www.defra.gov.uk

Air Quality Plan for the achievement of EU air quality limit values for nitrogen dioxide (NO_2) in West Midlands (UK0035)

September 2011

Llywodraeth Cymru
Welsh Government

The Scottish Government

DOE
Department of the Environment
www.doeni.gov.uk

defra
Department for Environment Food and Rural Affairs

Department for Environment, Food and Rural Affairs
Nobel House
17 Smith Square
London SW1P 3JR
Telephone 020 7238 6000
Website: www.defra.gov.uk

Information about this publication and further copies are available from:

Atmosphere and Local Environment Programme
Defra
Area 5F, Ergon House
17 Smith Square
London SW1P 3JR
Email address: *euairquality@defra.gsi.gov.uk*

This document is also available on the Defra website at:

http://uk-air.defra.gov.uk/library/no2ten/

Published by the Department for Environment, Food and Rural Affairs

Contents

1. Introduction

1.1. This document

This document is the West Midlands (UK0035) 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 West Midlands non-agglomeration zone
- Details of NO_2 exceedence situation(s) within the West Midlands non-agglomeration zone
- Details of local air quality measures that have been implemented, will be implemented or are being considered for implementation in this non-agglomeration zone.

This air quality plan for West Midlands 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 West Midlands non-agglomeration zone indicates that the annual limit value is likely to be exceeded in 2010 and in 2015 but achieved by 2020 through introduction of measures included in the baseline modelling, a low emission zone (LEZ) scenario (if applied) and the non-quantifiable local measures outlined in this plan.

The assessment undertaken for the West Midlands non-agglomeration zone indicates that the hourly limit value not exceeded in this non-agglomeration zone in 2008.

1.4. Plan structure

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

Section 3 then presents the overall picture with respect to NO_2 levels in this non-agglomeration zone for the 2008 reference year of this air quality plan. This includes the declaration of exceedance situations within the non-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 non-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.

Details of an LEZ scenario under consideration as part of our investigation of additional measures to achieve the NO_2 limit values is presented in section 6.

2. General Information about the Zone

2.1. Administrative information

Zone name: West Midlands
Zone code: UK0035
Type of zone: non-agglomeration zone
Reference year: 2008
Extent of zone: Figure 1 shows the area covered by the West Midlands non-agglomeration zone

Local Authorities within the non-agglomeration zone: Figure 2 shows the location of Local Authorities within the non-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. Birmingham City Council
2. Bromsgrove District Council
3. Cannock Chase District Council
4. Coventry City Council
5. Dudley Metropolitan Borough Council
6. East Staffordshire Borough Council
7. Herefordshire County Council
8. Lichfield District Council
9. Malvern Hills District Council
10. Newcastle under Lyme Borough Council
11. North Warwickshire Borough Council
12. Nuneaton and Bedworth Borough Council
13. Redditch Borough Council
14. Rugby Borough Council
15. Sandwell Metropolitan Borough Council

Shropshire Council (formerly 16. Bridgnorth District Council, 17. North Shropshire District Council, 18. Oswestry District Council, 19. Shrewsbury District Council and 20. South Shropshire District Council)

21. Solihull Metropolitan Borough Council
22. South Staffordshire Council
23. Stafford Borough Council
24. Staffordshire Moorlands District Council
25. Stoke on Trent City Council
26. Stratford on Avon District Council
27. Tamworth Borough Council
28. Telford and Wrekin Borough Council
29. Walsall Metropolitan Borough Council
30. Warwick District Council
31. Wolverhampton City Council
32. Worcester City Council
33. Wychavon District Council
34. Wyre Forest District 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 West Midlands non-agglomeration zone (UK0035).

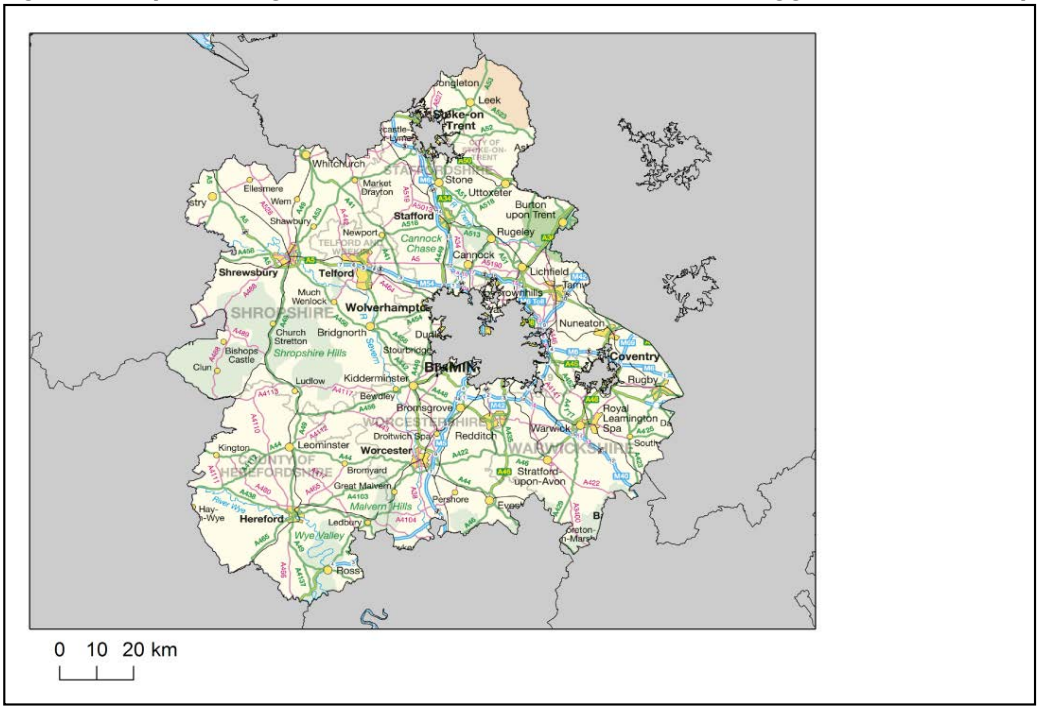
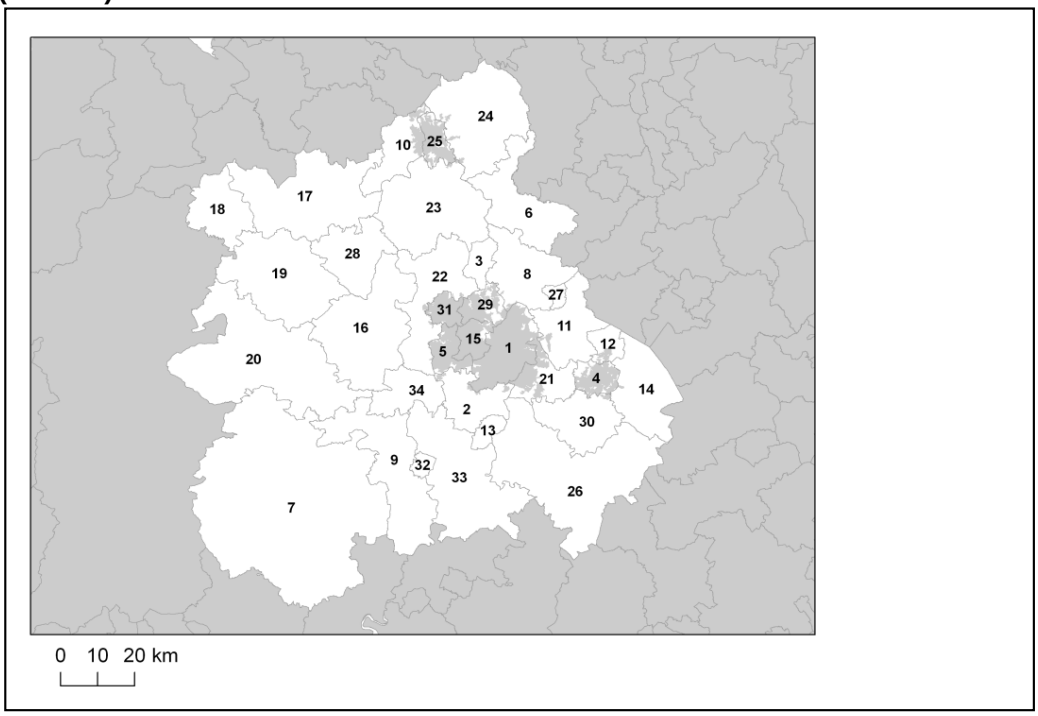


Figure 2. Map showing Local Authorities within the West Midlands non-agglomeration zone (UK0035).



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):

• Leamington Spa GB0643A (85.7%)
• Leominster GB0861A (94.6%)

Full details of monitoring stations within the West Midlands non-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): 12192 km^2
• Total population within zone (approx): 2624016 people
• Total road length where an assessment of NO_2 concentrations have been made: 544.4 km in 2008 (and similar lengths in previous years).

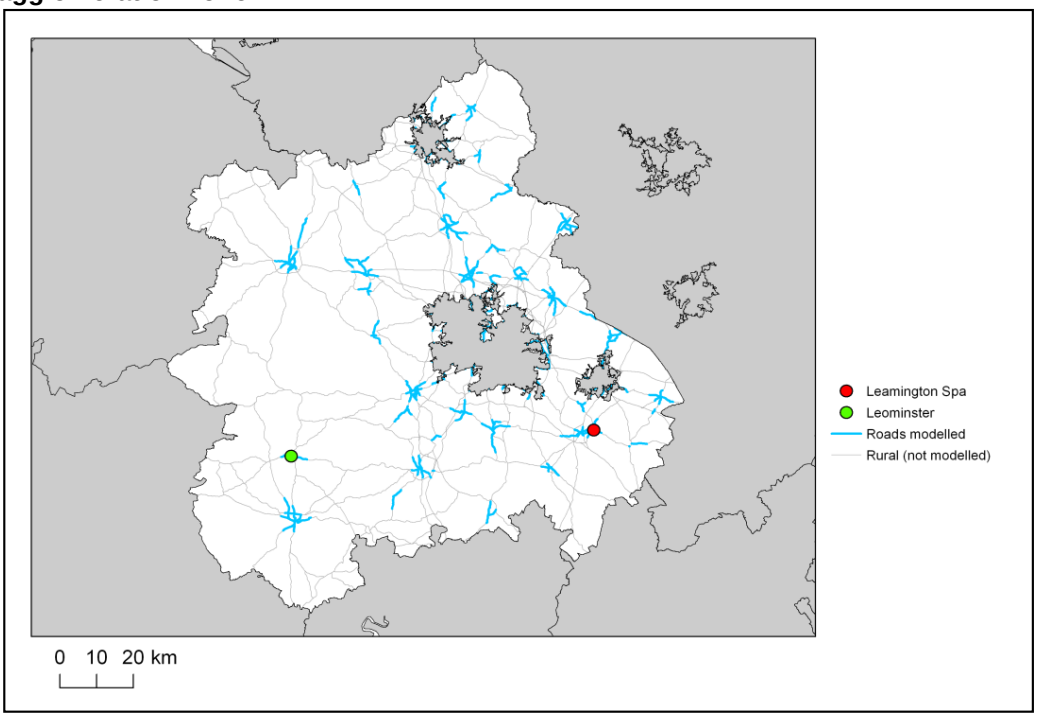
Zone maps
Figure 3 presents the location of the NO_2 monitoring stations within this zone for 2008 and the roads for which NO_2 concentrations have been modelled. NO_2 concentrations at background locations have been modelled across the entire zone at a 1 x 1 km^2 resolution.

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 West Midlands (UK0035) non-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 West Midlands non-agglomeration zone only the annual limit value was exceeded in 2008. Hence, one exceedance situation for this zone has been defined, NO_2_UK0035_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 non-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_UK0035_Annual_1

The NO_2_UK0035_Annual_1 exceedance situation covers all exceedances of the annual mean limit value in the West Midlands non-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, 76.3 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 86.5 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_UK0035_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_UK0035_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
Leamington Spa (GB0643A)	31 (91%)	29 (96%)	33 (67%)	25 (94%)	25 (70%)	20 (73%)	25 (71%)	27 (86%)	27 (92%)
Leominster (GB0861A)					14 (42%)	12 (92%)	13 (94%)	11 (95%)	11 (99%)

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

Table 2. Annual mean NO_2 model results in NO_2_UK0035_Annual_1 for 2001 onwards

	2001	2002	2003	2004	2005	2006	2007	2008	2009
Road length exceeding (km)	112.3	47.3	163.2	115.8	90.4	84.6	90.2	76.3	64.1
Background area exceeding (km^2)	22	7	14	0	0	0	0	0	2
Maximum modelled concentration (μgm^{-3}) (a)	70.4	64.0	74.6	74.6	83.7	77.6	76.8	86.5	83.5

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

Table 3. Source apportionment summary information for 2008 in NO_2_UK0035_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	7.7	(c)	
	From within the UK	4.6	(c)	5.5
	From transboundary sources (includes shipping and other EU Member States)	3.1	(c)	4.4
Urban background sources (i.e. sources located within 0.3 - 30 km from the receptor)	Total	35.5	17.0	-
	From road traffic sources	16.4	10.2	45.7
	From industry (including heat and power generation)	4.6	(c)	23.6
	From agriculture	0.0	(c)	0.0
	From commercial/residential sources	3.2	(c)	6.9
	From shipping	0.0	(c)	0.0
	From off road mobile machinery	10.9	(c)	14.6
	From natural sources	0.0	(c)	0.0
	From transboundary sources	0.0	(c)	0.0
	From other urban background sources	0.4	(c)	3.7
Local sources (i.e. contributions from sources < 0.3 km from the receptor)	Total	176.2	69.5	-
	From cars	47.7	18.4	48.3
	From HGV rigid	29.4	11.7	29.4
	From HGV articulated	76.9	29.2	76.9
	From Buses	4.5	1.9	25.3
	From LGVs	17.4	8.4	17.4
	From motorcycles	0.2	0.1	0.3
Total (i.e. regional background + urban background + local components)		219.4	86.5	-

(a) The road with the highest modelled annual mean NO_2 concentration in this exceedance situation in 2008 is a section of the A500, traffic count point id 75419 (OS grid (m): 387690, 343550).
(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 6.8 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.

