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Air Quality Plan for the achievement of EU air quality limit values for nitrogen dioxide (NO_2) in Nottingham Urban Area (UK0008)

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Contents

1. Introduction

1.1. This document

This document is the Nottingham Urban Area (UK0008) air quality plan for the achievement of the EU air quality limit values for nitrogen dioxide (NO_2).

This plan presents the following information:

• General information regarding the Nottingham Urban Area agglomeration zone
• Details of NO_2 exceedence situation(s) within the Nottingham Urban Area agglomeration zone
• Details of local air quality measures that have been implemented, will be implemented or are being considered for implementation in this agglomeration zone.

This air quality plan for Nottingham Urban Area should be read in conjunction with the separate UK overview document and the list of UK and national measures that are available on the Defra website (http://www.defra.gov.uk/environment/quality/air/air-quality/eu/). The UK overview document sets out, amongst other things, the authorities responsible for delivering air quality improvements and the national measures that are applied in some or all UK zones. The measures presented in this plan and the accompanying UK overview and list of UK measures show how the UK will ensure that compliance with the NO_2 limit values is achieved as soon as possible.

This plan should also be read in conjunction with the supporting UK technical report (http://www.defra.gov.uk/environment/quality/air/air-quality/eu/), which presents information on assessment methods, input data and emissions inventories used in the analysis presented in this plan.

1.2. Context

Two NO_2 limit values for the protection of human health have been set in the Air Quality Directive (2008/50/EC). These are:

• The annual limit value: an annual mean concentration of no more than 40 μgm^{-3}
• The hourly limit value: no more than 18 hourly exceedances of 200 μgm^{-3} in a calendar year

The Air Quality Directive stipulates that compliance with the NO_2 limit values will be achieved by 01/01/2010. However, where the limit values cannot be achieved by then, the Directive also allows Member States to postpone this attainment date until 01/01/2015 provided air quality plans are established demonstrating how the limit values will be met by this extended deadline.

1.3. Zone status

The assessment undertaken for the Nottingham Urban Area agglomeration zone indicates that the annual limit value is likely to be exceeded in 2010 but achieved by 2015 through introduction of the measures included in the baseline and the non-quantifiable local measures outlined in this plan. Postponement of the compliance date to 2015 is sought for this limit value in this zone.

The assessment undertaken for the Nottingham Urban Area agglomeration zone indicates that the hourly limit value not exceeded in this agglomeration zone in 2008.

1.4. Plan structure

General administrative information regarding this agglomeration zone is presented in section 2.

Section 3 then presents the overall picture with respect to NO_2 levels in this agglomeration zone for the 2008 reference year of this air quality plan. This includes the declaration of exceedance situations within the agglomeration zone and presentation of a detailed source apportionment for each exceedance situation.

An overview of the measures already taken and to be taken within the agglomeration zone both before and after 2010 is given in section 4.

Baseline modelled projections for 2010, 2015 and 2020 for each exceedance situation are presented in section 5. The baseline projections presented here include, where possible, the impact of measures that have already been taken and measures for which the relevant authority has made a firm commitment to take the measure(s). However, it has not been possible to quantify the impact of all measures. This section therefore also explains which measures have been quantified, and hence included in the model projections, and which measures have not been quantified.

2. General Information about the Zone

2.1. Administrative information

Zone name: Nottingham Urban Area
Zone code: UK0008
Type of zone: agglomeration zone
Reference year: 2008
Extent of zone: Figure 1 shows the area covered by the Nottingham Urban Area agglomeration zone

Local Authorities within the agglomeration zone: Figure 2 shows the location of Local Authorities within the agglomeration zone. A list of these Local Authorities is also given below. The numbers in this list correspond to the numbers in Figure 2.

1. Amber Valley Borough Council
2. Ashfield District Council
3. Broxtowe Borough Council
4. Erewash Borough Council
5. Gedling Borough Council
6. Nottingham City Council
7. Rushcliffe Borough Council

(Note: Local Authority boundaries do not necessarily coincide with zone boundaries. Hence Local Authorities may be listed within more than one zone plan.)

Figure 1. Map showing the extent of the Nottingham Urban Area agglomeration zone (UK0008).

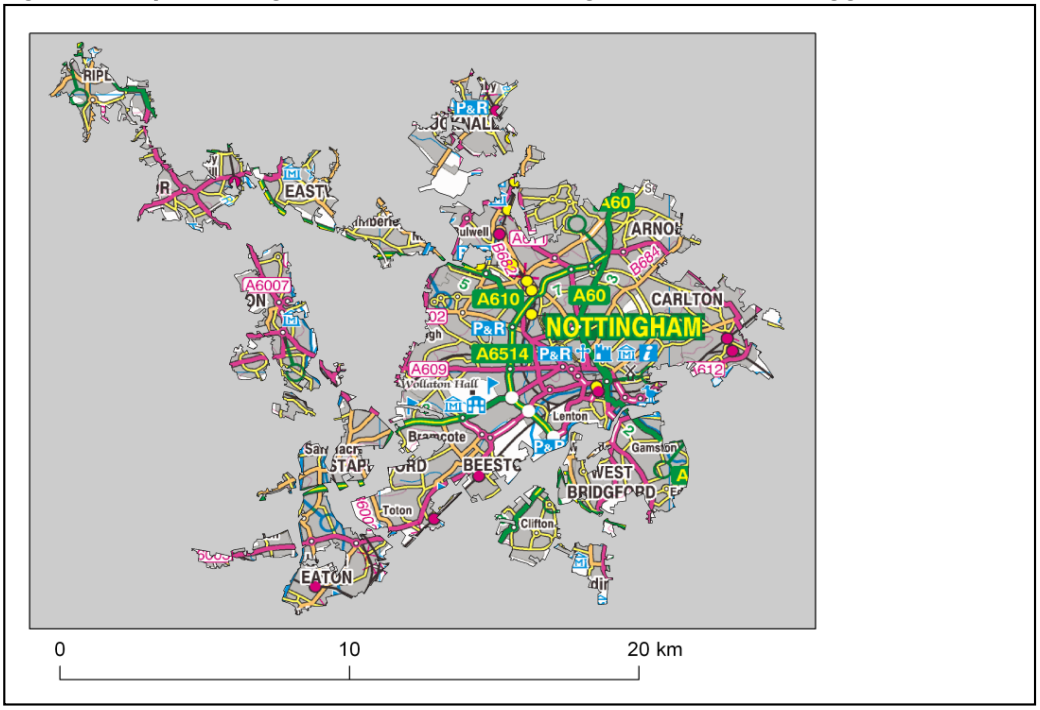
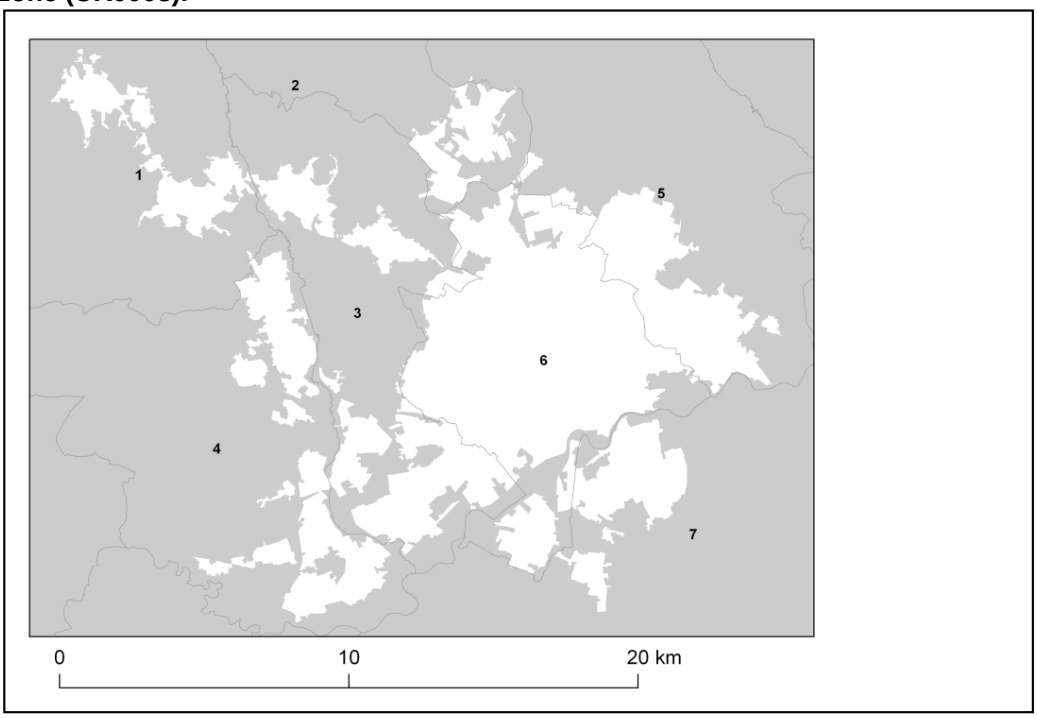


Figure 2. Map showing Local Authorities within the Nottingham Urban Area agglomeration zone (UK0008).



2.2. Assessment details

Measurements
NO_2 measurements in this zone were available in 2008 from the following national network monitoring stations (NO_2 data capture for each station in 2008 shown in brackets):

• Nottingham Centre GB0646A (97.8%)

Full details of monitoring stations within the Nottingham Urban Area agglomeration zone are available from http://uk-air.defra.gov.uk/networks/network-info?view=aurn.

Modelling
Modelling for the 2008 reference year has been carried out for the whole of the UK (see the UK technical report). This modelling covers the following extent within this zone:

• Total background area within zone (approx): 169 km^2
• Total population within zone (approx): 558935 people
• Total road length where an assessment of NO_2 concentrations have been made: 134 km in 2008 (and similar lengths in previous years).

