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Air Quality Plan for the achievement of EU air quality limit value for nitrogen dioxide (NO₂) in Brighton/Worthing/Littlehampton (UK0010)

December 2015

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1 Introduction

1.1 This document

This document is the Brighton/Worthing/Littlehampton agglomeration zone (UK0010) updated air quality plan for the achievement of the EU air quality limit values for nitrogen dioxide (NO₂). This is an update to the air quality plan published in September 2011 (<http://uk-air.defra.gov.uk/library/no2ten/>).

This plan presents the following information:

- General information regarding the Brighton/Worthing/Littlehampton agglomeration zone
- Details of the NO₂ exceedance situation within the Brighton/Worthing/Littlehampton 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 the Brighton/Worthing/Littlehampton agglomeration zone should be read in conjunction with the separate UK overview document and the list of UK and national measures. The UK overview document sets out, amongst other things, the authorities responsible for delivering air quality improvements and the list of UK and national measures that are applied in some or all UK zones. The measures presented in this zone plan, the accompanying UK overview document and the list of UK and national measures show how the UK will ensure that compliance with the NO₂ limit values is achieved in the shortest possible time.

This plan should also be read in conjunction with the supporting UK Technical Report which presents information on assessment methods, input data and emissions inventories used in the analysis presented in this plan.

1.2 Context

Two NO₂ limit values for the protection of human health have been set in the Air Quality Directive (2008/50/EC). These are:

- The annual mean limit value: an annual mean concentration of no more than 40 $\mu\text{g m}^{-3}$
- The hourly limit value: no more than 18 exceedances of 200 $\mu\text{g m}^{-3}$ in a calendar year

The Air Quality Directive stipulates that compliance with the NO₂ limit values will be achieved by 01/01/2010.

1.3 Zone status

The assessment undertaken for the Brighton/Worthing/Littlehampton agglomeration zone indicates that the annual limit value was exceeded in 2013 but is likely to be achieved before 2020 through the introduction of measures included in the baseline.

1.4 Plan structure

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

Section 3 then presents the overall picture with respect to NO₂ levels in this agglomeration zone for the 2013 reference year of this air quality plan. This includes a 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 2013 is given in section 4.

Baseline modelled projections for 2020, 2025 and 2030 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 implement. However, it has not been possible to quantify the impact of all the 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: Brighton/Worthing/Littlehampton

Zone code: UK0010

Type of zone: agglomeration zone

Reference year: 2013

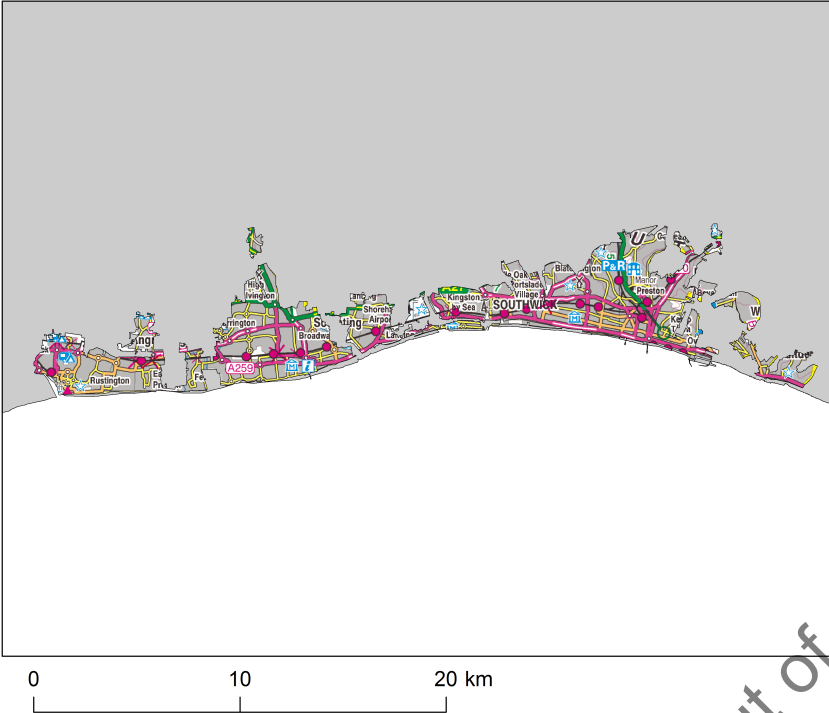
Extent of zone: Figure 1 shows the area covered by the Brighton/Worthing/Littlehampton agglomeration zone.

Local Authorities within the 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 the list correspond to the numbers in Figure 2.

1. Adur District Council
2. Arun District Council
3. Brighton and Hove Council
4. Lewes District Council
5. Worthing Borough Council

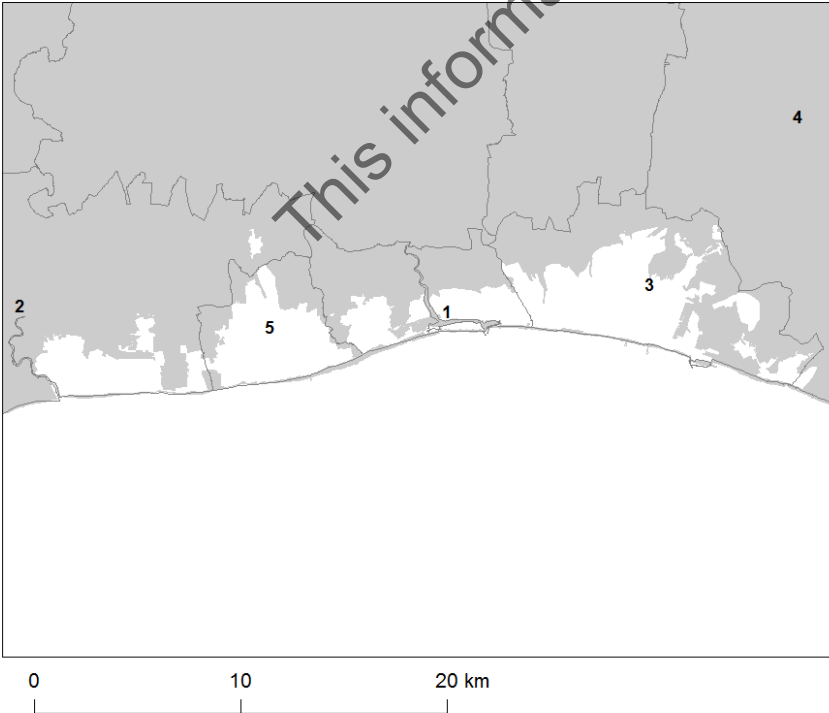
(Note: Local Authority boundaries do not necessarily coincide with zone boundaries. Hence Local Authorities may be listed within more than one zone plan.)

Figure 1: Map showing the extent of the Brighton/Worthing/Littlehampton agglomeration zone (UK0010).



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Figure 2: Map showing Local Authorities within the Brighton/Worthing/Littlehampton agglomeration zone (UK0010).



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2.2 Assessment details

Measurements

NO₂ measurements in this zone were available in 2013 from the following national network monitoring stations (NO₂ data capture for each station in 2013 shown in brackets):

1. Brighton Preston Park GB0860A (99%)

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

Modelling

Modelling for the 2013 reference year has been carried out for the whole of the UK. This modelling covers the following extent within this zone:

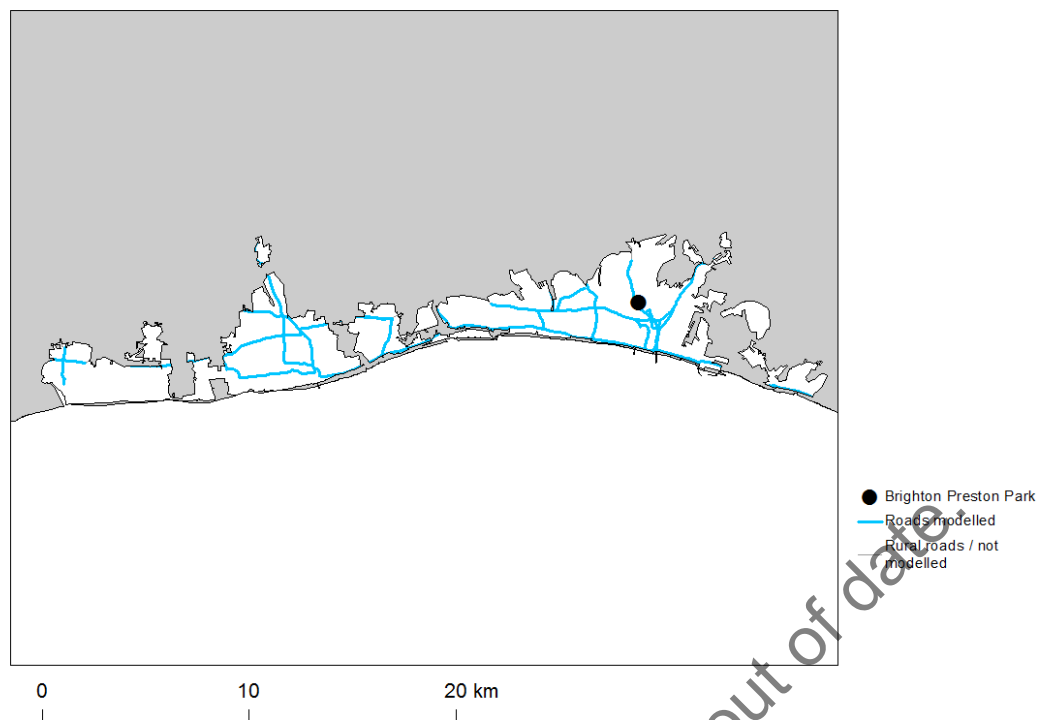
- Total background area within zone (approx): 94 km²
- Total population within zone (approx): 420,590 people
- Total road length where an assessment of NO₂ concentrations has been made: 85 km in 2013 (and similar lengths in previous years)

Zone maps

Figure 3 presents the location of the NO₂ monitoring stations within this zone for 2013 and the roads for which NO₂ concentrations have been modelled. NO₂ concentrations at background locations have been modelled across the entire zone at a 1 km x 1 km resolution.

This information is out of date.

Figure 3: Map showing the location of the NO₂ monitoring stations with valid data in 2013 and roads where concentrations have been modelled within the Brighton/Worthing/Littlehampton (UK0010) agglomeration zone.



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2.3 Reporting under European Directives

From 2001 to 2012 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>. Since 2013 reporting has been via an e-reporting system (Decision 2011/850/EU) <http://cdr.eionet.europa.eu/gb/eu/>.

In addition, the UK has reported on air quality plans and programmes (Decision 2004/224/EC) since 2003. Historic plans and programmes are available on <http://cdr.eionet.europa.eu/gb/eu/aqpp>.

