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Air Quality Plan for the achievement of EU air quality limit values for nitrogen dioxide (NO₂) in West Yorkshire Urban Area (UK0004)

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1. Introduction

1.1. This document

This document is the West Yorkshire Urban Area (UK0004) air quality plan for the achievement of the EU air quality limit values for nitrogen dioxide (NO₂).

This plan presents the following information:

- General information regarding the West Yorkshire Urban Area agglomeration zone
- Details of NO₂ exceedance situation(s) within the West Yorkshire 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 Yorkshire 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 NO₂ 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 NO₂ 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⁻³
- The hourly limit value: no more than 18 hourly exceedances of 200 µg m⁻³ in a calendar year

The Air Quality Directive stipulates that compliance with the NO₂ 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 Yorkshire 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 Yorkshire 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 NO₂ 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 NO₂ limit values is presented in section 6.

2. General Information about the Zone

2.1. Administrative information

Zone name: West Yorkshire Urban Area

Zone code: UK0004

Type of zone: agglomeration zone

Reference year: 2008

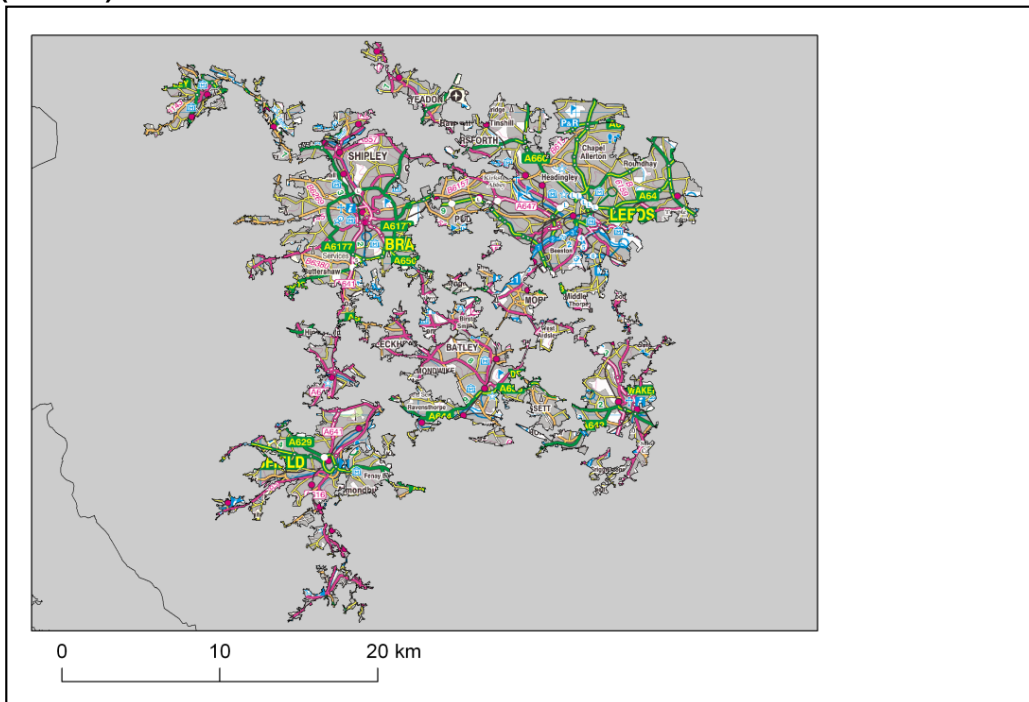
Extent of zone: Figure 1 shows the area covered by the West Yorkshire Urban Area agglomeration zone

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. Bradford Metropolitan District Council
2. Calderdale Metropolitan Borough Council
3. Kirklees Council
4. Leeds City Council
5. Wakefield Council

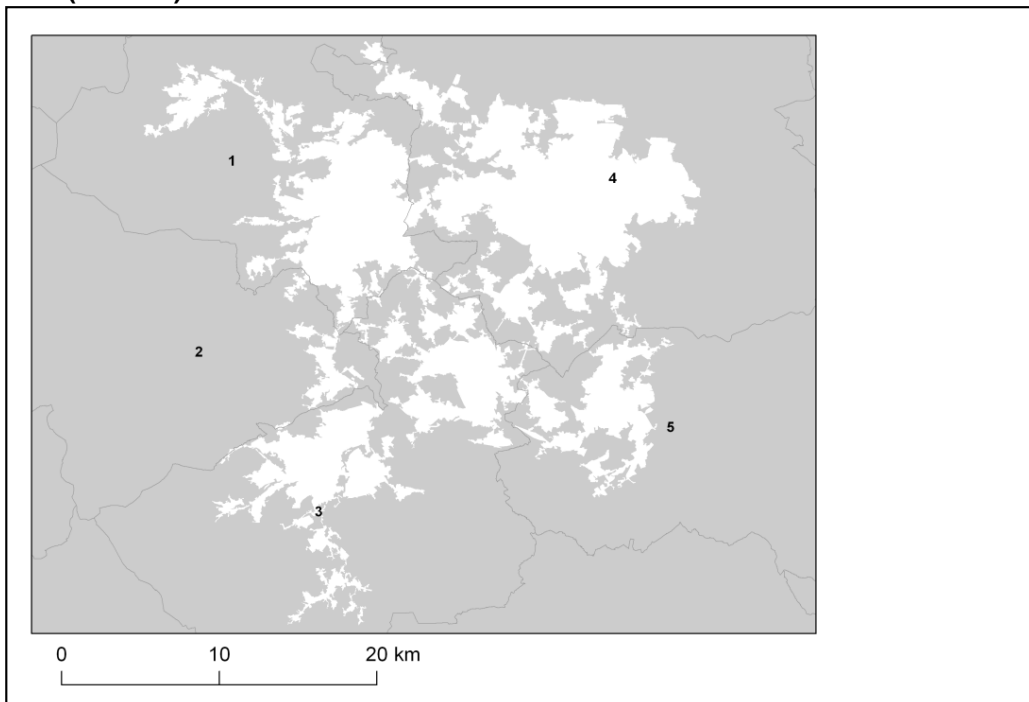
(Note: Local Authority boundaries do not necessarily coincide with zone boundaries. Hence Local Authorities may be listed within more than one zone plan.)

Figure 1. Map showing the extent of the West Yorkshire Urban Area agglomeration zone (UK0004).



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Figure 2. Map showing Local Authorities within the West Yorkshire Urban Area agglomeration zone (UK0004).



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2.2. Assessment details

Measurements

NO₂ measurements in this zone were available in 2008 from the following national network monitoring stations (NO₂ data capture for each station in 2008 shown in brackets):

- Leeds Centre GB0584A (99.5%)
- Leeds Headingley Kerbside GB0926A (58.6%)

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

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): 363 km²
- Total population within zone (approx): 1150737 people
- Total road length where an assessment of NO₂ concentrations have been made: 423.9 km in 2008 (and similar lengths in previous years).

Zone maps

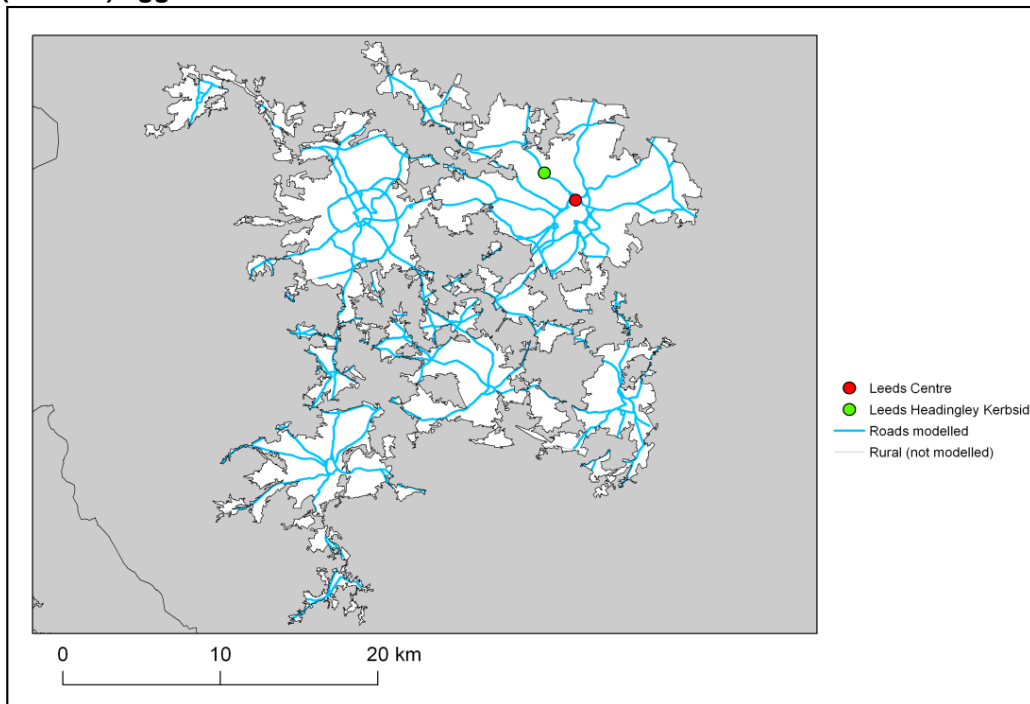
Figure 3 presents the location of the NO₂ monitoring stations within this zone for 2008 and the roads for which NO₂ concentrations have been modelled. NO₂ concentrations at background locations have been modelled across the entire zone at a 1 x 1 km² resolution.

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 NO₂ monitoring sites with valid data in 2008 and roads where concentrations have been modelled within the West Yorkshire Urban Area (UK0004) 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 NO₂. These are:

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

Within the West Yorkshire Urban Area agglomeration zone only the annual limit value was exceeded in 2008. Hence, one exceedance situation for this zone has been defined, NO₂_UK0004_Annual_1, which covers the exceedance of the annual limit value. This exceedance situation is described below.

For both NO₂ 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: NO₂_UK0004_Annual_1

The NO₂_UK0004_Annual_1 exceedance situation covers all exceedances of the annual mean limit value in the West Yorkshire 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 NO₂ results in this exceedance situation for the same time period. This table shows that, in 2008, 109.9 km of road length was modelled to exceed the annual limit value. There were no modelled background exceedances of this limit value. Table 2 also shows that the maximum modelled annual mean NO₂ concentration in 2008 was 85.1 µgm⁻³. Maps showing the modelled annual mean NO₂ concentrations for 2008 at background and at roadside locations are presented in Figures 4 and 5 respectively. All modelled exceedances of the annual limit value are coloured orange or red in these maps.

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

The modelling carried out for this exceedance situation has also been used to determine the annual mean NO_x source apportionment for all modelled locations, along with an indicative annual mean NO₂ source apportionment. Table 3 presents summary source apportionment information in this exceedance situation for 2008, including:

- The modelled NO_x and indicative NO₂ source apportionment for the section of road with the highest modelled NO₂ 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 NO₂ 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 NO₂ concentrations for these air quality plans. This method involves calculating the maximum and minimum possible contribution from each source to the NO₂ 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 NO₂ concentration. Further information on the methods used for source apportionment are provided in the UK Technical Report.

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

Figure A1.1 in Annex 1 presents the annual mean NO_x source apportionment for each section of road within the NO₂_UK0004_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 NO₂_UK0004_Annual_1 for 2001 onwards, µgm⁻³. (Data capture shown in brackets) (a)

Site name (EOI code)	2001	2002	2003	2004	2005	2006	2007	2008	2009
Bradford Centre (GB0689A)	44 (90%)	37 (97%)	37 (94%)	31 (96%)	29 (88%)	32 (94%)	22 (59%)		
Leeds Centre (GB0584A)	36 (91%)	39 (87%)	40 (86%)	31 (92%)	31 (92%)	39 (92%)	37 (99%)	35 (100%)	34 (95%)
Leeds Headingley Kerbside (GB0926A)								49 (59%)	48 (99%)

(a) Annual Mean Limit Value = 40 µgm⁻³

Table 2. Annual mean NO₂ model results in NO₂_UK0004_Annual_1 for 2001 onwards

	2001	2002	2003	2004	2005	2006	2007	2008	2009
Road length exceeding (km)	287.5	171.8	305.7	175.3	187.5	164.6	162.3	109.9	121.4
Background area exceeding (km ²)	36	0	24	2	4	2	0	0	0
Maximum modelled concentration (µgm ⁻³) (a)	75.5	70.1	92.1	77.4	84.5	80.0	79.4	85.1	88.0

(a) Annual Mean Limit Value = 40 µgm⁻³

Table 3. Source apportionment summary information for 2008 in NO₂_UK0004_Annual_1 (µgm⁻³).

