



2017 Air Quality Annual Status Report



Photo: Bus Station, Andover

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

Date: June 2017



Department
for Environment
Food & Rural Affairs

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4 August 2017

Dear Test Valley Borough Council,

LOCAL AIR QUALITY MANAGEMENT: 2017 ANNUAL STATUS REPORT

Thank you for consulting the Department for Environment, Food and Rural Affairs on Test Valley Borough Council's 2017 Air Quality Annual Status Report (ASR).

Defra's response is contained in the appraisal report, which you can now access on the Report Submission Website.

The ASR for 2018 is due in June 2018. Defra expects local authorities to upload a copy of the ASR to the Report Submission Website <http://laqm.defra.gov.uk/1rsw/> no later than 30 June 2018.

The Local Air Quality Management Helpdesk is available to help with queries about the LAQM Framework:

<https://laqm.defra.gov.uk/>
Telephone: 0800 0327 953
Email: LAQMHelpdesk@uk.bureauveritas.com

Yours Sincerely,

Defra Local Air Quality Team

Defra Air Quality
WEB: <http://uk-air.defra.gov.uk>
TWITTER: @defraukair



Local Authority:	Test Valley Borough Council
Reference:	ASR17-052
Date of issue	August 2017

Annual Status Report

The Report sets out the Annual Status Report, which forms part of the Review & Assessment process required under the Environment Act 1995 and subsequent Regulations.

Test Valley Borough Council has not declared any AQMAs and has no Air Quality Action Plan. The latest monitoring for 2016 confirms this status, with no recorded exceedances of any air pollution objective. Monitoring has been carried out using 17 nitrogen dioxide diffusion tubes at relevant locations across the Borough.

A Carbon Management Plan and Sustainability Strategy have been adopted. This has led to the development of a comprehensive set of measures to address emissions from a range of sources that can impact on air quality and contribute to climate change.

Test Valley works with Southampton City Council and other neighbouring districts in response to the Air Quality Plan for the Southampton Urban Area. The Council are developing links with Public Health through Hampshire County Council in relation to identifying possible measures to address PM2.5 pollution.

On the basis of the evidence provided by the local authority the conclusions reached are acceptable for all sources and pollutants.

The next step for Test Valley Borough Council is to submit their next Annual Status Report in 2018.

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Commentary

The report is well structured, detailed, and provides the information specified in the Guidance, using the latest report template. The following comments are made:

1. The latest monitoring confirms that no exceedances of the current Air Quality Objectives have been identified.
2. The current monitoring programme appears to have been in place for at least the last five years monitoring at central urban sites in Romsey, Chilworth and Andover. There are no results close to the objective levels, thus we consider it would be reasonable to review the current programme. The Council area includes some significant trunk routes, in addition to the main urban centres, and residential areas close to busy main traffic routes should all be considered where there is relevant exposure.

This commentary is not designed to deal with every aspect of the report. It highlights a number of issues that should help the local authority either in completing the Updating and Screening Assessment adequately (if required) or in carrying out future Review & Assessment work.

Issues specifically related to this appraisal can be followed up by returning the attached comment form to Defra, Welsh Assembly Government, Scottish Government or DOE, as appropriate

For any other queries please contact the Local Air Quality Management Helpdesk:
Telephone: 0800 0327 953
Email: LAQMHelpdesk@uk.bureauveritas.com

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Appraisal Response Comment Form

Contact Name:	
Contact Telephone number:	
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Comments on appraisal/Further information:

Test Valley Borough Council

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Report Reference number	TVBC/ASR2017
Date	30 th June 2017

Executive Summary: Air Quality in Our Area

Air Quality in Test Valley

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 billion³.

Due to the importance of the potential impact of poor air quality on health, Test Valley is required to review and assess air quality within the Borough on a regular basis. This involves the production of an Annual Status Report by 30th June 2017 and is intended to maintain continuity in the Local Air Quality Management process. This report includes the results of on-going monitoring of air quality pollutants within the Borough where emissions from a range of sources could adversely impact sensitive receptors.

This Annual Status Report includes the results of nitrogen dioxide diffusion tube monitoring carried out in 2016. This has indicated trends that are either stable or downward at all 17 sites and there is no evidence that the Annual Mean concentration of nitrogen dioxide may exceed the specific Air Quality Objective of 40µg/m³. Based on the findings of this report, Test Valley Borough Council has found no evidence that the levels of any other relevant pollutants may exceed the specific Air Quality Objectives and therefore has not identified the need to designate any Air Quality Management Areas.

Although a review of planning application received by Test Valley during 2016 has not identified any new major sources of emissions within the borough, any proposed developments which may have possible significant implications for local air quality

¹ Environmental equity, air quality, socioeconomic status and respiratory health, 2010

² Air quality and social deprivation in the UK: an environmental inequalities analysis, 2006

³ Defra. Abatement cost guidance for valuing changes in air quality, May 2013

have been assessed. Proposed large scale developments where there is expected to be a significant air quality impact have been subject to formal air quality assessment as part of the planning process.

Actions to Improve Air Quality

The Council takes its responsibilities for air quality very seriously and any proposals within the Borough are carefully assessed in accordance the Local Plan. Development that would or could generate potentially significant levels of pollution will only be permitted if it can be demonstrated that there would not be any adverse impact on human health, the natural environment or general amenity.

Test Valley has agreed to work with Southampton City Council to help them achieve their aim to improve air quality in the Southampton Urban Area agglomeration zone. The Air Quality Plan for Southampton Urban Area was originally published in December 2015 and Test Valley Borough Council will be working with our neighbouring local authorities (Southampton City Council, Winchester City Council and Eastleigh Borough Council) to target sources of nitrogen dioxide in the Southampton Urban Area (UK0019).

TVBC will explore with HCC the possibility of identifying possible measures linking PM_{2.5} with public health and how the success of reduction measures could best be measured. These measures and any positive outcomes when then be reported in future air Quality Annual Status Reports.

Conclusions and Priorities

No exceedances of the current Air Quality Objectives have been identified.

Test Valley Borough Council will continue to carefully consider future planning applications which may have the potential to impact air quality in vicinity of the Southampton Urban Area.

Local Engagement and How to get Involved

Test Valley Borough Council's website provides a number of sources of information to enable members of the public to plan journeys using alternatives to private vehicle use.

- http://www.travelinesw.com/swe/XSLT_REQUEST?language=en&itdLPxx_link=home
(Journey Planner)
- <http://www.testvalley.gov.uk/communityandleisure/cyclingwalking>
(TVBC: Cycling and Walking)
- <http://www3.hants.gov.uk/servicesforschools/school-travel-planning.htm>
(Hampshire County Council: School Travel Plans)

In addition to the alternatives of private vehicle use, there is a car lift sharing scheme which covers Andover in the north of the borough. Details of this can be found at:

- <https://liftshare.com/uk/journeys/from/andover>
(Lift Sharing Scheme from Andover to more than 200 destinations)

Residents living in the south of Test Valley (Nursling, Rownhams and Chilworth) may find useful and relevant information about air quality on the Clean Air Southampton Facebook page [[@cleanairsouthampton](#)].

The following Department for Transport website provides 'Fuel Efficient Driving tips':

<http://www.dft.gov.uk/vca/fcb/smarter-driving-tips.asp>

and also links to the Energy Saving Trust website for 'Smart Driving' at:

<http://www.energysavingtrust.org.uk/travel/driving-advice>

and the Go Ultra Low website which gives information about electric cars at:

<https://www.goultralow.com/#>

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1 Local Air Quality Management

This report provides an overview of air quality in Test Valley during 2016. It fulfils the requirements of Local Air Quality Management as set out in Part IV of the Environment Act (1995) and the relevant Policy and Technical Guidance documents.

The Local Air Quality Management 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 and prepare an Air Quality Action Plan setting out the measures it intends to put in place in pursuit of the objectives. This Annual Status Report is an annual requirement showing the strategies employed by Test Valley to improve air quality and any progress that has been made.

The statutory air quality objectives applicable to Local Air Quality Management in England can be found in Table E.1 in Appendix E.

2 Actions to Improve Air Quality

Although Test Valley currently does not have any Air Quality Management Areas, it does utilise a number of local and regional plans and strategies in order to minimise and/or reduce potential impacts on air quality within the Borough. A brief summary of these documents is set out below.

2.1 Hampshire Local Transport Plan 2011 – 2031

Hampshire County Council’s Local Transport Plan was formally approved at a full meeting of the County Council in February 2011.

The Local Transport Plan was written in two parts:

- Part A is a 20-year Strategy, which sets out a long-term vision for how the transport network of Hampshire will be developed over the next 20 years, and includes a policy (Policy E) to specifically deliver improvements in air quality.
- Part B was a three-year Implementation Plan setting out planned expenditure on transport over the period April 2011 to March 2014.

The Local Transport Plan builds on the successes of previous local transport plans and looks to make improvements to the transport system which will benefit people living and working in Hampshire. It was produced following extensive consultation with the public and the County Council’s strategic partners.

Policy E: To deliver improvements in air quality

Why?	Congestion creates higher levels of air pollution as queuing traffic, especially in more restricted or confined spaces, generates higher concentrations of vehicle emissions. Poor air quality can create or exacerbate health and respiratory problems, for example asthma. Air Quality Management Areas are places where pollutant levels exceed government thresholds. As Twenty Air Quality Management Areas have been identified within urban areas across the sub-region. The White Paper on Public Health indicates that by April 2013, Unitary Authorities and County Councils will be given funding and responsibility for improving public health.
How?	The Transport for South Hampshire authorities will work with key partners, environmental health professionals and transport operators

	to mitigate the impacts of traffic on air quality. The principal causes of poor air quality will be addressed by implementing a strategic area-wide approach within each urban centre to minimise the cumulative effect of road transport emissions. This can be achieved through measures promoting modal shift towards public transport modes, walking and cycling, reducing single occupancy car journeys. Tackling congestion at hotspots can also improve air quality.
Delivery Options	<ul style="list-style-type: none"> • Air Quality Management Areas and Air Quality Action Plans; • Promotion of cleaner, greener vehicle technologies e.g. alternative fuels; • Car Share Schemes
Outcomes	<ul style="list-style-type: none"> • Improved air quality & environment, and reduced greenhouse gas emissions; and • Promoting a higher quality of life.

2.2 Planning Policy Documents

Test Valley Borough Council’s Local Plan (2011-2029) includes a policy which considers development for approval if the proposal will not have an adverse impact on the environment, including discharges or emissions to air and the extracts from the relevant policy are reproduced below.

Policy E8: Pollution

Development will be permitted provided that it does not result in pollution which would cause unacceptable risks to human health, the natural environment or general amenity. Development that would or could potentially generate pollution will only be permitted if it can be demonstrated that there would not be any adverse impact on human health, the natural environment or general amenity.

Development which is sensitive to pollution will only be permitted if the intended users are not subject to unacceptable impact from existing nearby uses having taken account of proposed mitigation measures.

7.61 The control of pollution is a complex process involving both the Council and other statutory bodies. The National Planning Policy Framework is clear that the impact of pollution is a material planning consideration.

7.62 Where development is proposed on or adjoining land which is known, or suspected, to contain or cause pollution the Council will require that all practicable and effective measures to investigate and remediate the site have been undertaken. It is the developer’s responsibility to ensure that the site is safe for development.

