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# Air Quality Plan for the achievement of EU air quality limit values for nitrogen dioxide (NO<sub>2</sub>) in Belfast Metropolitan Urban Area (UK0028)

September 2011



Llywodraeth Cymru  
Welsh Government



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**Published by the Department for Environment, Food and Rural Affairs**

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# 1. Introduction

## 1.1. This document

This document is the Belfast Metropolitan Urban Area (UK0028) 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 Belfast Metropolitan Urban Area agglomeration zone
- Details of NO<sub>2</sub> exceedance situation(s) within the Belfast Metropolitan 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 Belfast Metropolitan 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 Belfast Metropolitan Urban Area agglomeration zone indicates that the annual limit value is likely to be exceeded in 2010 but achieved by 2015 through introduction of the measures included in the baseline and the non-quantifiable local measures outlined in this plan. Postponement of the compliance date to 2015 is sought for this limit value in this zone.

The assessment undertaken for the Belfast Metropolitan 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.

## 2. General Information about the Zone

### 2.1. Administrative information

Zone name: Belfast Metropolitan Urban Area

Zone code: UK0028

Type of zone: agglomeration zone

Reference year: 2008

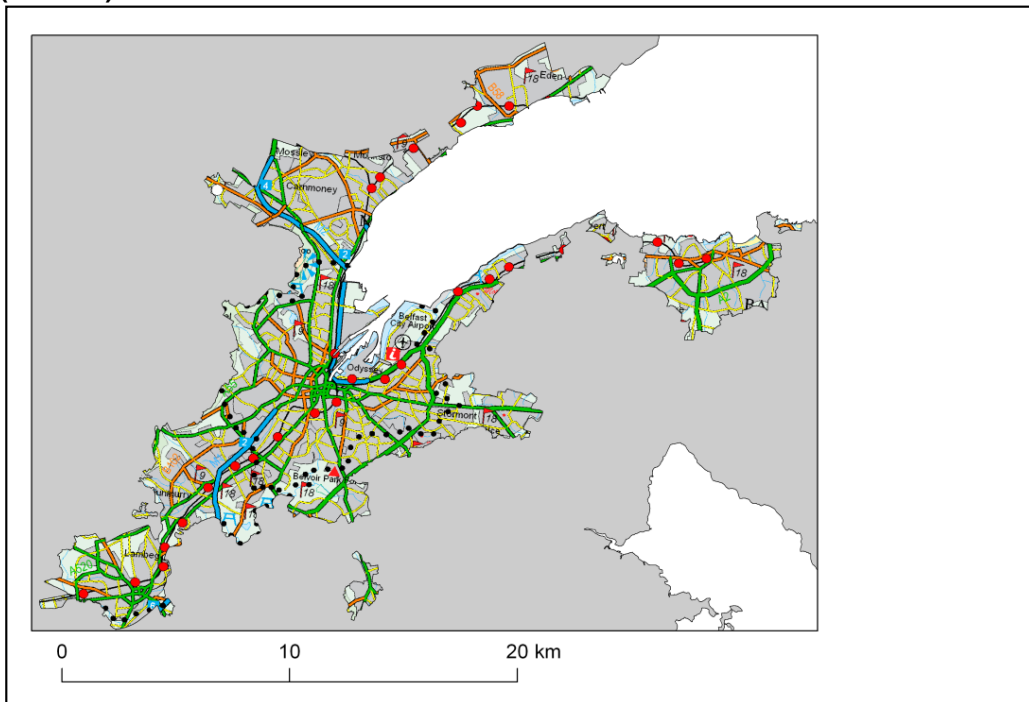
Extent of zone: Figure 1 shows the area covered by the Belfast Metropolitan Urban Area agglomeration zone

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. Belfast City Council
2. Carrickfergus Borough Council
3. Castlereagh Borough Council
4. Lisburn City Council
5. Newtownabbey Borough Council
6. North Down Borough Council

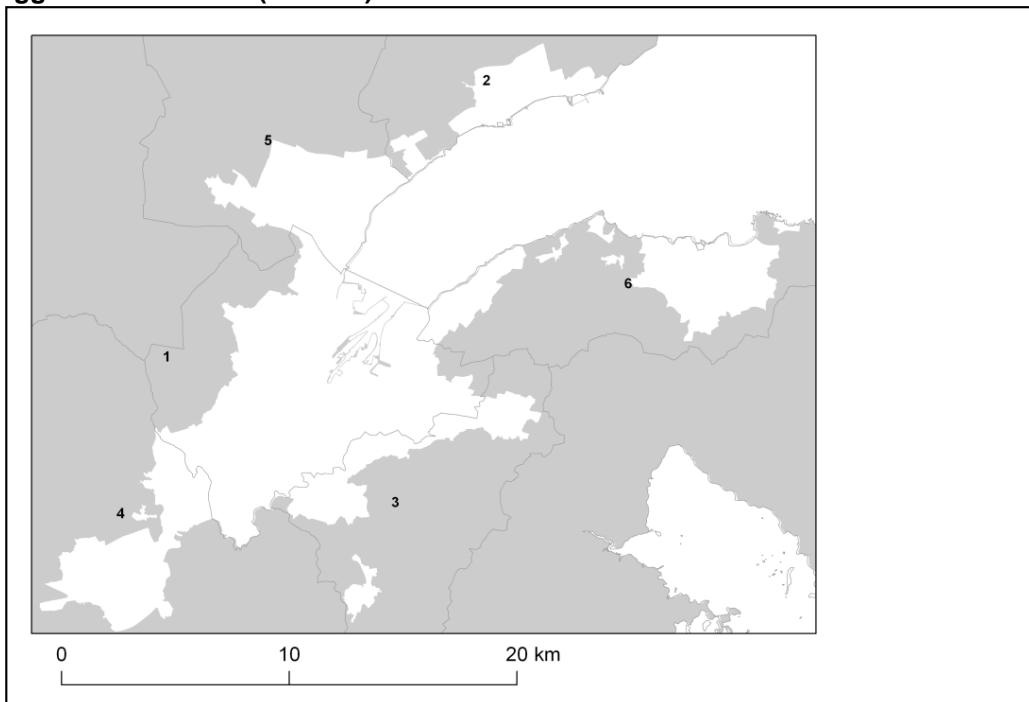
(Note: Local Authority boundaries do not necessarily coincide with zone boundaries. Hence Local Authorities may be listed within more than one zone plan.)

**Figure 1. Map showing the extent of the Belfast Metropolitan Urban Area agglomeration zone (UK0028).**



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**Figure 2. Map showing Local Authorities within the Belfast Metropolitan Urban Area agglomeration zone (UK0028).**



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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):

- Belfast Centre GB0567A (92.2%)

Full details of monitoring stations within the Belfast Metropolitan 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): 208 km<sup>2</sup>
- Total population within zone (approx): 517811 people
- Total road length where an assessment of NO<sub>2</sub> concentrations have been made: 158.4 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.

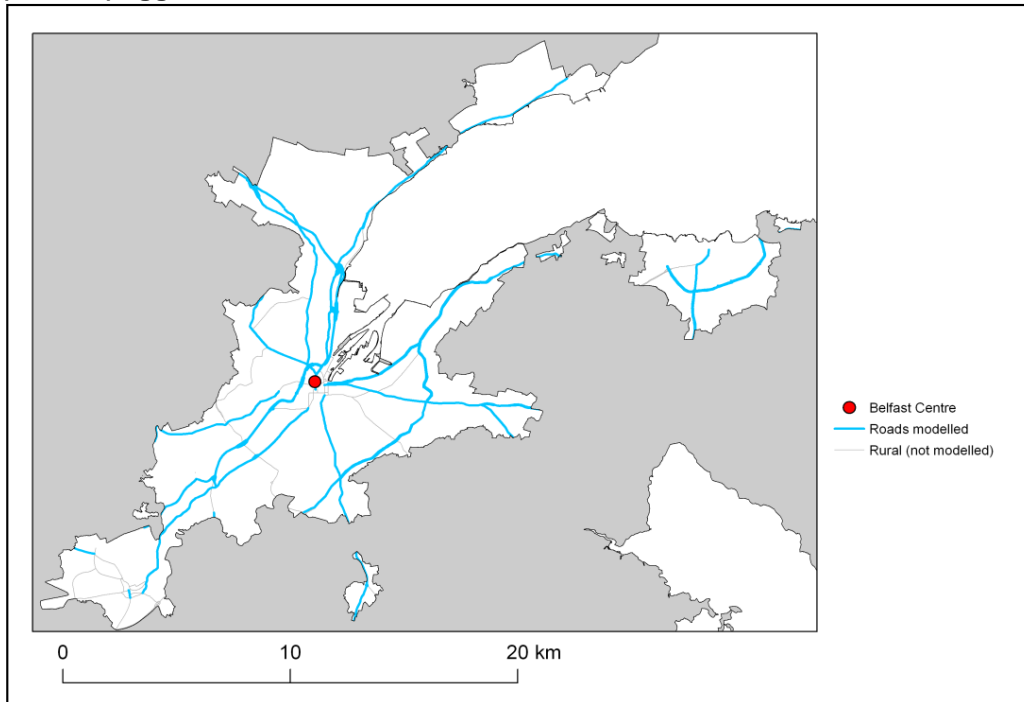
## 2.3. Reporting Under European Directives

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 Belfast Metropolitan Urban Area (UK0028) 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 Belfast Metropolitan 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>\_UK0028\_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>\_UK0028\_Annual\_1

The NO<sub>2</sub>\_UK0028\_Annual\_1 exceedance situation covers all exceedances of the annual mean limit value in the Belfast Metropolitan 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, 36.4 km of road length was modelled to exceed the annual limit value. There were no modelled background exceedances of this limit value. Table 2 also shows that the maximum modelled annual mean NO<sub>2</sub> concentration in 2008 was 70.4 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 NO<sub>x</sub> source apportionment for each section of road within the NO<sub>2</sub>\_UK0028\_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>\_UK0028\_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
Belfast Centre (GB0567A)	32 (86%)	30 (95%)	32 (95%)	28 (92%)	33 (55%)	34 (91%)	32 (91%)	32 (92%)	33 (89%)

