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# Air Quality Plan for the achievement of EU air quality limit values for nitrogen dioxide (NO<sub>2</sub>) in West Midlands Urban Area (UK0002)

September 2011



Llywodraeth Cymru  
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**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](http://www.defra.gov.uk)

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Defra  
Area 5F, Ergon House  
17 Smith Square  
London SW1P 3JR  
Email address: [euairquality@defra.gsi.gov.uk](mailto:euairquality@defra.gsi.gov.uk)**

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# 1. Introduction

## 1.1. This document

This document is the West Midlands Urban Area (UK0002) air quality plan for the achievement of the EU air quality limit values for nitrogen dioxide (NO<sub>2</sub>).

This plan presents the following information:

- General information regarding the West Midlands Urban Area agglomeration zone
- Details of NO<sub>2</sub> exceedance situation(s) within the West Midlands Urban Area agglomeration zone
- Details of local air quality measures that have been implemented, will be implemented or are being considered for implementation in this agglomeration zone.

This air quality plan for West Midlands Urban Area should be read in conjunction with the separate UK overview document and the list of UK and national measures that are available on the Defra website (<http://www.defra.gov.uk/environment/quality/air/air-quality/eu/>). The UK overview document sets out, amongst other things, the authorities responsible for delivering air quality improvements and the national measures that are applied in some or all UK zones. The measures presented in this plan and the accompanying UK overview and list of UK measures show how the UK will ensure that compliance with the NO<sub>2</sub> 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<sub>2</sub> 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 µg m<sup>-3</sup>
- The hourly limit value: no more than 18 hourly exceedances of 200 µg m<sup>-3</sup> in a calendar year

The Air Quality Directive stipulates that compliance with the NO<sub>2</sub> 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 Urban Area 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 Urban Area agglomeration zone indicates that the hourly limit value not exceeded in this agglomeration zone in 2008.

## 1.4. Plan structure

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

Section 3 then presents the overall picture with respect to NO<sub>2</sub> levels in this agglomeration zone for the 2008 reference year of this air quality plan. This includes the declaration of exceedance situations within the agglomeration zone and presentation of a detailed source apportionment for each exceedance situation.

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

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

Details of an LEZ scenario under consideration as part of our investigation of additional measures to achieve the NO<sub>2</sub> limit values is presented in section 6.

## 2. General Information about the Zone

### 2.1. Administrative information

Zone name: West Midlands Urban Area

Zone code: UK0002

Type of zone: agglomeration zone

Reference year: 2008

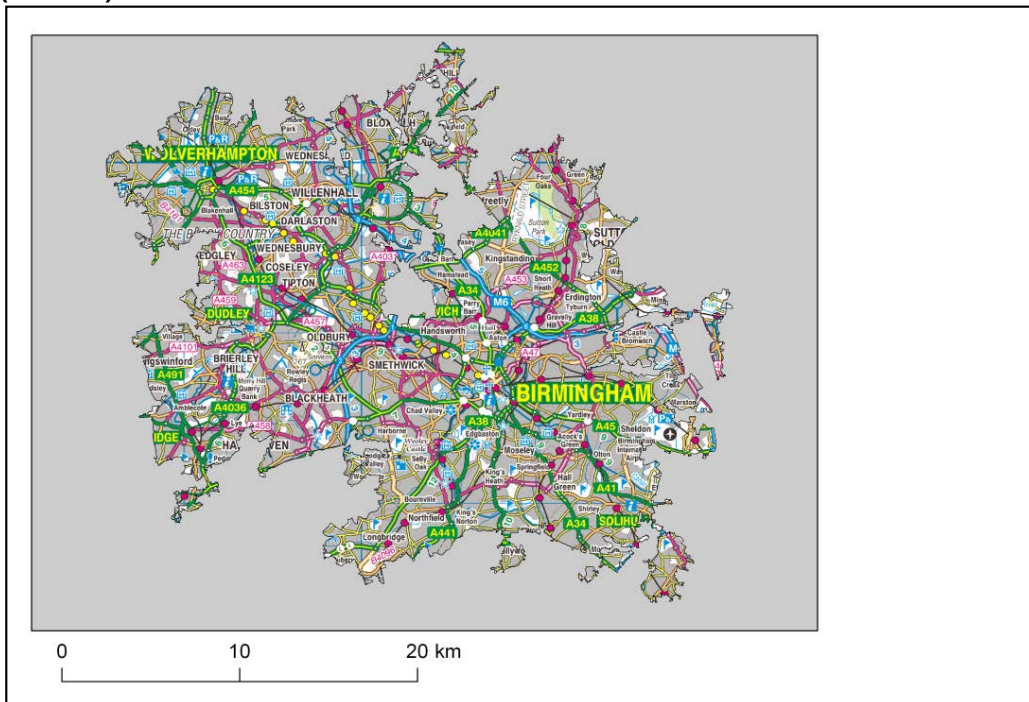
Extent of zone: Figure 1 shows the area covered by the West Midlands Urban Area agglomeration zone

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

1. Birmingham City Council
2. Bromsgrove District Council
3. Dudley Metropolitan Borough Council
4. Lichfield District Council
5. North Warwickshire Borough Council
6. Sandwell Metropolitan Borough Council
7. Solihull Metropolitan Borough Council
8. South Staffordshire Council
9. Walsall Metropolitan Borough Council
10. Wolverhampton City Council
11. Wyre Forest District Council

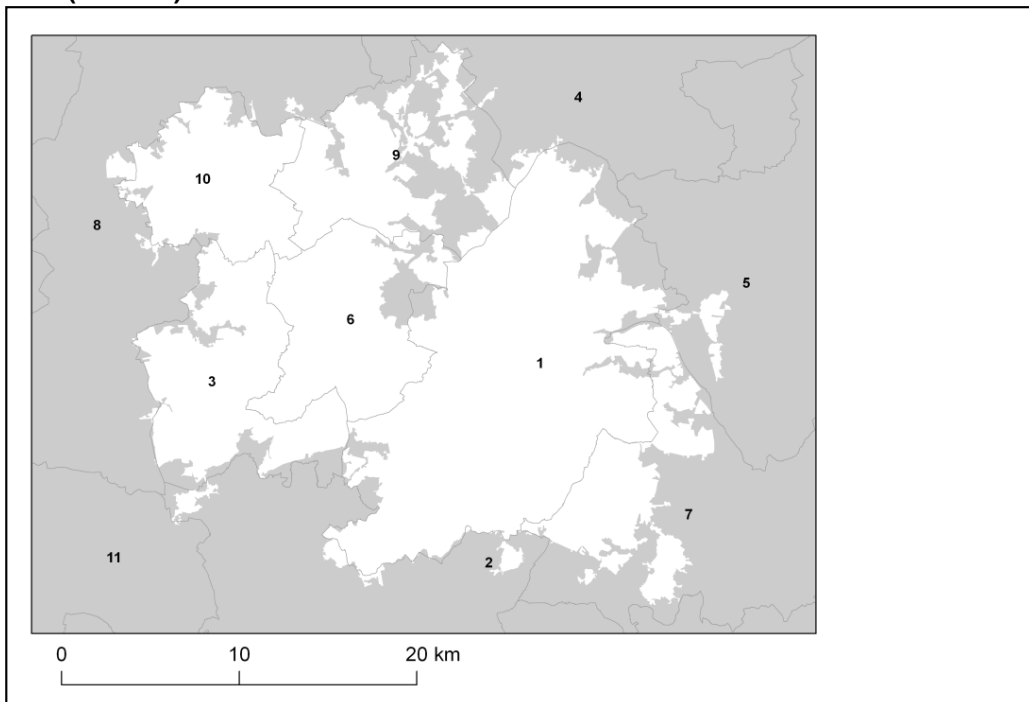
(Note: Local Authority boundaries do not necessarily coincide with zone boundaries. Hence Local Authorities may be listed within more than one zone plan.)

**Figure 1. Map showing the extent of the West Midlands Urban Area agglomeration zone (UK0002).**



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**Figure 2. Map showing Local Authorities within the West Midlands Urban Area agglomeration zone (UK0002).**



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## 2.2. Assessment details

### Measurements

NO<sub>2</sub> measurements in this zone were available in 2008 from the following national network monitoring stations (NO<sub>2</sub> data capture for each station in 2008 shown in brackets):

- Birmingham Centre GB0569A (96.5%)
- Birmingham Tyburn GB0851A (98.4%)
- Sandwell West Bromwich GB0698A (94.3%)
- Walsall Willenhall GB0674A (91.6%)

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

### 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): 594 km<sup>2</sup>
- Total population within zone (approx): 2083891 people
- Total road length where an assessment of NO<sub>2</sub> concentrations have been made: 552.2 km in 2008 (and similar lengths in previous years).

### Zone maps

Figure 3 presents the location of the NO<sub>2</sub> monitoring stations within this zone for 2008 and the roads for which NO<sub>2</sub> concentrations have been modelled. NO<sub>2</sub> concentrations at background locations have been modelled across the entire zone at a 1 x 1 km<sup>2</sup> resolution.

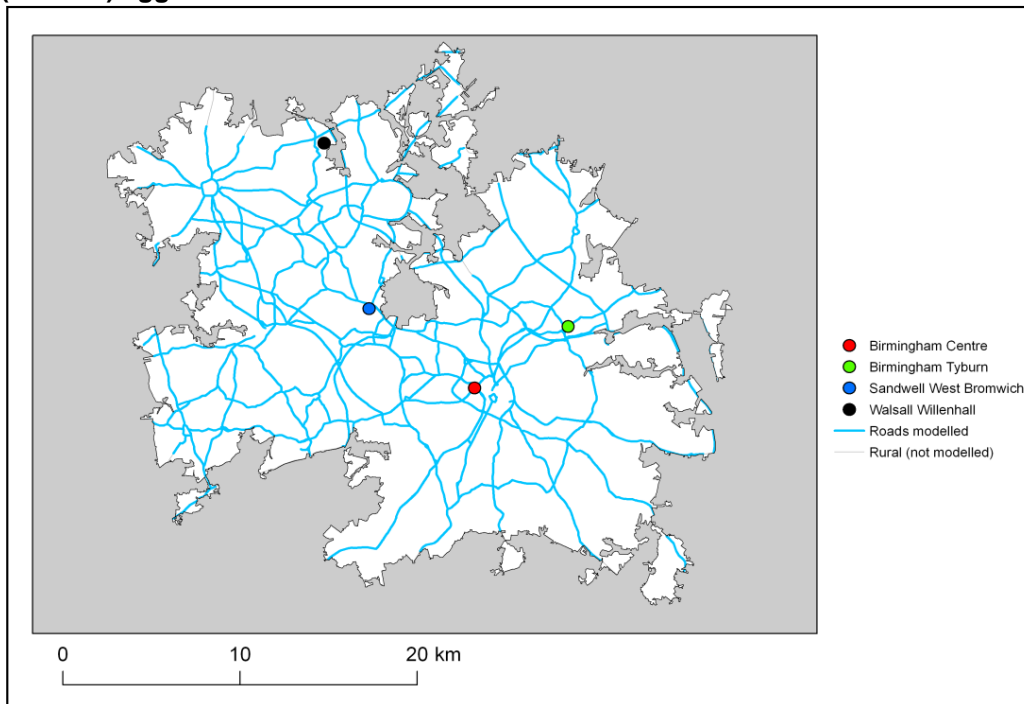
## 2.3. Reporting Under European Directives

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<sub>2</sub> monitoring sites with valid data in 2008 and roads where concentrations have been modelled within the West Midlands Urban Area (UK0002) agglomeration zone.**



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## 3. Overall Picture for 2008 reference year

### 3.1. Introduction

There are two limit values for the protection of health for NO<sub>2</sub>. These are:

- The annual limit value (annual mean concentration of no more than 40 µgm<sup>-3</sup>)
- The hourly limit value (no more than 18 hourly exceedances of 200 µgm<sup>-3</sup> in a calendar year)

Within the West Midlands Urban Area agglomeration zone only the annual limit value was exceeded in 2008. Hence, one exceedance situation for this zone has been defined, NO<sub>2</sub>\_UK0002\_Annual\_1, which covers the exceedance of the annual limit value. This exceedance situation is described below.

For both NO<sub>2</sub> limit values, a margin of tolerance for 2008 and other years has been defined in the Air Quality Directive (2008/50/EC). Data comparing assessed concentrations at locations within this agglomeration zone with the 2008 margin of tolerance are presented in the annual reporting questionnaire for 2008 (<http://cdr.eionet.europa.eu/gb/eu/annualair>).

### 3.2. Reference year: NO<sub>2</sub>\_UK0002\_Annual\_1

The NO<sub>2</sub>\_UK0002\_Annual\_1 exceedance situation covers all exceedances of the annual mean limit value in the West Midlands Urban Area agglomeration zone in 2008.

Compliance with the annual limit value in this exceedance situation has been assessed using a combination of air quality measurements and modelling. Table 1 presents measured annual mean concentrations at national network stations in this exceedance situation since the 1st Daughter Directive (1999/30/EC) came into force in 2001. This shows that there were no measured exceedances of the annual limit value in this zone in 2008. Table 2 summarises modelled annual mean NO<sub>2</sub> results in this exceedance situation for the same time period. This table shows that, in 2008, 265.3 km of road length and 7 km<sup>2</sup> background area were modelled to exceed the annual limit value. Table 2 also shows that the maximum modelled annual mean NO<sub>2</sub> concentration in 2008 was 91.2 µgm<sup>-3</sup>. Maps showing the modelled annual mean NO<sub>2</sub> 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<sub>x</sub> source apportionment for all modelled locations, along with an indicative annual mean NO<sub>2</sub> source apportionment. Table 3 presents summary source apportionment information in this exceedance situation for 2008, including:

- The modelled NO<sub>x</sub> and indicative NO<sub>2</sub> source apportionment for the section of road with the highest modelled NO<sub>2</sub> 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<sub>2</sub> 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<sub>2</sub> concentrations for these air quality plans. This method involves calculating the maximum and minimum possible contribution from each source to the NO<sub>2</sub> 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<sub>2</sub> concentration. Further information on the methods used for source apportionment are provided in the UK Technical Report.
- The maximum NO<sub>x</sub> 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  $\text{NO}_x$  source apportionment for each section of road within the  $\text{NO}_2$ \_UK0002\_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<sub>2</sub>\_UK0002\_Annual\_1 for 2001 onwards, µgm<sup>-3</sup>. (Data capture shown in brackets) (a)**

Site name (EOI code)	2001	2002	2003	2004	2005	2006	2007	2008	2009
Birmingham Centre (GB0569A)	34 (92%)	34 (93%)	33 (88%)	35 (89%)	33 (81%)	34 (94%)	34 (85%)	33 (97%)	49 (3%)
Birmingham East (GB0595A)	31 (94%)	29 (91%)	33 (93%)	31 (54%)					
Birmingham Tyburn (GB0851A)				38 (37%)	34 (99%)	37 (87%)	33 (99%)	34 (98%)	32 (97%)
Birmingham Tyburn Roadside (GB0960A)									47 (84%)
Sandwell West Bromwich (GB0698A)	35 (95%)	29 (94%)	39 (86%)	27 (98%)	27 (96%)	25 (69%)	29 (99%)	27 (94%)	27 (99%)
Walsall Alumwell (GB0455A)	42 (96%)	37 (98%)	42 (95%)	42 (93%)	42 (99%)	38 (98%)	36 (73%)		
Walsall Willenhall (GB0674A)	27 (92%)	27 (94%)	30 (97%)	27 (92%)	28 (70%)	31 (89%)	26 (95%)	24 (92%)	24 (95%)
Wolverhampton Centre (GB0614A)	32 (91%)	28 (97%)	34 (96%)	29 (80%)	28 (92%)	27 (95%)	24 (73%)		

