



Department
for Environment
Food & Rural Affairs

www.gov.uk/defra

Draft Air Quality Plan for the achievement of EU air quality limit value for nitrogen dioxide (NO₂) in Kingston upon Hull (UK0018)

September 2015



Llywodraeth Cymru
Welsh Government



The Scottish
Government
Riaghaltas na h-Alba



© Crown copyright 2015

You may re-use this information (excluding logos) free of charge in any format or medium, under the terms of the Open Government Licence v.3. To view this licence visit www.nationalarchives.gov.uk/doc/open-government-licence/version/3/ or email PSI@nationalarchives.gsi.gov.uk

Any enquiries regarding this publication should be sent to us at:

air.quality@defra.gsi.gov.uk

Contents

1	Introduction	3
1.1	This document	3
1.2	Context	3
1.3	Zone status	3
1.4	Plan Structure	3
2	General information about the Zone	4
2.1	Administrative information	4
2.2	Assessment details	6
2.3	Reporting Under European Directives	8
3	Overall Picture for 2013 Reference Year	8
3.1	Introduction	8
3.2	Reference year: NO ₂ _UK0018_Annual_1	8
4	Measures	13
4.1	Introduction	13
4.2	Source apportionment	13
4.3	Measures	13
4.4	Measures timescales	14
5	Baseline Model projections	14
5.1	Overview of model projections	14
5.2	Baseline projections: NO ₂ _UK0018_Annual_1	15
Annexes		19
A	References	19
B	Source apportionment graphs	20
C	Tables of measures	22

1 Introduction

1.1 This document

This document is the Kingston upon Hull agglomeration zone (UK0018) 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 Kingston upon Hull agglomeration zone
- Details of the NO₂ exceedance situation within the Kingston upon Hull 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 Kingston upon Hull agglomeration zone should be read in conjunction with the separate UK overview document. 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 document show how the UK will ensure that compliance with the NO₂ limit values is achieved in the shortest possible time.

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 Kingston upon Hull 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 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 take the measure(s). 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: Kingston upon Hull

Zone code: UK0018

Type of zone: agglomeration zone

Reference year: 2013

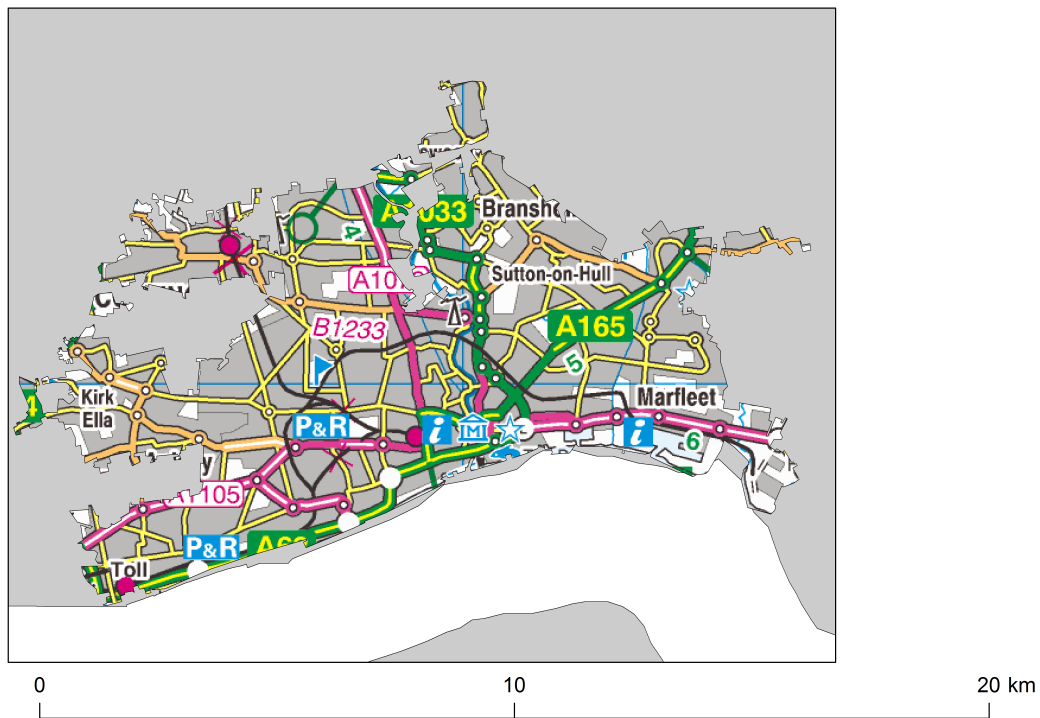
Extent of zone: Figure 1 shows the area covered by the Kingston upon Hull agglomeration zone.

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. East Riding of Yorkshire
2. Kingston-upon-Hull 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 Kingston upon Hull agglomeration zone (UK0018).



© Crown copyright. All rights reserved Defra, License number 100022861 [2015]

Figure 2: Map showing Local Authorities within the Kingston upon Hull agglomeration zone (UK0018).