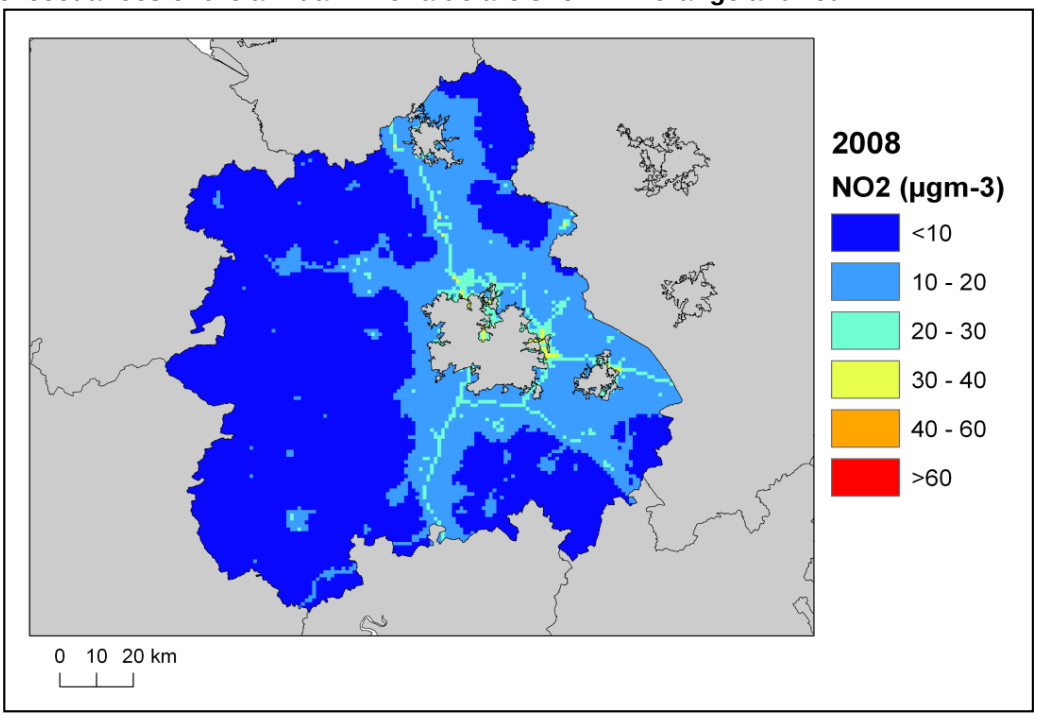
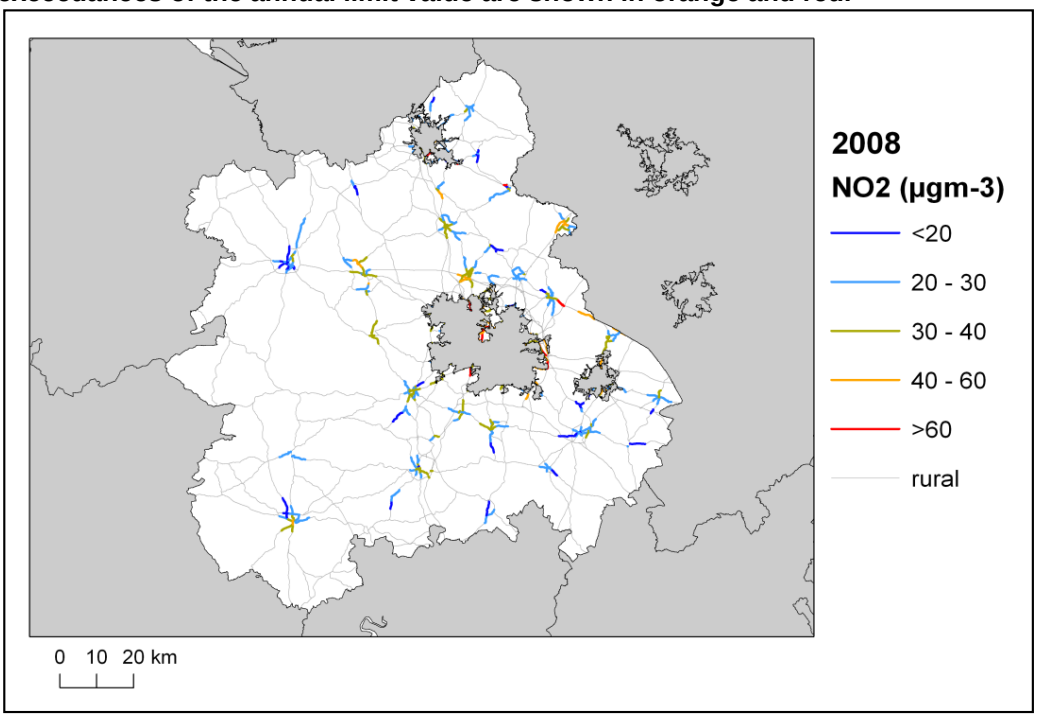


Figure 5. Map of modelled roadside annual mean NO_2 concentrations 2008. Modelled exceedances of the annual limit value are shown in orange and red.



4. Measures

4.1. Introduction

This section (section 4) gives details of measures that address exceedances of the NO_2 limit values within West Midlands non-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 articulated HGVs at the location of maximum exceedance with a contribution of 76.9 ugm^{-3} of NO_X out of a total of 219.4 ugm^{-3} of NO_X. Articulated HGVs were important sources on the motorway roads with the highest concentrations in this exceedance situation. Articulated HGVs, cars and rigid HGVs were important sources on the trunk roads with the highest concentrations. Articulated HGVs, rigid HGVs, cars and on some roads buses 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 non-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_UK0035_Annual_1

Table 4 presents summary results for the baseline model projections for 2010, 2015 and 2020 for the NO_2_UK0035_Annual_1 exceedance situation. This shows that the maximum modelled annual mean NO_2 concentration predicted for 2010 in this exceedance situation is 74.6 μgm^{-3}. By 2015, the maximum modelled annual mean NO_2 concentration is predicted to drop to 47.9 μgm^{-3}. Hence, the model results suggest that compliance with the NO_2 annual limit value is unlikely to be achieved by 2015 under baseline conditions in this exceedance situation.

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_UK0035_Annual_1

	2008	2010	2015	2020
Road length exceeding (km)	76.3	48.6	15.5	0.0
Background area exceeding (km^2)	0	0	0	0
Maximum modelled concentration (μgm^{-3}) (a)	86.5	74.6	47.9	28.1

(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 75419 on the A500 (the road section with the maximum modelled annual mean NO_2 concentration in 2008 in NO_2_UK0035_Annual_1. OS grid (m): 387690, 343550). 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	7.7	6.6	5.8	4.6	(a)	(b)	(c)	(d)
	From within the UK	4.6	3.9	3.4	2.8	(a)	(b)	(c)	(d)
	From transboundary sources (includes shipping and other EU Member States)	3.1	2.7	2.3	1.9	(a)	(b)	(c)	(d)
Urban background sources (i.e. sources located within 0.3 - 30 km from the receptor)	Total	35.5	30.5	20.5	14.8	17.0	15.2	11.5	9.3
	From road traffic sources	16.4	12.6	7.9	4.2	10.2	9.7	7.8	7.2
	From industry (including heat and power generation)	4.6	4.1	4.0	3.7	(a)	(b)	(c)	(d)
	From agriculture	0.0	0.0	0.0	0.0	(a)	(b)	(c)	(d)
	From commercial/residential sources	3.2	3.2	2.9	2.6	(a)	(b)	(c)	(d)
	From shipping	0.0	0.0	0.0	0.0	(a)	(b)	(c)	(d)
	From off road mobile machinery	10.9	10.3	5.4	3.9	(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	0.4	0.3	0.3	0.3	(a)	(b)	(c)	(d)
Local sources (i.e. contributions from sources < 0.3 km from the receptor)	Total	176.2	144.3	81.3	36.9	69.5	59.4	36.4	18.3
	From cars	47.7	32.0	22.1	14.7	18.4	13.3	10.1	7.3
	From HGV rigid	29.4	26.2	13.5	4.8	11.7	10.7	5.9	2.3
	From HGV articulated	76.9	66.9	33.8	11.1	29.2	26.1	14.4	5.3
	From Buses	4.5	4.1	2.4	1.1	1.9	1.7	1.1	0.5
	From LGVs	17.4	14.9	9.4	5.2	8.4	7.5	5.0	2.8
	From motorcycles	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1
Total (i.e. regional background + urban background + local components)		219.4	181.4	107.5	56.4	86.5	74.6	47.9	27.6

(a) The total annual mean NO_2 contribution for all components labelled (a) in 2008 was modelled to be 6.8 μgm^{-3}.
(b) The total annual mean NO_2 contribution for all components labelled (b) in 2010 is predicted to be 5.5 μgm^{-3}.
(c) The total annual mean NO_2 contribution for all components labelled (c) in 2015 is predicted to be 3.6 μgm^{-3}.
(d) The total annual mean NO_2 contribution for all components labelled (d) in 2020 is predicted to be 2.1 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_UK0035_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	7.7	6.6	5.8	5.2	(b)	(c)	(d)	(e)
	From within the UK	4.6	3.9	3.4	3.0	(b)	(c)	(d)	(e)
	From transboundary sources (includes shipping and other EU Member States)	3.1	2.7	2.3	2.1	(b)	(c)	(d)	(e)
Urban background sources (i.e. sources located within 0.3 - 30 km from the receptor)	Total	35.5	30.5	20.5	29.0	17.0	15.2	11.5	15.3
	From road traffic sources	16.4	12.6	7.9	10.2	10.2	9.7	7.8	10.5
	From industry (including heat and power generation)	4.6	4.1	4.0	8.2	(b)	(c)	(d)	(e)
	From agriculture	0.0	0.0	0.0	0.0	(b)	(c)	(d)	(e)
	From commercial/residential sources	3.2	3.2	2.9	3.7	(b)	(c)	(d)	(e)
	From shipping	0.0	0.0	0.0	0.0	(b)	(c)	(d)	(e)
	From off road mobile machinery	10.9	10.3	5.4	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	0.4	0.3	0.3	2.1	(b)	(c)	(d)	(e)
Local sources (i.e. contributions from sources < 0.3 km from the receptor)	Total	176.2	144.3	81.3	27.4	69.5	59.4	36.4	12.8
	From cars	47.7	32.0	22.1	9.1	18.4	13.3	10.1	4.5
	From HGV rigid	29.4	26.2	13.5	3.3	11.7	10.7	5.9	1.5
	From HGV articulated	76.9	66.9	33.8	10.5	29.2	26.1	14.4	4.6
	From Buses	4.5	4.1	2.4	0.5	1.9	1.7	1.1	0.2
	From LGVs	17.4	14.9	9.4	3.8	8.4	7.5	5.0	1.9
	From motorcycles	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1
Total (i.e. regional background + urban background + local components)		219.4	181.4	107.5	61.5	86.5	74.6	47.9	28.1

(a) The road with the maximum annual mean NO_2 concentration in different years is as follows. 2008: A section of the A500 (count point id 75419). 2010: A section of the A500 (count point id 75419). 2015: A section of the A500 (count point id 75419). 2020: A section of the M6 (count point id 36023). (OS grid (m): 387690, 343550; 387690, 343550; 387690, 343550; 387690, 343550).
(b) The total annual mean NO_2 contribution for all components labelled (b) in 2008 was modelled to be 6.8 μgm^{-3}.
(c) The total annual mean NO_2 contribution for all components labelled (c) in 2010 is predicted to be 5.5 μgm^{-3}.
(d) The total annual mean NO_2 contribution for all components labelled (d) in 2015 is predicted to be 3.6 μgm^{-3}.
(e) The total annual mean NO_2 contribution for all components labelled (e) in 2020 is predicted to be 4.8 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	5.5	4.8	3.8	0.0
	From transboundary sources (includes shipping and other EU Member States)	4.4	3.8	2.7	0.0
Urban background sources (i.e. sources located within 0.3 - 30 km from the receptor)	From road traffic sources	45.7	36.2	20.9	0.0
	From industry (including heat and power generation)	23.6	12.7	9.5	0.0
	From agriculture	0.0	0.0	0.0	0.0
	From commercial/residential sources	6.9	6.9	6.2	0.0
	From shipping	0.0	0.0	0.0	0.0
	From off road mobile machinery	14.6	13.6	6.6	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	3.7	3.1	2.2	0.0
Local sources (i.e. contributions from sources < 0.3 km from the receptor)	From cars	48.3	32.5	22.4	0.0
	From HGV rigid	29.4	26.2	13.5	0.0
	From HGV articulated	76.9	66.9	33.8	0.0
	From Buses	25.3	12.9	4.4	0.0
	From LGVs	17.4	14.9	9.4	0.0
	From motorcycles	0.3	0.2	0.2	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.

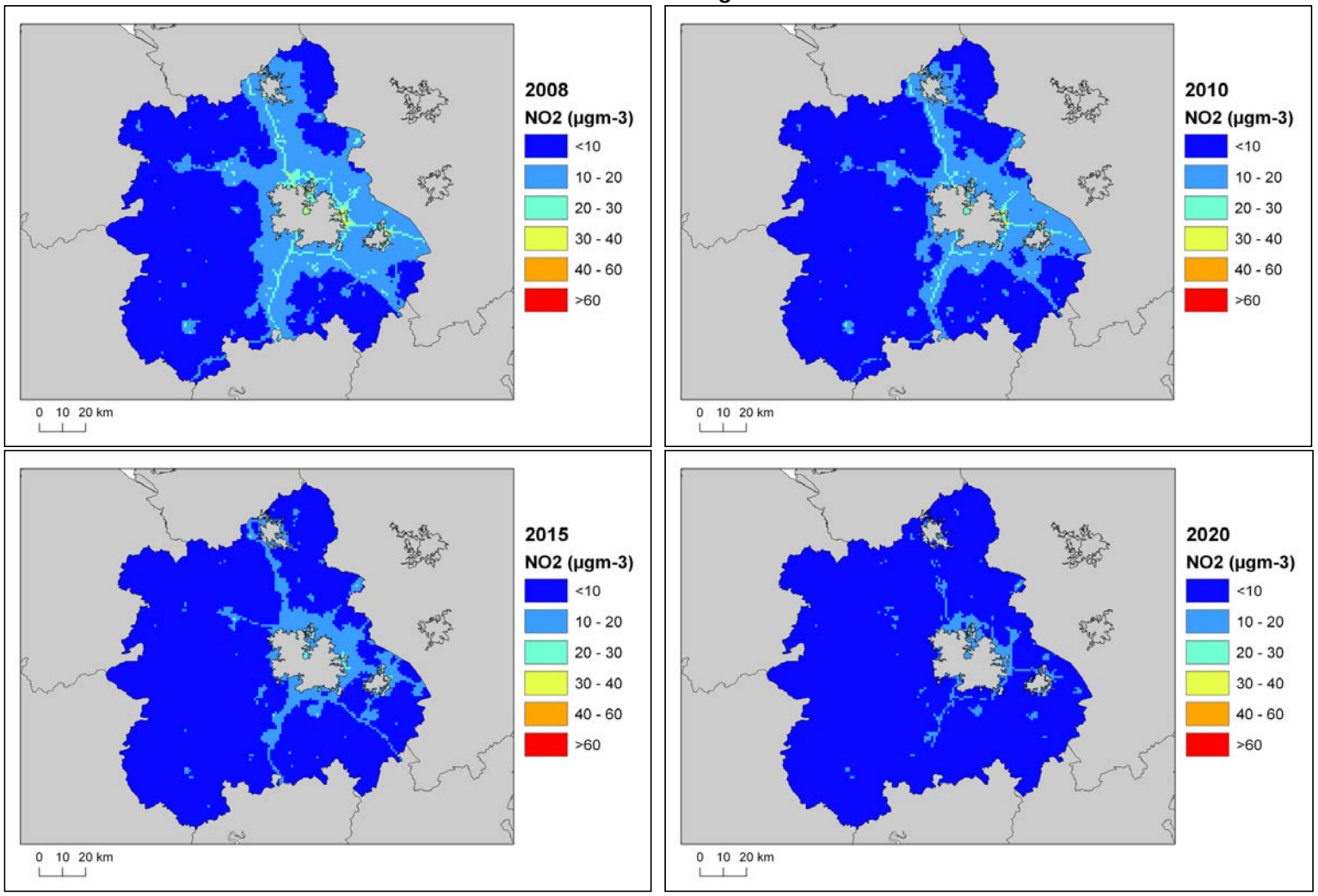
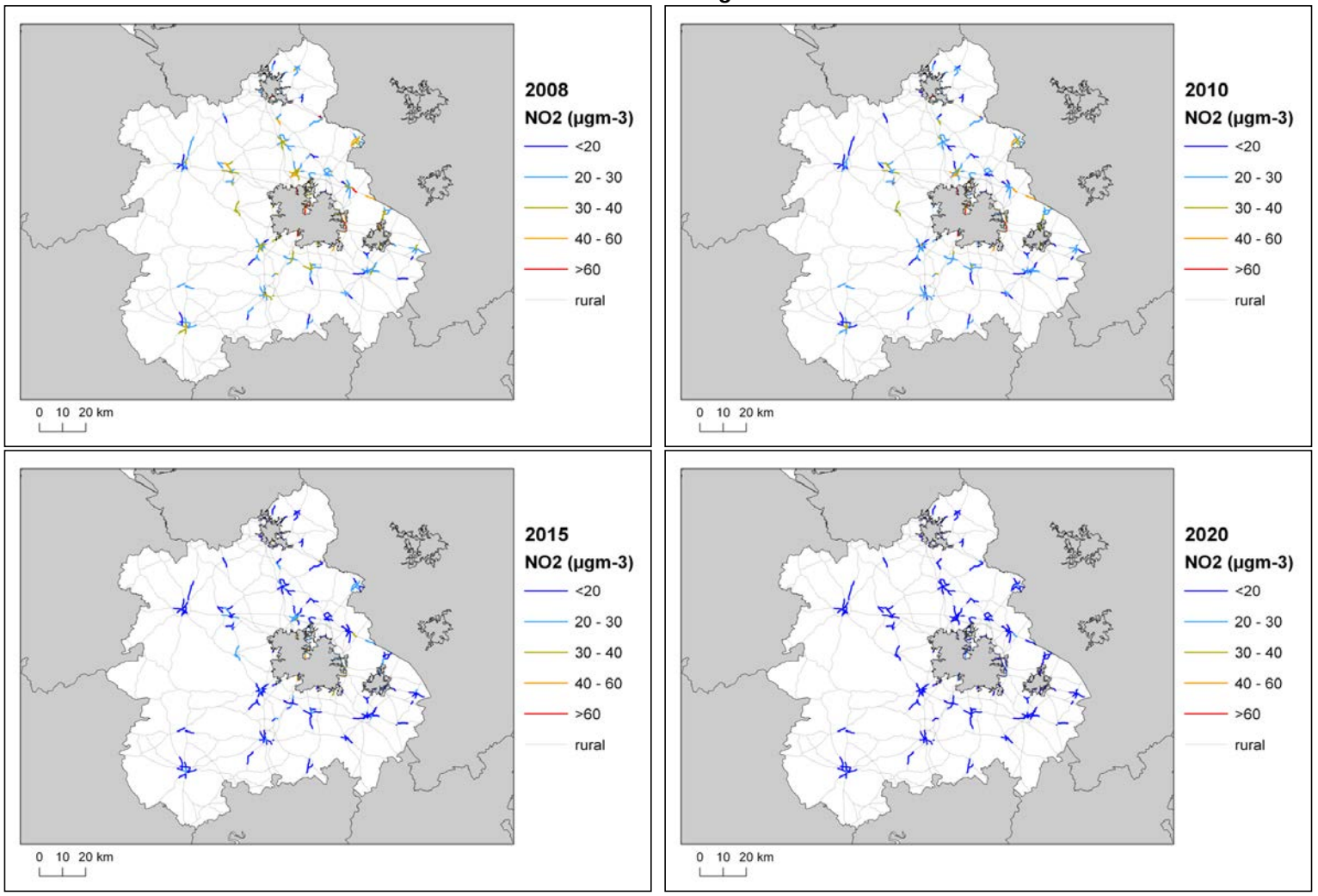