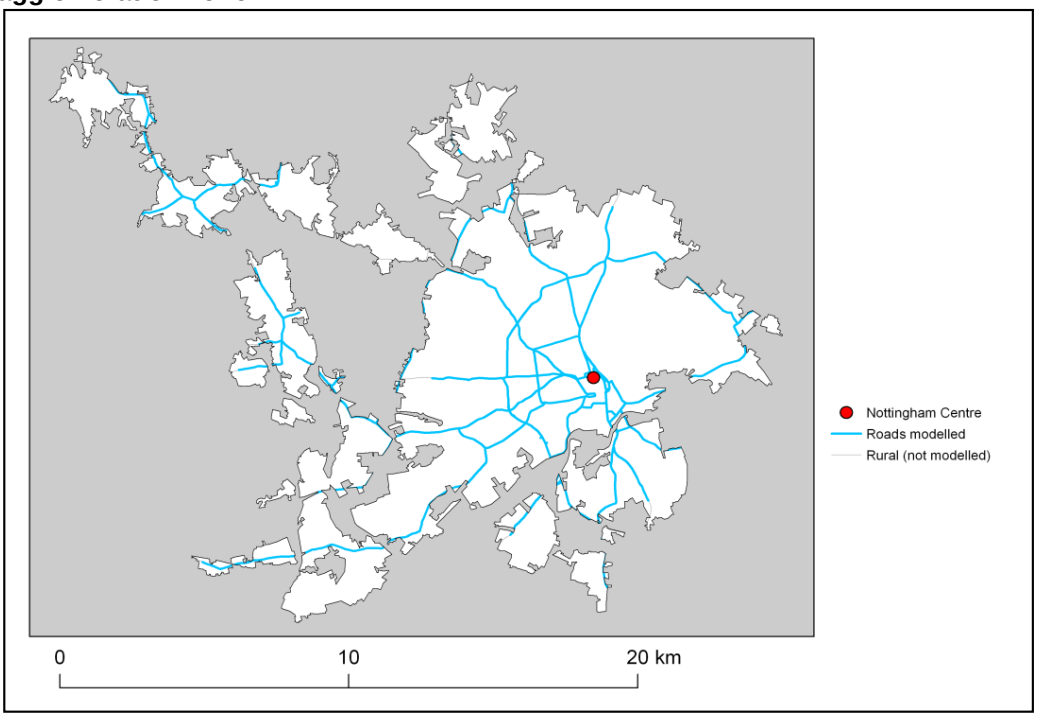
Zone maps
Figure 3 presents the location of the NO_2 monitoring stations within this zone for 2008 and the roads for which NO_2 concentrations have been modelled. NO_2 concentrations at background locations have been modelled across the entire zone at a 1 x 1 km^2 resolution.

2.3. Reporting Under European Directives

Since 2001 the UK has reported annually on air quality concentrations using a standard excel questionnaire (Decision 2004/461/EC). These questionnaires are available online from http://cdr.eionet.europa.eu/gb/eu/annualair

In addition, the UK has reported on air quality plans and programmes (Decision 2004/224/EC) on an annual basis depending on the reported concentrations in the previous year. Plans and programmes were first reported in this zone in 2003. Plans and programmes for 2003 and all other years for which they have been required are available from http://cdr.eionet.europa.eu/gb/eu/aqpp.

Figure 3. Map showing the location of the NO_2 monitoring sites with valid data in 2008 and roads where concentrations have been modelled within the Nottingham Urban Area (UK0008) agglomeration zone.



3. Overall Picture for 2008 reference year

3.1. Introduction

There are two limit values for the protection of health for NO_2. These are:

• The annual limit value (annual mean concentration of no more than 40 μgm^{-3})
• The hourly limit value (no more than 18 hourly exceedances of 200 μgm^{-3} in a calendar year)

Within the Nottingham Urban Area agglomeration zone only the annual limit value was exceeded in 2008. Hence, one exceedance situation for this zone has been defined, NO_2_UK0008_Annual_1, which covers the exceedance of the annual limit value. This exceedance situation is described below.

For both NO_2 limit values, a margin of tolerance for 2008 and other years has been defined in the Air Quality Directive (2008/50/EC). Data comparing assessed concentrations at locations within this agglomeration zone with the 2008 margin of tolerance are presented in the annual reporting questionnaire for 2008 (http://cdr.eionet.europa.eu/gb/eu/annualair).

3.2. Reference year: NO_2_UK0008_Annual_1

The NO_2_UK0008_Annual_1 exceedance situation covers all exceedances of the annual mean limit value in the Nottingham Urban Area agglomeration zone in 2008.

Compliance with the annual limit value in this exceedance situation has been assessed using a combination of air quality measurements and modelling. Table 1 presents measured annual mean concentrations at national network stations in this exceedance situation since the 1st Daughter Directive (1999/30/EC) came into force in 2001. This shows that there were no measured exceedances of the annual limit value in this zone in 2008. Table 2 summarises modelled annual mean NO_2 results in this exceedance situation for the same time period. This table shows that, in 2008, 45.1 km of road length was modelled to exceed the annual limit value. There were no modelled background exceedances of this limit value. Table 2 also shows that the maximum modelled annual mean NO_2 concentration in 2008 was 62.4 μgm^{-3}. Maps showing the modelled annual mean NO_2 concentrations for 2008 at background and at roadside locations are presented in Figures 4 and 5 respectively. All modelled exceedances of the annual limit value are coloured orange or red in these maps.

The maximum measured concentration in the zone varies due to changes emissions and varying meteorology in different years. However, the models are also updated each year to take into account the most up-to-date science, so the modelled results for different years may not be directly comparable.

The modelling carried out for this exceedance situation has also been used to determine the annual mean NO_X source apportionment for all modelled locations, along with an indicative annual mean NO_2 source apportionment. Table 3 presents summary source apportionment information in this exceedance situation for 2008, including:

• The modelled NO_X and indicative NO_2 source apportionment for the section of road with the highest modelled NO_2 concentration in this exceedance situation in 2008. This is important information because it shows which sources need to be tackled at the point with the largest compliance gap in the exceedance situation. It is not possible to calculate an unambiguous source apportionment for annual mean NO_2 concentrations for the reasons discussed in the UK Technical Report. We have, however, developed a method to provide an indicative source apportionment for annual mean NO_2 concentrations for these air quality plans. This method involves calculating the maximum and minimum possible contribution from each source to the NO_2 concentration. The final source apportionment has been calculated as the average of the minimum and maximum contributions for each source, with the results normalised so that the contributions sum to the total modelled NO_2 concentration. Further information on the methods used for source apportionment are provided in the UK Technical Report.

• The maximum NO_X contribution from each source from across all the roads included in this exceedance situation in 2008. This is important information because it highlights all the key sources that need to be tackled within the exceedance situation in order to achieve compliance across the entire area of the exceedance situation.

Figure A1.1 in Annex 1 presents the annual mean NO_X source apportionment for each section of road within the NO_2_UK0008_Annual_1 exceedance situation (i.e. the source apportionment for all exceeding roads only) in 2008. Roads have been grouped into motorways, trunk roads and primary road in this figure.

Table 1. Measured annual mean concentrations at national network stations in NO_2_UK0008_Annual_1 for 2001 onwards, μgm^{-3}. (Data capture shown in brackets) (a)

Site name (EOI code)	2001	2002	2003	2004	2005	2006	2007	2008	2009
Nottingham Centre (GB0646A)	35 (85%)	35 (98%)	36 (79%)	35 (91%)	33 (92%)	34 (98%)	33 (97%)	33 (98%)	35 (93%)

(a) Annual Mean Limit Value = 40 μgm^{-3}

Table 2. Annual mean NO_2 model results in NO_2_UK0008_Annual_1 for 2001 onwards

	2001	2002	2003	2004	2005	2006	2007	2008	2009
Road length exceeding (km)	90.2	59.7	87.2	61.1	65.5	52.1	53.5	45.1	43.0
Background area exceeding (km^2)	35	0	0	0	0	0	0	0	0
Maximum modelled concentration (μgm^{-3}) (a)	66.1	54.0	67.9	61.8	66.1	63.6	61.9	62.4	62.7

(a) Annual Mean Limit Value = 40 μgm^{-3}

Table 3. Source apportionment summary information for 2008 in NO_2_UK0008_Annual_1 (μgm^{-3}).

Spatial scale	Component	Highest road link (a)		Maximum (b)
		NOx	NO2 (d)	NOx
Regional background sources (i.e. contributions from distant sources of > 30 km from the receptor)	Total	8.8	(c)	
	From within the UK	5.2	(c)	5.6
	From transboundary sources (includes shipping and other EU Member States)	3.6	(c)	3.7
Urban background sources (i.e. sources located within 0.3 - 30 km from the receptor)	Total	35.4	17.5	-
	From road traffic sources	16.9	10.5	32.9
	From industry (including heat and power generation)	8.0	(c)	15.8
	From agriculture	0.0	(c)	0.0
	From commercial/residential sources	4.9	(c)	15.6
	From shipping	0.0	(c)	0.0
	From off road mobile machinery	4.7	(c)	13.6
	From natural sources	0.0	(c)	0.0
	From transboundary sources	0.0	(c)	0.0
	From other urban background sources	0.9	(c)	2.7
Local sources (i.e. contributions from sources < 0.3 km from the receptor)	Total	110.6	44.9	-
	From cars	45.3	17.5	47.2
	From HGV rigid	20.3	8.2	22.8
	From HGV articulated	17.5	7.1	22.9
	From Buses	11.5	4.7	42.8
	From LGVs	15.6	7.3	15.7
	From motorcycles	0.3	0.1	0.6
Total (i.e. regional background + urban background + local components)		154.7	62.4	-

(a) The road with the highest modelled annual mean NO_2 concentration in this exceedance situation in 2008 is a section of the A52, traffic count point id 37416 (OS grid (m): 454717, 338620).
(b) This column gives the maximum contribution for each component from all the roads included in the exceedence situation.
(c) The combined modelled annual mean NO_2 concentration contribution for these components is 7 μgm^{-3}. A more detailed NO_2 source apportionment is currently unavailable for these sectors.
(d) Source apportionment for NO_2 is indicative, see UK Technical Report.

Figure 4. Map of modelled background annual mean NO_2 concentrations 2008. Modelled exceedances of the annual limit value are shown in orange and red.