© Crown copyright. All rights reserved Defra, License number 100022861 [2015]

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. Hull Freetown GB0776A (95%)

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

Modelling

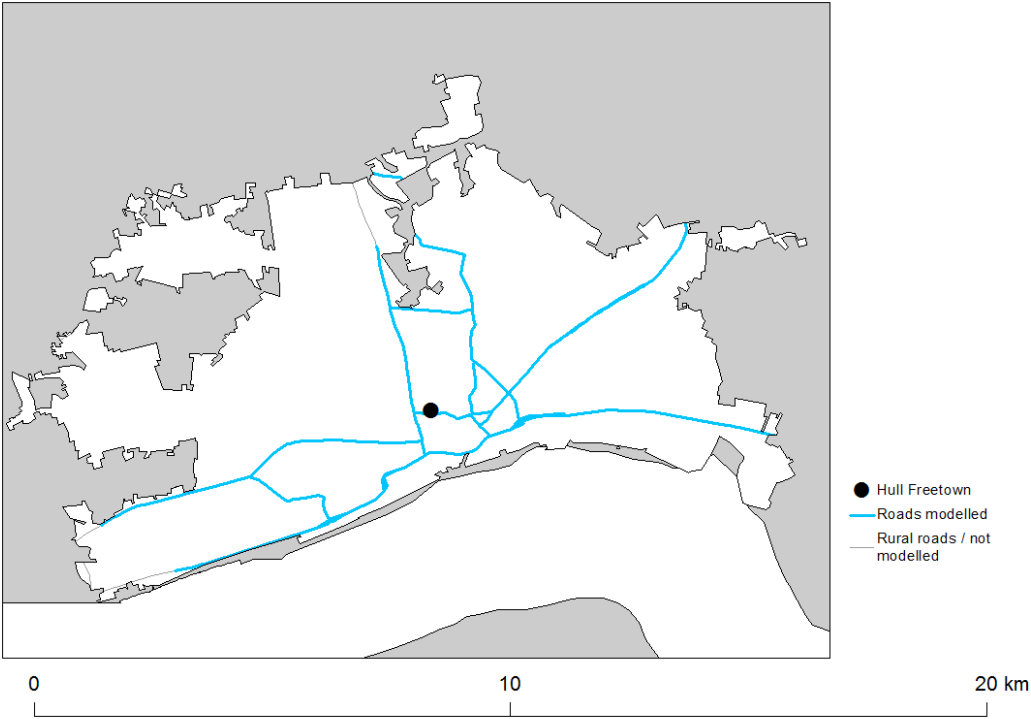
Modelling for the 2013 reference year has been carried out for the whole of the UK. This modelling covers the following extent within this zone:

- Total background area within zone (approx): 85 km²
- Total population within zone (approx): 278,695 people
- Total road length where an assessment of NO₂ concentrations have been made: 52 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 x 1 km² resolution.

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 Kingston upon Hull (UK0018) agglomeration zone.



© Crown copyright. All rights reserved Defra, License number 100022861 [2015]

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

Within the Kingston upon Hull agglomeration zone the annual limit value was exceeded in 2013. Hence, one exceedance situation for this zone has been defined, NO₂_UK0018_Annual_1, which covers exceedances of the annual limit value. This exceedance situation is described below.

3.2 Reference year: NO₂_UK0018_Annual_1

The NO₂_UK0018_Annual_1 exceedance situation covers all exceedances of the annual mean limit value in the Kingston upon Hull 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, 21.1 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. Table 3 presents summary source apportionment information in this exceedance situation.

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. It is

not possible to calculate an unambiguous source apportionment for annual mean NO₂ concentrations for the reasons discussed in the UK Technical Report¹. Therefore no NO₂ source apportionment is provided.

Figure B.1 in Annex B presents the annual mean NO_x source apportionment for each section of road within the NO₂_UK0018_Annual_1 exceedance situation (i.e. the source apportionment for all exceeding roads only) in 2013. Roads have been grouped into motorways, primary roads and trunk roads in this figure.

¹Technical report to be finalised for the final plan.

Table 1: Measured annual mean NO₂ concentrations at national network stations in NO₂_UK0018_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
Hull Centre (GB0596A)	36 (98)	49 (4)											
Hull Freetown (GB0776A)		38 (15)	33 (94)	27 (89)	21 (66)	24 (87)	25 (95)	27 (93)	27 (93)	28 (94)	29 (94)	27 (93)	27 (95)

(a) Annual Mean Limit Value = 40 μgm^{-3}

Table 2: Annual mean NO₂ model results in NO₂_UK0018_Annual_1 for 2001 onwards.

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Road length exceeding (km)	17.6	12.8	38.8	34.6	28.1	34.6	32.2	31.7	37.9	39.5	34.3	33.6	21.1
Background exceeding (km ²)	0	0	0	0	0	0	0	0	0	3	0	0	0
Maximum modelled concentration (μgm^{-3}) (a)	62.7	59.1	79.0	71.6	60.4	75.6	72.1	72.1	79.2	86.3	67	62	54

