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Air Quality Plan for the achievement of EU air quality limit values for nitrogen dioxide (NO<sub>2</sub>) in Portsmouth Urban Area (UK0012)

September 2011









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## 1. Introduction

#### 1.1. This document

This document is the Portsmouth Urban Area (UK0012) 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 Portsmouth Urban Area agglomeration zone
- Details of NO<sub>2</sub> exceedence situation(s) within the Portsmouth 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 Portsmouth Urban Area should be read in conjunction with the separate UK overview document and the list of UK and national measures that are available on the Defra website (http://www.defra.gov.uk/environment/quality/air/air-quality/eu/). The UK overview document sets out, amongst other things, the authorities responsible for delivering air quality improvements and the national measures that are applied in some or all UK zones. The measures presented in this plan and the accompanying UK overview and list of UK measures show how the UK will ensure that compliance with the  $NO_2$  limit values is achieved as soon as possible.

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

## 1.2. Context

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

- The annual limit value: an annual mean concentration of no more than 40 μgm<sup>-3</sup>
- The hourly limit value: no more than 18 hourly exceedances of 200 µgm<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 Portsmouth 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 Portsmouth 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: Portsmouth Urban Area

Zone code: UK0012

Type of zone: agglomeration zone

Reference year: 2008

Extent of zone: Figure 1 shows the area covered by the Portsmouth 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. East Hampshire District Council
- 2. Fareham Borough Council
- 3. Gosport Borough Council
- 4. Havant Borough Council
- 5. Portsmouth City Council

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

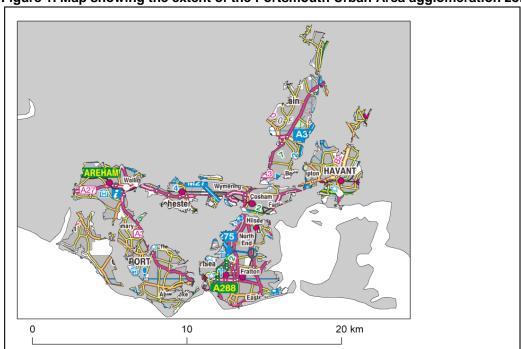
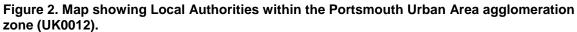
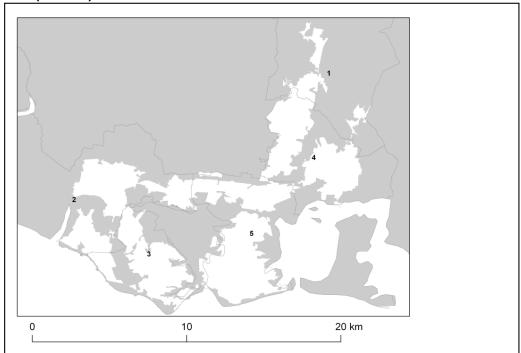


Figure 1. Map showing the extent of the Portsmouth Urban Area agglomeration zone (UK0012).

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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):

• Portsmouth GB0733A (97%)

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

#### Modelling

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

- Total background area within zone (approx): 102 km<sup>2</sup>
- Total population within zone (approx): 358696 people
- Total road length where an assessment of NO<sub>2</sub> concentrations have been made: 75.3 km in 2008 (and similar lengths in previous years).

#### Zone maps

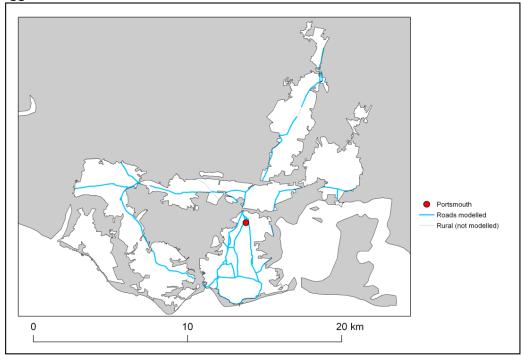
Figure 3 presents the location of the NO<sub>2</sub> monitoring stations within this zone for 2008 and the roads for which NO<sub>2</sub> concentrations have been modelled. NO<sub>2</sub> concentrations at background locations have been modelled across the entire zone at a 1 x 1 km<sup>2</sup> resolution.

## 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 2005. Plans and programmes for 2005 and all other years for which they have been required are available from http://cdr.eionet.europa.eu/gb/eu/appp.

Figure 3. Map showing the location of the  $NO_2$  monitoring sites with valid data in 2008 and roads where concentrations have been modelled within the Portsmouth Urban Area (UK0012) 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 Portsmouth 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>\_UK0012\_Annual\_1, which covers the exceedance of the annual limit value. This exceedance situation is described below.

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

## 3.2. Reference year: NO<sub>2</sub>\_UK0012\_Annual\_1

The NO<sub>2</sub>\_UK0012\_Annual\_1 exceedance situation covers all exceedances of the annual mean limit value in the Portsmouth Urban Area agglomeration zone in 2008.

Compliance with the annual limit value in this exceedance situation has been assessed using a combination of air quality measurements and modelling. Table 1 presents measured annual mean concentrations at national network stations in this exceedance situation since the 1st Daughter Directive (1999/30/EC) came into force in 2001. This shows that there were no measured exceedances of the annual limit value in this zone in 2008. Table 2 summarises modelled annual mean  $NO_2$  results in this exceedance situation for the same time period. This table shows that, in 2008, 13.6 km of road length was modelled to exceed the annual limit value. There were no modelled background exceedances of this limit value. Table 2 also shows that the maximum modelled annual mean  $NO_2$  concentration in 2008 was 63.5  $\mu$ gm<sup>-3</sup>. Maps showing the modelled annual mean  $NO_2$  concentrations for 2008 at background and at roadside locations are presented in Figures 4 and 5 respectively. All modelled exceedances of the annual limit value are coloured orange or red in these maps.