Spatial scale	Component	Highest road link (a)		Maximum (b)
		NOx	NO2 (d)	NOx
Regional background sources (i.e. contributions from distant sources of > 30 km from the receptor)	Total	7.4	(c)	
	From within the UK	4.2	(c)	5.6
	From transboundary sources (includes shipping and other EU Member States)	3.2	(c)	3.3
Urban background sources (i.e. sources located within 0.3 - 30 km from the receptor)	Total	27.7	14.2	-
	From road traffic sources	20.0	5.8	35.7
	From industry (including heat and power generation)	2.7	(c)	30.6
	From agriculture	0.0	(c)	0.0
	From commercial/residential sources	2.9	(c)	12.6
	From shipping	0.0	(c)	0.0
	From off road mobile machinery	1.7	(c)	13.2
	From natural sources	0.0	(c)	0.0
	From transboundary sources	0.0	(c)	0.0
	From other urban background sources	0.4	(c)	3.4
Local sources (i.e. contributions from sources < 0.3 km from the receptor)	Total	180.0	70.9	-
	From cars	30.5	13.2	55.3
	From HGV rigid	13.1	5.3	28.3
	From HGV articulated	119.5	44.4	119.5
	From Buses	2.2	0.9	65.9
	From LGVs	14.7	7.1	22.7
	From motorcycles	0.1	0	0.3
Total (i.e. regional background + urban background + local components)		215.1	85.1	-

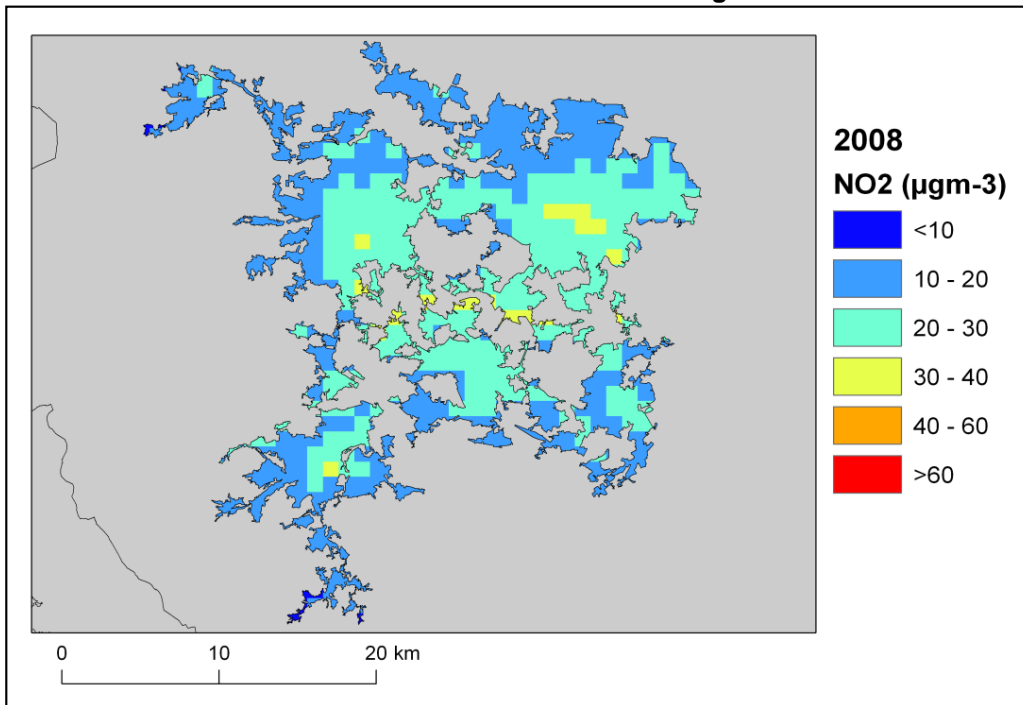
(a) The road with the highest modelled annual mean NO₂ concentration in this exceedance situation in 2008 is a section of the M62, traffic count point id 36054 (OS grid (m): 410100, 418650).

(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 NO₂ concentration contribution for these components is 8.3 µgm⁻³. A more detailed NO₂ source apportionment is currently unavailable for these sectors.

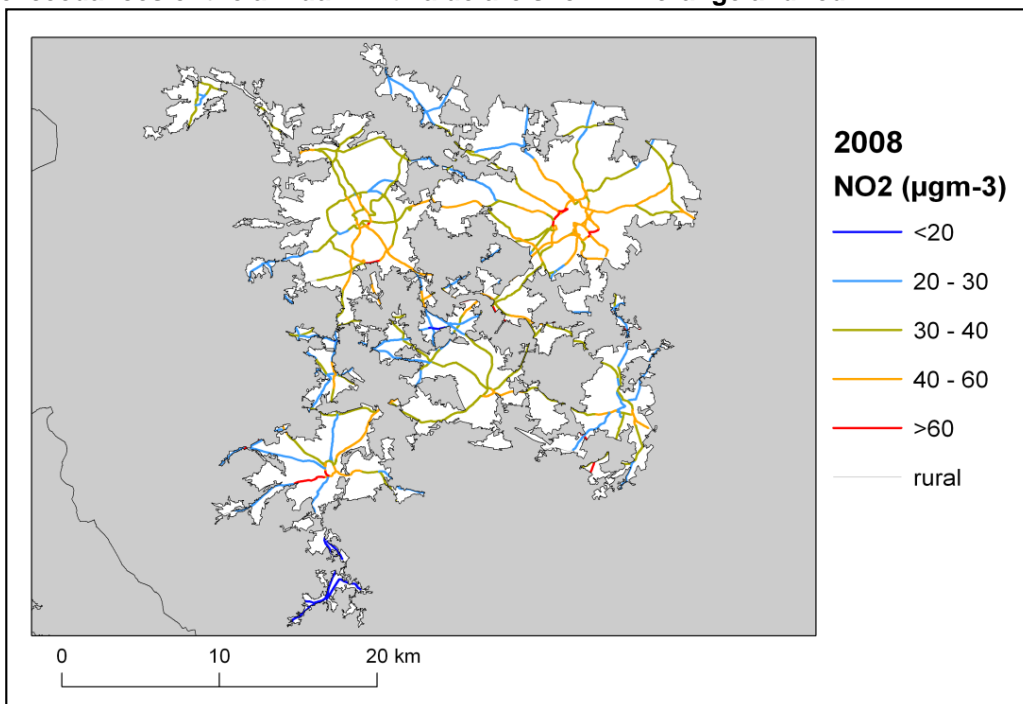
(d) Source apportionment for NO₂ is indicative, see UK Technical Report.

Figure 4. Map of modelled background annual mean NO₂ 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 NO₂ 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 NO₂ limit values within West Yorkshire 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 NO₂ 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 119.5 $\mu\text{g m}^{-3}$ of NO_x out of a total of 215.1 $\mu\text{g m}^{-3}$ of NO_x. Articulated HGVs and other vehicle types were important sources on the motorway roads with the highest concentrations in this exceedance situation. All vehicle types were important sources on the trunk roads with the highest concentrations. Cars, buses, rigid HGVs and LGVs 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 NO₂ in this agglomeration zone have been taken and/or are planned at a range of administrative levels. These are:

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

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

Relevant Local Authority measures within this exceedance situation are listed in Table A2.1 (see Annex 2). Relevant Local Authority measures are considered to be those measures which directly target, or are in close geographical proximity to roads and/or background grid squares in exceedance of one or other of the NO₂ 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 NO₂ 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 NO₂ 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: NO₂_UK0004_Annual_1

Table 4 presents summary results for the baseline model projections for 2010, 2015 and 2020 for the NO₂_UK0004_Annual_1 exceedance situation. This shows that the maximum modelled annual mean NO₂ concentration predicted for 2010 in this exceedance situation is 74.2 µg m⁻³. By 2015, the maximum modelled annual mean NO₂ concentration is predicted to drop to 46.8 µg m⁻³. Hence, the model results suggest that compliance with the NO₂ annual limit value is unlikely to be achieved by 2015 under baseline conditions in this exceedance situation.

The projected modelled NO_x and indicative NO₂ 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 NO₂ concentration within this exceedance situation. However, in 2015 and 2020 the model indicates that the location with the highest annual mean NO₂ concentration within this exceedance situation will be elsewhere. Information regarding the new location with the highest NO₂ concentration, including the source apportionment is given in Table 6. The locations of maximum concentration in each year are given in the footnote to this table. This source apportionment information is useful because it shows which sources need to be tackled at the point with the largest compliance gap in the exceedance situation.

Table 7 shows the maximum NO_x contribution from each source apportionment component from any road across the whole exceedance situation. This source apportionment information is useful because

it highlights all the key sources that need to be tackled within the exceedance situation in order to achieve compliance across the entire area of the exceedance situation. It should be noted that this table only includes roads which continue to be in exceedance in the relevant year. Hence, for example, the road with the largest contribution from cars in 2010 may no longer be included in the table in 2015 if the road is predicted to be compliant in 2015.

Figures 6 and 7 show maps of projected annual mean NO₂ 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 NO₂ model results in NO₂_UK0004_Annual_1

	2008	2010	2015	2020
Road length exceeding (km)	109.9	53.8	3.3	0.0
Background area exceeding (km ²)	0	0	0	0
Maximum modelled concentration (µgm ⁻³) (a)	85.1	74.2	46.8	31.5

(a) Annual Mean Limit Value = 40 µgm⁻³

Table 5. Modelled source apportionment for 2010, 2015 and 2020 under baseline conditions for traffic count point 36054 on the M62 (the road section with the maximum modelled annual mean NO₂ concentration in 2008 in NO₂_UK0004_Annual_1. OS grid (m): 410100, 418650). 2008 results are also presented here for reference (units: µgm⁻³).

Spatial scale	Component	NOx				NO2 (indicative)			
		2008	2010	2015	2020	2008	2010	2015	2020
Regional background sources (i.e. contributions from distant sources of > 30 km from the receptor)	Total	7.4	6.4	5.6	4.5	(a)	(b)	(c)	(d)
	From within the UK	4.2	3.6	3.1	2.5	(a)	(b)	(c)	(d)
	From transboundary sources (includes shipping and other EU Member States)	3.2	2.8	2.4	2.0	(a)	(b)	(c)	(d)
Urban background sources (i.e. sources located within 0.3 - 30 km from the receptor)	Total	27.7	23.2	15.6	10.1	14.2	12.4	9.3	6.9
	From road traffic sources	20.0	16.0	9.6	4.8	5.8	5.5	4.9	4.6
	From industry (including heat and power generation)	2.7	2.4	2.3	2.2	(a)	(b)	(c)	(d)
	From agriculture	0.0	0.0	0.0	0.0	(a)	(b)	(c)	(d)
	From commercial/residential sources	2.9	2.9	2.5	2.3	(a)	(b)	(c)	(d)
	From shipping	0.0	0.0	0.0	0.0	(a)	(b)	(c)	(d)
	From off road mobile machinery	1.7	1.6	0.9	0.6	(a)	(b)	(c)	(d)
	From natural sources	0.0	0.0	0.0	0.0	(a)	(b)	(c)	(d)
	From transboundary sources	0.0	0.0	0.0	0.0	(a)	(b)	(c)	(d)
From other urban background sources	0.4	0.3	0.3	0.3	(a)	(b)	(c)	(d)	
Local sources (i.e. contributions from sources < 0.3 km from the receptor)	Total	180.0	152.4	83.6	34.9	70.9	61.8	36.7	17.0
	From cars	30.5	22.3	16.0	10.5	13.2	10.2	7.8	5.4
	From HGV rigid	13.1	11.6	6.0	2.1	5.3	4.8	2.6	1.0
	From HGV articulated	119.5	103.9	52.3	17.1	44.4	39.4	21.6	8.0
	From Buses	2.2	1.9	1.1	0.5	0.9	0.8	0.5	0.2
	From LGVs	14.7	12.7	8.1	4.5	7.1	6.4	4.2	2.4
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)		215.1	182.0	104.7	49.5	85.1	74.2	46.0	24.0

(a) The total annual mean NO₂ contribution for all components labelled (a) in 2008 was modelled to be 8.3 µgm⁻³.