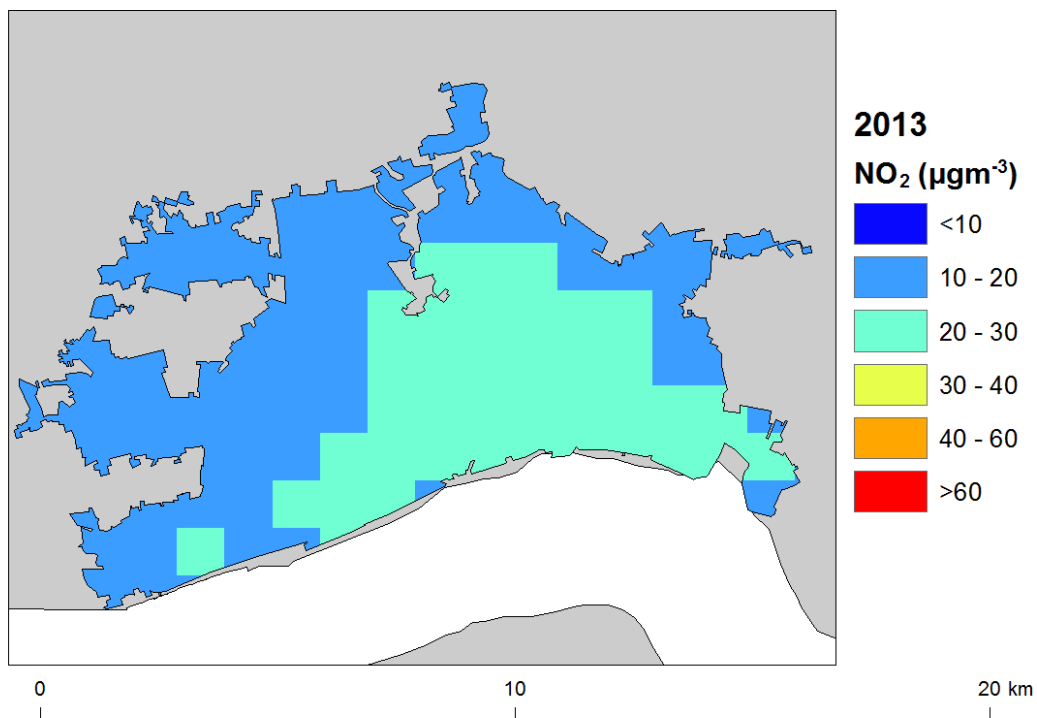
(a) Annual Mean Limit Value = 40 μgm^{-3}

Table 3: Modelled annual mean NOx source apportionment at the traffic count point with the highest modelled concentration in 2013 in NO2_UK0018_Annual_1 (μgm^{-3}) (traffic count point 48331 on the A63; OS grid (m): 509000, 428200).

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	11.3
	From within the UK	6.0
	From transboundary sources (includes shipping and other EU member states)	5.3
Urban background sources NOx (i.e. sources located within 0.3 - 30 km from the receptor).	Total	29.2
	From road traffic sources	16.9
	From industry (including heat and power generation)	4.2
	From agriculture	NA
	From commercial/residential sources	2.7
	From shipping	1.6
	From off road mobile machinery	3.3
	From natural sources	NA
	From transboundary sources	NA
From other urban background sources	0.5	
Local sources NOx (i.e. contributions from sources < 0.3 km from the receptor).	Total	106.7
	From petrol cars	7.3
	From diesel cars	22.8
	From HGV rigid	16.5
	From HGV articulated	41.6
	From buses	2.0
	From petrol LGVs	0.3
	From diesel LGVs	15.9
From motorcycles	0.3	
From London taxis	0.0	
Total NOx (i.e. regional background + urban background + local components)		147.1
Total NO ₂ (i.e. regional background + urban background + local components)		54

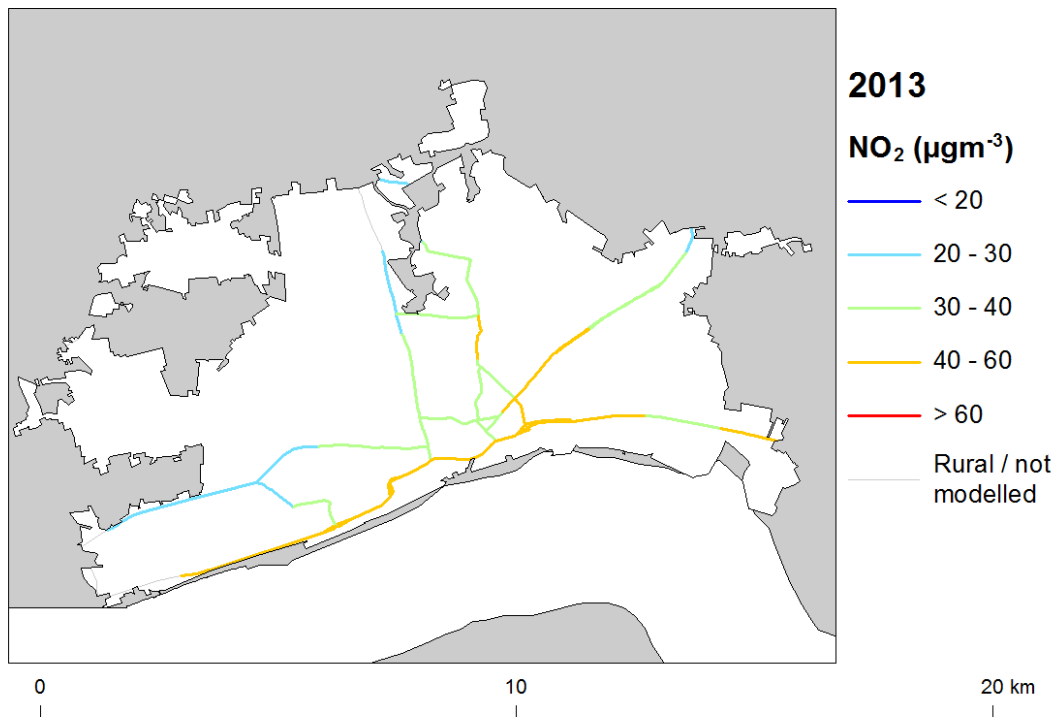
(a) Components are listed with NOx concentration of NA when there is no source from this sector.