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

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

• The modelled  $NO_{\chi}$  and indicative  $NO_{2}$  source apportionment for the section of road with the highest modelled  $NO_{2}$  concentration in this exceedance situation in 2008. This is important information because it shows which sources need to be tackled at the point with the largest compliance gap in the exceedance situation. It is not possible to calculate an unambiguous source apportionment for annual mean  $NO_{2}$  concentrations for the reasons discussed in the UK Technical Report. We have, however, developed a method to provide an indicative source apportionment for annual mean  $NO_{2}$  concentrations for these air quality plans. This method involves calculating the maximum and minimum possible contribution from each source to the  $NO_{2}$  concentration. The final source apportionment has been calculated as the average of the minimum and maximum contributions for each source, with the results normalised so that the contributions sum to the total modelled  $NO_{2}$  concentration. Further information on the methods used for source apportionment are provided in the UK Technical Report.

ullet The maximum NO $_{\rm X}$  contribution from each source from across all the roads included in this exceedance situation in 2008. This is important information because it highlights all the key sources that need to be tackled within the exceedance situation in order to achieve compliance across the entire area of the exceedance situation.

Figure A1.1 in Annex 1 presents the annual mean  $NO_X$  source apportionment for each section of road within the  $NO_2$ \_UK0012\_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>\_UK0012\_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
Portsmouth (GB0733A)	27 (97%)	26 (98%)	26 (95%)	24 (98%)	23 (98%)	22 (99%)	23 (99%)	23 (97%)	22 (98%)

<sup>(</sup>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>\_UK0012\_Annual\_1 for 2001 onwards

	2001	2002	2003	2004	2005	2006	2007	2008	2009
Road length exceeding (km)	27.9	9.9	45.1	14.5	28.2	24.4	23.6	13.6	16.8
Background area exceeding (km²)	0	0	0	0	0	0	0	0	0
Maximum modelled concentration (µgm <sup>-3</sup> ) (a)	57.3	49.7	80.7	63.1	66.2	67.1	62.0	63.5	65.9

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

Table 3. Source apportionment summary information for 2008 in NO<sub>2</sub> UK0012 Annual 1 (µgm<sup>-3</sup>).

Spatial scale	Component	Highest ro	ad link (a)	Maximum (b)
		NOx	NO2 (d)	NOx
Regional background sources (i.e.	Total	9.6	(c)	
contributions from distant sources of > 30	From within the UK	4.2	(c)	4.2
km from the receptor)	From transboundary sources (includes	5.4	(c)	6.2
	shipping and other EU Member States)			
Urban background sources (i.e. sources	Total	23.6	13.7	-
located within 0.3 - 30 km from the	From road traffic sources	11.7	8.7	23.6
receptor)	From industry (including heat and power generation)	2.9	(c)	5.9
	From agriculture	0.0	(c)	0.0
	From commercial/residential sources	1.8	(c)	5.2
	From shipping	1.1	(c)	7.1
	From off road mobile machinery	5.9	(c)	9.1
	From natural sources	0.0	(c)	0.0
	From transboundary sources	0.0	(c)	0.0
	From other urban background sources	0.2	(c)	0.3
Local sources (i.e. contributions from	Total	119.2	49.8	-
sources < 0.3 km from the receptor)	From cars	52.4	20.8	52.4
	From HGV rigid	23.9	9.9	23.9
	From HGV articulated	21.4	9	21.4
	From Buses	5.1	2.2	30.1
	From LGVs	16.2	7.8	16.7
	From motorcycles	0.3	0.1	0.6
Total (i.e. regional background + urban bac	kground + local components)	152.5	63.5	-

<sup>(</sup>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 A27, traffic count point id 99631 (OS grid (m): 470900, 106000).

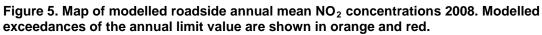
 <sup>(</sup>b) This column gives the maximum contribution for each component from all the roads included in the exceedence situation.
 (c) The combined modelled annual mean NO<sub>2</sub> concentration contribution for these components is 5.1 μgm<sup>-3</sup>. A more detailed NO<sub>2</sub> source apportionment is currently unavailable for these sectors.

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

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

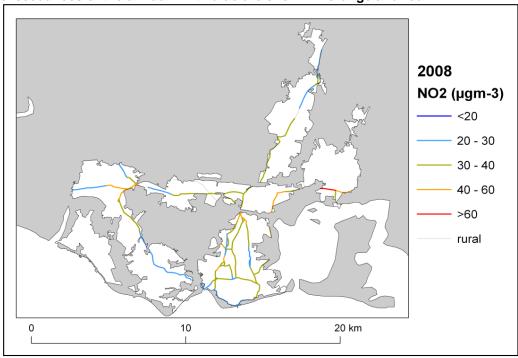
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10



20 km

>60



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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 Portsmouth 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 cars at the location of maximum exceedance with a contribution of  $52.4 \, \text{ugm}^{-3}$  of  $NO_X$  out of a total of  $152.5 \, \text{ugm}^{-3}$  of  $NO_X$ . Cars, rigid HGVs, articulated HGVs and LGVs were important sources on the trunk roads with the highest concentrations. Cars, rigid HGVs, LGVs and on some roads buses were important sources on the primary roads with the highest concentrations.

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

#### 4.3. Measures

Measures potentially affecting NO<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). Details of national measures are given in the UK overview document and list of UK and National measures.

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

#### 4.4. Measures timescales

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

Information on local measures was collected in autumn 2009. Hence, any Local Authority action plans and measures adopted by Local Authorities after this time have not been included in this air quality

plan. Many of the measures listed in Annex 2 will either have happened before autumn 2009 or have been planned for implementation before or during 2010. Others will be planned for after 2010. It should be noted that many of the measures taken before or during 2010 will continue to have a beneficial impact on air quality after the end of 2010.