Figure 7. Roadside baseline projections of annual mean NO_2 concentrations in 2010, 2015 and 2020. 2008 is also included here for reference. Modelled exceedances of the annual limit value are shown in orange and red.



6. Projections including the impact of the low emissions zone (LEZ) scenario

6.1. Overview of model projections

Further model projections for 2015 and 2020 have also been calculated that include the impact of the LEZ scenario. This scenario is under consideration as part of our investigation of additional measures to achieve the NO_2 limit values. The scenario modelled here would require all HGVs and buses to meet at least Euro IV emission standards for NO_X and PM_{10} in 2015 in order to travel on roads other than the strategic long distance road network within the selected Local Authority boundaries. More details of the work underway to explore the feasibility and costs of a national LEZ framework are provided in the UK overview document and a description of the modelling assumptions included in the LEZ scenario is available in the UK technical report.

The LEZ scenario has been modelled for this zone because initial screening work indicated that, should it be applied, it would be effective at either reducing the gap to or achieving compliance with the limit value. The model results for these projections are presented in this section.

Further work is underway to investigate the feasibility and practicality of a national framework for LEZ as an additional measure to reduce concentrations of NO_2. These investigations include:

• the likely effectiveness of any scheme at controlling air pollutant emissions and delivering increased compliance with European air quality standards within the timescales specified by the EU Ambient Air Quality Directive;
• the effectiveness and reliability of available NO_X abatement equipment, taking into account evidence on the performance of Euro standards;
• the cost and resource such a measure might place upon national and/or local government;
• administrative and enforcement considerations for the scheme and the implications of this for Government Executive Agencies;
• the likely take-up of the scheme by local authorities and others;
• how any scheme would relate to ongoing certification work at EU and UNECE level.

These investigations will continue over the coming months and decisions will be made following the investigation as to whether or not it is feasible to introduce a national LEZ Framework and the details of any scheme. Should a local authority decide to introduce an LEZ, final decisions on the nature and extent of such a measure would be for the local authority to make taking into account local circumstances and any national arrangements put in place. These might not reflect what has been modelled in the scenario.

The LEZ scenario examines the impact of a LEZ applied within the selected local authorities listed in the supporting technical report. The local authorities relevant to this zone are

• Birmingham City Council
• Dudley Metropolitan Borough Council
• Sandwell Metropolitan Borough Council
• Stoke on Trent City Council
• Walsall Metropolitan Borough Council

The impact of the LEZ scenario on projected NO_2 concentrations in 2015 will be greatest in these local authorities. There are also expected to be smaller benefits in other areas as a result of the changes to the national HGV fleets required to ensure LEZ compliance within the LEZ locations. The impact of these fleet changes on projected NO_2 concentrations in 2015 have been assessed in all zones for which the baseline projections do not show compliance with the annual mean limit value in 2015.

6.2. LEZ scenario projections: NO_2_UK0035_Annual_1

Table 8 presents summary results for the LEZ scenario model projections for 2015 and 2020 for the NO_2_UK0035_Annual_1 exceedance situation. This shows that the maximum modelled annual mean NO_2 concentration predicted for 2015 for the LEZ scenario in this exceedance situation is 46.7 μgm^{-3}. Hence, the model results suggest that compliance with the NO_2 annual limit value is unlikely to be achieved by 2015 for the LEZ scenario in this exceedance situation. The model results do, however, show that the NO_2 annual mean limit value is likely to be achieved in this exceedance situation in 2020, when the maximum modelled annual mean NO_2 concentration predicted to be 28 μgm^{-3}.

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 9. 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 10. The locations of maximum concentration in each year are given in teh 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 11 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 that 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 8 and 9 show maps of projected annual mean NO_2 concentrations for the LEZ scenario in 2015 and 2020 at background and roadside locations respectively. Maps for 2008 and baseline projections for 2010 are also presented here for reference.

Table 8. Annual mean NO_2 model results in NO_2_UK0035_Annual_1. 2015 and 2020 results are for the LEZ scenario. Results for 2008 and baseline projections for 2010 are also shown

	2008	2010	2015	2020
Road length exceeding (km)	76.3	48.6	11.8	0.0
Background area exceeding (km^2)	0	0	0	0
Maximum modelled concentration (μgm^{-3}) (a)	86.5	74.6	46.7	28.0

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

Table 9. Modelled source apportionment for 2015 and 2020 for the LEZ scenario for traffic count point 75419 on the A500 (the road section with the maximum modelled annual mean NO_2 concentration in 2008 in NO_2_UK0035_Annual_1 OS grid (m): 387690, 343550). 2008 and 2010 baseline projections 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	7.7	6.6	5.7	4.6	(a)	(b)	(c)	(d)
	From within the UK	4.6	3.9	3.4	2.7	(a)	(b)	(c)	(d)
	From transboundary sources (includes shipping and other EU Member States)	3.1	2.7	2.3	1.9	(a)	(b)	(c)	(d)
Urban background sources (i.e. sources located within 0.3 - 30 km from the receptor)	Total	35.5	30.5	19.7	14.7	17.0	15.2	11.1	9.3
	From road traffic sources	16.4	12.6	7.1	4.2	10.2	9.7	7.9	7.2
	From industry (including heat and power generation)	4.6	4.1	4.0	3.7	(a)	(b)	(c)	(d)
	From agriculture	0.0	0.0	0.0	0.0	(a)	(b)	(c)	(d)
	From commercial/residential sources	3.2	3.2	2.9	2.6	(a)	(b)	(c)	(d)
	From shipping	0.0	0.0	0.0	0.0	(a)	(b)	(c)	(d)
	From off road mobile machinery	10.9	10.3	5.4	3.9	(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	0.4	0.3	0.3	0.3	(a)	(b)	(c)	(d)
Local sources (i.e. contributions from sources < 0.3 km from the receptor)	Total	176.2	144.3	79.1	36.9	69.5	59.4	35.6	18.2
	From cars	47.7	32.0	22.1	14.7	18.4	13.3	10.1	7.3
	From HGV rigid	29.4	26.2	12.7	4.7	11.7	10.7	5.6	2.3
	From HGV articulated	76.9	66.9	32.3	11.0	29.2	26.1	13.8	5.2
	From Buses	4.5	4.1	2.4	1.1	1.9	1.7	1.1	0.5
	From LGVs	17.4	14.9	9.4	5.2	8.4	7.5	5.0	2.8
	From motorcycles	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1
Total (i.e. regional background + urban background + local components)		219.4	181.4	104.5	56.2	86.5	74.6	46.7	27.5

(a) The total annual mean NO_2 contribution for all components labelled (a) in 2008 was modelled to be 6.8 μgm^{-3}.
(b) The total annual mean NO_2 contribution for all components labelled (b) in 2010 is predicted to be 5.5 μgm^{-3}.
(c) The total annual mean NO_2 contribution for all components labelled (c) in 2015 is predicted to be 3.3 μgm^{-3}.
(d) The total annual mean NO_2 contribution for all components labelled (d) in 2020 is predicted to be 2.1 μgm^{-3}.

Table 10. Modelled source apportionment for 2015 and 2020 for the LEZ scenario for traffic count point with the highest concentration in these years in NO_2_UK0035_Annual_1. (a) 2008 and 2010 baseline projections 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	7.7	6.6	5.7	5.2	(b)	(c)	(d)	(e)
	From within the UK	4.6	3.9	3.4	3.0	(b)	(c)	(d)	(e)
	From transboundary sources (includes shipping and other EU Member States)	3.1	2.7	2.3	2.1	(b)	(c)	(d)	(e)
Urban background sources (i.e. sources located within 0.3 - 30 km from the receptor)	Total	35.5	30.5	19.7	28.7	17.0	15.2	11.1	15.2
	From road traffic sources	16.4	12.6	7.1	10.0	10.2	9.7	7.9	10.5
	From industry (including heat and power generation)	4.6	4.1	4.0	8.2	(b)	(c)	(d)	(e)
	From agriculture	0.0	0.0	0.0	0.0	(b)	(c)	(d)	(e)
	From commercial/residential sources	3.2	3.2	2.9	3.7	(b)	(c)	(d)	(e)
	From shipping	0.0	0.0	0.0	0.0	(b)	(c)	(d)	(e)
	From off road mobile machinery	10.9	10.3	5.4	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	0.4	0.3	0.3	2.1	(b)	(c)	(d)	(e)
Local sources (i.e. contributions from sources < 0.3 km from the receptor)	Total	176.2	144.3	79.1	27.3	69.5	59.4	35.6	12.8
	From cars	47.7	32.0	22.1	9.1	18.4	13.3	10.1	4.5
	From HGV rigid	29.4	26.2	12.7	3.3	11.7	10.7	5.6	1.5
	From HGV articulated	76.9	66.9	32.3	10.4	29.2	26.1	13.8	4.6
	From Buses	4.5	4.1	2.4	0.5	1.9	1.7	1.1	0.2
	From LGVs	17.4	14.9	9.4	3.8	8.4	7.5	5.0	1.9
	From motorcycles	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1
Total (i.e. regional background + urban background + local components)		219.4	181.4	104.5	61.2	86.5	74.6	46.7	28.0

(a) The road with the maximum annual mean NO_2 concentration in different years is as follows. 2008: A section of the A500 (count point id 75419). 2010: A section of the A500 (count point id 75419). 2015: A section of the A500 (count point id 75419). 2020: A section of the M6 (count point id 36023). (OS grid (m): 387690, 343550; 387690, 343550; 387690, 343550; 387690, 343550).
(b) The total annual mean NO_2 contribution for all components labelled (b) in 2008 was modelled to be 6.8 μgm^{-3}.
(c) The total annual mean NO_2 contribution for all components labelled (c) in 2010 is predicted to be 5.5 μgm^{-3}.
(d) The total annual mean NO_2 contribution for all components labelled (d) in 2015 is predicted to be 3.3 μgm^{-3}.
(e) The total annual mean NO_2 contribution for all components labelled (e) in 2020 is predicted to be 4.7 μgm^{-3}.

Table 11. 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	5.5	4.8	3.8	0.0
	From transboundary sources (includes shipping and other EU Member States)	4.4	3.8	2.7	0.0
Urban background sources (i.e. sources located within 0.3 - 30 km from the receptor)	From road traffic sources	45.7	36.2	20.0	0.0
	From industry (including heat and power generation)	23.6	12.7	9.5	0.0
	From agriculture	0.0	0.0	0.0	0.0
	From commercial/residential sources	6.9	6.9	6.2	0.0
	From shipping	0.0	0.0	0.0	0.0
	From off road mobile machinery	14.6	13.6	6.6	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	3.7	3.1	2.2	0.0
Local sources (i.e. contributions from sources < 0.3 km from the receptor)	From cars	48.3	32.5	22.4	0.0
	From HGV rigid	29.4	26.2	12.7	0.0
	From HGV articulated	76.9	66.9	32.3	0.0
	From Buses	25.3	12.9	4.4	0.0
	From LGVs	17.4	14.9	9.4	0.0
	From motorcycles	0.3	0.2	0.2	0.0

Figure 8. Background projections of annual mean NO_2 concentrations in 2015 and 2020 for the LEZ scenario. 2008 and baseline projections for 2010 are also included here for reference. Modelled exceedances of the annual limit value are shown in orange and red.

