



Department
for Environment
Food & Rural Affairs



Department
for Transport

Air Quality Plan for tackling roadside nitrogen dioxide concentrations in Kingston upon Hull (UK0018)

July 2017



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Contents

1	Introduction	3
1.1	This document	3
1.2	Context	3
1.3	Zone status	3
1.4	Plan structure	4
2	General Information About the Zone	4
2.1	Administrative information	4
2.2	Assessment details	6
2.3	Air quality reporting	8
3	Overall Picture for 2015 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	15
5.1	Overview of model projections	15
5.2	Baseline projections: NO ₂ _UK0018_Annual_1	15
	Annexes	20
A	References	20
B	Source apportionment graphs	21
C	Tables of measures	23

1 Introduction

1.1 This document

This document is the Kingston upon Hull agglomeration zone (UK0018) updated air quality plan for tackling roadside nitrogen dioxide (NO₂) concentrations. This is an update to the air quality plan published in December 2015 (<https://www.gov.uk/government/collections/air-quality-plan-for-nitrogen-dioxide-no2-in-uk-2015>).

This plan presents the following information:

- General information regarding the Kingston upon Hull agglomeration zone
- Details of 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 Air Quality Plan for tackling roadside nitrogen dioxide concentrations (hereafter referred to as the overview document) which 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, 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.

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 $\mu\text{g}\text{m}^{-3}$
- The hourly limit value: no more than 18 exceedances of 200 $\mu\text{g}\text{m}^{-3}$ 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 2015 but is likely to be achieved by 2021 through the introduction of measures included in the baseline. When combined with the measures outlined in the overview document for the UK we expect this zone to be compliant by 2020.

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 2015 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 2015 is given in Section 4.

Baseline modelled projections for each year from 2017 to 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: Kingston upon Hull

Zone code: UK0018

Type of zone: agglomeration zone

Reference year: 2015

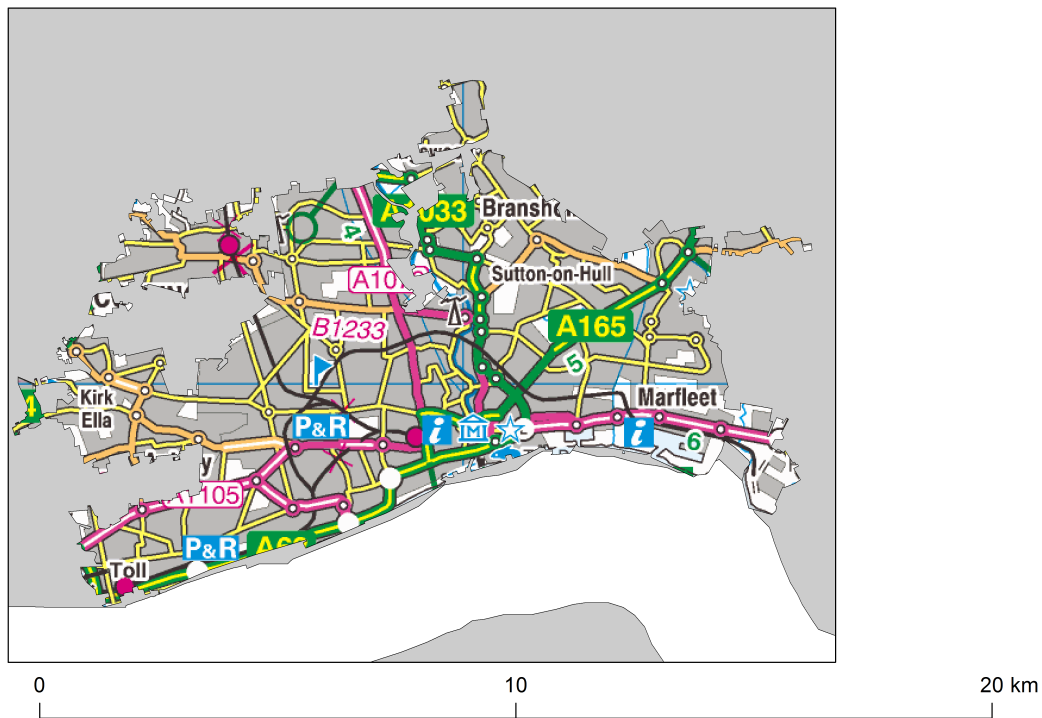
Extent of zone: Figure 1 shows the area covered by the Kingston upon Hull agglomeration zone.