(b) The total annual mean NO₂ contribution for all components labelled (b) in 2010 is predicted to be 6.9 µgm⁻³.

(c) The total annual mean NO₂ contribution for all components labelled (c) in 2015 is predicted to be 4.4 µgm⁻³.

(d) The total annual mean NO₂ contribution for all components labelled (d) in 2020 is predicted to be 2.3 µgm⁻³.

Table 6. Modelled source apportionment for 2010, 2015 and 2020 under baseline conditions for traffic count point with the highest concentration in these years in NO₂_UK0004_Annual_1 (a). 2008 results are also presented here for reference (units: µgm⁻³).

Spatial scale	Component	NOx				NO2 (indicative)			
		2008	2010	2015	2020	2008	2010	2015	2020
Regional background sources (i.e. contributions from distant sources of > 30 km from the receptor)	Total	7.4	6.4	5.6	4.5	(b)	(c)	(d)	(e)
	From within the UK	4.2	3.6	3.2	2.6	(b)	(c)	(d)	(e)
	From transboundary sources (includes shipping and other EU Member States)	3.2	2.8	2.5	2.0	(b)	(c)	(d)	(e)
Urban background sources (i.e. sources located within 0.3 - 30 km from the receptor)	Total	27.7	23.2	33.1	27.8	14.2	12.4	16.2	14.5
	From road traffic sources	20.0	16.0	10.0	6.5	5.8	5.5	11.7	11.4
	From industry (including heat and power generation)	2.7	2.4	12.0	11.5	(b)	(c)	(d)	(e)
	From agriculture	0.0	0.0	0.0	0.0	(b)	(c)	(d)	(e)
	From commercial/residential sources	2.9	2.9	5.5	5.1	(b)	(c)	(d)	(e)
	From shipping	0.0	0.0	0.0	0.0	(b)	(c)	(d)	(e)
	From off road mobile machinery	1.7	1.6	3.4	2.4	(b)	(c)	(d)	(e)
	From natural sources	0.0	0.0	0.0	0.0	(b)	(c)	(d)	(e)
	From transboundary sources	0.0	0.0	0.0	0.0	(b)	(c)	(d)	(e)
From other urban background sources	0.4	0.3	2.1	2.1	(b)	(c)	(d)	(e)	
Local sources (i.e. contributions from sources < 0.3 km from the receptor)	Total	180.0	152.4	68.5	35.9	70.9	61.8	30.6	17.0
	From cars	30.5	22.3	24.4	16.2	13.2	10.2	10.8	7.7
	From HGV rigid	13.1	11.6	10.1	3.6	5.3	4.8	4.3	1.6
	From HGV articulated	119.5	103.9	4.9	1.6	44.4	39.4	2.1	0.7
	From Buses	2.2	1.9	17.1	7.9	0.9	0.8	7.2	3.5
	From LGVs	14.7	12.7	12.0	6.7	7.1	6.4	6.2	3.5
From motorcycles	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	
Total (i.e. regional background + urban background + local components)		215.1	182.0	107.2	68.2	85.1	74.2	46.8	31.5

(a) The road with the maximum annual mean NO₂ concentration in different years is as follows. 2008: A section of the M62 (count point id 36054). 2010: A section of the M62 (count point id 36054). 2015: A section of the A58 (count point id 48535). 2020: A section of the A58 (count point id 48535). (OS grid (m): 410100, 418650; 410100, 418650; 410100, 418650; 410100, 418650).

(b) The total annual mean NO₂ contribution for all components labelled (b) in 2008 was modelled to be 8.3 µgm⁻³.

(c) The total annual mean NO₂ contribution for all components labelled (c) in 2010 is predicted to be 6.9 µgm⁻³.

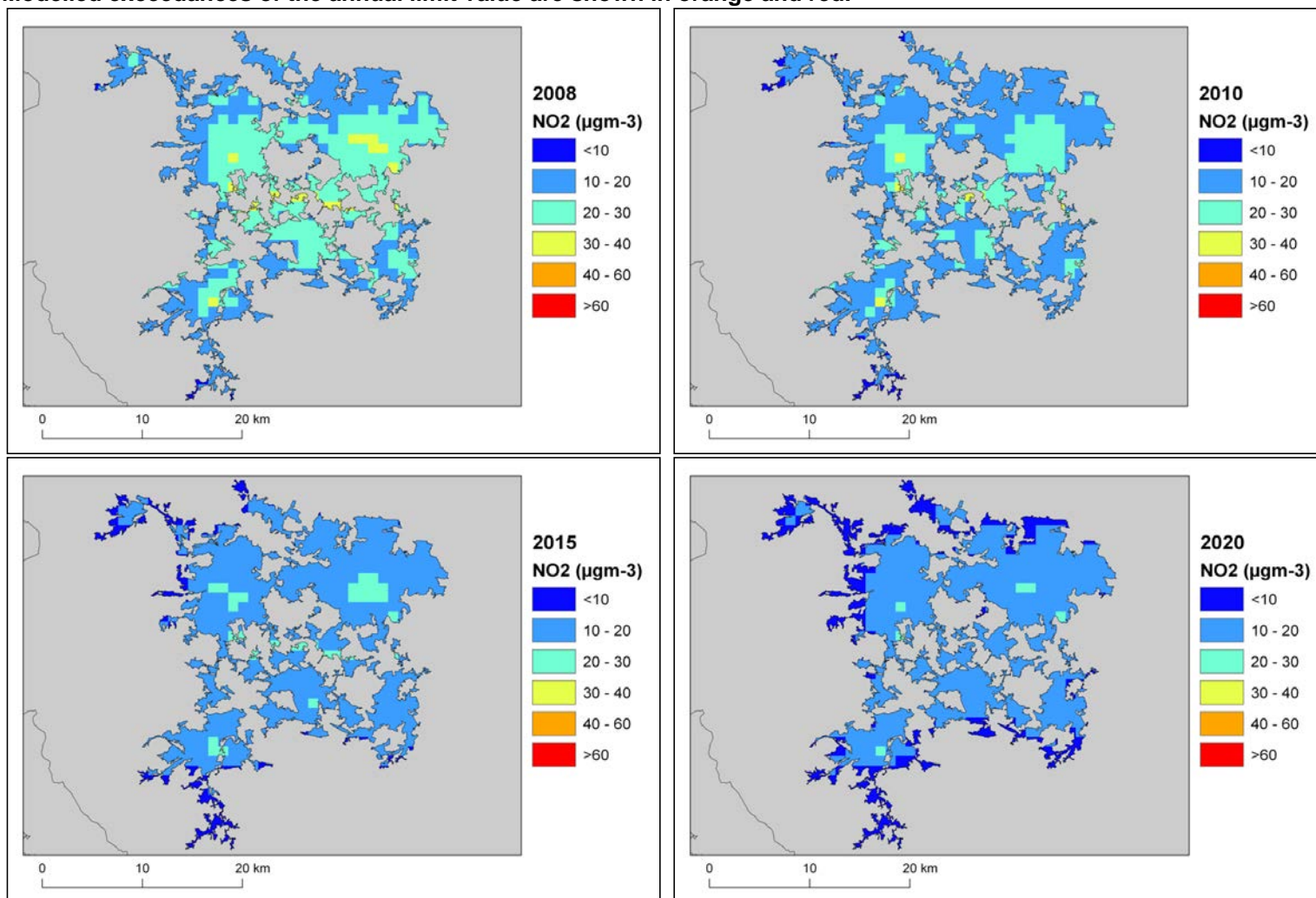
(d) The total annual mean NO₂ contribution for all components labelled (d) in 2015 is predicted to be 4.5 µgm⁻³.

(e) The total annual mean NO₂ contribution for all components labelled (e) in 2020 is predicted to be 3.1 µgm⁻³.

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

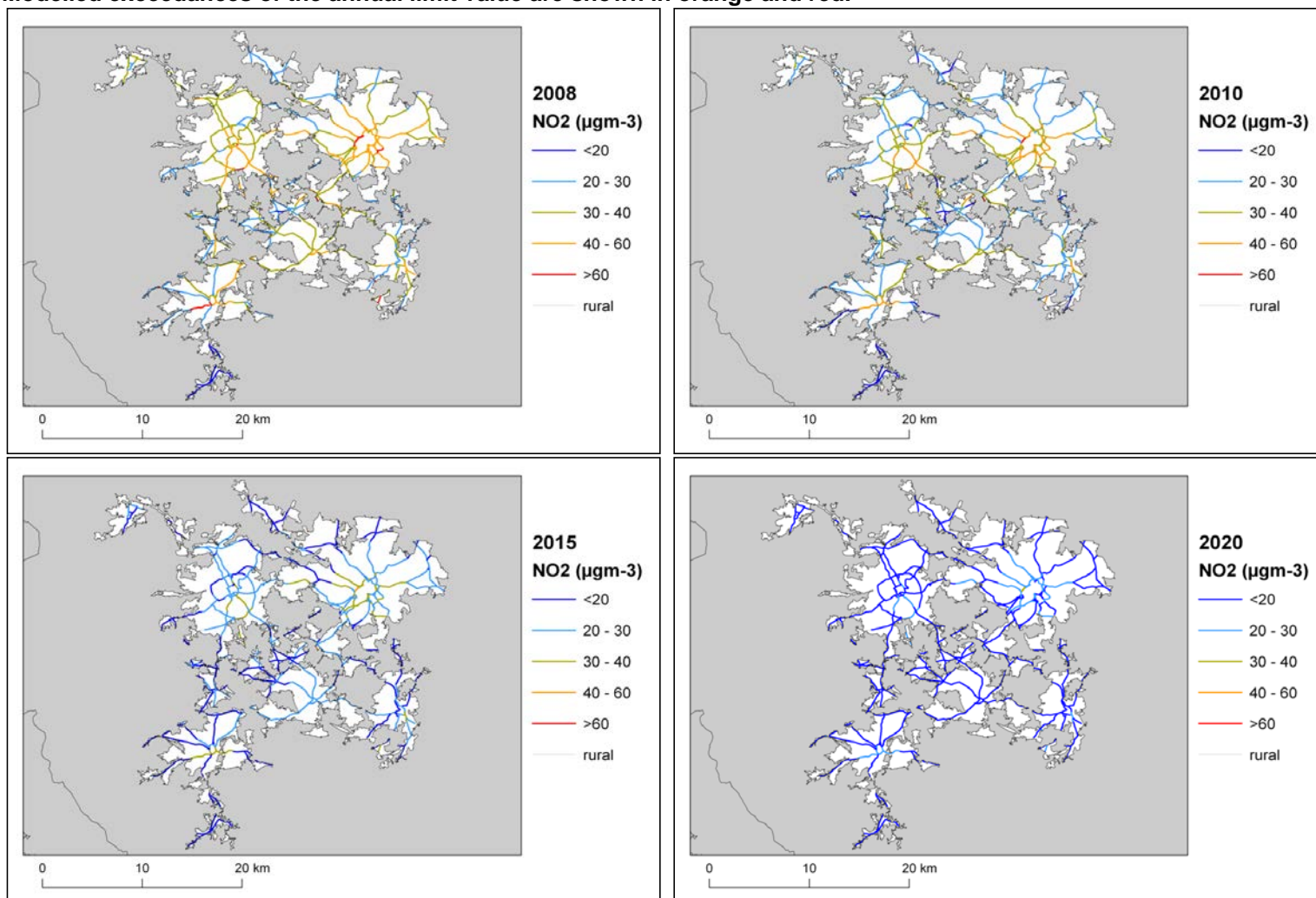
Spatial scale	Component	NO _x			
		2008	2010	2015	2020
Regional background sources (i.e. contributions from distant sources of > 30 km from the receptor)	From within the UK	5.6	4.8	3.2	0.0
	From transboundary sources (includes shipping and other EU Member States)	3.3	2.8	2.5	0.0
Urban background sources (i.e. sources located within 0.3 - 30 km from the receptor)	From road traffic sources	35.7	27.7	10.0	0.0
	From industry (including heat and power generation)	30.6	27.0	12.0	0.0
	From agriculture	0.0	0.0	0.0	0.0
	From commercial/residential sources	12.6	12.1	5.5	0.0
	From shipping	0.0	0.0	0.0	0.0
	From off road mobile machinery	13.2	12.4	3.4	0.0
	From natural sources	0.0	0.0	0.0	0.0
	From transboundary sources	0.0	0.0	0.0	0.0
	From other urban background sources	3.4	2.7	2.1	0.0
Local sources (i.e. contributions from sources < 0.3 km from the receptor)	From cars	55.3	37.2	25.6	0.0
	From HGV rigid	28.3	25.2	10.1	0.0
	From HGV articulated	119.5	103.9	52.3	0.0
	From Buses	65.9	58.9	18.2	0.0
	From LGVs	22.7	19.4	12.3	0.0
	From motorcycles	0.3	0.3	0.2	0.0