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



© Crown copyright. All rights reserved Defra, License number 100022861 [2015]

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



© Crown copyright. All rights reserved Defra, License number 100022861 [2015]

4 Measures

4.1 Introduction

This section (section 4) gives details of measures that address exceedances of the NO₂ limit values within Kingston upon Hull 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 articulated HGVs at the location of maximum exceedance with a contribution of 41.6 μgm^{-3} of NO_x out of a total of 147.1 μgm^{-3} of NO_x. Cars and on some roads, buses, rigid HGVs and articulated HGVs were important sources on the primary roads with the highest concentrations. Articulated HGVs and cars were important sources on the trunk roads with the highest concentrations. For all road links concentrations of NO_x from diesel cars were approximately four times greater than NO_x emissions from petrol cars. NO_x concentrations from petrol LGVs are a small component of total NO_x concentrations and less than 2% of total NO_x from LGVs.

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

4.3 Measures

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

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

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

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.

There are several initiatives that are taking place in the zone which will help to improve air quality. Improvements are underway to the cycle network that will be helped by marketing to encourage the further take up of cycle use. In connection with this on-going improvements are happening for other sustainable modes of transport apart from cycling e.g. using buses and walking. In addition maintenance measures are being carried out to footpaths, street lighting and bridges.

Apart from encouraging modal transport shifts, there are environmental improvements being made too, such as cycle lanes and other maintenance initiatives. From a wider perspective, the use of inland waterways for freight is being investigated while park and ride schemes and river taxis are also possible.

There is a Local Sustainable Transport Fund project in operation creating travel plans for businesses, schools and a hospital railway station. The project also includes significant enhancement of the local cycle network and improved public transport provision. From a greener transport perspective procuring alternative refuelling infrastructure to promote electric vehicle recharging is happening along with retrofitting exhaust gas recirculation systems to existing heavy vehicles and buses.

4.4 Measures timescales

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

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.

The reference year for this air quality plan is 2013. Hence 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. Hence 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_UK0018_Annual_1

Table 4 presents summary results for the baseline model projections for 2020, 2025 and 2030 for the NO₂_UK0018_Annual_1 exceedance situation. This shows that the maximum modelled annual mean NO₂ concentration predicted for 2020 in this exceedance situation is 31 μgm^{-3} . Hence, the model results suggest that compliance with the NO₂ 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 NO₂ 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.

Table 4: Annual mean NO₂ model results in NO₂_UK0018_Annual_1.

	2013	2020	2025	2030
Road length exceeding (km)	21.1	0.0	0.0	0.0
Background exceeding (km ²)	0	0	0	0
Maximum modelled concentration NO ₂ (μgm ⁻³) (a)	54	31	25	23
Corresponding modelled concentration NOx (μgm ⁻³) (b)	147	67	52	48

(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.

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.