7.63 Applications for development which are either likely to generate or are sensitive to

pollution will require the submission of the relevant assessment based on current guidance and/or best practice. Advice on which assessment to use can be obtained from the Council's Housing and Environmental Health Service.

7.64 Where mitigation measures are proposed the Council will need to be convinced that the proposed measures will be effective with respect to human health, water sources and the wider environment. The provision of these measures should be in place at an early stage of the development.

Air

7.70 Air quality within the Borough is generally good. There are no Air Quality Management Areas within the Borough. Recent monitoring by the Council has identified a modest decrease in air pollution levels. However, there are areas of the Borough where the air quality requires improving. They are generally in those areas close to major roads where there is a high volume of vehicular movements. To improve air quality proposals should reduce the reliance on the private car and support alternative modes.

2.3 Climate Change Strategy

Summary of 'BUILDING A SUSTAINABLE TEST VALLEY, Sustainability Strategy 2012 – 2017'

Introduction

The Council has a range of responsibilities in the way it delivers its services, including seeking to promote sustainable practices. This incorporates a range of issues and areas of focus, such as reducing demand on resources and using them more wisely (including energy and materials), adapting to a changing climate and reducing expenditure on energy and fuel.

Background

The environmental aspects of the Government's vision covers a range of issues, in particular tackling a changing climate (mitigation and adaptation) and protecting and enhancing the natural environment. Both of these issues are important in Test Valley and the links between the two are recognised.

Achievements to date

In 2008 the Council signed the Nottingham Declaration and embarked upon a number of initiatives including adoption of a Carbon Management Plan and Sustainability Strategy, undertaking a Green Fleet Review and preparing a Climate

Change Adaptation Plan. Through implementing the actions set out in these documents we have reduced our carbon dioxide emissions and promoted the theme of sustainability in the running of the Council. By the end of the financial year 2010/11, the Council's carbon dioxide emissions had reduced by approximately 13.4% and by 2017, the Council will seek to reduce its carbon dioxide emissions by a further 10% against a baseline year of 2010/11.

Vision and Objectives

The Council's vision is: "To be an organisation of excellence committed to improving the quality of life of all the people of Test Valley".

This Strategy will help to deliver the Council's Vision and focuses on a number of objectives which are set out below:

- Ensure sustainability is incorporated into our procedures and policies
- Procure materials and resources from more sustainable sources
- Reduce our emissions of carbon dioxide and other greenhouse gases
- Through working with the residents of the Borough, reduce the amount of household waste collected, whilst increasing the proportion which is re-used, recycled or composted
- Reduce our water consumption
- Adapt to a changing climate to deliver a more robust estate and working practices
- Promote biodiversity and the positive management of Sites of Importance for Nature Conservation (SINCs) for which the Council is responsible
- Work with partner organisations and the community to preserve and enhance the local environment and quality of life of those living and working in the Borough
- Progress schemes which have an environmental benefit where there is a sound business case.

Key Themes and Areas for Action

A number of themes have been identified as a focus for action within Test Valley. They have been grouped by area of work rather than environmental / sustainability

issue. It will be important to ensure that local and national policies and objectives for each of these themes are integrated into our work and operations.

The Council's key themes are:

- Policy development and implementation
- Internal practices and procedures
- Transport and travel
- Managing the Council's estate
- Managing green open spaces and biodiversity
- Partnership working
- Community involvement

Implementation and Monitoring

The actions associated with the key themes will provide the focus for project delivery within the Borough, in some cases these can be implemented by the Council alone, with others needing the support of partners. Monitoring of progress in delivering the actions will be undertaken on an annual basis through the production of a monitoring report and additional actions may be identified which would provide further opportunities for partnership working.

Conclusion

The implementation of this strategy is intended to support the delivery of the Council's objectives, incorporating sustainability into our procedures and policies and ensuring the sustainable use of resources. There should also be a 10% reduction of carbon dioxide emissions through the proposed actions.

2.4 Progress and Impact of Measures to address Air Quality in Test Valley

Test Valley Borough Council has a number of measures in place during the current reporting year of 2017 which have direct and indirect benefits in the pursuit of improving local air quality. Details of all measures completed, in progress or planned are set out in Table 2.1 and copies of the main reference plans/strategies can be found via the web-links listed below:

Local Transport Plan (2011 – 2031)

<http://www3.hants.gov.uk/transport/local-transport-plan.htm>

Test Valley Borough Council's Local Plan (2011 – 2029)

<http://www.testvalley.gov.uk/resident/planningandbuildingcontrol/planningpolicy/local-development-framework/dpd/>

Sustainability Strategy (2012 – 2017)

<http://www.testvalley.gov.uk/aboutyourcouncil/corporatedirection/environmentandsustainability/environmental-strategies>

and the latest update:

<http://www.testvalley.gov.uk/assets/files/8961/150630-Commitments-Update-June-2015.pdf>

Test Valley's priorities for the coming year are to continue monitoring concentrations of nitrogen dioxide across the Borough, ensure that all proposed development is subject to scrutiny to ensure that compliance with Policy E8 of the Council's Local Plan and work with our neighbouring local authorities with regards to the non-compliance for nitrogen dioxide in the Southampton Urban Area Clean Air Zone.

2.5 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.

Although Test Valley does not currently monitor for Particulate Matter, current data indicates that PM_{2.5} varies across the borough with background concentrations of between 8.94µg/m³ and 12.16µg/m³ (Source: <https://uk-air.defra.gov.uk/data/laqm-background-home>). At present, there is no Air Quality Objective for PM_{2.5}.

Key sources of PM_{2.5} include road traffic and industrial emissions and whilst TVBC only has a limited role in road traffic management it will continue to work with Hampshire County Council (HCC) and Highways England in addition to Hampshire County Council's Public Health team to reduce PM_{2.5} emissions wherever possible.

Table 2.1 includes a list of existing measures, (e.g. Measure Numbers 1-5: Alternatives to Private Vehicle Use and Measure Numbers 11-18: Promoting Travel Alternatives) which not only have the potential to reduce concentrations of PM_{2.5} but are likely to have a positive impact on other atmospheric pollutants including nitrogen dioxide and PM₁₀.

Defra's appraisal of last year's Annual Status Report concluded that Test Valley should collaborate with the Public Health England in respect of PM_{2.5} in order to identify potential areas of concern within the borough where air quality might have a direct link with the incidence of asthma.

Test Valley's priorities for the coming year are:

1. To continue working with our neighbouring local authorities of Southampton City Council, Winchester City Council and Eastleigh Borough Council in respect of the Southampton Urban Area.
2. Work with Hampshire Council Council's Public Health team and Public Health England - South East in order to identify additional measures to improve air quality.

The principal *challenges* and *barriers* to implementation that Test Valley anticipates facing in relation to its priorities are:

- i. Traffic management within the borough is largely beyond the control of Test Valley Borough Council, and is currently the responsibility of Hampshire County Council and Highways England.
- ii. It is currently prohibitively expensive for a borough such as Test Valley Borough Council to directly measure concentrations of PM_{2.5}.

Whilst the measures set out in Table 2.1 will help to contribute towards continuing compliance with current Air Quality Objectives, Test Valley anticipates that further additional measures not yet prescribed will be required in subsequent years to achieve compliance for nitrogen dioxide in the Southampton Urban Area.

Table 2.1 – Progress on Measures to Improve Air Quality

Measure No.	Measure	EU Category	EU Classification	Lead Authority	Planning Phase	Implementation Phase	Key Performance Indicator (KPI)	Target Pollution Reduction in the AQMA	Progress to Date	Estimated Completion Date	Comments
i.	NO ₂	-	-	Southampton City Council	Ongoing	2017 - 2020	Compliance by 2020	Southampton Urban Area Clean Air Zone	Partnership working agreed	2020	
ii.	PM _{2.5}	-	-	TVBC	2017/18	2018 - 2020	?	Areas of potential concern within the borough	Initial discussions held	2020	
1	Bargain Farm, Nursling Park & Ride	Alternatives to private vehicle use	Bus based Park & Ride	TVBC	Complete	To be confirmed	Site allocated in Borough Local Plan. 2011-2019 Policy T3	Site located close to Southampton Urban Area (UK0019)	Feasibility study completed.	To be confirmed	
2	Car sharing for travel to work and visits	Alternatives to private vehicle use	Car & lift sharing schemes	TVBC	Completed 2002	ongoing	No	NA		Ongoing	
3	Grateley and Andover Railway stations	Alternatives to private vehicle use	Rail based Park & Ride	TVBC	Completed	ongoing	%age increase in number of passengers using facility	NA	Andover parking capacity increased	Summer 2017	
4	Salary sacrifice for bicycles	Alternatives to private vehicle use	Other	TVBC	Completed 2012	ongoing	No	NA		Ongoing	
5	New car purchase scheme	Alternatives to private vehicle use	Other	TVBC	Completed 2014	ongoing	No	NA		Ongoing	
6	Risk based charging for permits	Environmental Permits	Environmental charges through permit systems	TVBC		ongoing	Maximise number of low risk permitted sites	NA	44 out of 45 permitted processes with Low Risk Scores	Ongoing	
7	Co-op Distribution Centre, Andover Airfield Business Park	Freight and Delivery Management	Route Management Plans/Strategic routing strategy for HGVs	TVBC	Completed 2010	Utilising cameras on 'barred' routes to fine vehicles not adhering to the agreed routing.	No	NA		Ongoing	
8	Procurement of services from 3 rd parties	Policy Guidance and Development Control	(Sustainable) Procurement Guidance	TVBC	Completed 2012	Ongoing	No	NA	Updated January 2017	Ongoing	

Test Valley Borough Council

Measure No.	Measure	EU Category	EU Classification	Lead Authority	Planning Phase	Implementation Phase	Key Performance Indicator (KPI)	Target Pollution Reduction in the AQMA	Progress to Date	Estimated Completion Date	Comments
9	Zero Emissions Vehicles	Promoting Low Emission Transport	Public Vehicle Procurement	TVBC	Completed 2015	2 New Electric Vehicles Purchased	No	NA		Ongoing	http://www.testvalley.gov.uk/news/2016/mar/council-switches-green-miles/
10	Electric Vehicle Recharging Points	Promoting Low Emission Transport	EV recharging	TVBC	Completed 2015	2 EV recharging points installed at Romsey Sports Centre	No	NA		Ongoing	
11	Taxi licensing	Promoting Low Emission Transport	Taxi Licensing Conditions	TVBC	Completed 2014	Ongoing	No	NA	Last updated 2016	Ongoing	Regularly reviewed
12	TVBC staff working from home	Promoting Travel Alternatives	Encourage/ Facilitate home working	TVBC	Complete	Ongoing	No	NA		Ongoing	
13	Travel Plan	Promoting Travel Alternatives	Intensive active travel campaign & infrastructure	TVBC	Completed 2002	Promoted via the Council's intranet to all staff.	No	NA		Ongoing	Reviewed annually
14	Promote rail services for work and personal journeys.	Promoting Travel Alternatives	Promote use of rail	TVBC	Completed 2002	Ongoing	No	NA		Ongoing	
15	Cycling events and activities within the Borough and nearby – e.g. Bike Week.	Promoting Travel Alternatives	Promotion of cycling	TVBC	Completed 2002	Ongoing	Events/activity monitored	NA			
16	Walking as a sustainable means for travel for staff and residents for short journeys within the settlements of Andover and Romsey.	Promoting Travel Alternatives	Promotion of walking	TVBC	Completed 2002	Ongoing	Participation monitored	NA		Ongoing	
17	'Walk to School' schemes	Promoting Travel Alternatives	School Travel Plans	Hampshire County Council	Completed 2000	Ongoing	Participation monitored	NA		Ongoing	

