: http://laqm.defra.gov.uk/

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Agenda No 5

AGENDA MANAGEMENT SHEET

Report Title:	Review of Public Spaces Protection Orders and a policy relating to Gating Orders
Name of Committee:	Environment and Growth Scrutiny Committee
Date of Meeting:	3 October 2019
Contact Officer:	David Burrows, Regulatory Services Managrer Tel 01788 533806
Summary:	The committee is asked to consider the one-page strategy for the review of a policy on when to use Public Spaces Protection Orders as Gating Orders
Financial Implications:	There are no financial implications arising from this report.
Risk Management Implications:	There are no risk management implications arising from this report.
Environmental Implications:	There are no environmental implications arising from this report.
Legal Implications:	There are no legal implications arising from this report.
Equality and Diversity:	No new or existing policy or procedure has been recommended.

Agenda No 5

Environment and Growth Scrutiny Committee - 3 October 2019

Review of a Policy on the use of Public Spaces Protection Orders as Gating Orders

Summary
The committee is asked to consider the one-page strategy for the review of a policy on the use of Public Spaces Protection Orders as Gating Orders.

1. BACKGROUND

Gating Orders restrict public access to help deal with crime and/or anti-social behaviour. The council had powers under the Highways Act 1980 to make a Gating Order to restrict the use by the public of a 'relevant highway' and authorise the placing of gates. The council had to be satisfied that the 'relevant highway' contributes to high levels of crime and anti-social behaviour, as prescribed under section 129A of the Highways Act 1980 and The Highway Act 1980 (Gating Order)(England) Regulations 2006.

On 20 October 2014, section 129A of the Highways Act 1980 and The Highway Act 1980 (Gating Order)(England) Regulations 2006 were repealed by the Anti-social Behaviour, Crime and Policing Act 2014 and Gating Orders were replaced with Public Spaces Protection Orders.

The topic of Public Spaces Protection Orders and a policy relating to the closing of alleyways and Gating Orders was agreed by the Committee for inclusion in the work programme.

There are no current local guidelines, and this is an opportunity to consider putting controls in place.

The review will also consider a range of evidence relating to:

- The level of anti-social behaviour
- The need to access
  Views of residents and other statutory organisations e.g. highway authority, fire service and police
- Who would be responsible for funding?
- How long gates should be in place?
- Who would be responsible for maintenance?
- Access and key holder arrangements.

2. ONE-PAGE STRATEGY

The attached one-page strategy for the review has been prepared using the pattern that is customary for scoping task group reviews. The principles are the same: maintaining a sharp focus on the areas where improvements can be made on the basis of relevant evidence.

3. NEXT STEPS

The committee is asked to consider and approve the one-page strategy prior to commencement of the review and decide on whether to set up a task group.

Name of Meeting: Environment and Growth Scrutiny Committee

Date of Meeting: 3 October 2019

Subject Matter: One-page strategy

Originating Department: Environment and Public Realm

DO ANY BACKGROUND PAPERS APPLY ☐ **YES** ☒ **NO**

LIST OF BACKGROUND PAPERS

Doc No	Title of Document and Hyperlink

REVIEW OF GATING ORDERS/PUBLIC SPACES PROTECTION ORDERS

DRAFT ONE-PAGE STRATEGY

What is the broad topic area?

The review will consider the creation of a corporate policy on when to use Public Spaces Protection Orders as Gating Orders.

What is the specific topic area?

To consider the options available to help tackle anti-social behaviour issues in relation to alleyways through legislative powers and to consider a policy for PSPOs as Gating Orders.

What should be considered?

The following areas are relevant to the discussions:

- Purpose of a PSPO as a Gating Order
- Criteria for proposing PSPOs as Gating Orders to include:
    - Evidence and level of crime or anti-social behaviour
    - Process of how to request a PSPO
    - The general effect of a Gating Order
    - Access arrangements to alleyways
    - Hours of locked arrangements
    - Alternative routes for pedestrians
    - Cost of provision and installation of gates
    - Responsibility for maintenance of the gates and costs
    - Responsibility for the keeping of the key and locking or unlocking the gates
    - Period of regular review of the PSPOs
    - Views of residents
    - Views of statutory organisations

Who shall we consult?

Warwickshire County Council Highways
Warwickshire Police
Warwickshire Fire and Rescue
Members of the public
Legal Services

How long should it take?

Report to committee in February 2020.

What will be the outcome?

A policy for the use of PSPOs as Gating Orders as a means of tackling crime or persistent anti-social behaviour.

Agenda No 6

AGENDA MANAGEMENT SHEET

Report Title:	Overview and Scrutiny Work Programme 2019/20
Name of Committee:	Environment and Growth Scrutiny Committee
Date of Meeting:	3 October 2019
Contact Officer:	Linn Ashmore, Democratic Services Officer, Tel: 01788 533522
Summary:	The report updates the Committee on the progress of task group reviews within its remit and details the overview and scrutiny forward work programme for 2019/20.
Financial Implications:	There is a budget of £500 available in 2019/20 to spend on the delivery of the overview and scrutiny work programme.
Risk Management Implications:	There are no risk management implications arising from this report.
Environmental Implications:	There are no environmental implications arising from this report.
Legal Implications:	There are no legal implications arising from this report.
Equality and Diversity:	No new or existing policy or procedure has been recommended.

Agenda No 6

Environment and Growth Scrutiny Committee - 3 October 2019

Overview and Scrutiny Work Programme 2019/20

Summary

The report updates the Committee on the progress of task group reviews within its remit and details the overview and scrutiny forward work programme for 2019/20.