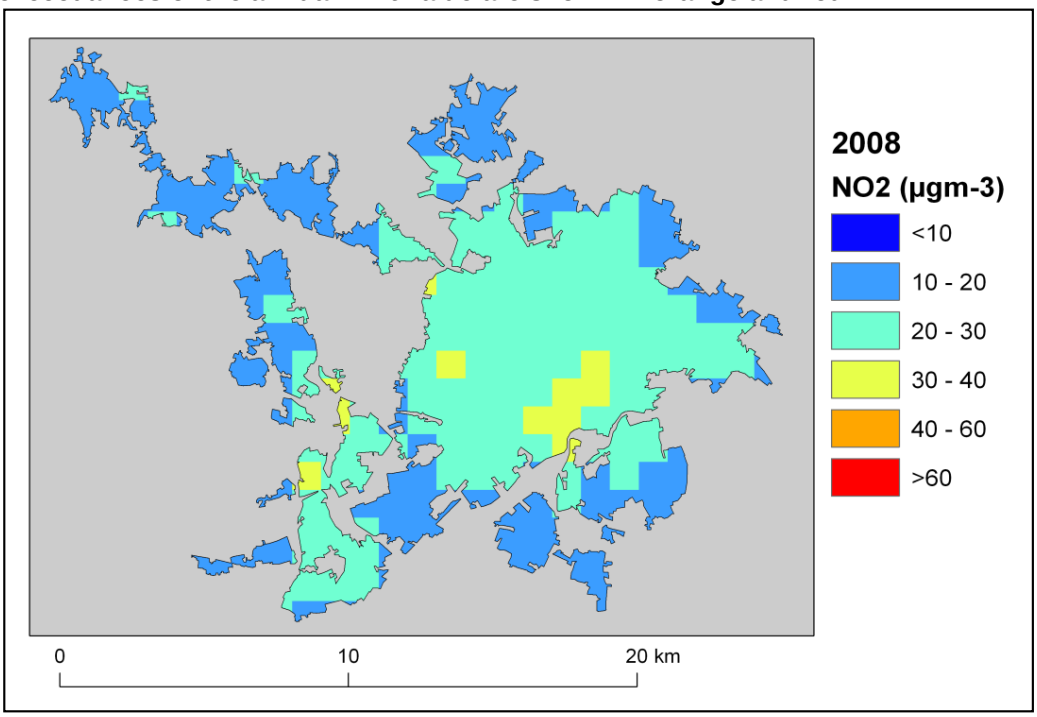
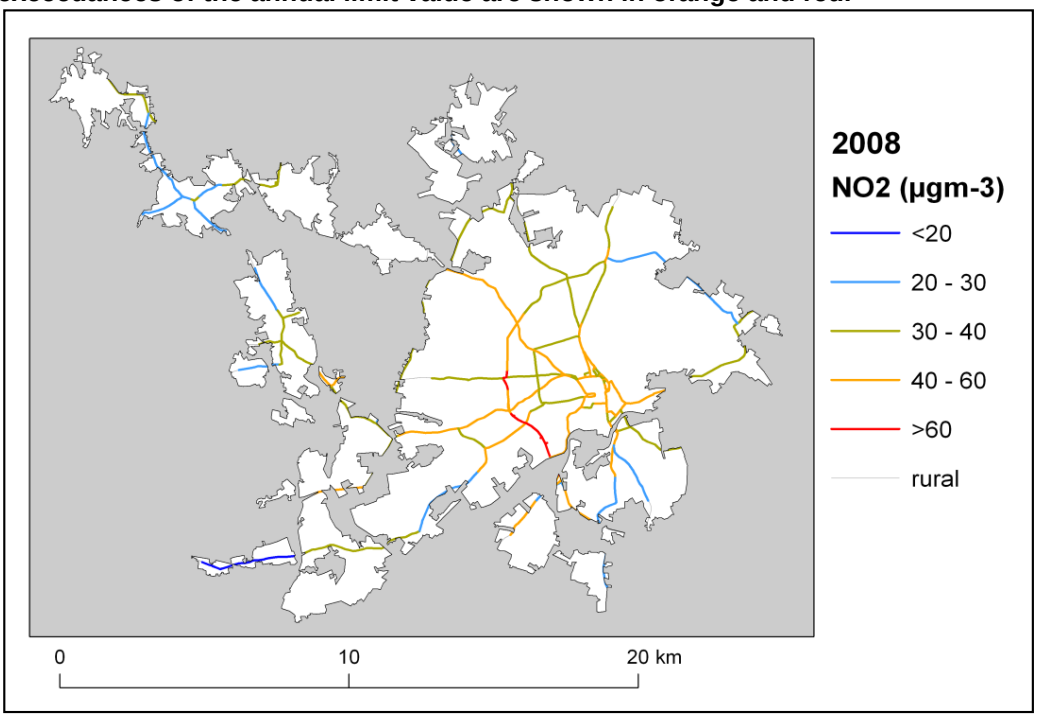


Figure 5. Map of modelled roadside annual mean NO_2 concentrations 2008. Modelled exceedances of the annual limit value are shown in orange and red.



4. Measures

4.1. Introduction

This section (section 4) gives details of measures that address exceedances of the NO_2 limit values within Nottingham Urban Area agglomeration zone. This includes both measures that have already been taken and measures for which there is a firm commitment that they will be taken.

Section 5 then explains the extent to which it has been possible to incorporate the impacts of these measures into the baseline modelling carried out for this assessment.

4.2. Source apportionment

It is important to understand which sources are responsible for causing the exceedance in order to most effectively tailor measures to address the NO_2 exceedance situation(s) described in section 3 above. This can be achieved by considering the source apportionment for the exceedance situation, also presented in section 3. A summary of what the source apportionment shows and the implications for which measures would therefore be appropriate is given here.

Local road traffic was the dominant source in this exceedance location in the reference year. The largest contribution was from cars at the location of maximum exceedance with a contribution of 45.3 ugm^{-3} of NO_X out of a total of 154.7 ugm^{-3} of NO_X. Cars were important sources on the trunk roads with the highest concentrations. Buses and cars were important sources on the primary roads with the highest concentrations.

This indicates that appropriate measures should impact on local road traffic sources in this zone. Other measures may also be beneficial depending on the source apportionment for the urban background.

4.3. Measures

Measures potentially affecting NO_2 in this agglomeration zone have been taken and/or are planned at a range of administrative levels. These are:

- European Union
- National (i.e. England, Scotland, Wales, Northern Ireland or whole UK)
- Local (i.e. UK Local Authorities)

Details of European Union measures (e.g. euro standards, fuel quality directives, integrated pollution prevention and control) can be found on the European Commission's website (http://ec.europa.eu/environment/air/index_en.htm). Details of national measures are given in the UK overview document and list of UK and National measures.

Relevant Local Authority measures within this exceedance situation are listed in Table A2.1 (see Annex 2). Relevant Local Authority measures are considered to be those measures which directly target, or are in close geographical proximity to roads and/or background grid squares in exceedance of one or other of the NO_2 limit values. Other Local Authority measures may also have been taken in this zone, but they are not listed in this table. All the measures listed in Table A2.1 have been carried out, are in the process of being carried out or a firm commitment had been made to carry them out on the timetables listed at the point at which information on local measures was collected.

4.4. Measures timescales

Timescales for national measures are given in the UK overview document and list of UK and National measures.

Information on local measures was collected in autumn 2009. Hence, any Local Authority action plans and measures adopted by Local Authorities after this time have not been included in this air quality plan. Many of the measures listed in Annex 2 will either have happened before autumn 2009 or have

been planned for implementation before or during 2010. Others will be planned for after 2010. It should be noted that many of the measures taken before or during 2010 will continue to have a beneficial impact on air quality after the end of 2010.

Local Authorities report on progress with the implementation of their action plans annually and review action plan measures regularly. Where future Local Authority measures to improve air quality are under consideration these would be included in future local authority action plans and published by the local authority.

5. Baseline Model Projections

5.1. Overview of model projections

Baseline projections for 2010
Model projections for 2010, starting from the 2008 reference year described in section 3, have been calculated in order to determine whether compliance with the NO_2 limit values is likely to be achieved for each exceedance situation by the original deadline for compliance of 01/01/2010. Details of the methods used for the baseline emissions and concentration projections modelling are provided in the the UK technical report.

For national measures, it has not been possible to quantify the impact of all measures on emissions and ambient concentrations. The impact for all quantifiable measures has been included in the baseline projections.

The impacts of the individual Local Authority measures have not been explicitly included in the baseline model projections. However, measures may have been included implicitly if they have influenced the traffic counts for 2007 (used as a basis for the compilation of the emission inventory) or in the traffic activity projections to 2010 and beyond (used to calculate the emission projections). It should be recognised that these measures will have a beneficial impact on air quality, even if it has not been possible to quantify this impact here.

A number of the local measures in Table A2.1 can be considered to be 'smarter choices' measures (see http://www.dft.gov.uk/pgr/sustainable/smarterchoices/ctwwt/ for a detailed description of this type of measure). We have quantified the impact of this group of measures on a national scale within the projections. Details of how this has been done can be found in the UK technical report. Table A2.1 indicates which local measures we have considered to be 'smarter choices'.

Baseline projections for 2015
Model projections for 2015, starting from the 2008 reference year described above, have been calculated in order to determine whether compliance with the NO_2 limit values is likely to be achieved for each exceedance situation by the revised deadline for compliance of 01/01/2015 on the basis of EU-wide measures and the measures currently planned. This modelling is described in detail in the UK technical report. Many of the measures listed in annex 2 of this document and the supporting list of UK and national measures will continue or will continue to have an impact beyond the original deadline for compliance of 01/01/2010.

5.2. Baseline projections: NO_2_UK0008_Annual_1

Table 4 presents summary results for the baseline model projections for 2010, 2015 and 2020 for the NO_2_UK0008_Annual_1 exceedance situation. This shows that the maximum modelled annual mean NO_2 concentration predicted for 2010 in this exceedance situation is 52.7 μgm^{-3}. By 2015, the maximum modelled annual mean NO_2 concentration is predicted to drop to 37.3 μgm^{-3}. Hence, the model results suggest that compliance with the NO_2 annual limit value is likely to be achieved by 2015 under baseline conditions in this exceedance situation. Postponement of the compliance date to 2015 is sought for this limit value this zone.

The projected modelled NO_X and indicative NO_2 annual mean source apportionments for 2010, 2015 and 2020 at the location with the biggest compliance gap in 2008 are presented in Table 5. In 2010 and 2015, the model results suggest that this location will continue to have the highest annual mean NO_2 concentration within this exceedance situation. However, in 2020 the model indicates that the location with the highest annual mean NO_2 concentration within this exceedance situation will be elsewhere. Information regarding the new location with the highest NO_2 concentration, including the source apportionment is given in Table 6. The locations of maximum concentration in each year are given in the footnote to this table. This source apportionment information is useful because it shows which sources need to be tackled at the point with the largest compliance gap in the exceedance situation.

Table 7 shows the maximum NO_X contribution from each source apportionment component from any road across the whole exceedance situation. This source apportionment information is useful because it highlights all the key sources that need to be tackled within the exceedance situation in order to achieve compliance across the entire area of the exceedance situation. It should be noted that this table only includes roads which continue to be in exceedance in the relevant year. Hence, for example, the road with the largest contribution from cars in 2010 may no longer be included in the table in 2015 if the road is predicted to be compliant in 2015.

Figures 6 and 7 show maps of projected annual mean NO_2 concentrations in 2010, 2015 and 2020 at background and roadside locations respectively. Maps for 2008 are also presented here for reference.

It should be noted that the baseline projections presented here include the impacts of measures, where they can be quantified, that have already been or will be implemented.

Table 4. Annual mean NO_2 model results in NO_2_UK0008_Annual_1

	2008	2010	2015	2020
Road length exceeding (km)	45.1	17.7	0.0	0.0
Background area exceeding (km^2)	0	0	0	0
Maximum modelled concentration (μgm^{-3}) (a)	62.4	52.7	37.3	26.9

(a) Annual Mean Limit Value = 40 μgm^{-3}

Table 5. Modelled source apportionment for 2010, 2015 and 2020 under baseline conditions for traffic count point 37416 on the A52 (the road section with the maximum modelled annual mean NO_2 concentration in 2008 in NO_2_UK0008_Annual_1. OS grid (m): 454717, 338620). 2008 results are also presented here for reference (units: μgm^{-3}).