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

## 5. Baseline Model Projections

## 5.1. Overview of model projections

#### Baseline projections for 2010

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

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

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

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

#### Baseline projections for 2015

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

## 5.2. Baseline projections: NO2\_UK0012\_Annual\_1

Table 4 presents summary results for the baseline model projections for 2010, 2015 and 2020 for the  $NO_2\_UK0012\_Annual\_1$  exceedance situation. This shows that the maximum modelled annual mean  $NO_2$  concentration predicted for 2010 in this exceedance situation is 53.3  $\mu$ gm<sup>-3</sup>. By 2015, the maximum modelled annual mean  $NO_2$  concentration is predicted to drop to 36.9  $\mu$ gm<sup>-3</sup>. Hence, the model results suggest that compliance with the  $NO_2$  annual limit value is likely to be achieved by 2015 under baseline conditions in this exceedance situation. Postponement of the compliance date to 2015 is sought for this limit value this zone.

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

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

Figures 6 and 7 show maps of projected annual mean NO<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>\_UK0012\_Annual\_1

	2008	2010	2015	2020
Road length exceeding (km)	13.6	9.5	0.0	0.0
Background area exceeding (km²)	0	0	0	0
Maximum modelled concentration (μgm <sup>-3</sup> ) (a)	63.5	53.3	36.9	23.7

<sup>(</sup>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 99631 on the A27 (the road section with the maximum modelled annual mean NO<sub>2</sub> concentration in 2008 in NO<sub>2</sub>\_UK0012\_Annual\_1. OS grid (m): 470900, 106000). 2008 results

are also presented here for reference (units: µgm<sup>-3</sup>).

Spatial scale	Component		NC	)x		1	NO2 (ind	icative)	
		2008	2010	2015	2020	2008	2010	2015	2020
Regional background sources (i.e.	Total		8.4	7.4	6.1	(a)	(b)	(c)	(d)
contributions from distant sources of > 30	From within the UK	4.2	3.7	3.2	2.7	(a)	(b)	(c)	(d)
km from the receptor)	From transboundary sources (includes	5.4	4.7	4.1	3.4	(a)	(b)	(c)	(d)
	shipping and other EU Member States)								
Urban background sources (i.e. sources	Total	23.6	19.9	14.2	10.9	13.7	12.1	10.0	8.4
located within 0.3 - 30 km from the	From road traffic sources	11.7	8.6	5.9	3.6	8.7	8.2	7.1	6.6
receptor)	From industry (including heat and power generation)	2.9	2.6	2.6	2.5	(a)	(b)	(c)	(d)
	From agriculture	0.0	0.0	0.0	0.0	(a)	(b)	(c)	(d)
	From commercial/residential sources	1.8	1.8	1.6	1.5	(a)	(b)	(c)	(d)
	From shipping	1.1	1.1	1.1	1.1	(a)	(b)	(c)	(d)
	From off road mobile machinery	5.9	5.5	2.9	2.1	(a)	(b)	(c)	(d)
	From natural sources	0.0	0.0	0.0	0.0	(a)	(b)	(c)	(d)
	From transboundary sources	0.0	0.0	0.0	0.0	(a)	(b)	(c)	(d)
	From other urban background sources	0.2	0.2	0.2	0.1	(a)	(b)	(c)	(d)
Local sources (i.e. contributions from	Total	119.2	93.7	56.2	29.3	49.8	41.3	27.0	15.0
sources < 0.3 km from the receptor)	From cars	52.4	35.2	24.2	16.1	20.8	15.1	11.6	8.2
	From HGV rigid	23.9	21.2	10.9	3.9	9.9	9.1	5.0	1.9
	From HGV articulated	21.4	18.6	9.4	3.1	9.0	8.0	4.3	1.5
	From Buses	5.1	4.5	2.7	1.2	2.2	2.0	1.2	0.6
	From LGVs	16.2	13.9	8.8	4.8	7.8	7.0	4.7	2.7
	From motorcycles	0.3	0.3	0.2	0.2	0.1	0.1	0.1	0.1
Total (i.e. regional background + urban bac	kground + local components)	152.5	122.0	77.8	46.3	63.5	53.3	36.9	23.4

<sup>(</sup>a) The total annual mean NO<sub>2</sub> contribution for all components labelled (a) in 2008 was modelled to be 5.1 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 3.9 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 2.8 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 1.8 µgm<sup>3</sup>.

Table 6. Modelled source apportionment for 2010, 2015 and 2020 under baseline conditions for traffic count point with the highest concentration in

these years in NO<sub>2</sub> UK0012 Annual 1 (a), 2008 results are also presented here for reference (units: ugm<sup>-3</sup>).

Spatial scale	Component		NC	x		NO2 (indicative)			
		2008	2010	2015	2020	2008	2010	2015	2020
Regional background sources (i.e.	Total	9.6	8.4	7.4	6.3	(b)	(c)	(d)	(e)
contributions from distant sources of > 30	From within the UK	4.2	3.7	3.2	2.1	(b)	(c)	(d)	(e)
km from the receptor)	From transboundary sources (includes	5.4	4.7	4.1	4.1	(b)	(c)	(d)	(e)
	shipping and other EU Member States)								
Urban background sources (i.e. sources	Total	23.6	19.9	14.2	16.4	13.7	12.1	10.0	11.2
located within 0.3 - 30 km from the	From road traffic sources	11.7	8.6	5.9	7.3	8.7	8.2	7.1	7.4
receptor)	From industry (including heat and power	2.9	2.6	2.6	1.9	(b)	(c)	(d)	(e)
	generation)	0.0	0.0	0.0	0.0	(1.)	( )	( )	( )
	From agriculture	0.0	0.0	0.0	0.0	(b)	(c)	(d)	(e)
	From commercial/residential sources	1.8	1.8	1.6	3.2	(b)	(c)	(d)	(e)
	From shipping	1.1	1.1	1.1	2.7	(b)	(c)	(d)	(e)
	From off road mobile machinery	5.9	5.5	2.9	1.1	(b)	(c)	(d)	(e)
	From natural sources	0.0	0.0	0.0	0.0	(b)	(c)	(d)	(e)
	From transboundary sources	0.0	0.0	0.0	0.0	(b)	(c)	(d)	(e)
	From other urban background sources	0.2	0.2	0.2	0.2	(b)	(c)	(d)	(e)
Local sources (i.e. contributions from	Total	119.2	93.7	56.2	24.7	49.8	41.3	27.0	12.5
sources < 0.3 km from the receptor)	From cars	52.4	35.2	24.2	10.3	20.8	15.1	11.6	5.3
	From HGV rigid	23.9	21.2	10.9	2.0	9.9	9.1	5.0	1.0
	From HGV articulated	21.4	18.6	9.4	0.7	9.0	8.0	4.3	0.4
	From Buses	5.1	4.5	2.7	7.3	2.2	2.0	1.2	3.6
	From LGVs	16.2	13.9	8.8	4.1	7.8	7.0	4.7	2.2
	From motorcycles	0.3	0.3	0.2	0.2	0.1	0.1	0.1	0.1
Total (i.e. regional background + urban background	kground + local components)	152.5	122.0	77.8	47.4	63.5	53.3	36.9	23.7