Figure 6. Background baseline projections of annual mean NO₂ 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 NO₂ 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 NO₂ limit values. The scenario modelled here would require all HGVs and buses to meet at least Euro IV emission standards for NO_x and PM₁₀ 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 NO₂. These investigations include:

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

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

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

- Bradford Metropolitan District Council
- Calderdale Metropolitan Borough Council
- Kirklees Council
- Leeds City Council
- Wakefield Council

The impact of the LEZ scenario on projected NO₂ 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 NO₂ 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: NO₂_UK0004_Annual_1

Table 8 presents summary results for the LEZ scenario model projections for 2015 and 2020 for the NO₂_UK0004_Annual_1 exceedance situation. This shows that the maximum modelled annual mean NO₂ concentration predicted for 2015 for the LEZ scenario in this exceedance situation is 44.5 µgm⁻³. Hence, the model results suggest that compliance with the NO₂ 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 NO₂ annual mean limit value is likely to be achieved in this exceedance situation in 2020, when the maximum modelled annual mean NO₂ concentration predicted to be 30.7 µgm⁻³.

The projected modelled NO_x and indicative NO₂ annual mean source apportionments for 2010, 2015 and 2020 at the location with the biggest compliance gap in 2008 are presented in Table 9. In 2010 and 2015, the model results suggest that this location will continue to have the highest annual mean NO₂ concentration within this exceedance situation. However, in 2020 the model indicates that the location with the highest annual mean NO₂ concentration within this exceedance situation will be elsewhere. Information regarding the new location with the highest NO₂ 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_x contribution from each source apportionment component from any road across the whole exceedance situation. This source apportionment information is useful because it highlights all the key sources that need to be tackled within the exceedance situation in order to achieve compliance across the entire area of the exceedance situation. It should be noted that this table only includes roads that continue to be in exceedance in the relevant year. Hence, for example, the road with the largest contribution from cars in 2010 may no longer be included in the table in 2015 if the road is predicted to be compliant in 2015.

Figures 8 and 9 show maps of projected annual mean NO₂ 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 NO₂ model results in NO₂_UK0004_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)	109.9	53.8	3.3	0.0
Background area exceeding (km ²)	0	0	0	0
Maximum modelled concentration (µgm ⁻³) (a)	85.1	74.2	44.5	30.7

(a) Annual Mean Limit Value = 40 µgm⁻³

Table 9. Modelled source apportionment for 2015 and 2020 for the LEZ scenario for traffic count point 36054 on the M62 (the road section with the maximum modelled annual mean NO₂ concentration in 2008 in NO₂_UK0004_Annual_1 OS grid (m): 410100, 418650). 2008 and 2010 baseline projections results are also presented here for reference (units: µgm⁻³).

Spatial scale	Component	NOx				NO ₂ (indicative)			
		2008	2010	2015	2020	2008	2010	2015	2020
Regional background sources (i.e. contributions from distant sources of > 30 km from the receptor)	Total	7.4	6.4	5.5	4.5	(a)	(b)	(c)	(d)
	From within the UK	4.2	3.6	3.1	2.5	(a)	(b)	(c)	(d)
	From transboundary sources (includes shipping and other EU Member States)	3.2	2.8	2.4	2.0	(a)	(b)	(c)	(d)
Urban background sources (i.e. sources located within 0.3 - 30 km from the receptor)	Total	27.7	23.2	14.3	10.0	14.2	12.4	8.7	6.9
	From road traffic sources	20.0	16.0	8.3	4.7	5.8	5.5	4.9	4.6
	From industry (including heat and power generation)	2.7	2.4	2.3	2.2	(a)	(b)	(c)	(d)
	From agriculture	0.0	0.0	0.0	0.0	(a)	(b)	(c)	(d)
	From commercial/residential sources	2.9	2.9	2.5	2.3	(a)	(b)	(c)	(d)
	From shipping	0.0	0.0	0.0	0.0	(a)	(b)	(c)	(d)
	From off road mobile machinery	1.7	1.6	0.9	0.6	(a)	(b)	(c)	(d)
	From natural sources	0.0	0.0	0.0	0.0	(a)	(b)	(c)	(d)
	From transboundary sources	0.0	0.0	0.0	0.0	(a)	(b)	(c)	(d)
From other urban background sources	0.4	0.3	0.3	0.3	(a)	(b)	(c)	(d)	
Local sources (i.e. contributions from sources < 0.3 km from the receptor)	Total	180.0	152.4	81.0	34.8	70.9	61.8	35.8	17.0
	From cars	30.5	22.3	16.0	10.5	13.2	10.2	7.8	5.4
	From HGV rigid	13.1	11.6	5.6	2.1	5.3	4.8	2.4	1.0
	From HGV articulated	119.5	103.9	50.0	17.0	44.4	39.4	20.8	8.0
	From Buses	2.2	1.9	1.1	0.5	0.9	0.8	0.5	0.2
	From LGVs	14.7	12.7	8.1	4.5	7.1	6.4	4.2	2.4
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)		215.1	182.0	100.9	49.3	85.1	74.2	44.5	23.9

(a) The total annual mean NO₂ contribution for all components labelled (a) in 2008 was modelled to be 8.3 µgm⁻³.

(b) The total annual mean NO₂ contribution for all components labelled (b) in 2010 is predicted to be 6.9 µgm⁻³.

(c) The total annual mean NO₂ contribution for all components labelled (c) in 2015 is predicted to be 3.8 µgm⁻³.

(d) The total annual mean NO₂ contribution for all components labelled (d) in 2020 is predicted to be 2.3 µgm⁻³.

Table 10. Modelled source apportionment for 2015 and 2020 for the LEZ scenario for traffic count point with the highest concentration in these years in NO₂_UK0004_Annual_1. (a) 2008 and 2010 baseline projections results are also presented here for reference (units: µgm⁻³).

Spatial scale	Component	NOx				NO2 (indicative)			
		2008	2010	2015	2020	2008	2010	2015	2020
Regional background sources (i.e. contributions from distant sources of > 30 km from the receptor)	Total	7.4	6.4	5.5	4.5	(b)	(c)	(d)	(e)
	From within the UK	4.2	3.6	3.1	2.6	(b)	(c)	(d)	(e)
	From transboundary sources (includes shipping and other EU Member States)	3.2	2.8	2.4	2.0	(b)	(c)	(d)	(e)
Urban background sources (i.e. sources located within 0.3 - 30 km from the receptor)	Total	27.7	23.2	14.3	27.5	14.2	12.4	8.7	14.5
	From road traffic sources	20.0	16.0	8.3	6.3	5.8	5.5	4.9	11.5
	From industry (including heat and power generation)	2.7	2.4	2.3	11.5	(b)	(c)	(d)	(e)
	From agriculture	0.0	0.0	0.0	0.0	(b)	(c)	(d)	(e)
	From commercial/residential sources	2.9	2.9	2.5	5.1	(b)	(c)	(d)	(e)
	From shipping	0.0	0.0	0.0	0.0	(b)	(c)	(d)	(e)
	From off road mobile machinery	1.7	1.6	0.9	2.4	(b)	(c)	(d)	(e)
	From natural sources	0.0	0.0	0.0	0.0	(b)	(c)	(d)	(e)
	From transboundary sources	0.0	0.0	0.0	0.0	(b)	(c)	(d)	(e)
From other urban background sources	0.4	0.3	0.3	2.1	(b)	(c)	(d)	(e)	
Local sources (i.e. contributions from sources < 0.3 km from the receptor)	Total	180.0	152.4	81.0	34.0	70.9	61.8	35.8	16.2
	From cars	30.5	22.3	16.0	16.2	13.2	10.2	7.8	7.7
	From HGV rigid	13.1	11.6	5.6	3.4	5.3	4.8	2.4	1.5
	From HGV articulated	119.5	103.9	50.0	1.6	44.4	39.4	20.8	0.7
	From Buses	2.2	1.9	1.1	6.1	0.9	0.8	0.5	2.7
	From LGVs	14.7	12.7	8.1	6.7	7.1	6.4	4.2	3.5
From motorcycles	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	
Total (i.e. regional background + urban background + local components)		215.1	182.0	100.9	66.0	85.1	74.2	44.5	30.7

(a) The road with the maximum annual mean NO₂ concentration in different years is as follows. 2008: A section of the M62 (count point id 36054). 2010: A section of the M62 (count point id 36054). 2015: A section of the A58 (count point id 48535). 2020: A section of the A58 (count point id 48535). (OS grid (m): 410100, 418650; 410100, 418650; 410100, 418650; 410100, 418650).

(b) The total annual mean NO₂ contribution for all components labelled (b) in 2008 was modelled to be 8.3 µgm⁻³.

(c) The total annual mean NO₂ contribution for all components labelled (c) in 2010 is predicted to be 6.9 µgm⁻³.