Spatial scale	Component	NOx				NO2 (indicative)			
		2008	2010	2015	2020	2008	2010	2015	2020
Regional background sources (i.e. contributions from distant sources of > 30 km from the receptor)	Total	8.8	7.6	6.6	5.3	(a)	(b)	(c)	(d)
	From within the UK	5.2	4.5	3.9	3.1	(a)	(b)	(c)	(d)
	From transboundary sources (includes shipping and other EU Member States)	3.6	3.1	2.7	2.2	(a)	(b)	(c)	(d)
Urban background sources (i.e. sources located within 0.3 - 30 km from the receptor)	Total	35.4	29.8	23.1	18.8	17.5	15.3	13.1	11.3
	From road traffic sources	16.9	12.5	8.4	5.4	10.5	9.9	9.2	8.7
	From industry (including heat and power generation)	8.0	7.3	7.2	6.9	(a)	(b)	(c)	(d)
	From agriculture	0.0	0.0	0.0	0.0	(a)	(b)	(c)	(d)
	From commercial/residential sources	4.9	4.9	4.5	4.1	(a)	(b)	(c)	(d)
	From shipping	0.0	0.0	0.0	0.0	(a)	(b)	(c)	(d)
	From off road mobile machinery	4.7	4.4	2.3	1.7	(a)	(b)	(c)	(d)
	From natural sources	0.0	0.0	0.0	0.0	(a)	(b)	(c)	(d)
	From transboundary sources	0.0	0.0	0.0	0.0	(a)	(b)	(c)	(d)
	From other urban background sources	0.9	0.7	0.7	0.7	(a)	(b)	(c)	(d)
Local sources (i.e. contributions from sources < 0.3 km from the receptor)	Total	110.6	87.7	52.7	27.4	44.9	37.4	24.2	13.4
	From cars	45.3	30.4	21.0	13.9	17.5	12.6	9.6	6.8
	From HGV rigid	20.3	18.1	9.3	3.3	8.2	7.5	4.1	1.5
	From HGV articulated	17.5	15.3	7.7	2.5	7.1	6.3	3.4	1.2
	From Buses	11.5	10.3	6.1	2.8	4.7	4.3	2.7	1.3
	From LGVs	15.6	13.4	8.4	4.7	7.3	6.5	4.4	2.5
	From motorcycles	0.3	0.3	0.2	0.2	0.1	0.1	0.1	0.1
Total (i.e. regional background + urban background + local components)		154.7	125.1	82.4	51.5	62.4	52.7	37.3	24.7

(a) The total annual mean NO_2 contribution for all components labelled (a) in 2008 was modelled to be 7 μgm^{-3}.
(b) The total annual mean NO_2 contribution for all components labelled (b) in 2010 is predicted to be 5.4 μgm^{-3}.
(c) The total annual mean NO_2 contribution for all components labelled (c) in 2015 is predicted to be 3.9 μgm^{-3}.
(d) The total annual mean NO_2 contribution for all components labelled (d) in 2020 is predicted to be 2.6 μgm^{-3}.

Table 6. Modelled source apportionment for 2010, 2015 and 2020 under baseline conditions for traffic count point with the highest concentration in these years in NO_2_UK0008_Annual_1 (a). 2008 results are also presented here for reference (units: μgm^{-3}).

Spatial scale	Component	NOx				NO2 (indicative)			
		2008	2010	2015	2020	2008	2010	2015	2020
Regional background sources (i.e. contributions from distant sources of > 30 km from the receptor)	Total	8.8	7.6	6.6	5.4	(b)	(c)	(d)	(e)
	From within the UK	5.2	4.5	3.9	3.2	(b)	(c)	(d)	(e)
	From transboundary sources (includes shipping and other EU Member States)	3.6	3.1	2.7	2.2	(b)	(c)	(d)	(e)
Urban background sources (i.e. sources located within 0.3 - 30 km from the receptor)	Total	35.4	29.8	23.1	34.5	17.5	15.3	13.1	18.2
	From road traffic sources	16.9	12.5	8.4	7.7	10.5	9.9	9.2	14.5
	From industry (including heat and power generation)	8.0	7.3	7.2	8.7	(b)	(c)	(d)	(e)
	From agriculture	0.0	0.0	0.0	0.0	(b)	(c)	(d)	(e)
	From commercial/residential sources	4.9	4.9	4.5	12.6	(b)	(c)	(d)	(e)
	From shipping	0.0	0.0	0.0	0.0	(b)	(c)	(d)	(e)
	From off road mobile machinery	4.7	4.4	2.3	4.7	(b)	(c)	(d)	(e)
	From natural sources	0.0	0.0	0.0	0.0	(b)	(c)	(d)	(e)
	From transboundary sources	0.0	0.0	0.0	0.0	(b)	(c)	(d)	(e)
	From other urban background sources	0.9	0.7	0.7	0.8	(b)	(c)	(d)	(e)
Local sources (i.e. contributions from sources < 0.3 km from the receptor)	Total	110.6	87.7	52.7	18.7	44.9	37.4	24.2	8.8
	From cars	45.3	30.4	21.0	6.8	17.5	12.6	9.6	3.3
	From HGV rigid	20.3	18.1	9.3	1.4	8.2	7.5	4.1	0.6
	From HGV articulated	17.5	15.3	7.7	0.2	7.1	6.3	3.4	0.1
	From Buses	11.5	10.3	6.1	8.4	4.7	4.3	2.7	3.8
	From LGVs	15.6	13.4	8.4	1.8	7.3	6.5	4.4	0.9
	From motorcycles	0.3	0.3	0.2	0.1	0.1	0.1	0.1	0.0
Total (i.e. regional background + urban background + local components)		154.7	125.1	82.4	58.6	62.4	52.7	37.3	26.9

(a) The road with the maximum annual mean NO_2 concentration in different years is as follows. 2008: A section of the A52 (count point id 37416). 2010: A section of the A52 (count point id 37416). 2015: A section of the A52 (count point id 37416). 2020: A section of the A6008 (count point id 74204). (OS grid (m): 454717, 338620; 454717, 338620; 454717, 338620; 454717, 338620).
(b) The total annual mean NO_2 contribution for all components labelled (b) in 2008 was modelled to be 7 μgm^{-3}.
(c) The total annual mean NO_2 contribution for all components labelled (c) in 2010 is predicted to be 5.4 μgm^{-3}.
(d) The total annual mean NO_2 contribution for all components labelled (d) in 2015 is predicted to be 3.9 μgm^{-3}.
(e) The total annual mean NO_2 contribution for all components labelled (e) in 2020 is predicted to be 3.7 μgm^{-3}.

Table 7. The maximum NO_X contribution from each source from across all the roads included in the exceedance situation on which exceedances remain in 2010, 2015 and 2020 under baseline conditions. Zeros indicate that there are no exceedances in the relevant year.

Spatial scale	Component	NOx			
		2008	2010	2015	2020
Regional background sources (i.e. contributions from distant sources of > 30 km from the receptor)	From within the UK	5.6	4.8	0.0	0.0
	From transboundary sources (includes shipping and other EU Member States)	3.7	3.2	0.0	0.0
Urban background sources (i.e. sources located within 0.3 - 30 km from the receptor)	From road traffic sources	32.9	15.3	0.0	0.0
	From industry (including heat and power generation)	15.8	13.4	0.0	0.0
	From agriculture	0.0	0.0	0.0	0.0
	From commercial/residential sources	15.6	14.9	0.0	0.0
	From shipping	0.0	0.0	0.0	0.0
	From off road mobile machinery	13.6	12.8	0.0	0.0
	From natural sources	0.0	0.0	0.0	0.0
	From transboundary sources	0.0	0.0	0.0	0.0
	From other urban background sources	2.7	1.8	0.0	0.0
Local sources (i.e. contributions from sources < 0.3 km from the receptor)	From cars	47.2	31.7	0.0	0.0
	From HGV rigid	22.8	20.3	0.0	0.0
	From HGV articulated	22.9	17.6	0.0	0.0
	From Buses	42.8	38.4	0.0	0.0
	From LGVs	15.7	13.5	0.0	0.0
	From motorcycles	0.6	0.6	0.0	0.0

Figure 6. Background baseline projections of annual mean NO_2 concentrations in 2010, 2015 and 2020. 2008 is also included here for reference. Modelled exceedances of the annual limit value are shown in orange and red.