<sup>(</sup>a) The road with the maximum annual mean NO<sub>2</sub> concentration in different years is as follows. 2008: A section of the A27 (count point id 99631). 2010: A section of the A27 (count point id 99631). 2015: A section of the A27 (count point id 99631). 2020: A section of the A3 (count point id 47078). (OS grid (m): 470900, 106000; 4709000; 4709000; 4709000; 4709000; 4709000; 4709000; 47090

<sup>(</sup>c) The total annual mean NO<sub>2</sub> contribution for all components labelled (c) in 2010 is predicted to be 3.9 µgm<sup>-3</sup>.

<sup>(</sup>d) The total annual mean NO<sub>2</sub> contribution for all components labelled (d) in 2015 is predicted to be 2.8 µgm<sup>-3</sup>.

<sup>(</sup>e) The total annual mean NO<sub>2</sub> contribution for all components labelled (e) in 2020 is predicted to be 3.7 µgm<sup>-3</sup>.

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

Spatial scale	Component		NC	)x	
		2008	2010	2015	2020
Regional background sources (i.e.	From within the UK	4.2	3.7	0.0	0.0
contributions from distant sources of > 30	From transboundary sources (includes	6.2	5.4	0.0	0.0
km from the receptor)	shipping and other EU Member States)				
Urban background sources (i.e. sources	From road traffic sources	23.6	17.8	0.0	0.0
located within 0.3 - 30 km from the	From industry (including heat and power	5.9	3.1	0.0	0.0
receptor)	generation)				
	From agriculture	0.0	0.0	0.0	0.0
	From commercial/residential sources	5.2	5.2	0.0	0.0
	From shipping	7.1	5.3	0.0	0.0
	From off road mobile machinery	9.1	6.4	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	0.2	0.0	0.0
Local sources (i.e. contributions from	From cars	52.4	35.2	0.0	0.0
sources < 0.3 km from the receptor)	From HGV rigid	23.9	21.2	0.0	0.0
	From HGV articulated	21.4	18.6	0.0	0.0
	From Buses	30.1	27.0	0.0	0.0
	From LGVs	16.7	14.3	0.0	0.0
	From motorcycles	0.6	0.5	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.

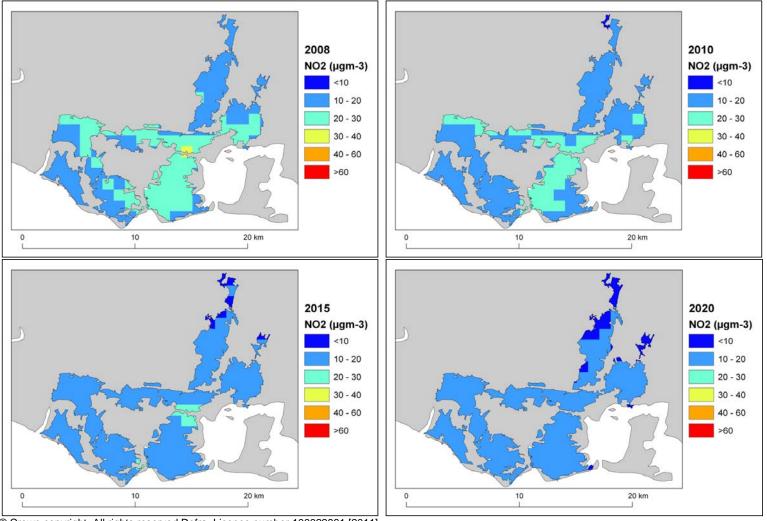
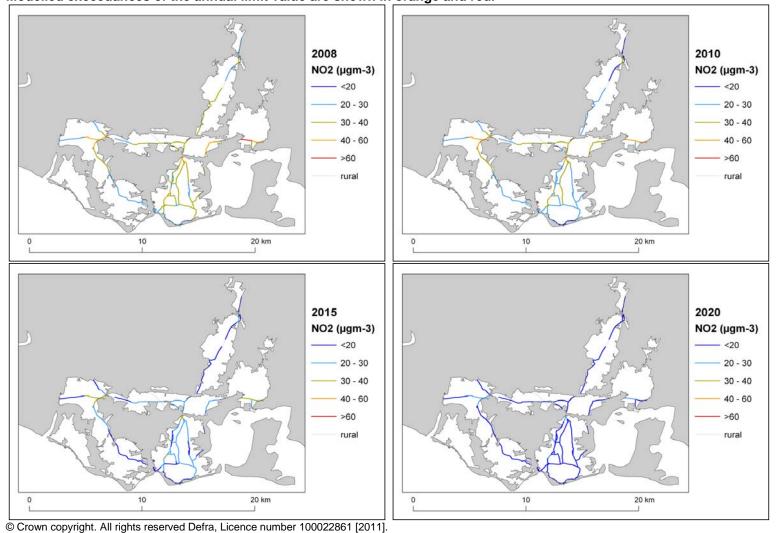


Figure 7. Roadside baseline projections of annual mean NO<sub>2</sub> concentrations in 2010, 2015 and 2020. 2008 is also included here for reference. Modelled exceedances of the annual limit value are shown in orange and red.