3 Overall Picture for 2013 Reference Year

3.1 Introduction

There are two limit values for the protection of health for NO₂. These are:

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

Within the Brighton/Worthing/Littlehampton agglomeration zone the annual limit value was exceeded in 2013. Hence, one exceedance situation for this zone has been defined, NO₂_UK0010_Annual_1, which covers exceedances of the annual limit value. This exceedance situation is described below.

3.2 Reference year: NO₂_UK0010_Annual_1

The NO₂_UK0010_Annual_1 exceedance situation covers all exceedances of the annual mean limit value in the Brighton/Worthing/Littlehampton agglomeration zone in 2013.

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 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 2013. Table 2 summarises modelled annual mean NO₂ concentrations in this exceedance situation for the same time period. This table shows that, in 2013, 0.8 km of road length was modelled to exceed the annual limit value. There were no modelled background exceedances of the annual limit value. Maps showing the modelled annual mean NO₂ concentrations for 2013 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 the maps.

The maximum measured concentration in the zone varies due to changes in 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. Emissions to air are regulated in terms of oxides of nitrogen (NO_x), which is the term used to describe the sum of nitrogen dioxide (NO₂) and nitric oxide (NO). Ambient NO₂ concentrations include contributions from both directly emitted primary NO₂ and secondary NO₂ formed in the atmosphere by the oxidation of NO. As such, it is not possible to calculate an unambiguous source apportionment specifically for NO₂ concentrations; therefore the source apportionment in this plan is presented for NO_x, rather than for NO₂ (for further details please see the UK Technical Report). Table 3 summarises the

modelled NO_x source apportionment for the section of road with the highest modelled NO₂ concentration in this exceedance situation in 2013. This is important information because it shows which sources need to be tackled at the location with the largest compliance gap in the exceedance situation.

Figure B.1 in Annex B presents the annual mean NO_x source apportionment for each section of road within the NO₂_UK0010_Annual_1 exceedance situation (i.e. the source apportionment for all exceeding roads only) in 2013. In this figure roads have been grouped into motorways, primary roads (major roads managed by local authorities) and trunk roads (major roads managed by highways authorities).

This information is out of date.

Table 1: Measured annual mean NO₂ concentrations at national network stations in NO₂_UK0010_Annual_1 for 2001 onwards, μgm^{-3} (a). Data capture shown in brackets.

Site name (EOI code)	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Brighton Preston Park (GB0860A)				31 (16)	22 (96)	21 (98)	22 (97)	20 (99)	19 (99)	22 (89)	17 (64)	16 (99)	17 (99)
Brighton Roadside (GB0693A)	36 (93)	37 (95)	43 (87)	41 (99)	39 (99)	39 (99)	41 (98)	38 (97)	37 (98)	48 (23)			
Hove Roadside (GB0686A)	39 (93)	33 (94)	37 (96)	38 (94)	36 (96)	34 (89)	30 (72)						

(a) Annual Mean Limit Value = $40 \mu\text{gm}^{-3}$

Table 2: Annual mean NO₂ model results in NO₂_UK0010_Annual_1 for 2001 onwards.

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Road length exceeding (km)	6.2	0.0	39.4	10.1	9.5	8.7	6.6	3.2	3.2	11.4	1.5	1.5	0.8
Background exceeding (km ²)	0	0	0	0	0	0	0	0	0	0	0	0	0
Maximum modelled concentration (μgm^{-3}) (a)	43.0	39.9	52.3	52.8	52.5	50.8	50.4	45.9	44.6	52.9	48	47	41

(a) Annual Mean Limit Value = $40 \mu\text{gm}^{-3}$

Table 3: Modelled annual mean NOx source apportionment at the traffic count point with the highest modelled concentration in 2013 in NO2_UK0010_Annual_1 (μgm^{-3}) (traffic count point 6273 on the A23; OS grid (m): 531360, 104230).

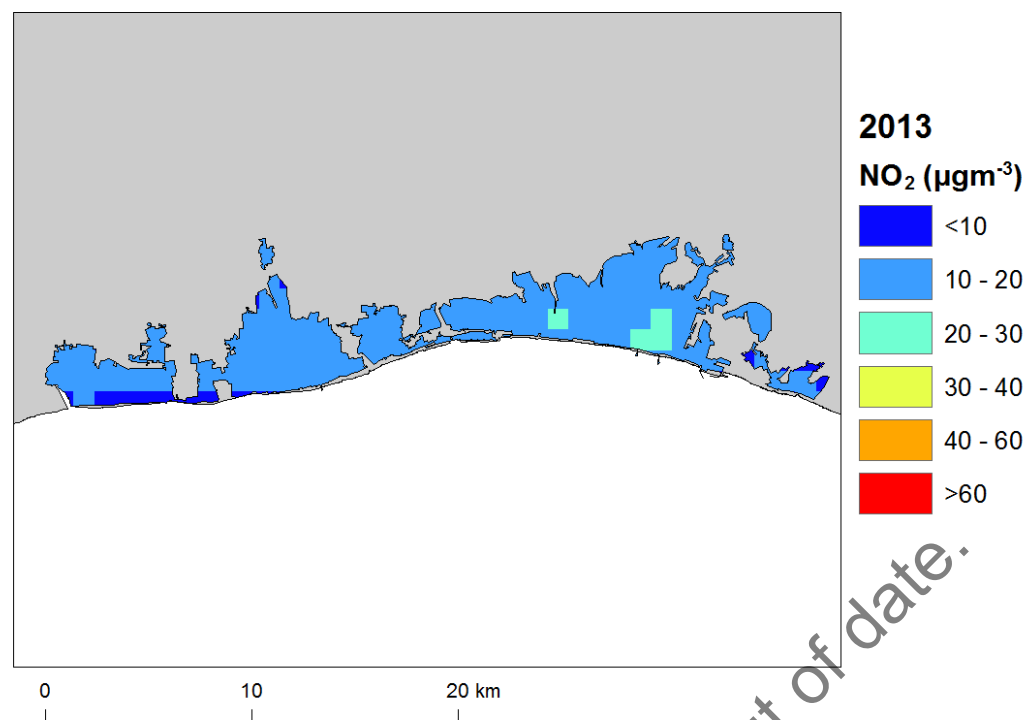
Spatial scale	Component	Concentration at highest road link (a)
Regional background sources NOx (i.e. contributions from distant sources of > 30 km from the receptor).	Total	9.1
	From within the UK	3.4
	From transboundary sources (includes shipping and other EU member states)	5.8
Urban background sources NOx (i.e. sources located within 0.3 - 30 km from the receptor).	Total	25.0
	From road traffic sources	16.7
	From industry (including heat and power generation)	0.7
	From agriculture	NA
	From commercial/residential sources	5.7
	From shipping	0.1
	From off road mobile machinery	1.6
	From natural sources	NA
	From transboundary sources	NA
Local sources NOx (i.e. contributions from sources < 0.3 km from the receptor).	From other urban background sources	0.1
	Total	67.0
	From petrol cars	3.7
	From diesel cars	12.9
	From HGV rigid (b)	5.6
	From HGV articulated (b)	0.7
	From buses	35.2
	From petrol LGVs (c)	0.1
	From diesel LGVs (c)	8.5
	From motorcycles	0.1
	From London taxis	0.0
Total NOx (i.e. regional background + urban background + local components)		101.1
Total NO ₂ (i.e. regional background + urban background + local components)		41

(a) Components are listed with NOx concentration of NA when there is no source from this sector.

(b) HGV = heavy goods vehicle

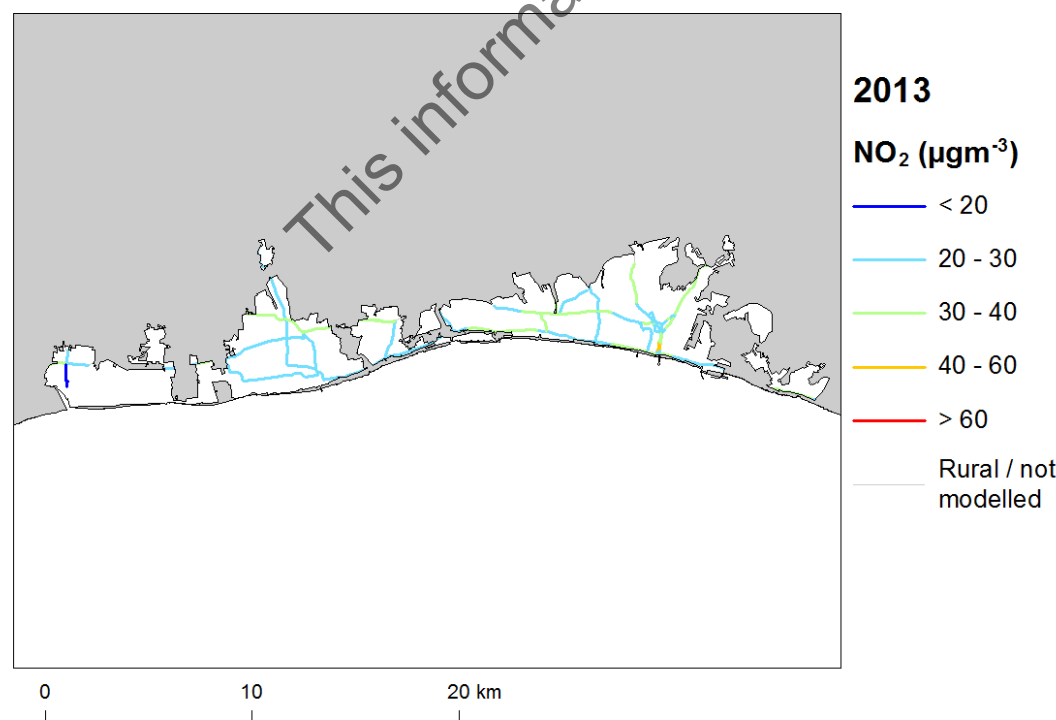
(c) LGV = light goods vehicle

Figure 4: Map of modelled background annual mean NO₂ concentrations 2013. Modelled exceedances of the annual limit value are shown in orange and red.



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Figure 5: Map of modelled roadside annual mean NO₂ concentrations 2013. Modelled exceedances of the annual limit value are shown in orange and red.



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4 Measures

4.1 Introduction

This section gives details of measures that address exceedances of the NO₂ limit values within Brighton/Worthing/Littlehampton agglomeration zone. This includes both measures that have already been taken and measures for which there is a firm commitment that they will be taken.