(a) Annual Mean Limit Value = 40 µgm<sup>-3</sup>

**Table 2. Annual mean NO<sub>2</sub> model results in NO<sub>2</sub>\_UK0002\_Annual\_1 for 2001 onwards**

	2001	2002	2003	2004	2005	2006	2007	2008	2009
Road length exceeding (km)	378.6	294.8	465.7	362.6	382.1	346.8	385.3	265.3	239.0
Background area exceeding (km <sup>2</sup> )	9	14	36	1	10	0	5	7	10
Maximum modelled concentration (µgm <sup>-3</sup> ) (a)	71.1	77.6	89.4	74.2	85.2	82.4	84.1	91.2	88.8

(a) Annual Mean Limit Value = 40 µgm<sup>-3</sup>

**Table 3. Source apportionment summary information for 2008 in NO<sub>2</sub>\_UK0002\_Annual\_1 (µgm<sup>-3</sup>).**

Spatial scale	Component	Highest road link (a)		Maximum (b)
		NOx	NO2 (d)	NOx
Regional background sources (i.e. contributions from distant sources of > 30 km from the receptor)	Total	8.3	(c)	
	From within the UK	4.8	(c)	5.1
	From transboundary sources (includes shipping and other EU Member States)	3.5	(c)	3.6
Urban background sources (i.e. sources located within 0.3 - 30 km from the receptor)	Total	44.8	21.0	-
	From road traffic sources	22.9	11.5	44.5
	From industry (including heat and power generation)	8.1	(c)	37.8
	From agriculture	0.0	(c)	0.0
	From commercial/residential sources	6.0	(c)	14.3
	From shipping	0.0	(c)	0.0
	From off road mobile machinery	6.9	(c)	25.7
	From natural sources	0.0	(c)	0.0
	From transboundary sources	0.0	(c)	0.0
	From other urban background sources	0.8	(c)	9.7
Local sources (i.e. contributions from sources < 0.3 km from the receptor)	Total	177.0	70.2	-
	From cars	30.0	11.9	60.4
	From HGV rigid	24.8	10	36.1
	From HGV articulated	97.7	36.8	97.7
	From Buses	5.0	2.1	104.6
	From LGVs	19.2	9.4	19.2
	From motorcycles	0.1	0	0.3
Total (i.e. regional background + urban background + local components)		230.0	91.2	-

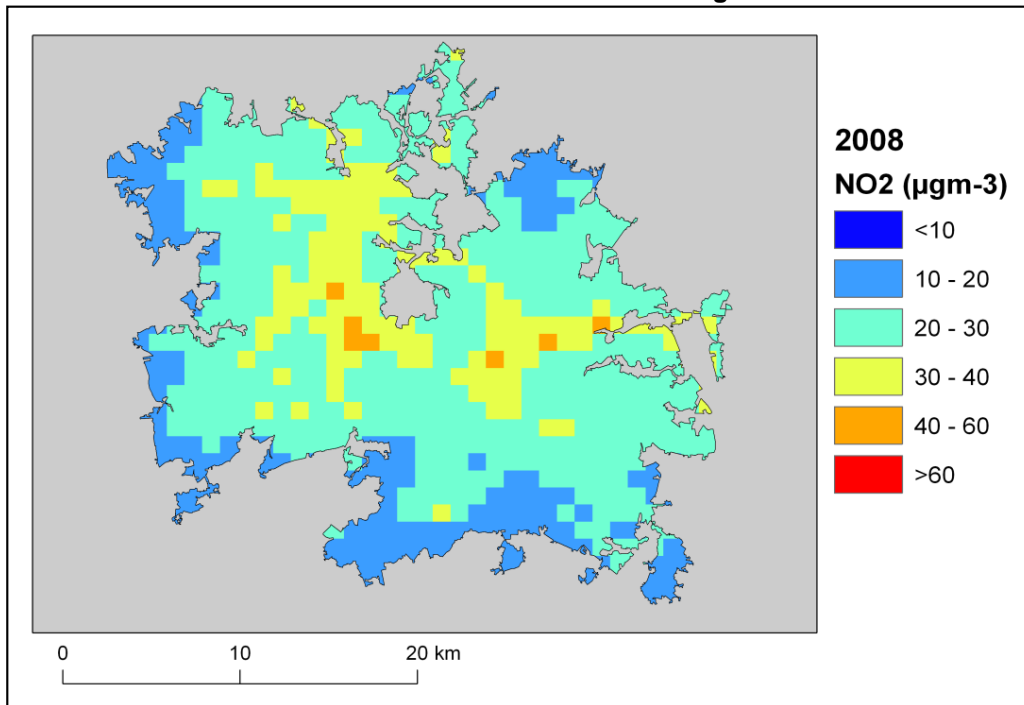
(a) The road with the highest modelled annual mean NO<sub>2</sub> concentration in this exceedance situation in 2008 is a section of the A454, traffic count point id 27202 (OS grid (m): 398000, 298200).

(b) This column gives the maximum contribution for each component from all the roads included in the exceedance situation.

(c) The combined modelled annual mean NO<sub>2</sub> concentration contribution for these components is 9.6 µgm<sup>-3</sup>. A more detailed NO<sub>2</sub> source apportionment is currently unavailable for these sectors.

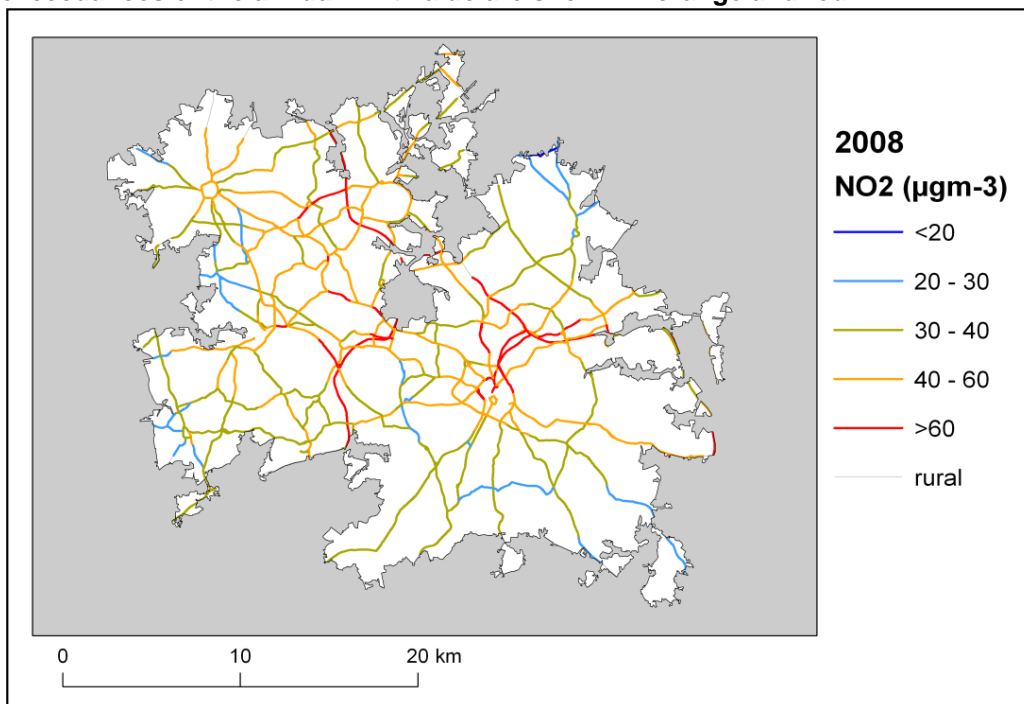
(d) Source apportionment for NO<sub>2</sub> is indicative, see UK Technical Report.

**Figure 4. Map of modelled background annual mean NO<sub>2</sub> concentrations 2008. Modelled exceedances of the annual limit value are shown in orange and red.**



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**Figure 5. Map of modelled roadside annual mean NO<sub>2</sub> concentrations 2008. Modelled exceedances of the annual limit value are shown in orange and red.**



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## 4. Measures

### 4.1. Introduction

This section (section 4) gives details of measures that address exceedances of the NO<sub>2</sub> limit values within West Midlands Urban Area agglomeration zone. This includes both measures that have already been taken and measures for which there is a firm commitment that they will be taken.

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

### 4.2. Source apportionment

It is important to understand which sources are responsible for causing the exceedance in order to most effectively tailor measures to address the NO<sub>2</sub> 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 97.7  $\mu\text{g m}^{-3}$  of NO<sub>x</sub> out of a total of 230  $\mu\text{g m}^{-3}$  of NO<sub>x</sub>. Articulated HGVs, cars and rigid HGVs were important sources on the motorway roads with the highest concentrations in this exceedance situation. Articulated HGVs, rigid HGVs, cars and on some roads buses were important sources on the trunk roads with the highest concentrations. Cars, rigid HGVs and on some roads buses and articulated HGVs 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<sub>2</sub> in this agglomeration zone have been taken and/or are planned at a range of administrative levels. These are:

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

Details of European Union measures (e.g. euro standards, fuel quality directives, integrated pollution prevention and control) can be found on the European Commission's website ([http://ec.europa.eu/environment/air/index\\_en.htm](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<sub>2</sub> 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<sub>2</sub> 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<sub>2</sub> 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<sub>2</sub>\_UK0002\_Annual\_1

Table 4 presents summary results for the baseline model projections for 2010, 2015 and 2020 for the NO<sub>2</sub>\_UK0002\_Annual\_1 exceedance situation. This shows that the maximum modelled annual mean NO<sub>2</sub> concentration predicted for 2010 in this exceedance situation is 79.5 µg m<sup>-3</sup>. By 2015, the maximum modelled annual mean NO<sub>2</sub> concentration is predicted to drop to 51.7 µg m<sup>-3</sup>. Hence, the model results suggest that compliance with the NO<sub>2</sub> annual limit value is unlikely to be achieved by 2015 under baseline conditions in this exceedance situation.

The projected modelled NO<sub>x</sub> and indicative NO<sub>2</sub> 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, the model results suggest that this location will continue to have the highest annual mean NO<sub>2</sub> concentration within this exceedance situation. However, in 2015 and 2020 the model indicates that the location with the highest annual mean NO<sub>2</sub> concentration within this exceedance situation will be elsewhere. Information regarding the new location with the highest NO<sub>2</sub> 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<sub>x</sub> 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<sub>2</sub> 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<sub>2</sub> model results in NO<sub>2</sub>\_UK0002\_Annual\_1**

	2008	2010	2015	2020
Road length exceeding (km)	265.3	161.4	42.9	0.0
Background area exceeding (km <sup>2</sup> )	7	1	0	0
Maximum modelled concentration (µgm <sup>-3</sup> ) (a)	91.2	79.5	51.7	32.3

(a) Annual Mean Limit Value = 40 µgm<sup>-3</sup>

**Table 5. Modelled source apportionment for 2010, 2015 and 2020 under baseline conditions for traffic count point 27202 on the A454 (the road section with the maximum modelled annual mean NO<sub>2</sub> concentration in 2008 in NO<sub>2</sub>\_UK0002\_Annual\_1. OS grid (m): 398000, 298200). 2008 results are also presented here for reference (units: µgm<sup>-3</sup>).**

Spatial scale	Component	NOx				NO2 (indicative)			
		2008	2010	2015	2020	2008	2010	2015	2020
Regional background sources (i.e. contributions from distant sources of > 30 km from the receptor)	Total	8.3	7.1	6.2	5.0	(a)	(b)	(c)	(d)
	From within the UK	4.8	4.1	3.6	2.9	(a)	(b)	(c)	(d)
	From transboundary sources (includes shipping and other EU Member States)	3.5	3.0	2.6	2.1	(a)	(b)	(c)	(d)
Urban background sources (i.e. sources located within 0.3 - 30 km from the receptor)	Total	44.8	37.3	27.0	20.4	21.0	18.4	14.5	12.2
	From road traffic sources	22.9	17.0	10.6	5.8	11.5	10.9	9.6	9.3
	From industry (including heat and power generation)	8.1	7.1	6.8	6.5	(a)	(b)	(c)	(d)
	From agriculture	0.0	0.0	0.0	0.0	(a)	(b)	(c)	(d)
	From commercial/residential sources	6.0	6.0	5.5	5.0	(a)	(b)	(c)	(d)
	From shipping	0.0	0.0	0.0	0.0	(a)	(b)	(c)	(d)
	From off road mobile machinery	6.9	6.5	3.4	2.4	(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	0.8	0.7	0.7	0.7	(a)	(b)	(c)	(d)	
Local sources (i.e. contributions from sources < 0.3 km from the receptor)	Total	177.0	148.4	81.4	34.4	70.2	61.1	36.3	17.0
	From cars	30.0	20.2	13.9	9.2	11.9	8.6	6.4	4.6
	From HGV rigid	24.8	22.1	11.4	4.0	10.0	9.2	5.0	1.9
	From HGV articulated	97.7	85.0	42.9	14.1	36.8	32.9	18.1	6.7
	From Buses	5.0	4.5	2.7	1.2	2.1	1.9	1.2	0.6
	From LGVs	19.2	16.5	10.4	5.8	9.4	8.5	5.6	3.1
From motorcycles	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	
Total (i.e. regional background + urban background + local components)		230.0	192.9	114.5	59.8	91.2	79.5	50.8	29.2

(a) The total annual mean NO<sub>2</sub> contribution for all components labelled (a) in 2008 was modelled to be 9.6 µgm<sup>-3</sup>.

(b) The total annual mean NO<sub>2</sub> contribution for all components labelled (b) in 2010 is predicted to be 7.5 µgm<sup>-3</sup>.

(c) The total annual mean NO<sub>2</sub> contribution for all components labelled (c) in 2015 is predicted to be 4.9 µgm<sup>-3</sup>.

(d) The total annual mean NO<sub>2</sub> contribution for all components labelled (d) in 2020 is predicted to be 2.9 µgm<sup>-3</sup>.