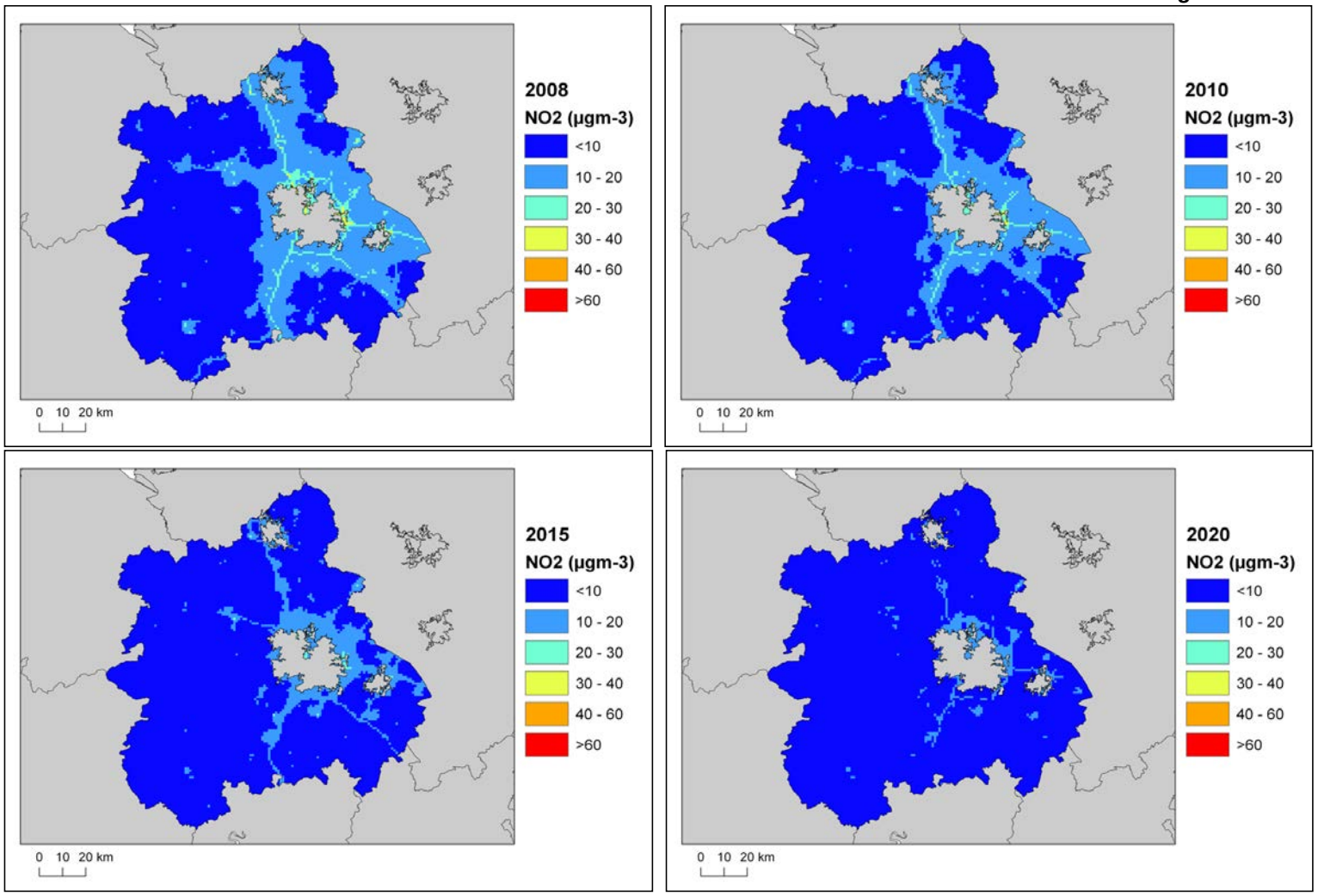
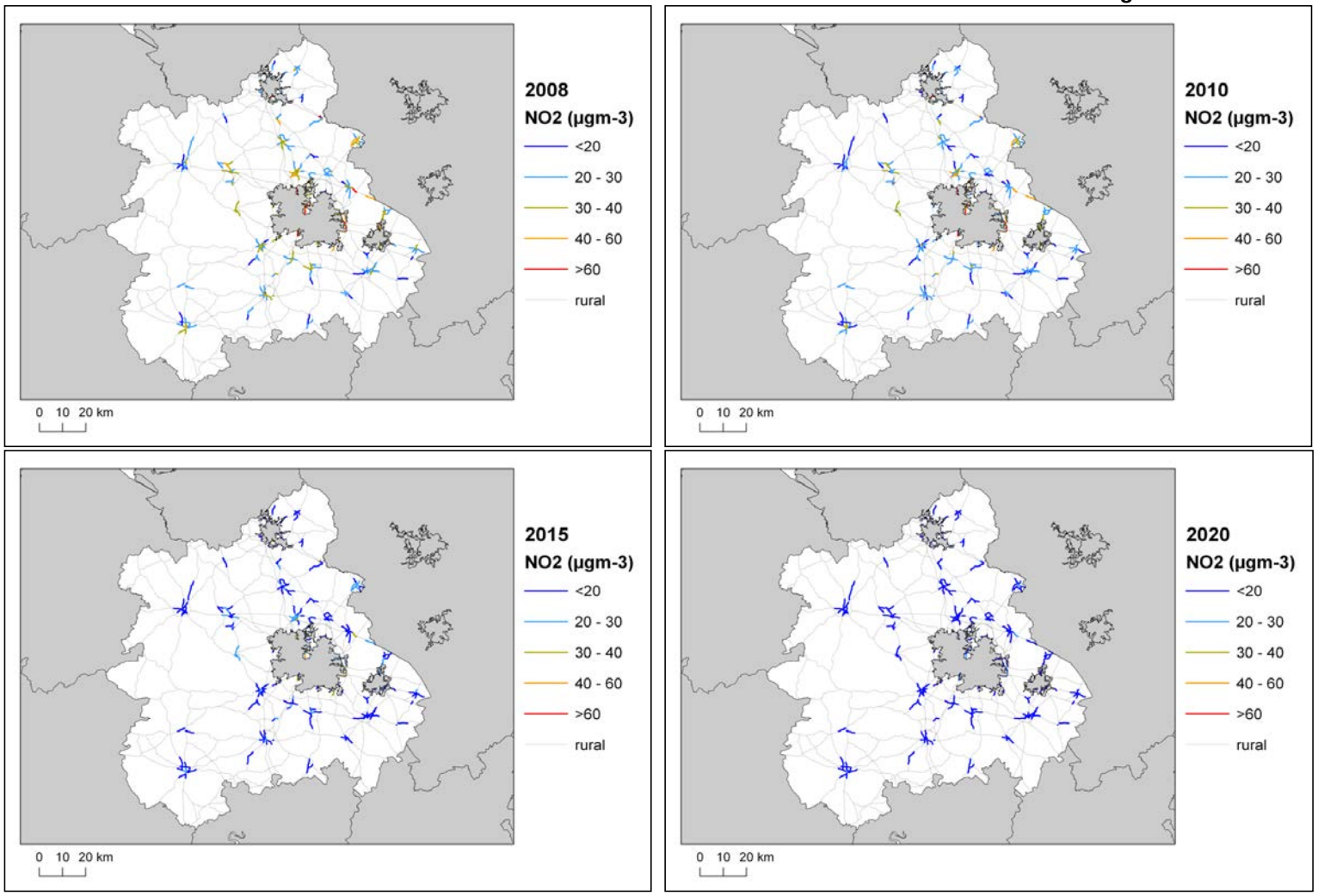


Figure 9. Roadside projections of annual mean NO_2 concentrations in 2015 and 2020 for the LEZ scenario. 2008 and baseline projections for 2010 are also included here for reference. Modelled exceedances of the annual limit value are shown in orange and red.



References

Air Quality Expert Group (AQEG, 2004). Nitrogen Dioxide in the United Kingdom. http://www.defra.gov.uk/environment/quality/air/airquality/publications/nitrogen-dioxide/index.htm

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/

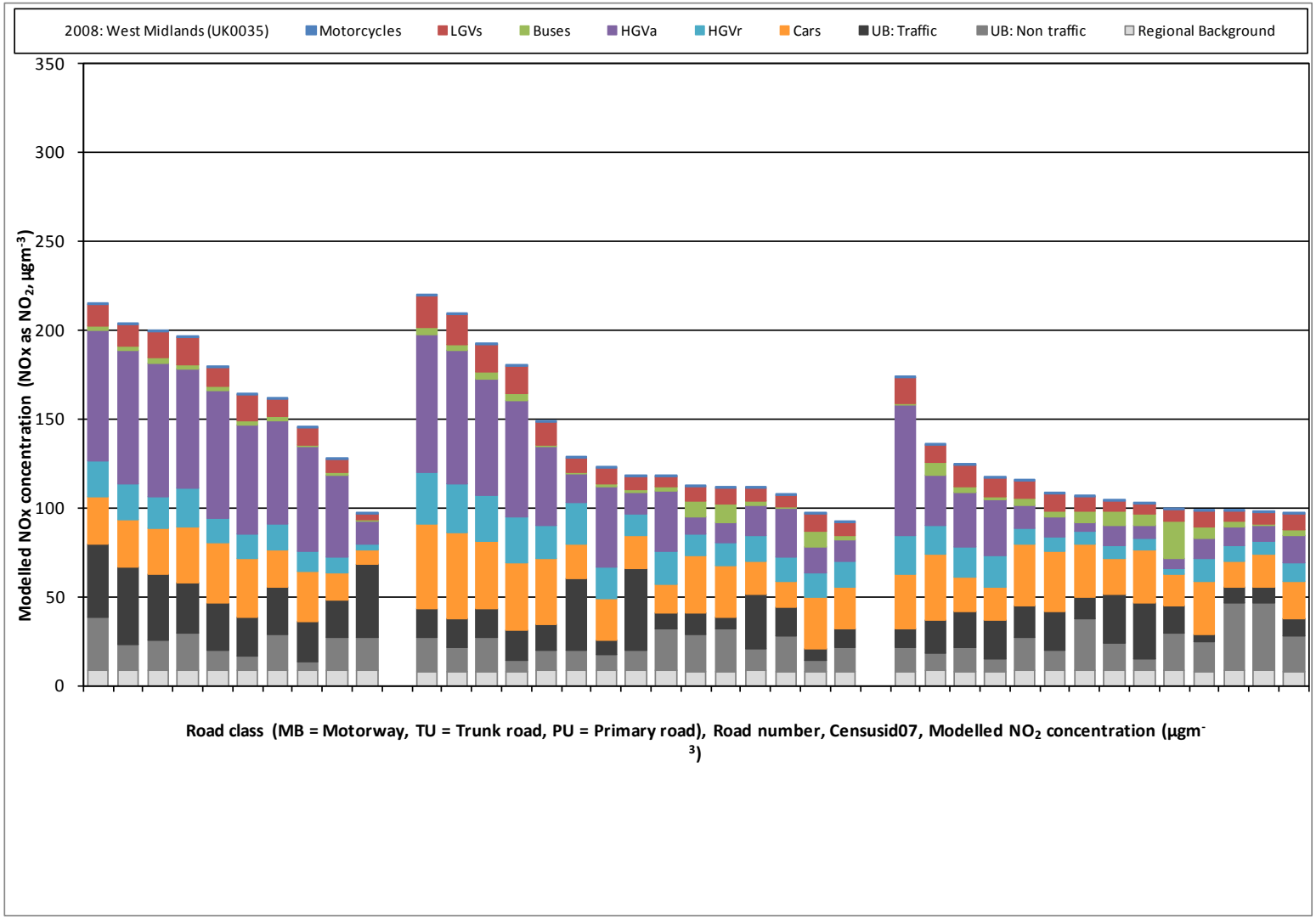
Air Quality Directive 2008/50/EC. Council Directive 2008/50/EC, of 21 May 2008. On ambient air quality and cleaner air for Europe. From the Official Journal of the European Union, 11.6.2008, En series, L152/1

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

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 West Midlands (UK0035)

LA (a)	Measure code (b)	Title	Description	Other information
Birmingham	Local_Birmingham_G 1	Promotion of Walking	Promotion of walking by participation in major £3m annual investment programme in good practice, promotion and facilities	• Type: Technical • Sources affected: Transport • Spatial scale: local • Implementation date: 2004/2005 • Reduction timescale: Long term • Regulatory: No • Smarter Choices (c) : Yes • Reference (d): Local_zone35_Birmingham_AQActionplan_1
Birmingham	Local_Birmingham_G 2	Promotion of cycling	Join in promotion of cylcling and submission of major bid to assist	• Type: Technical • Sources affected: Transport • Spatial scale: local • Implementation date: 2000 • Reduction timescale: Long term • Regulatory: No • Smarter Choices (c) : Yes • Reference (d): Local_zone35_Birmingham_AQActionplan_1
Birmingham	Local_Birmingham_G 3	Promotion of cycling facilities	Continue to require new cycling facilities at development sites	• Type: Technical • Sources affected: Transport • Spatial scale: local • Implementation date: 2007 • Reduction timescale: Long term • Regulatory: No • Smarter Choices (c) : Yes • Reference (d): Local_zone35_Birmingham_AQActionplan_1
Birmingham	Local_Birmingham_A 1	Freight Quality partnership	Assist in setting up Freight Quality Partnership	• Type: Technical • Sources affected: Transport • Spatial scale: local • Implementation date: 2008 • Reduction timescale: Long term • Regulatory: No • Smarter Choices (c) : No • Reference (d): Local_zone35_Birmingham_AQActionplan_1
Birmingham	Local_Birmingham_A 2	Improve Council Fleet	Improve own Council fleet	• Type: Technical • Sources affected: Transport

LA (a)	Measure code (b)	Title	Description	Other information
				• Spatial scale: local • Implementation date: 2007 • Reduction timescale: Long term • Regulatory: No • Smarter Choices (c) : No • Reference (d): Local_zone35_Birmingham_AQActionplan_1
Birmingham	Local_Birmingham_E1	City Centre Living	Continue to strategy to encourage city centre living and aim to have 10,000 residents in centre by 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_zone35_Birmingham_AQActionplan_1
Birmingham	Local_Birmingham_E2	Development Control	Continue to maintain policy of encouraging mixed use developments	• Type: Technical • Sources affected: Transport • Spatial scale: local • Implementation date: 2007 • Reduction timescale: Long term • Regulatory: No • Smarter Choices (c) : No • Reference (d): Local_zone35_Birmingham_AQActionplan_1
Birmingham	Local_Birmingham_E3	Planning Control	Consideration of AQ as a consideration in Planning Applications	• Type: Technical • Sources affected: Transport • Spatial scale: local • Implementation date: 2007 • Reduction timescale: Long term • Regulatory: No • Smarter Choices (c) : No • Reference (d): Local_zone35_Birmingham_AQActionplan_1
Birmingham	Local_Birmingham_D1	Parking Management	Seek to maintain the number of short stay parking places at the 2001 level.	• Type: Technical • Sources affected: Transport • Spatial scale: local • Implementation date: 2007 • Reduction timescale: Long term • Regulatory: No • Smarter Choices (c) : No • Reference (d):

LA (a)	Measure code (b)	Title	Description	Other information
				Local_zone35_Birmingham_AQActionplan_1
Birmingham	Local_Birmingham_D 2	Parking Management	Will seek to reduce the number of long-stay parking spaces in City Centre by 3% p.a. until 2006 and 1.5% per year to 2011.	• Type: Technical • Sources affected: Transport • Spatial scale: local • Implementation date: 2007 • Reduction timescale: Long term • Regulatory: No • Smarter Choices (c) : No • Reference (d): Local_zone35_Birmingham_AQActionplan_1
Birmingham	Local_Birmingham_G 4	Promotion of Travel Plans	Continue to work with partners to offer incentives to those with Travel Plans	• Type: Technical • Sources affected: Transport • Spatial scale: local • Implementation date: 2008 • Reduction timescale: Long term • Regulatory: No • Smarter Choices (c) : Yes • Reference (d): Local_zone35_Birmingham_AQActionplan_1
Birmingham	Local_Birmingham_E 4	Promote Travelwise via planning conditions	User planning conditions to promote Travelwise	• Type: Technical • Sources affected: Transport • Spatial scale: local • Implementation date: 2007 • Reduction timescale: Long term • Regulatory: No • Smarter Choices (c) : Yes • Reference (d): Local_zone35_Birmingham_AQActionplan_1
Birmingham	Local_Birmingham_G 5	Partnership working to promote Travelwise	Work with partners to develop a standardised approach tot he Travelwise initiative across the West Mids	• Type: Technical • Sources affected: Transport • Spatial scale: local • Implementation date: 2007 • Reduction timescale: Long term • Regulatory: No • Smarter Choices (c) : Yes • Reference (d): Local_zone35_Birmingham_AQActionplan_1
Birmingham	Local_Birmingham_G 6	Partnership working to promote travel plans	Council will work with partners to encourage Travel Plans for schools, employers, hospitals	• Type: Technical • Sources affected: Transport • Spatial scale: local • Implementation date: 2007 • Reduction timescale: Long term