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

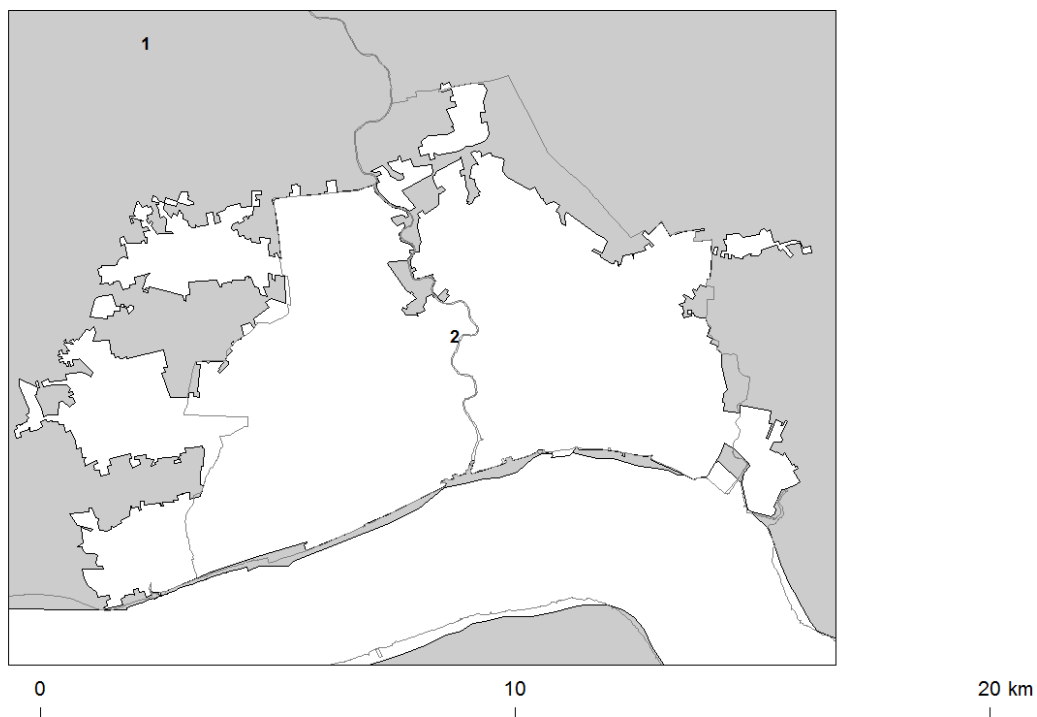
(Note: Local Authority boundaries do not necessarily coincide with zone boundaries. Hence Local Authorities may be listed within more than one zone plan.)

Figure 1: Map showing the extent of the Kingston upon Hull agglomeration zone (UK0018).



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



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2.2 Assessment details

Measurements

NO₂ measurements in this zone were available in 2015 from the following national network monitoring stations (NO₂ data capture¹ for each station in 2015 shown in brackets):

1. Hull Freetown GB0776A (98%)
2. Hull Holderness Road GB1042A (98%)

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=aurn>.

Modelling

Modelling for the 2015 reference year has been carried out for the whole of the UK. This modelling covers the following extent within this zone:

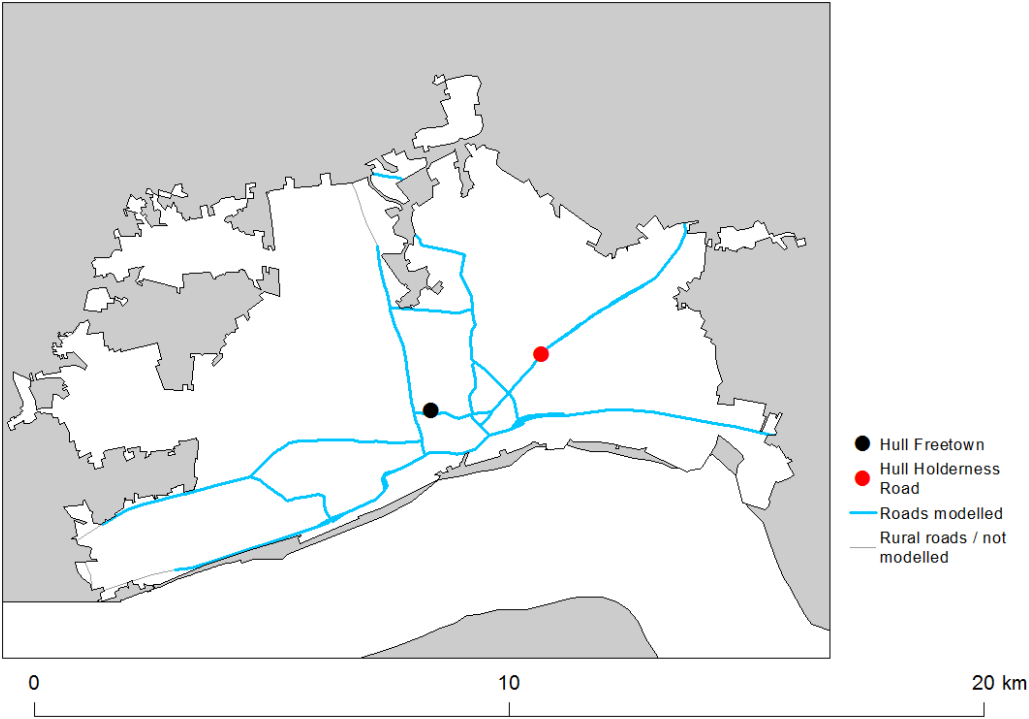
- Total background area within zone (approx): 85 km²
- Total population within zone (approx): 278,695 people

Zone maps

Figure 3 presents the location of the NO₂ monitoring stations within this zone for 2015 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.

¹Annual data capture is the proportion of hours in a year for which there are valid measurements at a monitoring station, expressed in this document as a percentage. The Implementing Provisions on Reporting (IPR) guidance requires that a minimum data capture of 85% is required for compliance reporting (that is 90% valid data, plus a 5% allowance for data loss due to planned maintenance and calibration). Monitoring stations with at least 75% data capture have been included in the modelling analysis to ensure that a greater number of operational monitoring sites have been used for model calibration and verification purposes. For more information on compliance reporting under European Directives see Section 2.3.

Figure 3: Map showing the location of the NO₂ monitoring stations with valid data in 2015 and roads where concentrations have been modelled within the Kingston upon Hull (UK0018) agglomeration zone.



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2.3 Air quality reporting

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. The most recent previous UK air quality plan for nitrogen dioxide was published in 2015. The plan and supporting documents are available at <https://www.gov.uk/government/collections/air-quality-plan-for-nitrogen-dioxide-no2-in-uk-2015> and the submission of this plan via e-reporting is published at <http://cdr.eionet.europa.eu/gb/eu/aqd/h/envvryhbq/>. Historic plans and programmes are available on <http://cdr.eionet.europa.eu/gb/eu/aqpp>.

3 Overall Picture for 2015 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 $\mu\text{g}\text{m}^{-3}$)
- The hourly limit value (no more than 18 hourly exceedances of 200 $\mu\text{g}\text{m}^{-3}$ in a calendar year)

Within the Kingston upon Hull agglomeration zone the annual limit value was exceeded in 2015. 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 2015.

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 2015. Table 2 summarises modelled annual mean NO₂ concentrations in this exceedance situation for the same time period. This table shows that, in 2015, 17.0 km of road length was modelled to exceed the annual limit value. There were no modelled background exceedances of the annual limit value. 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. Maps showing the modelled annual mean NO₂ concentrations for 2015 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 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 NO₂ concentration in this exceedance situation in 2015. 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_UK0018_Annual_1 exceedance situation (i.e. the source apportionment for all exceeding roads only) in 2015.

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	2014	2015
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)	26 (98)	24 (98)
Hull Holderness Road (GB1042A)															31 (98)

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

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	2014	2015
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	17.6	17.0
Background exceeding (km ²)	0	0	0	0	0	0	0	0	0	3	0	0	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	52	55

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

Table 3: Modelled annual mean NO_x source apportionment at the location with the highest NO₂ concentration in 2015 in NO2_UK0018_Annual_1 (μgm⁻³) traffic count point 28361 on the A63; OS grid (m): 508000, 427300) .