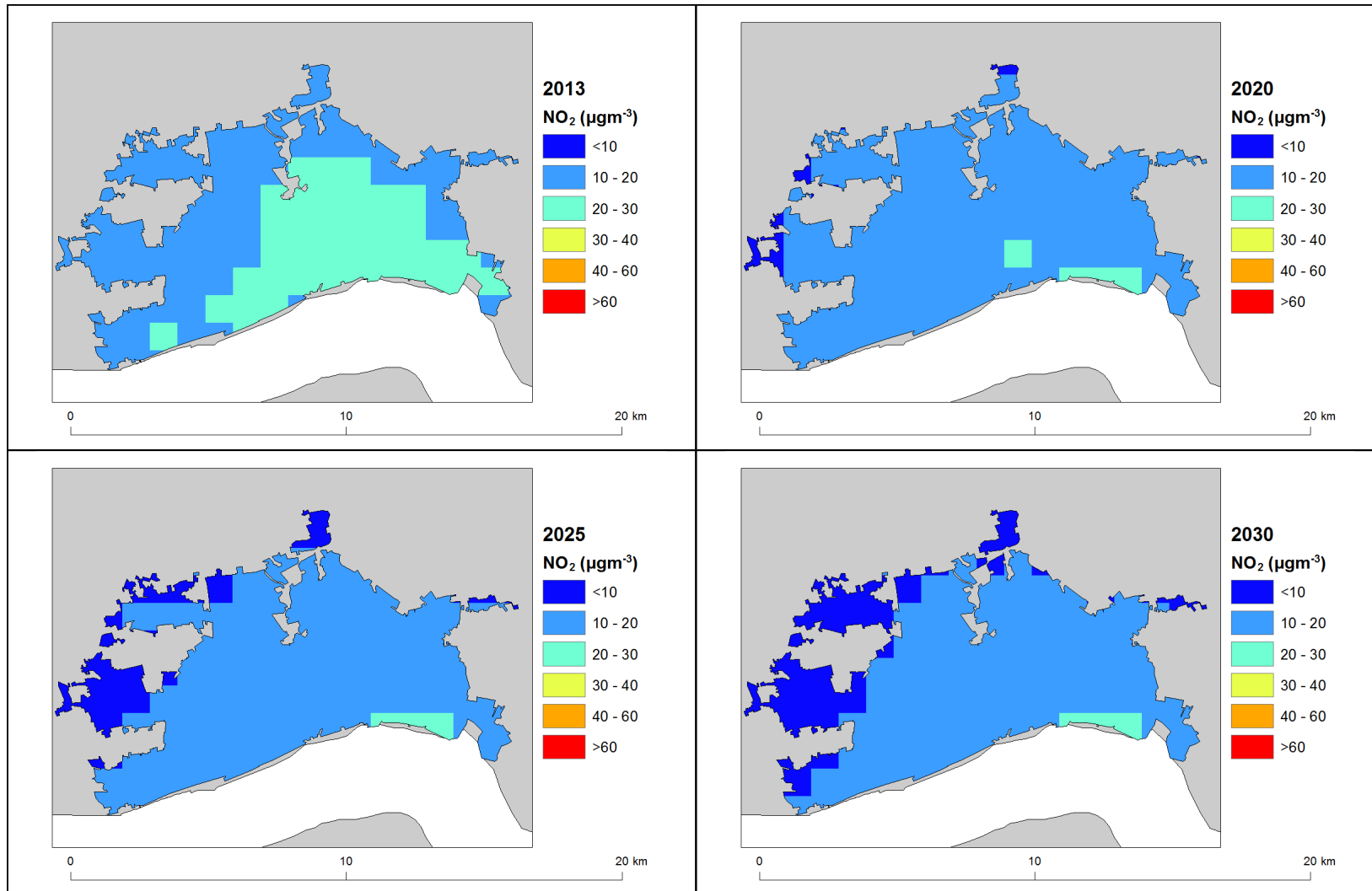
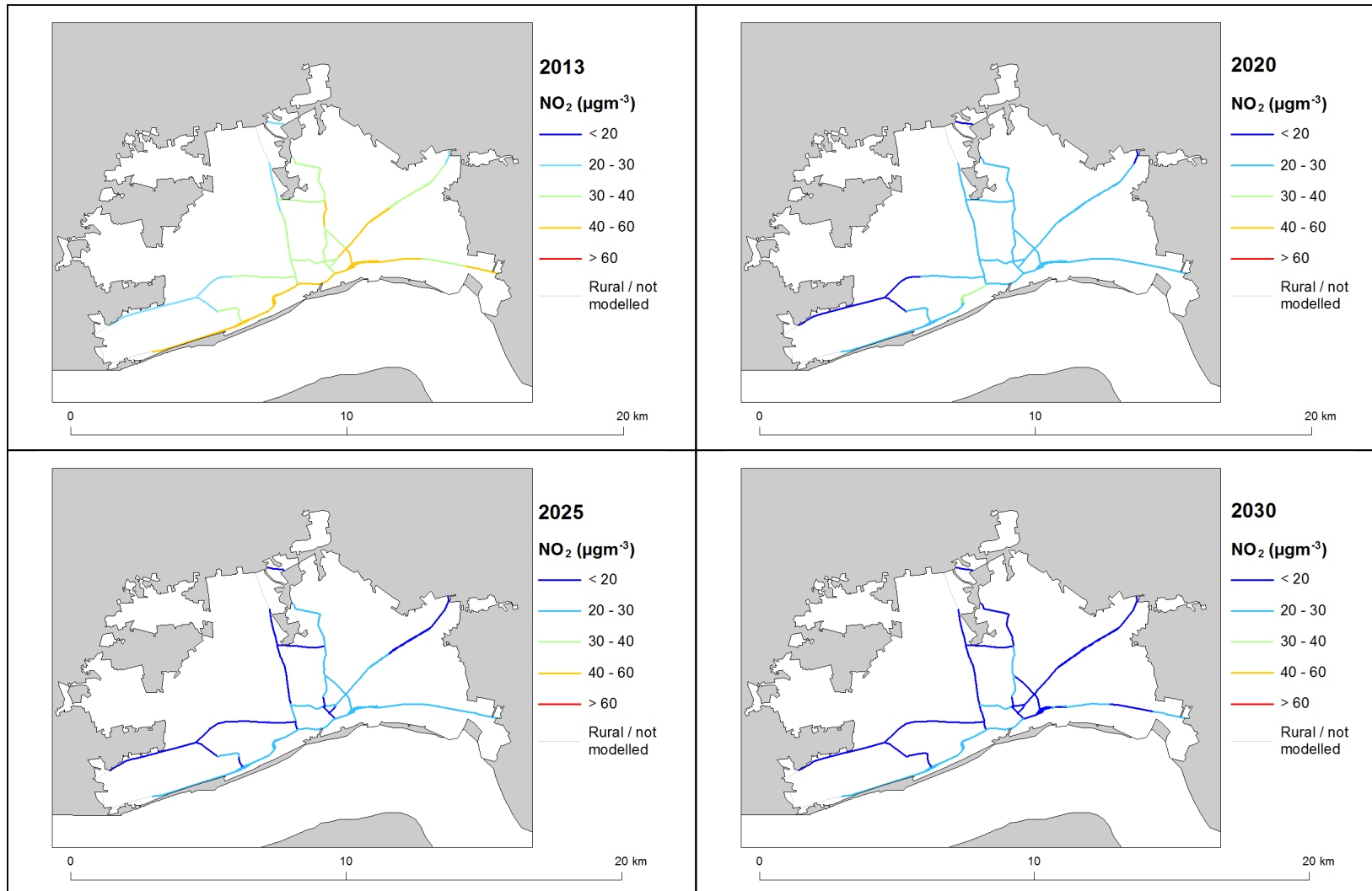


Figure 7: Roadside baseline projections of annual mean NO₂ concentrations in 2020, 2025 and 2030. 2013 is also included here for reference. Modelled exceedances of the annual limit value are shown in orange and red.