**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<sub>2</sub>\_UK0002\_Annual\_1 (a). 2008 results are also presented here for reference (units: µgm<sup>-3</sup>).**

Spatial scale	Component	NOx				NO2 (indicative)			
		2008	2010	2015	2020	2008	2010	2015	2020
Regional background sources (i.e. contributions from distant sources of > 30 km from the receptor)	Total	8.3	7.1	6.3	5.1	(b)	(c)	(d)	(e)
	From within the UK	4.8	4.1	3.6	2.9	(b)	(c)	(d)	(e)
	From transboundary sources (includes shipping and other EU Member States)	3.5	3.0	2.7	2.2	(b)	(c)	(d)	(e)
Urban background sources (i.e. sources located within 0.3 - 30 km from the receptor)	Total	44.8	37.3	47.4	36.0	21.0	18.4	21.7	17.9
	From road traffic sources	22.9	17.0	17.2	9.3	11.5	10.9	14.2	13.6
	From industry (including heat and power generation)	8.1	7.1	15.8	14.7	(b)	(c)	(d)	(e)
	From agriculture	0.0	0.0	0.0	0.0	(b)	(c)	(d)	(e)
	From commercial/residential sources	6.0	6.0	5.6	5.2	(b)	(c)	(d)	(e)
	From shipping	0.0	0.0	0.0	0.0	(b)	(c)	(d)	(e)
	From off road mobile machinery	6.9	6.5	6.5	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	0.8	0.7	2.2	2.2	(b)	(c)	(d)	(e)	
Local sources (i.e. contributions from sources < 0.3 km from the receptor)	Total	177.0	148.4	69.6	30.8	70.2	61.1	30.0	14.3
	From cars	30.0	20.2	16.4	10.8	11.9	8.6	7.7	5.3
	From HGV rigid	24.8	22.1	8.9	3.2	10.0	9.2	3.7	1.4
	From HGV articulated	97.7	85.0	32.9	10.7	36.8	32.9	13.1	4.7
	From Buses	5.0	4.5	2.8	1.3	2.1	1.9	1.2	0.6
	From LGVs	19.2	16.5	8.3	4.7	9.4	8.5	4.3	2.4
From motorcycles	0.1	0.1	0.1	0.1	0.0	0.0	0.1	0.0	
Total (i.e. regional background + urban background + local components)		230.0	192.9	123.3	71.9	91.2	79.5	51.7	32.3

(a) The road with the maximum annual mean NO<sub>2</sub> concentration in different years is as follows. 2008: A section of the A454 (count point id 27202 ). 2010: A section of the A454 (count point id 27202 ). 2015: A section of the M5 (count point id 46015 ). 2020: A section of the M5 (count point id 46015 ). (OS grid (m): 398000, 298200; 398000, 298200; 398000, 298200; 398000, 298200).

(b) The total annual mean NO<sub>2</sub> contribution for all components labelled (b) in 2008 was modelled to be 9.6 µgm<sup>-3</sup>.

(c) The total annual mean NO<sub>2</sub> contribution for all components labelled (c) in 2010 is predicted to be 7.5 µgm<sup>-3</sup>.

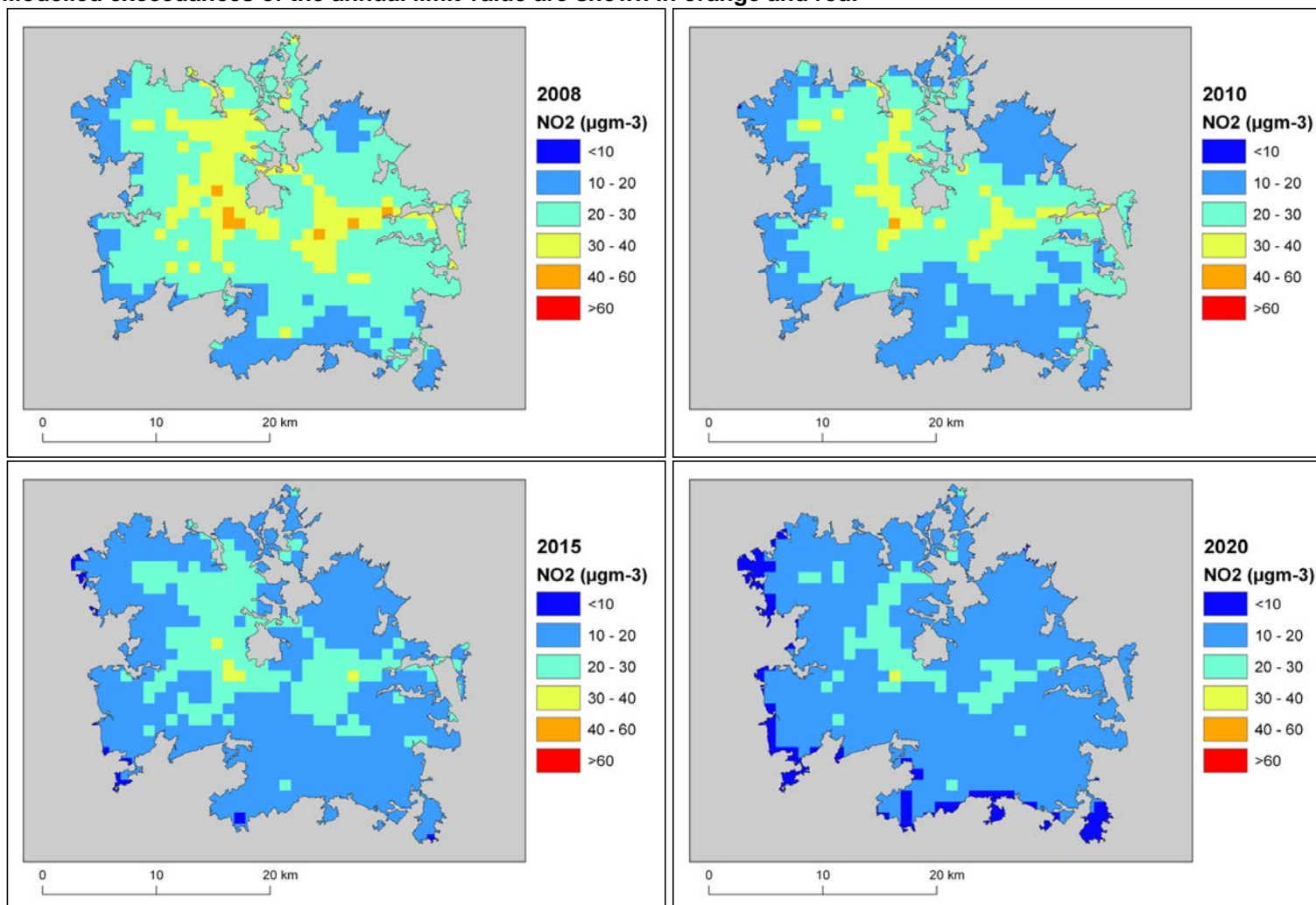
(d) The total annual mean NO<sub>2</sub> contribution for all components labelled (d) in 2015 is predicted to be 7.5 µgm<sup>-3</sup>.

(e) The total annual mean NO<sub>2</sub> contribution for all components labelled (e) in 2020 is predicted to be 4.3 µgm<sup>-3</sup>.

**Table 7. The maximum NO<sub>x</sub> 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.**

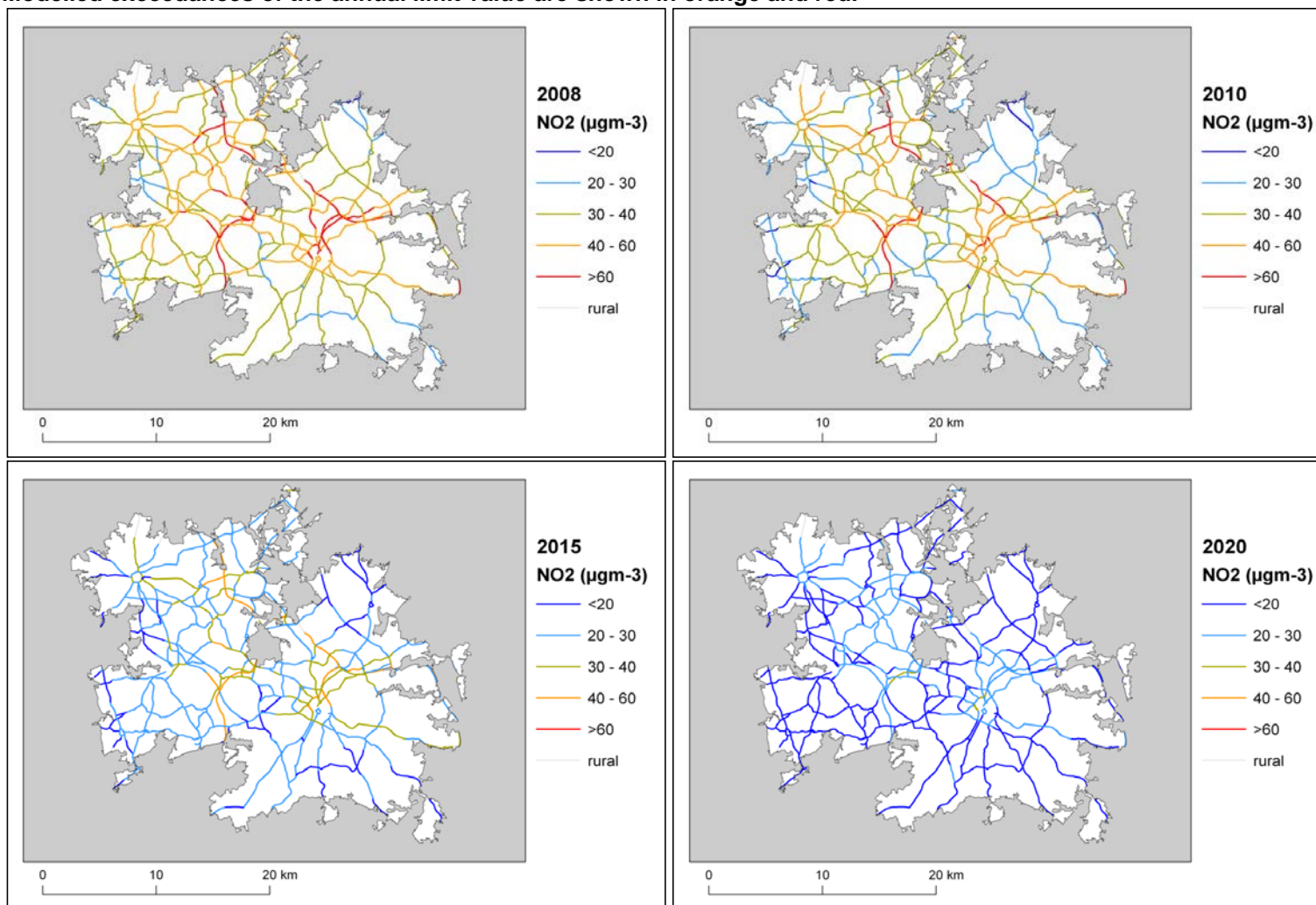
Spatial scale	Component	NO <sub>x</sub>			
		2008	2010	2015	2020
Regional background sources (i.e. contributions from distant sources of > 30 km from the receptor)	From within the UK	5.1	4.4	3.8	0.0
	From transboundary sources (includes shipping and other EU Member States)	3.6	3.1	2.7	0.0
Urban background sources (i.e. sources located within 0.3 - 30 km from the receptor)	From road traffic sources	44.5	32.0	19.8	0.0
	From industry (including heat and power generation)	37.8	33.7	31.2	0.0
	From agriculture	0.0	0.0	0.0	0.0
	From commercial/residential sources	14.3	14.0	12.2	0.0
	From shipping	0.0	0.0	0.0	0.0
	From off road mobile machinery	25.7	23.2	8.3	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	9.7	8.6	3.7	0.0
Local sources (i.e. contributions from sources < 0.3 km from the receptor)	From cars	60.4	40.6	28.0	0.0
	From HGV rigid	36.1	32.1	16.5	0.0
	From HGV articulated	97.7	85.0	42.9	0.0
	From Buses	104.6	93.7	23.5	0.0
	From LGVs	19.2	16.5	10.4	0.0
	From motorcycles	0.3	0.2	0.2	0.0

Figure 6. Background baseline projections of annual mean NO<sub>2</sub> 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.



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Figure 7. Roadside baseline projections of annual mean NO<sub>2</sub> 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.



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## 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<sub>2</sub> limit values. The scenario modelled here would require all HGVs and buses to meet at least Euro IV emission standards for NO<sub>x</sub> and PM<sub>10</sub> 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<sub>2</sub>. 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<sub>x</sub> 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
- Walsall Metropolitan Borough Council
- Wolverhampton City Council

The impact of the LEZ scenario on projected NO<sub>2</sub> 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<sub>2</sub> 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<sub>2</sub>\_UK0002\_Annual\_1

Table 8 presents summary results for the LEZ scenario model projections for 2015 and 2020 for the NO<sub>2</sub>\_UK0002\_Annual\_1 exceedance situation. This shows that the maximum modelled annual mean NO<sub>2</sub> concentration predicted for 2015 for the LEZ scenario in this exceedance situation is 50.1 µgm<sup>-3</sup>. Hence, the model results suggest that compliance with the NO<sub>2</sub> 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<sub>2</sub> annual mean limit value is likely to be achieved in this exceedance situation in 2020, when the maximum modelled annual mean NO<sub>2</sub> concentration predicted to be 32.1 µgm<sup>-3</sup>.

The projected modelled NO<sub>x</sub> and indicative NO<sub>2</sub> 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, the model results suggest that this location will continue to have the highest annual mean NO<sub>2</sub> concentration within this exceedance situation. However, in 2015 and 2020 the model indicates that the location with the highest annual mean NO<sub>2</sub> concentration within this exceedance situation will be elsewhere. Information regarding the new location with the highest NO<sub>2</sub> concentration, including the source apportionment is given in Table 10. 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 11 shows the maximum NO<sub>x</sub> 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<sub>2</sub> 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<sub>2</sub> model results in NO<sub>2</sub>\_UK0002\_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)	265.3	161.4	32.8	0.0
Background area exceeding (km <sup>2</sup> )	7	1	0	0
Maximum modelled concentration (µgm <sup>-3</sup> ) (a)	91.2	79.5	50.1	32.1

(a) Annual Mean Limit Value = 40 µgm<sup>-3</sup>

**Table 9. Modelled source apportionment for 2015 and 2020 for the LEZ scenario for traffic count point 27202 on the A454 (the road section with the maximum modelled annual mean NO<sub>2</sub> concentration in 2008 in NO<sub>2</sub>\_UK0002\_Annual\_1 OS grid (m): 398000, 298200). 2008 and 2010 baseline projections results are also presented here for reference (units: µgm<sup>-3</sup>).**

Spatial scale	Component	NOx				NO <sub>2</sub> (indicative)			
		2008	2010	2015	2020	2008	2010	2015	2020
Regional background sources (i.e. contributions from distant sources of > 30 km from the receptor)	Total	8.3	7.1	6.2	5.0	(a)	(b)	(c)	(d)
	From within the UK	4.8	4.1	3.6	2.9	(a)	(b)	(c)	(d)
	From transboundary sources (includes shipping and other EU Member States)	3.5	3.0	2.6	2.1	(a)	(b)	(c)	(d)
Urban background sources (i.e. sources located within 0.3 - 30 km from the receptor)	Total	44.8	37.3	25.6	20.2	21.0	18.4	14.1	12.1
	From road traffic sources	22.9	17.0	9.2	5.6	11.5	10.9	9.8	9.3
	From industry (including heat and power generation)	8.1	7.1	6.8	6.5	(a)	(b)	(c)	(d)
	From agriculture	0.0	0.0	0.0	0.0	(a)	(b)	(c)	(d)
	From commercial/residential sources	6.0	6.0	5.5	5.0	(a)	(b)	(c)	(d)
	From shipping	0.0	0.0	0.0	0.0	(a)	(b)	(c)	(d)
	From off road mobile machinery	6.9	6.5	3.4	2.4	(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	0.8	0.7	0.7	0.7	(a)	(b)	(c)	(d)	
Local sources (i.e. contributions from sources < 0.3 km from the receptor)	Total	177.0	148.4	69.7	33.7	70.2	61.1	31.8	16.7
	From cars	30.0	20.2	13.9	9.2	11.9	8.6	6.5	4.6
	From HGV rigid	24.8	22.1	8.7	3.9	10.0	9.2	3.9	1.9
	From HGV articulated	97.7	85.0	35.0	13.8	36.8	32.9	15.1	6.6
	From Buses	5.0	4.5	1.6	0.9	2.1	1.9	0.7	0.5
	From LGVs	19.2	16.5	10.4	5.8	9.4	8.5	5.5	3.1
From motorcycles	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	
Total (i.e. regional background + urban background + local components)		230.0	192.9	101.4	58.9	91.2	79.5	45.9	28.8

(a) The total annual mean NO<sub>2</sub> contribution for all components labelled (a) in 2008 was modelled to be 9.6 µgm<sup>-3</sup>.