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

4.2 Source apportionment

It is important to understand which sources are responsible for causing the exceedance in order to most effectively tailor measures to address the NO₂ exceedance situation 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 buses at the location of maximum exceedance with a contribution of 35.2 $\mu\text{g m}^{-3}$ of NOx out of a total of 101.1 $\mu\text{g m}^{-3}$ of NOx. Buses and cars were important sources on the primary roads with the highest concentrations. For all road links concentrations of NOx from diesel cars were approximately four times greater than NOx emissions from petrol cars. NOx concentrations from petrol LGVs are a small component of total NOx concentrations and less than 2% of total NOx from LGVs.

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

4.3 Measures

Measures potentially affecting NO₂ in this agglomeration zone have been taken and/or are planned at a range of administrative levels. These are:

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

Details of European Union measures (e.g. Euro Standards, Fuel Quality Directives, Integrated Pollution Prevention and Control) can be found on the European Commission's website (http://ec.europa.eu/environment/air/index_en.htm). Details of national measures are given in the UK overview document and the list of UK and national measures.

Relevant Local Authority measures within this exceedance situation are listed in Table C.1 (see Annex C). Table C.1 lists measures which a local authority has carried out or is in the process of carrying out, plus additional measures which the local authority is committed to carrying out or is investigating with the expectation of carrying out in the future.

The Local Transport Plan recognises the need to improve air quality through improved traffic flow, greater use of sustainable forms of transport such as public transport, walking and cycling.

There are several initiatives that Authorities within the zone are undertaking to improve air quality e.g. a Low Emission Zone for buses in Brighton and Hove took effect on 1 January 2015 for Euro V standard for frequent services. A selective catalytic reduction retrofit programme for buses has been delivered in time for this. The intention was to retrofit Euro III buses aiming for better results than Euro V. In building upon this a number of hybrid buses have been introduced as well as Euro VI buses.

4.4 Measures timescales

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

Local Authorities report on progress with the implementation of their action plans annually and review action plan measures regularly. Information on local measures was collected in February/March 2015. Hence, any Local Authority action plans and measures adopted by Local Authorities after this time have not been included in this air quality plan, unless additional information was provided during the consultation process.

The reference year for this air quality plan is 2013. Where measures started and finished before 2013, then the improvement in air quality resulting from these measures will have already taken place before the reference year and the impact of these measures will have been included in the assessment where the measure has had an impact on the statistics used to compile the emission inventory. Many measures started before the reference year and will continue to have a beneficial impact on air quality well beyond the reference year. Measures with a start date before 2013 and an end date after 2013 may have an impact on concentrations in the reference year and a further impact in subsequent years. Where the Status column in Annex C is 'Implementation', this shows that this measure is already underway or that there is a commitment for this measure to go ahead. Where the Status is 'Planning', 'Preparation' or 'Other' the level of commitment is less clear and it is possible some of these measures may not go ahead.

5 Baseline Model Projections

5.1 Overview of model projections

Model projections for 2020, 2025 and 2030, starting from the 2013 reference year described in section 3, have been calculated in order to determine when compliance with the NO₂ limit values is likely to be achieved on the basis of EU, regional and local measures currently planned. Details of the methods used for the baseline emissions and projections modelling are provided in 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 2012 (used as a basis for the compilation of the emission inventory) or in the traffic activity projections to 2020 and beyond (used to calculate the emissions 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.

5.2 Baseline projections: NO₂_UK0010_Annual_1

Table 4 presents summary results for the baseline model projections for 2020, 2025 and 2030 for the NO₂_UK0010_Annual_1 exceedance situation. This shows that the maximum modelled annual mean NO₂

concentration predicted for 2020 in this exceedance situation is $27 \mu\text{gm}^{-3}$. Hence, the model results suggest that compliance with the NO_2 annual limit value is likely to be achieved before 2020 under baseline conditions in this exceedance situation.

Figures 6 and 7 show maps of projected annual mean NO_2 concentrations in 2020, 2025 and 2030 for background and roadside locations respectively. Maps for 2013 are also presented here for reference.

It should be noted that the baseline projections presented here include the impacts of some measures, where they can be quantified, that have already been or will be implemented.

This information is out of date.

Table 4: Annual mean NO₂ model results in NO₂_UK0010_Annual_1.

	2013	2020	2025	2030
Road length exceeding (km)	0.8	0.0	0.0	0.0
Background exceeding (km ²)	0	0	0	0
Maximum modelled concentration NO ₂ (μgm ⁻³) (a)	41	27	22	20
Corresponding modelled concentration NOx (μgm ⁻³) (b)	101	55	43	39

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

(b) NOx is recorded here for comparison with the NOx source apportionment graphs for 2013 presented in Annex B of this plan. Limit values for EU directive purposes are based on NO₂.

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Figure 6: Background baseline projections of annual mean NO₂ concentrations in 2020, 2025 and 2030. 2013 is also included here for reference. Modelled exceedances of the annual limit value are shown in orange and red.

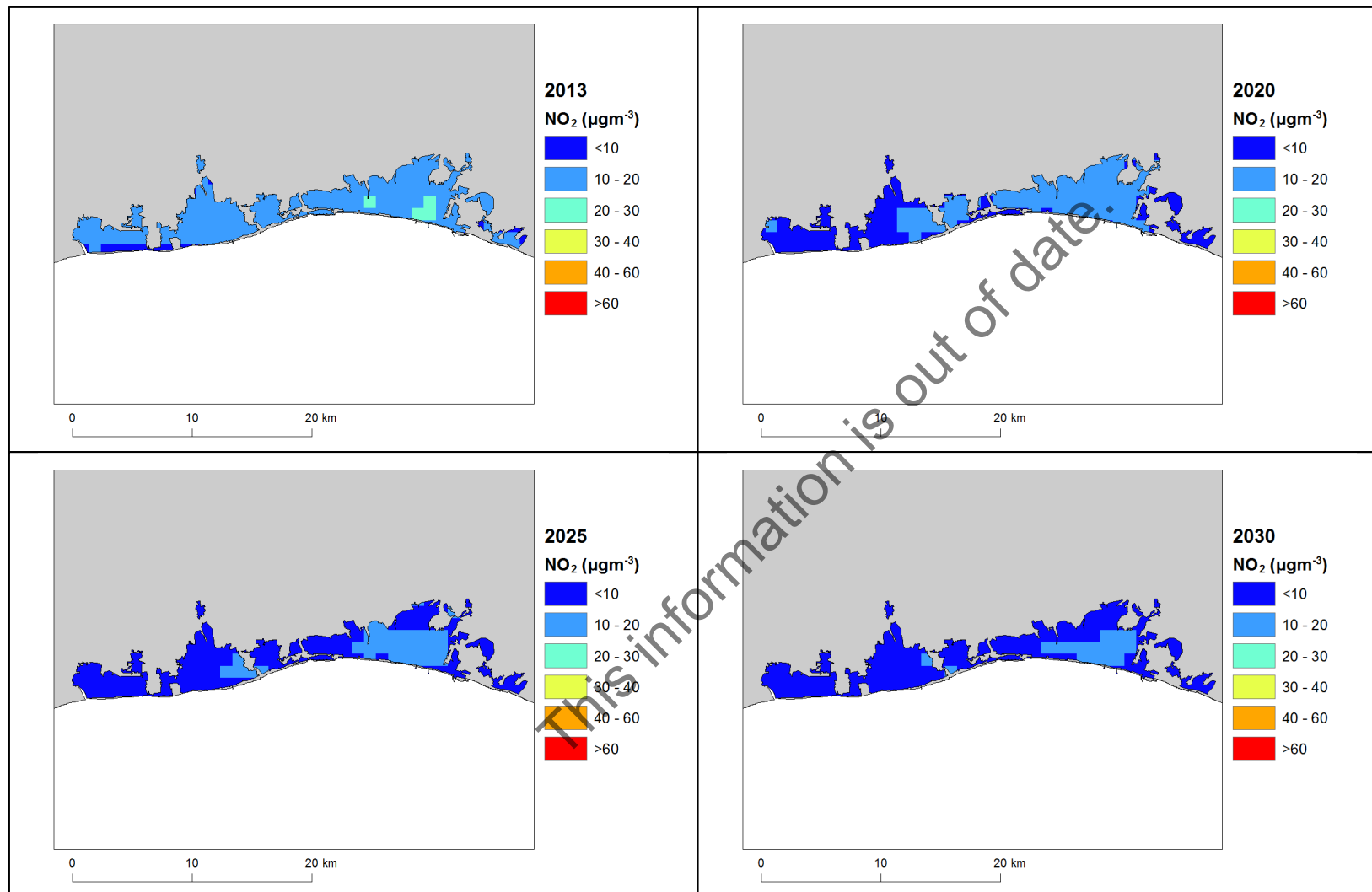
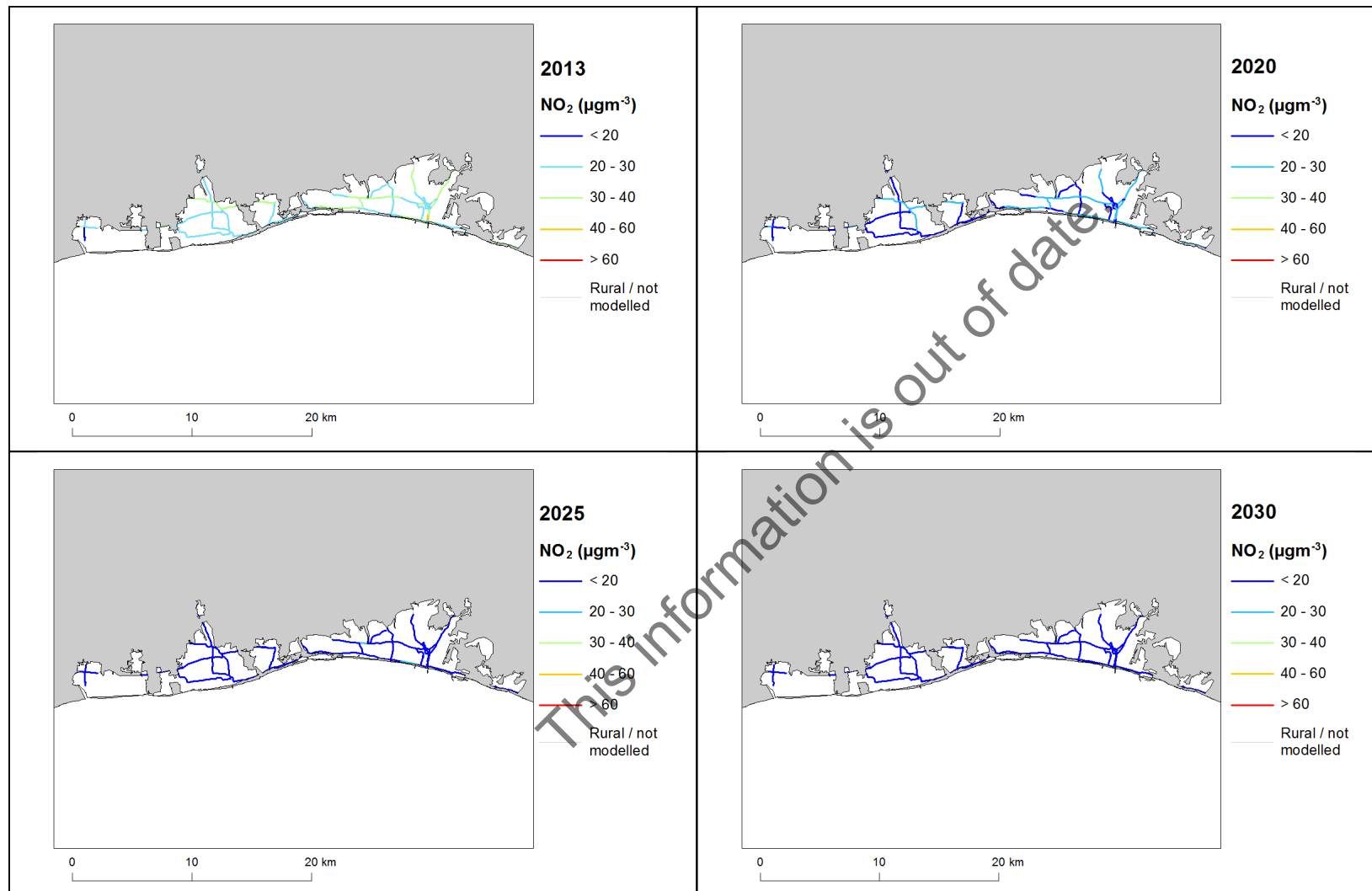