Measure No.	Measure	EU Category	EU Classification	Lead Authority	Planning Phase	Implementation Phase	Key Performance Indicator (KPI)	Target Pollution Reduction in the AQMA	Progress to Date	Estimated Completion Date	Comments
18	Community travel plans for large mix use developments have been secured, promoted and delivered the Council	Promoting Travel Alternatives	Other	TVBC	Completed 2001	Ongoing	No	NA		Ongoing	
19	Walking and cycling guides have been produced for TV and Andover and Romsey.	Public Information	Via leaflets	TVBC	Completed 2005	Ongoing	No	NA		Ongoing	
20	The above guides are also available via the Council's website	Public Information	Via the Internet	TVBC	Completed 2010	Ongoing	No	NA		Ongoing	
21	Major residential developments in Andover and Romsey providing new infrastructure to provide priority (bus only underpass/arch and bus gates	Traffic Management	Bus priority	TVBC	Completed 2002	Ongoing	No	NA		Ongoing	
22	There are two Quality Bus Partnerships in Test Valley on high frequency bus routes linking urban areas	Transport Planning and Infrastructure	Bus route improvements	TVBC	Completed 2001	Ongoing	No	NA		Ongoing	
23	Supplementary Planning Document: Cycle Strategy adopted by Council	Transport Planning and Infrastructure	Cycle network	TVBC	Completed 2009	Ongoing	No	NA	Updated 2015	Ongoing	
24	Certificate of Professional Competence driver training for relevant staff	Vehicle Fleet Efficiency	Driver Training and ECO driving aids	TVBC	Completed	Ongoing	No	NA		Ongoing	
25	Regular emissions testing of Council vehicle fleet	Vehicle Fleet Efficiency	Testing Vehicle Emissions	TVBC	Completed	Ongoing	No	NA		Ongoing	

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

Test Valley Borough Council does not currently carry out any automatic (continuous) monitoring of any pollutants.

3.1.2 Non-Automatic Monitoring Sites

Test Valley Borough Council undertook non- automatic (passive) monitoring of NO₂ at 17 sites during 2016. Table A.2 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 and Bias Adjustment for the diffusion tubes are included in Appendix C.

3.2 Individual Pollutants

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

3.2.1 Nitrogen Dioxide (NO₂)

Table A. in Appendix A compares the ratified and adjusted monitored NO₂ annual mean concentrations for the past 5 years with the air quality objective of 40µg/m³.

For diffusion tubes, the full 2016 dataset of monthly mean values is provided in Appendix B and trend data for the period 2012 – 2016 is provided in Appendix E.

3.2.2 Particulate Matter (PM₁₀ and PM_{2.5})

Test Valley does not currently monitor PM₁₀ or PM_{2.5} concentrations within the Borough.

3.2.3 Sulphur Dioxide (SO₂)

Test Valley does not currently monitor SO₂ concentrations within the Borough.

Appendix A: Monitoring Results

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

Site ID	Site Name	Site Type	Easting OS Grid Ref	Northing OS Grid Ref	Pollutant	In AQMA ?	Distance to Relevant Exposure (m) ⁽¹⁾⁽²⁾	Distance to kerb of nearest road (m) ⁽³⁾	Tube collocated with a Continuous Analyser?	Approx. Height (m)
ROM1	Station Road	Urban background	435382	121377	NO ₂	N	0m	N/A	N	1.8m
ROM2	Cherville Street	Roadside	435135	121461	NO ₂	N	0m	1m	N	2m
ROM3	Bell Street	Roadside	435205	121147	NO ₂	N	0m	1.3m	N	2.4m
ROM5A	Palmerston Street (west)	Roadside	435474	121089	NO ₂	N	3m	1.1m	N	2m
ROM7	Palmerston Street (east)	Roadside	435480	121103	NO ₂	N	0m	2.3m	N	2m
ROM8	Plaza Roundabout	Roadside	435867	121277	NO ₂	N	-2m	4.5m	N	1.8m
ROM9	Alma Road (south)	Roadside	435697	121244	NO ₂	N	0m	2m	N	2m
ROM10	Alma Road (middle)	Roadside	435630	121403	NO ₂	N	6m	2.6m	N	2m
CHIL12	Chilworth Road	Roadside	441760	118091	NO ₂	N	18m	1m	N	2.4m
CHIL13	Winchester Road, Chilworth	Intermediate	442137	117670	NO ₂	N	0m	24m	N	2m
CHIL14	Bracken Place	Intermediate	442264	117625	NO ₂	N	0m	23m	N	1.5m
AND15	Weyhill Road	Intermediate	435923	145408	NO ₂	N	0m	14m	N	1.5m
AND19	Alexandra Road	Urban background	435848	145599	NO ₂	N	12m	N/A	N	1.5m
AND20	Humberstone Road (east)	Kerbside	436499	144935	NO ₂	N	6m	1.8m	N	2m
AND22	Humberstone Road (west)	Urban background	436362	144854	NO ₂	N	8.5m	N/A	N	2m
AND23	Barlows Lane, (north)	Urban background	435865	144430	NO ₂	N	0m	N/A	N	1.5m
AND25	Barlows Lane, (south)	Roadside	435741	144232	NO ₂	N	4m	1.8m	N	2.4m

(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) A minus distance indicates that monitoring site is at a location of exposure further from the source than the nearest façade of a residential property.

(3) N/A if not applicable

Table A.2 – Annual Mean NO₂ Monitoring Results

Site ID	Site Type	Monitoring Type	Valid Data Capture for Monitoring Period (%) ⁽¹⁾	Valid Data Capture 2016 (%) ⁽²⁾	NO ₂ Annual Mean Concentration (µg/m ³) ⁽³⁾				
					2012	2013	2014	2015	2016
ROM1	Urban background	Diffusion Tube	100	100	15.5	15.1	15.6	14.9	14.4
ROM2	Roadside	Diffusion Tube	100	100	17.1	19.8	15.8	14.2	15.1
ROM3	Roadside	Diffusion Tube	91.6	91.6	20.3	21.6	20.9	20.1	18.4
ROM5A	Roadside	Diffusion Tube	100	100	33.6	33.4	35.0	34.2	33.5
ROM7	Roadside	Diffusion Tube	100	100	29.5	29.4	32.1	27.0	28.5
ROM8	Roadside	Diffusion Tube	100	100	28.4	27.6	35.2	28.1	28.0
ROM9	Roadside	Diffusion Tube	100	100	27.8	30.2	29.4	26.5	26.5
ROM10	Roadside	Diffusion Tube	100	100	29.6	30.8	28.6	27.1	27.8
CHIL12	Roadside	Diffusion Tube	100	100	36.9	35.1	37.7	30.9	34.5
CHIL13	Intermediate	Diffusion Tube	100	100	25.2	26.0	24.9	23.5	23.3
CHIL14	Intermediate	Diffusion Tube	100	100	26.9	28.0	28.0	25.5	25.8
AND15	Intermediate	Diffusion Tube	100	100	20.2	18.5	18.2	17.0	17.2
AND19	Urban background	Diffusion Tube	100	100	14.9	14.8	13.8	12.8	14.0
AND20	Kerbside	Diffusion Tube	100	91.6	18.8	20.2	19.2	17.7	18.8
AND22	Urban background	Diffusion Tube	100	100	14.7	15.4	13.6	12.3	13.4
AND23	Urban background	Diffusion Tube	100	100	14.6	15.7	14.9	13.4	14.5
AND25	Roadside	Diffusion Tube	100	100	19.8	17.4	16.6	16.1	14.9

All diffusion tube data has been bias corrected

Annualisation has been conducted where data capture is <75%

If applicable, all data has been distance corrected for relevant exposure

Notes:

Exceedances of the NO₂ annual mean objective of 40µg/m³ are shown in **bold**.

NO₂ annual means exceeding 60µg/m³, indicating a potential exceedance of the NO₂ 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.

Appendix B: Full Monthly Diffusion Tube Results for 2016

Table B.1 – NO₂ Monthly Diffusion Tube Results - 2016

Site ID	NO ₂ Mean Concentrations (µg/m ³)												Annual Mean		
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Raw Data	Bias Adjusted (0.77) and Annualised ⁽¹⁾	Distance Corrected to Nearest Exposure ⁽²⁾
ROM1	20.8	20	21	18.5	17.9	10.3	10.6	13.7	16	21.7	24.7	28.8	18.7	14.4	14.4
ROM2	22.9	21.7	22.8	19.9	18.3	13.7	12	14.9	15.2	20.9	23.9	28.6	19.6	15.1	15.1
ROM3	27	22	25	23.2	21.6	18.2	14.2	17.4	22	27.3	31.3	37.4	23.9	18.4	18.4
ROM5A	51	41.9	40.3	57.3	45.1	32.5	36.7	36.4	43.2	42.1	43.4	52.2	43.5	33.5	27.8 ²
ROM7	41.4	38	38.3	36.7	38.6	29.4	22.7	28.3	35.7	41.9	43.8	49.8	37.1	28.5	28.5
ROM8	45.8	38.2	36	34.8	40.1	36.1	33.5	34.6	34	30.7	35.7	37.3	36.4	28	28
ROM9	38.9	36.9	33.2	28.3	32.1	26.8	27.3	32.9	37.1	39.3	37.2	43.6	34.5	26.5	21.4 ²
ROM10	43.5	37.9	43	33.2	34.5	30.3	25.2	30.8	31.6	39.5	36.6	47.4	36.1	27.8	23.2 ²
CHIL12	52.2	48.4	40.3	39.4	46.3	38.8	38.6	40	48.3	37.3	48.7	60	44.9	34.5	NA ³
CHIL13	37.4	31.9	31	30.7	29.9	21.4	19	22.4	30.6	33.9	32.6	42.2	30.3	23.3	23.3
CHIL14	34.6	31.1	37.7	35.7	30.1	18.7	20.8	26.4	32.7	45.2	44.3	44.9	33.5	25.8	NA ³
AND15	23.2	23.1	26.8	21.5	19.7	16	12.4	17.6	20	24.8	30.7	31.8	22.3	17.2	17.2
AND19	20	20.8	22.1	18.8	15.5	10.7	9.1	12.2	15.6	18.8	24.6	30.3	18.2	14	14
AND20	27.5	25.7	30.5	24.1	21.8	17.3	10.5	16.3	19.8	32.2	33.3	34.4	24.5	18.8	18.8
AND22	20.4	22.1	17	16.6	10.3	9.4	7.6	11.4	14.4	24.9	26.8	28.6	17.5	13.4	13.4
AND23	17.5	23.8	22.2	19.3	15.7	11.5	10.1	14.2	18.1	21.7	24.2	27.6	18.8	14.5	14.5
AND25	23.4	22.6	19.1	18.9	20.2	13.3	13.7	16.5	17.3	23.2	21.7	22.9	19.4	14.9	14.9

- Local bias adjustment factor used
- National bias adjustment factor used
- Annualisation has been conducted where data capture is <75%

Notes:

Exceedances of the NO₂ annual mean objective of 40µg/m³ are shown in **bold**.