(b) The total annual mean NO<sub>2</sub> contribution for all components labelled (b) in 2010 is predicted to be 7.5 µgm<sup>-3</sup>.

(c) The total annual mean NO<sub>2</sub> contribution for all components labelled (c) in 2015 is predicted to be 4.3 µgm<sup>-3</sup>.

(d) The total annual mean NO<sub>2</sub> contribution for all components labelled (d) in 2020 is predicted to be 2.8 µgm<sup>-3</sup>.

**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<sub>2</sub>\_UK0002\_Annual\_1. (a) 2008 and 2010 baseline projections results are also presented here for reference (units: µgm<sup>-3</sup>).**

Spatial scale	Component	NOx				NO2 (indicative)			
		2008	2010	2015	2020	2008	2010	2015	2020
Regional background sources (i.e. contributions from distant sources of > 30 km from the receptor)	Total	8.3	7.1	6.3	5.1	(b)	(c)	(d)	(e)
	From within the UK	4.8	4.1	3.6	2.9	(b)	(c)	(d)	(e)
	From transboundary sources (includes shipping and other EU Member States)	3.5	3.0	2.7	2.1	(b)	(c)	(d)	(e)
Urban background sources (i.e. sources located within 0.3 - 30 km from the receptor)	Total	44.8	37.3	45.1	35.7	21.0	18.4	20.9	17.8
	From road traffic sources	22.9	17.0	14.9	9.0	11.5	10.9	14.3	13.6
	From industry (including heat and power generation)	8.1	7.1	15.8	14.7	(b)	(c)	(d)	(e)
	From agriculture	0.0	0.0	0.0	0.0	(b)	(c)	(d)	(e)
	From commercial/residential sources	6.0	6.0	5.6	5.2	(b)	(c)	(d)	(e)
	From shipping	0.0	0.0	0.0	0.0	(b)	(c)	(d)	(e)
	From off road mobile machinery	6.9	6.5	6.5	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	0.8	0.7	2.2	2.2	(b)	(c)	(d)	(e)	
Local sources (i.e. contributions from sources < 0.3 km from the receptor)	Total	177.0	148.4	67.7	30.7	70.2	61.1	29.3	14.3
	From cars	30.0	20.2	16.4	10.8	11.9	8.6	7.7	5.3
	From HGV rigid	24.8	22.1	8.4	3.2	10.0	9.2	3.5	1.4
	From HGV articulated	97.7	85.0	31.5	10.7	36.8	32.9	12.6	4.6
	From Buses	5.0	4.5	2.8	1.3	2.1	1.9	1.2	0.6
	From LGVs	19.2	16.5	8.3	4.7	9.4	8.5	4.3	2.4
From motorcycles	0.1	0.1	0.1	0.1	0.0	0.0	0.1	0.0	
Total (i.e. regional background + urban background + local components)		230.0	192.9	119.1	71.5	91.2	79.5	50.1	32.1

(a) The road with the maximum annual mean NO<sub>2</sub> concentration in different years is as follows. 2008: A section of the A454 (count point id 27202 ). 2010: A section of the A454 (count point id 27202 ). 2015: A section of the M5 (count point id 46015 ). 2020: A section of the M5 (count point id 46015 ). (OS grid (m): 398000, 298200; 398000, 298200; 398000, 298200; 398000, 298200).

(b) The total annual mean NO<sub>2</sub> contribution for all components labelled (b) in 2008 was modelled to be 9.6 µgm<sup>-3</sup>.

(c) The total annual mean NO<sub>2</sub> contribution for all components labelled (c) in 2010 is predicted to be 7.5 µgm<sup>-3</sup>.

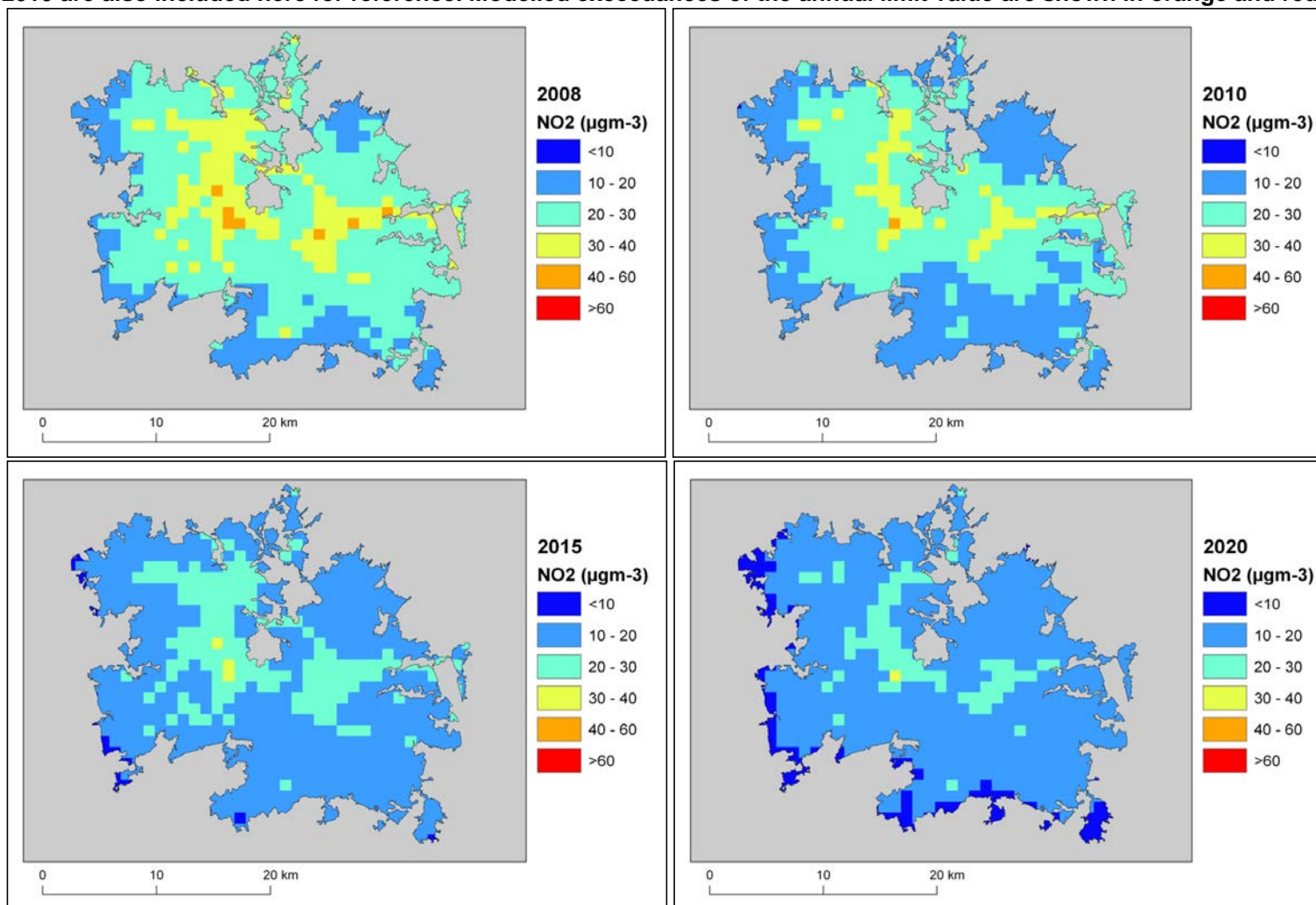
(d) The total annual mean NO<sub>2</sub> contribution for all components labelled (d) in 2015 is predicted to be 6.6 µgm<sup>-3</sup>.

(e) The total annual mean NO<sub>2</sub> contribution for all components labelled (e) in 2020 is predicted to be 4.2 µgm<sup>-3</sup>.

**Table 11. The maximum NO<sub>x</sub> 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.**

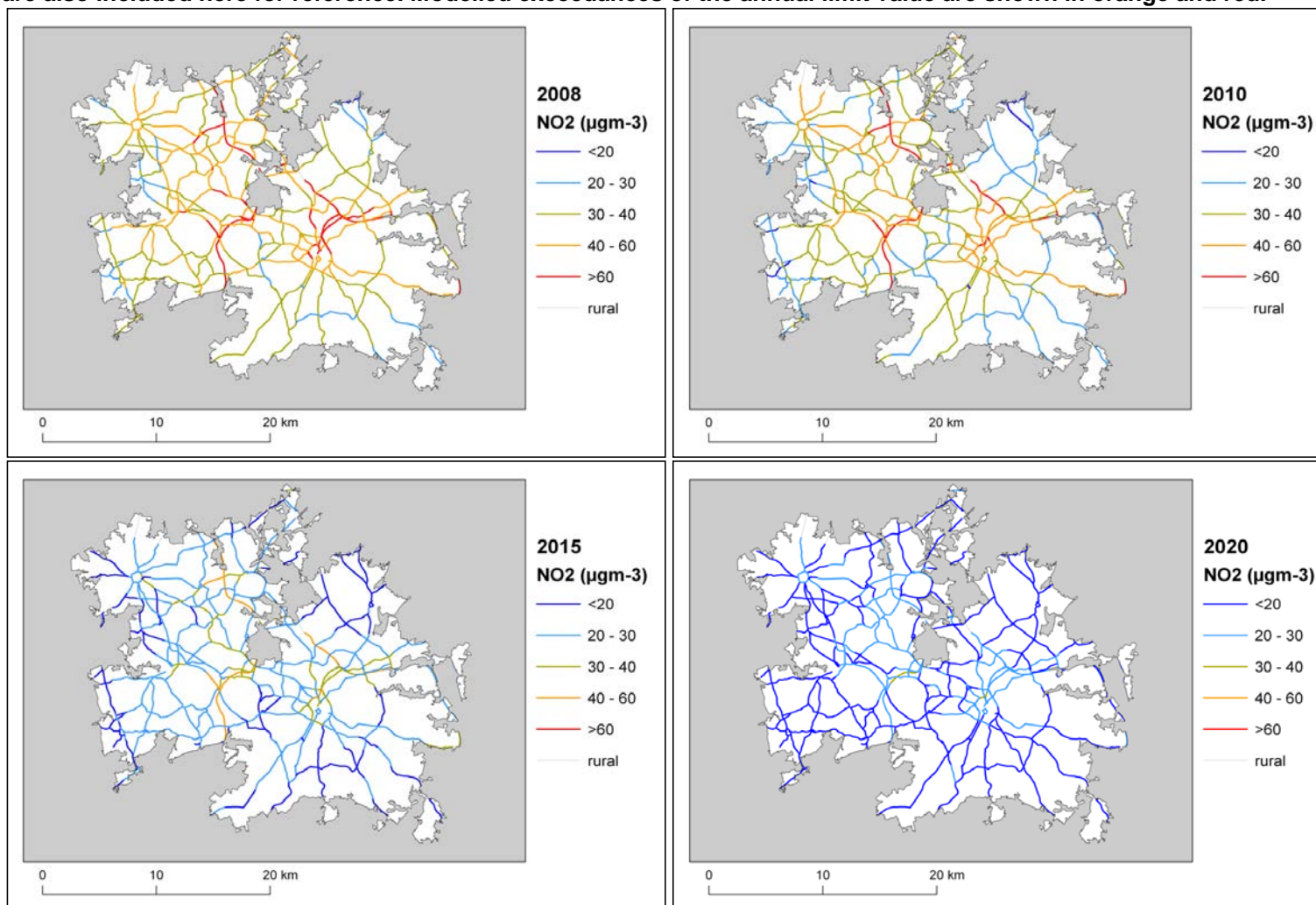
Spatial scale	Component	NO <sub>x</sub>			
		2008	2010	2015	2020
Regional background sources (i.e. contributions from distant sources of > 30 km from the receptor)	From within the UK	5.1	4.4	3.8	0.0
	From transboundary sources (includes shipping and other EU Member States)	3.6	3.1	2.7	0.0
Urban background sources (i.e. sources located within 0.3 - 30 km from the receptor)	From road traffic sources	44.5	32.0	18.4	0.0
	From industry (including heat and power generation)	37.8	33.7	18.7	0.0
	From agriculture	0.0	0.0	0.0	0.0
	From commercial/residential sources	14.3	14.0	10.3	0.0
	From shipping	0.0	0.0	0.0	0.0
	From off road mobile machinery	25.7	23.2	7.7	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	9.7	8.6	3.7	0.0
Local sources (i.e. contributions from sources < 0.3 km from the receptor)	From cars	60.4	40.6	27.6	0.0
	From HGV rigid	36.1	32.1	12.6	0.0
	From HGV articulated	97.7	85.0	40.6	0.0
	From Buses	104.6	93.7	13.3	0.0
	From LGVs	19.2	16.5	10.4	0.0
	From motorcycles	0.3	0.2	0.1	0.0

Figure 8. Background projections of annual mean NO<sub>2</sub> 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.



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Figure 9. Roadside projections of annual mean NO<sub>2</sub> 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.