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/>

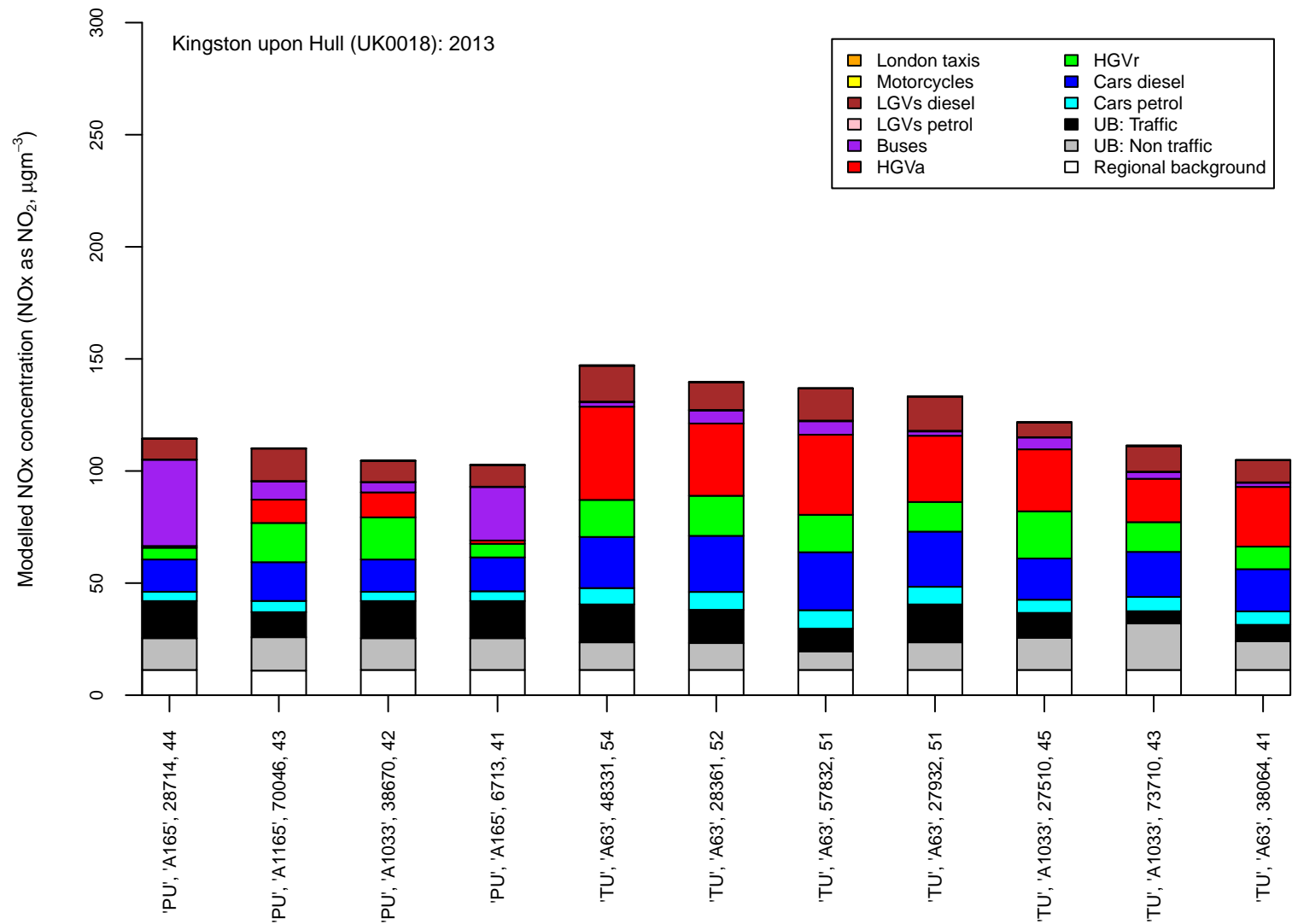
Air Quality Directive 2008/50/EC. Council Directive 2008/50/EC, of 21 May 2008. On ambient air quality and cleaner air for Europe. From the Official Journal of the European Union, 11.6.2008, En series, L152/1

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.

B Source apportionment graphs

Page left blank.

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, censusid 12 and modelled NO₂ concentration (µgm⁻³)

C Tables of measures

Page left blank.

Table C.1 Relevant Local Authority measures within Kingston upon Hull (UK0018)

Measure code	Description	Focus	Classification	Status	Other information
Kingston-upon-Hull City Council_1	Traffic Control schemes	Traffic	Traffic planning and management: Other measure	Evaluation	Start date: 2014 Expected end date: 2030 Spatial scale: Local Source affected: Transport Indicator: AQ improvements Target emissions reduction: Scheme dependent
Kingston-upon-Hull City Council_2	Idling vehicles legislation	Traffic	Traffic planning and management: Other measure	Evaluation	Start date: 2014 Expected end date: 2030 Spatial scale: Local Source affected: Transport Indicator: Vehicles stopped Target emissions reduction: No direct effect on AQMA
Kingston-upon-Hull City Council_3	Quality Bus Corridors	Traffic	Traffic planning and management: Encouragement of shift of transport modes	Implementation	Start date: 2014 Expected end date: 2030 Spatial scale: Local Source affected: Transport Indicator: Increase in bus patronage Target emissions reduction: No direct effect on AQMA
Kingston-upon-Hull City Council_4	Park & Ride	Traffic	Traffic planning and management: Improvement of public transport	Implementation	Start date: 2014 Expected end date: 2030 Spatial scale: Local Source affected: Transport Indicator: Increase in bus patronage Target emissions reduction: No direct effect on AQMA
Kingston-upon-Hull City Council_5	Low Emission Buses	Traffic	Public procurement: Cleaner vehicle transport services	Evaluation	Start date: 2014 Expected end date: 2030 Spatial scale: Local Source affected: Transport Indicator: Increase in bus patronage Target emissions reduction: No direct effect on AQMA
Kingston-upon-Hull City Council_6	Reducing pollution from Council vehicles/activities	Traffic	Other measure: Other measure	Implementation	Start date: 2014 Expected end date: 2030 Spatial scale: Local Source affected: Transport Indicator: Fleet composition Target emissions reduction: No direct effect on AQMA