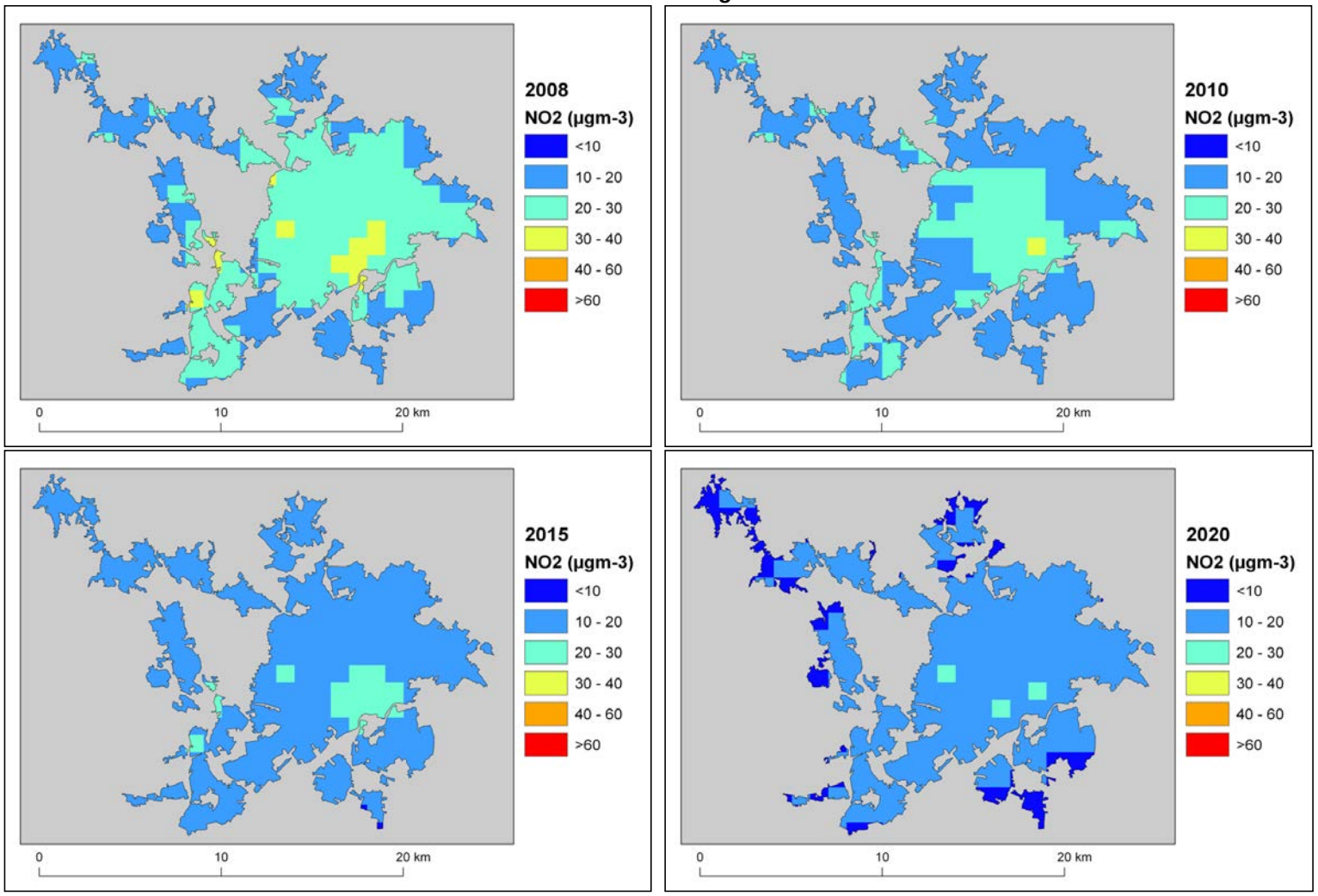
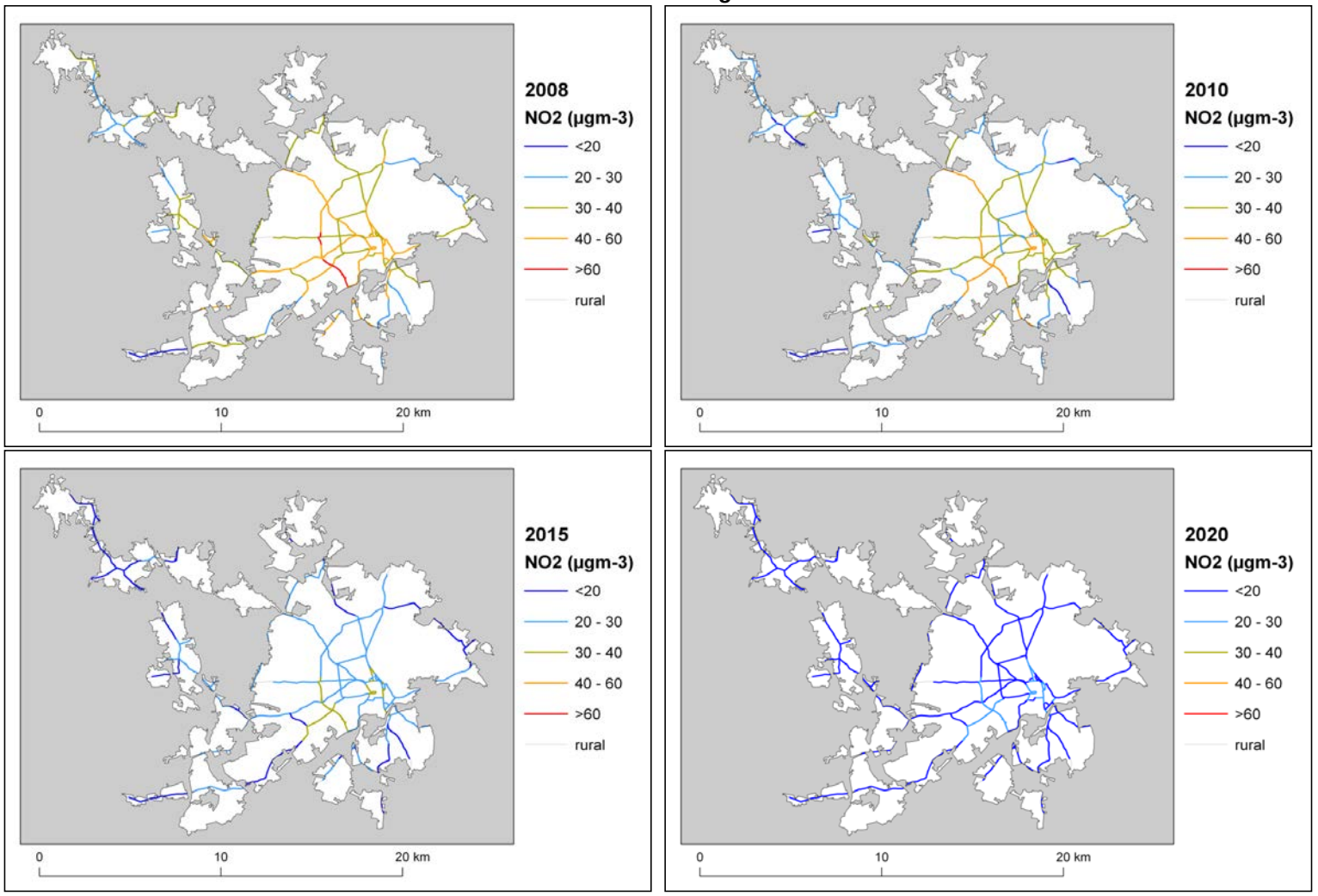


Figure 7. Roadside baseline projections of annual mean NO_2 concentrations in 2010, 2015 and 2020. 2008 is also included here for reference. Modelled exceedances of the annual limit value are shown in orange and red.



References

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Decision 2004/224/EC. Commission Decision of 20 February 2004 laying down arrangements for the submission of information on plans or programmes required under Council Directive 96/62/EC in relation to limit values for certain pollutants in ambient air. From the Official Journal of the European Union, 6.3.2004, En series, L68/27

Decision 2004/461/EC. Commission Decision of 29 April 2004 laying down a questionnaire to be used for annual reporting on ambient air quality assessment under Council Directives 96/62/EC and 1999/30/EC and under Directives 2000/69/EC and 2002/3/EC of the European Parliament and of the Council. From the Official Journal of the European Union, 30.4.2004, En series, L 156/78

UK technical report, UK overview document and List of UK and National measures are available at http://www.defra.gov.uk/environment/quality/air/air-quality/eu/

CDR Central Data Repository. http://cdr.eionet.europa.eu/

Air Quality Directive 2008/50/EC. Council Directive 2008/50/EC, of 21 May 2008. On ambient air quality and cleaner air for Europe. From the Official Journal of the European Union, 11.6.2008, En series, L152/1

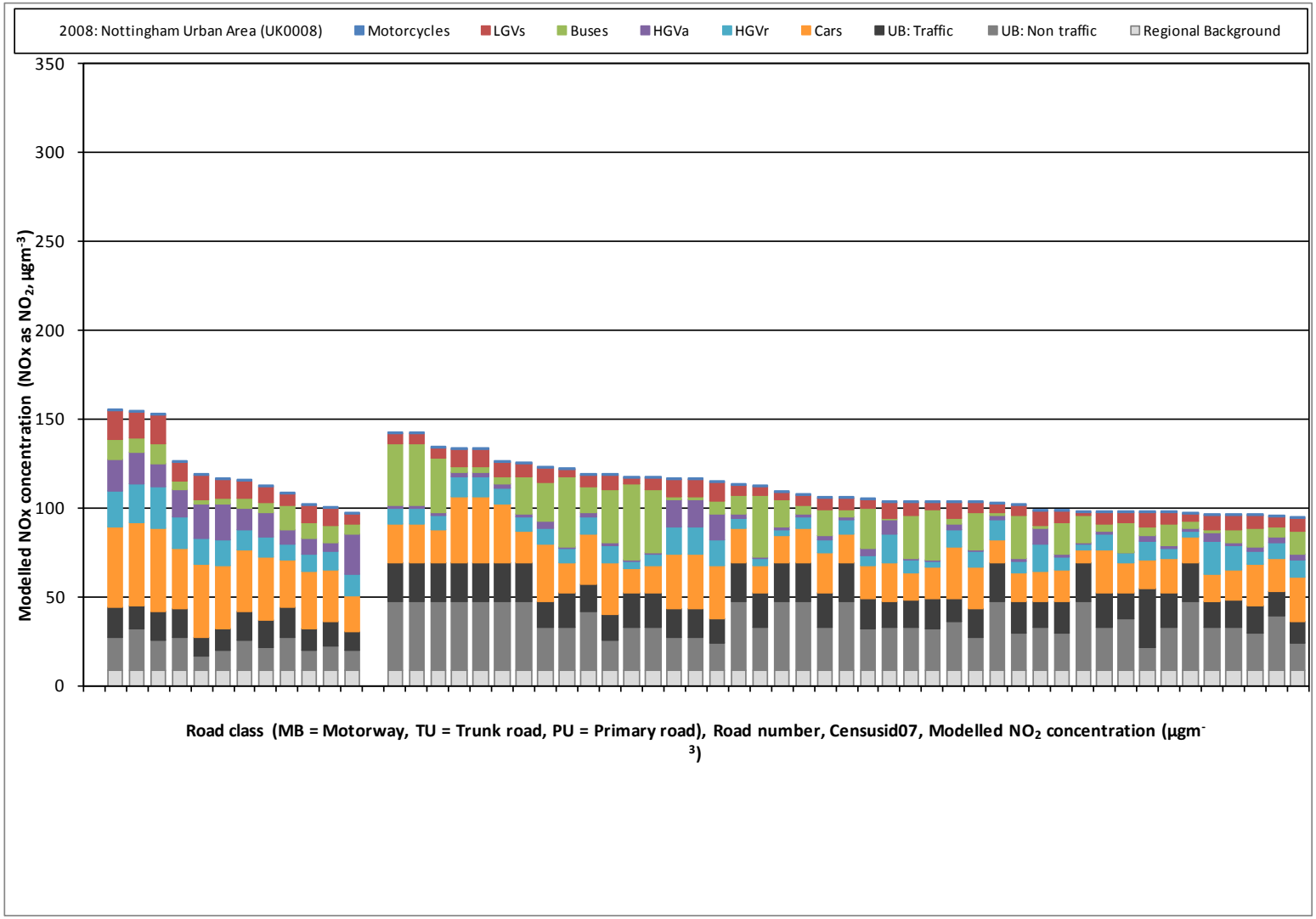
1st Daughter Directive 1999/30/EC. Council Directive 1999/30/EC, of 22 April 1999 relating to limit values for sulphur dioxide, nitrogen dioxide and oxides of nitrogen, particulate matter and lead in ambient air (The First Daughter Directive). From the Official Journal of the European Communities, 29.6.1999, En Series, L163/41.