(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>\_UK0028\_Annual\_1 for 2001 onwards**

	2001	2002	2003	2004	2005	2006	2007	2008	2009
Road length exceeding (km)	37.2	46.0	53.8	67.6	35.0	35.0	35.0	36.4	57.9
Background area exceeding (km <sup>2</sup> )	0	0	0	0	0	0	0	0	0
Maximum modelled concentration (µgm <sup>-3</sup> ) (a)	60.0	49.9	60.5	56.6	72.9	73.9	67.8	70.4	65.6

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

**Table 3. Source apportionment summary information for 2008 in NO<sub>2</sub>\_UK0028\_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	3.8	(c)	
	From within the UK	1.8	(c)	1.8
	From transboundary sources (includes shipping and other EU Member States)	2.0	(c)	2.0
Urban background sources (i.e. sources located within 0.3 - 30 km from the receptor)	Total	28.4	12.6	-
	From road traffic sources	13.5	7.1	27.5
	From industry (including heat and power generation)	2.3	(c)	3.7
	From agriculture	0.0	(c)	0.0
	From commercial/residential sources	9.4	(c)	12.2
	From shipping	0.2	(c)	0.9
	From off road mobile machinery	2.8	(c)	8.5
	From natural sources	0.0	(c)	0.0
	From transboundary sources	0.0	(c)	0.0
	From other urban background sources	0.1	(c)	0.3
Local sources (i.e. contributions from sources < 0.3 km from the receptor)	Total	147.8	57.8	-
	From cars	40.9	16.6	46.3
	From HGV rigid	37.9	14.7	81.5
	From HGV articulated	60.7	22.9	60.7
	From Buses	4.5	1.8	9.0
	From LGVs	3.7	1.7	4.0
	From motorcycles	0.0	0	0.0
Total (i.e. regional background + urban background + local components)		180.0	70.4	-

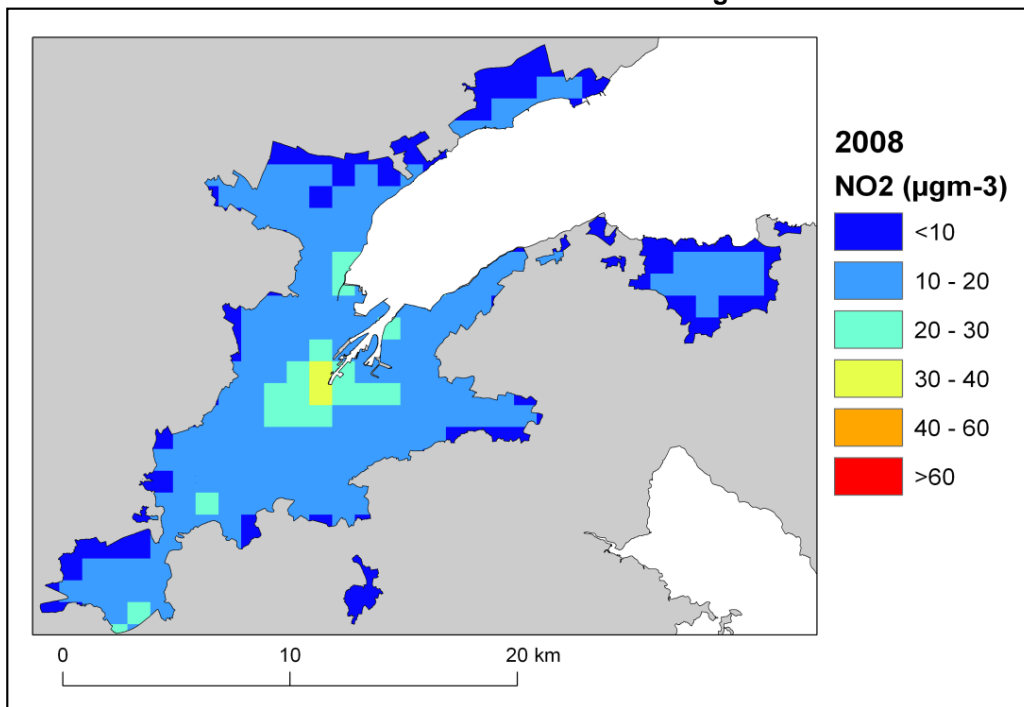
(a) The road with the highest modelled annual mean NO<sub>2</sub> concentration in this exceedance situation in 2008 is a section of the A12, traffic count point id 902213 (OS grid (m): 144969, 529075).

(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 5.5 µgm<sup>-3</sup>. A more detailed NO<sub>2</sub> source apportionment is currently unavailable for these sectors.

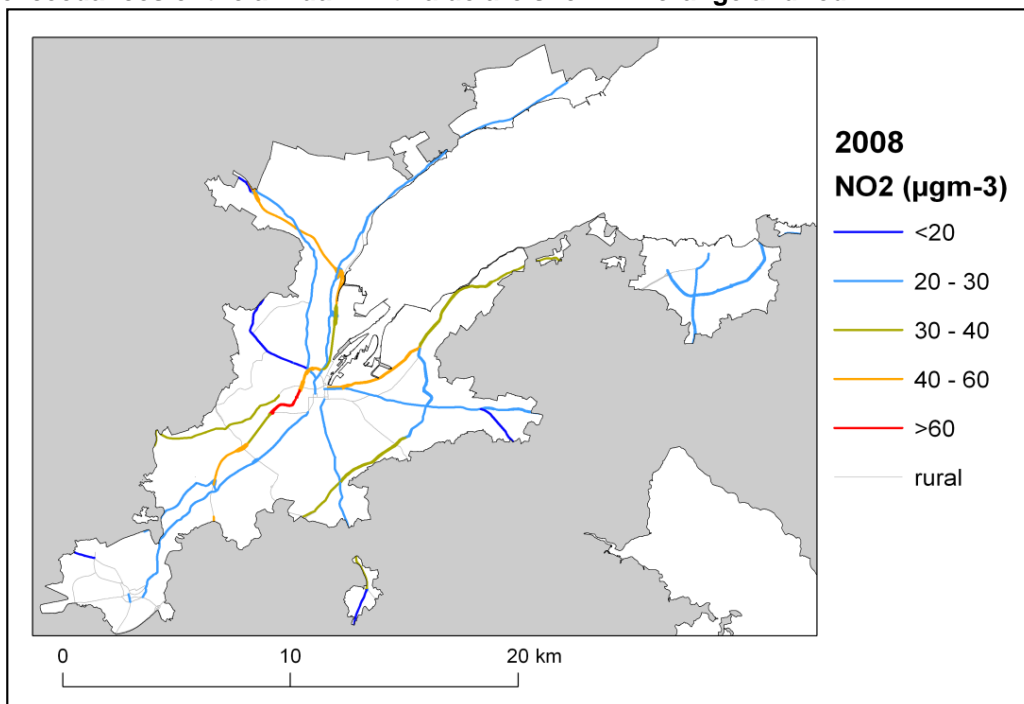
(d) Source apportionment for NO<sub>2</sub> is indicative, see UK Technical Report.

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 Belfast Metropolitan 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 60.7  $\mu\text{g m}^{-3}$  of NO<sub>x</sub> out of a total of 180  $\mu\text{g m}^{-3}$  of NO<sub>x</sub>. Rigid HGVs, cars, and articulated HGVs were important sources on the motorway roads with the highest concentrations in this exceedance situation. Articulated HGVs, rigid HGVs and cars were important sources on the primary roads with the highest concentrations.

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

### 4.3. Measures

Measures potentially affecting NO<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>\_UK0028\_Annual\_1

Table 4 presents summary results for the baseline model projections for 2010, 2015 and 2020 for the NO<sub>2</sub>\_UK0028\_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 60.6 µg m<sup>-3</sup>. By 2015, the maximum modelled annual mean NO<sub>2</sub> concentration is predicted to drop to 38.3 µg m<sup>-3</sup>. Hence, the model results suggest that compliance with the NO<sub>2</sub> annual limit value is likely to be achieved by 2015 under baseline conditions in this exceedance situation. Postponement of the compliance date to 2015 is sought for this limit value this zone.

The projected modelled NO<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. The model results suggest that this location will continue to have the highest annual mean NO<sub>2</sub> concentration within this exceedance situation in 2010, 2015 and 2020. 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 6 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>\_UK0028\_Annual\_1**

	2008	2010	2015	2020
Road length exceeding (km)	36.4	24.6	0.0	0.0
Background area exceeding (km <sup>2</sup> )	0	0	0	0
Maximum modelled concentration (µgm <sup>-3</sup> ) (a)	70.4	60.6	38.3	21.8

(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 902213 on the A12 (the road section with the maximum modelled annual mean NO<sub>2</sub> concentration in 2008 in NO<sub>2</sub>\_UK0028\_Annual\_1. OS grid (m): 144969, 529075). 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	3.8	3.3	2.9	2.3	(a)	(b)	(c)	(d)
	From within the UK	1.8	1.5	1.4	1.1	(a)	(b)	(c)	(d)
	From transboundary sources (includes shipping and other EU Member States)	2.0	1.7	1.5	1.2	(a)	(b)	(c)	(d)
Urban background sources (i.e. sources located within 0.3 - 30 km from the receptor)	Total	28.4	24.8	18.9	15.3	12.6	11.3	9.3	8.2
	From road traffic sources	13.5	10.4	6.8	4.4	7.1	6.9	6.2	6.1
	From industry (including heat and power generation)	2.3	2.1	2.0	1.9	(a)	(b)	(c)	(d)
	From agriculture	0.0	0.0	0.0	0.0	(a)	(b)	(c)	(d)
	From commercial/residential sources	9.4	9.4	8.5	7.7	(a)	(b)	(c)	(d)
	From shipping	0.2	0.2	0.2	0.2	(a)	(b)	(c)	(d)
	From off road mobile machinery	2.8	2.7	1.4	1.0	(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)
Local sources (i.e. contributions from sources < 0.3 km from the receptor)	Total	147.8	123.5	67.6	29.0	57.8	49.3	29.0	13.6
	From cars	40.9	29.7	19.1	11.9	16.6	12.5	8.6	5.7
	From HGV rigid	37.9	33.7	17.4	6.2	14.7	13.3	7.3	2.8
	From HGV articulated	60.7	52.8	26.7	8.7	22.9	20.3	11.1	4.0
	From Buses	4.5	4.0	2.4	1.1	1.8	1.6	1.0	0.5
	From LGVs	3.7	3.2	2.0	1.1	1.7	1.6	1.0	0.6
	From motorcycles	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total (i.e. regional background + urban background + local components)		180.0	151.6	89.4	46.7	70.4	60.6	38.3	21.8

(a) The total annual mean NO<sub>2</sub> contribution for all components labelled (a) in 2008 was modelled to be 5.5 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 4.4 µgm<sup>-3</sup>.