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

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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/>

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

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

## **List of Annexes**

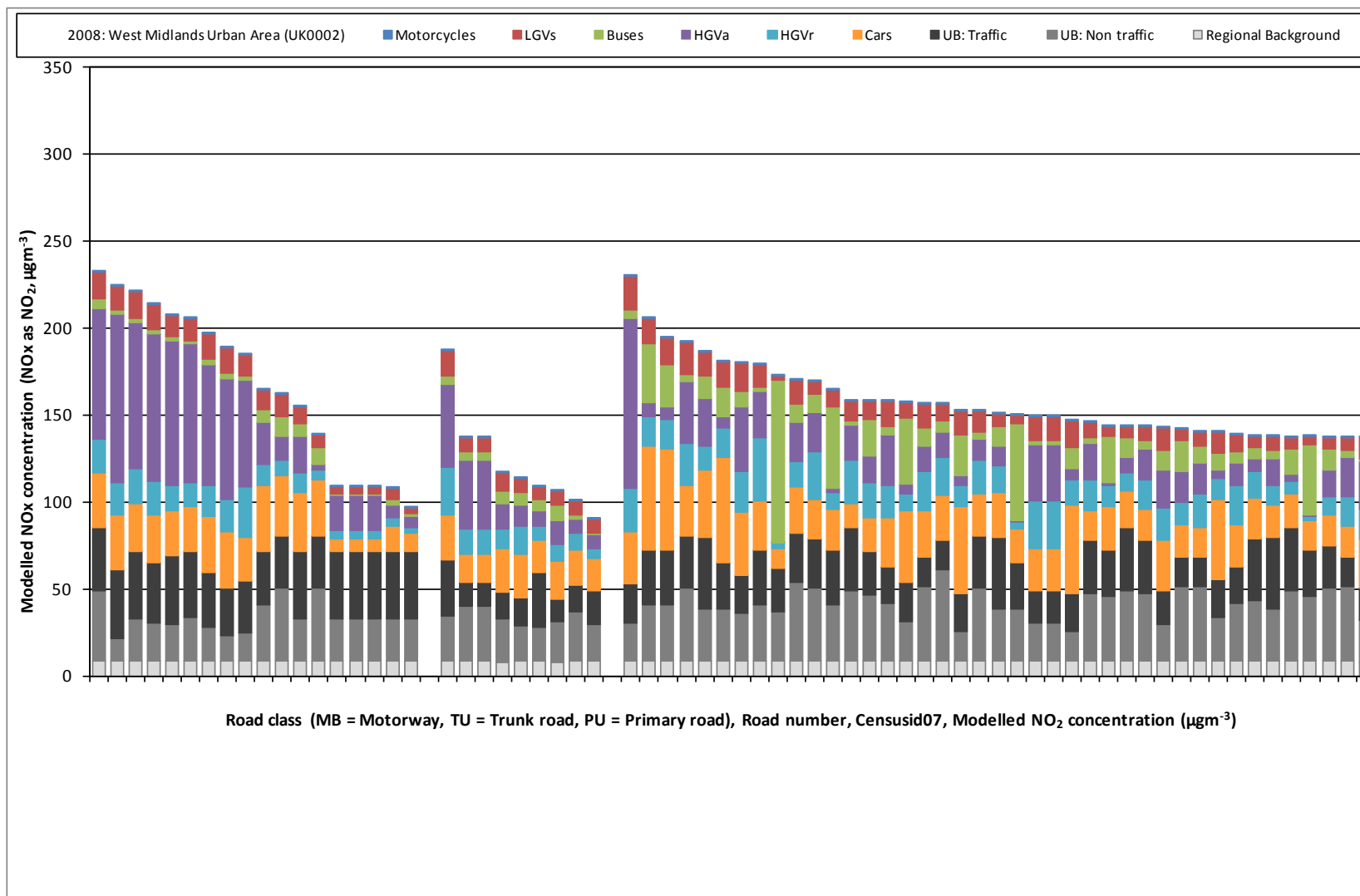
Annex 1: Source apportionment graphs

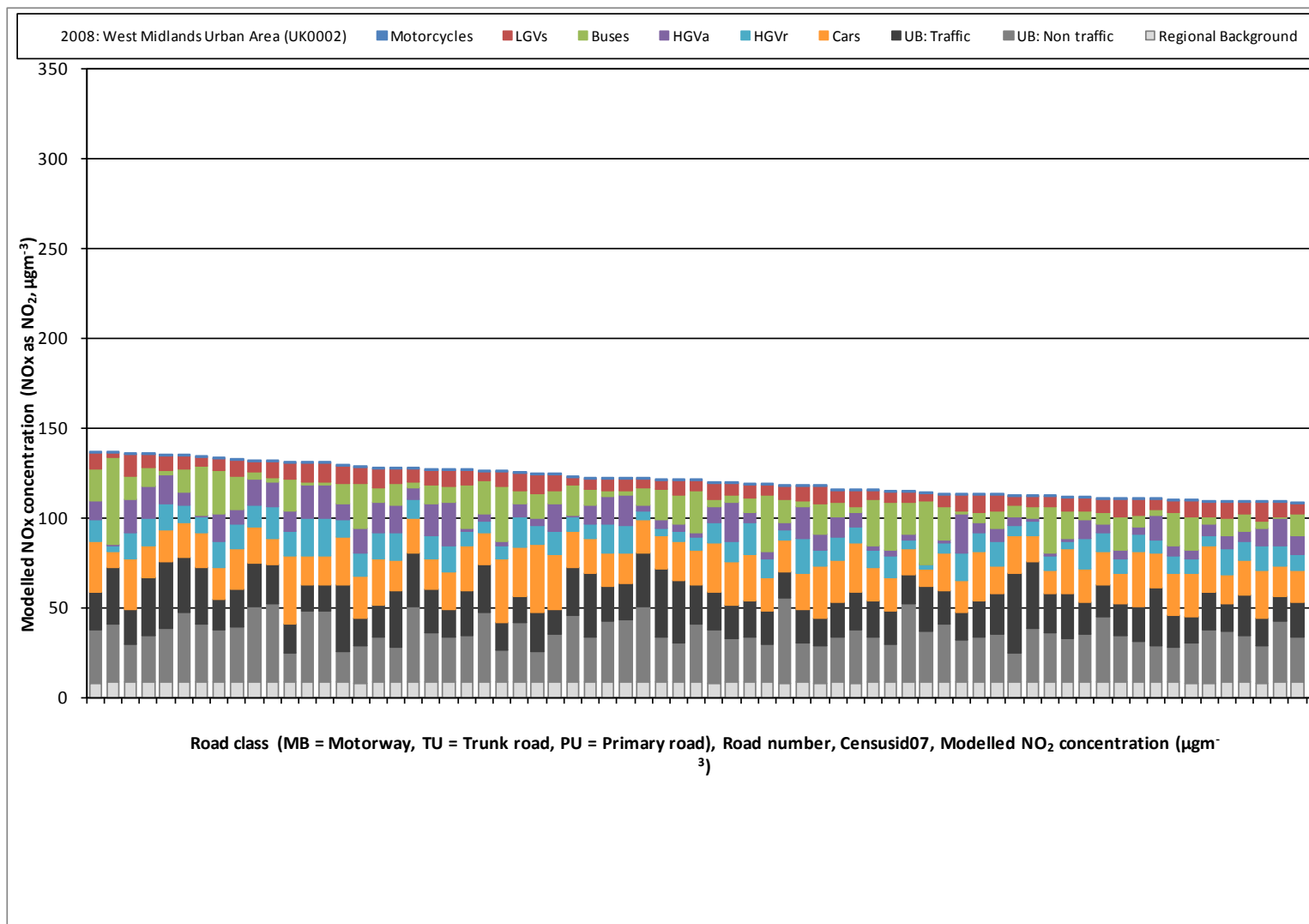
Annex 2: Tables of measures

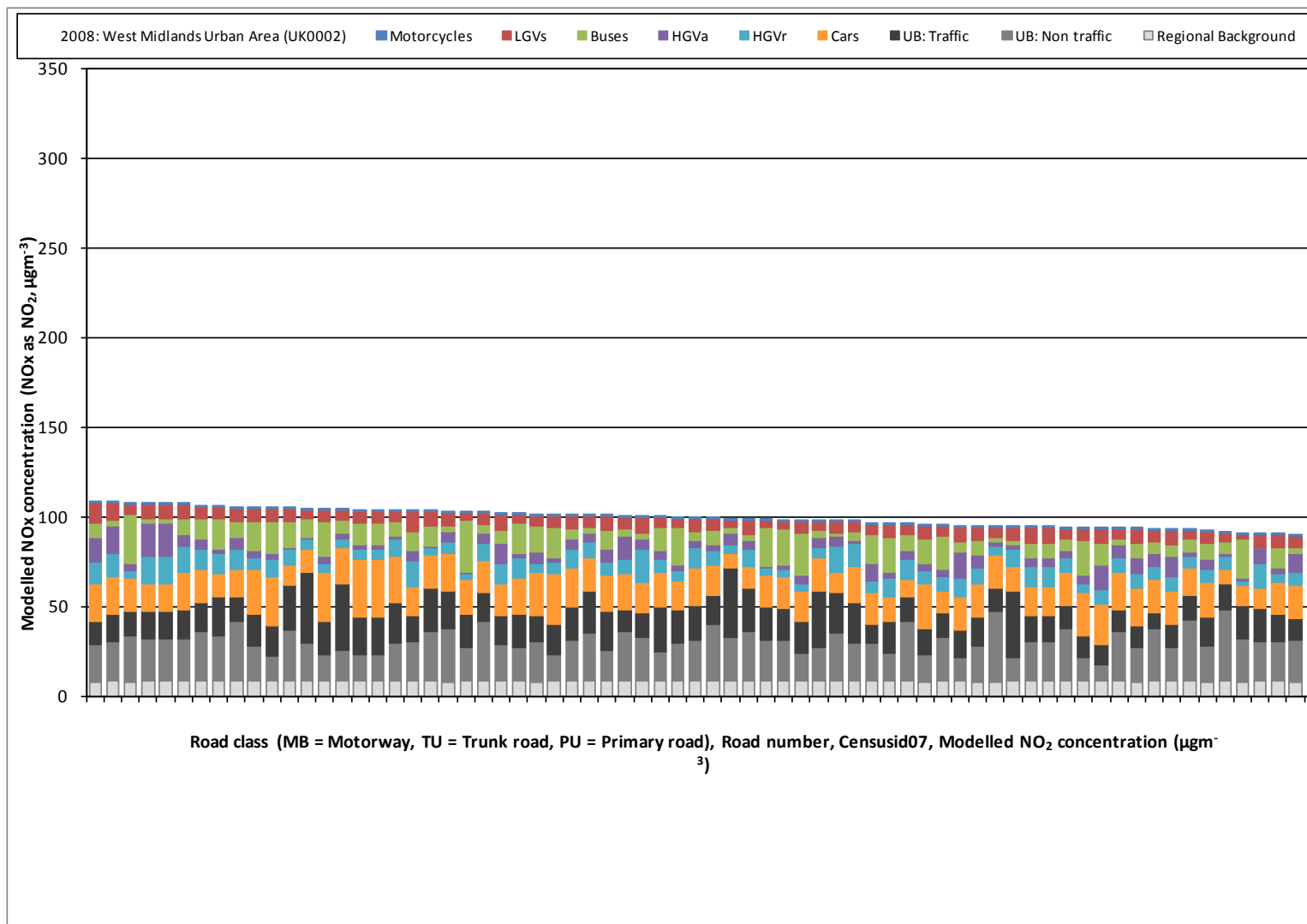


## **Annex 1: Source apportionment graphs**

Figure A1.1 Annual mean roadside NO<sub>x</sub> source apportionment plots for all roads exceeding the annual mean NO<sub>2</sub> limit value in 2008







## **Annex 2: Tables of measures**

**Table A2.1 Relevant Local Authority measures taken before or during 2010 within West Midlands Urban Area (UK0002)**

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	<ul style="list-style-type: none"> <li>• Type: Technical</li> <li>• Sources affected: Transport</li> <li>• Spatial scale: local</li> <li>• Implementation date: 2004/2005</li> <li>• Reduction timescale: Long term</li> <li>• Regulatory: No</li> <li>• Smarter Choices (c) : Yes</li> <li>• Reference (d): Local_zone2_Birmingham_AQActionplan_1</li> </ul>
Birmingham	Local_Birmingham_G 2	Promotion of cycling	Join in promotion of cycling and submission of major bid to assist	<ul style="list-style-type: none"> <li>• Type: Technical</li> <li>• Sources affected: Transport</li> <li>• Spatial scale: local</li> <li>• Implementation date: 2000</li> <li>• Reduction timescale: Long term</li> <li>• Regulatory: No</li> <li>• Smarter Choices (c) : Yes</li> <li>• Reference (d): Local_zone2_Birmingham_AQActionplan_1</li> </ul>
Birmingham	Local_Birmingham_G 3	Promotion of cycling facilities	Continue to require new cycling facilities at development sites	<ul style="list-style-type: none"> <li>• Type: Technical</li> <li>• Sources affected: Transport</li> <li>• Spatial scale: local</li> <li>• Implementation date: 2007</li> <li>• Reduction timescale: Long term</li> <li>• Regulatory: No</li> <li>• Smarter Choices (c) : Yes</li> <li>• Reference (d): Local_zone2_Birmingham_AQActionplan_1</li> </ul>
Birmingham	Local_Birmingham_A 1	Freight Quality partnership	Assist in setting up Freight Quality Partnership	<ul style="list-style-type: none"> <li>• Type: Technical</li> <li>• Sources affected: Transport</li> <li>• Spatial scale: local</li> <li>• Implementation date: 2008</li> <li>• Reduction timescale: Long term</li> <li>• Regulatory: No</li> <li>• Smarter Choices (c) : No</li> <li>• Reference (d): Local_zone2_Birmingham_AQActionplan_1</li> </ul>
Birmingham	Local_Birmingham_A 2	Improve Council Fleet	Improve own Council fleet	<ul style="list-style-type: none"> <li>• Type: Technical</li> <li>• Sources affected: Transport</li> </ul>

LA (a)	Measure code (b)	Title	Description	Other information
				<ul style="list-style-type: none"> <li>• Spatial scale: local</li> <li>• Implementation date: 2007</li> <li>• Reduction timescale: Long term</li> <li>• Regulatory: No</li> <li>• Smarter Choices (c) : No</li> <li>• Reference (d): Local_zone2_Birmingham_AQActionplan_1</li> </ul>
Birmingham	Local_Birmingham_E 1	City Centre Living	Continue to strategy to encourage city centre living and aim to have 10,000 residents in centre by 2008	<ul style="list-style-type: none"> <li>• Type: Technical; Education/information</li> <li>• Sources affected: Transport</li> <li>• Spatial scale: local</li> <li>• Implementation date: 2008</li> <li>• Reduction timescale: Long term</li> <li>• Regulatory: No</li> <li>• Smarter Choices (c) : No</li> <li>• Reference (d): Local_zone2_Birmingham_AQActionplan_1</li> </ul>
Birmingham	Local_Birmingham_E 2	Development Control	Continue to maintain policy of encouraging mixed use developments	<ul style="list-style-type: none"> <li>• Type: Technical</li> <li>• Sources affected: Transport</li> <li>• Spatial scale: local</li> <li>• Implementation date: 2007</li> <li>• Reduction timescale: Long term</li> <li>• Regulatory: No</li> <li>• Smarter Choices (c) : No</li> <li>• Reference (d): Local_zone2_Birmingham_AQActionplan_1</li> </ul>
Birmingham	Local_Birmingham_E 3	Planning Control	Consideration of AQ as a consideration in Planning Applications	<ul style="list-style-type: none"> <li>• Type: Technical</li> <li>• Sources affected: Transport</li> <li>• Spatial scale: local</li> <li>• Implementation date: 2007</li> <li>• Reduction timescale: Long term</li> <li>• Regulatory: No</li> <li>• Smarter Choices (c) : No</li> <li>• Reference (d): Local_zone2_Birmingham_AQActionplan_1</li> </ul>
Birmingham	Local_Birmingham_D 1	Parking Management	Seek to maintain the number of short stay parking places at the 2001 level.	<ul style="list-style-type: none"> <li>• Type: Technical</li> <li>• Sources affected: Transport</li> <li>• Spatial scale: local</li> <li>• Implementation date: 2007</li> <li>• Reduction timescale: Long term</li> <li>• Regulatory: No</li> <li>• Smarter Choices (c) : No</li> <li>• Reference (d):</li> </ul>