NO₂ annual means exceeding 60µg/m³, indicating a potential exceedance of the NO₂ 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 where applicable

⁽³⁾ Distance correction not carried due to 'Limitation 7' of NO₂ Fall-Off with Distance from Roads Calculator (Version 4.1)

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

New or Changed Sources of Pollution

Test Valley Borough Council has not identified any significant changes to current sources of pollution or identified any new significant sources of pollution since the publication of the Council's 2016 Air Quality Annual Status Report.

Dispersion Modelling

Test Valley Borough Council has not carried out or had commissioned any detailed dispersion modelling in order determine whether an Air Quality Management Area needs to be declared.

Evidence Gathering

Test Valley Borough Council is currently not collecting evidence in support of measures to prepare an Air Quality Action Plan.

Quality Assurance/Quality Control of diffusion tube monitoring

Test Valley Borough Council can confirm that as far as reasonably practicable, all 17 diffusion tubes are located in accordance with the guidance set out in the February 2008 AEA Energy & Environment report.

A copy of the "Summary of Precision Results for Nitrogen Dioxide Diffusion Tube Collocation Studies, by Laboratory" was downloaded from:

<https://laqm.defra.gov.uk/assets/tubeprecision2016version0317finalfullv2.pdf>.

Of the 27 studies which used ESG (50% TEA in Acetone) diffusion tubes during 2016, 26 studies indicated 'Good' precision and 1 indicating 'Poor' precision.

Diffusion Tube Bias Adjustment Factors

The diffusion tubes used by Test Valley Borough Council are supplied and analysed (50% TEA in Acetone) by Environmental Scientifics Group (ESG) laboratories, Didcot, Oxfordshire. The bias adjustment factor of **0.77** for our 2016 diffusion tubes was obtained from the following website:

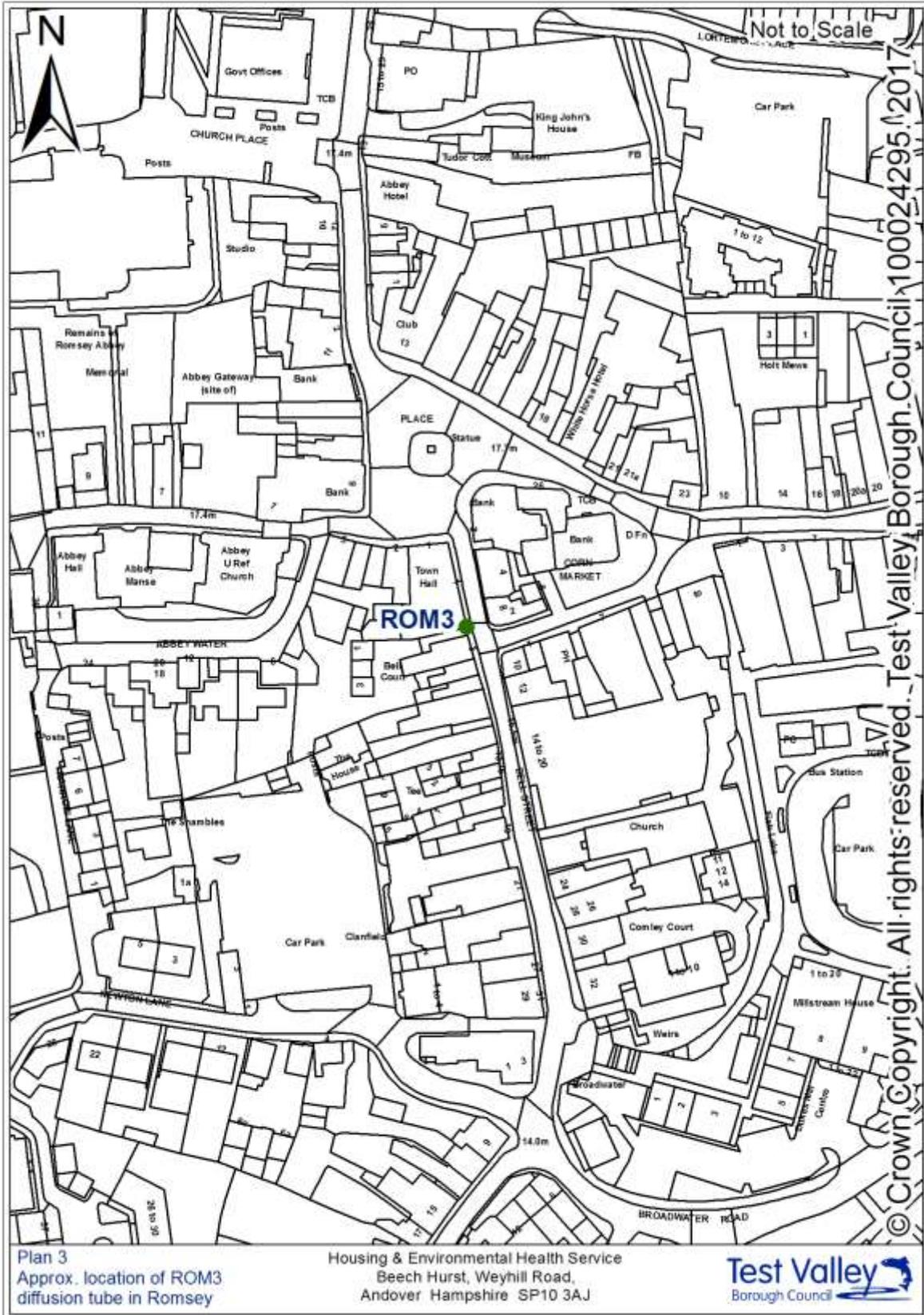
<https://laqm.defra.gov.uk/assets/databasediffusiontubebiasfactorsv0317v2.xls>.

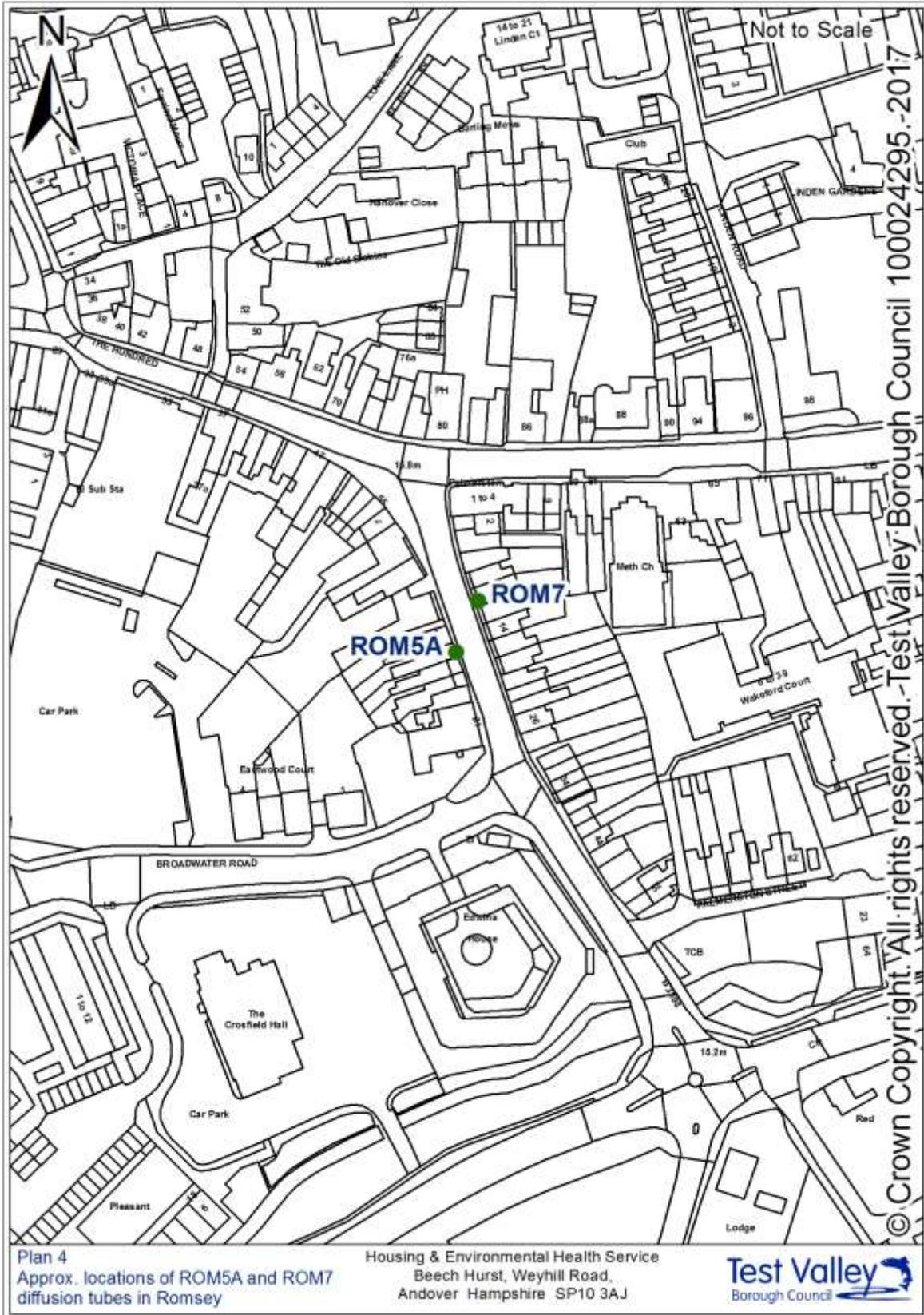
NO₂ Fall-off with Distance Calculator

Three NO₂ tube locations (ROM5A, ROM9 AND ROM10) were subject to distance correction as there are adjacent receptors (i.e. property façades) to these monitoring locations. Two further tube locations; CHIL12 and CHIL14 were not corrected as they are both influenced by 2 busy roads (Reference: Limitation 7). The remaining diffusion tube locations are representative of public exposure.