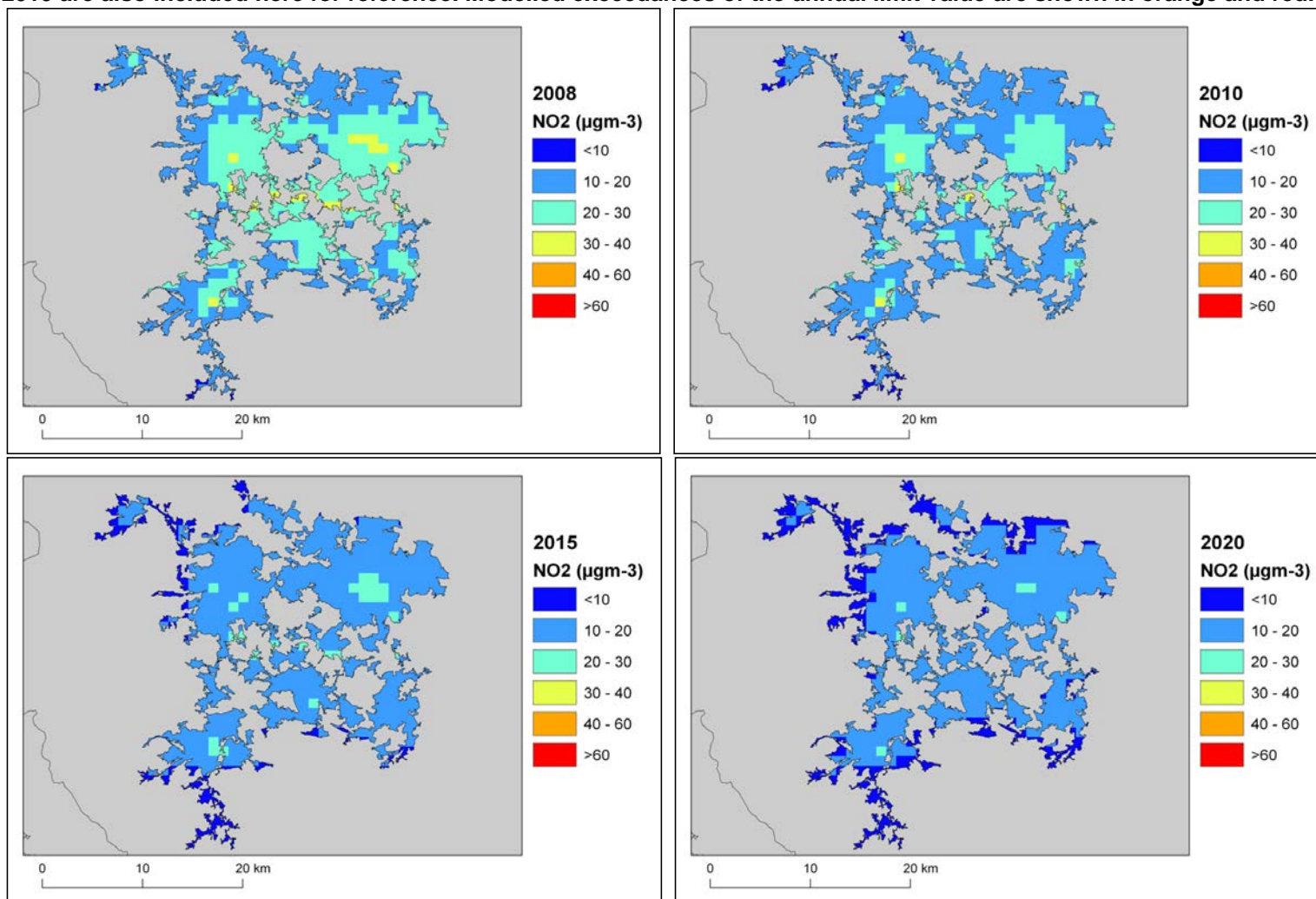
(d) The total annual mean NO₂ contribution for all components labelled (d) in 2015 is predicted to be 3.8 µgm⁻³.

(e) The total annual mean NO₂ contribution for all components labelled (e) in 2020 is predicted to be 3 µgm⁻³.

Table 11. The maximum NO_x contribution from each source from across all the roads included in the exceedance situation on which exceedances remain in 2010, 2015 and 2020 under baseline conditions. Zeros indicate that there are no exceedances in the relevant year.

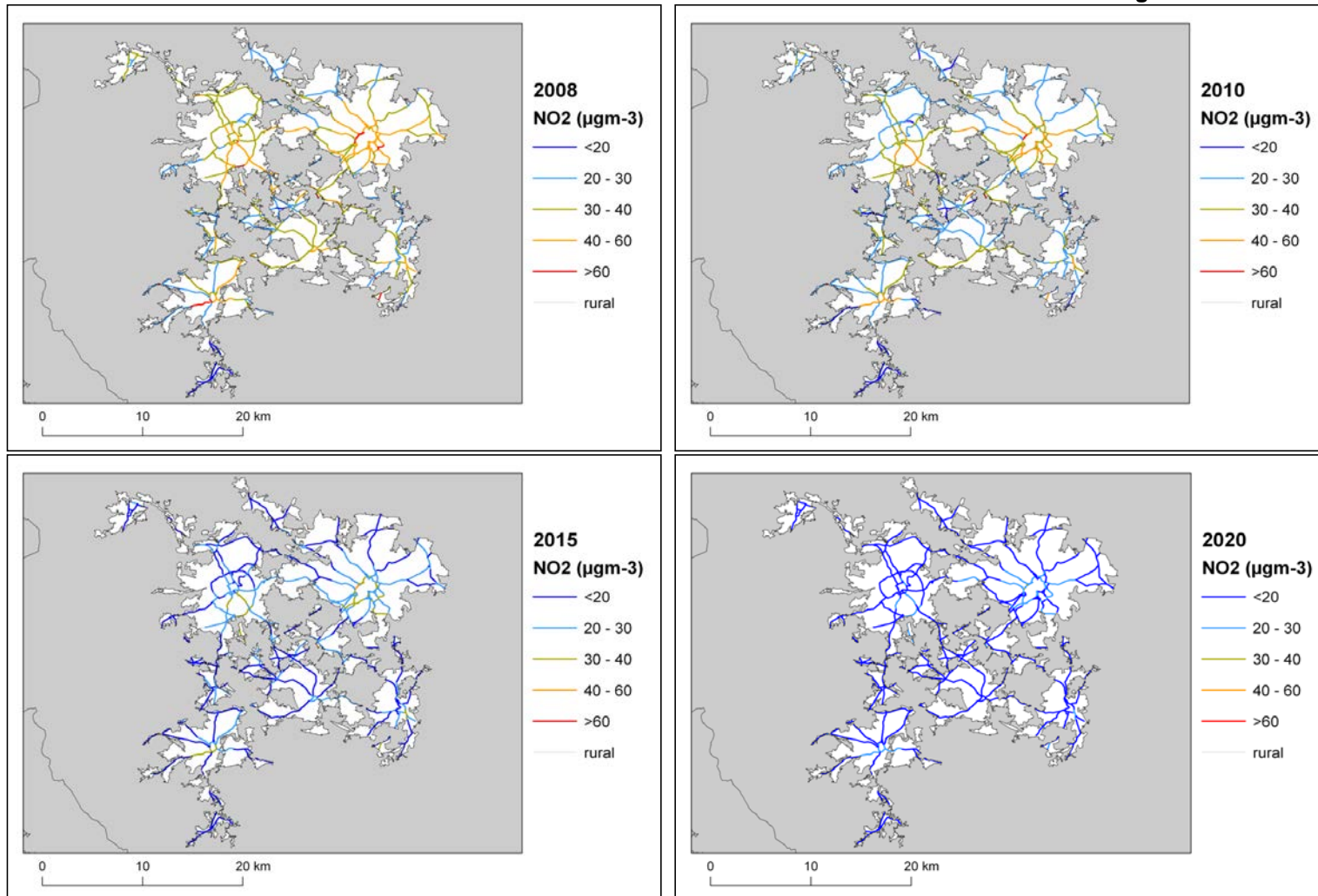
Spatial scale	Component	NO _x			
		2008	2010	2015	2020
Regional background sources (i.e. contributions from distant sources of > 30 km from the receptor)	From within the UK	5.6	4.8	3.1	0.0
	From transboundary sources (includes shipping and other EU Member States)	3.3	2.8	2.4	0.0
Urban background sources (i.e. sources located within 0.3 - 30 km from the receptor)	From road traffic sources	35.7	27.7	8.8	0.0
	From industry (including heat and power generation)	30.6	27.0	12.0	0.0
	From agriculture	0.0	0.0	0.0	0.0
	From commercial/residential sources	12.6	12.1	5.5	0.0
	From shipping	0.0	0.0	0.0	0.0
	From off road mobile machinery	13.2	12.4	3.4	0.0
	From natural sources	0.0	0.0	0.0	0.0
	From transboundary sources	0.0	0.0	0.0	0.0
	From other urban background sources	3.4	2.7	2.1	0.0
Local sources (i.e. contributions from sources < 0.3 km from the receptor)	From cars	55.3	37.2	25.6	0.0
	From HGV rigid	28.3	25.2	7.7	0.0
	From HGV articulated	119.5	103.9	50.0	0.0
	From Buses	65.9	58.9	11.2	0.0
	From LGVs	22.7	19.4	12.3	0.0
	From motorcycles	0.3	0.3	0.2	0.0

Figure 8. Background projections of annual mean NO₂ 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 NO₂ 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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References