LA (a)	Measure code (b)	Title	Description	Other information
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.	Local_zone2_Birmingham_AQActionplan_1 <ul style="list-style-type: none"> <li>• Type: Technical</li> <li>• Sources affected: Transport</li> <li>• Spatial scale: local</li> <li>• Implementation date: 2007</li> <li>• Reduction timescale: Long term</li> <li>• Regulatory: No</li> <li>• Smarter Choices (c) : No</li> <li>• Reference (d): Local_zone2_Birmingham_AQActionplan_1</li> </ul>
Birmingham	Local_Birmingham_G 4	Promotion of Travel Plans	Continue to work with partners to offer incentives to those with Travel Plans	<ul style="list-style-type: none"> <li>• Type: Technical</li> <li>• Sources affected: Transport</li> <li>• Spatial scale: local</li> <li>• Implementation date: 2008</li> <li>• Reduction timescale: Long term</li> <li>• Regulatory: No</li> <li>• Smarter Choices (c) : Yes</li> <li>• Reference (d): Local_zone2_Birmingham_AQActionplan_1</li> </ul>
Birmingham	Local_Birmingham_E 4	Promote Travelwise via planning conditions	User planning conditions to promote Travelwise	<ul style="list-style-type: none"> <li>• Type: Technical</li> <li>• Sources affected: Transport</li> <li>• Spatial scale: local</li> <li>• Implementation date: 2007</li> <li>• Reduction timescale: Long term</li> <li>• Regulatory: No</li> <li>• Smarter Choices (c) : Yes</li> <li>• Reference (d): Local_zone2_Birmingham_AQActionplan_1</li> </ul>
Birmingham	Local_Birmingham_G 5	Partnership working to promote Travelwise	Work with partners to develop a standardised approach to the Travelwise initiative across the West Mids	<ul style="list-style-type: none"> <li>• Type: Technical</li> <li>• Sources affected: Transport</li> <li>• Spatial scale: local</li> <li>• Implementation date: 2007</li> <li>• Reduction timescale: Long term</li> <li>• Regulatory: No</li> <li>• Smarter Choices (c) : Yes</li> <li>• Reference (d): Local_zone2_Birmingham_AQActionplan_1</li> </ul>
Birmingham	Local_Birmingham_G 6	Partnership working to promote travel plans	Council will work with partners to encourage Travel Plans for schools, employers, hospitals	<ul style="list-style-type: none"> <li>• Type: Technical</li> <li>• Sources affected: Transport</li> <li>• Spatial scale: local</li> <li>• Implementation date: 2007</li> <li>• Reduction timescale: Long term</li> </ul>



LA (a)	Measure code (b)	Title	Description	Other information
				<ul style="list-style-type: none"> <li>• Regulatory: No</li> <li>• Smarter Choices (c) : Yes</li> <li>• Reference (d): Local_zone2_Birmingham_AQActionplan_1</li> </ul>
Birmingham	Local_Birmingham_H 1	Incident response	HA will deliver a 20 min response time to incidents (previously 60 minutes)	<ul style="list-style-type: none"> <li>• Type: Technical</li> <li>• Sources affected: Transport</li> <li>• Spatial scale: local</li> <li>• Implementation date: 2004</li> <li>• Reduction timescale: Long term</li> <li>• Regulatory: No</li> <li>• Smarter Choices (c) : No</li> <li>• Reference (d): Local_zone2_Birmingham_AQActionplan_1</li> </ul>
Birmingham	Local_Birmingham_H 2	Incident response contingency	HA will implement a improved system of incident contingency planning	<ul style="list-style-type: none"> <li>• Type: Technical</li> <li>• Sources affected: Transport</li> <li>• Spatial scale: local</li> <li>• Implementation date: 2007</li> <li>• Reduction timescale: Long term</li> <li>• Regulatory: No</li> <li>• Smarter Choices (c) : No</li> <li>• Reference (d): Local_zone2_Birmingham_AQActionplan_1</li> </ul>
Birmingham	Local_Birmingham_E 5	Traffic Management	HA will implement active traffic management on the M42	<ul style="list-style-type: none"> <li>• Type: Technical</li> <li>• Sources affected: Transport</li> <li>• Spatial scale: local</li> <li>• Implementation date: 2007</li> <li>• Reduction timescale: Long term</li> <li>• Regulatory: No</li> <li>• Smarter Choices (c) : No</li> <li>• Reference (d): Local_zone2_Birmingham_AQActionplan_1</li> </ul>
Birmingham	Local_Birmingham_E 6	Red Route	Council will undertake demonstration of 'Red Route' bus lanes on A34 and look to roll-out across the network	<ul style="list-style-type: none"> <li>• Type: Technical</li> <li>• Sources affected: Transport</li> <li>• Spatial scale: local</li> <li>• Implementation date: 2007</li> <li>• Reduction timescale: Long term</li> <li>• Regulatory: No</li> <li>• Smarter Choices (c) : Yes</li> <li>• Reference (d): Local_zone2_Birmingham_AQActionplan_1</li> </ul>
Birmingham	Local_Birmingham_A 3	UTC	Council will participate in dev of UTC for West Mids to link / fill gap between existing urban with HA systems.	<ul style="list-style-type: none"> <li>• Type: Technical</li> <li>• Sources affected: Transport</li> </ul>

LA (a)	Measure code (b)	Title	Description	Other information
				<ul style="list-style-type: none"> <li>• Spatial scale: local</li> <li>• Implementation date: 2009</li> <li>• Reduction timescale: Long term</li> <li>• Regulatory: No</li> <li>• Smarter Choices (c) : No</li> <li>• Reference (d): Local_zone2_Birmingham_AQActionplan_1</li> </ul>
Birmingham	Local_Birmingham_G 7	Showcase Extensions	Showcase and Super Showcase extensions and improvements	<ul style="list-style-type: none"> <li>• Type: Technical</li> <li>• Sources affected: Transport</li> <li>• Spatial scale: local</li> <li>• Implementation date: 2006</li> <li>• Reduction timescale: Long term</li> <li>• Regulatory: No</li> <li>• Smarter Choices (c) : Yes</li> <li>• Reference (d): Local_zone2_Birmingham_AQActionplan_1</li> </ul>
Birmingham	Local_Birmingham_H 3	Bus lane enforcement	Increased bus lane enforcement (use bus lane cameras)	<ul style="list-style-type: none"> <li>• Type: Technical</li> <li>• Sources affected: Transport</li> <li>• Spatial scale: local</li> <li>• Implementation date: 2007</li> <li>• Reduction timescale: Long term</li> <li>• Regulatory: No</li> <li>• Smarter Choices (c) : No</li> <li>• Reference (d): Local_zone2_Birmingham_AQActionplan_1</li> </ul>
Birmingham	Local_Birmingham_D 3	Park and Ride	Support West Midlands LTP by looking for bus-based park and ride sites where opp. Exists	<ul style="list-style-type: none"> <li>• Type: Technical</li> <li>• Sources affected: Transport</li> <li>• Spatial scale: local</li> <li>• Implementation date: 2007</li> <li>• Reduction timescale: Long term</li> <li>• Regulatory: No</li> <li>• Smarter Choices (c) : Yes</li> <li>• Reference (d): Local_zone2_Birmingham_AQActionplan_1</li> </ul>
Birmingham	Local_Birmingham_H 4	Centro	Support CENTRO in communications strategy in respect of PT	<ul style="list-style-type: none"> <li>• Type: Technical</li> <li>• Sources affected: Transport</li> <li>• Spatial scale: local</li> <li>• Implementation date: 2007</li> <li>• Reduction timescale: Long term</li> <li>• Regulatory: No</li> <li>• Smarter Choices (c) : Yes</li> <li>• Reference (d):</li> </ul>

LA (a)	Measure code (b)	Title	Description	Other information
				Local_zone2_Birmingham_AQActionplan_1
Birmingham	Local_Birmingham_H 5	Assessment of Electrification of rail	Reduction of pollution from Heavy Rail by electrification	<ul style="list-style-type: none"> <li>• Type: Technical</li> <li>• Sources affected: Transport</li> <li>• Spatial scale: local</li> <li>• Implementation date: 2007</li> <li>• Reduction timescale: Long term</li> <li>• Regulatory: No</li> <li>• Smarter Choices (c) : No</li> <li>• Reference (d): Local_zone2_Birmingham_AQActionplan_1</li> </ul>
Birmingham	Local_Birmingham_H 6	Lobby for extensions to heavy rail network	Extension of heavy rail network by lobbying	<ul style="list-style-type: none"> <li>• Type: Technical</li> <li>• Sources affected: Transport</li> <li>• Spatial scale: local</li> <li>• Implementation date: 2007</li> <li>• Reduction timescale: Long term</li> <li>• Regulatory: No</li> <li>• Smarter Choices (c) : No</li> <li>• Reference (d): Local_zone2_Birmingham_AQActionplan_1</li> </ul>
Birmingham	Local_Birmingham_H 7	Rail Capacity	Increase in passenger capacity of rail network by bidding for funding	<ul style="list-style-type: none"> <li>• Type: Technical</li> <li>• Sources affected: Transport</li> <li>• Spatial scale: local</li> <li>• Implementation date: 2009</li> <li>• Reduction timescale: Long term</li> <li>• Regulatory: No</li> <li>• Smarter Choices (c) : Yes</li> <li>• Reference (d): Local_zone2_Birmingham_AQActionplan_1</li> </ul>
Birmingham	Local_Birmingham_H 8	Improve rail freight facilities	Improve rail freight facilities by supporting schemes	<ul style="list-style-type: none"> <li>• Type: Technical</li> <li>• Sources affected: Transport</li> <li>• Spatial scale: local</li> <li>• Implementation date: 2008</li> <li>• Reduction timescale: Long term</li> <li>• Regulatory: No</li> <li>• Smarter Choices (c) : No</li> <li>• Reference (d): Local_zone2_Birmingham_AQActionplan_1</li> </ul>
Birmingham	Local_Birmingham_D 4	Park and Ride	Increase P&R at rail stations	<ul style="list-style-type: none"> <li>• Type: Technical</li> <li>• Sources affected: Transport</li> <li>• Spatial scale: local</li> <li>• Implementation date: 2007</li> <li>• Reduction timescale: Long term</li> </ul>

LA (a)	Measure code (b)	Title	Description	Other information
				<ul style="list-style-type: none"> <li>• Regulatory: No</li> <li>• Smarter Choices (c) : Yes</li> <li>• Reference (d): Local_zone2_Birmingham_AQActionplan_1</li> </ul>
Birmingham	Local_Birmingham_A4	Traffic management	HA will implement an improved scheme of diversion routing off network	<ul style="list-style-type: none"> <li>• Type: Technical</li> <li>• Sources affected: Transport</li> <li>• Spatial scale: local</li> <li>• Implementation date: 2007</li> <li>• Reduction timescale: Long term</li> <li>• Regulatory: No</li> <li>• Smarter Choices (c) : No</li> <li>• Reference (d): Local_zone2_Birmingham_AQActionplan_1</li> </ul>
Birmingham	Local_Birmingham_F1	Provision of traffic information	Council will make improvements to Matisse website providing traffic information	<ul style="list-style-type: none"> <li>• Type: Technical</li> <li>• Sources affected: Transport</li> <li>• Spatial scale: local</li> <li>• Implementation date: 2007</li> <li>• Reduction timescale: Long term</li> <li>• Regulatory: No</li> <li>• Smarter Choices (c) : No</li> <li>• Reference (d): Local_zone2_Birmingham_AQActionplan_1</li> </ul>
Birmingham	Local_Birmingham_F2	Idling enforcement	Discourage drivers from unnecessary idling	<ul style="list-style-type: none"> <li>• Type: Technical</li> <li>• Sources affected: Transport</li> <li>• Spatial scale: local</li> <li>• Implementation date: 2007</li> <li>• Reduction timescale: Long term</li> <li>• Regulatory: No</li> <li>• Smarter Choices (c) : No</li> <li>• Reference (d): Local_zone2_Birmingham_AQActionplan_1</li> </ul>
Dudley	Local_Dudley_H1	Pedestrianisation of Mill Street	Pedestrianisation of Mill Street	<ul style="list-style-type: none"> <li>• Type: Technical</li> <li>• Sources affected: Transport</li> <li>• Spatial scale: local</li> <li>• Implementation date: 2008</li> <li>• Reduction timescale: Long term</li> <li>• Regulatory: No</li> <li>• Smarter Choices (c) : Yes</li> <li>• Reference (d): Local_zone2_Dudley_AQActionplan_1</li> </ul>
Dudley	Local_Dudley_E1	Improved crossing facilities on High	Improved crossing facilities on High Street	<ul style="list-style-type: none"> <li>• Type: Technical</li> <li>• Sources affected: Transport</li> <li>• Spatial scale: local</li> </ul>

LA (a)	Measure code (b)	Title	Description	Other information
		Street/ new junctions/ Provision of crossing points at 5 new junctions (with parrallel route)		<ul style="list-style-type: none"> <li>• Implementation date: 2008</li> <li>• Reduction timescale: Short term</li> <li>• Regulatory: No</li> <li>• Smarter Choices (c) : Yes</li> <li>• Reference (d): Local_zone2_Dudley_AQActionplan_1</li> </ul>
Dudley	Local_Dudley_H2	Widened footpaths along 6 roads	Widened footpaths along 6 roads	<ul style="list-style-type: none"> <li>• Type: Technical</li> <li>• Sources affected: Transport</li> <li>• Spatial scale: local</li> <li>• Implementation date: 2008</li> <li>• Reduction timescale: Short term</li> <li>• Regulatory: No</li> <li>• Smarter Choices (c) : Yes</li> <li>• Reference (d): Local_zone2_Dudley_AQActionplan_1</li> </ul>
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	<ul style="list-style-type: none"> <li>• Type: Technical</li> <li>• Sources affected: Transport</li> <li>• Spatial scale: local</li> <li>• Implementation date: 2008</li> <li>• Reduction timescale: Short term</li> <li>• Regulatory: No</li> <li>• Smarter Choices (c) : Yes</li> <li>• Reference (d): Local_zone2_Dudley_AQActionplan_1</li> </ul>
Dudley	Local_Dudley_G1	New cycle paths	New cycle paths	<ul style="list-style-type: none"> <li>• Type: Technical</li> <li>• Sources affected: Transport</li> <li>• Spatial scale: local</li> <li>• Implementation date: 2008</li> <li>• Reduction timescale: Medium term</li> <li>• Regulatory: No</li> <li>• Smarter Choices (c) : Yes</li> <li>• Reference (d): Local_zone2_Dudley_AQActionplan_1</li> </ul>
Dudley	Local_Dudley_G2	Cycling provisions	New cycle parking. Improved cyclist facilities including provision of new paths, improvements in parking and signage	<ul style="list-style-type: none"> <li>• Type: Technical</li> <li>• Sources affected: Transport</li> <li>• Spatial scale: local</li> <li>• Implementation date: 2008</li> <li>• Reduction timescale: Medium term</li> <li>• Regulatory: No</li> <li>• Smarter Choices (c) : Yes</li> <li>• Reference (d): Local_zone2_Dudley_AQActionplan_1</li> </ul>
Dudley	Local_Dudley_E2	Junction re-alignment of 5-ways Junction,	Improvement of junctions on Pensnett Rd. • Brockmoor High St / John St/Bank St / Pensnett, Pensnett Road / Hickman Rd, Bryce Rd / Pensnett Rd	<ul style="list-style-type: none"> <li>• Type: Technical</li> <li>• Sources affected: Transport</li> <li>• Spatial scale: local</li> </ul>