List of Annexes

Annex 1: Source apportionment graphs
Annex 2: Tables of measures

Annex 1: Source apportionment graphs

Figure A1.1 Annual mean roadside NO_X source apportionment plots for all roads exceeding the annual mean NO_2 limit value in 2008



Annex 2: Tables of measures

Table A2.1 Relevant Local Authority measures taken before or during 2010 within Nottingham Urban Area (UK0008)

LA (a)	Measure code (b)	Title	Description	Other information
Broxtowe	Local_Broxtowe_B1	Proactive inspection programme for Part A2 and Part B processes	Continue to proactively inspect prescribed Part A2 / B processes (Environmental Protection Act 1990 / Pollution Prevention and Control Act 1999)	• Type: Technical • Sources affected: Industry including heating and power production • Spatial scale: local • Implementation date: 2008 • Reduction timescale: Long term • Regulatory: Yes • Smarter Choices (c) : No • Reference (d): Local_zone8_Broxtowe_AQActionplan_1
Broxtowe	Local_Broxtowe_B2	Statutory Nuisance legislation	Investigate and take appropriate action to smoke nuisance under The Environmental Protection Act 1990. Ensure appliances are only using authorised fuels and exempted fireplaces which comply within Smoke Control Areas	• Type: Technical • Sources affected: Commercial and residential sources • Spatial scale: local • Implementation date: 2008 • Reduction timescale: Long term • Regulatory: Yes • Smarter Choices (c) : No • Reference (d): Local_zone8_Broxtowe_AQActionplan_1
Broxtowe	Local_Broxtowe_G1	Development cycling and walking	To launch the pool bikes in Summer 2007. To set up administration of the scheme and monitor usage. Promote cycling on a yearly basis during bike week. Seek funding for larger scale promotion using external organisations such as Company of Cyclists	• Type: Education/information • Sources affected: Transport • Spatial scale: local • Implementation date: 2002 • Reduction timescale: Long term • Regulatory: No • Smarter Choices (c) : Yes • Reference (d): Local_zone8_Broxtowe_AQActionplan_1
Broxtowe	Local_Broxtowe_E1	Local Plan policy to include air quality considerations	The Council will continue to look for evidence that developers have taken appropriate steps to minimise any increases in air pollution regardless of their location. This will include an assessment of the air quality implications where applicable	• Type: Technical; Education/information • Sources affected: Transport; Industry including heating and power production; Commercial and residential sources • Spatial scale: local • Implementation date: 2004 • Reduction timescale: Long term • Regulatory: No • Smarter Choices (c) : No • Reference (d): Local_zone8_Broxtowe_AQActionplan_1
Broxtowe	Local_Broxtowe_G2	Development of travel plans	Detail the Council's commitment to promote sustainable travel to all Broxtowe Employees / Councillors and visitors	• Type: Education/information • Sources affected: Transport • Spatial scale: local

LA (a)	Measure code (b)	Title	Description	Other information
				• Implementation date: 2002 • Reduction timescale: Long term • Regulatory: No • Smarter Choices (c) : Yes • Reference (d): Local_zone8_Broxtowe_AQActionplan_1
Broxtowe	Local_Broxtowe_H1	Continue dialogue with HA during M1 widening	Continue liaising and consulting with the Highways Agency with regards to the M1 expansion.	• Type: Education/information • Sources affected: Transport • Spatial scale: local • Implementation date: 2007 • Reduction timescale: Long term • Regulatory: No • Smarter Choices (c) : No • Reference (d): Local_zone8_Broxtowe_AQActionplan_1
Broxtowe	Local_Broxtowe_H2	Promotion of air quality issues	Provide free advice to members of the public and local businesses. Continually update the website with regards to air quality reports and information for members of the public.	• Type: Education/information • Sources affected: Transport; Industry including heating and power production; Commercial and residential sources • Spatial scale: local • Implementation date: 2005 • Reduction timescale: Short term • Regulatory: No • Smarter Choices (c) : Yes • Reference (d): Local_zone8_Broxtowe_AQActionplan_1
Broxtowe	Local_Broxtowe_G3	LTP initiatives for bus improvement measures	Supporting the County Council with its aim to achieve traffic reduction by improving the infrastructure needed to encourage sustainable travel and reduce unnecessary car use.	• Type: Technical; Education/information • Sources affected: Transport • Spatial scale: local • Implementation date: 2007 • Reduction timescale: Long term • Regulatory: No • Smarter Choices (c) : No • Reference (d): Local_zone8_Broxtowe_AQActionplan_1
Nottingham	Local_Nottingham_B 1	Reduce emissions to air from Council activities and in particular energy generation.	Reduce emissions to air from Council activities and in particular energy generation.	• Type: Technical; Education/information • Sources affected: Transport; Commercial and residential sources • Spatial scale: local • Implementation date: 2008 • Reduction timescale: Long term • Regulatory: No • Smarter Choices (c) : No • Reference (d): Local_zone8_Nottingham_AQActionplan_1
Nottingham	Local_Nottingham_F1	Contribute to	Contribute to the establishment of a web based	• Type: Technical; Education/information

LA (a)	Measure code (b)	Title	Description	Other information
		the establishment of a web based information system providing up to date real time air quality information.	information system providing up to date real time air quality information.	• Sources affected: Transport • Spatial scale: local • Implementation date: 2008 • Reduction timescale: Short term • Regulatory: Yes • Smarter Choices (c) : No • Reference (d): Local_zone8_Nottingham_AQActionplan_1
Nottingham	Local_Nottingham_B2	Work with the Local Authorities, businesses, partners and all stakeholders to reduce emissions of air pollutants from processes in Nottinghamshire.	Work with the Local Authorities, businesses, partners and all stakeholders to reduce emissions of air pollutants from processes in Nottinghamshire.	• Type: Technical; Education/information • Sources affected: Transport; Industry including heating and power production; Commercial and residential sources • Spatial scale: local • Implementation date: 2008 • Reduction timescale: Long term • Regulatory: No • Smarter Choices (c) : No • Reference (d): Local_zone8_Nottingham_AQActionplan_1
Nottingham	Local_Nottingham_H1	Big Wheel campaign	Underpinning all Nottingham's transport developments and achievements, the Big Wheel campaign provides an over-arching marketing campaign to explain the aims of the Local Transport Plan in simple, engaging and accessible terms. The Greater Nottingham Transport Partnership, representing councils and companies across the city and its surroundings and backs the Big Wheel campaign. Distinctive branding and high profile campaigns have helped to raise public awareness about local transport issues, how they are being tackled and promoted to encourage public transport use.	• Type: Technical; Education/information • Sources affected: Transport • Spatial scale: local • Implementation date: 2008 • Reduction timescale: Long term • Regulatory: No • Smarter Choices (c) : Yes • Reference (d): Local_zone8_Nottingham_AQActionplan_1
Nottingham	Local_Nottingham_A1	The reporting of smoky diesels (heavy goods vehicles) to the Vehicle Inspectorate.	The reporting of smoky diesels (heavy goods vehicles) to the Vehicle Inspectorate.	• Type: Technical; Education/information • Sources affected: Transport • Spatial scale: local • Implementation date: 2008 • Reduction timescale: Short term • Regulatory: No • Smarter Choices (c) : No • Reference (d):

LA (a)	Measure code (b)	Title	Description	Other information
				Local_zone8_Nottingham_AQActionplan_1
Nottingham	Local_Nottingham_E 1	Planning considerations	Ensure air quality is a material consideration when assessing planning applications and, where a significant deterioration in air quality is predicted, put in place conditions to mitigate the effects.	• Type: Technical; Education/information • Sources affected: Transport; Industry including heating and power production; Commercial and residential sources • Spatial scale: local • Implementation date: 2008 • Reduction timescale: Long term • Regulatory: No • Smarter Choices (c) : No • Reference (d): Local_zone8_Nottingham_AQActionplan_1
Nottingham	Local_Nottingham_E 2	Development control	Ensure that wherever possible all new developments are accessible by alternative means of transport, minimising the need to travel by supporting mixed development schemes.	• Type: Technical; Education/information • Sources affected: Transport • Spatial scale: local • Implementation date: 2008 • Reduction timescale: Long term • Regulatory: No • Smarter Choices (c) : No • Reference (d): Local_zone8_Nottingham_AQActionplan_1
Nottingham	Local_Nottingham_G 1	School Travel Plans	A council team work with schools to implement School Travel Plans which aim to reduce traffic and related problems around schools by reducing car use and making it easier for children to find alternative ways of getting to school e.g. ‘walking buses’, promoting cycling.	• Type: Education/information • Sources affected: Transport • Spatial scale: local • Implementation date: 2008 • Reduction timescale: Short term • Regulatory: No • Smarter Choices (c) : Yes • Reference (d): Local_zone8_Nottingham_AQActionplan_1
Nottingham	Local_Nottingham_H 2	Eco-Schools	Eco Schools, an environmental management system for schools covering a range of areas including transport, energy and water management and healthy living. These areas are reinforced through activities; classroom work; and linked to the National Curriculum.	• Type: Technical; Education/information • Sources affected: Transport; Commercial and residential sources • Spatial scale: local • Implementation date: 2008 • Reduction timescale: Medium term • Regulatory: No • Smarter Choices (c) : No • Reference (d): Local_zone8_Nottingham_AQActionplan_1
Nottingham	Local_Nottingham_B 3	Energy Certification for	Energy Certification for Schools programme: The Council works across Nottinghamshire with the	• Type: Technical • Sources affected: Commercial and residential sources

LA (a)	Measure code (b)	Title	Description	Other information
		Schools programme	Newark and Sherwood Energy Agency supporting schools working on energy monitoring/reduction.	• Spatial scale: local • Implementation date: 2008 • Reduction timescale: Medium term • Regulatory: No • Smarter Choices (c) : No • Reference (d): Local_zone8_Nottingham_AQActionplan_1
Nottingham	Local_Nottingham_B4	Council Energy usage	Review their energy usage and put in place initiatives to improve energy efficiency where appropriate.	• Type: Technical; Education/information • Sources affected: Commercial and residential sources • Spatial scale: local • Implementation date: 2008 • Reduction timescale: Long term • Regulatory: No • Smarter Choices (c) : No • Reference (d): Local_zone8_Nottingham_AQActionplan_1
Nottingham	Local_Nottingham_F2	Provision of advice regarding energy efficiency	Provide advice to the public and businesses about energy efficiency and building design, maintenance and insulation etc. Make energy efficiency an integral part of housing and building maintenance.	• Type: Education/information • Sources affected: Commercial and residential sources • Spatial scale: local • Implementation date: 2008 • Reduction timescale: Medium term • Regulatory: No • Smarter Choices (c) : No • Reference (d): Local_zone8_Nottingham_AQActionplan_1
Nottingham	Local_Nottingham_B5	Energy Efficiency	Play an active role in the Local Authorities Energy Partnership, • Promote home energy efficiency schemes.	• Type: Education/information • Sources affected: Commercial and residential sources • Spatial scale: local • Implementation date: 2008 • Reduction timescale: Medium term • Regulatory: No • Smarter Choices (c) : No • Reference (d): Local_zone8_Nottingham_AQActionplan_1
Nottingham	Local_Nottingham_H3	Air Quality Enforcement	Rigorously enforce legislation to control emissions of air pollutants.	• Type: Technical; Education/information • Sources affected: Transport; Industry including heating and power production; Commercial and residential sources • Spatial scale: local • Implementation date: 2008 • Reduction timescale: Long term • Regulatory: Yes