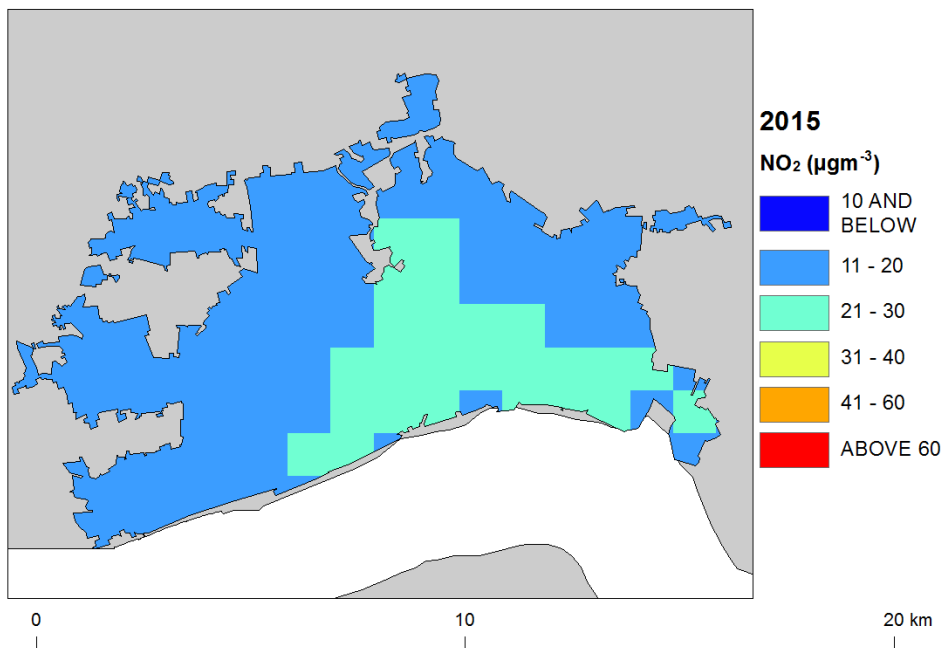
Spatial scale	Component	Concentration at highest road link (a)
Regional background sources NO _x (i.e. contributions from distant sources of > 30 km from the receptor).	Total	9.1
	From within the UK	4.8
	From transboundary sources (includes shipping and other EU member states)	4.3
Urban background sources NO _x (i.e. sources located within 0.3 - 30 km from the receptor).	Total	24.7
	From road traffic sources	13.8
	From industry (including heat and power generation)	3.1
	From agriculture	NA
	From commercial/residential sources	2.1
	From shipping	1.4
	From off road mobile machinery	3.8
	From natural sources	NA
	From transboundary sources	NA
From other urban background sources	0.5	
Local sources NO _x (i.e. contributions from sources < 0.3 km from the receptor).	Total	113.6
	From petrol cars	7.9
	From diesel cars	31.8
	From HGV rigid (b)	17.0
	From HGV articulated (b)	28.7
	From buses	5.0
	From petrol LGVs (c)	0.1
	From diesel LGVs (c)	22.8
From motorcycles	0.2	
From London taxis	0.0	
Total NO _x (i.e. regional background + urban background + local components)		147.4
Total NO ₂ (i.e. regional background + urban background + local components)		55