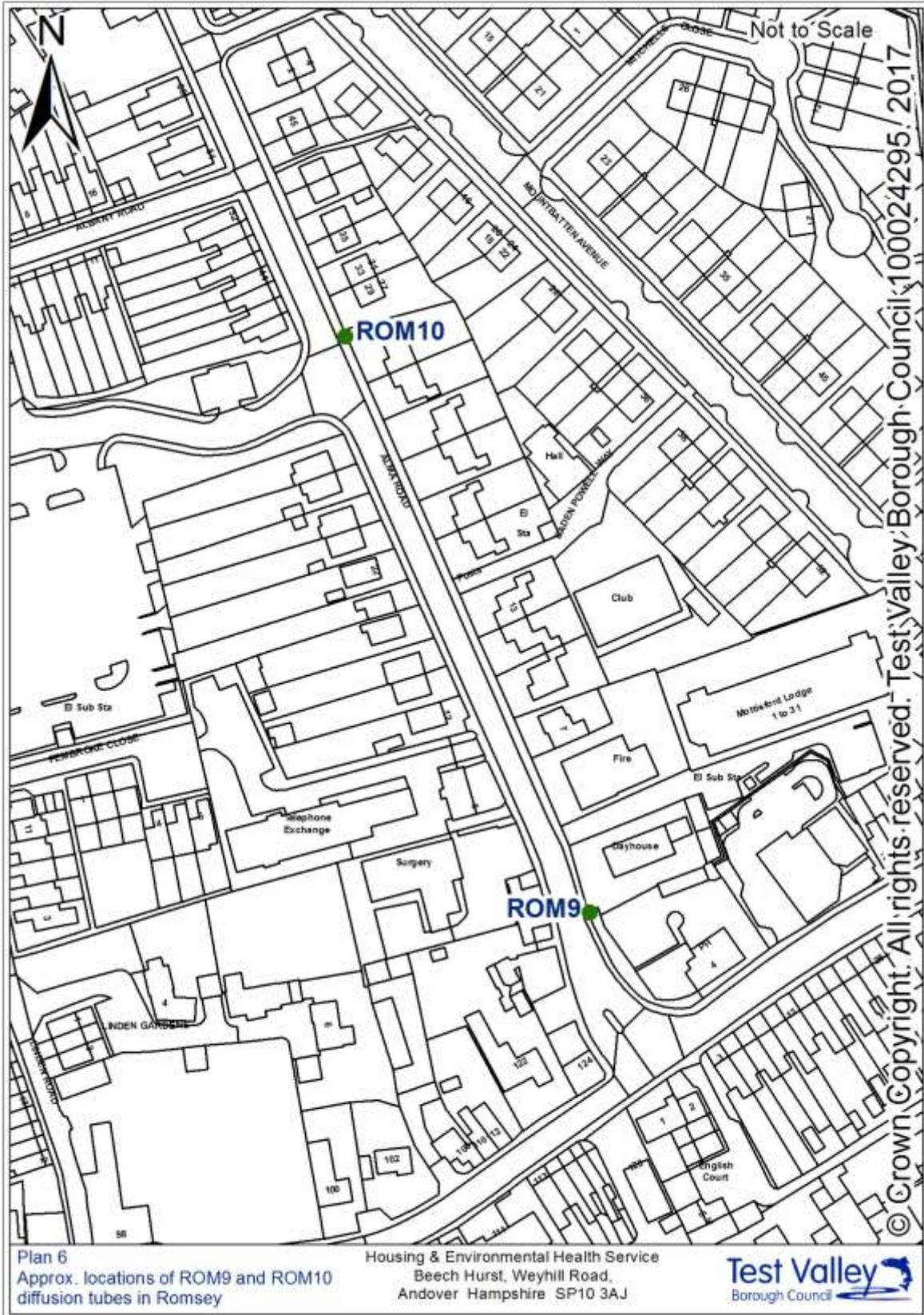
Appendix D: Maps of Monitoring Locations