Figure 7: Roadside baseline projections of annual mean NO₂ concentrations in 2020, 2025 and 2030. 2013 is also included here for reference. Modelled exceedances of the annual limit value are shown in orange and red.



Annexes

A References

Air Quality Expert Group (AQEG, 2004). Nitrogen Dioxide in the United Kingdom. <http://uk-air.defra.gov.uk/library/aqeg/publications>

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

Decision 2004/461/EC. Commission Decision of 29 April 2004 laying down a questionnaire to be used for annual reporting on ambient air quality assessment under Council Directives 96/62/EC and 1999/30/EC and under Directives 2000/69/EC and 2002/3/EC of the European Parliament and of the Council. From the Official Journal of the European Union, 30.4.2004, En series, L156/78

Decision 2011/850/EU Commission Implementing Decision of 12 December 2011 laying down rules for Directives 2004/107/EC and 2008/50/EC of the European Parliament and of the Council as regards the reciprocal exchange of information and reporting on ambient air quality. From the Official Journal of the European Union, 17.12.2011, En series, L335/86

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

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

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

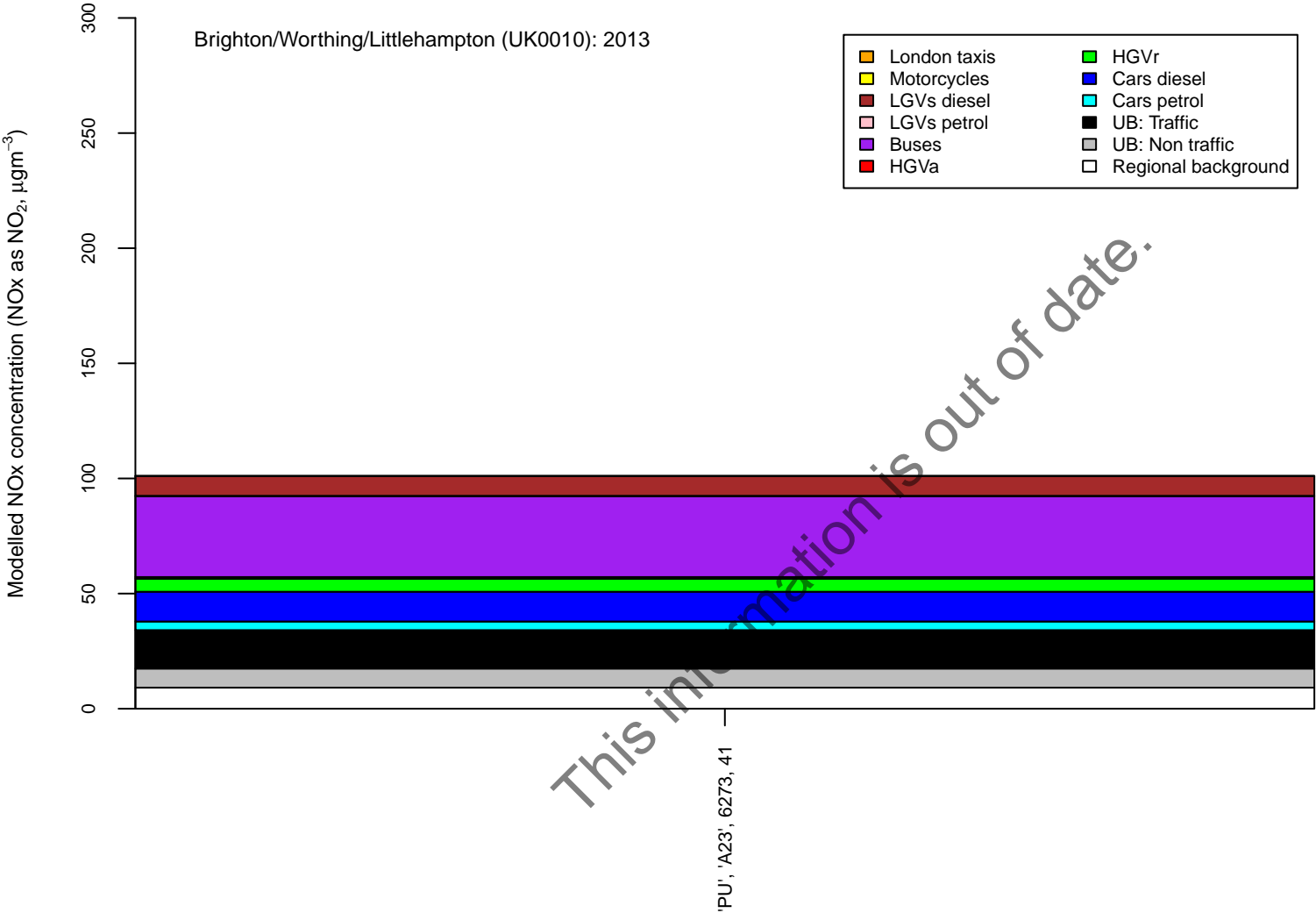
UK overview document, List of UK and National Measures and the UK technical report are available at: <http://www.gov.uk/defra>.

B Source apportionment graphs

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Figure B.1: Annual mean roadside NO_x source apportionment plots for all roads exceeding the annual mean NO₂ limit value in 2013.



Road class (MU = motorway, PU = primary road, TU = trunk road), road number, census id 12 and modelled NO₂ concentration (µgm⁻³)

C Tables of measures

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Table C.1 Relevant Local Authority measures within Brighton/Worthing/Littlehampton (UK0010)

Measure code	Description	Focus	Classification	Status	Other information
Adur District Council_1	Engineering works to reduce stop start	Smoothing traffic flow	Traffic planning and management: Encouragement of shift of transport modes	Implementation	Start date: 2009 Expected end date: 2030 Spatial scale: Local Source affected: Transport Indicator: Improvement in traffic flow Target emissions reduction: 0.1
Adur District Council_2	Adur Car Club	Reduce number of private vehicles (especially diesel)	Other measure: Other measure	Evaluation	Start date: 2014 Expected end date: 2017 Spatial scale: Whole town or city Source affected: Transport Indicator: Number of people using the service Target emissions reduction: 1-5%
Adur District Council_3	LEZ Feasibility	Consider targeting reduction in older/dirtier HGV's/LGV's/Buses within the AQMA's	Traffic planning and management: Low emission zones	Evaluation	Start date: 2015 Expected end date: 2030 Spatial scale: Local Source affected: Transport Indicator: Reduction in older Euro class HGV's/LGV's and buses within the AQMA Target emissions reduction: 10-20%
Adur District Council_4	Embed AQ Emissions Mitigation Planning Guidance for Sussex into the planning process	Embed the Sussex Air Guidance within the planning process to secure low emission developments/mitigation	Other measure: Other measure	Implementation	Start date: 2013 Expected end date: 2030 Spatial scale: Whole town or city Source affected: Transport Indicator: LE mitigation secured in developments Target emissions reduction: 1-5%
Adur District Council_5	Improve emissions from the Council's vehicle fleet	Work to improve emissions from Council fleet vehicles, perhaps by moving towards alternative fuelled/low emission vehicles or retrofitting existing vehicles	Public procurement: New vehicles, including low emission vehicles	Planning	Start date: 2014 Expected end date: 2030 Spatial scale: Local Source affected: Transport Indicator: No. of non diesel vehicles procured Target emissions reduction: <1%
Adur District Council_6	ADC Staff Home Working	Home working through development of the Council's own Staff Travel Plan (jointly with Worthing BC). The majority of employees have laptops and home/flexible working is actively encouraged	Other measure: Other measure	Implementation	Start date: 2013 Expected end date: 2030 Spatial scale: Local Source affected: Transport Indicator: Staff travel surveys reduced commuting and business travel by car Target emissions reduction: <1%

Measure code	Description	Focus	Classification	Status	Other information
Adur District Council_7	HGV/LGV assessment	Investigate age, operators and Euro Class of HGV's/LGV's passing through the AQMA	Other measure: Other measure	Evaluation	Start date: 2015 Expected end date: 2017 Spatial scale: Local Source affected: Transport Indicator: Data on Euro Classes Target emissions reduction: <5%
Adur District Council_8	EV charging infrastructure	Increase the number and spatial distribution of eV change points	Public procurement: Other measure	Implementation	Start date: 2013 Expected end date: 2030 Spatial scale: Whole town or city Source affected: Transport Indicator: Number of charge points provided Target emissions reduction: 0.01
Adur District Council_9	Bus fleet improvements	Work with the bus companies operating in and around the AQMA to improve fleet/reduce emissions	Traffic planning and management: Improvement of public transport	Implementation	Start date: 2009 Expected end date: 2030 Spatial scale: Local Source affected: Transport Indicator: Journey time and passenger number improvements Target emissions reduction: 1-5%
Adur District Council_10	Traffic light and pelican crossing optimisation	Synchronise/optmise pedestrian crossings to improve flows	Traffic planning and management: Other measure	Implementation	Start date: 2009 Expected end date: 2030 Spatial scale: Local Source affected: Transport Indicator: Improvement in traffic flows Target emissions reduction: <5%
Adur District Council_11	Travel Plans secured through the planning process for all significant development sites in West Sussex	Promote sustainable travel modes	Traffic planning and management: Encouragement of shift of transport modes	Implementation	Start date: 2001 Expected end date: 2030 Spatial scale: Local Source affected: Transport Indicator: Number of plans delivered Target emissions reduction: 1-5%
Adur District Council_12	Home working promoted through development of Travel Plans and the County Council's own Staff Travel Plan. All WSCC employees have laptops and home/flexible working is positively encouraged	Reducing the need to travel	Other measure: Other measure	Implementation	Start date: 2001 Expected end date: 2030 Spatial scale: Local Source affected: Transport Indicator: Staff travel surveys reduced commuting and business travel by car Target emissions reduction: N/A
Adur District Council_13	Personalised journey plans to be provided to employees by Living Streets through the 'Walk To' LSTF project	Promote sustainable travel modes	Traffic planning and management: Encouragement of shift of transport modes	Planning	Start date: 2015 Expected end date: 2016 Spatial scale: Local Source affected: Transport Indicator: Surveys of employee sustainable transport use Target emissions reduction: 0.01