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

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

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

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

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

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

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

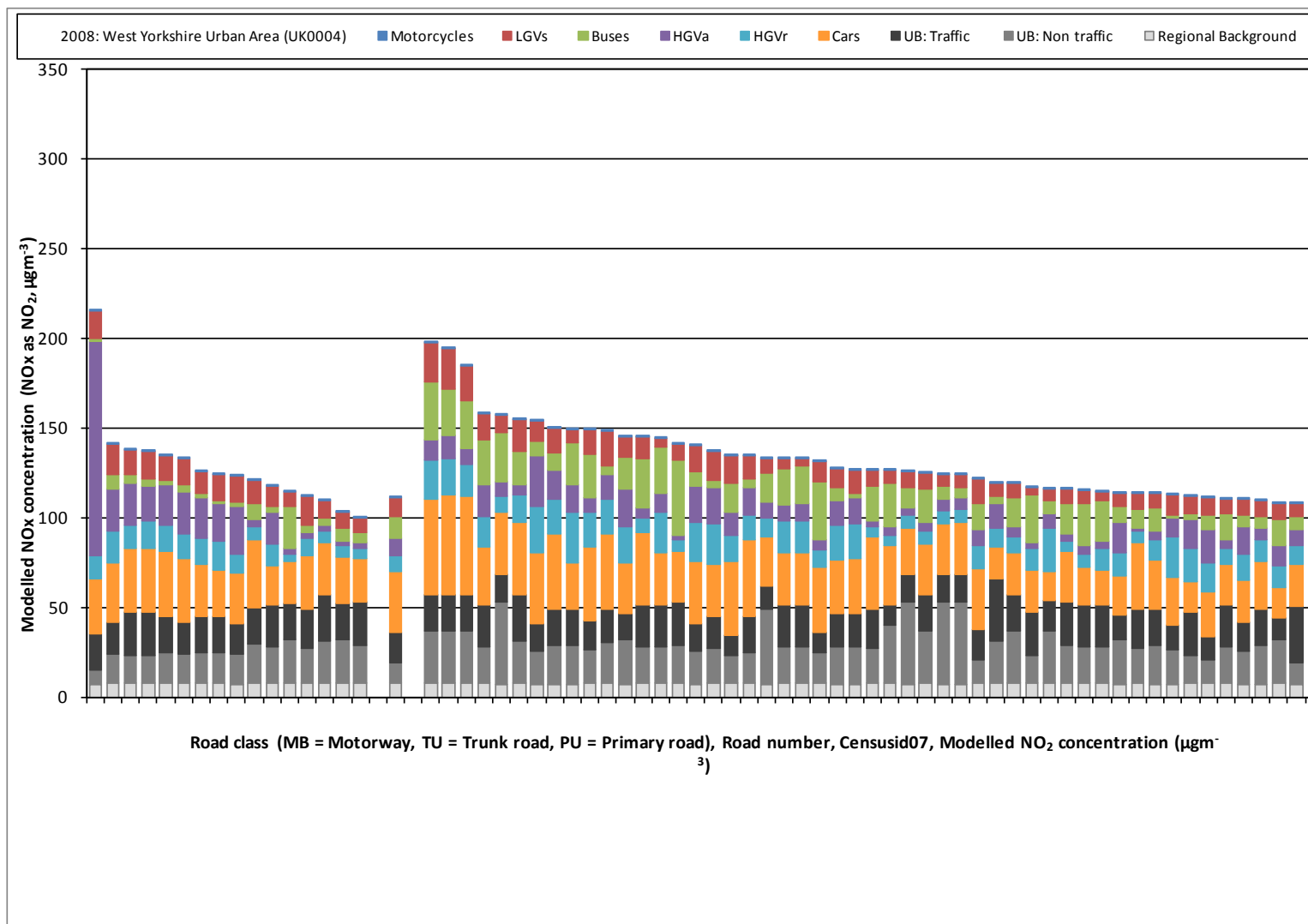
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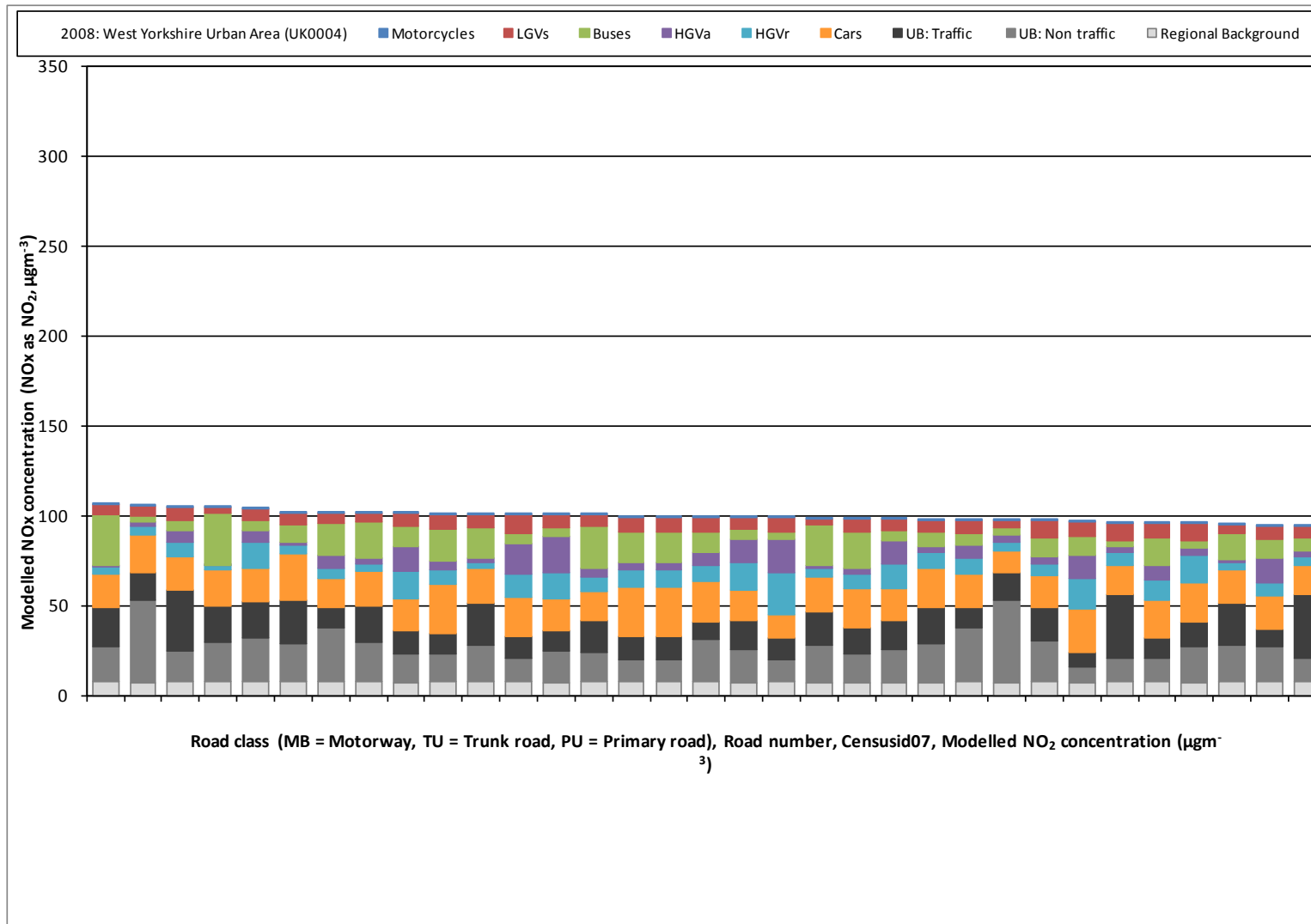
Annex 1: Source apportionment graphs

Annex 2: Tables of measures

Annex 1: Source apportionment graphs

Figure A1.1 Annual mean roadside NO_x source apportionment plots for all roads exceeding the annual mean NO₂ limit value in 2008





Annex 2: Tables of measures

Table A2.1 Relevant Local Authority measures taken before or during 2010 within West Yorkshire Urban Area (UK0004)

LA (a)	Measure code (b)	Title	Description	Other information
Calderdale	Local_Calderdale_F1	Provision of information	Increase in the provision of air quality information passed to the public domain at national, regional and local level.	<ul style="list-style-type: none"> • Type: Education/information • Sources affected: Transport; Commercial and residential sources • Spatial scale: local • Implementation date: 2008 • Reduction timescale: Short term • Regulatory: No • Smarter Choices (c) : Yes • Reference (d): Local_zone4_Calderdale_AQActionplan_1
Calderdale	Local_Calderdale_G1	Calderdale Metropolitan Borough Council Travel Plan.	Continue to implement CMBC Travel Plan.	<ul style="list-style-type: none"> • Type: Education/information • Sources affected: Transport • Spatial scale: local • Implementation date: 2008 • Reduction timescale: Long term • Regulatory: No • Smarter Choices (c) : Yes • Reference (d): Local_zone4_Calderdale_AQActionplan_1
Calderdale	Local_Calderdale_G2	Encourage other employers in Halifax to develop travel plans.	Encourage other employers in Halifax to develop travel plans.	<ul style="list-style-type: none"> • Type: Education/information • Sources affected: Transport • Spatial scale: local • Implementation date: 2008 • Reduction timescale: Medium term • Regulatory: No • Smarter Choices (c) : Yes • Reference (d): Local_zone4_Calderdale_AQActionplan_1
Calderdale	Local_Calderdale_F2	Safer Routes to School	Continue to implement a Safer Routes to School programme of measures and initiatives.	<ul style="list-style-type: none"> • Type: Education/information • Sources affected: Transport • Spatial scale: local • Implementation date: 2008 • Reduction timescale: Medium term • Regulatory: No • Smarter Choices (c) : Yes • Reference (d): Local_zone4_Calderdale_AQActionplan_1
Calderdale	Local_Calderdale_G3	School Travel	Encourage schools and education facilities to develop	<ul style="list-style-type: none"> • Type: Education/information

LA (a)	Measure code (b)	Title	Description	Other information
		Plans.	and encourage School Travel Plans.	<ul style="list-style-type: none"> • Sources affected: Transport • Spatial scale: local • Implementation date: 2008 • Reduction timescale: Medium term • Regulatory: No • Smarter Choices (c) : Yes • Reference (d): Local_zone4_Calderdale_AQActionplan_1
Calderdale	Local_Calderdale_F3	Travel awareness campaigns	Carry out travel awareness initiatives and campaigns, including targeted individualised travel planning.	<ul style="list-style-type: none"> • Type: Education/information • Sources affected: Transport • Spatial scale: local • Implementation date: 2008 • Reduction timescale: Medium term • Regulatory: No • Smarter Choices (c) : Yes • Reference (d): Local_zone4_Calderdale_AQActionplan_1
Calderdale	Local_Calderdale_H1	Car share Programme	Continue to promote and publicise Calderdalecarshare.com.	<ul style="list-style-type: none"> • Type: Education/information • Sources affected: Transport • Spatial scale: local • Implementation date: 2008 • Reduction timescale: Long term • Regulatory: No • Smarter Choices (c) : Yes • Reference (d): Local_zone4_Calderdale_AQActionplan_1
Calderdale	Local_Calderdale_D1	Car parking initiatives for car sharers.	Introduce further car parking initiatives for car sharers.	<ul style="list-style-type: none"> • Type: Economic/fiscal; Education/information • Sources affected: Transport • Spatial scale: local • Implementation date: 2008 • Reduction timescale: Long term • Regulatory: No • Smarter Choices (c) : No • Reference (d): Local_zone4_Calderdale_AQActionplan_1
Calderdale	Local_Calderdale_F4	Promote and publicise benefits of public transport	Promote and publicise benefits of public transport and provide additional information and incentives for the A629 Huddersfield Road corridor bus services.	<ul style="list-style-type: none"> • Type: Education/information • Sources affected: Transport • Spatial scale: local • Implementation date: 2008 • Reduction timescale: Short term • Regulatory: No • Smarter Choices (c) : Yes

LA (a)	Measure code (b)	Title	Description	Other information
				<ul style="list-style-type: none"> • Reference (d): Local_zone4_Calderdale_AQActionplan_1
Calderdale	Local_Calderdale_H2	Bus Quality Partnerships	Continue to develop Bus Quality Partnerships with Metro and operators and target the A629 Huddersfield Road corridor bus services.	<ul style="list-style-type: none"> • Type: Technical; Education/information • Sources affected: Transport • Spatial scale: local • Implementation date: 2008 • Reduction timescale: Long term • Regulatory: No • Smarter Choices (c) : No • Reference (d): Local_zone4_Calderdale_AQActionplan_1
Calderdale	Local_Calderdale_D2	Car parking strategy for Halifax	Continue to develop and implement car parking strategy for Halifax	<ul style="list-style-type: none"> • Type: Technical; Education/information • Sources affected: Transport • Spatial scale: local • Implementation date: 2008 • Reduction timescale: Long term • Regulatory: No • Smarter Choices (c) : No • Reference (d): Local_zone4_Calderdale_AQActionplan_1
Calderdale	Local_Calderdale_D3	Review and regulate long stay car parking charges.	Rreview and regulate long stay car parking charges.	<ul style="list-style-type: none"> • Type: Economic/fiscal; Education/information • Sources affected: Transport • Spatial scale: local • Implementation date: 2008 • Reduction timescale: Long term • Regulatory: No • Smarter Choices (c) : No • Reference (d): Local_zone4_Calderdale_AQActionplan_1
Calderdale	Local_Calderdale_E1	Inceased enforcement of waiting restrictions on A629 Huddersfield Road on AQMA.	Inceased enforcement of waiting restrictions on A629 Huddersfield Road on AQMA.	<ul style="list-style-type: none"> • Type: Economic/fiscal; Technical; Education/information • Sources affected: Transport • Spatial scale: local • Implementation date: 2008 • Reduction timescale: Medium term • Regulatory: Yes • Smarter Choices (c) : No • Reference (d): Local_zone4_Calderdale_AQActionplan_1
Calderdale	Local_Calderdale_G4	Improve condition and singage of footway and	Improve condition and singage of footway and footpath routes, in particular the the Calderdale Royal Hospital.	<ul style="list-style-type: none"> • Type: Technical; Education/information • Sources affected: Transport • Spatial scale: local • Implementation date: 2008

LA (a)	Measure code (b)	Title	Description	Other information
		footpath routes		<ul style="list-style-type: none"> • Reduction timescale: Long term • Regulatory: No • Smarter Choices (c) : No • Reference (d): Local_zone4_Calderdale_AQActionplan_1
Calderdale	Local_Calderdale_G5	Improve walking routes and access to bus stops on the A629 Huddersfield Road corridor.	Improve walking routes and access to bus stops on the A629 Huddersfield Road corridor.	<ul style="list-style-type: none"> • Type: Technical; Education/information • Sources affected: Transport • Spatial scale: local • Implementation date: 2008 • Reduction timescale: Long term • Regulatory: No • Smarter Choices (c) : No • Reference (d): Local_zone4_Calderdale_AQActionplan_1
Calderdale	Local_Calderdale_G6	Cycle training programme	Continue to implement the cycle training programme to primary schools and develop the advanced training to secondary schools.	<ul style="list-style-type: none"> • Type: Technical; Education/information • Sources affected: Transport • Spatial scale: local • Implementation date: 2008 • Reduction timescale: • Regulatory: No • Smarter Choices (c) : Yes • Reference (d): Local_zone4_Calderdale_AQActionplan_1
Calderdale	Local_Calderdale_E2	Integrate and encourage air quality criteria into land use polic (UDP/ LDF) and planning process	Integrate and encourage air quality criteria into land use polic (UDP/ LDF) and planning process	<ul style="list-style-type: none"> • Type: Technical; Education/information • Sources affected: Transport • Spatial scale: local • Implementation date: 2008 • Reduction timescale: • Regulatory: No • Smarter Choices (c) : No • Reference (d): Local_zone4_Calderdale_AQActionplan_1
Calderdale	Local_Calderdale_G7	Encourage take up of travel plan requirement for new developments.	Encourage take up of travel plan requirement for new developments.	<ul style="list-style-type: none"> • Type: Education/information • Sources affected: Transport • Spatial scale: local • Implementation date: 2008 • Reduction timescale: • Regulatory: No • Smarter Choices (c) : Yes • Reference (d): Local_zone4_Calderdale_AQActionplan_1
Calderdale	Local_Calderdale_H3	Continued	Continued monitoring of air quality traffic data	<ul style="list-style-type: none"> • Type: Technical; Education/information