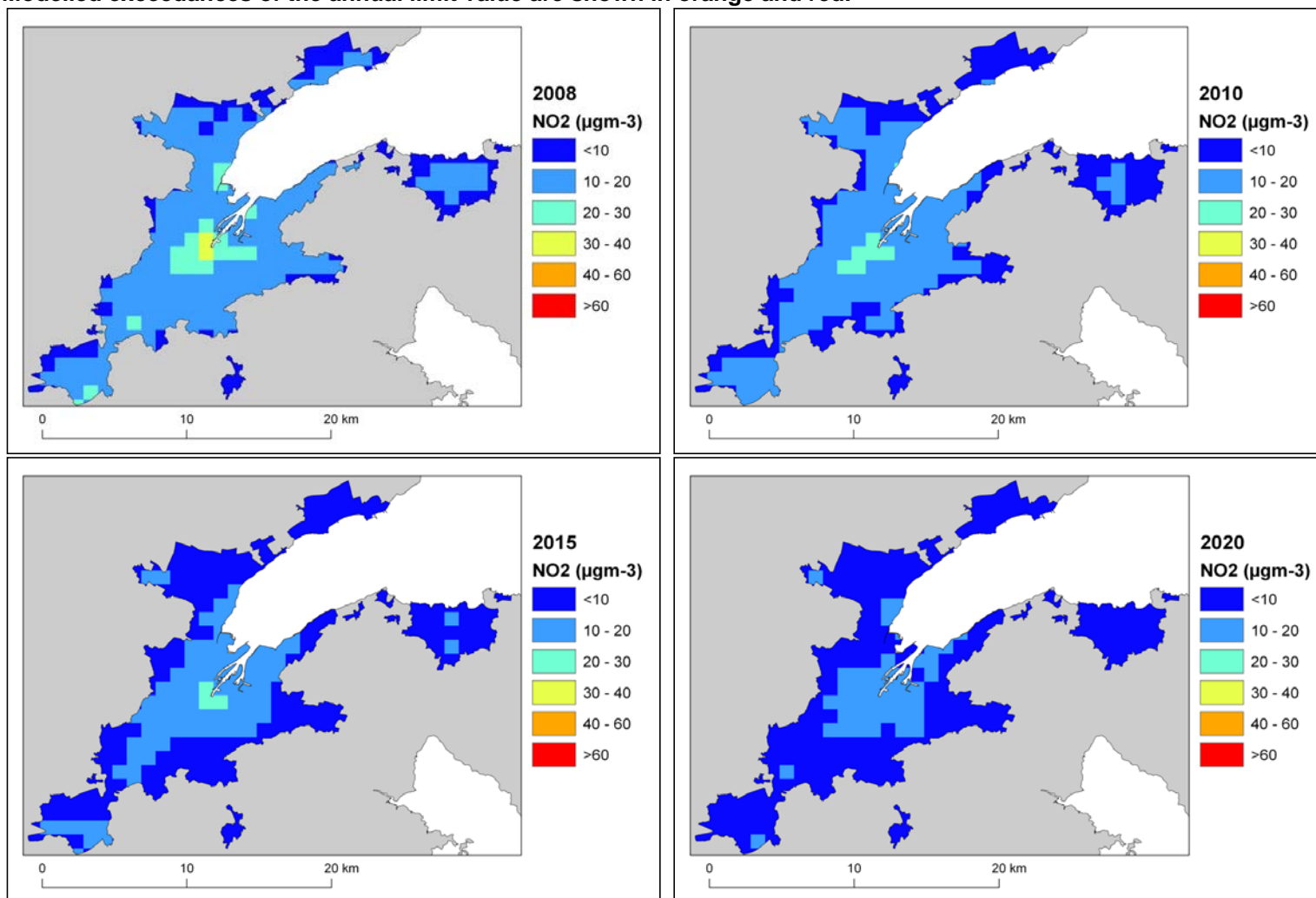
(c) The total annual mean NO<sub>2</sub> contribution for all components labelled (c) in 2015 is predicted to be 3 µgm<sup>-3</sup>.

(d) The total annual mean NO<sub>2</sub> contribution for all components labelled (d) in 2020 is predicted to be 2.1 µgm<sup>-3</sup>.

**Table 6. 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.**

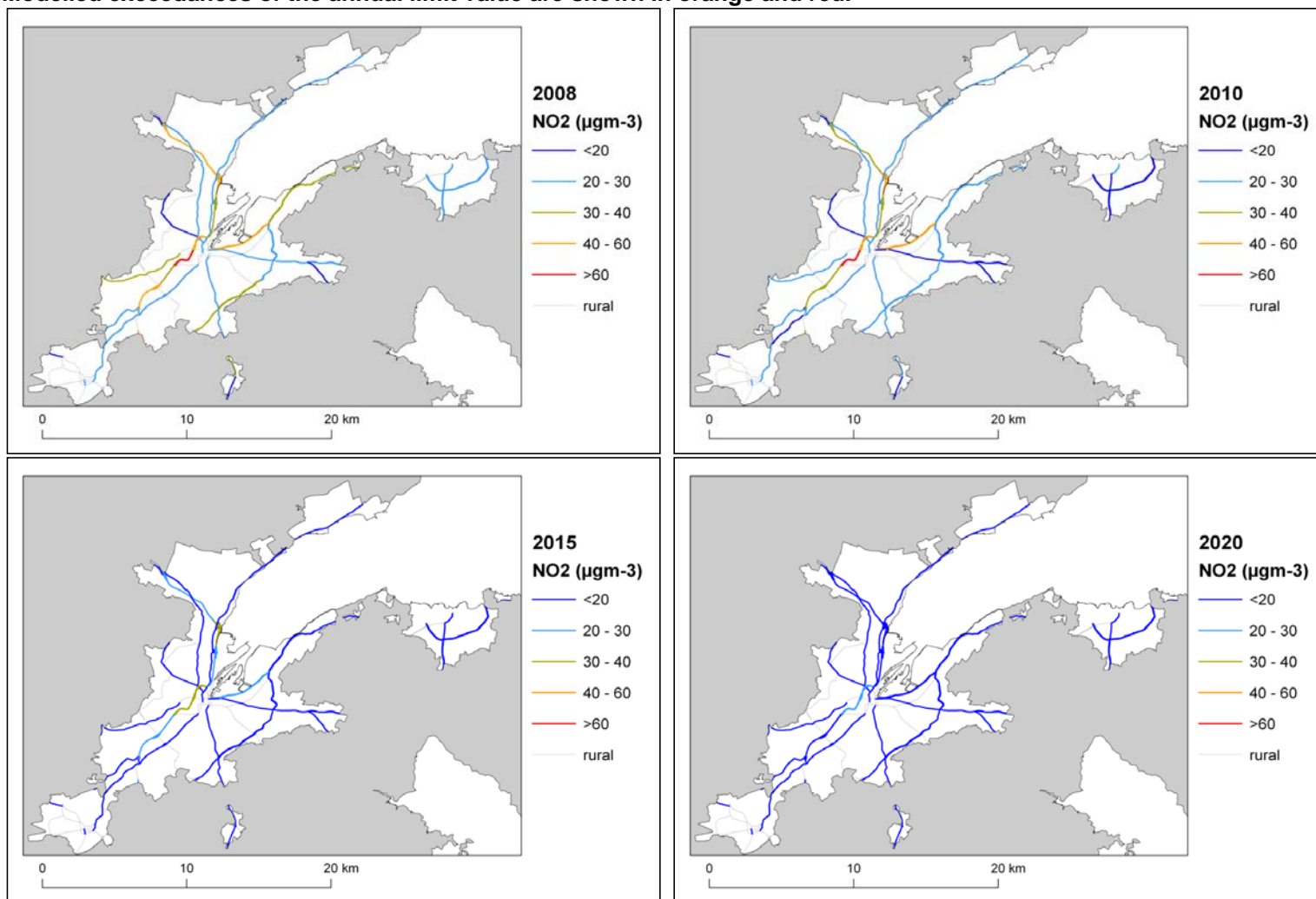
Spatial scale	Component	NO <sub>x</sub>			
		2008	2010	2015	2020
Regional background sources (i.e. contributions from distant sources of > 30 km from the receptor)	From within the UK	1.8	1.5	0.0	0.0
	From transboundary sources (includes shipping and other EU Member States)	2.0	1.7	0.0	0.0
Urban background sources (i.e. sources located within 0.3 - 30 km from the receptor)	From road traffic sources	27.5	21.5	0.0	0.0
	From industry (including heat and power generation)	3.7	3.2	0.0	0.0
	From agriculture	0.0	0.0	0.0	0.0
	From commercial/residential sources	12.2	12.2	0.0	0.0
	From shipping	0.9	0.8	0.0	0.0
	From off road mobile machinery	8.5	8.0	0.0	0.0
	From natural sources	0.0	0.0	0.0	0.0
	From transboundary sources	0.0	0.0	0.0	0.0
	From other urban background sources	0.3	0.3	0.0	0.0
Local sources (i.e. contributions from sources < 0.3 km from the receptor)	From cars	46.3	33.6	0.0	0.0
	From HGV rigid	81.5	72.3	0.0	0.0
	From HGV articulated	60.7	52.8	0.0	0.0
	From Buses	9.0	5.5	0.0	0.0
	From LGVs	4.0	3.4	0.0	0.0
	From motorcycles	0.0	0.0	0.0	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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## **List of Annexes**