Measure code	Description	Focus	Classification	Status	Other information
Kingston-upon-Hull City Council_7	Roadside Emission Testing	Traffic	Other measure: Other measure	Implementation	Start date: 2014 Expected end date: 2030 Spatial scale: Local Source affected: Transport Indicator: Vehicles failing Target emissions reduction: Minimal effect on AQMA
Kingston-upon-Hull City Council_8	Liason with Primary Care Trust for health/AQ statistics	Public awareness and targeted monitoring and action	Public information and Education: Other mechanisms	Implementation	Start date: 2014 Expected end date: 2030 Spatial scale: Local Source affected: Transport Indicator: Reviews in target areas. Target emissions reduction: Minimal effect on AQMA
Kingston-upon-Hull City Council_9	Energy efficiency schemes	House holders	Public information and Education: Other mechanisms	Implementation	Start date: 2014 Expected end date: 2030 Spatial scale: Local Source affected: Transport Indicator: Properties included Target emissions reduction: Minimal effect on AQMA
Kingston-upon-Hull City Council_10	Cycling and walking schemes	GeneralPublic	Traffic planning and management: Encouragement of shift of transport modes	Implementation	Start date: 2014 Expected end date: 2030 Spatial scale: Local Source affected: Transport Indicator: Number walking Target emissions reduction: Minimal effect on AQMA
Kingston-upon-Hull City Council_11	Increase awareness	GeneralPublic	Public information and Education: Other mechanisms	Implementation	Start date: 2014 Expected end date: 2030 Spatial scale: Local Source affected: Transport Indicator: response to AQ issues Target emissions reduction: Minimal effect on AQMA
Kingston-upon-Hull City Council_12	School curriculum	Children	Public information and Education: Other mechanisms	Implementation	Start date: 2014 Expected end date: 2030 Spatial scale: Local Source affected: Transport Indicator: Take up of packages offered Target emissions reduction: Minimal effect on AQMA

Measure code	Description	Focus	Classification	Status	Other information
Kingston-upon-Hull City Council_13	Real time information of public transport network	GeneralPublic	Traffic planning and management: Encouragement of shift of transport modes	Implementation	Start date: 2014 Expected end date: 2030 Spatial scale: Local Source affected: Transport Indicator: increase in bus patronage Target emissions reduction: Minimal effect on AQMA
Kingston-upon-Hull City Council_14	Planning Guidance for developers	City wide	Traffic planning and management: Improvement of public transport	Implementation	Start date: 2014 Expected end date: 2030 Spatial scale: Local Source affected: Transport Indicator: Increase in unprompted AQ detail in applications. Target emissions reduction: Minimal effect on AQMA
Kingston-upon-Hull City Council_15	Liaison with Highways Agency	Traffic	Other measure: Other measure	Implementation	Start date: 2014 Expected end date: 2030 Spatial scale: Local Source affected: Transport Indicator: AQ improvements Target emissions reduction: Scheme dependent
Kingston-upon-Hull City Council_16	AQ objectives in annual performance reviews of staff/departments	GeneralPublic	Other measure: Other measure	Implementation	Start date: 2014 Expected end date: 2030 Spatial scale: Local Source affected: Transport Indicator: N/A Target emissions reduction: minimal effect on AQMA
Kingston-upon-Hull City Council_17	AQ included in staff induction	GeneralPublic	Permit systems and economic instruments: Other measure	Implementation	Start date: 2014 Expected end date: 2030 Spatial scale: Local Source affected: Transport Indicator: N/A Target emissions reduction: minimal effect on AQMA
Kingston-upon-Hull City Council_18	IPPC	GeneralPublic	Other measure: Other measure	Implementation	Start date: 2014 Expected end date: 2030 Spatial scale: Local Source affected: Transport Indicator: N/A Target emissions reduction: minimal effect on AQMA

Measure code	Description	Focus	Classification	Status	Other information
Kingston-upon-Hull City Council_20	Regional liaison	GeneralPublic	Other measure: Other measure	Implementation	Start date: 2014 Expected end date: 2030 Spatial scale: Local Source affected: Other, please specify Indicator: N/A Target emissions reduction: N/A
East Riding of Yorkshire_1	Beverley Integrated Transport Plan	A package of measures designed to reduce the amount of traffic in the historic town centre and which includes the construction of a new, 2.7km southern relief road.	Traffic planning and management: Other measure	Implementation	Start date: 2014 Expected end date: 2016 Spatial scale: Whole town or city Source affected: Transport Indicator: Reduction in overall traffic volumes in the town centre. Target emissions reduction: No AQMA declared
East Riding of Yorkshire_2	Bridlington Integrated Transport Plan (Phase 1)	Scheme comprising a number of improvements to the town centre and surrounding road network, including the provision of a new, bus-based park and ride, to reduce the effect of the seasonal surge in traffic that had habitually resulted in congestion within the town centre.	Traffic planning and management: Improvement of public transport	Evaluation	Start date: 2008 Expected end date: 2010 Spatial scale: Whole town or city Source affected: Transport Indicator: Improved access and movement within town centre Target emissions reduction: No AQMA declared
East Riding of Yorkshire_3	Bridlington Integrated Transport Plan (Phase 2)	Scheme comprising a number of improvements to the town centre road network providing for improved access and movement within the town centre.	Traffic planning and management: Improvement of public transport	Planning	Start date: 2015 Expected end date: 2021 Spatial scale: Whole town or city Source affected: Transport Indicator: Improved access and movement within town centre Target emissions reduction: No AQMA declared
East Riding of Yorkshire_4	A1079 corridor improvement scheme	Strategic highway improvement scheme	Traffic planning and management: Other measure	Planning	Start date: 2012 Expected end date: 2030 Spatial scale: Local Source affected: Transport Indicator: Congestion management and improved journey times. Target emissions reduction: N/A