LA (a)	Measure code (b)	Title	Description	Other information
				• Smarter Choices (c) : No • Reference (d): Local_zone8_Nottingham_AQActionplan_1
Nottingham	Local_Nottingham_F3	Awareness raising in business sector	Encourage businesses to be more environmentally aware by adopting a risk based enforcement and charging regime. Assist and advise business in complying with relevant legislation.	• Type: Education/information • Sources affected: Transport; Industry including heating and power production; Commercial and residential sources • Spatial scale: local • Implementation date: 2008 • Reduction timescale: Medium term • Regulatory: No • Smarter Choices (c) : No • Reference (d): Local_zone8_Nottingham_AQActionplan_1
Nottingham	Local_Nottingham_F4	Provision of air quality information	Provide information for the public and other organisations on air quality monitoring results	• Type: Education/information • Sources affected: Transport; Industry including heating and power production; Commercial and residential sources; Other • Spatial scale: local • Implementation date: 2008 • Reduction timescale: Short term • Regulatory: No • Smarter Choices (c) : No • Reference (d): Local_zone8_Nottingham_AQActionplan_1
Rushcliffe	Local_Rushcliffe_B1	RBC energy efficiency	An energy strategy is in place for the period 2000-2010 with the aim or reducing energy usage in general. However progress on this measure is linked to the EMAS action which is currently under review.	• Type: Education/information • Sources affected: Commercial and residential sources • Spatial scale: local • Implementation date: 2007 • Reduction timescale: Long term • Regulatory: No • Smarter Choices (c) : No • Reference (d): Local_zone8_Rushcliffe_AQActionplan_1
Rushcliffe	Local_Rushcliffe_H1	encourage composting and enforce bonfire controls	Encourage composting recycling and enforce bonfire controls on demolition sites	• Type: Education/information • Sources affected: Commercial and residential sources • Spatial scale: local • Implementation date: 2007 • Reduction timescale: Short term • Regulatory: No • Smarter Choices (c) : No • Reference (d): Local_zone8_Rushcliffe_AQActionplan_1
Rushcliffe	Local_Rushcliffe_H2	Enforce SCAs	Enforce SCAs	• Type: Economic/fiscal; Technical; Education/information

LA (a)	Measure code (b)	Title	Description	Other information
				• Sources affected: Commercial and residential sources • Spatial scale: local • Implementation date: 2007 • Reduction timescale: Long term • Regulatory: Yes • Smarter Choices (c) : No • Reference (d): Local_zone8_Rushcliffe_AQActionplan_1
Rushcliffe	Local_Rushcliffe_B2	Control of industrial emissions	Liaise with Environment Agency to ensure that air quality is considered as part of the IPPC regime	• Type: Economic/fiscal; Technical; Education/information • Sources affected: Industry including heating and power production • Spatial scale: local • Implementation date: 2007 • Reduction timescale: Long term • Regulatory: Yes • Smarter Choices (c) : No • Reference (d): Local_zone8_Rushcliffe_AQActionplan_1
Rushcliffe	Local_Rushcliffe_G1	Walking/cycling strategy	Promotion. Develop walking map for West Bridgford employees. A walking map was developed and distributed to employees in West Bridgford. The map was launched to coincide with 2007 Walk Week. 8,500 maps have been distributed in the West Bridgford area (2,500 to employees at the three largest employers; 2,500 to libraries; and 3,500 to households in the area	• Type: Education/information • Sources affected: Transport • Spatial scale: local • Implementation date: 2007 • Reduction timescale: Long term • Regulatory: No • Smarter Choices (c) : Yes • Reference (d): Local_zone8_Rushcliffe_AQActionplan_1
Rushcliffe	Local_Rushcliffe_A1	RBC car leasing scheme	The Council has approved a car lease scheme as an alternative to essential/casual user allowances and car loan facilities under which the Council will provide cars to employees to be used for business and private travel. In line with the Council's Travel Plan, cars with a CO_2 emission of more than 185g/km are not be permitted under the scheme.	• Type: Education/information • Sources affected: Transport • Spatial scale: local • Implementation date: 2007 • Reduction timescale: Short term • Regulatory: No • Smarter Choices (c) : No • Reference (d): Local_zone8_Rushcliffe_AQActionplan_1
Rushcliffe	Local_Rushcliffe_C1	RBC fleet and fuel policy	Fleet operated on bio diesel. Currently have 1 Euro V vehicle with 2 more to be delivered in June 08. Older vehicles on 8 year rolling programme of change. Has 1 electric all terrain vehicle for country park. To review fuel policy again in 2009. Driver awareness training in place.	• Type: Technical; Education/information • Sources affected: Transport • Spatial scale: local • Implementation date: 2008 • Reduction timescale: Long term • Regulatory: No • Smarter Choices (c) : No • Reference (d): Local_zone8_Rushcliffe_AQActionplan_1
Rushcliffe	Local_Rushcliffe_A2	Car club	nottinghamshare.com was launched in April 2006. 1,000 users are now registered on the website, of	• Type: Education/information • Sources affected: Transport

LA (a)	Measure code (b)	Title	Description	Other information
			which 100 live within the West Bridgford area. A total of 331 NCC staff and 1 RBC staff are registered on the website. Matching of users shows that 34% of registered users are currently able to car share.	• Spatial scale: local • Implementation date: 2006 • Reduction timescale: Short term • Regulatory: No • Smarter Choices (c) : Yes • Reference (d): Local_zone8_Rushcliffe_AQActionplan_1
Rushcliffe	Local_Rushcliffe_G2	Coordinated land use and travel plans	Reducing the need to travel through coordinated land use and transport planning.	• Type: Technical; Education/information • Sources affected: Transport • Spatial scale: local • Implementation date: 2008 • Reduction timescale: Long term • Regulatory: No • Smarter Choices (c) : Yes • Reference (d): Local_zone8_Rushcliffe_AQActionplan_1
Rushcliffe	Local_Rushcliffe_E1	Section 106 agreements	Rushcliffe Borough Councils Air Quality Strategy was last published in July 2002, and updated in July 2003, the Strategy can be viewed or downloaded from The Councils website: www.rushcliffe.gov.uk. A key action of the Strategy is to: Use Section 106 agreements to: i) require developers to carry out an air quality impact assessment where appropriate, and ii) secure funding by developers to contribute towards air quality monitoring and initiatives, to redress the impact on air quality from proposed developments.	• Type: Technical; Education/information • Sources affected: Transport • Spatial scale: local • Implementation date: 2008 • Reduction timescale: Long term • Regulatory: No • Smarter Choices (c) : No • Reference (d): Local_zone8_Rushcliffe_AQActionplan_1
Rushcliffe	Local_Rushcliffe_D1	Parking standards	Rushcliffe Air Quality Strategy - Consider the adoption of maximum parking standards for new developments and actively seek contributions from developers for sustainable transport measures. Local Transport Plan - Parking controls/ Enforcement of parking	• Type: Technical; Education/information • Sources affected: Transport • Spatial scale: local • Implementation date: 2003 • Reduction timescale: Long term • Regulatory: No • Smarter Choices (c) : No • Reference (d): Local_zone8_Rushcliffe_AQActionplan_1
Rushcliffe	Local_Rushcliffe_G3	Remote/home working	Environmental Health staff currently undertake a significant proportion of work from home negating the need to travel through the aqma areas. Expand to other Service areas as appropriate. Expand to other Service areas as appropriate	• Type: Education/information • Sources affected: Transport • Spatial scale: local • Implementation date: 2008 • Reduction timescale: Long term • Regulatory: No

LA (a)	Measure code (b)	Title	Description	Other information
				• Smarter Choices (c) : Yes • Reference (d): Local_zone8_Rushcliffe_AQActionplan_1
Rushcliffe	Local_Rushcliffe_G4	Smarter travel choices	The County Council travel plan has been in operation for the past 10 years and has been incorporated into the climate change action plan for the County Council. Various measures are underway to help deliver the reductions in business mileage including new terms and conditions which affect business mileage rates and driver training to help motorists drive more sustainably.	• Type: Technical; Education/information • Sources affected: Transport • Spatial scale: local • Implementation date: 1996 • Reduction timescale: Long term • Regulatory: No • Smarter Choices (c) : Yes • Reference (d): Local_zone8_Rushcliffe_AQActionplan_1
Rushcliffe	Local_Rushcliffe_G5	Workplace travel plans.	Workplace travel plans. 24 workplace travel plans have been developed in Rushcliffe Borough. Two further sites have been identified in the vicinity of the AQMA for prioritisation and will be contacted concerning the development of a plan: • Environment Agency • Nottingham Forest Football Club	• Type: Technical; Education/information • Sources affected: Transport • Spatial scale: local • Implementation date: 1996 • Reduction timescale: Long term • Regulatory: No • Smarter Choices (c) : Yes • Reference (d): Local_zone8_Rushcliffe_AQActionplan_1
Rushcliffe	Local_Rushcliffe_F1	Traffic control and information	The County and City Councils jointly fund the traffic control centre that monitors traffic movement and provides real time traffic control over many traffic signal installations.	• Type: Technical; Education/information • Sources affected: Transport • Spatial scale: local • Implementation date: 2007 • Reduction timescale: Long term • Regulatory: No • Smarter Choices (c) : No • Reference (d): Local_zone8_Rushcliffe_AQActionplan_1
Rushcliffe	Local_Rushcliffe_H3	RBC procurement	The Council are in the process of implementing a supplier and contractor accreditation system managed on our behalf by an external organisation. The accreditation system will check that suppliers and contractors are not only financially acceptable but also meet environmental, equality, health and safety requirements etc The Council published 'Green purchasing guidelines' in Jan 2004. The Council requires pre-qualification of suppliers to ensure that they practice equal opportunities and environmental policies. A procurement strategy is in place covering 2006-2009.	• Type: Technical; Education/information • Sources affected: Transport • Spatial scale: local • Implementation date: 2007 • Reduction timescale: Long term • Regulatory: No • Smarter Choices (c) : No • Reference (d): Local_zone8_Rushcliffe_AQActionplan_1
Rushcliffe	Local_Rushcliffe_H4	Nottinghamshire AQS	Partnership working with the Nottinghamshire Pollution Working Group and Air Quality Steering Group - Nottinghamshire Air Quality Strategy.	• Type: Technical; Education/information; Other • Sources affected: Transport • Spatial scale: local • Implementation date: 2007