LA (a)	Measure code (b)	Title	Description	Other information
				• Regulatory: No • Smarter Choices (c) : Yes • Reference (d): Local_zone35_Birmingham_AQActionplan_1
Birmingham	Local_Birmingham_H1	Incident response	HA will deliver a 20 min response time to incidents (previously 60 minutes)	• Type: Technical • Sources affected: Transport • Spatial scale: local • Implementation date: 2004 • Reduction timescale: Long term • Regulatory: No • Smarter Choices (c) : No • Reference (d): Local_zone35_Birmingham_AQActionplan_1
Birmingham	Local_Birmingham_H2	Incident response contingency	HA will implement a improved system of incident contingency planning	• Type: Technical • Sources affected: Transport • Spatial scale: local • Implementation date: 2007 • Reduction timescale: Long term • Regulatory: No • Smarter Choices (c) : No • Reference (d): Local_zone35_Birmingham_AQActionplan_1
Birmingham	Local_Birmingham_E5	Traffic Management	HA will implement active traffic management on the M42	• Type: Technical • Sources affected: Transport • Spatial scale: local • Implementation date: 2007 • Reduction timescale: Long term • Regulatory: No • Smarter Choices (c) : No • Reference (d): Local_zone35_Birmingham_AQActionplan_1
Birmingham	Local_Birmingham_E6	Red Route	Council will undertake demonstration of ‘Red Route’ bus lanes on A34 and look to roll-out across the network	• Type: Technical • Sources affected: Transport • Spatial scale: local • Implementation date: 2007 • Reduction timescale: Long term • Regulatory: No • Smarter Choices (c) : No • Reference (d): Local_zone35_Birmingham_AQActionplan_1
Birmingham	Local_Birmingham_A3	UTC	Council will participate in dev of UTC for West Mids to link / fill gap between existing urban with HA systems.	• Type: Technical • Sources affected: Transport

LA (a)	Measure code (b)	Title	Description	Other information
				• Spatial scale: local • Implementation date: 2009 • Reduction timescale: Long term • Regulatory: No • Smarter Choices (c) : No • Reference (d): Local_zone35_Birmingham_AQActionplan_1
Birmingham	Local_Birmingham_G7	Showcase Extensions	Showcase and Super Showcase extensions and improvements	• Type: Technical • Sources affected: Transport • Spatial scale: local • Implementation date: 2006 • Reduction timescale: Long term • Regulatory: No • Smarter Choices (c) : No • Reference (d): Local_zone35_Birmingham_AQActionplan_1
Birmingham	Local_Birmingham_H3	Bus lane enforcement	Increased bus lane enforcement (use bus lane cameras)	• Type: Technical • Sources affected: Transport • Spatial scale: local • Implementation date: 2007 • Reduction timescale: Long term • Regulatory: No • Smarter Choices (c) : No • Reference (d): Local_zone35_Birmingham_AQActionplan_1
Birmingham	Local_Birmingham_D3	Park and Ride	Support West Midlands LTP by looking for bus-based park and ride sites where opp. Exists	• Type: Technical • Sources affected: Transport • Spatial scale: local • Implementation date: 2007 • Reduction timescale: Long term • Regulatory: No • Smarter Choices (c) : No • Reference (d): Local_zone35_Birmingham_AQActionplan_1
Birmingham	Local_Birmingham_H4	Centro	Support CENTRO in communications strategy in respect of PT	• Type: Technical • Sources affected: Transport • Spatial scale: local • Implementation date: 2007 • Reduction timescale: Long term • Regulatory: No • Smarter Choices (c) : Yes • Reference (d):

LA (a)	Measure code (b)	Title	Description	Other information
				Local_zone35_Birmingham_AQActionplan_1
Birmingham	Local_Birmingham_H5	Assessment of Electrification of rail	Reduction of pollution from Heavy Rail by electrification	• Type: Technical • Sources affected: Transport • Spatial scale: local • Implementation date: 2007 • Reduction timescale: Long term • Regulatory: No • Smarter Choices (c) : No • Reference (d): Local_zone35_Birmingham_AQActionplan_1
Birmingham	Local_Birmingham_H6	Lobby for extensions to heavy rail network	Extension of heavy rail network by lobbying	• Type: Technical • Sources affected: Transport • Spatial scale: local • Implementation date: 2007 • Reduction timescale: Long term • Regulatory: No • Smarter Choices (c) : No • Reference (d): Local_zone35_Birmingham_AQActionplan_1
Birmingham	Local_Birmingham_H7	Rail Capacity	Increase in passenger capacity of rail network by bidding for funding	• Type: Technical • Sources affected: Transport • Spatial scale: local • Implementation date: 2009 • Reduction timescale: Long term • Regulatory: No • Smarter Choices (c) : No • Reference (d): Local_zone35_Birmingham_AQActionplan_1
Birmingham	Local_Birmingham_H8	Improve rail freight facilities	Improve rail freight facilities by supporting schemes	• Type: Technical • Sources affected: Transport • Spatial scale: local • Implementation date: 2008 • Reduction timescale: Long term • Regulatory: No • Smarter Choices (c) : No • Reference (d): Local_zone35_Birmingham_AQActionplan_1
Birmingham	Local_Birmingham_D4	Park and Ride	Increase P&R at rail stations	• Type: Technical • Sources affected: Transport • Spatial scale: local • Implementation date: 2007 • Reduction timescale: Long term

LA (a)	Measure code (b)	Title	Description	Other information
				• Regulatory: No • Smarter Choices (c) : No • Reference (d): Local_zone35_Birmingham_AQActionplan_1
Birmingham	Local_Birmingham_A4	Traffic management	HA will implement an improved scheme of diversion routing off network	• Type: Technical • Sources affected: Transport • Spatial scale: local • Implementation date: 2007 • Reduction timescale: Long term • Regulatory: No • Smarter Choices (c) : No • Reference (d): Local_zone35_Birmingham_AQActionplan_1
Birmingham	Local_Birmingham_F1	Provision of traffic information	Council will make improvements to Mattisse website providing traffic information	• Type: Technical • Sources affected: Transport • Spatial scale: local • Implementation date: 2007 • Reduction timescale: Long term • Regulatory: No • Smarter Choices (c) : No • Reference (d): Local_zone35_Birmingham_AQActionplan_1
Birmingham	Local_Birmingham_F2	Idling enforcement	Discourage drivers from unnecessary idling	• Type: Technical • Sources affected: Transport • Spatial scale: local • Implementation date: 2007 • Reduction timescale: Long term • Regulatory: No • Smarter Choices (c) : No • Reference (d): Local_zone35_Birmingham_AQActionplan_1
Coventry	Local_Coventry_B1	Continue domestic energy efficiency programme	CCC will continue to enforce the provisions of the Clean Air Act 1993 as applied to stack height provision and dark smoke offences	• Type: Education/information • Sources affected: Commercial and residential sources • Spatial scale: local • Implementation date: 71 • Reduction timescale: Long term • Regulatory: No • Smarter Choices (c) : No • Reference (d): Local_zone35_Coventry_AQActionplan_1
Coventry	Local_Coventry_B2	Develop an energy efficiency	Housing and Policy Services to continue its programme of energy efficiency improvements in the domestic sector. CCC (City Development Directorate)	• Type: Education/information • Sources affected: Commercial and residential sources • Spatial scale: local

LA (a)	Measure code (b)	Title	Description	Other information
		strategy for own buildings	are to develop an energy strategy	• Implementation date: 2006 • Reduction timescale: Long term • Regulatory: No • Smarter Choices (c) : No • Reference (d): Local_zone35_Coventry_AQActionplan_1
Coventry	Local_Coventry_H1	Commitment to various targets through ISO 14001 for the Public Protection Division	CCC has adopted ISO14001 within its Public Protection Division with commitments to the following: • Investigate and compile an action plan to minimise our use of energy • Investigate the feasibility of reducing emissions from private vehicles for commuting • Reduce the air emissions from City Council vehicles by 5% from the 2005 baseline by the end of 2007 • Reduce air emissions from the use of grounds maintenance vehicles by 10% from a 2005 baseline by the end of 2007 • Reduce air emissions from the use of grass/hedge trimmers by 10% from 2005 baseline by the end of 2007 • Investigate the feasibility of reducing air emissions from the cremation of cadavers	• Type: Other • Sources affected: Transport • Spatial scale: local • Implementation date: 2007 • Reduction timescale: Short term • Regulatory: No • Smarter Choices (c) : No • Reference (d): Local_zone35_Coventry_AQActionplan_1
Coventry	Local_Coventry_G1	Continue to promote cycling	CCC will continue to promote cycling as a lower polluting means of transport including new cycle lanes as part of the National Cycle Network and the local cycle network, and cycle parking	• Type: Education/information • Sources affected: Transport • Spatial scale: local • Implementation date: 2007 • Reduction timescale: Short term • Regulatory: No • Smarter Choices (c) : Yes • Reference (d): Local_zone35_Coventry_AQActionplan_1
Coventry	Local_Coventry_G2	Continue to promote walking	CCC will continue to promote walking as a lower polluting means of transport.	• Type: Education/information • Sources affected: Transport • Spatial scale: local • Implementation date: 2007 • Reduction timescale: Short term • Regulatory: No • Smarter Choices (c) : Yes • Reference (d): Local_zone35_Coventry_AQActionplan_1
Coventry	Local_Coventry_A1	Improve council fleet	Currently fleet management is undertaken across the council. It is suggested that through procurement, emissions are taken into consideration on purchase.	• Type: Technical; Education/information • Sources affected: Transport • Spatial scale: local • Implementation date: 2007 • Reduction timescale: Medium term

LA (a)	Measure code (b)	Title	Description	Other information
				• Regulatory: No • Smarter Choices (c) : No • Reference (d): Local_zone35_Coventry_AQActionplan_1
Coventry	Local_Coventry_B3	Continue use of electric vehicles	CCC will continue to pursue the current research and development projects aimed at encouraging low emission vehicles.	• 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_zone35_Coventry_AQActionplan_1
Coventry	Local_Coventry_A2	Bus operators will continue to clean fleets	The bus operators will continue modernisation of the bus fleets with low emission vehicles. The introduction of increasingly stringent European emissions standards mean that new buses are increasingly cleaner. This can be encouraged through voluntary schemes, or implemented through Bus Quality Partnerships for the commercial bus services.	• 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_zone35_Coventry_AQActionplan_1
Coventry	Local_Coventry_E1	Continue strategy of encouraging city centre living and mixed use developments	CCC's development plan policy states that mitigation measures will be secured through emphasis on sustainable developments and through mitigation measures secured through planning obligations and or conditions.	• Type: Other • Sources affected: Transport • Spatial scale: local • Implementation date: 2007 • Reduction timescale: Long term • Regulatory: No • Smarter Choices (c) : No • Reference (d): Local_zone35_Coventry_AQActionplan_1
Coventry	Local_Coventry_D1	On-street parking enforcement	Decriminalised parking powers will be used by CCC to reduce illegal parking which restricts traffic flows	• Type: Economic/fiscal; Technical; Education/information • Sources affected: Transport • Spatial scale: local • Implementation date: 2007 • Reduction timescale: Short term • Regulatory: No • Smarter Choices (c) : No • Reference (d): Local_zone35_Coventry_AQActionplan_1
Coventry	Local_Coventry_D2	Revised parking arrangements	Revised layouts will be implemented by CCC to restrict the potential for obstructive parking	• Type: Technical; Education/information • Sources affected: Transport • Spatial scale: local • Implementation date: 2007 • Reduction timescale: Short term • Regulatory: No • Smarter Choices (c) : No

LA (a)	Measure code (b)	Title	Description	Other information
				• Reference (d): Local_zone35_Coventry_AQActionplan_1
Coventry	Local_Coventry_D3	Review off-street parking charges	CCC will review off street parking tariffs in the Ball Hill area	• Type: Economic/fiscal; Education/information • Sources affected: Transport • Spatial scale: local • Implementation date: 2007 • Reduction timescale: Short term • Regulatory: No • Smarter Choices (c) : No • Reference (d): Local_zone35_Coventry_AQActionplan_1
Coventry	Local_Coventry_E2	Continue general highway improvements	Traffic management schemes will be undertaken by CCC to deliver minor highway improvement works such as road markings, sign and junction improvements.	• Type: Technical • Sources affected: Transport • Spatial scale: local • Implementation date: 2007 • Reduction timescale: Short term • Regulatory: No • Smarter Choices (c) : No • Reference (d): Local_zone35_Coventry_AQActionplan_1
Coventry	Local_Coventry_E3	Junction improvements in AQMAs	CCC are to propose the restriction of some turning movements on Clay Lane / Brays Lane to ease traffic flows and reduce delays and congestion. CCC will investigate junction improvement to reduce congestion and emissions	• Type: Technical • Sources affected: Transport • Spatial scale: local • Implementation date: 2007 • Reduction timescale: Medium term • Regulatory: No • Smarter Choices (c) : No • Reference (d): Local_zone35_Coventry_AQActionplan_1
Coventry	Local_Coventry_E4	Coventry Station transport hub	A transport hub at the station has been an aspiration since the Coventry Development Plan 2001. The hub forms part of the comprehensive redevelopment of the station area.	• Type: Technical • Sources affected: Transport • Spatial scale: local • Implementation date: 2007 • Reduction timescale: Long term • Regulatory: No • Smarter Choices (c) : No • Reference (d): Local_zone35_Coventry_AQActionplan_1
Coventry	Local_Coventry_F1	Raise awareness of AQ issues through newsletters and displays	CCC will continue to raise awareness of Air Quality through the Light-Art-Installation on the top of Coventry Point. CCC will continue to raise public awareness of air pollution through newsletters and displays around the city.	• Type: Education/information • Sources affected: Transport • Spatial scale: local • Implementation date: 2007 • Reduction timescale: Short term • Regulatory: No • Smarter Choices (c) : Yes • Reference (d): Local_zone35_Coventry_AQActionplan_1

LA (a)	Measure code (b)	Title	Description	Other information
Coventry	Local_Coventry_F2	Provide teaching package for Key Stage 3 on AQ and Coventry	CCC will provide education on sustainability to schools in Coventry. This can cover air pollution issues, as well as providing info about the cities' environment as a whole	• Type: Education/information • Sources affected: Transport • Spatial scale: local • Implementation date: 2007 • Reduction timescale: Short term • Regulatory: No • Smarter Choices (c) : Yes • Reference (d): Local_zone35_Coventry_AQActionplan_1
Coventry	Local_Coventry_E5	Showcase bus routes	CCC is investing heavily in the development of 7 bus showcase corridors across the city in order to increase modal shift to public transport. Improvements include new shelters, buses, bus lanes and real time information at bus stops	• Type: Technical; Education/information • Sources affected: Transport • Spatial scale: local • Implementation date: 2004 • Reduction timescale: Long term • Regulatory: No • Smarter Choices (c) : No • Reference (d): Local_zone35_Coventry_AQActionplan_1
Coventry	Local_Coventry_D4	Bus lane enforcement	CCC will use parking attendants (Phase 1) to enforce parking in bus lanes and then CCTV (phase 2) to enforce bus lane usage and parking	• Type: Economic/fiscal; Technical; Education/information • Sources affected: Transport • Spatial scale: local • Implementation date: 2004 • Reduction timescale: Medium term • Regulatory: No • Smarter Choices (c) : No • Reference (d): Local_zone35_Coventry_AQActionplan_1
Coventry	Local_Coventry_A4	Investigation of taxi fleet improvements	CCC are implementing ongoing work in improving the taxi fleet through the licensing regime	• Type: Technical; Education/information • Sources affected: Transport • Spatial scale: local • Implementation date: 2007 • Reduction timescale: Short term • Regulatory: No • Smarter Choices (c) : No • Reference (d): Local_zone35_Coventry_AQActionplan_1
Coventry	Local_Coventry_E6	P&R site investigation	CCC is examining two park and ride schemes in the east and west of the city	• Type: Technical • Sources affected: Transport • Spatial scale: local • Implementation date: 2008 • Reduction timescale: Long term • Regulatory: No • Smarter Choices (c) : No • Reference (d): Local_zone35_Coventry_AQActionplan_1
Coventry	Local_Coventry_A3	Red routes (no stopping)	CCC will be developing a network of strategic red routes (no stopping) as part of the prime lines project	• Type: Technical • Sources affected: Transport