LA (a)	Measure code (b)	Title	Description	Other information
		new crossing points	junction; Five ways junction High St./Moor St/Mill St./Cottage St. • High St./Level St./Bank St.	<ul style="list-style-type: none"> <li>• Implementation date: 2008</li> <li>• Reduction timescale: Medium term</li> <li>• Regulatory: No</li> <li>• Smarter Choices (c) : Yes</li> <li>• Reference (d): Local_zone2_Dudley_AQActionplan_1</li> </ul>
Dudley	Local_Dudley_G3	Provision of bus priority measures	Bus priority measures at Five Ways junction and 4 further junctions	<ul style="list-style-type: none"> <li>• Type: Technical</li> <li>• Sources affected: Transport</li> <li>• Spatial scale: local</li> <li>• Implementation date: 2008</li> <li>• Reduction timescale: Medium term</li> <li>• Regulatory: No</li> <li>• Smarter Choices (c) : Yes</li> <li>• Reference (d): Local_zone2_Dudley_AQActionplan_1</li> </ul>
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.	<ul style="list-style-type: none"> <li>• Type: Technical</li> <li>• Sources affected: Transport</li> <li>• Spatial scale: local</li> <li>• Implementation date: 2008</li> <li>• Reduction timescale: Medium term</li> <li>• Regulatory: No</li> <li>• Smarter Choices (c) : Yes</li> <li>• Reference (d): Local_zone2_Dudley_AQActionplan_1</li> </ul>
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	<ul style="list-style-type: none"> <li>• Type: Technical; Education/information</li> <li>• Sources affected: Transport</li> <li>• Spatial scale: local</li> <li>• Implementation date: 2008</li> <li>• Reduction timescale: Medium term</li> <li>• Regulatory: No</li> <li>• Smarter Choices (c) : Yes</li> <li>• Reference (d): Local_zone2_Dudley_AQActionplan_1</li> </ul>
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.	<ul style="list-style-type: none"> <li>• Type: Technical; Education/information</li> <li>• Sources affected: Transport; Other</li> <li>• Spatial scale: local</li> <li>• Implementation date: 2008</li> <li>• Reduction timescale: Long term</li> <li>• Regulatory: No</li> <li>• Smarter Choices (c) : No</li> <li>• Reference (d): Local_zone2_NorthWarwickshire_AQActionplan_1</li> </ul>
North Warwickshire	Local_North_Warwickshire_E2	Integration of AQ into Local Plan and the provision of	Introduce new or clarified policies into [draft] Local Plan or as Supplementary Planning Guidance (Local Policy) for the purposes as stated above.	<ul style="list-style-type: none"> <li>• Type: Technical; Education/information</li> <li>• Sources affected: Transport; Industry including heating and power production; Commercial and residential sources</li> </ul>

LA (a)	Measure code (b)	Title	Description	Other information
		supplementary planning guidance		<ul style="list-style-type: none"> <li>• Spatial scale: local</li> <li>• Implementation date: 2008</li> <li>• Reduction timescale: Medium term</li> <li>• Regulatory: No</li> <li>• Smarter Choices (c) : No</li> <li>• Reference (d): Local_zone2_NorthWarwickshire_AQActionplan_1</li> </ul>
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.	<ul style="list-style-type: none"> <li>• Type: Technical</li> <li>• Sources affected: Transport</li> <li>• Spatial scale: local</li> <li>• Implementation date: 2007</li> <li>• Reduction timescale: Long term</li> <li>• Regulatory: No</li> <li>• Smarter Choices (c) : No</li> <li>• Reference (d): Local_zone2_Sandwell_AQActionplan_1</li> </ul>
Sandwell	Local_Sandwell_H1	Economical Driving Strategy	Sandwell MBC will develop a promotional strategy to encourage drivers to drive economically.	<ul style="list-style-type: none"> <li>• Type: Education/information</li> <li>• Sources affected: Transport</li> <li>• Spatial scale: local</li> <li>• Implementation date: 2007</li> <li>• Reduction timescale: Medium term</li> <li>• Regulatory: No</li> <li>• Smarter Choices (c) : Yes</li> <li>• Reference (d): Local_zone2_Sandwell_AQActionplan_1</li> </ul>
Sandwell	Local_Sandwell_F1	Idling Enforcement	Sandwell MBC will develop a strategy to encourage drivers not to allow their engines to idle.	<ul style="list-style-type: none"> <li>• Type: Technical; Education/information</li> <li>• Sources affected: Transport</li> <li>• Spatial scale: local</li> <li>• Implementation date: 2007</li> <li>• Reduction timescale: Short term</li> <li>• Regulatory: No</li> <li>• Smarter Choices (c) : No</li> <li>• Reference (d): Local_zone2_Sandwell_AQActionplan_1</li> </ul>
Sandwell	Local_Sandwell_F2	Vehicle Emissions Testing	Vehicle Emissions Testing	<ul style="list-style-type: none"> <li>• Type: Technical; Education/information</li> <li>• Sources affected: Transport</li> <li>• Spatial scale: local</li> <li>• Implementation date: 2007</li> <li>• Reduction timescale: Short term</li> <li>• Regulatory: No</li> <li>• Smarter Choices (c) : No</li> <li>• Reference (d): Local_zone2_Sandwell_AQActionplan_1</li> </ul>
Sandwell	Local_Sandwell_E1	Local Transport Plan	West Midlands Local Transport Plan	<ul style="list-style-type: none"> <li>• Type: Technical; Education/information</li> <li>• Sources affected: Transport</li> <li>• Spatial scale: local</li> </ul>

LA (a)	Measure code (b)	Title	Description	Other information
				<ul style="list-style-type: none"> <li>• Implementation date: 2006</li> <li>• Reduction timescale: Long term</li> <li>• Regulatory: No</li> <li>• Smarter Choices (c) : Yes</li> <li>• Reference (d): Local_zone2_Sandwell_AQActionplan_1</li> </ul>
Sandwell	Local_Sandwell_G1	Travel Plans	Encourage travel plans for employers, schools & hospitals	<ul style="list-style-type: none"> <li>• Type: Education/information</li> <li>• Sources affected: Transport</li> <li>• Spatial scale: local</li> <li>• Implementation date: 2006</li> <li>• Reduction timescale: Long term</li> <li>• Regulatory: No</li> <li>• Smarter Choices (c) : Yes</li> <li>• Reference (d): Local_zone2_Sandwell_AQActionplan_1</li> </ul>
Sandwell	Local_Sandwell_F3	Provision of information	Improving access to information regarding transport option	<ul style="list-style-type: none"> <li>• Type: Education/information</li> <li>• Sources affected: Transport</li> <li>• Spatial scale: local</li> <li>• Implementation date: 2006</li> <li>• Reduction timescale: Short term</li> <li>• Regulatory: No</li> <li>• Smarter Choices (c) : Yes</li> <li>• Reference (d): Local_zone2_Sandwell_AQActionplan_1</li> </ul>
Sandwell	Local_Sandwell_G2	Midland Metro	Extensions to Midland Metro	<ul style="list-style-type: none"> <li>• Type: Technical; Education/information</li> <li>• Sources affected: Transport</li> <li>• Spatial scale: local</li> <li>• Implementation date: 2011/2012</li> <li>• Reduction timescale: Long term</li> <li>• Regulatory: No</li> <li>• Smarter Choices (c) : Yes</li> <li>• Reference (d): Local_zone2_Sandwell_AQActionplan_1</li> </ul>
Sandwell	Local_Sandwell_F4	Promotion of Public Transport	Improvements of branding to increase attractiveness of public transport	<ul style="list-style-type: none"> <li>• Type: Education/information</li> <li>• Sources affected: Transport</li> <li>• Spatial scale: local</li> <li>• Implementation date: 2007</li> <li>• Reduction timescale: Short term</li> <li>• Regulatory: No</li> <li>• Smarter Choices (c) : Yes</li> <li>• Reference (d): Local_zone2_Sandwell_AQActionplan_1</li> </ul>
Sandwell	Local_Sandwell_E2	Red Routes	Introduction of Red Routes	<ul style="list-style-type: none"> <li>• Type: Technical</li> <li>• Sources affected: Transport</li> <li>• Spatial scale: local</li> <li>• Implementation date: 2007</li> <li>• Reduction timescale: Long term</li> </ul>



LA (a)	Measure code (b)	Title	Description	Other information
				<ul style="list-style-type: none"> <li>• Regulatory: No</li> <li>• Smarter Choices (c) : Yes</li> <li>• Reference (d): Local_zone2_Sandwell_AQActionplan_1</li> </ul>
Sandwell	Local_Sandwell_A2	Urban Traffic Control Systems	Improvement of Urban Traffic Control Systems	<ul style="list-style-type: none"> <li>• Type: Technical</li> <li>• Sources affected: Transport</li> <li>• Spatial scale: local</li> <li>• Implementation date: 2007</li> <li>• Reduction timescale: Long term</li> <li>• Regulatory: No</li> <li>• Smarter Choices (c) : No</li> <li>• Reference (d): Local_zone2_Sandwell_AQActionplan_1</li> </ul>
Sandwell	Local_Sandwell_H2	Incident Response	Reduce incident response times to 20 minutes	<ul style="list-style-type: none"> <li>• Type: Technical</li> <li>• Sources affected: Transport</li> <li>• Spatial scale: local</li> <li>• Implementation date: 2007</li> <li>• Reduction timescale: Short term</li> <li>• Regulatory: No</li> <li>• Smarter Choices (c) : No</li> <li>• Reference (d): Local_zone2_Sandwell_AQActionplan_1</li> </ul>
Sandwell	Local_Sandwell_A3	Improved Bus Transport	Bus Showcase improvements	<ul style="list-style-type: none"> <li>• Type: Technical; Education/information</li> <li>• Sources affected: Transport</li> <li>• Spatial scale: local</li> <li>• Implementation date: 2007</li> <li>• Reduction timescale: Long term</li> <li>• Regulatory: No</li> <li>• Smarter Choices (c) : Yes</li> <li>• Reference (d): Local_zone2_Sandwell_AQActionplan_1</li> </ul>
Sandwell	Local_Sandwell_A4	Burnt Tree Island improvements	Burnt Tree Island improvements	<ul style="list-style-type: none"> <li>• Type: Technical</li> <li>• Sources affected: Transport</li> <li>• Spatial scale: local</li> <li>• Implementation date: 2007</li> <li>• Reduction timescale: Long term</li> <li>• Regulatory: No</li> <li>• Smarter Choices (c) : No</li> <li>• Reference (d): Local_zone2_Sandwell_AQActionplan_1</li> </ul>
Sandwell	Local_Sandwell_E3	Owen Street Level Crossing Relief Road	Owen Street Level Crossing Relief Road	<ul style="list-style-type: none"> <li>• Type: Technical</li> <li>• Sources affected: Transport</li> <li>• Spatial scale: local</li> <li>• Implementation date: 2007</li> <li>• Reduction timescale: Long term</li> <li>• Regulatory: No</li> <li>• Smarter Choices (c) : No</li> </ul>

LA (a)	Measure code (b)	Title	Description	Other information
Sandwell	Local_Sandwell_E4	Cradley Health by-pass	Cradley Health by-pass	<ul style="list-style-type: none"> <li>• Reference (d): Local_zone2_Sandwell_AQActionplan_1</li> <li>• Type: Technical</li> <li>• Sources affected: Transport</li> <li>• Spatial scale: local</li> <li>• Implementation date: 2007</li> <li>• Reduction timescale: Long term</li> <li>• Regulatory: No</li> <li>• Smarter Choices (c) : No</li> <li>• Reference (d): Local_zone2_Sandwell_AQActionplan_1</li> </ul>
Sandwell	Local_Sandwell_E5	A41 Expressway / A4031 All Saints Way Junction Improvements	A41 Expressway / A4031 All Saints Way Junction Improvements	<ul style="list-style-type: none"> <li>• Type: Technical</li> <li>• Sources affected: Transport</li> <li>• Spatial scale: local</li> <li>• Implementation date: 2007</li> <li>• Reduction timescale: Long term</li> <li>• Regulatory: No</li> <li>• Smarter Choices (c) : No</li> <li>• Reference (d): Local_zone2_Sandwell_AQActionplan_1</li> </ul>
Sandwell	Local_Sandwell_B1	Sandwell Energy Efficiency Advice Centre	Sandwell Energy Efficiency Advice Centre	<ul style="list-style-type: none"> <li>• Type: Education/information</li> <li>• Sources affected: Industry including heating and power production; Commercial and residential sources</li> <li>• Spatial scale: local</li> <li>• Implementation date: 1993</li> <li>• Reduction timescale: Long term</li> <li>• Regulatory: No</li> <li>• Smarter Choices (c) : No</li> <li>• Reference (d): Local_zone2_Sandwell_AQActionplan_1</li> </ul>
Sandwell	Local_Sandwell_F5	Business Energy Advice	Business in Sandwell Network of Environment Support (BISNES) Energy Advice Service	<ul style="list-style-type: none"> <li>• Type: Education/information</li> <li>• Sources affected: Industry including heating and power production; Commercial and residential sources</li> <li>• Spatial scale: local</li> <li>• Implementation date: 2005</li> <li>• Reduction timescale: Long term</li> <li>• Regulatory: No</li> <li>• Smarter Choices (c) : No</li> <li>• Reference (d): Local_zone2_Sandwell_AQActionplan_1</li> </ul>
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.	<ul style="list-style-type: none"> <li>• Type: Education/information</li> <li>• Sources affected: Industry including heating and power production; Commercial and residential sources</li> <li>• Spatial scale: local</li> <li>• Implementation date: 2007</li> <li>• Reduction timescale: Long term</li> <li>• Regulatory: No</li> </ul>