LA (a)	Measure code (b)	Title	Description	Other information
		monitoring of air quality traffic data		<ul style="list-style-type: none"> • Sources affected: Transport • Spatial scale: local • Implementation date: 2008 • Reduction timescale: • Regulatory: No • Smarter Choices (c) : No • Reference (d): Local_zone4_Calderdale_AQActionplan_1
Calderdale	Local_Calderdale_H4	Continue district wide monitoring	Continue district wide monitoring	<ul style="list-style-type: none"> • Type: Technical; Education/information • Sources affected: Transport • Spatial scale: local • Implementation date: 2008 • Reduction timescale: • Regulatory: Yes • Smarter Choices (c) : No • Reference (d): Local_zone4_Calderdale_AQActionplan_1
Calderdale	Local_Calderdale_H5	Continue cross boundary working with neighbouring authorities.	Continue cross boundary working with neighbouring authorities.	<ul style="list-style-type: none"> • Type: Education/information • Sources affected: Transport • Spatial scale: regional • Implementation date: 2008 • Reduction timescale: • Regulatory: No • Smarter Choices (c) : No • Reference (d): Local_zone4_Calderdale_AQActionplan_1
Kirklees	Local_Kirklees_H1	Local Air Quality Strategy	Local Air Quality Strategy	<ul style="list-style-type: none"> • Type: Education/information • Sources affected: Transport; Industry including heating and power production; Commercial and residential sources; Other • Spatial scale: local • Implementation date: 2007 • Reduction timescale: Long term • Regulatory: No • Smarter Choices (c) : No • Reference (d): Local_zone4_kirklees_AQActionplan_1
Kirklees	Local_Kirklees_B2	Approval of new combustion plant	The Clean Air Act requires local authority approval of new or altered combustion plant above a certain power rating (where it is outside the regime of industrial pollution control).	<ul style="list-style-type: none"> • Type: Technical; Education/information • Sources affected: Industry including heating and power production; Commercial and residential sources • Spatial scale: local • Implementation date: 2007 • Reduction timescale: Long term

LA (a)	Measure code (b)	Title	Description	Other information
				<ul style="list-style-type: none"> • Regulatory: Yes • Smarter Choices (c) : No • Reference (d): Local_zone4_kirklees_AQActionplan_1
Kirklees	Local_Kirklees_E1	LTP - Land use planning, transport assessments	Where a Transport Assessment is required for a development in an air quality "Area of Concern" or any Air Quality Management Area then an air quality assessment will be required, as a matter of course, as part of that Transport Assessment.	<ul style="list-style-type: none"> • Type: Technical; Education/information • Sources affected: Transport; Industry including heating and power production; Commercial and residential sources • Spatial scale: local • Implementation date: 2007 • Reduction timescale: Long term • Regulatory: No • Smarter Choices (c) : No • Reference (d): Local_zone4_kirklees_AQActionplan_1
Kirklees	Local_Kirklees_E2	Development Planning Control	Examine all planning applications and determine if air quality is a material consideration in that application	<ul style="list-style-type: none"> • Type: Technical; Education/information • Sources affected: Transport; Industry including heating and power production; Commercial and residential sources • Spatial scale: local • Implementation date: 2007 • Reduction timescale: Long term • Regulatory: No • Smarter Choices (c) : No • Reference (d): Local_zone4_kirklees_AQActionplan_1
Kirklees	Local_Kirklees_E3	REGENERATION	Proposals for regeneration projects or schemes will include air quality impact assessments and air quality mitigation measures.	<ul style="list-style-type: none"> • Type: Technical; Education/information • Sources affected: Transport; Industry including heating and power production; Commercial and residential sources • Spatial scale: local • Implementation date: 2007 • Reduction timescale: Long term • Regulatory: No • Smarter Choices (c) : No • Reference (d): Local_zone4_kirklees_AQActionplan_1
Leeds	Local_Leeds_B1	Enforce Clean Air Act	Enforce Clean Air Act	<ul style="list-style-type: none"> • Type: Economic/fiscal; Technical; Education/information • Sources affected: Commercial and residential sources • Spatial scale: local • Implementation date: 1993 • Reduction timescale: Long term • Regulatory: Yes • Smarter Choices (c) : No • Reference (d): Local_zone4_Leeds_AQActionplan_1
Leeds	Local_Leeds_B2	Continue	Continue purchase of 'green electricity'	<ul style="list-style-type: none"> • Type: Technical; Education/information

LA (a)	Measure code (b)	Title	Description	Other information
		purchase of 'green electricity'		<ul style="list-style-type: none"> • Sources affected: Transport; Commercial and residential sources • Spatial scale: local • Implementation date: 2004 • Reduction timescale: Long term • Regulatory: No • Smarter Choices (c) : No • Reference (d): Local_zone4_Leeds_AQActionplan_1
Leeds	Local_Leeds_B3	Promote energy efficiency schemes	The Council will continue to implement its energy efficiency plans for both public and private sector housing to achieve improvements in energy efficiency which will result in improving air quality.	<ul style="list-style-type: none"> • Type: Technical; Education/information • Sources affected: Transport; Commercial and residential sources • Spatial scale: local • Implementation date: 1996 • Reduction timescale: Long term • Regulatory: No • Smarter Choices (c) : No • Reference (d): Local_zone4_Leeds_AQActionplan_1
Leeds	Local_Leeds_H1	Enforce EPA 1990	Enforce EPA 1990	<ul style="list-style-type: none"> • Type: Economic/fiscal; Technical; Education/information • Sources affected: Industry including heating and power production • Spatial scale: local • Implementation date: 1990 • Reduction timescale: Long term • Regulatory: Yes • Smarter Choices (c) : No • Reference (d): Local_zone4_Leeds_AQActionplan_1
Leeds	Local_Leeds_G1	Cycling and Walking Strategies	Both the Leeds Action Plans were implemented through the West Yorkshire Strategies and the LTP.	<ul style="list-style-type: none"> • Type: Education/information • Sources affected: Transport • Spatial scale: local • Implementation date: 2008 • Reduction timescale: Long term • Regulatory: No • Smarter Choices (c) : Yes • Reference (d): Local_zone4_Leeds_AQActionplan_1
Leeds	Local_Leeds_H2	Access Strategy	A new method of providing for DDA requirements has been introduced. This has resulted in requests for dropped kerbs and for disabled parking bays to be rapidly progressed and implementation to be undertaken more quickly than hitherto.	<ul style="list-style-type: none"> • Type: Education/information • Sources affected: Transport • Spatial scale: local • Implementation date: 2004 • Reduction timescale: Long term • Regulatory: No • Smarter Choices (c) : No • Reference (d): Local_zone4_Leeds_AQActionplan_1

LA (a)	Measure code (b)	Title	Description	Other information
Leeds	Local_Leeds_A1	Fleet Vehicle emissions	Ensure all new HGV are Euro 3 standard	<ul style="list-style-type: none"> • Type: Technical; Education/information • Sources affected: Transport • Spatial scale: local • Implementation date: 2005 • Reduction timescale: Medium/long term • Regulatory: No • Smarter Choices (c) : No • Reference (d): Local_zone4_Leeds_AQActionplan_1
Leeds	Local_Leeds_A2	Driver training	Introduce driver training (SAFED)	<ul style="list-style-type: none"> • Type: Education/information • Sources affected: Transport • Spatial scale: local • Implementation date: 2007 • Reduction timescale: Long term • Regulatory: No • Smarter Choices (c) : No • Reference (d): Local_zone4_Leeds_AQActionplan_1
Leeds	Local_Leeds_A3	Council vehicle fleet management	Plan re-fuelling point use to minimise additional mileage	<ul style="list-style-type: none"> • Type: Economic/fiscal; Technical; Education/information • Sources affected: Transport • Spatial scale: local • Implementation date: 1998 • Reduction timescale: Long term • Regulatory: No • Smarter Choices (c) : No • Reference (d): Local_zone4_Leeds_AQActionplan_1
Leeds	Local_Leeds_G2	Workplace / Travel Plans	Workplace / Travel Plans for private sector business and public sector organisations.	<ul style="list-style-type: none"> • Type: Education/information • Sources affected: Transport • Spatial scale: local • Implementation date: 2000 • Reduction timescale: Long term • Regulatory: No • Smarter Choices (c) : Yes • Reference (d): Local_zone4_Leeds_AQActionplan_1
Leeds	Local_Leeds_G3	School Travel Plans	School Travel Plans. In January 2007, 55 schools successfully applied for a one-off, 3-year grant to introduce a walking bus or other walking initiative. 41 of these schools initiated a walking bus In 9 primary schools, a statistically significant shift from car use to walking, where an intervention to encourage walking has occurred.	<ul style="list-style-type: none"> • Type: Education/information • Sources affected: Transport • Spatial scale: local • Implementation date: 2002 • Reduction timescale: Long term • Regulatory: No • Smarter Choices (c) : Yes • Reference (d): Local_zone4_Leeds_AQActionplan_1
Leeds	Local_Leeds_E1	UDP measures	UDP measures, powers and note of revised PPG13 etc	<ul style="list-style-type: none"> • Type: Technical; Education/information • Sources affected: Transport

LA (a)	Measure code (b)	Title	Description	Other information
				<ul style="list-style-type: none"> • Spatial scale: local • Implementation date: 2001 • Reduction timescale: Long term • Regulatory: No • Smarter Choices (c) : No • Reference (d): Local_zone4_Leeds_AQActionplan_1
Leeds	Local_Leeds_G4	Departmental Travel Plan	Corporate Travel Plan Strategy approved February 2005. Corporate Travel Plan Officer employed July 2007 to implement strategy.	<ul style="list-style-type: none"> • Type: Education/information • Sources affected: Transport • Spatial scale: local • Implementation date: 2002-2003 • Reduction timescale: Long term • Regulatory: No • Smarter Choices (c) : Yes • Reference (d): Local_zone4_Leeds_AQActionplan_1
Leeds	Local_Leeds_E2	Environmental Impact Assessment - Planning	Request use of EIA where appropriate	<ul style="list-style-type: none"> • Type: Technical; Education/information • Sources affected: Transport; Commercial and residential sources • Spatial scale: local • Implementation date: 2001-2007 • Reduction timescale: Long term • Regulatory: No • Smarter Choices (c) : No • Reference (d): Local_zone4_Leeds_AQActionplan_1
Leeds	Local_Leeds_H3	LEZ Feasibility study	LEZ Feasibility study	<ul style="list-style-type: none"> • Type: Technical; Education/information • Sources affected: Transport • Spatial scale: local • Implementation date: 2001 & 2009 • Reduction timescale: Short term • Regulatory: No • Smarter Choices (c) : No • Reference (d): Local_zone4_Leeds_AQActionplan_1
Leeds	Local_Leeds_D1	Parking restraints	Parking restraints and price signals to discourage long-stay parking	<ul style="list-style-type: none"> • Type: Economic/fiscal; Technical; Education/information • Sources affected: Transport • Spatial scale: local • Implementation date: NA • Reduction timescale: Long term • Regulatory: No • Smarter Choices (c) : No • Reference (d): Local_zone4_Leeds_AQActionplan_1
Leeds	Local_Leeds_D2	Parking Guidelines	UDP max parking guidelines	<ul style="list-style-type: none"> • Type: Economic/fiscal; Technical; Education/information • Sources affected: Transport • Spatial scale: local