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

(b) HGV = heavy goods vehicle

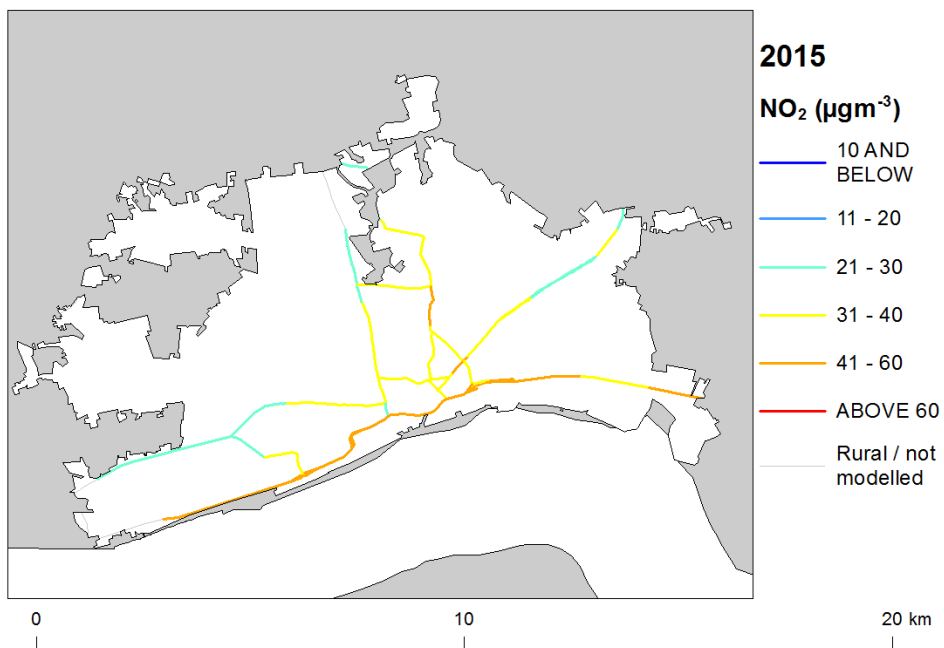
(c) LGV = light goods vehicle

Figure 4: Map of modelled background annual mean NO₂ concentrations 2015. 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 2015. 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 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 diesel cars, articulated HGVs and diesel LGVs contributing around 20% each to total NO_x on some of the roads with the highest concentrations. Diesel cars, diesel LGVs and on some roads buses or rigid HGVs were important sources on the primary roads with the highest concentrations. Diesel cars, articulated HGVs and diesel LGVs were important sources on the trunk roads with the highest concentrations.

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.

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 refueling infrastructure to promote electric vehicle recharging is happening along with retrofitting exhaust gas recirculation systems to existing heavy vehicles and buses.

Kingston-upon-Hull City Council is revising its Air Quality Strategy and as part of the revised Strategy the Council is considering the opportunities for Clean Air Zones in the area.

The Council has recently completed a major traffic study on one of its main arterial roads and has submitted funding bids to the Local Enterprise Centre to address a secondary congestion hotspot in the City. As and when funding becomes available, the Stoneferry Corridor scheme will be implemented.

The Council is currently undertaking two major highway schemes, one to reduce a natural congestion bottleneck outside of Hull Royal Infirmary and the second to strengthen a bridge near to the railway station which will allow improved bus movement and improve bus journey times.

The Council has set aside funding for a park and ride to the north of the city.

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. Local authorities were asked to review and, where necessary, provide updates to measures in March/April 2017. 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 2015. Where measures started and finished before 2015, 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 2015 and an end date after 2015 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 each year from 2017 to 2030, starting from the 2015 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 2015 (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 each year from 2017 to 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 42 µgm⁻³. By 2021, the maximum modelled annual mean NO₂ concentration is predicted to drop to 39 µgm⁻³. Hence, the model results suggest that compliance with the NO₂ annual limit value is likely to be achieved by 2021 under baseline conditions.

Figure 6 and 7 presents maps of projected annual mean NO₂ concentrations at background and roadside locations respectively in 2021, the year at which compliance is achieved. For reference Figures 8 and 9 show maps of projected annual mean NO₂ concentrations in 2020, 2025 and 2030 for background and roadside locations respectively.

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.