LA (a)	Measure code (b)	Title	Description	Other information
				• Reduction timescale: Long term • Regulatory: No • Smarter Choices (c) : No • Reference (d): Local_zone8_Rushcliffe_AQActionplan_1
Rushcliffe	Local_Rushcliffe_D2	Park and Ride	The Network Rail (Infrastructure) Ltd proposal to build a new railway station with park and ride facilities for 1000 cars, adjacent to the Ratcliffe on Soar power station was granted in 2007. Construction at EMP began in 2008 and due for completion in December 2008.	• Type: Technical; Education/information • Sources affected: Transport • Spatial scale: local • Implementation date: 2008 • Reduction timescale: Long term • Regulatory: No • Smarter Choices (c) : No • Reference (d): Local_zone8_Rushcliffe_AQActionplan_1
Rushcliffe	Local_Rushcliffe_G6	Improved bus services	Introduction of SkyLink direct 24 hour bus service to the airport. Now operating every 30 minutes. Re-routed via Trent bridge. In 2007 over 350,000 people used this service.	• Type: Technical; Education/information • Sources affected: Transport • Spatial scale: local • Implementation date: 2007 • Reduction timescale: Long term • Regulatory: No • Smarter Choices (c) : No • Reference (d): Local_zone8_Rushcliffe_AQActionplan_1
Rushcliffe	Local_Rushcliffe_A3	Bus emissions standards	Operators are encouraged to take-up cleaner vehicles through partnership working. Due to the sustained high level of investment by the two main operators the average age of the bus fleet operating in the AQMA is already less than six years old and by the end of 2007 all of the two main operators fleet were low-emission. Euro2, 3 or 4 standards.	• Type: Technical; Education/information • Sources affected: Transport • Spatial scale: local • Implementation date: 2008 • Reduction timescale: Long term • Regulatory: No • Smarter Choices (c) : No • Reference (d): Local_zone8_Rushcliffe_AQActionplan_1
Rushcliffe	Local_Rushcliffe_D3	Nottingham Express Transit extension	The promoters of the NET system, Nottingham City Council and Nottinghamshire County Council, recently submitted an application for a Transport & Works Act Order (TWAO), which will give the Councils the powers to acquire land, build and run the two new tram extensions. The application was submitted on 26 April 2007.	• Type: Technical; Education/information • Sources affected: Transport • Spatial scale: local • Implementation date: 2008 • Reduction timescale: Long term • Regulatory: No • Smarter Choices (c) : No • Reference (d): Local_zone8_Rushcliffe_AQActionplan_1
Rushcliffe	Local_Rushcliffe_H5	Road User Charge study	Road User Charging feasibility study.	• Type: Economic/fiscal; Technical; Education/information • Sources affected: Transport • Spatial scale: local • Implementation date: 2007 • Reduction timescale: Long term • Regulatory: No

LA (a)	Measure code (b)	Title	Description	Other information
				• Smarter Choices (c) : No • Reference (d): Local_zone8_Rushcliffe_AQActionplan_1
Rushcliffe	Local_Rushcliffe_A4	Vehicle emissions testing	Discussions have taken place in the Nott's Pollution Working Group to undertake monitoring within each LA area on a joint procurement basis.	• Type: Technical; Education/information • Sources affected: Transport • Spatial scale: local • Implementation date: 2008 • Reduction timescale: Short term • Regulatory: No • Smarter Choices (c) : No • Reference (d): Local_zone8_Rushcliffe_AQActionplan_1
Rushcliffe	Local_Rushcliffe_H6	AQ monitoring/ information	Air quality monitoring information is updated onto RBC website regularly and the recent development of the Notts pollution working group joint venture on real time analyser information handling has lead to NO_2 information being posted in real time. web.	• Type: Technical; Education/information • Sources affected: Transport • Spatial scale: local • Implementation date: 2000 • Reduction timescale: Short term • Regulatory: No • Smarter Choices (c) : No • Reference (d): Local_zone8_Rushcliffe_AQActionplan_1
Rushcliffe	Local_Rushcliffe_D4	Civil parking enforcement	Implementation took place in May 2008. No outcome from the scheme will be measurable until at least one year after scheme implementation.	• Type: Technical; Education/information • Sources affected: Transport • Spatial scale: local • Implementation date: 2008 • Reduction timescale: Long term • Regulatory: No • Smarter Choices (c) : No • Reference (d): Local_zone8_Rushcliffe_AQActionplan_1
Rushcliffe	Local_Rushcliffe_G7	Personalised travel planning	A pilot 'travel smart' scheme was undertaken in the Meadows and Lady Bay areas adjoining the AQMA Undertake further travel smart scheme within the Rushcliffe area a further travel smart scheme is due to be undertaken - 2008/09.	• Type: Technical; Education/information • Sources affected: Transport • Spatial scale: local • Implementation date: 2008 • Reduction timescale: Long term • Regulatory: No • Smarter Choices (c) : Yes • Reference (d): Local_zone8_Rushcliffe_AQActionplan_1
Rushcliffe	Local_Rushcliffe_G8	Promotion of public transport	Nottinghamshire is now part of the national, multi-modal Traveline journey planner. Web links to the Traveline site are publicised and available from the County Council's website. In addition to this, links to all of the area's public transport operators' journey planner information are also available from NCC's website.	• Type: Education/information • Sources affected: Transport • Spatial scale: local • Implementation date: 2003/4 • Reduction timescale: Long term • Regulatory: No • Smarter Choices (c) : Yes • Reference (d): Local_zone8_Rushcliffe_AQActionplan_1

LA (a)	Measure code (b)	Title	Description	Other information
Rushcliffe	Local_Rushcliffe_D5	Subsidised travel	A free countywide off-peak concessionary fare scheme for the over 60s and disabled was introduced on 1 April 2006.	• Type: Education/information • Sources affected: Transport • Spatial scale: local • Implementation date: 2006 • Reduction timescale: Long term • Regulatory: No • Smarter Choices (c) : No • Reference (d): Local_zone8_Rushcliffe_AQActionplan_1
EREWASH	Local_Erewash_H1	Compulsory Purchase	Move residents.	• Type: Economic/fiscal • Sources affected: Transport • Spatial scale: local • Implementation date: 2008 • Reduction timescale: Long term • Regulatory: No • Smarter Choices (c) : No • Reference (d): Local_zone8_Erewash_AQActionplan_1
EREWASH	Local_Erewash_C1	Fleet Management & clean fuels	Implement a local Clean Vehicle programme	• Type: Technical • Sources affected: Transport • Spatial scale: local • Implementation date: 2008 • Reduction timescale: Medium term • Regulatory: No • Smarter Choices (c) : No • Reference (d): Local_zone8_Erewash_AQActionplan_1
EREWASH	Local_Erewash_C2	Fleet Management & clean fuels	Trial new technologies	• Type: Technical • Sources affected: Transport • Spatial scale: local • Implementation date: 2008 • Reduction timescale: Medium term • Regulatory: No • Smarter Choices (c) : No • Reference (d): Local_zone8_Erewash_AQActionplan_1
EREWASH	Local_Erewash_C3	Fleet Management & clean fuels	Information provision	• Type: Other • Sources affected: Transport • Spatial scale: local • Implementation date: 2008 • Reduction timescale: Long term • Regulatory: No • Smarter Choices (c) : No • Reference (d): Local_zone8_Erewash_AQActionplan_1
EREWASH	Local_Erewash_C4	Fleet Management &	Focus on car maintenance	• Type: Other • Sources affected: Transport

LA (a)	Measure code (b)	Title	Description	Other information
		clean fuels		• Spatial scale: local • Implementation date: 2008 • Reduction timescale: Long term • Regulatory: No • Smarter Choices (c) : No • Reference (d): Local_zone8_Erewash_AQActionplan_1
EREWASH	Local_Erewash_A1	Freight Measures	Freight quality partnership	• Type: Other • Sources affected: Transport • Spatial scale: local • Implementation date: 2008 • Reduction timescale: Medium term • Regulatory: No • Smarter Choices (c) : No • Reference (d): Local_zone8_Erewash_AQActionplan_1
EREWASH	Local_Erewash_A2	Low Emission Zones	LEZ for HGV on the motorway	• Type: Other • Sources affected: Transport • Spatial scale: local • Implementation date: 2008 • Reduction timescale: Long term • Regulatory: No • Smarter Choices (c) : No • Reference (d): Local_zone8_Erewash_AQActionplan_1
EREWASH	Local_Erewash_A3	Physical Traffic Management	Various methods to optimise traffic flows	• Type: Technical • Sources affected: Transport • Spatial scale: local • Implementation date: 2008 • Reduction timescale: Medium term • Regulatory: No • Smarter Choices (c) : No • Reference (d): Local_zone8_Erewash_AQActionplan_1
EREWASH	Local_Erewash_A4	Public Transport Initiatives - Bus	Seek Quality Bus Partnerships	• Type: Technical • Sources affected: Transport • Spatial scale: local • Implementation date: 2008 • Reduction timescale: Medium term • Regulatory: No • Smarter Choices (c) : No • Reference (d): Local_zone8_Erewash_AQActionplan_1
EREWASH	Local_Erewash_A5	Public Transport Initiatives - Bus	Faciliator role for national programmes	• Type: Technical • Sources affected: Transport • Spatial scale: local • Implementation date: 2008

LA (a)	Measure code (b)	Title	Description	Other information
				• Reduction timescale: Medium term • Regulatory: No • Smarter Choices (c) : No • Reference (d): Local_zone8_Erewash_AQActionplan_1
EREWASH	Local_Erewash_A6	Re-Routing and Road hierachy	Move the M1 away from residential area	• Type: Technical • Sources affected: Transport • Spatial scale: local • Implementation date: 2008 • Reduction timescale: Short term • Regulatory: No • Smarter Choices (c) : No • Reference (d): Local_zone8_Erewash_AQActionplan_1

(a) Name of responsible Local Authority.
(b) The Letter in the measure code indicates the main source sector that will be affected by the measure. Letters are assigned as follows: A - measures to reduce emissions from mobile sources, B - measures to reduce emissions from stationary sources, C - fuels and petrol stations, D - Economic incentives to reduce emissions (e.g. congestion charging, controlled parking zones), E - measures related to traffic planning/redesigning infrastructure, F - information/educational measures, G - change of transport mode (e.g. scheme to encourage people out of cars and onto bikes), H - Other.
(c) Measures have been classified as 'smarter choices' or not based on expert judgement
(d) References available for download from: http://uk-air.defra.gov.uk/library/NO_2ten/