Measure code	Description	Focus	Classification	Status	Other information
East Riding of Yorkshire_5	A164 corridor improvement scheme	Major road improvement scheme to reduce congestion and improve journey times along the Humber Bridge to Beverley route.	Traffic planning and management: Encouragement of shift of transport modes	Implementation	Start date: 2011 Expected end date: 2013 Spatial scale: Local Source affected: Transport Indicator: Elimination of pinch-points and improved journey times, particularly during morning and evening peak travel times. Target emissions reduction: No AQMA declared
East Riding of Yorkshire_6	Goole Transport Strategy	Local Sustainable Transport Fund (LSTF) project to create travel plans for businesses, schools, Goole Hospital, Goole Leisure Centre and Goole Railway Station, as well as Personal Travel Plans for up to 9,000 households in Goole. The project also includes significant enhancement of the local cycle network and improved public transport provision.	Traffic planning and management: Encouragement of shift of transport modes	Implementation	Start date: 2012 Expected end date: 2018 Spatial scale: Whole town or city Source affected: Transport Indicator: Reduction in high number of short car journeys by Goole residents travelling to local facilities and amenities. Target emissions reduction: No AQMA declared
East Riding of Yorkshire_7	Construction of dedicated off-road cycle route along the A1035 from Tickton to White Cross Roundabout	Scheme provides a continuous and safe off-road cycle lane between Hull, Woodmansey, Dunswell, Beverley, Tickton and Leven, and complements other infrastructure developments included in the Beverley Integrated Transport Plan.	Traffic planning and management: Expansion of bicycle and pedestrian infrastructure	Implementation	Start date: 2013 Expected end date: 2015 Spatial scale: Local Source affected: Transport Indicator: Increased cycle use along the route Target emissions reduction: No AQMA declared
East Riding of Yorkshire_8	Preparation of individual transport strategies for each of the 14 main settlements in the East Riding.	The Council will implement a range of schemes in the 14 main settlements to encourage local people to make more short, local trips on foot or by bike, as opposed to single-occupancy car journeys.	Public procurement: Other measure	Implementation	Start date: 2014 Expected end date: 2017 Spatial scale: Local Source affected: Transport Indicator: Reduction in short, single-occupancy car journeys by local residents. Target emissions reduction: No AQMA declared
East Riding of Yorkshire_9	Production of the Cycling Strategy	To support and encourage a healthy lifestyle, improve access to key services and to reduce carbon emissions	Traffic planning and management: Expansion of bicycle and pedestrian infrastructure	Implementation	Start date: 2012 Expected end date: 2018 Spatial scale: Local Source affected: Transport Indicator: Percentage of journeys made by bicycle. Target emissions reduction: No AQMA declared

Measure code	Description	Focus	Classification	Status	Other information
East Riding of Yorkshire_10	The Bus Strategy	Improve standards and ensure a better quality service to provide an attractive alternative for those who currently drive for short distances	Traffic planning and management: Improvement of public transport	Implementation	Start date: 2011 Expected end date: 2018 Spatial scale: Local Source affected: Transport Indicator: A high quality bus network that offers a punctual, affordable, safe and accessible transport option for all users. Target emissions reduction: No AQMA declared
East Riding of Yorkshire_11	Driver Training Programme	Link between driving style and fuel efficiency	Other measure: Other measure	Implementation	Start date: 2008 Expected end date: 2014 Spatial scale: Local Source affected: Transport Indicator: Increased fuel efficiency Target emissions reduction: No AQMA declared
East Riding of Yorkshire_12	Promoting low emission transport	Prioritising uptake of low emission vehicles	Public procurement: Other measure	Implementation	Start date: 2008 Expected end date: 2014 Spatial scale: Local Source affected: Transport Indicator: Increased fuel efficiency Target emissions reduction: No AQMA declared
East Riding of Yorkshire_13	Vehicle fleet efficiency	Retrofitting of exhaust gas recirculation systems to existing heavy vehicles and buses	Retrofitting: Retrofitting emission control equipment to vehicles	Implementation	Start date: 2007 Expected end date: 2014 Spatial scale: Local Source affected: Transport Indicator: Reduction in emissions from existing fleet vehicles Target emissions reduction: No AQMA declared
East Riding of Yorkshire_14	Promoting low emission transport	Procuring alternative refuelling infrastructure to promote EV recharging	Public procurement: Other measure	Implementation	Start date: 2012 Expected end date: 2014 Spatial scale: Local Source affected: Transport Indicator: Increased uptake of electric / hybrid vehicles Target emissions reduction: No AQMA declared

Measure code	Description	Focus	Classification	Status	Other information
East Riding of Yorkshire_15	East Riding Car Share Scheme	Organised car share programme to reduce the number of single occupancy car journeys	Other measure: Other measure	Implementation	Start date: 2005 Expected end date: 2014 Spatial scale: Local Source affected: Transport Indicator: Number of car share registrations Target emissions reduction: No AQMA declared