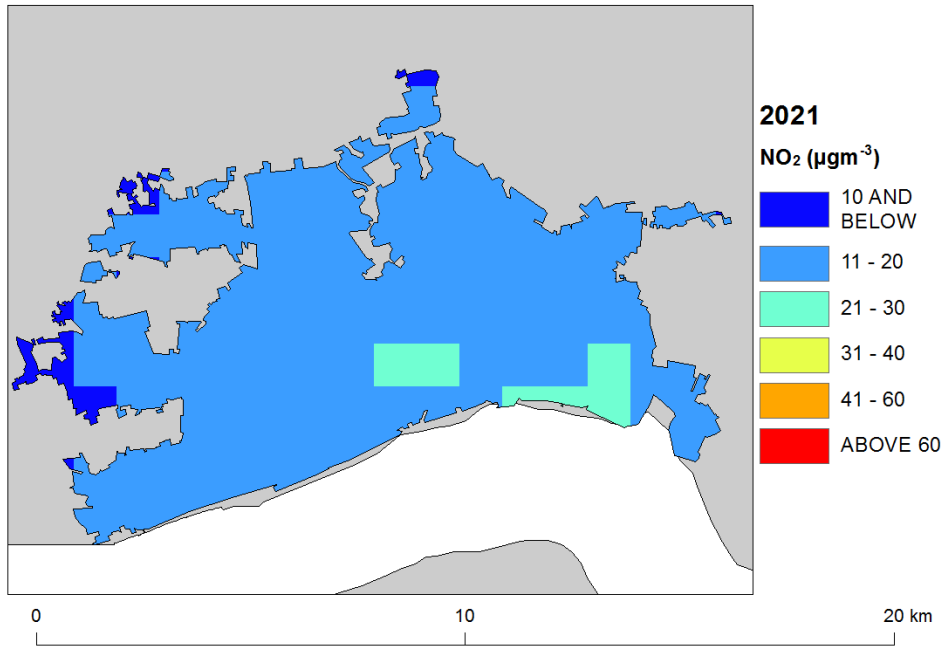
Table 4: Annual mean NO₂ model results in NO₂_UK0018_Annual_1.

	2015	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Road length exceeding (km)	17.0	9.9	9.9	9.9	6.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Background exceeding (km ²)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Maximum modelled concentration NO ₂ (μgm ⁻³) (a)	55	50	47	44	42	39	37	35	33	32	30	29	28	27	26
Corresponding modelled concentration NO _x (μgm ⁻³) (b)	147	126	116	107	99	91	84	78	73	69	65	62	59	57	55

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

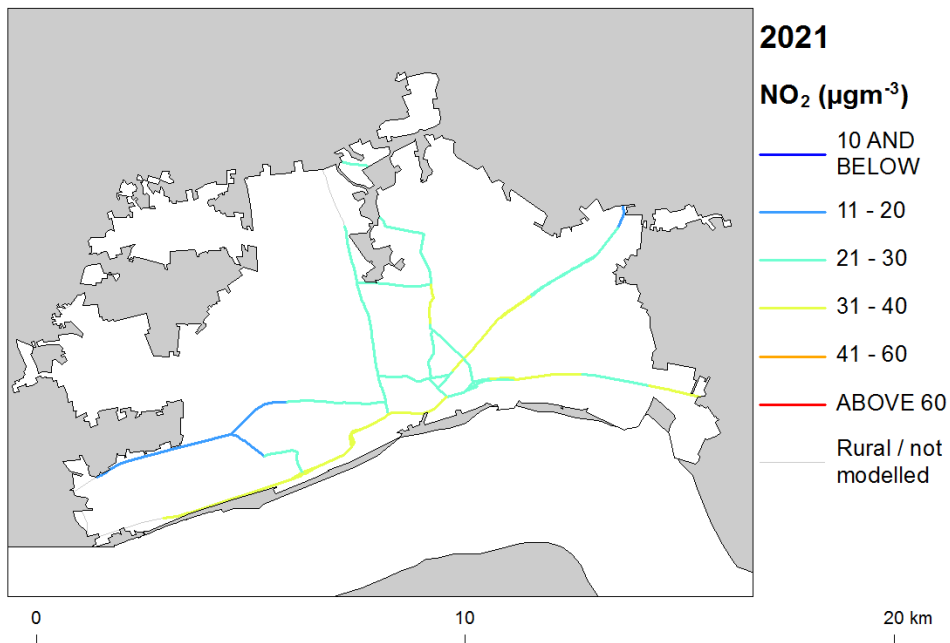
(b) NO_x is recorded here for comparison with the NO_x source apportionment graphs for 2015 presented in Annex B of this plan. Limit values for EU directive purposes are based on NO₂.

Figure 6: Background baseline projections of annual mean NO₂ concentrations in 2021, the year at which compliance is achieved under baseline conditions. Modelled exceedances of the annual limit value are shown in orange and red.