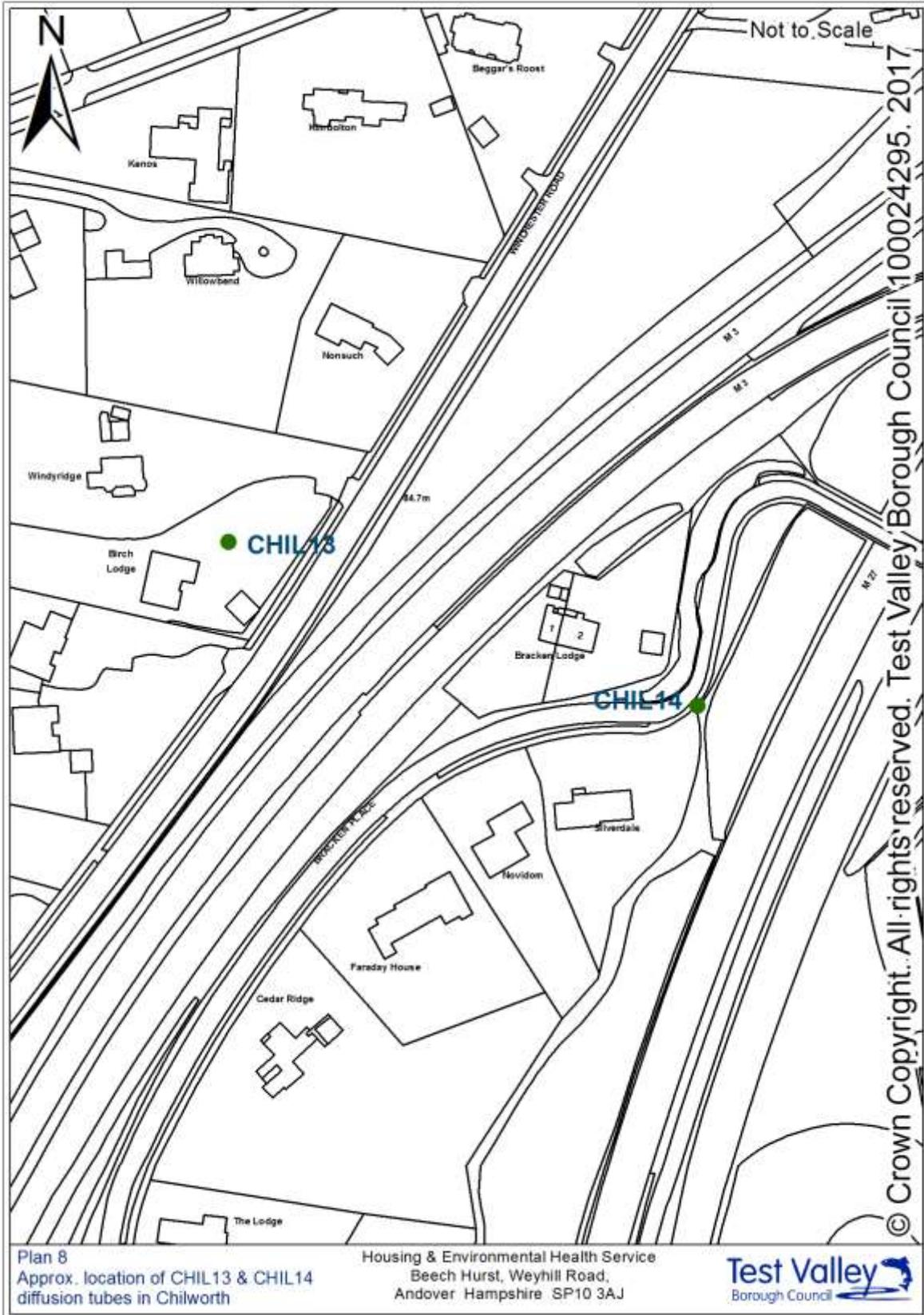


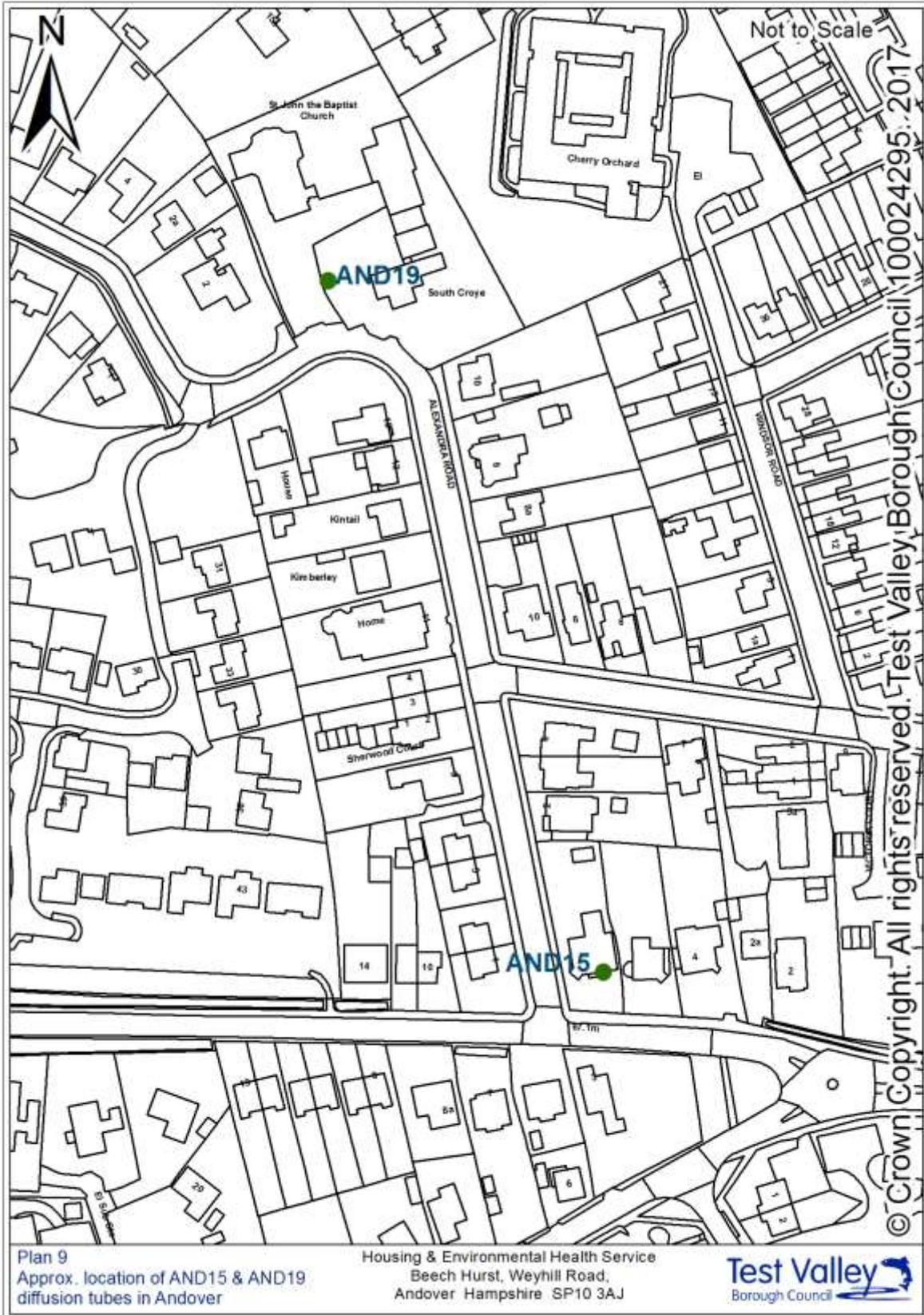




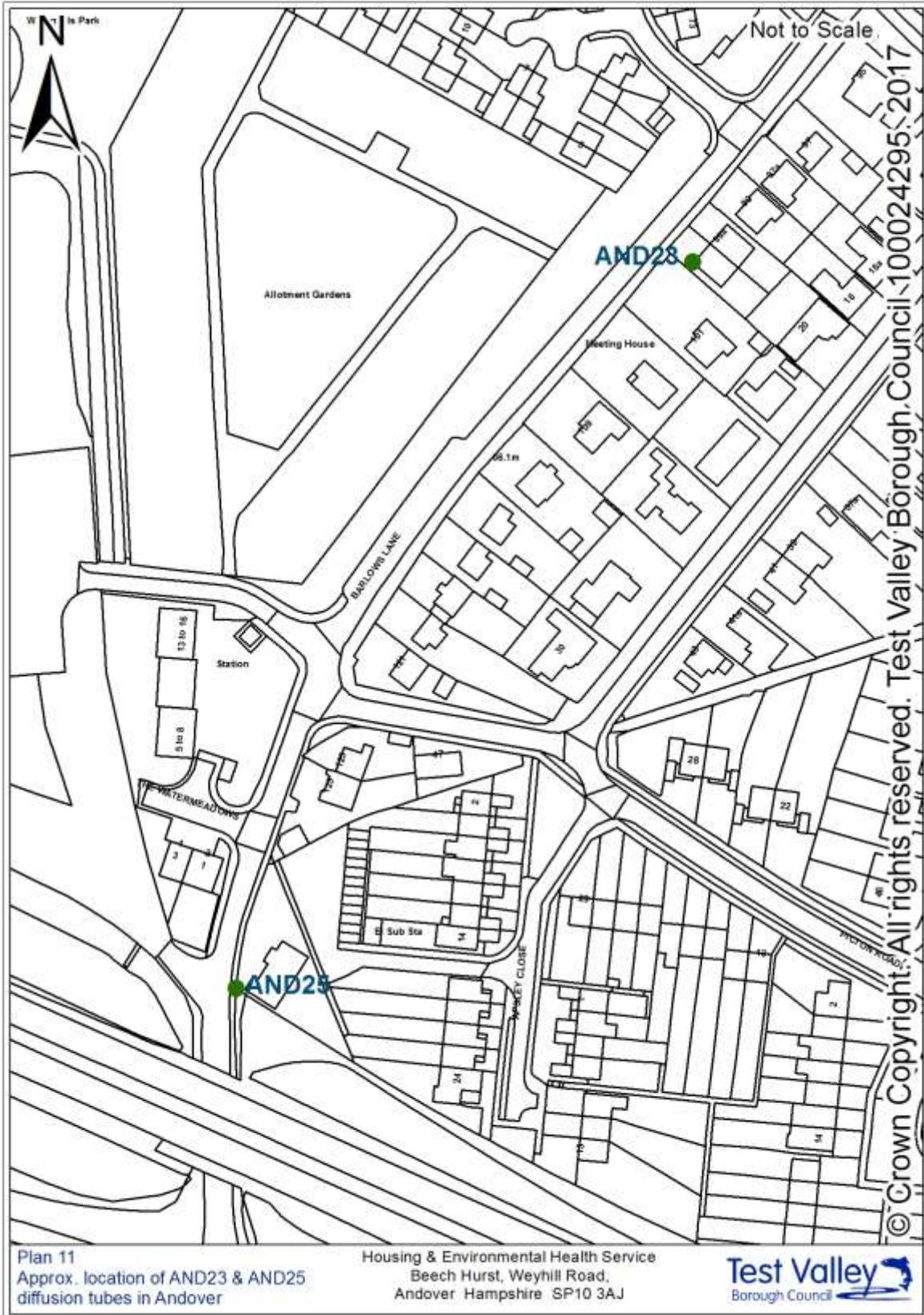










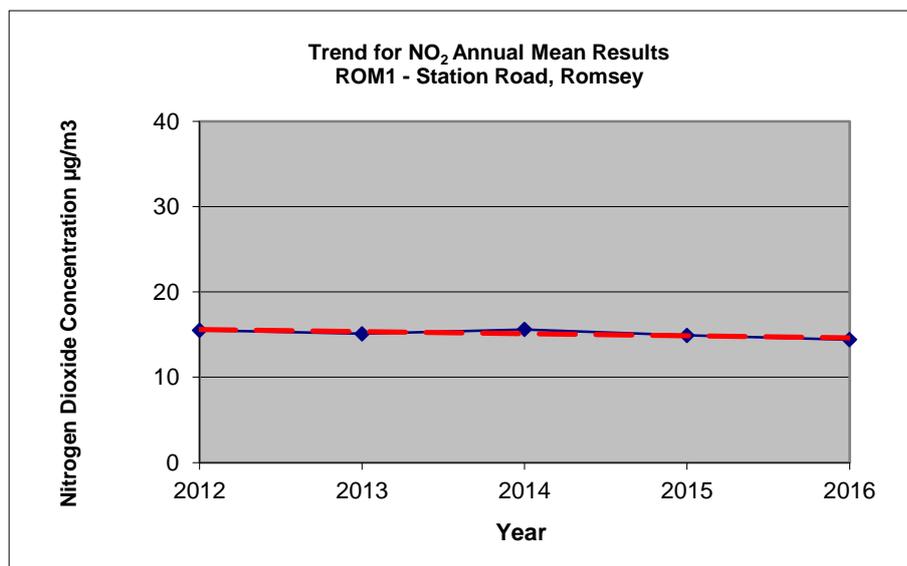


Appendix E: Summary of Air Quality Objectives and 5-year NO₂ trend charts

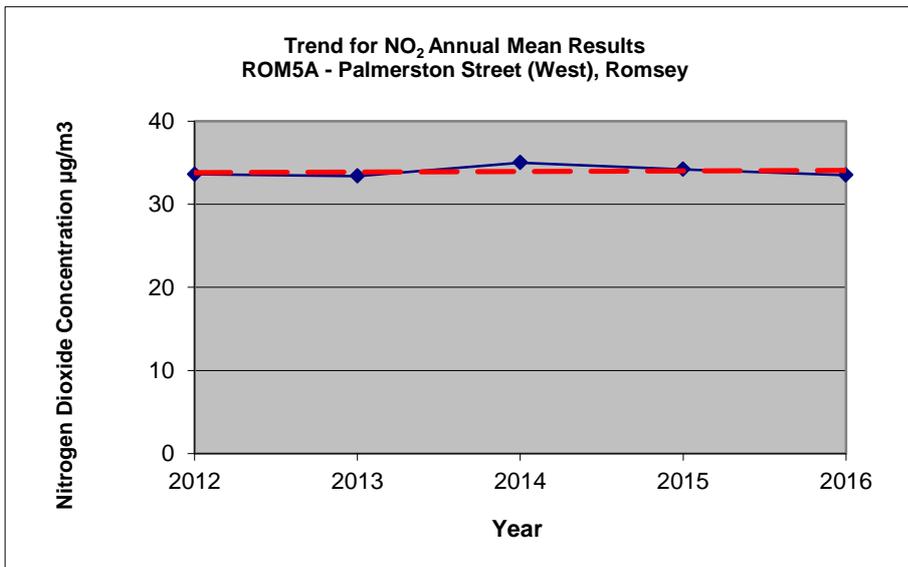
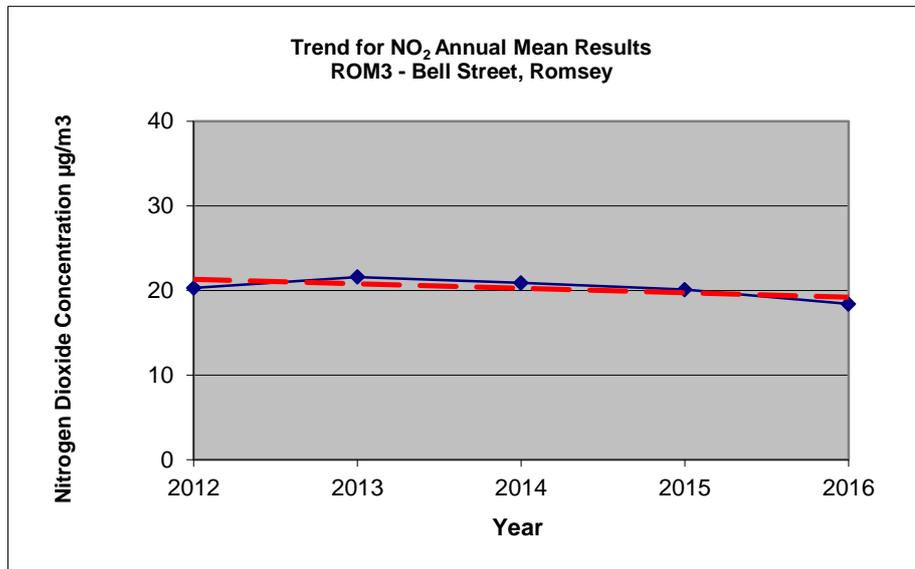
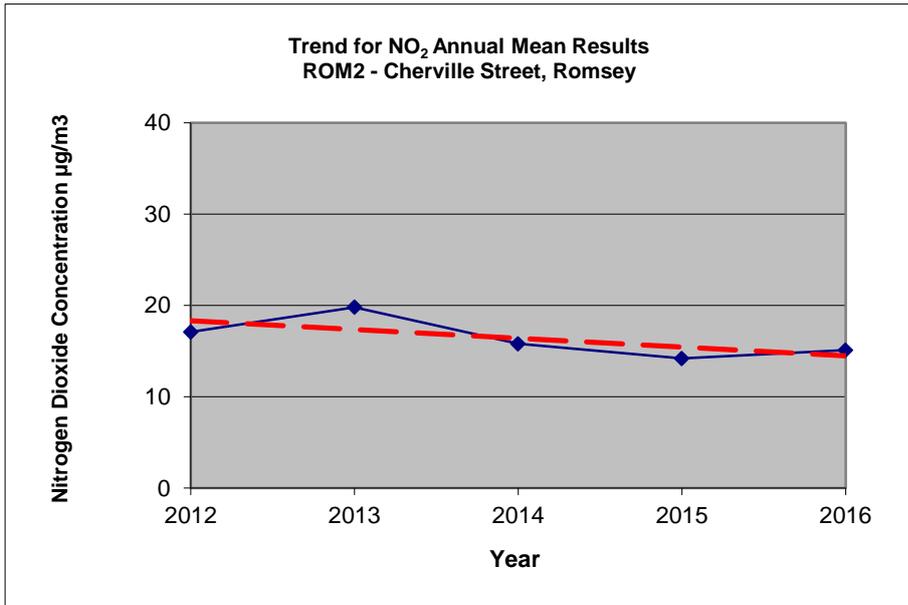
Table E.1 – Air Quality Objectives in England