LA (a)	Measure code (b)	Title	Description	Other information
				<ul style="list-style-type: none"> <li>• Smarter Choices (c) : No</li> <li>• Reference (d): Local_zone2_Sandwell_AQActionplan_1</li> </ul>
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	<ul style="list-style-type: none"> <li>• Type: Education/information</li> <li>• Sources affected: Industry including heating and power production; Commercial and residential sources</li> <li>• Spatial scale: local</li> <li>• Implementation date: 2007</li> <li>• Reduction timescale: Long term</li> <li>• Regulatory: No</li> <li>• Smarter Choices (c) : No</li> <li>• Reference (d): Local_zone2_Sandwell_AQActionplan_1</li> </ul>
Sandwell	Local_Sandwell_G3	Promotion of walking/ cycling	Promotion of walking/ cycling	<ul style="list-style-type: none"> <li>• Type: Education/information</li> <li>• Sources affected: Transport</li> <li>• Spatial scale: local</li> <li>• Implementation date: 2007</li> <li>• Reduction timescale: Short term</li> <li>• Regulatory: No</li> <li>• Smarter Choices (c) : Yes</li> <li>• Reference (d): Local_zone2_Sandwell_AQActionplan_1</li> </ul>
Sandwell	Local_Sandwell_G4	Cycling Strategy	Cycling Strategy	<ul style="list-style-type: none"> <li>• Type: Education/information</li> <li>• Sources affected: Transport</li> <li>• Spatial scale: local</li> <li>• Implementation date: 1999</li> <li>• Reduction timescale: Long term</li> <li>• Regulatory: No</li> <li>• Smarter Choices (c) : Yes</li> <li>• Reference (d): Local_zone2_Sandwell_AQActionplan_1</li> </ul>
Sandwell	Local_Sandwell_A5	Car Share Scheme	Sandwell car share scheme	<ul style="list-style-type: none"> <li>• Type: Education/information</li> <li>• Sources affected: Transport</li> <li>• Spatial scale: local</li> <li>• Implementation date: 2005</li> <li>• Reduction timescale: Long term</li> <li>• Regulatory: No</li> <li>• Smarter Choices (c) : Yes</li> <li>• Reference (d): Local_zone2_Sandwell_AQActionplan_1</li> </ul>
Sandwell	Local_Sandwell_H3	Encourage car sharing schemes	Encourage car sharing schemes across the borough	<ul style="list-style-type: none"> <li>• Type: Education/information</li> <li>• Sources affected: Transport</li> <li>• Spatial scale: local</li> <li>• Implementation date: 2007</li> <li>• Reduction timescale: Long term</li> <li>• Regulatory: No</li> <li>• Smarter Choices (c) : Yes</li> </ul>

LA (a)	Measure code (b)	Title	Description	Other information
Walsall	Local_Walsall_E1	Improving the road network	Improving the road network to reduce congestion	<ul style="list-style-type: none"> <li>• Reference (d): Local_zone2_Sandwell_AQActionplan_1</li> <li>• Type: Technical</li> <li>• Sources affected: Transport</li> <li>• Spatial scale: local</li> <li>• Implementation date: 2009</li> <li>• Reduction timescale: Long term</li> <li>• Regulatory: No</li> <li>• Smarter Choices (c) : No</li> <li>• Reference (d): Local_zone2_Wasall_AQActionplan_1</li> </ul>
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;	<ul style="list-style-type: none"> <li>• Type: Technical</li> <li>• Sources affected: Transport</li> <li>• Spatial scale: local</li> <li>• Implementation date: 2009</li> <li>• Reduction timescale: Short term</li> <li>• Regulatory: No</li> <li>• Smarter Choices (c) : No</li> <li>• Reference (d): Local_zone2_Wasall_AQActionplan_1</li> </ul>
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;	<ul style="list-style-type: none"> <li>• Type: Technical</li> <li>• Sources affected: Transport</li> <li>• Spatial scale: local</li> <li>• Implementation date: 2009</li> <li>• Reduction timescale: Short term</li> <li>• Regulatory: No</li> <li>• Smarter Choices (c) : No</li> <li>• Reference (d): Local_zone2_Wasall_AQActionplan_1</li> </ul>
Walsall	Local_Walsall_G1	Public transport improvements	Improving public transport to reduce traffic volumes	<ul style="list-style-type: none"> <li>• Type: Technical</li> <li>• Sources affected: Transport</li> <li>• Spatial scale: local</li> <li>• Implementation date: 2009</li> <li>• Reduction timescale: Long term</li> <li>• Regulatory: No</li> <li>• Smarter Choices (c) : Yes</li> <li>• Reference (d): Local_zone2_Wasall_AQActionplan_1</li> </ul>
Walsall	Local_Walsall_G2	Promotion of alternative forms of transport	Promotion of alternative methods of transport and transport initiatives	<ul style="list-style-type: none"> <li>• Type: Education/information</li> <li>• Sources affected: Transport</li> <li>• Spatial scale: local</li> <li>• Implementation date: 2009</li> <li>• Reduction timescale: Short term</li> <li>• Regulatory: No</li> <li>• Smarter Choices (c) : Yes</li> <li>• Reference (d): Local_zone2_Wasall_AQActionplan_1</li> </ul>

LA (a)	Measure code (b)	Title	Description	Other information
Walsall	Local_Walsall_E2	Bus lane sharing for HGVs	Bus lane sharing for HGVs	<ul style="list-style-type: none"> <li>• Type: Technical</li> <li>• Sources affected: Transport</li> <li>• Spatial scale: local</li> <li>• Implementation date: 2009</li> <li>• Reduction timescale: Short term</li> <li>• Regulatory: No</li> <li>• Smarter Choices (c) : No</li> <li>• Reference (d): Local_zone2_Wasall_AQActionplan_1</li> </ul>
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.	<ul style="list-style-type: none"> <li>• Type: Education/information</li> <li>• Sources affected: Transport</li> <li>• Spatial scale: local</li> <li>• Implementation date: 2009</li> <li>• Reduction timescale: Short term</li> <li>• Regulatory: No</li> <li>• Smarter Choices (c) : No</li> <li>• Reference (d): Local_zone2_Wasall_AQActionplan_1</li> </ul>
Wolverhampton	Local_Wolverhampton_B1	Energy Efficiency Strategy	Encourage Wolverhampton homes (ALMO) to continue its energy efficiency strategy for residential properties (Action 18)	<ul style="list-style-type: none"> <li>• Type: Technical; Education/information</li> <li>• Sources affected: Commercial and residential sources</li> <li>• Spatial scale: local</li> <li>• Implementation date: 2006/2007</li> <li>• Reduction timescale: Long term</li> <li>• Regulatory: No</li> <li>• Smarter Choices (c) : No</li> <li>• Reference (d): Local_zone2_Wolverhampton_AQActionplan_1</li> </ul>
Wolverhampton	Local_Wolverhampton_B2	Chimneys and Bonfires	Control of industrial emissions under PPC. Control of smoke from Chimneys under The Clean Air Act (Action 16). Control of chimney heights under The Clean Air Act (Action 17) Control of bonfires under The Clean Air Act and Environmental Protection	<ul style="list-style-type: none"> <li>• Type: Economic/fiscal; Technical; Education/information</li> <li>• Sources affected: Industry including heating and power production; Commercial and residential sources</li> <li>• Spatial scale: local</li> <li>• Implementation date: 1993</li> <li>• Reduction timescale: Long term</li> <li>• Regulatory: Yes</li> <li>• Smarter Choices (c) : No</li> <li>• Reference (d): Local_zone2_Wolverhampton_AQActionplan_1</li> </ul>
Wolverhampton	Local_Wolverhampton_H1	Rail Freight	Lobby for increase in rail freight	<ul style="list-style-type: none"> <li>• Type: Education/information</li> <li>• Sources affected: Transport</li> <li>• Spatial scale: local</li> <li>• Implementation date:</li> <li>• Reduction timescale: Long term</li> <li>• Regulatory: No</li> <li>• Smarter Choices (c) : No</li> </ul>

LA (a)	Measure code (b)	Title	Description	Other information
				<ul style="list-style-type: none"> <li>• Reference (d): Local_zone2_Wolverhampton_AQActionplan_1</li> </ul>
Wolverhampton	Local_Wolverhampton_H2	Passenger Rail Capacity	Increase in rail passenger capacity	<ul style="list-style-type: none"> <li>• Type: Technical</li> <li>• Sources affected: Transport</li> <li>• Spatial scale: local</li> <li>• Implementation date: 2006/2007</li> <li>• Reduction timescale: Long term</li> <li>• Regulatory: No</li> <li>• Smarter Choices (c) : Yes</li> <li>• Reference (d): Local_zone2_Wolverhampton_AQActionplan_1</li> </ul>
Wolverhampton	Local_Wolverhampton_G1	Promotion of Walking	Promote walking via WCC Walking Strategy. Promote cycling via WCC Cycle Strategy (Action 22)	<ul style="list-style-type: none"> <li>• Type: Education/information</li> <li>• Sources affected: Transport</li> <li>• Spatial scale: local</li> <li>• Implementation date: 2006/ 2007</li> <li>• Reduction timescale: Short term</li> <li>• Regulatory: No</li> <li>• Smarter Choices (c) : Yes</li> <li>• Reference (d): Local_zone2_Wolverhampton_AQActionplan_1</li> </ul>
Wolverhampton	Local_Wolverhampton_A1	Improve Council fleet	Favour low emission vehicles in the WCC fleet	<ul style="list-style-type: none"> <li>• Type: Technical</li> <li>• Sources affected: Transport</li> <li>• Spatial scale: local</li> <li>• Implementation date: 2006/ 2007</li> <li>• Reduction timescale: Long term</li> <li>• Regulatory: No</li> <li>• Smarter Choices (c) : No</li> <li>• Reference (d): Local_zone2_Wolverhampton_AQActionplan_1</li> </ul>
Wolverhampton	Local_Wolverhampton_H3	Improve rail freight capabilities	Improve rail freight capabilities	<ul style="list-style-type: none"> <li>• Type: Technical</li> <li>• Sources affected: Transport</li> <li>• Spatial scale: local</li> <li>• Implementation date: 2006/ 2007</li> <li>• Reduction timescale: Long term</li> <li>• Regulatory: No</li> <li>• Smarter Choices (c) : No</li> <li>• Reference (d): Local_zone2_Wolverhampton_AQActionplan_1</li> </ul>
Wolverhampton	Local_Wolverhampton_E1	Encourage city centre living	Encourage city centre living	<ul style="list-style-type: none"> <li>• Type: Education/information</li> <li>• Sources affected: Transport</li> <li>• Spatial scale: local</li> <li>• Implementation date: 2006/ 2007</li> </ul>

LA (a)	Measure code (b)	Title	Description	Other information
				<ul style="list-style-type: none"> <li>• Reduction timescale: Long term</li> <li>• Regulatory: No</li> <li>• Smarter Choices (c) : Yes</li> <li>• Reference (d): Local_zone2_Wolverhampton_AQActionplan_1</li> </ul>
Wolverhampton	Local_Wolverhampton_D1	Parking Management	Manage the number of car parking spaces 2. Investigate additional P&R sites (Action 20)	<ul style="list-style-type: none"> <li>• Type: Economic/fiscal; Technical; Education/information</li> <li>• Sources affected: Transport</li> <li>• Spatial scale: local</li> <li>• Implementation date: 2006/ 2007</li> <li>• Reduction timescale: Long term</li> <li>• Regulatory: No</li> <li>• Smarter Choices (c) : Yes</li> <li>• Reference (d): Local_zone2_Wolverhampton_AQActionplan_1</li> </ul>
Wolverhampton	Local_Wolverhampton_E2	Red Routes	Introduce demonstration 'red route'	<ul style="list-style-type: none"> <li>• Type: Technical</li> <li>• Sources affected: Transport</li> <li>• Spatial scale: local</li> <li>• Implementation date: 2006/ 2007</li> <li>• Reduction timescale: Long term</li> <li>• Regulatory: No</li> <li>• Smarter Choices (c) : No</li> <li>• Reference (d): Local_zone2_Wolverhampton_AQActionplan_1</li> </ul>
Wolverhampton	Local_Wolverhampton_F1	Idling Enforcement	Driver awareness campaign to discourage idling	<ul style="list-style-type: none"> <li>• Type: Technical; Education/information</li> <li>• Sources affected: Transport</li> <li>• Spatial scale: local</li> <li>• Implementation date: 2006/ 2007</li> <li>• Reduction timescale: Short term</li> <li>• Regulatory: No</li> <li>• Smarter Choices (c) : No</li> <li>• Reference (d): Local_zone2_Wolverhampton_AQActionplan_1</li> </ul>
Wolverhampton	Local_Wolverhampton_G2	Travelwise	Use planning conditions to promote Travelwise	<ul style="list-style-type: none"> <li>• Type: Education/information</li> <li>• Sources affected: Transport</li> <li>• Spatial scale: local</li> <li>• Implementation date: 2006/ 2007</li> <li>• Reduction timescale: Long term</li> <li>• Regulatory: No</li> <li>• Smarter Choices (c) : Yes</li> <li>• Reference (d): Local_zone2_Wolverhampton_AQActionplan_1</li> </ul>
Wolverhampton	Local_Wolverhampton	Improved bus	Bus route extension and improvements	<ul style="list-style-type: none"> <li>• Type: Technical; Education/information</li> </ul>

LA (a)	Measure code (b)	Title	Description	Other information
ton	n_G3	services		<ul style="list-style-type: none"> <li>• Sources affected: Transport</li> <li>• Spatial scale: local</li> <li>• Implementation date: 2006/ 2007</li> <li>• Reduction timescale: Long term</li> <li>• Regulatory: No</li> <li>• Smarter Choices (c) : No</li> <li>• Reference (d): Local_zone2_Wolverhampton_AQActionplan_1</li> </ul>
Wolverhampton	Local_Wolverhampton_G4	Bus Priority	Bus route extension and improvements, including bus priority at junctions (Action 4)	<ul style="list-style-type: none"> <li>• Type: Technical; Education/information</li> <li>• Sources affected: Transport</li> <li>• Spatial scale: local</li> <li>• Implementation date: 2006/2007</li> <li>• Reduction timescale: Long term</li> <li>• Regulatory: No</li> <li>• Smarter Choices (c) : No</li> <li>• Reference (d): Local_zone2_Wolverhampton_AQActionplan_1</li> </ul>
Wolverhampton	Local_Wolverhampton_H4	Roadside Emissions Testing Feasibility Study	Conduct a feasibility study into RET	<ul style="list-style-type: none"> <li>• Type: Technical; Education/information</li> <li>• Sources affected: Transport</li> <li>• Spatial scale: local</li> <li>• Implementation date: 2008</li> <li>• Reduction timescale: Short term</li> <li>• Regulatory: No</li> <li>• Smarter Choices (c) : No</li> <li>• Reference (d): Local_zone2_Wolverhampton_AQActionplan_1</li> </ul>
Wolverhampton	Local_Wolverhampton_E3	Improved Urban Traffic Management Control	Improvement of UTMC systems	<ul style="list-style-type: none"> <li>• Type: Technical</li> <li>• Sources affected: Transport</li> <li>• Spatial scale: local</li> <li>• Implementation date: 2006/2007</li> <li>• Reduction timescale: Long term</li> <li>• Regulatory: No</li> <li>• Smarter Choices (c) : No</li> <li>• Reference (d): Local_zone2_Wolverhampton_AQActionplan_1</li> </ul>

(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/NO2ten/>