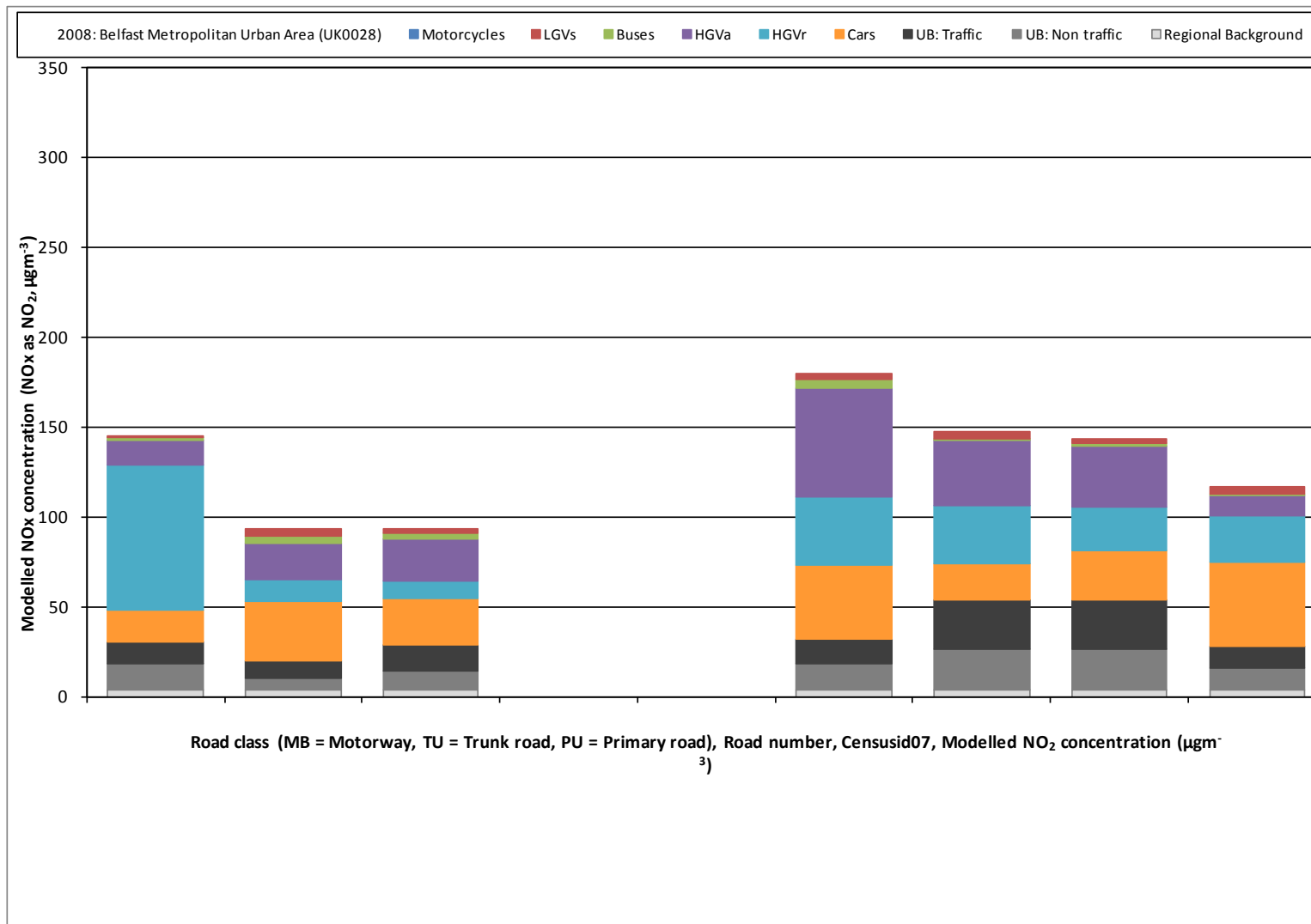
Annex 1: Source apportionment graphs

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 Belfast Metropolitan Urban Area (UK0028) (ongoing measures are highlighted in orange)**

LA (a)	Measure code (b)	Title	Description	Other information	Lead authority	Implementation phase	Indicator	Progress to date	Estimated completion date
Belfast	Local_Belfast_B1	Regulate under the Public Health (Ireland) Act 1878 and the Pollution Control and Local Government (NI) Order 1978.	Regulate under the Public Health (Ireland) Act 1878 and the Pollution Control and Local Government (NI) Order 1978.	<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: 2009</li> <li>• Reduction timescale: Long term</li> <li>• Regulatory: Yes</li> <li>• Smarter Choices (c) : No</li> <li>• Reference (d): Local_zone43_Belfast_AQActionplan_1</li> </ul>	BCC	2006	All reported incidences of burning routinely investigated by Environmental Health Officers	Reduction of pollution arising from the burning either commercial or domestic waste. All reported incidents of burning are routinely investigated by EHO.	Complete
Belfast	Local_Belfast_B2	Enforcement control under the Clean Air (NI) Order	Enforcement control under the Clean Air (NI) Order – introduction of programmed inspections in the winter months for domestic smoke emissions.	<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: 2009</li> <li>• Reduction timescale: Long term</li> <li>• Regulatory: Yes</li> <li>• Smarter Choices (c) : No</li> </ul>	BCC	Levels of black smoke have been monitored in Belfast since 1961	Ambient air quality monitoring has indicated the SO2 levels are no longer a priority within Belfast.	BCC has already completed a smoke control program for the entire city. Clean Air (NI) Order introduced "authorised" fuels. Belfast 2006 AQAP includes the actions such as the enforcement within smoke control areas (The reduction of emissions from domestic fuel burning) the use of cleaner fuels and the replacement of older	Complete

LA (a)	Measure code (b)	Title	Description	Other information	Lead authority	Implementation phase	Indicator	Progress to date	Estimated completion date
				<ul style="list-style-type: none"> <li>Reference (d): Local_zone43_Belfast_AQActionplan_1</li> </ul>				vehicles with newer cleaner versions. Ambient air quality monitoring has indicated the SO2 levels are no longer a priority within Belfast.	
Belfast	Local_Belfast_B3	Pollution Control (NI) Order 1997 & Pollution Prevention & Control Regs.(NI) 2003	Regulation of Part A , B, and C processes under the Industrial Pollution Control (NI) Order 1997 & Pollution Prevention & Control Regs.(NI) 2003	<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: 2009</li> <li>Reduction timescale: Long term</li> <li>Regulatory: Yes</li> <li>Smarter Choices (c) : No</li> <li>Reference (d): Local_zone43_Belfast_AQActionplan_1</li> </ul>	IPRI	2006	Dedicated staff officers inspect and regulate premises that fall under the regime.	Dedicated staff officers inspect and regulate premises that fall under the regime.	Complete
Belfast	Local_Belfast_B4	Switching the electricity tariff in Council buildings to an environmentally friendly tariff	Reduce pollution levels by switching the electricity tariff in Council buildings to an environmentally friendly tariff based upon renewable energy.	<ul style="list-style-type: none"> <li>Type: Technical</li> <li>Sources affected: Industry including heating and power production; Commercial and residential sources</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> </ul>	BCC	2006	75% of overall electricity requirements now come from renewable sources. Some individual buildings now on a 100% renewable tariff.	75% of overall electricity requirements now come from renewable sources. Some individual buildings now on a 100% renewable tariff.	Complete

LA (a)	Measure code (b)	Title	Description	Other information	Lead authority	Implementation phase	Indicator	Progress to date	Estimated completion date
				<ul style="list-style-type: none"> <li>Reference (d): Local_zone43_Belfast_AQActionplan_1</li> </ul>					
Belfast	Local_Belfast_H1	Adoption of the carbon reduction programme and implementation of recommendations.	Adoption of the carbon reduction programme and implementation of recommendations.	<ul style="list-style-type: none"> <li>Type: Technical</li> <li>Sources affected: Industry including heating and power production; Commercial and residential sources</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_zone43_Belfast_AQActionplan_1</li> </ul>	BCC	Oct-06	New energy conservation strategy adopted in October 2006.	New energy conservation strategy adopted in October 2006 which establishes carbon reduction targets for each year up to 2012.	Complete
Belfast	Local_Belfast_B5	Introduce combined heat and power plants at selected Council facilities.	Introduce combined heat and power plants at selected Council facilities.	<ul style="list-style-type: none"> <li>Type: Technical</li> <li>Sources affected: Industry including heating and power production; Commercial and residential sources</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_zone43_Belfast_AQActionplan_1</li> </ul>	BCC	2006	7 CHP plants currently in operation.	7 CHP plants currently in operation with a further 2 planned.	Complete
Belfast	Local_Belfast_B6	Switching the electricity tariff at Translink properties -	Reduce pollution levels by switching the electricity tariff at Translink	<ul style="list-style-type: none"> <li>Type: Technical</li> </ul>	Translink	2008	Properties have switched to Green Energy via	Properties have switched to Green Energy via contracts with Airtricity and ESB.	Complete

LA (a)	Measure code (b)	Title	Description	Other information	Lead authority	Implementation phase	Indicator	Progress to date	Estimated completion date
		renewable energy.	properties / locations to an environmentally friendly tariff based upon renewable energy.	<ul style="list-style-type: none"> <li>• Sources affected: Industry including heating and power production; Commercial and residential sources</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_zone43_Belfast_AQActionplan_1</li> </ul>			contracts with Airtricity and ESB	2009 -Optimise Green Energy contracts where possible	
Belfast	Local_Belfast_G1	Promote and support cycling initiatives.	Promote and support cycling 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_zone43_Belfast_AQActionplan_1</li> </ul>	BCC	2006	Annual Promotion and support of various initiatives including the Week of Cycling (June 06) and Week of Walking May (06).	Annual Promotion and support of various initiatives including the Week of Cycling (June) and Week of Walking May. Belfast City Council and partners consider incorporating actions into the Plan through which Belfast City Council and partners work with cycle manufacturers and retailers to increase accessibility/affordability of bikes either through special deals and/or cycle rental schemes at various facilities.	Complete
Belfast	Local_Belfast_G2	Promote Walk and Bike to Work days.	Promote Walk and Bike to Work days.	<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> </ul>	BCC	2006	Annual Promotion and support Bike to Work Week (June) and Week of Walking (May).	Annual Promotion and support Bike to Work Week (June) and Week of Walking (May).	Complete