## References

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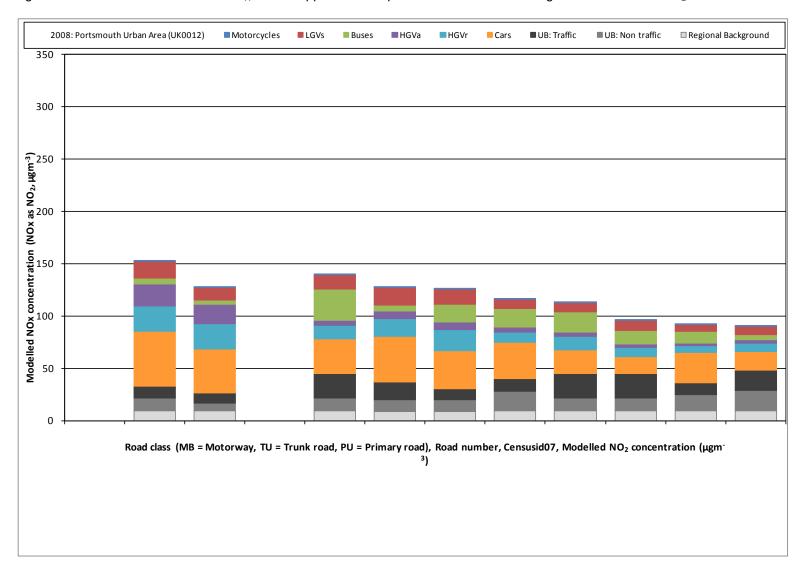
1st Daughter Directive 1999/30/EC. Council Directive 1999/30/EC, of 22 April 1999 relating to limit values for sulphur dioxide, nitrogen dioxide and oxides of nitrogen, particulate matter and lead in ambient air (The First Daughter Directive). From the Official Journal of the European Communities, 29.6.1999,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

# **List of Annexes**

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

# **Annex 1: Source apportionment graphs**

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



# **Annex 2: Tables of measures**

Table A2.1 Relevant Local Authority measures taken before or during 2010 within Portsmouth Urban Area (UK0012)

LA (a)	Measure code (b)	Title	Description	Other information
Fareham	Local_Fareham_A1	To improve the emission standards of Council fleet vehicles by the use of cleaner and alternative fuelled vehicles	Four refuse vehicles are Euro IV specification using AdBlue to reduce nitrogen oxides emissions. In April 2008, two refuse vehicles of Euro V specification with Ad Blue were purchased. Two Euro V road sweepers with AdBlue also came into use in 2008. Our drivers are also provided with environmentally friendly training advice.	<ul> <li>Type: Technical</li> <li>Sources affected: Transport</li> <li>Spatial scale: local</li> <li>Implementation date: 2008</li> <li>Reduction timescale: Short term</li> <li>Regulatory: No</li> <li>Smarter Choices (c): No</li> <li>Reference (d): Local_zone12_Fareham_AQActionplan_1</li> </ul>
Fareham	Local_Fareham_A2	To seek a reduction in emissions from the local bus fleet	The main commercial bus operator in Fareham, First Hampshire and Dorset Limited, is working with the County in respect of a proposed QBP. Over 80% of their fleet are Euro II vehicles with approximately 20 out of fleet of 120 to be at Euro III standard by the end of 2008. Investment in newer buses in 2008/9 will bring some Euro IV buses although plans for 2009 are not yet finalised. However, 15 Euro IV mini buses are planned to be purchased in 2009.	Type: Technical Sources affected: Transport Spatial scale: local Implementation date: 2008 Reduction timescale: Short term Regulatory: No Smarter Choices (c): No Reference (d): Local_zone12_Fareham_AQActionplan_1
Fareham	Local_Fareham_A3	To review the regulation of private hire and hackney carriage emissions and where appropriate, integrate improvements into the taxi licensing regime.	In respect of air quality, an article was placed in the Taxi and Private Hire Newsletter in November 2007 on the need to minimise exhaust emissions through efficient driving techniques such as switching off idling engines and avoiding congested roads such as the Gosport Road Fareham. Future articles may include further efficient driving techniques and the use of alternative fuels.	Type: Technical Sources affected: Transport Spatial scale: local Implementation date: 2007 Reduction timescale: Short term Regulatory: No Smarter Choices (c): No Reference (d): Local_zone12_Fareham_AQActionplan_1
Fareham	Local_Fareham_G1	To continue to implement the FBC sustainable travel plan	In October 2006 an officer"s working group was created to develop, implement and monitor the Council"s Sustainable Travel Plan that was approved in 2006. The travel plan shows how the Council intends to manage its travel needs in an environmentally sustainable manner.	Type: Education/information Sources affected: Transport Spatial scale: local Implementation date: 2006 Reduction timescale: Long term Regulatory: No Smarter Choices (c): Yes Reference (d): Local_zone12_Fareham_AQActionplan_1