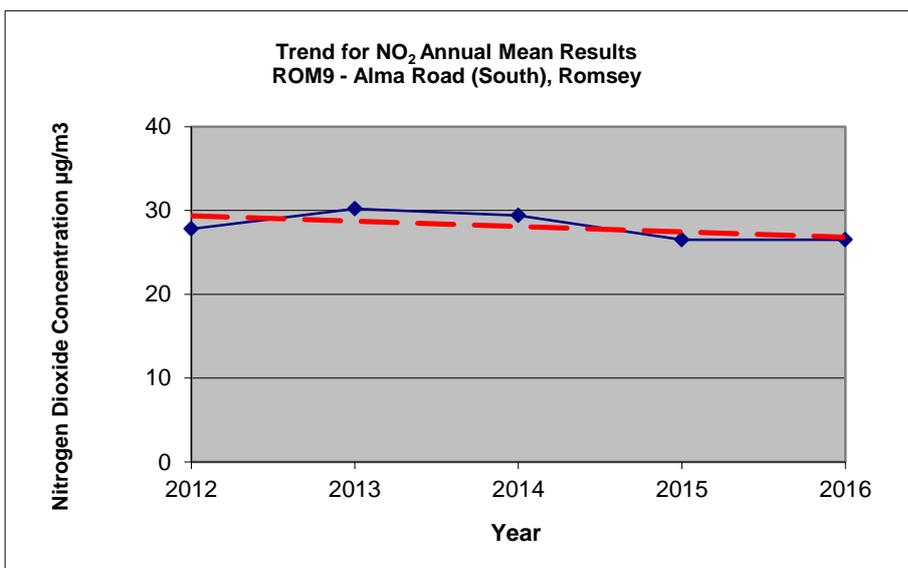
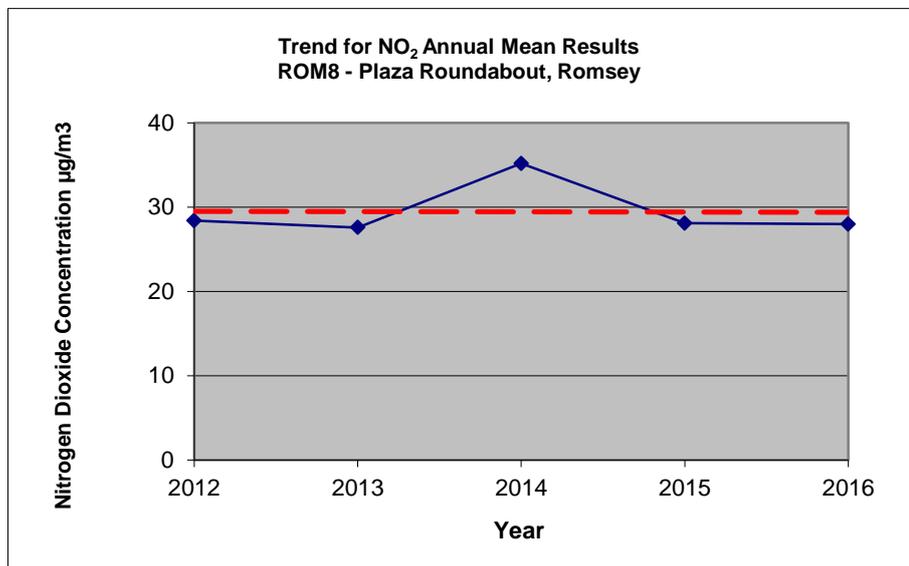
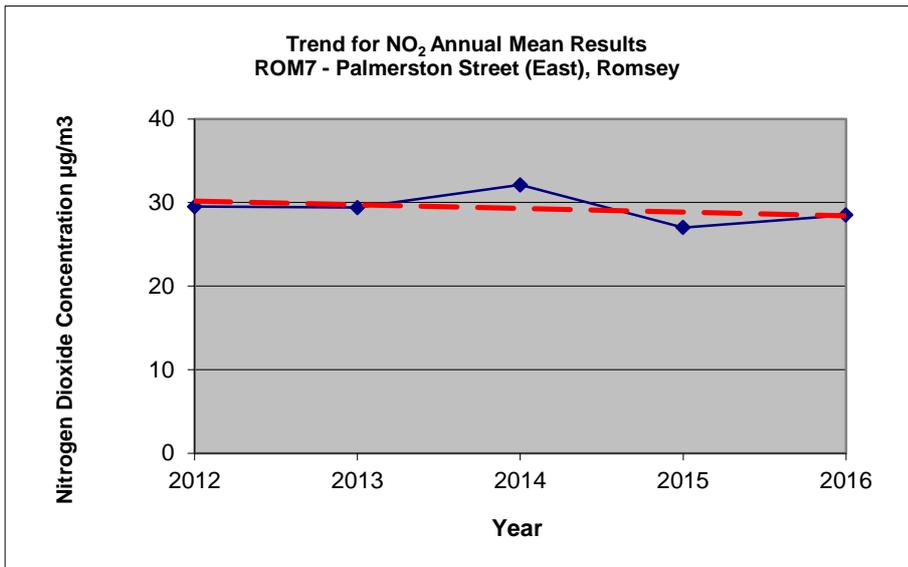
Pollutant	Air Quality Objectives in England ⁴	
	Concentration	Measured as
Nitrogen Dioxide (NO ₂)	200 µg/m ³ not to be exceeded more than 18 times a year	1-hour mean
	40 µg/m ³	Annual mean
Particulate Matter (PM ₁₀)	50 µg/m ³ , not to be exceeded more than 35 times a year	24-hour mean
	40 µg/m ³	Annual 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

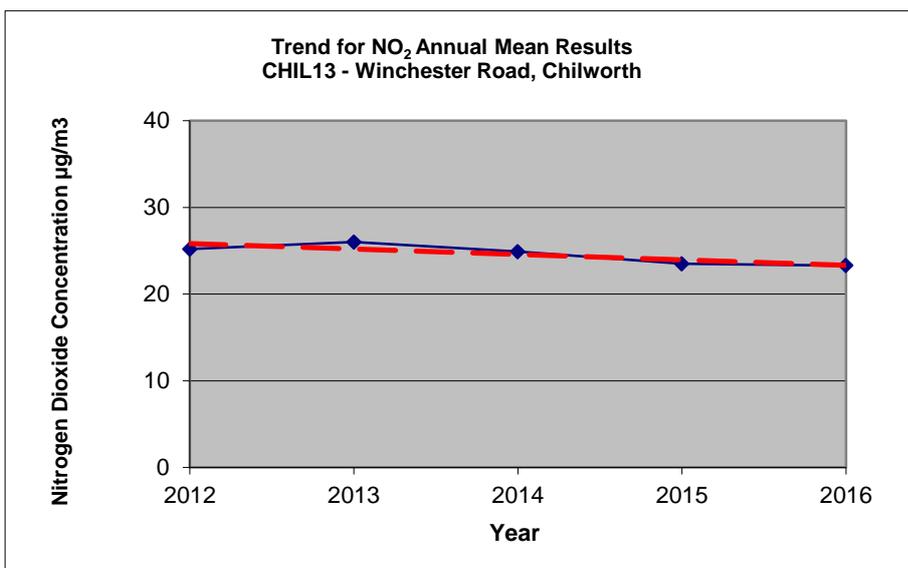
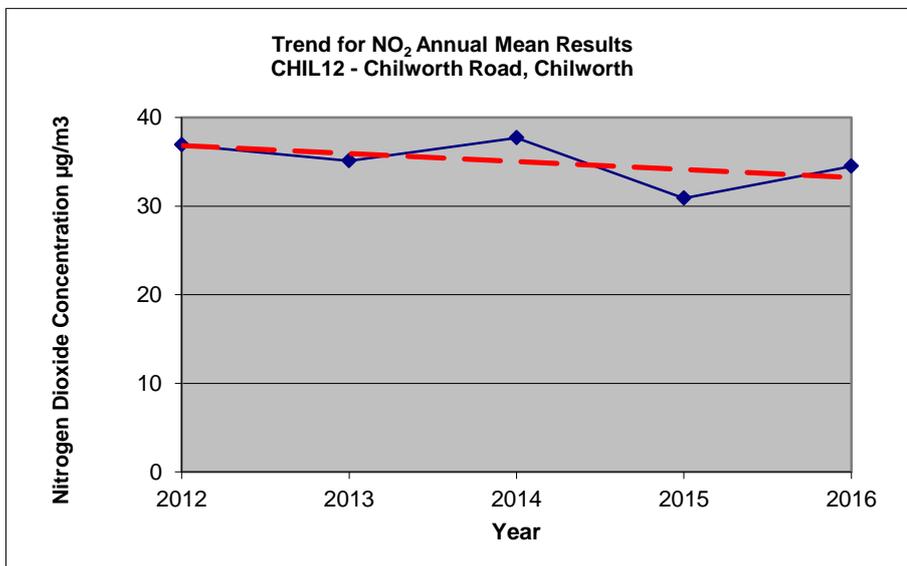
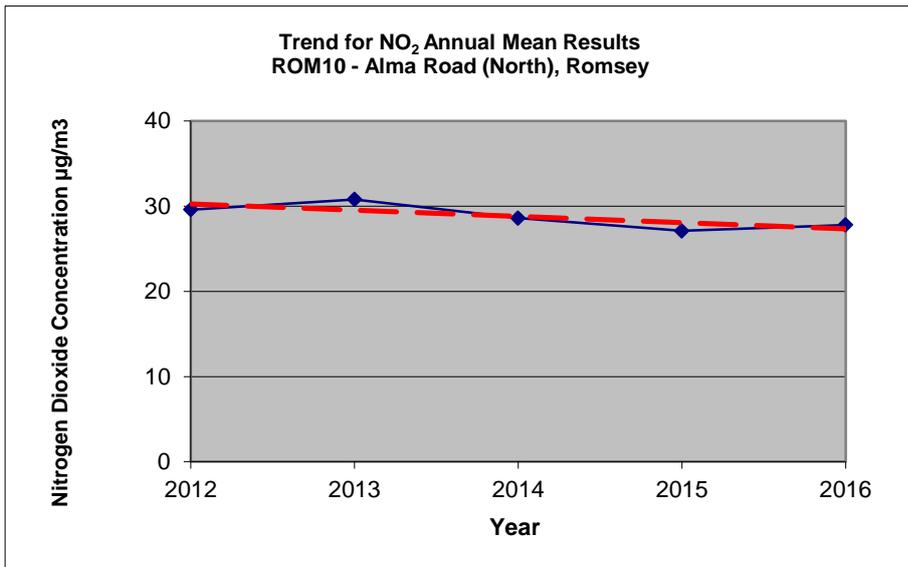
NO₂ trend charts 2012 – 2016