LA (a)	Measure code (b)	Title	Description	Other information	Lead authority	Implementation phase	Indicator	Progress to date	Estimated completion date
				<ul style="list-style-type: none"> <li>• Reduction timescale: Short term</li> <li>• Regulatory: No</li> <li>• Smarter Choices (c) : Yes</li> <li>• Reference (d): Local_zone43_Belfast_AQActionplan_1</li> </ul>			Walking (May).		
Belfast	Local_Belfast_G3	Promote availability of Belfast by Bike map.	Promote availability of Belfast by Bike map.	<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_zone43_Belfast_AQActionplan_1</li> </ul>	Sustran	2006	Availability of hard copy and web based versions of Belfast by Bike map.	BCC together with Sustrans continue to promote availability of hard copy and web based versions of Belfast by Bike map.	Complete
Belfast	Local_Belfast_G4	Install cycle parks at Council buildings.	Install cycle parks at Council buildings.	<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: Long term</li> <li>• Regulatory: No</li> <li>• Smarter Choices (c) : No</li> <li>• Reference (d): Local_zone43_Belfast_AQActionplan_1</li> </ul>	BCC	2006	BCC cycle parks are now available in Cecil Ward, City Hall.	BCC cycle parks are now available in Cecil Ward, City Hall. Translink - promotional leaflets e.g. 'bike it with translink', 'bicycle park and ride', 'bike to work' and bicycle safety.	Complete
Belfast	Local_Belfast_G5	Promote the availability of Cycle Usage Mileage for Council	Promote the availability of Cycle Usage Mileage for Council employees.	<ul style="list-style-type: none"> <li>• Type: Education/information</li> <li>• Sources affected: Transport</li> <li>• Spatial scale: local</li> </ul>	BCC	Aug-07	BCC Bike to Work membership currently approaching	BCC Bike to Work scheme is now open indefinitely since January 2009. Scheme has been promoted to numerous	Complete



LA (a)	Measure code (b)	Title	Description	Other information	Lead authority	Implementation phase	Indicator	Progress to date	Estimated completion date
		employees.		<ul style="list-style-type: none"> <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_zone43_Belfast_AQActionplan_1</li> </ul>			250.	other City employers and agencies - BCC membership currently approaching 250.	
Belfast	Local_Belfast_G6	Secure and promote enhanced cycle mileage allowance for Council employees.	Secure and promote enhanced cycle mileage allowance for Council employees.	<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: 2009</li> <li>• Reduction timescale: Medium term</li> <li>• Regulatory: No</li> <li>• Smarter Choices (c) : Yes</li> <li>• Reference (d): Local_zone43_Belfast_AQActionplan_1</li> </ul>	BCC	2006	Cycle mileage has not been pursued.	In August 06 the Greener Vehicles Group carried out a cycle use survey of 600 council employees. Results of the survey concluded, if you participate in the cycle to work scheme, then taxation laws do not permit the payment of tax free cycle mileage. On balance and having taken staff views, cycle mileage has not been pursued.	Complete
Belfast	Local_Belfast_G7	Install cycle shelters at Translink locations.	Install cycle shelters at Translink locations.	<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: 2009</li> <li>• Reduction timescale: Long term</li> <li>• Regulatory: No</li> <li>• Smarter Choices (c) : No</li> </ul>	Translink	2006	Covered bicycle parking is available at many public transport locations.	Covered bicycle parking is available at the following public transport locations: Antrim Bus and Rail Station, Bangor Bus and Rail Station, Carrickfergus Rail Station, Central Station, Coleraine Rail Station, Europa Bus Centre / Great Victoria Street Rail Station,	Complete

LA (a)	Measure code (b)	Title	Description	Other information	Lead authority	Implementation phase	Indicator	Progress to date	Estimated completion date
				<ul style="list-style-type: none"> <li>Reference (d): Local_zone43_Belfast_AQActionplan_1</li> </ul>				Hollywood Rail Station, Lisburn Buscentre, Lisburn Rail Station, Lurgan Rail Station, Moira Rail Station, Newcastle Bus Station, Newry Bus Centre, Portadown Rail Station, Strabane Bus Centre. Weblink <a href="http://www.translink.co.uk/bikeitwithtranslink/as">www.translink.co.uk/bikeitwithtranslink/as</a>	
Belfast	Local_Belfast_G8	The integration of walking and cycling considerations in the planning process.	The integration of walking and cycling considerations in the planning process.	<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: Long term</li> <li>Regulatory: No</li> <li>Smarter Choices (c) : No</li> <li>Reference (d): Local_zone43_Belfast_AQActionplan_1</li> </ul>	Planning Service	2006	Revision and publishing of Planning Policy Statement 3 in February 2005 and a policy in the emerging Belfast Metropolitan Area Plan	Continued commitment to ongoing initiatives to integrate cycling and walking considerations in the planning process. Examples include PPS13 'Transportation & Land Use' (2005), and a policy in the emerging Belfast Metropolitan Area Plan that focuses on Public, Transport, Walking and Cycling.	Complete
Belfast	Local_Belfast_G9	Enhanced facilities for walking and cycling – quality and comprehensive networks	Enhanced facilities for walking and cycling – quality and comprehensive networks	<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: 2009</li> <li>Reduction timescale: Long term</li> <li>Regulatory: No</li> <li>Smarter Choices (c) : No</li> </ul>	Road Service	Apr-06	36.7kms of cycle facility were provided, along with 8 Toucan crossings and 24 cycle stands	Segregated cycle ways constructed on Ormeau Road and Park Road during 2004, installed 11 cycle stands throughout the city centre in 2005. Constructed 25.9km of cycle ways during 2005. Within the period April 2006 to March 2009, an additional 36.7kms of	Complete

LA (a)	Measure code (b)	Title	Description	Other information	Lead authority	Implementation phase	Indicator	Progress to date	Estimated completion date
				<ul style="list-style-type: none"> <li>Reference (d): Local_zone43_Belfast_AQActionplan_1</li> </ul>				cycle facility were provided, along with 8 Toucan crossings and 24 cycle stands.	
Belfast	Local_Belfast_A1	Test fleet vehicle emissions whenever routine servicing is carried out.	Test fleet vehicle emissions whenever routine servicing is carried out.	<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) : No</li> <li>Reference (d): Local_zone43_Belfast_AQActionplan_1</li> </ul>	BCC	2006	Vehicle emissions now routinely tested at every service interval	Vehicle emissions now routinely tested at every service interval.	Complete
Belfast	Local_Belfast_A2	Fitting of Oxidation Catalysts to older vehicles - to be concentrated on bus replacement.	Fitting of Oxidation Catalysts to older vehicles - to be concentrated on bus replacement.	<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) : No</li> <li>Reference (d): Local_zone43_Belfast_AQActionplan_1</li> </ul>	Translink	2006	A combined oxidation catalyst and particulate trap (CRTs) retrofitted to Euro 2 and Euro 3 buses operating in Belfast.	A combined oxidation catalyst and particulate trap (CRTs) retrofitted to Euro 2 and Euro 3 buses operating in Belfast. Phasing out older buses. Can provide fleet list if required.	Complete
Belfast	Local_Belfast_C1	LPG fuelled light duty vehicles for Council use.	Initial purchase of 2 LPG fuelled Ford Connect light duty	<ul style="list-style-type: none"> <li>Type: Technical</li> </ul>	BCC	2006		Ongoing programme to purchase LPG fuelled vehicles.	Complete

LA (a)	Measure code (b)	Title	Description	Other information	Lead authority	Implementation phase	Indicator	Progress to date	Estimated completion date
			vehicles for Council use.	<ul style="list-style-type: none"> <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_zone43_Belfast_AQActionplan_1</li> </ul>					
Belfast	Local_Belfast_C2	Purchase new hybrid petrol cars to replace existing vehicles and evaluate the resulting emission reductions and fuel consumption savings.	Purchase new hybrid petrol cars to replace existing vehicles and evaluate the resulting emission reductions and fuel consumption savings.	<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) : No</li> <li>• Reference (d): Local_zone43_Belfast_AQActionplan_1</li> </ul>	BCC	2005	Two Hybrid vehicles purchased by BCC.	Two Hybrid vehicles purchased for use by the noise team during the night and the waste recycling advisors during the day. Programme to determine fuel savings established.	Complete
Belfast	Local_Belfast_C3	Evaluate the feasibility of introducing biodiesel across the bus fleet.	Evaluate the feasibility of introducing biodiesel across the bus fleet.	<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> </ul>	Translink	Sep-06	Biodiesel used across the bus fleet.	Completed Bio Diesel trial that was started in September 06. Biodiesel (5% blend) used across the bus fleet.	Complete

LA (a)	Measure code (b)	Title	Description	Other information	Lead authority	Implementation phase	Indicator	Progress to date	Estimated completion date
				<ul style="list-style-type: none"> <li>Reference (d): Local_zone43_Belfast_AQActionplan_1</li> </ul>					
Belfast	Local_Belfast_C4	Investigate the use of Liquefied Petroleum Gas (LPG) and Compressed Natural Gas (CNG).	Investigate the use of Liquefied Petroleum Gas (LPG) and Compressed Natural Gas (CNG).	<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_zone43_Belfast_AQActionplan_1</li> </ul>	Translink	2006	The performance of the latest diesel is certainly as good as the principle gas alternatives and substantially more cost effective.	For the foreseeable future diesel fuel coupled with the latest diesel engine technology will continue to be the recommended fuel. The performance of the latest diesel is certainly as good as the principle gas alternatives and substantially more cost effective.	Complete
Belfast	Local_Belfast_C5	Investigate use of LPG	Investigate use of LPG when purchasing new works vehicles. Translink will consider the use of LPG fuelled vehicles when purchasing new works vans and other vehicles.	<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_zone43_Belfast_AQActionplan_1</li> </ul>	Translink	2006		Limited application to small number of fork lift trucks in use at bus garages, no plans to purchase replacements for the foreseeable future	Complete
Belfast	Local_Belfast_A3	Introduce requirement to purchase vehicles complying with the prevailing	Introduce requirement to purchase vehicles complying with the prevailing Euro standards.	<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> </ul>	BCC	2006	Programme established to purchase vehicles complying with the prevailing	Programme established to purchase vehicles complying with the prevailing Euro standards.	Complete