LA (a)	Measure code (b)	Title	Description	Other information
Fareham	Local_Fareham_F1	Signing of waiting areas/bus station/bus stops/taxi ranks etc instructing drivers to "Turn off engines" when stationary	To liaise with all appropriate agencies to provide such signage including the licensing officer, the local bus company.	Type: Education/information Sources affected: Transport Spatial scale: local Implementation date: 2008 Reduction timescale: Short term Regulatory: No Smarter Choices (c): No Reference (d): Local_zone12_Fareham_AQActionplan_1
Fareham	Local_Fareham_F2	To examine the feasibility of erecting signs to identify the AQMAs	To work in conjunction with Hampshire County Council and other organisations such as the Gosport Partnership, in erecting such signs.	Type: Education/information Sources affected: Transport Spatial scale: local Implementation date: 2008 Reduction timescale: Short term Regulatory: No Smarter Choices (c): No Reference (d): Local_zone12_Fareham_AQActionplan_1
Fareham	Local_Fareham_H1	To assess the outcomes of the Gosport commuter study and the Gosport Transport and Sustainability Partnership and their impact on the AQMAs	The Gosport Commuter Study report was completed in 2008. The report states that congestion and delay is a clear attribute of commuting into and out of Gosport and the main pinch points on the road network are in Fareham and that a major project to relieve a certain amount of congestion will be the alternative to the failed light rapid transit scheme.	Type: Education/information Sources affected: Transport Spatial scale: local Implementation date: 2008 Reduction timescale: Short term Regulatory: No Smarter Choices (c): No Reference (d): Local_zone12_Fareham_AQActionplan_1
Fareham	Local_Fareham_E1	To implement road network measures detailed in HCCs LTP2 to assist in reducing congestion/ improving air quality in the AQMAs	In chapter 6 of the LTP2, under the heading of key schemes, 2008/9 – 2010/11, it is recognised that the Fareham-Gosport peninsula"s access problems are such that no single scheme will overcome them and it is not possible to create free flow conditions on the two strategic access routes. Consequently, a broad range of measures will be developed by the LTP2 and implemented to help reduce traffic congestion and improve access to the peninsula.	Type: Technical Sources affected: Transport Spatial scale: local Implementation date: 2008 Reduction timescale: Long term Regulatory: No Smarter Choices (c): No Reference (d): Local_zone12_Fareham_AQActionplan_1
Fareham	Local_Fareham_E2	To implement those ITS improvements within FBC as	This scheme aims to assist with the reduction of congestion on the A32 via the use of Variable Messaging Signing (VMS) to advise drivers about incidents, conditions, alternative routes etc and	<ul><li>Type: Technical</li><li>Sources affected: Transport</li><li>Spatial scale: local</li><li>Implementation date: 2008</li></ul>

LA (a)	Measure code (b)	Title	Description	Other information
		detailed in the LTP2 to reduce congestion and improve air quality in the AQMAs	Automatic Number Plate Recognition (APNR) to provide journey times as part of the County"s monitoring process. The study will also look wider at how these systems could be used to benefit other routes into/out of the peninsula. It is hoped that accurate journey time information will enable drivers to make informed decisions about route choice or mode and may reduce nitrogen dioxide levels in the AQMAs.	Reduction timescale: Long term     Regulatory: No     Smarter Choices (c): No     Reference (d): Local_zone12_Fareham_AQActionplan_1
Fareham	Local_Fareham_E3	To undertake appropriate improvements to the Quay Street roundabout in conjunction with the nearby retail development and negotiate with the developer a financial contribution for future air quality monitoring in the area	An allocation of £4 million is proposed for improving access to Gosport. This is intended to fund improvements that would be needed regardless of decisions on alternatives to light rail. It includes improvements to a number of junctions on the A32, including Quay Street roundabout and Newgate Lane roundabout. This allocation would also be increased by external funding. The objective of these schemes would be to improve journey time reliability and to tackle problems of poor air quality.	Type: Technical Sources affected: Transport Spatial scale: local Implementation date: 2008 Reduction timescale: Short term Regulatory: No Smarter Choices (c): No Reference (d): Local_zone12_Fareham_AQActionplan_1
Fareham	Local_Fareham_A4	Develop a Quality Bus Partnership for the A32 including a reduction in emissions from local buses	In the medium term, Quality Bus Partnerships (QBPs) have a major role to play in combating congestion and maximising the capacity of the existing highway network. This aligns with the LTP2 approach of reduce, manage and invest.	<ul> <li>Type: Technical; Education/information</li> <li>Sources affected: Transport</li> <li>Spatial scale: local</li> <li>Implementation date: 2008</li> <li>Reduction timescale: Long term</li> <li>Regulatory: No</li> <li>Smarter Choices (c): No</li> <li>Reference (d): Local_zone12_Fareham_AQActionplan_1</li> </ul>
Fareham	Local_Fareham_E4	To provide bus priority measures as part of the Vision for West Street	The County Council are investing in roadside infrastructure, information provision and bus priority measures, while the bus operator provides new vehicles, timetable improvements and staff training.	<ul> <li>Type: Technical; Education/information</li> <li>Sources affected: Transport</li> <li>Spatial scale: local</li> <li>Implementation date: 2008</li> <li>Reduction timescale: Long term</li> <li>Regulatory: No</li> <li>Smarter Choices (c): No</li> <li>Reference (d): Local_zone12_Fareham_AQActionplan_1</li> </ul>