LA (a)	Measure code (b)	Title	Description	Other information
				• Spatial scale: local • Implementation date: 2005 • Reduction timescale: Medium term • Regulatory: No • Smarter Choices (c) : No • Reference (d): Local_zone35_Coventry_AQActionplan_1
Coventry	Local_Coventry_G3	Reconfigure Pool Meadow bus station	Greater use of Pool Meadow Bus Station by creating a two-way bus and bicycle only route across the currently pedestrianised areas under the Frank Whittle Arch between Hale Street and Fairfax Street. This will reduce the number of stops and buses in Burges	• Type: Technical • Sources affected: Transport • Spatial scale: local • Implementation date: 2007 • Reduction timescale: Short term • Regulatory: No • Smarter Choices (c) : No • Reference (d): Local_zone35_Coventry_AQActionplan_1
Coventry	Local_Coventry_H2	Consider changing taxi rank location in AQMA 1 as part of access study	CCC will consider changing the location of taxi ranks as part of the review of access into this area of the city centre for both public transport and private vehicles	• Type: Technical • Sources affected: Transport • Spatial scale: local • Implementation date: 2007 • Reduction timescale: Short term • Regulatory: No • Smarter Choices (c) : No • Reference (d): Local_zone35_Coventry_AQActionplan_1
Coventry	Local_Coventry_E7	Continue route resigning	Review of strategic routing into/ out of city centre	• Type: Technical; Education/information • Sources affected: Transport • Spatial scale: local • Implementation date: 2007 • Reduction timescale: Medium term • Regulatory: No • Smarter Choices (c) : No • Reference (d): Local_zone35_Coventry_AQActionplan_1
Coventry	Local_Coventry_F3	VMS to promote PT and non-polluting modes to motorists	CCC will use VMS to show a comparison of bus speeds against traffic speeds and also real time air quality information to help persuade people to use public transport and alternative routes.	• Type: Technical; Education/information • Sources affected: Transport • Spatial scale: local • Implementation date: 2007 • Reduction timescale: Medium term • Regulatory: No • Smarter Choices (c) : Yes • Reference (d): Local_zone35_Coventry_AQActionplan_1
Coventry	Local_Coventry_E8	Review of strategic routes in/out city	Review of strategic routing into/ out of city centre	• Type: Technical • Sources affected: Transport • Spatial scale: local • Implementation date: 2007

LA (a)	Measure code (b)	Title	Description	Other information
				• Reduction timescale: Medium term • Regulatory: No • Smarter Choices (c) : No • Reference (d): Local_zone35_Coventry_AQActionplan_1
Coventry	Local_Coventry_E9	Integrated traffic control system	Improved signalisation of the junction will be implemented to ease the passage of vehicles and reduce delay and congestion	• Type: Technical • Sources affected: Transport • Spatial scale: local • Implementation date: 2007 • Reduction timescale: Long term • Regulatory: No • Smarter Choices (c) : No • Reference (d): Local_zone35_Coventry_AQActionplan_1
Coventry	Local_Coventry_H3	Feasibility study into long-terms options for cutting congestion	Draft report published September 2006 on potential options. Further investigation to be carried out and drawn together.	• Type: Technical • Sources affected: Transport • Spatial scale: local • Implementation date: 2006 • Reduction timescale: Short term • Regulatory: No • Smarter Choices (c) : No • Reference (d): Local_zone35_Coventry_AQActionplan_1
Coventry	Local_Coventry_G4	Travel Plans	CCC will continue to require green travel plans with all major planning applications as well as continue to work with schools on school-based travel plans. CCC will continue to invest in encouraging employees in the city to use more sustainable forms of travel to get to school and back, through safer routes for walking and cycling	• Type: Education/information • Sources affected: Transport • Spatial scale: local • Implementation date: 2007 • Reduction timescale: Short term • Regulatory: No • Smarter Choices (c) : Yes • Reference (d): Local_zone35_Coventry_AQActionplan_1
Dudley	Local_Dudley_H1	Pedestrianisation of Mill Street	Pedestrianisation of Mill Street	• Type: Technical • Sources affected: Transport • Spatial scale: local • Implementation date: 2008 • Reduction timescale: Long term • Regulatory: No • Smarter Choices (c) : No • Reference (d): Local_zone35_Dudley_AQActionplan_1
Dudley	Local_Dudley_E1	Improved crossing facilities on High Street/ new junctions/ Provision of	Improved crossing facilities on High Street	• Type: Technical • Sources affected: Transport • Spatial scale: local • Implementation date: 2008 • Reduction timescale: Short term • Regulatory: No

LA (a)	Measure code (b)	Title	Description	Other information
		crossing points at 5 new junctions (with parrallel route)		• Smarter Choices (c) : No • Reference (d): Local_zone35_Dudley_AQActionplan_1
Dudley	Local_Dudley_H2	Widened footpaths along 6 roads	Widened footpaths along 6 roads	• Type: Technical • Sources affected: Transport • Spatial scale: local • Implementation date: 2008 • Reduction timescale: Short term • Regulatory: No • Smarter Choices (c) : No • Reference (d): Local_zone35_Dudley_AQActionplan_1
Dudley	Local_Dudley_H3	Improved pedestrian linkages	Improved pedestrian linkages- High St-Waterfront, High St-Merry Hill, Waterfront-Merry Hill, Mill St-Cottage St Metro terminus	• Type: Technical • Sources affected: Transport • Spatial scale: local • Implementation date: 2008 • Reduction timescale: Short term • Regulatory: No • Smarter Choices (c) : No • Reference (d): Local_zone35_Dudley_AQActionplan_1
Dudley	Local_Dudley_G1	New cycle paths	New cycle paths	• Type: Technical • Sources affected: Transport • Spatial scale: local • Implementation date: 2008 • Reduction timescale: Medium term • Regulatory: No • Smarter Choices (c) : No • Reference (d): Local_zone35_Dudley_AQActionplan_1
Dudley	Local_Dudley_G2	Cycling provisions	New cycle parking. Improved cyclist facilities including provision of new paths, improvements in parking and signage	• Type: Technical • Sources affected: Transport • Spatial scale: local • Implementation date: 2008 • Reduction timescale: Medium term • Regulatory: No • Smarter Choices (c) : No • Reference (d): Local_zone35_Dudley_AQActionplan_1
Dudley	Local_Dudley_E2	Junction re-alignment of 5-ways Junction, new crossing points	Improvement of junctions on Pensnett Rd. • Brockmoor High St / John St/Bank St / Pensnett, Pensnett Road / Hickman Rd, Bryce Rd / Pensnett Rd junction; Five ways junction High St./Moor St/Mill St./ Cottage St.• High St./Level St./Bank St.	• Type: Technical • Sources affected: Transport • Spatial scale: local • Implementation date: 2008 • Reduction timescale: Medium term • Regulatory: No

LA (a)	Measure code (b)	Title	Description	Other information
				• Smarter Choices (c) : No • Reference (d): Local_zone35_Dudley_AQActionplan_1
Dudley	Local_Dudley_G3	Provision of bus priority measures	Bus priority measures at Five Ways junction and 4 further junctions	• Type: Technical • Sources affected: Transport • Spatial scale: local • Implementation date: 2008 • Reduction timescale: Medium term • Regulatory: No • Smarter Choices (c) : No • Reference (d): Local_zone35_Dudley_AQActionplan_1
Dudley	Local_Dudley_G4	Bus only access on Mill St. and southbound on Dudley Rd	Trialling of selective vehicle detection (SVD) to decrease bus queuing at major junctions will commence during the early part of 2008.	• Type: Technical • Sources affected: Transport • Spatial scale: local • Implementation date: 2008 • Reduction timescale: Medium term • Regulatory: No • Smarter Choices (c) : No • Reference (d): Local_zone35_Dudley_AQActionplan_1
Dudley	Local_Dudley_G5	Travel Plans	During 2007, Dudley MBC has worked with a further 8 companies in setting up new voluntary travel plans on a Borough Wide basis and has also requested a limited number via planning applications, including nearby Russell's Hall Hospital. There are also plans to introduce compulsory car parking fees for the first time during 2009 at the Merry Hill Centre and this is	• Type: Technical; Education/information • Sources affected: Transport • Spatial scale: local • Implementation date: 2008 • Reduction timescale: Medium term • Regulatory: No • Smarter Choices (c) : Yes • Reference (d): Local_zone35_Dudley_AQActionplan_1
North Warwickshire	Local_North_Warwickshire_E1	Development control	Giving special consideration to new development in and around the Borough's Air Quality Management Areas (AQMA) to minimise potential risks to health.	• Type: Technical; Education/information • Sources affected: Transport; Other • Spatial scale: local • Implementation date: 2008 • Reduction timescale: Long term • Regulatory: No • Smarter Choices (c) : No • Reference (d): Local_zone35_NorthWarwickshire_AQActionplan_1
North Warwickshire	Local_North_Warwickshire_E2	Integration of AQ into Local Plan and the provision of supplementary planning guidance	Introduce new or clarified policies into [draft] Local Plan or as Supplementary Planning Guidance (Local Policy) for the purposes as stated above.	• 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: Medium term

LA (a)	Measure code (b)	Title	Description	Other information
				• Regulatory: No • Smarter Choices (c) : No • Reference (d): Local_zone35_NorthWarwickshire_AQActionplan_1
Sandwell	Local_Sandwell_A1	Improve council fleet	Improve council fleet - The council will aim to reduce emissions from the council fleet by purchasing Euro 4 cars where possible.	• Type: Technical • Sources affected: Transport • Spatial scale: local • Implementation date: 2007 • Reduction timescale: Long term • Regulatory: No • Smarter Choices (c) : No • Reference (d): Local_zone35_Sandwell_AQActionplan_1
Sandwell	Local_Sandwell_H1	Economical Driving Strategy	Sandwell MBC will develop a promotional strategy to encourage drivers to drive economically.	• Type: Education/information • Sources affected: Transport • Spatial scale: local • Implementation date: 2007 • Reduction timescale: Medium term • Regulatory: No • Smarter Choices (c) : No • Reference (d): Local_zone35_Sandwell_AQActionplan_1
Sandwell	Local_Sandwell_F1	Idling Enforcement	Sandwell MBC will develop a strategy to encourage drivers not to allow their engines to idle.	• Type: Technical; Education/information • Sources affected: Transport • Spatial scale: local • Implementation date: 2007 • Reduction timescale: Short term • Regulatory: No • Smarter Choices (c) : No • Reference (d): Local_zone35_Sandwell_AQActionplan_1
Sandwell	Local_Sandwell_F2	Vehicle Emissions Testing	Vehicle Emissions Testing	• Type: Technical; Education/information • Sources affected: Transport • Spatial scale: local • Implementation date: 2007 • Reduction timescale: Short term • Regulatory: No • Smarter Choices (c) : No • Reference (d): Local_zone35_Sandwell_AQActionplan_1
Sandwell	Local_Sandwell_E1	Local Transport Plan	West Midlands Local Transport Plan	• Type: Technical; Education/information • Sources affected: Transport

LA (a)	Measure code (b)	Title	Description	Other information
				• Spatial scale: local • Implementation date: 2006 • Reduction timescale: Long term • Regulatory: No • Smarter Choices (c) : Yes • Reference (d): Local_zone35_Sandwell_AQActionplan_1
Sandwell	Local_Sandwell_G1	Travel Plans	Encourage travel plans for employers, schools & hospitals	• Type: Education/information • Sources affected: Transport • Spatial scale: local • Implementation date: 2006 • Reduction timescale: Long term • Regulatory: No • Smarter Choices (c) : Yes • Reference (d): Local_zone35_Sandwell_AQActionplan_1
Sandwell	Local_Sandwell_F3	Provision of information	Improving access to information regarding transport option	• Type: Education/information • Sources affected: Transport • Spatial scale: local • Implementation date: 2006 • Reduction timescale: Short term • Regulatory: No • Smarter Choices (c) : Yes • Reference (d): Local_zone35_Sandwell_AQActionplan_1
Sandwell	Local_Sandwell_G2	Midland Metro	Extensions to Midland Metro	• Type: Technical; Education/information • Sources affected: Transport • Spatial scale: local • Implementation date: 2011/2012 • Reduction timescale: Long term • Regulatory: No • Smarter Choices (c) : No • Reference (d): Local_zone35_Sandwell_AQActionplan_1
Sandwell	Local_Sandwell_F4	Promotion of Public Transport	Improvements of branding to increase attractiveness of public transport	• Type: Education/information • Sources affected: Transport • Spatial scale: local • Implementation date: 2007 • Reduction timescale: Short term • Regulatory: No • Smarter Choices (c) : Yes • Reference (d):

LA (a)	Measure code (b)	Title	Description	Other information
				Local_zone35_Sandwell_AQActionplan_1
Sandwell	Local_Sandwell_E2	Red Routes	Introduction of Red Routes	• Type: Technical • Sources affected: Transport • Spatial scale: local • Implementation date: 2007 • Reduction timescale: Long term • Regulatory: No • Smarter Choices (c) : No • Reference (d): Local_zone35_Sandwell_AQActionplan_1
Sandwell	Local_Sandwell_A2	Urban Traffic Control Systems	Improvement of Urban Traffic Control Systems	• Type: Technical • Sources affected: Transport • Spatial scale: local • Implementation date: 2007 • Reduction timescale: Long term • Regulatory: No • Smarter Choices (c) : No • Reference (d): Local_zone35_Sandwell_AQActionplan_1
Sandwell	Local_Sandwell_H2	Incident Response	Reduce incident response times to 20 minutes	• Type: Technical • Sources affected: Transport • Spatial scale: local • Implementation date: 2007 • Reduction timescale: Short term • Regulatory: No • Smarter Choices (c) : No • Reference (d): Local_zone35_Sandwell_AQActionplan_1
Sandwell	Local_Sandwell_A3	Improved Bus Transport	Bus Showcase improvements	• 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_zone35_Sandwell_AQActionplan_1
Sandwell	Local_Sandwell_A4	Burnt Tree Island improvements	Burnt Tree Island improvements	• Type: Technical • Sources affected: Transport • Spatial scale: local • Implementation date: 2007 • Reduction timescale: Long term

LA (a)	Measure code (b)	Title	Description	Other information
				• Regulatory: No • Smarter Choices (c) : No • Reference (d): Local_zone35_Sandwell_AQActionplan_1
Sandwell	Local_Sandwell_E3	Owen Street Level Crossing Relief Road	Owen Street Level Crossing Relief Road	• Type: Technical • Sources affected: Transport • Spatial scale: local • Implementation date: 2007 • Reduction timescale: Long term • Regulatory: No • Smarter Choices (c) : No • Reference (d): Local_zone35_Sandwell_AQActionplan_1
Sandwell	Local_Sandwell_E4	Cradley Health by-pass	Cradley Health by-pass	• Type: Technical • Sources affected: Transport • Spatial scale: local • Implementation date: 2007 • Reduction timescale: Long term • Regulatory: No • Smarter Choices (c) : No • Reference (d): Local_zone35_Sandwell_AQActionplan_1
Sandwell	Local_Sandwell_E5	A41 Expressway / A4031 All Saints Way Junction Improvements	A41 Expressway / A4031 All Saints Way Junction Improvements	• Type: Technical • Sources affected: Transport • Spatial scale: local • Implementation date: 2007 • Reduction timescale: Long term • Regulatory: No • Smarter Choices (c) : No • Reference (d): Local_zone35_Sandwell_AQActionplan_1
Sandwell	Local_Sandwell_B1	Sandwell Energy Efficiency Advice Centre	Sandwell Energy Efficiency Advice Centre	• Type: Education/information • Sources affected: Industry including heating and power production; Commercial and residential sources • Spatial scale: local • Implementation date: 1993 • Reduction timescale: Long term • Regulatory: No • Smarter Choices (c) : No • Reference (d): Local_zone35_Sandwell_AQActionplan_1
Sandwell	Local_Sandwell_F5	Business	Business in Sandwell Network of Environment	• Type: Education/information