Measure code	Description	Focus	Classification	Status	Other information
Adur District Council_14	98% of schools in West Sussex have Travel Plans. We continue to roll out Safer Routes to School improvements through our annual capital programme	Promote sustainable travel	Traffic planning and management: Encouragement of shift of transport modes	Implementation	Start date: 2001 Expected end date: 2030 Spatial scale: Local Source affected: Transport Indicator: Hands-up travel mode surveys in schools Target emissions reduction: 0.01
Adur District Council_15	Cycling Promotion	Wherever possible the County Council provides new infrastructure for cyclists. It also promotes cycle routes through the West Sussex Cycle Journey Planner (CycleStreets website and app), funding cycle challenges (e.g. Horsham and Chichester), Bike Week activities (e.g. Dr Bike sessions, provision of literature & high visibility items etc.), providing Bikeability training to school children, and offering cycle training to adults.	Traffic planning and management: Encouragement of shift of transport modes	Implementation	Start date: 2001 Expected end date: 2030 Spatial scale: Local Source affected: Transport Indicator: Automatic cycle counters and travel surveys Target emissions reduction: 1-5%
Adur District Council_16	Living Streets' Walk To School Outreach and 'Walk To' projects (LSTF)	Promote walking	Traffic planning and management: Encouragement of shift of transport modes	Implementation	Start date: 2012 Expected end date: 2016 Spatial scale: Local Source affected: Transport Indicator: Number of people walking more Target emissions reduction: 0.01
Adur District Council_17	Promotion of LEV's	Promote alternatives to conventionally fuelled cars	Public information and Education: Internet	Evaluation	Start date: 2015 Expected end date: 2030 Spatial scale: Local Source affected: Transport Indicator: Number of LEV's Target emissions reduction: 0.01
Adur District Council_18	WSCC website (Travelwise pages) and new multi-modal journey planner (Travel West Sussex)	Promoting sustainable transport	Public information and Education: Internet	Implementation	Start date: 2001 Expected end date: 2030 Spatial scale: Local Source affected: Transport Indicator: Website hits/journeys planned Target emissions reduction: 1-5%
Adur District Council_19	Leaflets to promote sustainable/active travel modes (e.g. car sharing, cycling, public transport)	Promoting sustainable transport	Public information and Education: Leaflets	Implementation	Start date: 2001 Expected end date: 2030 Spatial scale: Local Source affected: Transport Indicator: Print runs/take up Target emissions reduction: <1%

Measure code	Description	Focus	Classification	Status	Other information
Adur District Council_20	MOVA or SCOOT traffic control	Smooth traffic flow	Traffic planning and management: Other measure	Implementation	Start date: 2005 Expected end date: 2030 Spatial scale: Local Source affected: Transport Indicator: Improved traffic flow Target emissions reduction: <10%
Adur District Council_21	Increase availability of AQ information	Adur DC and Sussex Air Quality Partnership provide information about health effects of air pollutants to susceptible residents so they can make informed decisions about lifestyle	Public information and Education: Other mechanisms	Implementation	Start date: 2010 Expected end date: 2030 Spatial scale: Whole town or city Source affected: Transport Indicator: Fewer car journeys Target emissions reduction: 0.01
Adur District Council_22	Health & Wellbeing Promotion	Raise awareness of AQ issues to change habits by providing information and incentives	Traffic planning and management: Encouragement of shift of transport modes	Implementation	Start date: 2010 Expected end date: 2030 Spatial scale: Whole town or city Source affected: Transport Indicator: Fewer car journeys Target emissions reduction: <1%
Adur District Council_23	Reduce AQ impact of ADC staff travel	Reduce emissions through development of the Council's Staff Travel Plan and encourage use of lower emission vehicles	Traffic planning and management: Encouragement of shift of transport modes	Implementation	Start date: 2011 Expected end date: 2030 Spatial scale: Local Source affected: Transport Indicator: Fewer staff car journeys Target emissions reduction: <1%
Adur District Council_24	Air Quality Monitoring	Continued air quality monitoring to measure success of AQAP	Public information and Education: Internet	Implementation	Start date: 2010 Expected end date: 2025 Spatial scale: Local Source affected: Transport Indicator: Reduction in levels of NO2 Target emissions reduction: N/A
Adur District Council_25	Promotion of www.westsussexcarshare.com and Bike Week events	Promoting sustainable transport	Public information and Education: Radio	Implementation	Start date: 2013 Expected end date: 2015 Spatial scale: Local Source affected: Transport Indicator: Number of registrants/take-up of initiatives Target emissions reduction: Ongoing
Adur District Council_26	Transport network infrastructure improvements for new development	Minimising traffic congestion via investment and support during new developments	Traffic planning and management: Other measure	Implementation	Start date: 2001 Expected end date: 2030 Spatial scale: Local Source affected: Transport Indicator: Number of infrastructure improvements Target emissions reduction: <1%

Measure code	Description	Focus	Classification	Status	Other information
Adur District Council_27	Switch off engines whilst stationary at rail level crossing queues in Shoreham	Reducing localised air quality problems at level crossings	Traffic planning and management: Other measure	Implementation	Start date: 2006 Expected end date: 2030 Spatial scale: Local Source affected: Transport Indicator: Localised air quality monitoring Target emissions reduction: N/A
Adur District Council_28	New infrastructure for cyclists and pedestrians	Improving conditions for cyclists	Traffic planning and management: Expansion of bicycle and pedestrian infrastructure	Implementation	Start date: 2001 Expected end date: 2030 Spatial scale: Local Source affected: Transport Indicator: Length of new cycle routes provided Target emissions reduction: <1%
Adur District Council_29	Improvements to access to Shoreham station (including new cycling facilities and routes, provision of real time passenger information for local bus services, and improved parking facilities)	Encouraging rail use and encouraging use of sustainable modes to access the station	Traffic planning and management: Improvement of public transport	Implementation	Start date: 2001 Expected end date: 2030 Spatial scale: Local Source affected: Transport Indicator: Number of projects delivered Target emissions reduction: 1-5%
Adur District Council_30	Encouraging bus travel	Improving waiting shelter and real time passenger information facilities and bus priority infrastructure	Traffic planning and management: Improvement of public transport	Implementation	Start date: 2001 Expected end date: 2030 Spatial scale: Local Source affected: Transport Indicator: Number of projects delivered Target emissions reduction: 1-5%
Adur District Council_31	Developing and promoting bids for Sustainable Transport Packages through the Local Enterprise Partnership Local Growth Fund	Improving sustainable transport infrastructure	Traffic planning and management: Other measure	Implementation	Start date: 2015 Expected end date: 2021 Spatial scale: Local Source affected: Transport Indicator: Public transport patronage, cycle counter flows, traffic counts, travel behaviour surveys Target emissions reduction: N/A
Adur District Council_32	Speed management initiatives such as 20mph zones where these are supported by the community,	Making conditions for walking and cycling more attractive	Traffic planning and management: Reduction of speed limits and control	Evaluation	Start date: 2013 Expected end date: 2020 Spatial scale: Whole town or city Source affected: Transport Indicator: Before and after travel behaviour surveys and traffic counts Target emissions reduction: N/A

Measure code	Description	Focus	Classification	Status	Other information
Adur District Council_33	Taxi Fleet Emission Improvements	Improving the fleet and reducing emissions	Permit systems and economic instruments: Introduction/increase of environment taxes	Evaluation	Start date: 2016 Expected end date: 2030 Spatial scale: Local Source affected: Transport Indicator: Number of taxi's replaced with better Euro standard models Target emissions reduction: 0.01
Adur District Council_34	Business Travel Plan Networks to promote sustainable travel amongst employees and for business travel.	N/A	Traffic planning and management: Encouragement of shift of transport modes	Evaluation	Start date: 2014 Expected end date: 2017 Spatial scale: Local Source affected: Transport Indicator: Before and after surveys of sustainable mode use Target emissions reduction: 1-5%
Adur District Council_35	Promotion of the West Sussex Advisory Lorry Route Network	Minimising traffic congestion	Traffic planning and management: Freight transport measure	Implementation	Start date: 2006 Expected end date: 2030 Spatial scale: Local Source affected: Transport Indicator: Automatic traffic counters Target emissions reduction: 1-5%
Adur District Council_36	Moving existing bus stops	Prevent buses blocking the carriageway (A259) to improve traffic flow	Traffic planning and management: Improvement of public transport	Implementation	Start date: 2015 Expected end date: 2020 Spatial scale: Local Source affected: Transport Indicator: Traffic data Target emissions reduction: 1-5%
Adur District Council_37	Southlands Hospital travel Plan	Reduce car movements to hospital (through both AQMA's)	Traffic planning and management: Other measure	Implementation	Start date: 2007 Expected end date: 2012 Spatial scale: Local Source affected: Transport Indicator: N/A Target emissions reduction: <1%
Brighton and Hove Council_1	Low Emission Zone for Buses	Reduce bus NOx emissions in the AQMA-LEZ using Bus Quality Partnership Agreements (BQPA) Traffic Regulation Order (TRO)	Traffic planning and management: Low emission zones	Implementation	Start date: 2013 Expected end date: 2030 Spatial scale: Whole town or city Source affected: Transport Indicator: All frequent services in bus LEZ at least euro-5 standard by 2015 Prior agreement with bus operators. CCTV in place Target emissions reduction: Seeking >2g/km NOx for buses