LA (a)	Measure code (b)	Title	Description	Other information
Fareham	Local_Fareham_G2	To work with local bus operators to provide improved services for people working in Whiteley via the now complete Yew Tree Drive bus link	The Yew Tree Drive bus link completes the remaining short section of Yew Tree Drive into Whiteley from the B3051 Botley Road. It consists of a roundabout at the junction of Yew Tree Drive and Botley Road and a bus only gate, formed by an electronically activated rising bollard and a Selective Vehicle Detection system, to prevent it suse by local traffic to access Whiteley. The scheme opened in the Summer of 2008.	Type: Technical; Education/information; Other Sources affected: Transport Spatial scale: local Implementation date: 2008 Reduction timescale: Long term Regulatory: No Smarter Choices (c): No Reference (d): Local_zone12_Fareham_AQActionplan_1
Fareham	Local_Fareham_G3	To continue to subsidise bus travel beyond the statutory minimum to further encourage bus usage	The Government"s Statutory Concessionary Travel Scheme came into force on 1 April 2008 and provides free off peak travel on local services anywhere in England. The Fareham Borough Council scheme has been extended beyond the statutory off peak times of 0930 – 2300 hours Monday to Friday and at all times at the weekends and on Bank Holidays.	Type: Economic/fiscal; Technical; Education/information Sources affected: Transport Spatial scale: local Implementation date: 2008 Reduction timescale: Long term Regulatory: No Smarter Choices (c): No Reference (d): Local_zone12_Fareham_AQActionplan_1
Fareham	Local_Fareham_G4	To review progress in respect of the FBC Cycle Strategy 2005-11 and the LTP2 and implement those measures likely to have an impact on air quality in the AQMAs	Hampshire County Council's LTP2 sets out a broad approach towards the promotion and encouragement of cycling within the County.	Type: Education/information Sources affected: Transport Spatial scale: local Implementation date: 2006 Reduction timescale: Short term Regulatory: No Smarter Choices (c): Yes Reference (d): Local_zone12_Fareham_AQActionplan_1
Fareham	Local_Fareham_G5	Promote the development and implementation of work travel plans amongst companies that use the roads in and around the	The planning development control team has not secured by condition or any other means, any workplace related travel plans during 2007/8.  However, a travel plan is to be secured by a section 106 agreement with Hampshire County Council in respect of a recent application for a large food store in the town centre.	Type: Education/information Sources affected: Transport Spatial scale: local Implementation date: 2007 Reduction timescale: Long term Regulatory: No Smarter Choices (c): Yes Reference (d): Local_zone12_Fareham_AQActionplan_1

LA (a)	Measure code (b)	Title	Description	Other information
		AQMAs particularly through the use and enforcement of planning conditions		
Fareham	Local_Fareham_G6	To continue to work with schools in Fareham close to the AQMAs for the development, implementation and the annual review of School Travel Plans	The Hampshire Safer Routes to Schools Programme, delivered through individual School Travel Plans, aims to reduce unnecessary car trips to school and encourage parents, pupils, teachers and visitors to travel to and from schools in safer, healthier and more environmentally sustainable ways.	Type: Education/information Sources affected: Transport Spatial scale: local Implementation date: 2007 Reduction timescale: Short term Regulatory: No Smarter Choices (c): Yes Reference (d): Local_zone12_Fareham_AQActionplan_1
Fareham	Local_Fareham_H2	To implement the Town Access Plan proposals where they have an impact on air quality in the AQMAs	The plan seeks to create a long term increase in the use of local services by local people by improving the ease of movement, especially by passenger transport, walking and cycling within that centre.	<ul> <li>Type: Technical; Education/information</li> <li>Sources affected: Transport</li> <li>Spatial scale: local</li> <li>Implementation date: 2008</li> <li>Reduction timescale: Long term</li> <li>Regulatory: No</li> <li>Smarter Choices (c): No</li> <li>Reference (d): Local_zone12_Fareham_AQActionplan_1</li> </ul>
Fareham	Local_Fareham_B1	To continue to inspect premises and take appropriate enforcement action in respect of the Environmental Permit risk assessment regime	Under the Environmental Permitting (England and Wales) Regulations 2007, local authorities are regulators for a regime known as Local Authority Pollution Prevention and Control which covers installations known as Part B installations.	Type: Technical; Education/information Sources affected: Transport Spatial scale: local Implementation date: 2007 Reduction timescale: Long term Regulatory: Yes Smarter Choices (c): No Reference (d): Local_zone12_Fareham_AQActionplan_1
Fareham	Local_Fareham_B2	To use Environmental Permit inspections to	Hampshire County Council Trading Standards officers are undertaking the majority of LAPPC inspections of petrol stations in the County on behalf of the district councils from 2008/9. They have agreed to distribute	<ul> <li>Type: Technical; Education/information</li> <li>Sources affected: Transport</li> <li>Spatial scale: local</li> <li>Implementation date: 2008</li> </ul>

LA (a)	Measure code (b)	Title	Description	Other information
		encourage the provision of alternative fuels at petrol stations forecourts	air quality/alternative fuel information during these inspections.	Reduction timescale: Medium term Regulatory: No Smarter Choices (c): No Reference (d): Local_zone12_Fareham_AQActionplan_1
Fareham	Local_Fareham_E5	Promote the use of planning policies, alongside other planning and transport measures, to promote sustainable transport choices and reduce reliance on the car	Environmental Health are consulted by the Development Control section of the Planning and Transportation department to ensure that the proposed development does not result in it so occupiers being subject to pollution issues or that existing residents do not suffer pollution because of the development.	Type: Technical; Education/information Sources affected: Transport Spatial scale: local Implementation date: 2008 Reduction timescale: Long term Regulatory: No Smarter Choices (c): Yes Reference (d): Local_zone12_Fareham_AQActionplan_1
Fareham	Local_Fareham_E6	To ensure that the new LDF incorporates planning policy that will not adversely impact on air quality but furthermore enhances air quality where possible	The solent transport strategy for the Fareham-Gosport peninsula focuses on improving accessibility, reducing congestion and improving air quality for Fareham.	Type: Technical; Education/information Sources affected: Transport Spatial scale: local Implementation date: 2008 Reduction timescale: Long term Regulatory: No Smarter Choices (c): No Reference (d): Local_zone12_Fareham_AQActionplan_1
Fareham	Local_Fareham_E7	Regulatory Services will continue to work with the Development Control section to ensure that air quality is taken into account in the planning	Regulatory Services will continue to work with the Development Control section to ensure that air quality is taken into account in the planning development process	Type: Technical; Education/information Sources affected: Transport Spatial scale: local Implementation date: 2008 Reduction timescale: Long term Regulatory: No Smarter Choices (c): No Reference (d): Local_zone12_Fareham_AQActionplan_1