LA (a)	Measure code (b)	Title	Description	Other information
		Energy Advice	Support (BISNES) Energy Advice Service	• Sources affected: Industry including heating and power production; Commercial and residential sources • Spatial scale: local • Implementation date: 2005 • Reduction timescale: Long term • Regulatory: No • Smarter Choices (c) : No • Reference (d): Local_zone35_Sandwell_AQActionplan_1
Sandwell	Local_Sandwell_F6	Warm Zone	Sandwell MBC's Warm Zone Scheme provides general energy efficiency advice and installation of energy efficient measures for householders within Sandwell.	• Type: Education/information • Sources affected: Industry including heating and power production; Commercial and residential sources • Spatial scale: local • Implementation date: 2007 • Reduction timescale: Long term • Regulatory: No • Smarter Choices (c) : No • Reference (d): Local_zone35_Sandwell_AQActionplan_1
Sandwell	Local_Sandwell_B2	Housing Improvements	Sandwell MBC Housing aim to improve homes within Sandwell to the decent homes standard, this includes improving the Standard Assessment Procedure (SAP) rating	• Type: Education/information • Sources affected: Industry including heating and power production; Commercial and residential sources • Spatial scale: local • Implementation date: 2007 • Reduction timescale: Long term • Regulatory: No • Smarter Choices (c) : No • Reference (d): Local_zone35_Sandwell_AQActionplan_1
Sandwell	Local_Sandwell_G3	Promotion of walking/ cycling	Promotion of walking/ cycling	• Type: Education/information • Sources affected: Transport • Spatial scale: local • Implementation date: 2007 • Reduction timescale: Short term • Regulatory: No • Smarter Choices (c) : Yes • Reference (d): Local_zone35_Sandwell_AQActionplan_1
Sandwell	Local_Sandwell_G4	Cycling Strategy	Cycling Strategy	• Type: Education/information • Sources affected: Transport • Spatial scale: local • Implementation date: 1999

LA (a)	Measure code (b)	Title	Description	Other information
				• Reduction timescale: Long term • Regulatory: No • Smarter Choices (c) : Yes • Reference (d): Local_zone35_Sandwell_AQActionplan_1
Sandwell	Local_Sandwell_A5	Car Share Scheme	Sandwell car share scheme	• Type: Education/information • Sources affected: Transport • Spatial scale: local • Implementation date: 2005 • Reduction timescale: Long term • Regulatory: No • Smarter Choices (c) : Yes • Reference (d): Local_zone35_Sandwell_AQActionplan_1
Sandwell	Local_Sandwell_H3	Encourage car sharing schemes	Encourage car sharing schemes across the borough	• 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_zone35_Sandwell_AQActionplan_1
Stoke on Trent	Local_Stoke_on_Trent_E1	Land use planning – considers alternatives for the site which covers re-development of sensitive receptors and/or closure (re-location) industrial emitters.	Land use planning – considers alternatives for the site which covers re-development of sensitive receptors and/or closure (re-location) industrial emitters.	• Type: Technical • Sources affected: Transport; Industry including heating and power production • Spatial scale: local • Implementation date: 2009 • Reduction timescale: Long term • Regulatory: No • Smarter Choices (c) : No • Reference (d): Local_zone35_StokeOnTrent_AQActionplan_1
Stoke on Trent	Local_Stoke_on_Trent_B1	Consideration of new abatement on controlled stack outlets.	Consideration of new abatement on controlled stack outlets.	• Type: Technical • Sources affected: Industry including heating and power production • Spatial scale: local • Implementation date: 2009 • Reduction timescale: Long term

LA (a)	Measure code (b)	Title	Description	Other information
				• Regulatory: No • Smarter Choices (c) : No • Reference (d): Local_zone35_StokeOnTrent_AQActionplan_1
Stoke on Trent	Local_Stoke_on_Trent_B2	Consider various options with regard to an industrial process at a Business Park.	Consider various options with regard to an industrial process at a Business Park.	• Type: Technical • Sources affected: Industry including heating and power production • Spatial scale: local • Implementation date: 2009 • Reduction timescale: Long term • Regulatory: No • Smarter Choices (c) : No • Reference (d): Local_zone35_StokeOnTrent_AQActionplan_1
Stoke on Trent	Local_Stoke_on_Trent_A1	Consider introducing a Low emission zone	Consider introducing a Low emission zone	• Type: Technical • Sources affected: Transport • Spatial scale: local • Implementation date: 2009 • Reduction timescale: Long term • Regulatory: No • Smarter Choices (c) : No • Reference (d): Local_zone35_StokeOnTrent_AQActionplan_1
Stoke on Trent	Local_Stoke_on_Trent_G1	Facilitate development of 'Travel Plans' for relevant local business and schools within the AQMA and the immediately surrounding area.	Facilitate development of 'Travel Plans' for relevant local business and schools within the AQMA and the immediately surrounding area.	• Type: Technical; Education/information • Sources affected: Transport • Spatial scale: local • Implementation date: 2009 • Reduction timescale: Long term • Regulatory: No • Smarter Choices (c) : Yes • Reference (d): Local_zone35_StokeOnTrent_AQActionplan_1
Stoke on Trent	Local_Stoke_on_Trent_A2	Consider introducing measures aimed at encouraging driver behaviour that minimises emissionse.g.	Consider introducing measures aimed at encouraging driver behaviour that minimises emissions of particles, e.g. 20 mph Residential Traffic Zones / Home Zones. Link to possible scheme for new access road to Fenpark Industrial Estate (see Action 3.1.5).	• Type: Technical • Sources affected: Transport • Spatial scale: local • Implementation date: 2009 • Reduction timescale: Long term • Regulatory: No • Smarter Choices (c) : No • Reference (d):

LA (a)	Measure code (b)	Title	Description	Other information
		20 mph Residential Traffic Zones / Home Zones. Link to possible scheme for new access road to Fenpark Industrial Estate (see Action 3.1.5).		Local_zone35_StokeOnTrent_AQActionplan_1
Stoke on Trent	Local_Stoke_on_Trent_H1	identify stakeholders in/around Industrial Park and provide information information to those in AQMA - ensure other environmental initiatives (e.g. Greensteps) target relevant groups - provide information on business responsible for par	identify stakeholders in/around Industrial Park and provide information information to those in AQMA - ensure other environmental initiatives (e.g. Greensteps) target relevant groups - provide information on business responsible for par	• Type: Technical • Sources affected: Transport • Spatial scale: local • Implementation date: 2009 • Reduction timescale: Long term • Regulatory: No • Smarter Choices (c) : No • Reference (d): Local_zone35_StokeOnTrent_AQActionplan_1
Stoke on Trent	Local_Stoke_on_Trent_A3	Encourage the increased use of 'alternative' transport options along King Street, e.g. develop existing 'Quality Bus Partnership' scheme.	Encourage the increased use of 'alternative' transport options along King Street, e.g. develop existing 'Quality Bus Partnership' scheme.	• Type: Education/information • Sources affected: Transport • Spatial scale: local • Implementation date: 2009 • Reduction timescale: Long term • Regulatory: No • Smarter Choices (c) : No • Reference (d): Local_zone35_StokeOnTrent_AQActionplan_1
Stoke on	Local_Stoke_on_Tren	Examine	Examine possibility of alternative access road for	• Type: Technical

LA (a)	Measure code (b)	Title	Description	Other information
Trent	t_E2	possibility of alternative access road for those vehicles travelling to and from Fenpark Industrial Estate (including Waste Transfer Station operation - the subject of current dust nuisance complaints.	those vehicles travelling to and from Fenpark Industrial Estate (including Waste Transfer Station operation - the subject of current dust nuisance complaints.	• Sources affected: Transport • Spatial scale: local • Implementation date: 2009 • Reduction timescale: Long term • Regulatory: No • Smarter Choices (c) : No • Reference (d): Local_zone35_StokeOnTrent_AQActionplan_1
Stoke on Trent	Local_Stoke_on_Trent_E3	Considering fast-tracking of planned ATT improvements	Considering fast-tracking of planned ATT improvements	• Type: Technical • Sources affected: Transport • Spatial scale: local • Implementation date: 2009 • Reduction timescale: Long term • Regulatory: No • Smarter Choices (c) : No • Reference (d): Local_zone35_StokeOnTrent_AQActionplan_1
Stoke on Trent	Local_Stoke_on_Trent_H2	Speed restriction on site	Speed restriction on site	• Type: Technical; Education/information • Sources affected: Transport • Spatial scale: local • Implementation date: 2009 • Reduction timescale: Long term • Regulatory: No • Smarter Choices (c) : No • Reference (d): Local_zone35_StokeOnTrent_AQActionplan_1
Stoke on Trent	Local_Stoke_on_Trent_A4	Low emission Zone	Low emission Zone	• Type: Technical • Sources affected: Transport • Spatial scale: local • Implementation date: 2009 • Reduction timescale: Long term • Regulatory: No • Smarter Choices (c) : No • Reference (d): Local_zone35_StokeOnTrent_AQActionplan_1

LA (a)	Measure code (b)	Title	Description	Other information
Stoke on Trent	Local_Stoke_on_Trent_G2	Facilitate development of 'Travel Plans' for relevant local business and schools within the AQMA and the immediately surrounding area.	Facilitate development of 'Travel Plans' for relevant local business and schools within the AQMA and the immediately surrounding area.	• Type: Technical; Education/information • Sources affected: Transport • Spatial scale: local • Implementation date: 2009 • Reduction timescale: Long term • Regulatory: No • Smarter Choices (c) : Yes • Reference (d): Local_zone35_StokeOnTrent_AQActionplan_1
Stoke on Trent	Local_Stoke_on_Trent_H3	Bus quality partnerships	Bus quality partnerships	• Type: Technical • Sources affected: Transport • Spatial scale: local • Implementation date: 2009 • Reduction timescale: Long term • Regulatory: No • Smarter Choices (c) : No • Reference (d): Local_zone35_StokeOnTrent_AQActionplan_1
Stoke on Trent	Local_Stoke_on_Trent_E4	Construction of a new access road from King Street (the A5007) into the industrial estate	Construction of a new access road from King Street (the A5007) into the industrial estate	• Type: Technical • Sources affected: Transport • Spatial scale: local • Implementation date: 2009 • Reduction timescale: Long term • Regulatory: No • Smarter Choices (c) : No • Reference (d): Local_zone35_StokeOnTrent_AQActionplan_1
Stoke on Trent	Local_Stoke_on_Trent_F1	Consider introducing a voluntary or compulsory roadside vehicle emissions testing programme within the AQMA and / or immediately surrounding area.	Consider introducing a voluntary or compulsory roadside vehicle emissions testing programme within the AQMA and / or immediately surrounding area.	• Type: Technical; Education/information • Sources affected: Transport • Spatial scale: local • Implementation date: 2009 • Reduction timescale: Long term • Regulatory: No • Smarter Choices (c) : No • Reference (d): Local_zone35_StokeOnTrent_AQActionplan_1

LA (a)	Measure code (b)	Title	Description	Other information
Stoke on Trent	Local_Stoke_on_Trent_H4	Incorporate King Street within the North Staffordshire Advanced Transport Telematics (ATT) network.	Incorporate King Street within the North Staffordshire Advanced Transport Telematics (ATT) network.	• Type: Technical • Sources affected: Transport • Spatial scale: local • Implementation date: 2009 • Reduction timescale: Long term • Regulatory: No • Smarter Choices (c) : No • Reference (d): Local_zone35_StokeOnTrent_AQActionplan_1
Walsall	Local_Walsall_E1	Improving the road network	Improving the road network to reduce congestion	• Type: Technical • Sources affected: Transport • Spatial scale: local • Implementation date: 2009 • Reduction timescale: Long term • Regulatory: No • Smarter Choices (c) : No • Reference (d): Local_zone35_Walsall_AQActionplan_1
Walsall	Local_Walsall_H1	Traffic flow monitoring	Real-time traffic flow monitoring systems to assess / mitigate traffic congestion using the West Midlands Urban Traffic Control scheme;	• Type: Technical • Sources affected: Transport • Spatial scale: local • Implementation date: 2009 • Reduction timescale: Short term • Regulatory: No • Smarter Choices (c) : No • Reference (d): Local_zone35_Walsall_AQActionplan_1
Walsall	Local_Walsall_H2	Air Quality Assessment	Assessment of short-term air quality via use of real-time urban traffic control software based on vehicle counts and vehicle types;	• Type: Technical • Sources affected: Transport • Spatial scale: local • Implementation date: 2009 • Reduction timescale: Short term • Regulatory: No • Smarter Choices (c) : No • Reference (d): Local_zone35_Walsall_AQActionplan_1
Walsall	Local_Walsall_G1	Public transport improvements	Improving public transport to reduce traffic volumes	• Type: Technical • Sources affected: Transport • Spatial scale: local • Implementation date: 2009 • Reduction timescale: Long term • Regulatory: No • Smarter Choices (c) : No • Reference (d): Local_zone35_Walsall_AQActionplan_1
Walsall	Local_Walsall_G2	Promotion of	Promotion of alternative methods of transport and	• Type: Education/information

LA (a)	Measure code (b)	Title	Description	Other information
		alternative forms of transport	transport initiatives	• Sources affected: Transport • Spatial scale: local • Implementation date: 2009 • Reduction timescale: Short term • Regulatory: No • Smarter Choices (c) : Yes • Reference (d): Local_zone35_Walsall_AQActionplan_1
Walsall	Local_Walsall_E2	Bus lane sharing for HGVs	Bus lane sharing for HGVs	• Type: Technical • Sources affected: Transport • Spatial scale: local • Implementation date: 2009 • Reduction timescale: Short term • Regulatory: No • Smarter Choices (c) : No • Reference (d): Local_zone35_Walsall_AQActionplan_1
Walsall	Local_Walsall_F1	Provision of information to road user via traffic/vehicle management systems.	Provision of information to road user via traffic/vehicle management systems.	• Type: Education/information • Sources affected: Transport • Spatial scale: local • Implementation date: 2009 • Reduction timescale: Short term • Regulatory: No • Smarter Choices (c) : No • Reference (d): Local_zone35_Walsall_AQActionplan_1
East Staffordshire	Local_East_Staffordshire_A1	Bus priority	The schemes can be seen in more detail in the BUATMS document and the BUATMS Review 2006, and they will be implemented from 2007/08 onwards. BUATMS states that the schemes will help increase bus access, reliability and promote the enforcement of bus/cycle only access, the latter of which will improve pedestrian safety. Rising bollards are being installed during 2008 at three junctions around the Station St/ High Street junctions in Burton upon Trent to help bus access and improve safety.	• Type: Technical • Sources affected: Transport • Spatial scale: local • Implementation date: 2007 • Reduction timescale: Long term • Regulatory: No • Smarter Choices (c) : No • Reference (d): Local_zone35_EastStaffordshire_AQActionplan_1
East Staffordshire	Local_East_Staffordshire_G1	Bus information and awareness/Travel Plans	The BUATMS document also includes commitments for promoting and publicising new sustainable transport facilities, encouraging existing companies to produce Travel Plans and developing Area Travel Plans for certain local developments. As part of BUATMS, Staffordshire County Council will be considering further, the introduction of Real Time Passenger Information (RTPI).	• 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_zone35_EastStaffordshire_AQActionplan_1