LA (a)	Measure code (b)	Title	Description	Other information
				<ul style="list-style-type: none"> • Implementation date: 2001 • Reduction timescale: Long term • Regulatory: No • Smarter Choices (c) : No • Reference (d): Local_zone4_Leeds_AQActionplan_1
Leeds	Local_Leeds_F1	Travel Plan 'tool-kit'	Travel Plan 'tool-kit' through EC funded project	<ul style="list-style-type: none"> • Type: Education/information • Sources affected: Transport • Spatial scale: local • Implementation date: 2001/02 • Reduction timescale: Short term • Regulatory: No • Smarter Choices (c) : Yes • Reference (d): Local_zone4_Leeds_AQActionplan_1
Leeds	Local_Leeds_F2	Trial of "work/life balance"	Trial of "work/life balance" in various departments	<ul style="list-style-type: none"> • Type: Education/information • Sources affected: Transport • Spatial scale: local • Implementation date: NA • Reduction timescale: Short term • Regulatory: No • Smarter Choices (c) : Yes • Reference (d): Local_zone4_Leeds_AQActionplan_1
Leeds	Local_Leeds_F3	Travelwise	Travelwise Campaign includes: awareness, green vehicle trials; alternative fuel trials.	<ul style="list-style-type: none"> • Type: Education/information • Sources affected: Transport • Spatial scale: local • Implementation date: • Reduction timescale: Long term • Regulatory: No • Smarter Choices (c) : Yes • Reference (d): Local_zone4_Leeds_AQActionplan_1
Leeds	Local_Leeds_A4	Efficient Driving Campaigns	Publicity campaign on more fuel efficient driving	<ul style="list-style-type: none"> • Type: Education/information • Sources affected: Transport • Spatial scale: local • Implementation date: 2007 • Reduction timescale: Short term • Regulatory: No • Smarter Choices (c) : No • Reference (d): Local_zone4_Leeds_AQActionplan_1
Leeds	Local_Leeds_F4	Air Quality Website	Air quality information on website	<ul style="list-style-type: none"> • Type: Education/information • Sources affected: Transport; Industry including heating and power production; Commercial and residential sources; Other • Spatial scale: local

LA (a)	Measure code (b)	Title	Description	Other information
				<ul style="list-style-type: none"> • Implementation date: 2004/2008 • Reduction timescale: Short term • Regulatory: No • Smarter Choices (c) : No • Reference (d): Local_zone4_Leeds_AQActionplan_1
Leeds	Local_Leeds_H4	Quality Bus Initiatives	Quality Bus Initiatives (8 schemes / locations)	<ul style="list-style-type: none"> • Type: Technical; Education/information • Sources affected: Transport • Spatial scale: local • Implementation date: • Reduction timescale: Long term • Regulatory: No • Smarter Choices (c) : No • Reference (d): Local_zone4_Leeds_AQActionplan_1
Leeds	Local_Leeds_D3	Discount travel cards	Discounts on company travel cards (trial)	<ul style="list-style-type: none"> • Type: Economic/fiscal; Technical; Education/information • Sources affected: Transport • Spatial scale: local • Implementation date: 2002 • Reduction timescale: Long term • Regulatory: No • Smarter Choices (c) : No • Reference (d): Local_zone4_Leeds_AQActionplan_1
Leeds	Local_Leeds_E3	High Occupancy Vehicle lane	High Occupancy Vehicle Lane (Stanningly lane): existing	<ul style="list-style-type: none"> • Type: Technical; Education/information • Sources affected: Transport • Spatial scale: local • Implementation date: 1999 • Reduction timescale: Long term • Regulatory: No • Smarter Choices (c) : No • Reference (d): Local_zone4_Leeds_AQActionplan_1
Leeds	Local_Leeds_E4	Link Road	East Leeds Link Road (inc. HOV and HGV lanes)	<ul style="list-style-type: none"> • Type: Technical • Sources affected: Transport • Spatial scale: local • Implementation date: 2009 • Reduction timescale: Long term • Regulatory: No • Smarter Choices (c) : No • Reference (d): Local_zone4_Leeds_AQActionplan_1
Leeds	Local_Leeds_E5	Inner Ring Road	Completion of inner ring road	<ul style="list-style-type: none"> • Type: Technical • Sources affected: Transport • Spatial scale: local • Implementation date: 2008 • Reduction timescale: Long term

LA (a)	Measure code (b)	Title	Description	Other information
				<ul style="list-style-type: none"> • Regulatory: No • Smarter Choices (c) : No • Reference (d): Local_zone4_Leeds_AQActionplan_1
Leeds	Local_Leeds_E6	Urban Traffic Control System	Phase 2 upgrade of UTC	<ul style="list-style-type: none"> • Type: Technical • Sources affected: Transport • Spatial scale: local • Implementation date: 2001 • Reduction timescale: Long term • Regulatory: No • Smarter Choices (c) : No • Reference (d): Local_zone4_Leeds_AQActionplan_1
Leeds	Local_Leeds_G5	Bus Rapid Transit (replaces Supertram)	Metro has developed plans for a 20km bus based rapid transit network consisting of three routes running north, south and east of Leeds. At present the technology of the buses is not decided, but it is hoped to be either Diesel Electric Hybrid or Electric trolleybus.	<ul style="list-style-type: none"> • Type: Technical; Education/information • Sources affected: Transport • Spatial scale: local • Implementation date: Ongoing • Reduction timescale: Long term • Regulatory: No • Smarter Choices (c) : No • Reference (d): Local_zone4_Leeds_AQActionplan_1
Wakefield	Local_Wakefield_B1	Implement energy efficiency plan	A continuing programme of energy advice and facilities is undertaken through the Wakefield Home Energy Team48. In addition, Council buildings are undergoing major energy efficiency scrutiny in an effort to minimise emissions as part of achieving the Wakefield Environment Policy Statement	<ul style="list-style-type: none"> • Type: Education/information • Sources affected: Commercial and residential sources • Spatial scale: local • Implementation date: 2008 • Reduction timescale: Long term • Regulatory: No • Smarter Choices (c) : No • Reference (d): Local_zone4_Wakefield_AQActionplan_1
Wakefield	Local_Wakefield_B2	Enforce clean air Act	Environmental Health Services to maintain their enforcement of clean air legislation as well as improving liaison with the Home Energy Team in data gathering.	<ul style="list-style-type: none"> • Type: Economic/fiscal; Technical; Education/information • Sources affected: Industry including heating and power production; Commercial and residential sources • Spatial scale: local • Implementation date: 2008 • Reduction timescale: Long term • Regulatory: Yes • Smarter Choices (c) : No • Reference (d): Local_zone4_Wakefield_AQActionplan_1
Wakefield	Local_Wakefield_C1	Increase use of CRT/ alternative fuels in Council fleet	Consider opportunities for introducing alternative fuelled vehicles to Council fleet.	<ul style="list-style-type: none"> • Type: Technical • Sources affected: Transport • Spatial scale: local • Implementation date: 2008 • Reduction timescale: Long term • Regulatory: No

LA (a)	Measure code (b)	Title	Description	Other information
				<ul style="list-style-type: none"> • Smarter Choices (c) : No • Reference (d): Local_zone4_Wakefield_AQActionplan_1
Wakefield	Local_Wakefield_A1	Increase council driver training	Promoting driver training	<ul style="list-style-type: none"> • Type: Education/information • Sources affected: Transport • Spatial scale: local • Implementation date: 2008 • Reduction timescale: Long term • Regulatory: No • Smarter Choices (c) : No • Reference (d): Local_zone4_Wakefield_AQActionplan_1
Wakefield	Local_Wakefield_C2	Increase council use of sustainable fuels	Investigate opportunities to use alternative fuels including renewable energy	<ul style="list-style-type: none"> • Type: Education/information • Sources affected: Transport • Spatial scale: local • Implementation date: 2008 • Reduction timescale: Long term • Regulatory: No • Smarter Choices (c) : No • Reference (d): Local_zone4_Wakefield_AQActionplan_1
Wakefield	Local_Wakefield_A2	Assess emission standards for taxis and private hire vehicles.	A tightened fit for purpose mechanical check of taxis that includes emissions checks to ensure that they meet the current vehicle standards as well as reducing the taxi fleet age will be investigated. There are some 2000 licences for private hire and taxi vehicles in Wakefield which include a mix of vehicle types from small saloon to minibuses. Vehicles are required to undertake an annual fit for purpose check up to five years old and every six months for vehicles older than that.	<ul style="list-style-type: none"> • Type: Technical; Education/information • Sources affected: Transport • Spatial scale: local • Implementation date: 2008 • Reduction timescale: Long term • Regulatory: No • Smarter Choices (c) : No • Reference (d): Local_zone4_Wakefield_AQActionplan_1
Wakefield	Local_Wakefield_E1	Increase status of AQ issues in the LDF Increased training for Dev Control personnel in AQ issues	Both the proposed Local Development Framework and Development Control Policy described earlier (section 4.2.5) now contains specific air quality policies aimed at producing a sustainable, improved level of local air quality. In addition, a draft supplementary planning document (section 4.2.6) detailing the authority's policy on developer contributions to local development includes contributions relating to measures to improve local air quality has been produced. Specific air quality planning and development guidance (section 4.2.5) has been produced for planners and developers that describes an assessment process designed to minimise deterioration of local air quality through the	<ul style="list-style-type: none"> • Type: Technical; Education/information • Sources affected: Transport; Industry including heating and power production; Commercial and residential sources • Spatial scale: local • Implementation date: 2008 • Reduction timescale: Long term • Regulatory: No • Smarter Choices (c) : No • Reference (d): Local_zone4_Wakefield_AQActionplan_1

LA (a)	Measure code (b)	Title	Description	Other information
			planning and development process.	
Wakefield	Local_Wakefield_H1	Investigate Low Emission Zone	The proximity of strategic highway within the authority boundary and the dispersed nature of towns would make the introduction of LEZs difficult. However, as part of a wider package of measures it may prove more successful.	<ul style="list-style-type: none"> • Type: Technical; Education/information • Sources affected: Transport • Spatial scale: local • Implementation date: 2008 • Reduction timescale: Long term • Regulatory: No • Smarter Choices (c) : No • Reference (d): Local_zone4_Wakefield_AQActionplan_1
Wakefield	Local_Wakefield_D1	Develop a parking (and P&R) strategy	Ensure that the recommendations of the Wakefield Parking Strategy are fully implemented and integrated into the LDF process. A further assessment of the impact of the strategy is recommended in the future to establish any further changes following the regeneration of town and city.	<ul style="list-style-type: none"> • Type: Technical; Education/information • Sources affected: Transport • Spatial scale: local • Implementation date: 2008 • Reduction timescale: Long term • Regulatory: No • Smarter Choices (c) : No • Reference (d): Local_zone4_Wakefield_AQActionplan_1

(a) Name of responsible Local Authority.

(b) The Letter in the measure code indicates the main source sector that will be affected by the measure. Letters are assigned as follows: A - measures to reduce emissions from mobile sources, B - measures to reduce emissions from stationary sources, C - fuels and petrol stations, D - Economic incentives to reduce emissions (e.g. congestion charging, controlled parking zones), E - measures related to traffic planning/redesigning infrastructure, F - information/educational measures, G - change of transport mode (e.g. scheme to encourage people out of cars and onto bikes), H - Other.

(c) Measures have been classified as 'smarter choices' or not based on expert judgement

(d) References available for download from: <http://uk-air.defra.gov.uk/library/NO2ten/>