LA (a)	Measure code (b)	Title	Description	Other information	Lead authority	Implementation phase	Indicator	Progress to date	Estimated completion date
		Euro standards.		<ul style="list-style-type: none"> <li>• Reduction timescale: Long term</li> <li>• Regulatory: No</li> <li>• Smarter Choices (c) : No</li> <li>• Reference (d): Local_zone43_Belfast_AQActionplan_1</li> </ul>			standards.		
Belfast	Local_Belfast_H2	Seek a contractor to decommission end of life vehicles.	Seek a contractor to decommission end of life vehicles.	<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_zone43_Belfast_AQActionplan_1</li> </ul>	Translink/BCC	2006	Contractor secured to decommission end of life vehicles.	Contractor secured to decommission end of life vehicles.	Complete
Belfast	Local_Belfast_A4	Council fleet fuel surveys	Purchase software to enable a baseline survey to be undertaken and subsequent fuel usage logging to be introduced.	<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_zone43_Belfast_AQActionplan_1</li> </ul>	BCC	2009		Ongoing programme to purchase software to enable a baseline survey to be undertaken and subsequent fuel usage. New fuel management system to be procured during 2009 that will enable good fuel performance benchmarks to be developed.	Ongoing programme
Belfast	Local_Belfast_H3	Conduct review of current fuel monitoring procedures and establish	Conduct review of current fuel monitoring procedures and establish	<ul style="list-style-type: none"> <li>• Type: Technical</li> <li>• Sources affected: Transport</li> <li>• Spatial scale: local</li> </ul>	Translink	2008	Projected fuel consumption assessed over the projected life	Projected fuel consumption assessed over the projected life of the vehicle and factored into selection process for	Complete

LA (a)	Measure code (b)	Title	Description	Other information	Lead authority	Implementation phase	Indicator	Progress to date	Estimated completion date
		recommendations.	recommendations.	<ul style="list-style-type: none"> <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_zone43_Belfast_AQActionplan_1</li> </ul>			of the vehicle and factored into selection process for new purchases	new purchases.	
Belfast	Local_Belfast_H4	Improve procedures for recording and monitoring fuel usage.	Improve procedures for recording and monitoring fuel usage.	<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_zone43_Belfast_AQActionplan_1</li> </ul>	BCC	2009		Will be developed in conjunction with the new fuel management system.	Ongoing programme
Belfast	Local_Belfast_H5	Establish a baseline study of fuel usage by mobile plant used within Belfast City Council's Parks & Cemeteries Service Section.	Establish a baseline study of fuel usage by mobile plant used within Belfast City Council's Parks & Cemeteries Service Section.	<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_zone43_Belfast_AQActionplan_1</li> </ul>	BCC	2009		New fuel management system to be procured during 2009 that will enable good fuel performance benchmarks to be developed and used within BCCs Parks & Cemeteries Service Section.	Ongoing programme
Belfast	Local_Belfast_A5	Establish a baseline study of fuel usage by	Establish a baseline study of fuel usage by	<ul style="list-style-type: none"> <li>• Type: Technical</li> <li>• Sources affected: Transport</li> </ul>	Translink	2006		Monitoring programme on going.	Ongoing programme

LA (a)	Measure code (b)	Title	Description	Other information	Lead authority	Implementation phase	Indicator	Progress to date	Estimated completion date
		mobile plant / infrastructure plant used within Translink's Infrastructure & Property Department.	mobile plant / infrastructure plant used within Translink's Infrastructure & Property Department.	<ul style="list-style-type: none"> <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_zone43_Belfast_AQActionplan_1</li> </ul>					
Belfast	Local_Belfast_C6	Monitor and trial fuel additives or additional devices to reduce fuel consumption and emissions.	Monitor and trial fuel additives or additional devices to reduce fuel consumption and emissions.	<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_zone43_Belfast_AQActionplan_1</li> </ul>	Translink	2006		Monitoring programme ongoing.	Ongoing programme
Belfast	Local_Belfast_A6	Latest technology engines used, meeting most stringent emission legislation. First vehicles now in service.	Latest technology engines used, meeting most stringent emission legislation. First vehicles now in service.	<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) : No</li> <li>• Reference (d): Local_zone43_Belfast_AQActionplan_1</li> </ul>	Translink	2008	All class 80 trains replaced with 23 C3Ks.	2008-All class 80 trains replaced with 23 C3Ks. New project for 2010 to replace 9 class 450 trains and increase capacity. 2009-An order for 20 new trains was placed in March 2009. These will be delivered to us from 2011 and will enter service 2012.	Complete
Belfast	Local_Belfast_E1	Include air quality	Include air quality considerations in	<ul style="list-style-type: none"> <li>• Type: Technical</li> </ul>	BCC	2006	Air Quality considered during the	Air Quality considered during the consultation process between the	Complete



LA (a)	Measure code (b)	Title	Description	Other information	Lead authority	Implementation phase	Indicator	Progress to date	Estimated completion date
		considerations in responses to the Planning Service.	responses to the Planning Service.	<ul style="list-style-type: none"> <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_zone43_Belfast_AQActionplan_1</li> </ul>			consultation process between the Environmental Health Department and the Planning Service	Environmental Health Department and the Planning Service now as a matter of routine.	
Belfast	Local_Belfast_E2	Produce guidance for Belfast City Council staff on air quality and land use planning in line with recommendations contained within the National Society for Clean Air 2004 document – Development Control: Planning for Air Quality.	Produce guidance for Belfast City Council staff on air quality and land use planning in line with recommendations contained within the National Society for Clean Air 2004 document – Development Control: Planning for Air Quality.	<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: 2009</li> <li>• Reduction timescale: Long term</li> <li>• Regulatory: No</li> <li>• Smarter Choices (c) : No</li> <li>• Reference (d): Local_zone43_Belfast_AQActionplan_1</li> </ul>	BCC	2006 & 2009	BCC published 'Air quality and land use planning' - A Belfast specific guidance note for developers and air quality consultants.	Specific Environmental Protection Unit guidance has been drawn up using both the 2004 and 2006 published NSCA Guidance. Guidance serves to inform officers when a Planning Application may have a detrimental impact on air quality and when to request an Air Quality Assessment to accompany planning applications. In May 2009 BCC published 'Air quality and land use planning' - A Belfast specific guidance note for developers and air quality consultants.	Complete
Belfast	Local_Belfast_D1	Implementation of a parking policy focused on central Belfast to include a	Implementation of a parking policy focused on central Belfast to include a Controlled Parking	<ul style="list-style-type: none"> <li>• Type: Technical</li> </ul>	Road Service	Oct-06	Within the period April 2006 to March 2009, 80 on-street spaces	On 30th October 2006 parking enforcement transferred from PSNI to DRD. Newly empowered traffic attendants to	Ongoing programme

LA (a)	Measure code (b)	Title	Description	Other information	Lead authority	Implementation phase	Indicator	Progress to date	Estimated completion date
		Controlled Parking Zone, improved enforcement, regulation and planning measures.	Zone, improved enforcement, regulation and planning measures.	<ul style="list-style-type: none"> <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_zone43_Belfast_AQActionplan_1</li> </ul>			added in the current CPZ. 150 spaces in Belfast were changed from free to charge.	concentrate on ensuring street parking restrictions are adhered to. Within the period April 2006 to March 2009, 80 on-street spaces added in the current CPZ. Current proposal to extend the CPZ to provide a further 294 spaces. The current tariff review carried out by the division proposes changing 150 spaces in Belfast from free to charge.	
Belfast	Local_Belfast_G10	Adoption and implementation of a travel plan for the Council owned Gasworks Business Park.	Adoption and implementation of a travel plan for the Council owned Gasworks Business Park.	<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_zone43_Belfast_AQActionplan_1</li> </ul>	BCC	Sep-06	The free shuttle bus service runs every twenty minutes week days from 8AM to 6PM.	On 11th September 2006 a free shuttle bus service was introduced to serve the Gas Works site to the centre of town. The service runs every twenty minutes week days from 8AM to 6PM.	Complete
Belfast	Local_Belfast_G11	Investigate options for more effective travel planning for Council employees and for other public sector	Investigate options for more effective travel planning for Council employees and for other public sector organisations.	<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> </ul>	BCC	2006	Greener Vehicles Group and Car Share Schemes in place.	Greener Vehicles Group and Car Share Schemes currently evaluating and progressing with effective travel planning arrangements.	Complete

LA (a)	Measure code (b)	Title	Description	Other information	Lead authority	Implementation phase	Indicator	Progress to date	Estimated completion date
		organisations.		<ul style="list-style-type: none"> <li>• Regulatory: No</li> <li>• Smarter Choices (c) : No</li> <li>• Reference (d): Local_zone43_Belfast_AQActionplan_1</li> </ul>					
Belfast	Local_Belfast_E3	Route Management Strategies, supported by ITS, progressively implemented on the strategic network including minor improvement measures to improve efficiency and safety.	Route Management Strategies, supported by ITS, progressively implemented on the strategic network including minor improvement measures to improve efficiency and safety.	<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) : No</li> <li>• Reference (d): Local_zone43_Belfast_AQActionplan_1</li> </ul>	Road Service	2006			Ongoing Programme
Belfast	Local_Belfast_F1	Participate in Active Living Weeks in conjunction with the Investing for Health Strategy.	Participate in Active Living Weeks in conjunction with the Investing for Health Strategy.	<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_zone43_Belfast_AQActionplan_1</li> </ul>	BCC	2006	Working in partnership with Health promotion bodies	Participation in the Active Living Weeks achieved during 06-09, further events are planned. Working in partnership with Health promotion bodies	Complete