Measure code	Description	Focus	Classification	Status	Other information
Brighton and Hove Council_2	SCRT Retrofit Programme for Buses	Clean Bus Transport Fund (CBTF)	Public procurement: New vehicles, including low emission vehicles	Implementation	Start date: 2013 Expected end date: 2014 Spatial scale: Whole town or city Source affected: Transport Indicator: PEMS Portable on Board Monitoring System Target emissions reduction: Seek 80% NOx emission reduction on fifty frequently used Euro III buses
Brighton and Hove Council_3	Flywheel Retrofit Programme for euro IV Buses	Clean Vehicle Transport Fund (CVTF) and bus company matched funding	Public procurement: New vehicles, including low emission vehicles	Implementation	Start date: 2014 Expected end date: 2015 Spatial scale: Whole town or city Source affected: Transport Indicator: Euro IV buses fitted with flywheel Target emissions reduction: Retrofits to pass through several AQMAs including BHCC
Brighton and Hove Council_4	Procurement Strategy for new buses	Green Bus Fund &	Public procurement: New vehicles, including low emission vehicles	Implementation	Start date: 2012 Expected end date: 2014 Spatial scale: Whole town or city Source affected: Transport Indicator: Number of hybrid and euro 6 buses Target emissions reduction: Test NOx reduction with PEMS or roadside monitoring
Brighton and Hove Council_5	Retrofit proposal for taxis	Clean Vehicle Transport Fund (CVTF) and taxi company matched funding	Public procurement: New vehicles, including low emission vehicles	Implementation	Start date: 2014 Expected end date: 2015 Spatial scale: Whole town or city Source affected: Transport Indicator: Number of retrofitted minibus taxis Target emissions reduction: Flywheel and SCRT to save fuel
Brighton and Hove Council_6	Taxi Licencing Policy	Change licence policy to encourage lighter low emission vehicles	Permit systems and economic instruments: Other measure	Implementation	Start date: 2013 Expected end date: 2016 Spatial scale: Whole town or city Source affected: Transport Indicator: Encourage niche market in light low emission taxis licenced for one or two passengers Target emissions reduction: Aim for emissions of NOx <50mg/km i.e. better than euro 6

Measure code	Description	Focus	Classification	Status	Other information
Brighton and Hove Council_7	Signs not Fines	Anti-Idling signs on all taxi ranks in around the AQMA	Traffic planning and management: Other measure	Implementation	Start date: 2013 Expected end date: 2014 Spatial scale: Whole town or city Source affected: Transport Indicator: Action to reduce idling time for buses and taxis to one minute Target emissions reduction: Emission and annoyance
Brighton and Hove Council_8	Assess junction light phasing to reduce AQMA queuing	Assessment of key AQMA junctions to see if queuing time can be reduced	Traffic planning and management: Other measure	Implementation	Start date: 2014 Expected end date: 2030 Spatial scale: Whole town or city Source affected: Transport Indicator: Better flow Target emissions reduction: Reduce breaking and idling
Brighton and Hove Council_9	Rapid vehicle charging network	OLEV funded project with electromotive	Traffic planning and management: Other measure	Implementation	Start date: 2013 Expected end date: 2015 Spatial scale: Whole town or city Source affected: Transport Indicator: Use of rapid chargers across the South East Target emissions reduction: Zero tailpipe emission of NOx
Brighton and Hove Council_10	Alternative fuel Infrastructure for vehicles in the AQMA	Seek opportunities for gas & fuel cell infrastructure	Traffic planning and management: Other measure	Implementation	Start date: 2014 Expected end date: 2017 Spatial scale: Whole town or city Source affected: Transport Indicator: Use of bio-methane as a transport fuel Target emissions reduction: Aim for emissions of NOx <50mg/km
Brighton and Hove Council_11	Valley Gardens Major Transport Scheme	Urban realm improvement and LSTF	Traffic planning and management: Other measure	Implementation	Start date: 2012 Expected end date: 2018 Spatial scale: Whole town or city Source affected: Transport Indicator: Improvements in ambient air quality Target emissions reduction: Better flow wider concourses, planting & amenity green space

Measure code	Description	Focus	Classification	Status	Other information
Brighton and Hove Council_12	Restriction of Vehicle numbers on certain AQMA transport corridors	Assess heavy vehicle capacity of street before NO2 limit is likely to be exceeded	Traffic planning and management: Other measure	Implementation	Start date: 2014 Expected end date: 2015 Spatial scale: Whole town or city Source affected: Transport Indicator: Substantial reduction in emissions Target emissions reduction: Emission reductions of >50% NOx sort
Brighton and Hove Council_13	Refusal on new commercial solid fuel burning in or adjacent to the AQMA	Avoid solid and liquid fuel burn in the designated area	Low emission fuels for stationary and mobile sources: Shift to installations using low emission fuels	Implementation	Start date: 2014 Expected end date: 2030 Spatial scale: Whole town or city Source affected: Transport Indicator: Actively seek alternative renewable solutions and avoid combustion plant in the AQMA Target emissions reduction: Solid fuel burning prone to emission peaks on start up
Brighton and Hove Council_14	Any combustion development to use ultra-low NOx boilers in and adjacent to the AQMA	Go beyond requirements for code for sustainable homes, BREEAM ratings & RHI	Public procurement: Low emission fuels for stationary and mobile sources	Implementation	Start date: 2014 Expected end date: 2030 Spatial scale: Whole town or city Source affected: Transport Indicator: Seek other renewable solutions before certification of ultralow NOx gas boilers Target emissions reduction: >20 mg/MJ NOx for new gas boilers in and adjacent to the AQMA
Brighton and Hove Council_15	Where new combustion plant is proposed new development in the AQMA to have vertical flue terminations above roof apex	Avoid horizontal flue termination to the street in the AQMA	Other measure: Other measure	Implementation	Start date: 2014 Expected end date: 2030 Spatial scale: Whole town or city Source affected: Transport Indicator: Conditions on planning applications Target emissions reduction: Measure is not about emissions Effective dispersion and exposure avoidance
Brighton and Hove Council_16	Avoid introduction of new planned residential adjacent to NOx and PM at roadside	Planning Comments relating to new residential land use	Other measure: Other measure	Implementation	Start date: 2014 Expected end date: 2030 Spatial scale: Whole town or city Source affected: Commercial and residential sources Indicator: Conditions on planning applications Target emissions reduction: Measure is not about emissions. Effective exposure avoidance

Measure code	Description	Focus	Classification	Status	Other information
Lewes District Council_1	White Hill / Fisher Street / West street scheme (LTP) - Change of priority at Commercial Square to improve flow in Fisher Street; review traffic signals at Station Street; greater priority to pedestrians. Two phases: (a) Experimental change in junction priority (b) Formalise priority working including other works in the area	Traffic Management And Road Schemes	Traffic planning and management: Other measure	Implementation	Start date: 2013 Expected end date: 2030 Spatial scale: Local Source affected: Transport Indicator: NO2 Target emissions reduction: 4-6.5 ug/m3 or 9-12% red in NO2 (Fisher Street) Some air quality benefits will be achieved from the experimental scheme
Lewes District Council_2	Beddingham Crossing (LTP) - Rebuilding the Southerham and Beddingham roundabouts on the A27 outside Lewes and a new railway bridge to avoid queuing at Beddingham rail crossing.	Traffic Management And Road Schemes	Traffic planning and management: Other measure	Implementation	Start date: 2009 Expected end date: 2030 Spatial scale: Whole town or city Source affected: Transport Indicator: Traffic Count Target emissions reduction: None
Lewes District Council_3	Lewes Town Centre 20mph zone - Provision of 20mph area in addition to the existing 20mph Zone. Will include majority of the AQMA.	Traffic Management And Road Schemes	Traffic planning and management: Reduction of speed limits and control	Implementation	Start date: 2012 Expected end date: 2030 Spatial scale: Whole town or city Source affected: Transport Indicator: Traffic Count/NO2/CO2 Target emissions reduction: None
Lewes District Council_4	Phoenix roundabout and Eastgate bus priority (LTP) - introduce a roundabout at the Phoenix Causeway and two-way traffic for Eastgate Street; create a bus priority lane and introduce pedestrian and cycle friendly features.	Traffic Management And Road Schemes	Traffic planning and management: Encouragement of shift of transport modes	Planning	Start date: 2014 Expected end date: 2030 Spatial scale: Local Source affected: Transport Indicator: Traffic Count Target emissions reduction: None
Lewes District Council_5	The Living Cliffe (LTP) - Creation of pedestrian zone in Cliffe High Street with restricted vehicular access. Introduction of 20mph zone to vehicles allowed to enter the zone (e.g. for deliveries)	Traffic Management And Road Schemes	Traffic planning and management: Encouragement of shift of transport modes	Implementation	Start date: 2009 Expected end date: 2030 Spatial scale: Local Source affected: Transport Indicator: Traffic Count Target emissions reduction: None
Lewes District Council_6	Offham Road Pedestrian Priority Scheme (LTP) Improvement to pedestrian facilities and vehicle speed management.	Traffic Management And Road Schemes	Traffic planning and management: Reduction of speed limits and control	Implementation	Start date: 2010 Expected end date: 2030 Spatial scale: Local Source affected: Transport Indicator: Traffic Counts Target emissions reduction: None

Measure code	Description	Focus	Classification	Status	Other information
Lewes District Council_7	Ringmer –Lewes cycleway (LTP) – Introduction of off-road cycleway on the Lewes-Ringmer road link – heavily used by commuters from Ringmer to the Town Centre. Scheme split into two, (a) Phase 1 (Eastern section), (b) Phase 2 (Western section)	Traffic Management And Road Schemes	Traffic planning and management: Expansion of bicycle and pedestrian infrastructure	Implementation	Start date: 2010 Expected end date: 2030 Spatial scale: Local Source affected: Transport Indicator: Traffic Counts Target emissions reduction: None
Lewes District Council_8	Lewes Railway Station Forecourt Scheme (LTP) Improved facilities for pedestrian, buses and taxis	Traffic Management And Road Schemes	Traffic planning and management: Improvement of public transport	Implementation	Start date: 2013 Expected end date: 2030 Spatial scale: Local Source affected: Transport Indicator: Increased use of sustainable transport modes Target emissions reduction: None
Lewes District Council_9	Target local freight distribution a) Work with local business & freight operators to collate relevant data (i.e. delivery times, parking issues) b) Encourage deliveries outside congested periods) Provide eco-driving training d) Investigate production of local “delivery maps” e) Increase or reallocate loading bays	Emissions Management	Traffic planning and management: Freight transport measure	Other	Start date: 2014 Expected end date: 2014 Spatial scale: Whole town or city Source affected: Transport Indicator: Traffic Counts Target emissions reduction: None
Lewes District Council_10	Better coordination of building and road works in the Lewes town area (LTP+) - Enhance existing LTP scheme to include building works and haulage route management	Emissions Management	Other measure: Other measure	Implementation	Start date: 2005 Expected end date: 2030 Spatial scale: Whole town or city Source affected: Transport Indicator: Number of agreements and s.61 agreements Target emissions reduction: None
Lewes District Council_11	Target long-distance freight management & heavy traffic through town (LTP+) a) Intensification of existing LTP programmes b) Review signage on weight restrictions at access road links	Emissions Management	Traffic planning and management: Freight transport measure	Planning	Start date: 2014 Expected end date: 2014 Spatial scale: Whole town or city Source affected: Transport Indicator: Traffic Counts Target emissions reduction: None
Lewes District Council_12	Reduce emissions from idling vehicles a) Install “cut engine cut pollution” signs (i.e. schools, taxi & bus terminals) b) Raise awareness through eco-driving campaign c) investigate enforcing legislation (issue fines)	Emissions Management	Traffic planning and management: Other measure	Planning	Start date: 2014 Expected end date: 2014 Spatial scale: Local Source affected: Transport Indicator: NO2/Participation/Enforcements Target emissions reduction: None