LA (a)	Measure code (b)	Title	Description	Other information
East Staffordshire	Local_East_Staffordshire_G2	Public Transport Partnership (PTP) routes	Staffordshire County Council, in partnership with bus operators has already made improvements in terms of bus routes, bus stop infrastructure, raised kerbs, information provision and low floor vehicles along one of the routes serving Burton upon Trent town centre and additional funding is being identified to improve further routes.	• 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_zone35_EastStaffordshire_AQActionplan_1
East Staffordshire	Local_East_Staffordshire_G3	Cycle parking	BUATMS currently has proposals to increase the number of secure racks throughout Burton. The locations of such racks will be identified within the next 5 years in consultation with local cycling groups. The provision of secure and convenient cycle parking is also an aspiration under the BTCAAP, which BUATMS supports.	• Type: Technical • Sources affected: Transport • Spatial scale: local • Implementation date: 2008 • Reduction timescale: Long term • Regulatory: No • Smarter Choices (c) : No • Reference (d): Local_zone35_EastStaffordshire_AQActionplan_1
East Staffordshire	Local_East_Staffordshire_G4	Cycle links and crossings	A review of the progress towards delivering cycle routes proposed in the original BUATMS in 2002 has been undertaken and has prioritised the completion of two National Cycle network routes and several local links. The expansion of cycling in the centre of Burton upon Trent is possible given that many people live within close proximity of the town. The BTCAAP in conjunction with BUATMS recognises this fact. The BTCAAP has identified a number of potential cycle route improvements, including improving links with Station Street, the railway station and residential areas.	• 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_zone35_EastStaffordshire_AQActionplan_1
East Staffordshire	Local_East_Staffordshire_G5	Pedestrian improvements	BUATMS has prioritised the provision of a safer more convenient pedestrian environment within Burton upon Trent starting in 2006/07 with schemes based on the Burton upon Trent town centre Walking Strategy, which aims at meeting objectives set out in the original BUATMS (2002). Through BUATMS the BTCAAP also acknowledges the opportunity to encourage walking in Burton upon Trent. There are plans to expand pedestrianisation within the town centre, which will not only encourage safe areas for pedestrians, but also redirect some of the traffic on nearby roads, which could improve traffic flow overall.	• 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_zone35_EastStaffordshire_AQActionplan_1

LA (a)	Measure code (b)	Title	Description	Other information
			The BTCAAP has recognised the need for improved crossing points and more direct pedestrian routes, which will form one of this documents Action Plan measures.	
East Staffordshire	Local_East_Staffordshire_E1	Junction improvements and restrict access to inner area	The recommendations of BUATMS, to convert roundabouts in Burton upon Trent at Shobnall Road/ Wellington Road and A444 Stapenhill Road/ St Peters Bridge to signalised junctions is being taken forward to allow the management of traffic on the edge of the 'Access only' area, to extend the Urban Traffic Control to cover all key town centre junctions, and to allow bus prioritisation. These measures will be taken forward through the 'Route Strategies for the A511 and A5189', which form two sides of the 'Access Only' area.	• Type: Technical; Education/information • Sources affected: Transport • Spatial scale: local • Implementation date: 2008 • Reduction timescale: Medium term • Regulatory: No • Smarter Choices (c) : No • Reference (d): Local_zone35_EastStaffordshire_AQActionplan_1
East Staffordshire	Local_East_Staffordshire_E2	Expansion of Urban Traffic Control (UTC) network	Expanding on the UTC system that has been installed at a number of junctions and pedestrian crossings during the first part of BUATMS, it is expected that the system will be extended further over the next few years to include proposed signalised junctions and any new pedestrian crossings, to aid bus priority and ease traffic flow.	• 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_zone35_EastStaffordshire_AQActionplan_1
East Staffordshire	Local_East_Staffordshire_E3	Highway capacity improvements at Wellington Road in Burton	Initially there have been delays with the widening of part of the A5121 Wellington Road, due to delays in receiving funding from Coors for the improvements to roundabout D (A38/Branston junction). There had also previously been delays in the development of land east of this section of Wellington Road, which will be accessed, via a signalised junction half way down Wellington Road. These delays have now been resolved and capacity improvements to the highway are now underway and due for completion later this year.	• Type: Technical • Sources affected: Transport • Spatial scale: local • Implementation date: 2008 • Reduction timescale: Long term • Regulatory: No • Smarter Choices (c) : No • Reference (d): Local_zone35_EastStaffordshire_AQActionplan_1
East Staffordshire	Local_East_Staffordshire_A2	Green Fleet Review (ESBC Environment Services)	East Staffordshire Borough Council will commit to undertaking a "Green Fleet Review" assessment undertaken by the Energy Saving Trust. The Green Fleet Review helps to lower running costs, reduce environmental impact and enhance corporate social responsibility.	• Type: Technical • Sources affected: Transport • Spatial scale: local • Implementation date: 2008 • Reduction timescale: Short term • Regulatory: No • Smarter Choices (c) : No

LA (a)	Measure code (b)	Title	Description	Other information
				• Reference (d): Local_zone35_EastStaffordshire_AQActionplan_1
East Staffordshire	Local_East_Staffordshire_G6	Travel Plan review (ESBC Environment Services)	The Local Authority is currently reviewing its Travel Plan. This includes making assessments of the current transport trend and also encouraging employees to complete a questionnaire to help focus the Travel Plan to meet their needs and to enable it to be supported. The Travel Plan will focus on such issues as reviewing the essential car user allowance system, changing the payment structure for mileage to encourage people to use cars with smaller engine sizes, introduce better facilities for cyclists/pedestrians, incentivise people to car share and to use public transport etc.	• Type: Education/information • Sources affected: Transport • Spatial scale: local • Implementation date: 2008 • Reduction timescale: Medium term • Regulatory: No • Smarter Choices (c) : Yes • Reference (d): Local_zone35_EastStaffordshire_AQActionplan_1
East Staffordshire	Local_East_Staffordshire_G7	Increased car sharing (Stafford County Council/ ESBC Environment Services)	The Local Authority will promote Staffordshire County Council's "Share a lift" scheme further, both for our own employees/members and also the public/commerce in general. The revised Travel Plan should facilitate still further, the ability for staff to car share through incentives e.g. priority parking, etc.	• Type: Education/information • Sources affected: Transport • Spatial scale: local • Implementation date: 2008 • Reduction timescale: Medium term • Regulatory: No • Smarter Choices (c) : Yes • Reference (d): Local_zone35_EastStaffordshire_AQActionplan_1
East Staffordshire	Local_East_Staffordshire_F1	Promotional campaigns (ESBC General)	The Local Authority already participates in various promotional campaigns, and although we will consider increasing the number that we participate in, it is more important that they fulfil the SMART criteria. Currently there are numerous national campaigns such as "Green Transport Week, European Car Free Day & National Cycling Week". We will promote these campaigns still further within the Authority and throughout the wider community, linking them with health. We would also like to promote other air quality issues that the public may find of interest such as "Ecodriving" and "Climate Change". We also intend to support some of the County Council schemes such as the "Walking to School" campaigns and as already mentioned, there is scope for partnership working within Staffordshire.	• Type: Education/information • Sources affected: Transport • Spatial scale: local • Implementation date: 2008 • Reduction timescale: Medium term • Regulatory: No • Smarter Choices (c) : Yes • Reference (d): Local_zone35_EastStaffordshire_AQActionplan_1
East Staffordshire	Local_East_Staffordshire_B1	Industrial regulation (ESBC	The Local Authority will continue to regulate industrial installations under the Environmental Permitting Regulations 2007, with additional consideration given	• Type: Technical; Education/information • Sources affected: Industry including heating and power production

LA (a)	Measure code (b)	Title	Description	Other information
		Environment Services)	to processes that can affect the AQMAs.	• Spatial scale: local • Implementation date: 2008 • Reduction timescale: Long term • Regulatory: Yes • Smarter Choices (c) : No • Reference (d): Local_zone35_EastStaffordshire_AQActionplan_1
Herefordshire	Local_Herefordshire_E1	Roman Road – Improvement of Road	Roman Road – Improvement of Road	• Type: Technical • Sources affected: Transport • Spatial scale: local • Implementation date: 2006 • Reduction timescale: Long term • Regulatory: No • Smarter Choices (c) : No • Reference (d): Local_zone35_Hereford_AQActionplan_1
Herefordshire	Local_Herefordshire_E2	Rotherwas Access Road (1st Link) – New road connecting Rotherwas Industrial Estate with the A49 at Grafton	Rotherwas Access Road (1st Link) – New road connecting Rotherwas Industrial Estate with the A49 at Grafton	• Type: Technical • Sources affected: Transport • Spatial scale: local • Implementation date: 2007 • Reduction timescale: Long term • Regulatory: No • Smarter Choices (c) : No • Reference (d): Local_zone35_Hereford_AQActionplan_1
Herefordshire	Local_Herefordshire_E3	Alteration of traffic management at the Belmont Roundabout	Alteration of traffic management at the Belmont Roundabout	• Type: Technical • Sources affected: Transport • Spatial scale: local • Implementation date: 2008 • Reduction timescale: Long term • Regulatory: No • Smarter Choices (c) : No • Reference (d): Local_zone35_Hereford_AQActionplan_1
Herefordshire	Local_Herefordshire_D1	Parking Strategy in Hereford to reduce commuter parking	Parking Strategy in Hereford to reduce commuter parking	• Type: Technical • Sources affected: Transport • Spatial scale: local • Implementation date: 2006 • Reduction timescale: Long term • Regulatory: No • Smarter Choices (c) : No • Reference (d): Local_zone35_Hereford_AQActionplan_1
Herefordshire	Local_Herefordshire_G1	Improve and increase number of cycle	Improve and increase number of cycle routes and facilities in Hereford	• Type: Technical • Sources affected: Transport • Spatial scale: local

LA (a)	Measure code (b)	Title	Description	Other information
		routes and facilities in Hereford		• Implementation date: 2009 • Reduction timescale: Long term • Regulatory: No • Smarter Choices (c) : No • Reference (d): Local_zone35_Hereford_AQActionplan_1
Herefordshire	Local_Herefordshire_G2	City Centre Pedestrian Enhancement in Hereford	City Centre Pedestrian Enhancement in Hereford	• Type: Technical • Sources affected: Transport • Spatial scale: local • Implementation date: 2005 • Reduction timescale: Long term • Regulatory: No • Smarter Choices (c) : No • Reference (d): Local_zone35_Hereford_AQActionplan_1
Herefordshire	Local_Herefordshire_G3	Behavioural Change Programme	Behavioural Change Programme	• Type: Education/information • Sources affected: Transport • Spatial scale: local • Implementation date: 2005 • Reduction timescale: Long term • Regulatory: No • Smarter Choices (c) : Yes • Reference (d): Local_zone35_Hereford_AQActionplan_1
Herefordshire	Local_Herefordshire_E4	Designation of a Traffic Manager for Network Management Duties along the A49 in Hereford	Designation of a Traffic Manager for Network Management Duties along the A49 in Hereford	• Type: Technical • Sources affected: Transport • Spatial scale: local • Implementation date: 2008 • Reduction timescale: Long term • Regulatory: No • Smarter Choices (c) : No • Reference (d): Local_zone35_Hereford_AQActionplan_1
Herefordshire	Local_Herefordshire_F1	Information and awareness raising	Information and awareness raising	• Type: Education/information • Sources affected: Transport • Spatial scale: local • Implementation date: 2009 • Reduction timescale: Long term • Regulatory: No • Smarter Choices (c) : No • Reference (d): Local_zone35_Hereford_AQActionplan_1
South Staffordshire	South_Staffordshire_B1	Control emissions from Industrial premises within the AQMA.	Reduction in emissions that contribute to AQ problems	• Type: Technical • Sources affected: Industry including heating and power production • Spatial scale: local • Implementation date: AIX

LA (a)	Measure code (b)	Title	Description	Other information
				• Reduction timescale: Short term • Regulatory: Yes • Smarter Choices (c) : No • Reference (d): Local_zone35_SouthStaffordshire_AQActionplan_1
South Staffordshire	South_Staffordshire_A1	Smoky Diesel Hotline - Reporting polluting vehicles.	Reporting polluting vehicles	• Type: Education/information • Sources affected: Transport • Spatial scale: local • Implementation date: AVII • Reduction timescale: Short term • Regulatory: No • Smarter Choices (c) : No • Reference (d): Local_zone35_SouthStaffordshire_AQActionplan_1
South Staffordshire	South_Staffordshire_G1	Improve local cycle facilities - Providing alternative to use of car for local trips.	Improve local cycle facilities - Providing alternative to use of car for local trips.	• Type: Technical • Sources affected: Transport • Spatial scale: local • Implementation date: AIX • Reduction timescale: Short term • Regulatory: No • Smarter Choices (c) : No • Reference (d): Local_zone35_SouthStaffordshire_AQActionplan_1
South Staffordshire	South_Staffordshire_C1	Promote Alternative fuels.	Alternative fuels.	• Type: Education/information • Sources affected: Transport • Spatial scale: local • Implementation date: pg 24 • Reduction timescale: Short term • Regulatory: No • Smarter Choices (c) : No • Reference (d): Local_zone35_SouthStaffordshire_AQActionplan_1
South Staffordshire	South_Staffordshire_F1	Highlight and publicise the initiative of clean technology business fleets	Highlight and publicise the initiative of clean technology business fleets	• Type: Education/information • Sources affected: Transport • Spatial scale: local • Implementation date: pg 24 • Reduction timescale: Short term • Regulatory: No • Smarter Choices (c) : Yes • Reference (d): Local_zone35_SouthStaffordshire_AQActionplan_1
South	South_Staffordshire_	LDV/ HGV	LDV/ HGV advice on re-routing	• Type: Education/information

LA (a)	Measure code (b)	Title	Description	Other information
Staffordshire	E1	advice on re-routing		• Sources affected: Transport • Spatial scale: local • Implementation date: AVIII • Reduction timescale: Short term • Regulatory: No • Smarter Choices (c) : No • Reference (d): Local_zone35_SouthStaffordshire_AQActionplan_1
South Staffordshire	South_Staffordshire_H1	Staffordshire's Share a Lift Scheme.		• Type: Education/information • Sources affected: Transport • Spatial scale: local • Implementation date: • Reduction timescale: Short term • Regulatory: No • Smarter Choices (c) : Yes • Reference (d): Local_zone35_SouthStaffordshire_AQActionplan_1
South Staffordshire	South_Staffordshire_G2	Travel Plans for Businesses within AQMAs.	Travel Plans for Businesses within AQMAs.	• 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_zone35_SouthStaffordshire_AQActionplan_1
South Staffordshire	South_Staffordshire_H2	Review of Road Hierarchy and Speed Limits.	Review of Road Hierarchy and Speed Limits.	• Type: Technical • Sources affected: Transport • Spatial scale: local • Implementation date: 2008 • Reduction timescale: Short term • Regulatory: No • Smarter Choices (c) : No • Reference (d): Local_zone35_SouthStaffordshire_AQActionplan_1
South Staffordshire	South_Staffordshire_E2	M6/M54 Link - Encourage more traffic to bypass AQMA.	M6/M54 Link - Encourage more traffic to bypass AQMA.	• Type: Technical • Sources affected: Transport • Spatial scale: local • Implementation date: 2008 • Reduction timescale: Short term • Regulatory: No • Smarter Choices (c) : No

LA (a)	Measure code (b)	Title	Description	Other information
				• Reference (d): Local_zone35_SouthStaffordshire_AQActionplan_1
South Staffordshire	South_Staffordshire_H3	Motorway Speed Strategy - Linked with congestion control.	Motorway Speed Strategy - Linked with congestion control.	• Type: Technical • Sources affected: Transport • Spatial scale: local • Implementation date: 2008 • Reduction timescale: Short term • Regulatory: No • Smarter Choices (c) : No • Reference (d): Local_zone35_SouthStaffordshire_AQActionplan_1
South Staffordshire	South_Staffordshire_F2	Driver Information Programmes (DIPs)	Driver Information Programmes (DIPs)	• Type: Education/information • Sources affected: Transport • Spatial scale: local • Implementation date: 2008 • Reduction timescale: Short term • Regulatory: No • Smarter Choices (c) : No • Reference (d): Local_zone35_SouthStaffordshire_AQActionplan_1
South Staffordshire	South_Staffordshire_H4	Vehicle Testing of Emissions (inc illegal vehicles on the road) - Ensure that vehicles in AQMA are complying with emissions standards.	Vehicle Testing of Emissions (inc illegal vehicles on the road) - Ensure that vehicles in AQMA are complying with emissions standards.	• 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_zone35_SouthStaffordshire_AQActionplan_1
South Staffordshire	South_Staffordshire_G3	Improve local cycling facilities	Improve local cycling facilities	• Type: Education/information • Sources affected: Transport • Spatial scale: local • Implementation date: 2008 • Reduction timescale: Short term • Regulatory: No • Smarter Choices (c) : No • Reference (d): Local_zone35_SouthStaffordshire_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/