LA (a)	Measure code (b)	Title	Description	Other information	Lead authority	Implementation phase	Indicator	Progress to date	Estimated completion date
Belfast	Local_Belfast_E4	Lobby for the development of a memorandum of understanding between the Planning Service and Belfast City Council.	Lobby for the development of a memorandum of understanding between the Planning Service and Belfast City Council.	<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_zone43_Belfast_AQActionplan_1</li> </ul>	BCC	2006		Work on going.	Ongoing programme
Belfast	Local_Belfast_E5	Development and implementation of a Master Plan for Belfast based on sustainable development principles.	Development and implementation of a Master Plan for Belfast based on sustainable development principles.	<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) : No</li> <li>Reference (d): Local_zone43_Belfast_AQActionplan_1</li> </ul>	BCC	2008	Implement a Master Plan for Belfast based on sustainable development principles.	Master Plan for Belfast based on the Concept City Model and acknowledges the Sustainable Development requirements of the Regional Development Strategy and PPS5.	Complete
Belfast	Local_Belfast_G12	Implementation of a new Metro bus operation for the Greater Belfast Area.	Implementation of a new Metro bus operation for the Greater Belfast Area.	<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) : No</li> </ul>	Translink	Feb-05	Metro Service in place	Metro Service launched on 7th February 2005. Metro Service in place	Complete

LA (a)	Measure code (b)	Title	Description	Other information	Lead authority	Implementation phase	Indicator	Progress to date	Estimated completion date
				<ul style="list-style-type: none"> <li>Reference (d): Local_zone43_Belfast_AQActionplan_1</li> </ul>					
Belfast	Local_Belfast_G13	Introduction of improved ticketing services including Smartlink cards and improved Integrated Ticketing.	Introduction of improved ticketing services including Smartlink cards and improved Integrated Ticketing.	<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) : No</li> <li>Reference (d): Local_zone43_Belfast_AQActionplan_1</li> </ul>	Translink	2006	Smartlink Cards available for Adult and Child Fares	Smartlink Cards available for Adult and Child Fares.iLink - a new commercial smartcard, which can be used on both bus and rail services will be introduced later this year. iLink will be Translink's first truly integrated commercial smartcard product, making integrated multi-modal travel easier for passengers. The product will offer unlimited Day, Weekly or Monthly travel on both bus and rail services within three distinct new zones. Taxsmart - a new smartcard, known as TaxSmart is also in the pipeline. The Government are currently encouraging employers to set up schemes which offer their employees a 'tax break' on a yearly bus pass for travel between home and work.	Complete
Belfast	Local_Belfast_G14	Introduction of new orbital bus routes to complement the radial QBC	Introduction of new orbital bus routes to complement the radial QBC network.	<ul style="list-style-type: none"> <li>Type: Technical</li> <li>Sources affected: Transport</li> <li>Spatial scale: local</li> </ul>	Road Services	2006	Several semi orbital routes in place serving new retail developments	£9 million earmarked for the introduction of Orbital Bus Routes by 2015 and several semi orbital routes in place serving new retail developments. QBC's	2015

LA (a)	Measure code (b)	Title	Description	Other information	Lead authority	Implementation phase	Indicator	Progress to date	Estimated completion date
		network.		<ul style="list-style-type: none"> <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_zone43_Belfast_AQActionplan_1</li> </ul>				operating on 12 main radial routes in Belfast, including a 25% increased service frequency. A second phase would achieve a total of 50% with a further 25% increase in service frequency. <a href="http://www.translink.co.uk/nithct/corpplan200910.asp">http://www.translink.co.uk/nithct/corpplan200910.asp</a>	
Belfast	Local_Belfast_G15	Implementing bus priority measures.	Implementing bus priority measures.	<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) : No</li> <li>• Reference (d): Local_zone43_Belfast_AQActionplan_1</li> </ul>	Road Service	2007	M2 bus operational - 2007 Hard shoulder bus route along the M1 complete.	M2 (Sandyknowes) bus operational - 2007 Hard shoulder bus route along the M1 complete.	Complete
Belfast	Local_Belfast_A7	The creation of a bus rapid trans network EWAY on the Upper Newtownards Road corridor.	The creation of a bus rapid trans network EWAY on the Upper Newtownards Road corridor.	<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) : No</li> <li>• Reference (d): Local_zone43_Belfast_AQActionplan</li> </ul>	DRD	2006 ongoing	-	Scheme earmarked to receive funding of £100 million in the RTS and also featured in the BMTP. A number of feasibility studies have already taken place.	Ongoing programme

LA (a)	Measure code (b)	Title	Description	Other information	Lead authority	Implementation phase	Indicator	Progress to date	Estimated completion date
				_1					
Belfast	Local_Belfast_G16	The introduction of Demand Responsive Transport – including variable route and dial-a-ride services, both integrated with conventional fixed route bus services and community transport services.	The introduction of Demand Responsive Transport – including variable route and dial-a-ride services, both integrated with conventional fixed route bus services and community transport services.	<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) : No</li> <li>Reference (d): Local_zone43_Belfast_AQActionplan_1</li> </ul>	DRD	2006	Guidance is available at the DVLNI website.	The Department continues to encourage applications from operators wishing to establish a Demand Responsive Bus Service. Extensive guidance is available at the DVLNI website.	Ongoing programme
Belfast	Local_Belfast_D2	Bus Revenue Support to include funding for Concessionary fares Fuel duty rebate and bus replacement programme.	Bus Revenue Support to include funding for Concessionary fares Fuel duty rebate and bus replacement programme.	<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) : No</li> <li>Reference (d): Local_zone43_Belfast_AQActionplan_1</li> </ul>	DRD	2007	Concessionary fare provision was reviewed in 2007.	Concessionary fare provision was reviewed in 2007. Future plans include: targeting concessionary fare provision to tackle social exclusion, to mirror fare policies in the rest of the UK, and to appraise the possible expansion of the eligible categories.	Complete
Belfast	Local_Belfast_E6	Implementation of an extensive Quality Bus	Implementation of an extensive Quality Bus	<ul style="list-style-type: none"> <li>Type: Technical</li> </ul>	DRD Roads Service /	2006	QBC's operating on 12 main radial	<a href="#"><u>QBC implementation</u></a>	2010

LA (a)	Measure code (b)	Title	Description	Other information	Lead authority	Implementation phase	Indicator	Progress to date	Estimated completion date
		Corridor network.	Corridor network.	<ul style="list-style-type: none"> <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_zone43_Belfast_AQActionplan_1</li> </ul>	Translink		routes in Belfast	<p><u><a href="#">programme to be completed by 2010 has been agreed with Roads Service QBC's operating on 12 main radial routes in Belfast, including a 25% increased service frequency. A second phase would achieve a total of 50% with a further 25% increase in service frequency. 100% of Metro fleet 'accessible' according to Disability Discrimination.</a></u>  <u><a href="http://www.translink.co.uk/nithctlcorpplan200910.asp">http://www.translink.co.uk/nithctlcorpplan200910.asp</a></u></p>	



LA (a)	Measure code (b)	Title	Description	Other information	Lead authority	Implementation phase	Indicator	Progress to date	Estimated completion date
Belfast	Local_Belfast_G17	Develop Park & Ride Schemes.	Develop Park & Ride Schemes. Kennedy Way Park and Ride on the Lisburn Corridor	<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) : No</li> <li>• Reference (d): Local_zone43_Belfast_AQActionplan_1</li> </ul>	DRD Roads Service / Translink	2006	Park and Ride at York Street, Sprucefield and Black's Road and Middlepath Street commenced.	Park and Ride at York Street, Sprucefield and Black's Road and Middlepath Street commenced	Complete
Belfast	Local_Belfast_E7	Intelligent Transport Systems measures	Intelligent Transport Systems measures expected to be implemented including: <ul style="list-style-type: none"> <li>• Real time passenger information and integrated ticketing system.</li> <li>• Variable Message Signing (VMS) in conjunction with park and ride and parking provision</li> </ul> <ul style="list-style-type: none"> <li>• Linking of syste</li> </ul>	<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> </ul>	Road Service (3 actions) Translink (1)	2006+	170 Passenger information Points installed at bus stops and 104 junctions have been equipped with bus priority. 148 Midas incident detection sites have been installed. Northside and Eastside P & R sites have Passenger Information Points installed. There are only 12 city centre VMS signs which can be used for parking information. Traffic Control systems are UTMC (Urban Traffic Management and Control) compliant. Translink call centre and website provides up to date travel information every 15 minutes, considered the most comprehensive in the UK and Ireland.	170 Passenger information Points installed at bus stops and 104 junctions have been equipped with bus priority. 148 Midas incident detection sites have been installed. Northside and Eastside P & R sites have Passenger Information Points installed. There are only 12 city centre VMS signs which can be used for parking information. Traffic Control systems are UTMC (Urban Traffic Management and Control) compliant. Translink call centre and website provides up to date travel information every 15 minutes, considered the most comprehensive in the UK and Ireland.	Complete

LA (a)	Measure code (b)	Title	Description	Other information	Lead authority	Implementation phase	Indicator	Progress to date	Estimated completion date
				<ul style="list-style-type: none"> <li>• Smarter Choices (c) : No</li> <li>• Reference (d): Local_zone43_Belfast_AQActionplan_1</li> </ul>					
Belfast	Local_Belfast_H6	Providing improved facilities for taxis at major bus and rail stations in the BMA.	Providing improved facilities for taxis at major bus and rail stations in the BMA.	<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: 2009</li> <li>• Reduction timescale: Long term</li> <li>• Regulatory: No</li> <li>• Smarter Choices (c) : No</li> <li>• Reference (d): Local_zone43_Belfast_AQActionplan_1</li> </ul>	Road Service	2005	Roads Service provided 16 new public hire taxi spaces	Roads Service provided 16 new public hire taxi spaces at Mays Meadow, Central Station, within the 05/06 financial year. Within the 09/10 financial year, it is planned to introduce 3 new taxi spaces at the Europa Bus Centre in Glengall Street.	Complete
Belfast	Local_Belfast_G21	Providing bus priority as part of the rollout of the Quality Bus Corridor network .	Providing bus priority as part of the rollout of the Quality Bus Corridor network .	<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: 2009</li> <li>• Reduction timescale: Long term</li> <li>• Regulatory: No</li> <li>• Smarter Choices (c) : No</li> <li>• Reference (d): Local_zone28_Belfast_AQActionplan_1</li> </ul>					
Belfast	Local_Belfast_G18	Improvements to make transport more accessible to people unable to use conventional public transport services, including those	Improvements to make transport more accessible to people unable to use conventional public transport services, including those with disabilities.	<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> </ul>	DRD	2005+	100% of Metro fleet 'accessible' according to Disability Discrimination Act.	60 new low-floor double-deck buses introduced to the Metro fleet during 2005/06, meet DDA requirements. Currently 100% of Metro fleet 'accessible' according to Disability Discrimination Act.	Complete