Measure code	Description	Focus	Classification	Status	Other information
Lewes District Council_13	Vehicle Emission Testing in central Lewes to measure vehicles emissions at pollution hotspots, supermarkets, car parks a) Carry out VOSA roadside emission testing (RET) b) Use of remote sensing technology	Emissions Management	Other measure: Other measure	Other	Start date: 2014 Expected end date: 2014 Spatial scale: Local Source affected: Transport Indicator: Test Results Target emissions reduction: None
Lewes District Council_14	Lewes Parking Management (LTP+) - Intensification of existing/planned LTP programmes a) extension of parking controlled area b) re-allocation of parking/loading spaces c) higher charges for long stay parking d) higher charges for residents second parking permits e) discounted permits for low-emission vehicles f) introduce car spaces for low-emission vehicles, car-clubs and car share g) maintain/increase provision of two-wheelers parking	Parking	Traffic planning and management: Other measure	Implementation	Start date: 2013 Expected end date: 2030 Spatial scale: Whole town or city Source affected: Transport Indicator: Reduced traffic and congestion at peak time, reduced re-circulation, reduced emissions; and modal shift and sustainable travel behaviour Target emissions reduction: None
Lewes District Council_15	Review of Lewes car parking system (LTP+) - a) Reallocation of existing car parks to reduce create a network of "park & walk" sites outside the AQMA b) Dedicated Short (3) and long stay car parks outside AQMA c) Installation of signage (i.e. with directions to car-parks) at access points to town	Parking	Traffic planning and management: Management of parking places	Planning	Start date: 2005 Expected end date: 2030 Spatial scale: Whole town or city Source affected: Transport Indicator: Reduction of veh/km & congestion Target emissions reduction: None

Measure code	Description	Focus	Classification	Status	Other information
Lewes District Council_16	Partnership work with bus & train operators (LTP+) a) Reduce emissions: calculate emissions from existing bus fleet, route/fleet management (i.e. only cleaner vehicles through AQMA), eco-driving training b) Increase bus and train patronage: through supporting marketing campaign, extend use of subsidised/discounted fares, improve bus connection to key area, bus stop facilities, bus information c) Provision of additional undercover cycle parking at Lewes station	Sustainable Transport	Other measure: Other measure	Implementation	Start date: 2010 Expected end date: 2030 Spatial scale: Whole town or city Source affected: Transport Indicator: Accessibility, awareness Target emissions reduction: None
Lewes District Council_17	Lewes Town Travel Plans (LTP+) - a) Review existing County & District Travel Plans b) Accelerate implementation of workplace travel plans c) Accelerating implementation/review of local school travel plans (including colleges) d) Link to other actions (i.e. school monitoring projects, cycling and car-sharing promotion) e) Target shorter journeys – investigate personal travel planning marketing	Sustainable Transport	Traffic planning and management: Encouragement of shift of transport modes	Implementation	Start date: 2008 Expected end date: 2030 Spatial scale: Whole town or city Source affected: Transport Indicator: Lead by example, change in travel behaviour, education, awareness Target emissions reduction: None
Lewes District Council_18	Car-sharing (LTP+) - Support LTP car-sharing & “travel-choice” campaign in Lewes town (i.e. through travel plans and ad-hoc events).	Sustainable Transport	Traffic planning and management: Encouragement of shift of transport modes	Implementation	Start date: 2005 Expected end date: 2030 Spatial scale: Whole town or city Source affected: Transport Indicator: Travel Behaviour Target emissions reduction: None
Lewes District Council_19	Car clubs - a) Support existing club in Lewes town (i.e. marketing) b) Accelerate introduction of new clubs c) Provide parking locations for car parks (Require car-clubs for large new developments – M21)	Sustainable Transport	Other measure: Other measure	Implementation	Start date: 2010 Expected end date: 2030 Spatial scale: Whole town or city Source affected: Transport Indicator: Usage of Carclub Target emissions reduction: None

Measure code	Description	Focus	Classification	Status	Other information
Lewes District Council_20	Walking and cycling (LTP+) - a) Accelerate implementation of LTP actions within Lewes town (i.e. improvement to existing cycle routes, identify new ones, improve signage and facilities) b) Promoting walking and cycling as a healthy and more preferable option to car for local journeys c) Promotion through travel plans, one-off events, "TravelChoice" campaign	Sustainable Transport	Traffic planning and management: Encouragement of shift of transport modes	Implementation	Start date: 2010 Expected end date: 2030 Spatial scale: Whole town or city Source affected: Transport Indicator: Delivery of LTP Actions Target emissions reduction: None
Lewes District Council_21	Better control of impact of new developments - a) Facilitate funding from S106 agreement b) Conditions to require reduced parking allocation, completion of Sustainability Checklist; travel plans for large developments and inclusion of pedestrian & sustainable transport facilities such as car-club dedicated car spaces and bus lanes	Development Planning	Other measure: Other measure	Implementation	Start date: 2010 Expected end date: 2030 Spatial scale: Whole town or city Source affected: Transport Indicator: Number of s.61 agreements Target emissions reduction: None
Lewes District Council_22	Greater planning controls within or near the AQMA for new developments or applications a) Stricter conditions limiting permitted uses and changes of use for new applications b) Request detailed air quality assessment for developments affecting AQMA. c) Encourage the uptake of Low emission strategies by developers d) Investigate production of supplementary guidance notes on air quality for new developments	Development Planning	Other measure: Other measure	Implementation	Start date: 2005 Expected end date: 2030 Spatial scale: Whole town or city Source affected: Transport Indicator: Planning Conditions and Guidance Production Target emissions reduction: None
Lewes District Council_23	Intensify promotion of national schemes on domestic heating and energy efficiency - Increase promotion of scheme aimed to improve insulation, replace/service boilers, encourage energy efficiency in the Town Centre	Non-transport Measures	Other measure: Other measure	Evaluation	Start date: 2012 Expected end date: 2012 Spatial scale: Whole town or city Source affected: Commercial and residential sources Indicator: CO2/NO2 Reduction Target emissions reduction: None

Measure code	Description	Focus	Classification	Status	Other information
Lewes District Council_24	Continue investing in new technologies and pilot projects through the LDC Waste & Recycling a) Electric vehicles for recycling fleet b) NOx reducing additive for HGV diesels c) Eco-driving training d) Route management (GPRS) e) Monitoring of fuel use & efficiency	New Technologies	Other measure: Other measure	Implementation	Start date: 2001 Expected end date: 2030 Spatial scale: Whole town or city Source affected: Transport Indicator: Fuel Usage/Maintenance Records Target emissions reduction: None
Lewes District Council_25	Investigate use of innovative NO2 absorbing/reducing technologies a) NO2 absorbing paint/slabs b) Bio-fuels NOx reducing additives	New Technologies	Other measure: Other measure	Other	Start date: 2014 Expected end date: 2014 Spatial scale: Local Source affected: Transport Indicator: NOx Target emissions reduction: None
Lewes District Council_26	Raising awareness & engagement of non-statutory stakeholders a) Organise one-off events, talks, workshops and targeted campaigns on public transport marketing and eco-driving, involving the local community b) web-sites improvements to provide better information & allow feedback/participation from members of the public c) Pilot LDC internal pop-up messaging providing air quality/sustainable transport information	Engagement, Information and Education	Traffic planning and management: Encouragement of shift of transport modes	Implementation	Start date: 2012 Expected end date: 2030 Spatial scale: Whole town or city Source affected: Transport Indicator: Participation in events Target emissions reduction: None
Lewes District Council_27	Strengthen partnership work with ESCC (LTP), LDC Sustainability(Climate Change), Planning & Communities (LDF & LSP), Sussex Air (emissions inventory, air-alert) a) Intensify links to existing strategies b) Accelerate implementation of those schemes which may improve local air quality. c) Joint participation to events, campaigns, grants applications, data collation surveys d) Plan monitoring programme (i.e. traffic) to assess action plan effectiveness	Engagement, Information and Education	Other measure: Other measure	Implementation	Start date: 2001 Expected end date: 2030 Spatial scale: Whole town or city Source affected: Transport Indicator: Climate change, transport, social inclusion, communication, effective partnership work Target emissions reduction: None

Measure code	Description	Focus	Classification	Status	Other information
Worthing Borough Council_1	Re-assess traffic light sequencing in AQMA	Review of current sequencing	Traffic planning and management: Other measure	Implementation	Start date: 2010 Expected end date: 2030 Spatial scale: Local Source affected: Transport Indicator: Traffic flow improved Target emissions reduction: 1-10%
Worthing Borough Council_2	Worthing Car Club	Reduce number of private vehicles (especially diesel)	Other measure: Other measure	Evaluation	Start date: 2014 Expected end date: 2017 Spatial scale: Whole town or city Source affected: Transport Indicator: Number of people using the service Target emissions reduction: 1-5%
Worthing Borough Council_3	LEZ Feasibility	Reduction in older/dirtier HGV's/LGV's within the AQMA	Traffic planning and management: Low emission zones	Evaluation	Start date: 2015 Expected end date: 2030 Spatial scale: Local Source affected: Transport Indicator: Reduction in older Euro class HGV's/LGV's within the AQMA Target emissions reduction: 10-20%
Worthing Borough Council_4	Embed AQ Emissions Mitigation Planning Guidance for Sussex into the planning process	Embed the Sussex Air Guidance within the planning process to secure low emission developments/mitigation	Other measure: Other measure	Implementation	Start date: 2013 Expected end date: 2030 Spatial scale: Whole town or city Source affected: Transport Indicator: LE mitigation secured in developments Target emissions reduction: 1-5%
Worthing Borough Council_5	Improve emissions from the Council's vehicle fleet	Work to improve emissions from Council fleet vehicles, perhaps by moving towards alternative fuelled/low emission vehicles or retrofitting existing vehicles	Public procurement: New vehicles, including low emission vehicles	Planning	Start date: 2014 Expected end date: 2030 Spatial scale: Local Source affected: Transport Indicator: N/A Target emissions reduction: <1%
Worthing Borough Council_6	WBC Staff Home Working	Home working through development of the Council's own Staff Travel Plan. The majority of employees have laptops and home/flexible working is actively encouraged	Other measure: Other measure	Implementation	Start date: 2013 Expected end date: 2030 Spatial scale: Local Source affected: Transport Indicator: Staff travel surveys reduced commuting and business travel by car Target emissions reduction: <1%