1. SCRUTINY REVIEWS

1.1 Current Reviews

Policy for PSPOs as Gating Orders – this topic has been covered by a separate item on this agenda.

1.2 Future Review Topics

At a meeting of the committee chairs' and the Executive Director the following review topics were included in the 2019/20 work programme:

Communities and Homes Overview and Scrutiny Committee

Topic	Comments
Special Expenses Scheme – Council Tax	The inaugural meeting of the task group was held on 11 June 2019 and it has agreed a programme of work and dates of future meetings. A questionnaire has been circulated to all parish councils as part of the evidence gathering for the review.
Review of Housing Maintenance/Repairs	Light-touch review to be scheduled.

Environment and Growth Overview and Scrutiny Committee

Topic	Comments
Policy for PSPOs as Gating Orders	Included on the agenda.

Joint Overview and Scrutiny Committee

Topic	Comments
Partnerships Working	A provisional date has been set for the joint meeting on 18 November 2019.

2. FUTURE WORK PROGRAMME

The scrutiny committee chairs meet on a regular basis to discuss and agree the allocation of work and topics for each scrutiny committee. A copy of the current work programme is attached at Appendix 1.

2.1 Development of the Work Programme

Members of the public, external partners and councillors had been consulted and invited to submit suggestions for possible review topics for the 2019/20 municipal year and approximately 30 review topic suggestions have been received.

These were whittled down using the review checker and submitted to Senior Management Team for comments. The scrutiny committee Chairs met with the Executive Director to discuss the short list and comments and agree the final work programme topics.

The review topics agreed for this committee are as follows:

Topic	Notes
Fly tipping (including rural areas) and bulky waste	Review of increase of fly tipping in rural areas and the bulky waste collection service including if it represents value for money.
Community areas, open spaces and grot spots	How to make better use of waste land e.g. planting fruit trees, edible gardens, wild meadows, street art. Explore links to community projects.
Self-Build Plots	Carry forward to 2020/21
Management and demand of new developments	Not a separate topic. To be raised with the Portfolio Holder.

3. FORWARD PLAN

The following public topics are currently listed or scheduled for inclusion in the Forward Plan:

14 November 2019 – Council
Coton Park East Supplementary Planning Document Adoption

4 November 2019 – Cabinet
Fields of Trust – Protection of Shakespeare Gardens
Community Grants 2020/21

Voluntary and Community Sector contracts and Service Level Agreements
Review of the Special Expenses Scheme
Public Spaces Protection Orders

2 December 2019 – Cabinet
Rent Collection, Arrears and Debt Recovery Policy and Procedures
Approval of a Council Tax Reduction Scheme 2020/21
Review of conditions of tenancy for council housing
Calendar of Meetings 2020/21
Draft General Fund Revenue and Capital Budgets 2020/21 and Medium-Term Financial Plan 2020-24
Finance and Performance Monitoring Q2 2019/20

4. CONCLUSION

The committee is asked to:

- note the progress in the task group reviews; and
- agree the future work programme for the committee.

Name of Meeting: Environment and Growth Scrutiny Committee

Date of Meeting: 3 October 2019

Subject Matter: Overview and Scrutiny Work Programme 2019/20

DO ANY BACKGROUND PAPERS APPLY ☐ **YES** ☒ **NO**

LIST OF BACKGROUND PAPERS

Doc No	Title of Document and Hyperlink

Overview and Scrutiny Work Programme 2019/20

Communities and Resources 24 October 2019

Topic	Description
Universal Credit – Vulnerable Claimants	Evidence of local cases of vulnerable claimants experiencing issues with Universal Credit following the roll out the 'Help to Claim' service in April 2019
Special Expenses Scheme	Draft review report on the conclusions and recommendations

Joint Overview and Scrutiny Committee 18 November 2019

Topic	Description
Partnerships Working (formerly titled Commercialisation, Collaboration and Partnerships)	Light-touch review of the council's relationships with partners and their value including whether Service Level Agreements (SLAs) are fit for purpose, meet their objectives and represent value for money.

Special Communities and Resources 5 December 2019 PROVISIONAL DATE

Topic	Description
Corporate Resources	Discuss performance and future strategy in relation to the portfolio
Finance and Performance Monitoring 2019/20 Q2 (transferred from Environment and Growth meeting on 9 December)	Monitoring of finance and performance

Environment and Growth 9 December 2019

Topic	Description
PSPOs and Gating Orders TENTATIVE ITEM	To consider progress of the review and draft PSPO

Joint Overview and Scrutiny Committee 27 January 2020

Topic	Description
Leader and Executive Director	Discussion on performance and future strategy with Leader and Executive Director

Communities and Resources 6 February 2020

Topic	Description
Finance and Performance Monitoring 2019/20 Q3	Monitoring of finance and performance
Employee Wellbeing	Progress report

Environment and Growth 24 February 2020

Agenda to be agreed.

Communities and Resources 19 March 2020

Topic	Description
Communities and Homes Portfolio Holder	Discuss performance and future strategy in relation to the portfolio

Environment and Growth 2 April 2020

Topic	Description
Crime and Disorder	Annual review
Notice of Motion – Reduce Plastic Waste at the Council	Progress report

ITEMS TO BE ALLOCATED

Communities and Resources

Topic	Description
Review of Housing Voids	Light-touch review

Environment and Growth

Topic	Description
Materials Recovery Facility	Pre-decision scrutiny of options