LA (a)	Measure code (b)	Title	Description	Other information	Lead authority	Implementation phase	Indicator	Progress to date	Estimated completion date
		with disabilities.		<ul style="list-style-type: none"> <li>• Regulatory: No</li> <li>• Smarter Choices (c) : No</li> <li>• Reference (d): Local_zone43_Belfast_AQActionplan_1</li> </ul>					
Belfast	Local_Belfast_G19	Increase in service frequencies up to 50% with additional trains focused on providing more express services. (Translink).	Increase in service frequencies up to 50% with additional trains focused on providing more express services. (Translink).	<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) : No</li> <li>• Reference (d): Local_zone43_Belfast_AQActionplan_1</li> </ul>	DRD	2006		Plans are being developed for further modernisation and expansion of the rail network and service frequency. These will be subject to economic appraisal, Government approval and funding.	On going programme
Belfast	Local_Belfast_G20	New or re-located rail stations.	New or re-located 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: 2009</li> <li>• Reduction timescale: Long term</li> <li>• Regulatory: No</li> <li>• Smarter Choices (c) : No</li> <li>• Reference (d): Local_zone43_Belfast_AQActionplan_1</li> </ul>	DRD	2007		Site for the provision of a new railway station at Tillysburn identified in the BMAP. Programme of station enhancement to be completed over next two years.	2011

LA (a)	Measure code (b)	Title	Description	Other information	Lead authority	Implementation phase	Indicator	Progress to date	Estimated completion date
Belfast	Local_Belfast_E8	Sites have been identified for provision of park and ride facilities.	Sites have been identified for provision of park and ride facilities.	<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) : No</li> <li>• Reference (d): Local_zone43_Belfast_AQActionplan_1</li> </ul>	DRD	2007	Greenisland P&R scheme complete. Jordanstown P&R scheme complete. Lisburn P&R scheme complete. Bangor Station P&R scheme complete.	An area south of the Trooperslane settlement is identified in the BMAP and forms part of the Translink portfolio of future Park and Ride schemes. Greenisland P&R scheme complete. Jordanstown P&R scheme complete. Lisburn P&R scheme complete. Bangor Station P&R scheme complete.	Complete
Belfast	Local_Belfast_D3	Increase in parking provision at stations by formalising existing parking arrangements.	Increase in parking provision at stations by formalising existing parking arrangements.	<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) : No</li> <li>• Reference (d): Local_zone43_Belfast_AQActionplan_1</li> </ul>	DRD	2006		On going programme of improving parking provision at all train stations serving Belfast.	Ongoing programme
Belfast	Local_Belfast_H7	Railways Task Force, considerations to include provision for rolling stock, infrastructure and safety measures.	Railways Task Force, considerations to include provision for rolling stock, infrastructure and safety measures.	<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> </ul>	DRD	2006			Ongoing Programme

LA (a)	Measure code (b)	Title	Description	Other information	Lead authority	Implementation phase	Indicator	Progress to date	Estimated completion date
				<ul style="list-style-type: none"> <li>• Smarter Choices (c) : No</li> <li>• Reference (d): Local_zone43_Belfast_AQActionplan 1</li> </ul>					
Belfast	Local_Belfast_E9	Develop and implement integrated regeneration plans for designated Arterial Routes across the City.	Develop and implement integrated regeneration plans for designated Arterial Routes across the City.	<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) : No</li> <li>• Reference (d): Local_zone43_Belfast_AQActionplan 1</li> </ul>	BCC	2006		Regeneration of arterial routes supported by BCC, work on development and implementation of integrated regeneration plans still on going.	Ongoing programme
Belfast	Local_Belfast_A8	Non-strategic highway network capacity enhancements.	Construction of Bankmore Link	<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) : No</li> <li>• Reference (d): Local_zone43_Belfast_AQActionplan 2</li> </ul>	Road Service	Proposed 2005 - Ongoing programme		Proposed in Belfast Metropolitan Transport Plan 2005. Construction expected by 2015. In RS Forward Planning schedule. Preferred options study underway.	2015
Belfast	Local_Belfast_H8	Strategic highway network traffic management.	Route Management Strategies on the Upper Newtownards	<ul style="list-style-type: none"> <li>• Type: Technical</li> <li>• Sources affected: Transport</li> </ul>	Road Service	2006	Vehicle activated signs completed in 2006.	Strategies designed to aid flow of traffic such as Yellow Box scheme at Thornhill Park and vehicle activated signs completed in 2006. further works in	Complete

LA (a)	Measure code (b)	Title	Description	Other information	Lead authority	Implementation phase	Indicator	Progress to date	Estimated completion date
			Road.	<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_zone43_Belfast_AQActionplan 2</li> </ul>				2007. Improvements made for Public transport priority.	
Belfast	Local_Belfast_H9	Strategic highway network traffic management.	Route Management Strategies on the Saintfield Road.	<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) : No</li> <li>• Reference (d): Local_zone43_Belfast_AQActionplan 2</li> </ul>	Road Service	2007	Strategies designed to aide traffic flow completed in 2006.	Improvements made for Public Transport priority. Strategies designed to aide traffic flow completed in 2006. Further Improvements made in 2007.	Complete
Belfast	Local_Belfast_E10	Strategic highway network capacity enhancements.	Route Management Strategies on the A55 outer ring.	<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) : No</li> <li>• Reference (d): Local_zone43_Belfast_AQActionplan 2</li> </ul>	Road Service	2009/10		Route management strategies for A55 went to public consultation in Spring 2006. Study proposed for 2009/10.	2010
Belfast	Local_Belfast_E11	Non-strategic	Implementation of	<ul style="list-style-type: none"> <li>• Type: Technical</li> </ul>	Road	Apr-06	Within the	Within the period April	Complete

LA (a)	Measure code (b)	Title	Description	Other information	Lead authority	Implementation phase	Indicator	Progress to date	Estimated completion date
		highway network capacity enhancements.	traffic calming measures on local roads and in residential areas.	<ul style="list-style-type: none"> <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_zone43_Belfast_AQActionplan_2</li> </ul>	Service		period April 2006 to March 2009, Traffic Calming measures have been introduced in 224 streets.	2006 to March 2009, Traffic Calming measures have been introduced in 224 streets.	
Belfast	Local_Belfast_E12	Non-strategic highway network capacity enhancements.	Traffic management measures on local and distributor roads to improve the flow of traffic.	<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) : No</li> <li>• Reference (d): Local_zone43_Belfast_AQActionplan_2</li> </ul>	Road Service	2007		Ongoing improvements to network to improve traffic flow.	Ongoing programme
Belfast	Local_Belfast_E13	Non-strategic highway network capacity enhancements.	Traffic management measures in Belfast City Centre comprising the reduction of existing road capacity within the core of the city centre.	<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) : No</li> <li>• Reference (d): Local_zone43_Belfast_AQActionplan_2</li> </ul>	Road Service	2006 - Ongoing programme	Plans under development to reduce traffic levels in the central area of Belfast	Traffic regulation Orders being processed to facilitate DSD's Streets Ahead Project. Plans under development to reduce traffic levels in the central area and facilitate a greater degree of priority for buses and accommodate rapid transit.	Ongoing programme

LA (a)	Measure code (b)	Title	Description	Other information	Lead authority	Implementation phase	Indicator	Progress to date	Estimated completion date
Belfast	Local_Belfast_E14	Advanced Traffic Control strategy.	Introduce Variable Message signs.	<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) : No</li> <li>• Reference (d): Local_zone43_Belfast_AQActionplan 2</li> </ul>	Road Service	2006	VMS have been installed on the motorways and on the motorway bus lanes.	20 VMS have been installed on the motorways and 6 rotating prism VMS on the motorway bus lanes.	Complete
Belfast	Local_Belfast_E15	Advanced Traffic Control strategy.	Introduce telematics to manage highway speeds, headway and incidents.	<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) : No</li> <li>• Reference (d): Local_zone43_Belfast_AQActionplan 2</li> </ul>	Road Service	2009	New Traffic Control System implemented on Westlink/M1 in 2009/10.	New Traffic Control System comprising variable mandatory speed limits implemented on Westlink/M1 in 2009/10.	Complete
Belfast	Local_Belfast_E16	Advanced Traffic Control strategy.	Operate CCTV traffic flow monitoring.	<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) : No</li> </ul>	Road Service	2006	CCTV cameras have been installed; 32 bus lane cameras; 10 motorway cameras; 7 urban cameras.	CCTV network significantly extended throughout the city to assist with flow mentoring. The following cameras have been installed; 32 bus lane cameras; 10 motorway cameras; 7 urban cameras.	Complete



LA (a)	Measure code (b)	Title	Description	Other information	Lead authority	Implementation phase	Indicator	Progress to date	Estimated completion date
				<ul style="list-style-type: none"> <li>Reference (d): Local_zone43_Belfast_AQActionplan_2</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: [measure code list]

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

(e) References available for download from: [web address with NO<sub>2</sub> TEN documents]

(f) BCC = Belfast City Council, DRD = Northern Ireland Department for Regional Development, IPRI = Northern Ireland Industrial Pollution and Radiochemical Inspectorate, Translink = Northern Ireland Public Transport