Measure code	Description	Focus	Classification	Status	Other information
Worthing Borough Council_7	HGV/LGV assessment	Investigate age, operators and Euro Class of HGV's/LGV's passing through the AQMA	Other measure: Other measure	Evaluation	Start date: 2015 Expected end date: 2017 Spatial scale: Local Source affected: Transport Indicator: Data on Euro Classes Target emissions reduction: N/A
Worthing Borough Council_8	EV charging infrastructure	Increase the number and spatial distribution of eV charge points	Public procurement: Other measure	Implementation	Start date: 2013 Expected end date: 2030 Spatial scale: Whole town or city Source affected: Transport Indicator: Number of charge points provided Target emissions reduction: 0.01
Worthing Borough Council_9	Bus fleet improvements	Work with the bus companies operating in and around the AQMA to improve fleet/reduce emissions	Retrofitting: Retrofitting emission control equipment to vehicles	Evaluation	Start date: 2015 Expected end date: 2030 Spatial scale: Local Source affected: Transport Indicator: Improvement in fleet (Euro category or equivalent through retrofitting) Target emissions reduction: 1-5%
Worthing Borough Council_10	A27 Highway Improvements	Major investment in A27 in Worthing to reduce congestion and improve flows	Traffic planning and management: Encouragement of shift of transport modes	Planning	Start date: 2014 Expected end date: 2019 Spatial scale: Local Source affected: Transport Indicator: Completion of scheme Target emissions reduction: 20%?
Worthing Borough Council_11	Travel Plans secured through the planning process for all significant development sites in West Sussex	Promote sustainable travel modes	Traffic planning and management: Encouragement of shift of transport modes	Implementation	Start date: 2001 Expected end date: 2030 Spatial scale: Local Source affected: Transport Indicator: Number of plans delivered Target emissions reduction: 1-5%
Worthing Borough Council_12	Home working promoted through development of Travel Plans and the County Council's own Staff Travel Plan. All WSCC employees have laptops and home/flexible working is positively encouraged	Reducing the need to travel	Other measure: Other measure	Implementation	Start date: 2001 Expected end date: 2030 Spatial scale: Local Source affected: Transport Indicator: Staff travel surveys reduced commuting and business travel by car Target emissions reduction: N/A
Worthing Borough Council_13	Personalised journey plans to be provided to employees by Living Streets through the 'Walk To' LSTF project	Promote sustainable travel modes	Traffic planning and management: Encouragement of shift of transport modes	Planning	Start date: 2015 Expected end date: 2016 Spatial scale: Local Source affected: Transport Indicator: Surveys of employee sustainable transport use Target emissions reduction: 0.01

Measure code	Description	Focus	Classification	Status	Other information
Worthing Borough Council_14	98% of schools in West Sussex have Travel Plans. We continue to roll out Safer Routes to School improvements through our annual capital programme	Promote sustainable travel	Traffic planning and management: Encouragement of shift of transport modes	Implementation	Start date: 2001 Expected end date: 2030 Spatial scale: Local Source affected: Transport Indicator: Hands-up travel mode surveys in schools Target emissions reduction: 0.01
Worthing Borough Council_15	Wherever possible the County Council provides new infrastructure for cyclists. It also promotes cycle routes through the West Sussex Cycle Journey Planner (CycleStreets website and app), funding cycle challenges (e.g. Horsham and Chichester), Bike Week activities (e.g. Dr Bike sessions, provision of literature & high visibility items etc.), providing Bikeability training to school children, and offering cycle training to adults. Bike It schemes have also been operating in Crawley, Chichester and Horsham in recent years to embed a cycling culture in local schools.	Promote cycling	Traffic planning and management: Encouragement of shift of transport modes	Implementation	Start date: 2001 Expected end date: 2030 Spatial scale: Local Source affected: Transport Indicator: Automatic cycle counters and travel surveys Target emissions reduction: <1%
Worthing Borough Council_16	Living Streets' Walk To School Outreach and 'Walk To' projects (LSTF)	Promote walking	Traffic planning and management: Encouragement of shift of transport modes	Implementation	Start date: 2012 Expected end date: 2016 Spatial scale: Local Source affected: Transport Indicator: Number of people walking more Target emissions reduction: 0.01
Worthing Borough Council_17	Promotion of LEV's	Promote alternatives to conventionally fuelled cars	Public procurement: Other measure	Evaluation	Start date: 2015 Expected end date: 2030 Spatial scale: Local Source affected: Transport Indicator: Number of LEV's Target emissions reduction: 0.01
Worthing Borough Council_18	WSCC website (Travelwise pages) and new multi-modal journey planner (Travel West Sussex)	Promoting sustainable transport	Public information and Education: Internet	Implementation	Start date: 2001 Expected end date: 2030 Spatial scale: Local Source affected: Transport Indicator: Website hits/journeys planned Target emissions reduction: 1-5%

Measure code	Description	Focus	Classification	Status	Other information
Worthing Borough Council_19	Leaflets to promote sustainable/active travel modes (e.g. car sharing, cycling, public transport)	Promoting sustainable transport	Public information and Education: Leaflets	Implementation	Start date: 2001 Expected end date: 2030 Spatial scale: Local Source affected: Transport Indicator: Print runs/take up Target emissions reduction: <1%
Worthing Borough Council_20	Ecostars for Local Fleet Operators	Consider the Ecostars accreditation scheme for HGV and Live fleet operators in Worthing	Other measure: Other measure	Evaluation	Start date: 2016 Expected end date: 2030 Spatial scale: Whole town or city Source affected: Transport Indicator: Number of companies taking part in the scheme Target emissions reduction: <1%
Worthing Borough Council_21	Increase availability of AQ information	Worthing BC and Sussex Air Quality Partnership provide information about health effects of air pollutants to susceptible residents so they can make informed decisions about lifestyle	Public information and Education: Other mechanisms	Implementation	Start date: 2010 Expected end date: 2030 Spatial scale: Whole town or city Source affected: Transport Indicator: Fewer car journeys Target emissions reduction: <1%
Worthing Borough Council_22	Health & Wellbeing Promotion	Raise awareness of AQ issues to change habits by providing information and incentives	Traffic planning and management: Encouragement of shift of transport modes	Implementation	Start date: 2010 Expected end date: 2030 Spatial scale: Whole town or city Source affected: Transport Indicator: Fewer car journeys Target emissions reduction: <1%
Worthing Borough Council_23	Reduce AQ impact of WBC staff travel	Reduce emissions through development of the Council's Staff Travel Plan and encourage use of lower emission vehicles	Traffic planning and management: Encouragement of shift of transport modes	Implementation	Start date: 2011 Expected end date: 2030 Spatial scale: Local Source affected: Transport Indicator: Fewer staff car journeys Target emissions reduction: <1%
Worthing Borough Council_24	Air Quality Monitoring	Continued air quality monitoring to measure success of AQAP	Public information and Education: Internet	Implementation	Start date: 2010 Expected end date: 2025 Spatial scale: Local Source affected: Transport Indicator: Reduction in levels of NO2 Target emissions reduction: N/A
Worthing Borough Council_25	Promotion of www.westsussexcarshare.com and Bike Week events	Promoting sustainable transport	Public information and Education: Radio	Implementation	Start date: 2013 Expected end date: 2015 Spatial scale: Local Source affected: Transport Indicator: Number of registrants/take-up of initiatives Target emissions reduction: Ongoing

Measure code	Description	Focus	Classification	Status	Other information
Worthing Borough Council_26	Transport network infrastructure improvements for new development	Minimising traffic congestion via investment and support during new developments	Traffic planning and management: Other measure	Implementation	Start date: 2001 Expected end date: 2030 Spatial scale: Local Source affected: Transport Indicator: Number of infrastructure improvements Target emissions reduction: <1%
Worthing Borough Council_27	Drivers are encouraged to switch off engines whilst stationary in rail level crossing queues in urban areas across the county	Reducing localised air quality problems at level crossings	Traffic planning and management: Other measure	Implementation	Start date: 2006 Expected end date: 2030 Spatial scale: Local Source affected: Transport Indicator: Localised air quality monitoring Target emissions reduction: N/A
Worthing Borough Council_28	New infrastructure for cyclists and pedestrians	Improving conditions for cyclists	Traffic planning and management: Expansion of bicycle and pedestrian infrastructure	Implementation	Start date: 2001 Expected end date: 2030 Spatial scale: Local Source affected: Transport Indicator: Length of new cycle routes provided Target emissions reduction: <1%
Worthing Borough Council_29	Improvements to access to Railway Stations (including new cycling facilities and routes, provision of real time passenger information for local bus services, and improved parking facilities)	Encouraging rail use and encouraging use of sustainable modes to access stations	Traffic planning and management: Improvement of public transport	Implementation	Start date: 2001 Expected end date: 2030 Spatial scale: Local Source affected: Transport Indicator: Number of projects delivered Target emissions reduction: <1%
Worthing Borough Council_30	Encouraging bus travel	Improving waiting shelter and real time passenger information facilities and bus priority infrastructure	Traffic planning and management: Improvement of public transport	Implementation	Start date: 2001 Expected end date: 2030 Spatial scale: Local Source affected: Transport Indicator: Number of projects delivered Target emissions reduction: <1%
Worthing Borough Council_31	Developing and promoting bids for Sustainable Transport Packages through the Local Enterprise Partnership Local Growth Fund	Improving sustainable transport infrastructure	Traffic planning and management: Other measure	Implementation	Start date: 2015 Expected end date: 2021 Spatial scale: Local Source affected: Transport Indicator: Public transport patronage, cycle counter flows, traffic counts, travel behaviour surveys Target emissions reduction: N/A

Measure code	Description	Focus	Classification	Status	Other information
Worthing Borough Council_32	Speed management initiatives such as 20mph zones where these are supported by the community,	Making conditions for walking and cycling more attractive	Traffic planning and management: Reduction of speed limits and control	Evaluation	Start date: 2013 Expected end date: 2020 Spatial scale: Whole town or city Source affected: Transport Indicator: Before and after travel behaviour surveys and traffic counts Target emissions reduction: N/A
Worthing Borough Council_33	Business Travel Plan Networks to promote sustainable travel amongst employees and for business travel.	N/A	Traffic planning and management: Encouragement of shift of transport modes	Evaluation	Start date: 2014 Expected end date: 2017 Spatial scale: Local Source affected: Transport Indicator: Before and after surveys of sustainable mode use Target emissions reduction: 1-5%

This information is out of date.