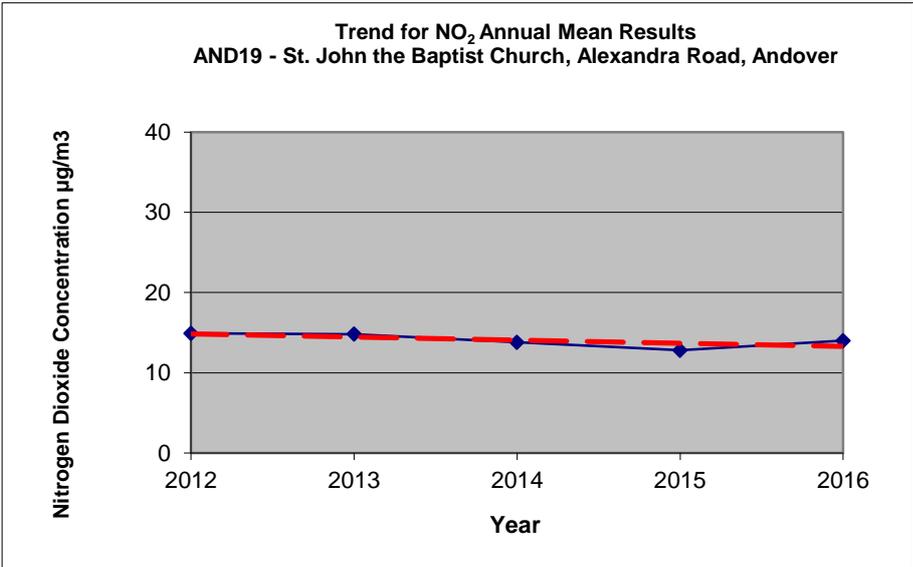
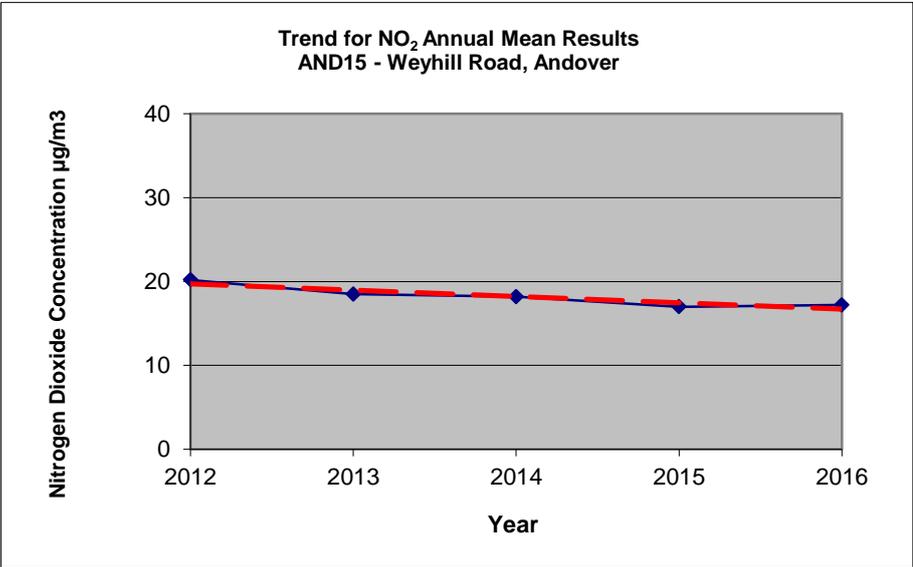
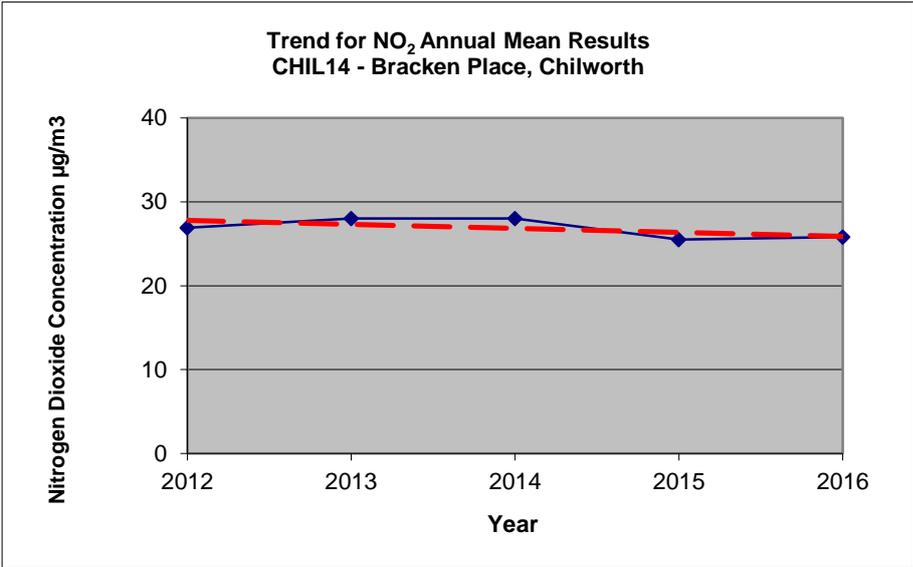


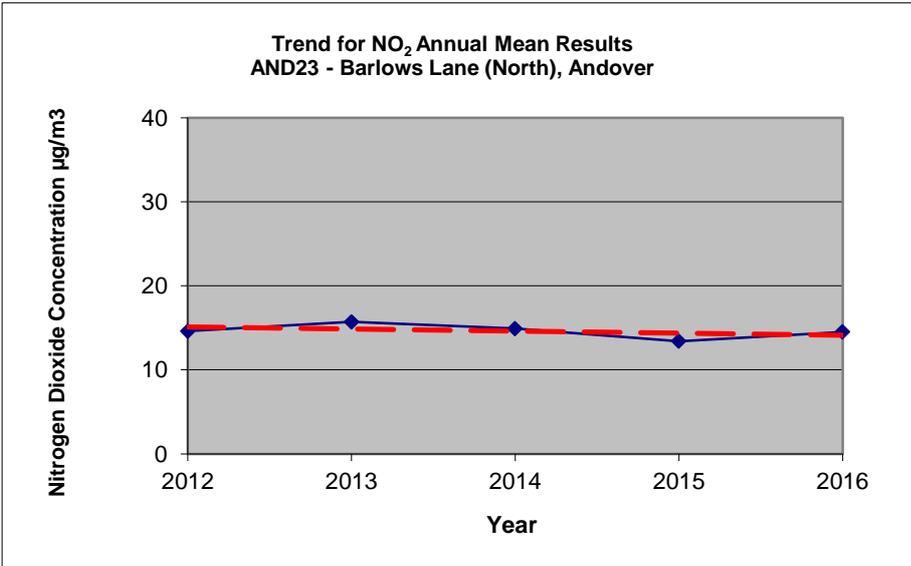
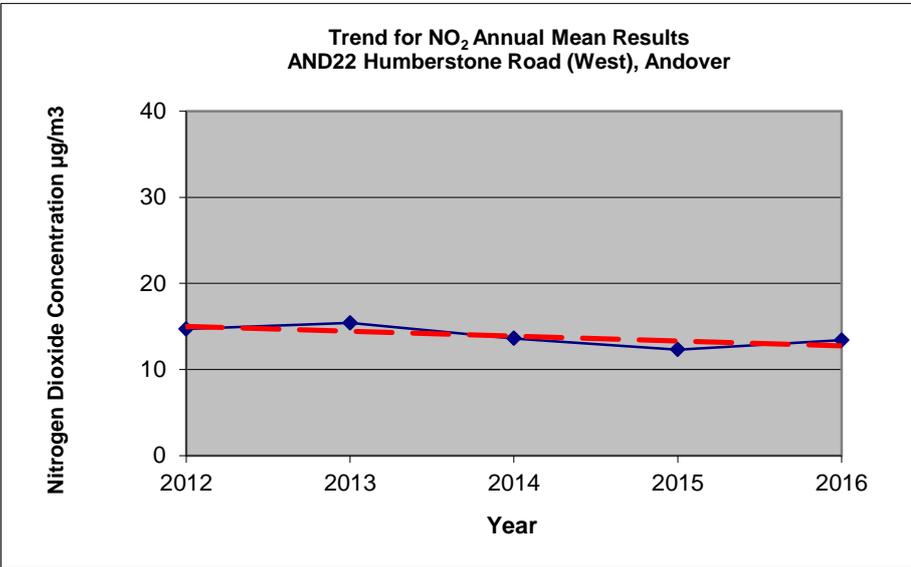
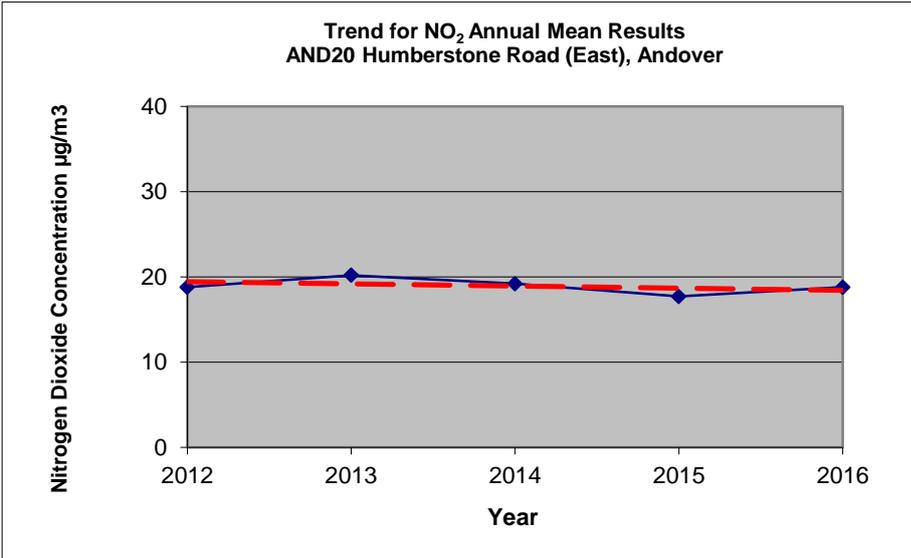
⁴ The units are in microgrammes of pollutant per cubic metre of air (µg/m³).

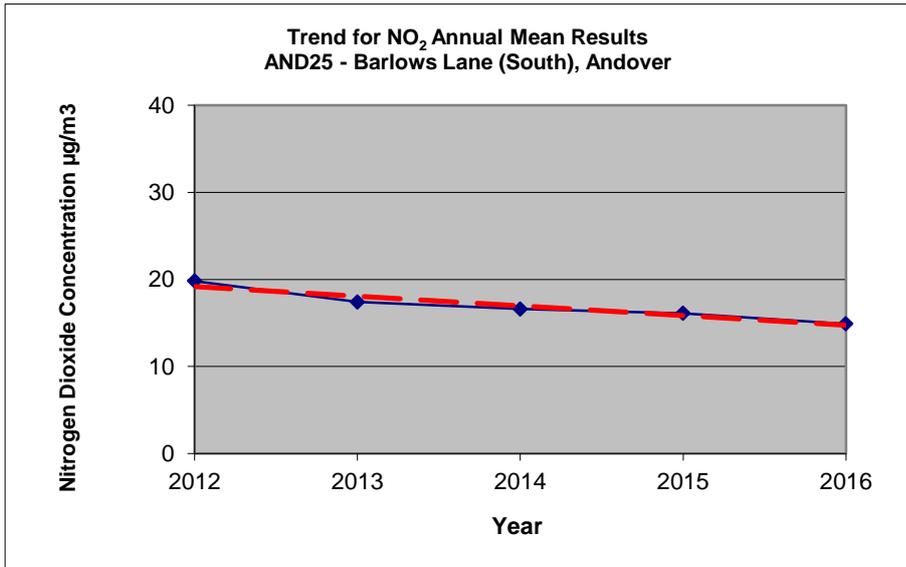












Glossary of Terms

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

Defra (April 2016), Part IV of the Environment Act 1995, Local Air Quality Management – Policy Guidance (PG16)

Defra (April 2016), Part IV of the Environment Act 1995, Local Air Quality Management – Technical Guidance (TG16)

Defra (December 2015), Air Quality Plan for the achievement of EU air quality limit value for nitrogen dioxide (NO₂) on Southampton Urban Area (UK0019)

AEA Energy & Environment (February 2008), Diffusion Tubes for Ambient NO₂ Monitoring: Practical Guidance for Laboratories and Users, AEAT/ENV/R/2504 - Issue 1a