LA (a)	Measure code (b)	Title	Description	Other information
		development process		
Fareham	Local_Fareham_D1	Parking Strategy	To review the new FBC parking strategy and implement any measures that may result in reduced congestion in the AQMAs. From April 2007 Fareham Borough Council became responsible for enforcing traffic regulations such as limited waiting, double or single yellow lines, no stopping at bus stops etc.	<ul> <li>Type: Technical; Education/information</li> <li>Sources affected: Transport</li> <li>Spatial scale: local</li> <li>Implementation date: 2008</li> <li>Reduction timescale: Medium term</li> <li>Regulatory: No</li> <li>Smarter Choices (c): No</li> <li>Reference (d): Local_zone12_Fareham_AQActionplan_1</li> </ul>
Fareham	Local_Fareham_H3	Local Air Quality Management and consultation with neighbouring authorities and stakeholders.	To continue to work in partnership with neighbouring authorities and others for the control of air pollution and continued improvement of air quality eg to attend HIOW air quality group	<ul> <li>Type: Education/information</li> <li>Sources affected: Transport</li> <li>Spatial scale: local</li> <li>Implementation date: 2008</li> <li>Reduction timescale: Short term</li> <li>Regulatory: No</li> <li>Smarter Choices (c): No</li> <li>Reference (d): Local_zone12_Fareham_AQActionplan_1</li> </ul>
Fareham	Local_Fareham_H4	To continue to place air quality reports on the FBC website	Air quality information including the monthly results of several diffusion tubes, air quality reports and the details of the AQMAs is placed on the Council swebsite.	<ul> <li>Type: Education/information</li> <li>Sources affected: Transport</li> <li>Spatial scale: local</li> <li>Implementation date: 2008</li> <li>Reduction timescale: Short term</li> <li>Regulatory: Yes</li> <li>Smarter Choices (c): No</li> <li>Reference (d): Local_zone12_Fareham_AQActionplan_1</li> </ul>
Fareham	Local_Fareham_H5	To promote awareness via the FBC website of other air quality information web sites	To promote awareness via the FBC website of other air quality information web sites	<ul> <li>Type: Education/information</li> <li>Sources affected: Transport</li> <li>Spatial scale: local</li> <li>Implementation date: 2008</li> <li>Reduction timescale: Short term</li> <li>Regulatory: Yes</li> <li>Smarter Choices (c): No</li> <li>Reference (d): Local_zone12_Fareham_AQActionplan_1</li> </ul>
Fareham	Local_Fareham_H6	Support locally, national campaigns to raise awareness of air quality, alternative transport choices etc	Support locally, national campaigns to raise awareness of air quality, alternative transport choices etc	<ul> <li>Type: Education/information</li> <li>Sources affected: Transport</li> <li>Spatial scale: local</li> <li>Implementation date: 2008</li> <li>Reduction timescale: Short term</li> <li>Regulatory: No</li> <li>Smarter Choices (c): Yes</li> <li>Reference (d): Local_zone12_Fareham_AQActionplan_1</li> </ul>

LA (a)	Measure code (b)	Title	Description	Other information
Fareham	Local_Fareham_C1	To promote the	To promote the use of alternative fuels eg LPG,hybrid	Type: Education/information
		use of		Sources affected: Transport
		alternative fuels		Spatial scale: local
		eg LPG,hybrid		Implementation date: 2008
				Reduction timescale: Short term
				Regulatory: No
				Smarter Choices (c): No
				Reference (d): Local_zone12_Fareham_AQActionplan_1
Fareham	Local_Fareham_H7	To produce a	To produce a leaflet on the AQAP and distribute to	Type: Education/information
		leaflet on the	libraries, GP surgeries etc	Sources affected: Transport
		AQAP and		Spatial scale: local
		distribute to		Implementation date: 2008
		libraries, GP		Reduction timescale: Short term
		surgeries etc		Regulatory: No
				Smarter Choices (c): Yes
				Reference (d): Local_zone12_Fareham_AQActionplan_1
Fareham	Local_Fareham_B3	To continue to	The Council offers a Home Energy Insulation Scheme	Type: Education/information
		promote energy	and Home Energy Boiler Scheme. The former offers	Sources affected: Transport
		awareness and	all eligible households free cavity wall insulation and	Spatial scale: local
		efficiency in the	free full loft insulation or top-up loft insulation to	Implementation date: 2008
		Borough	250mm (10") where the existing insulation is less than	Reduction timescale: Long term
			75mm (3") in depth. There is additional information	Regulatory: No
			on the Council's website regarding energy efficiency	Smarter Choices (c): No
			in the home and other discounts and grants.	Reference (d): Local_zone12_Fareham_AQActionplan_1
Fareham	Local_Fareham_G7	Smarter	Smarter travel choices are new techniques for	Type: Education/information
		Choices regime	influencing people"s travel behaviour towards more	Sources affected: Transport
		of the LTP2	sustainable options, such as walking, cycling,	Spatial scale: local
			travelling by public transport and car sharing. They	Implementation date: 2008
			are sometimes called "soft measures".	Reduction timescale: Long term
				Regulatory: No
				Smarter Choices (c): Yes
				Reference (d): Local_zone12_Fareham_AQActionplan_1
Fareham	Local_Fareham_G8	To continue to	To continue to promote cycling and walking as	Type: Education/information
		promote cycling	healthier alternatives to the car on the FBC website	Sources affected: Transport
		and walking as		Spatial scale: local
		healthier		Implementation date: 2008
		alternatives to		Reduction timescale: Short term
		the car on the		Regulatory: No
		FBC website		Smarter Choices (c): Yes
				Reference (d): Local_zone12_Fareham_AQActionplan_1
Fareham	Local_Fareham_B4	To implement	To implement Environmental Sustainability Strategy	Type: Education/information
		Environmental	(ESS) and ensure that NO <sub>2</sub> is considered in the	Sources affected: Transport

LA (a)	Measure code (b)	Title	Description	Other information
		Sustainability	development of the FBC Sustainability Strategy	Spatial scale: local
		Strategy (ESS)		Implementation date: 2008
				Reduction timescale: Long term
				Regulatory: No
				Smarter Choices (c): No
				Reference (d): Local_zone12_Fareham_AQActionplan_1

<sup>(</sup>a) Name of responsible Local Authority.

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

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

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