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Figure 7: Roadside baseline projections of annual mean NO₂ concentrations in 2021, the year at which compliance is achieved under baseline conditions. Modelled exceedances of the annual limit value are shown in orange and red.



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Figure 8: Background baseline projections of annual mean NO₂ concentrations in 2020, 2025 and 2030. 2015 is also included here for reference. Modelled exceedances of the annual limit value are shown in orange and red.

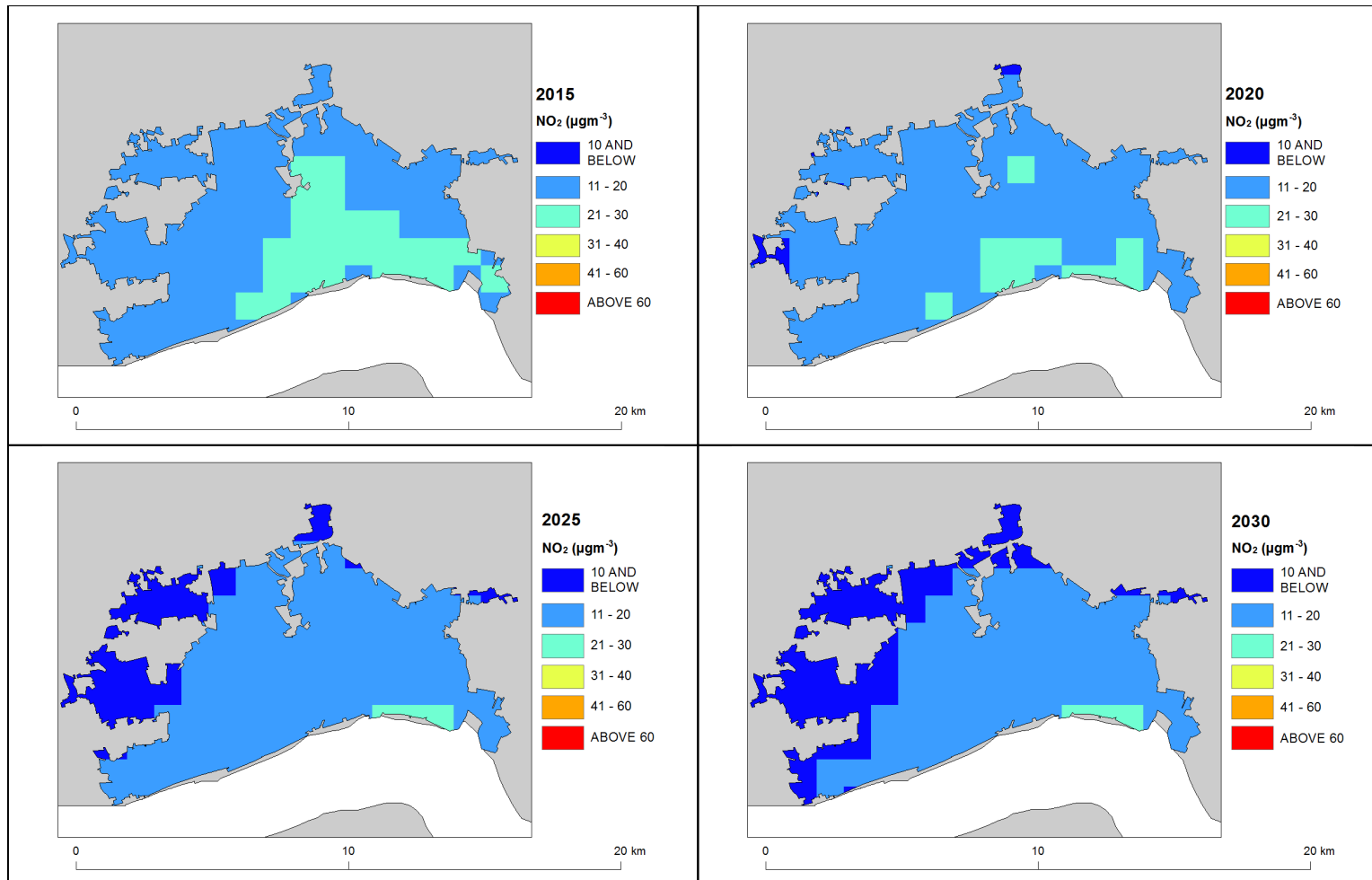
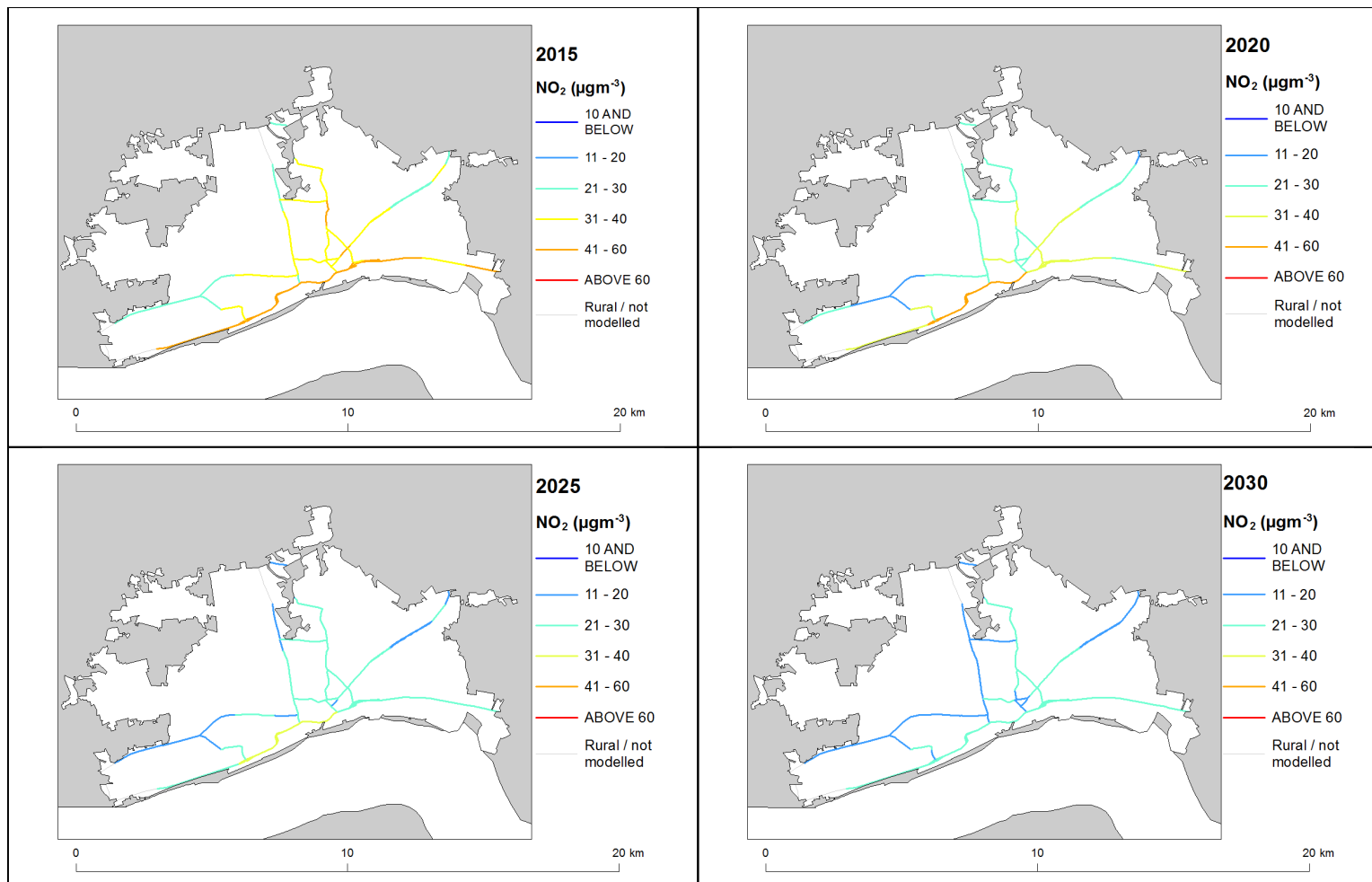


Figure 9: Roadside baseline projections of annual mean NO₂ concentrations in 2020, 2025 and 2030. 2015 is also included here for reference. Modelled exceedances of the annual limit value are shown in orange and red.



Annexes

A References

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.

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

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

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

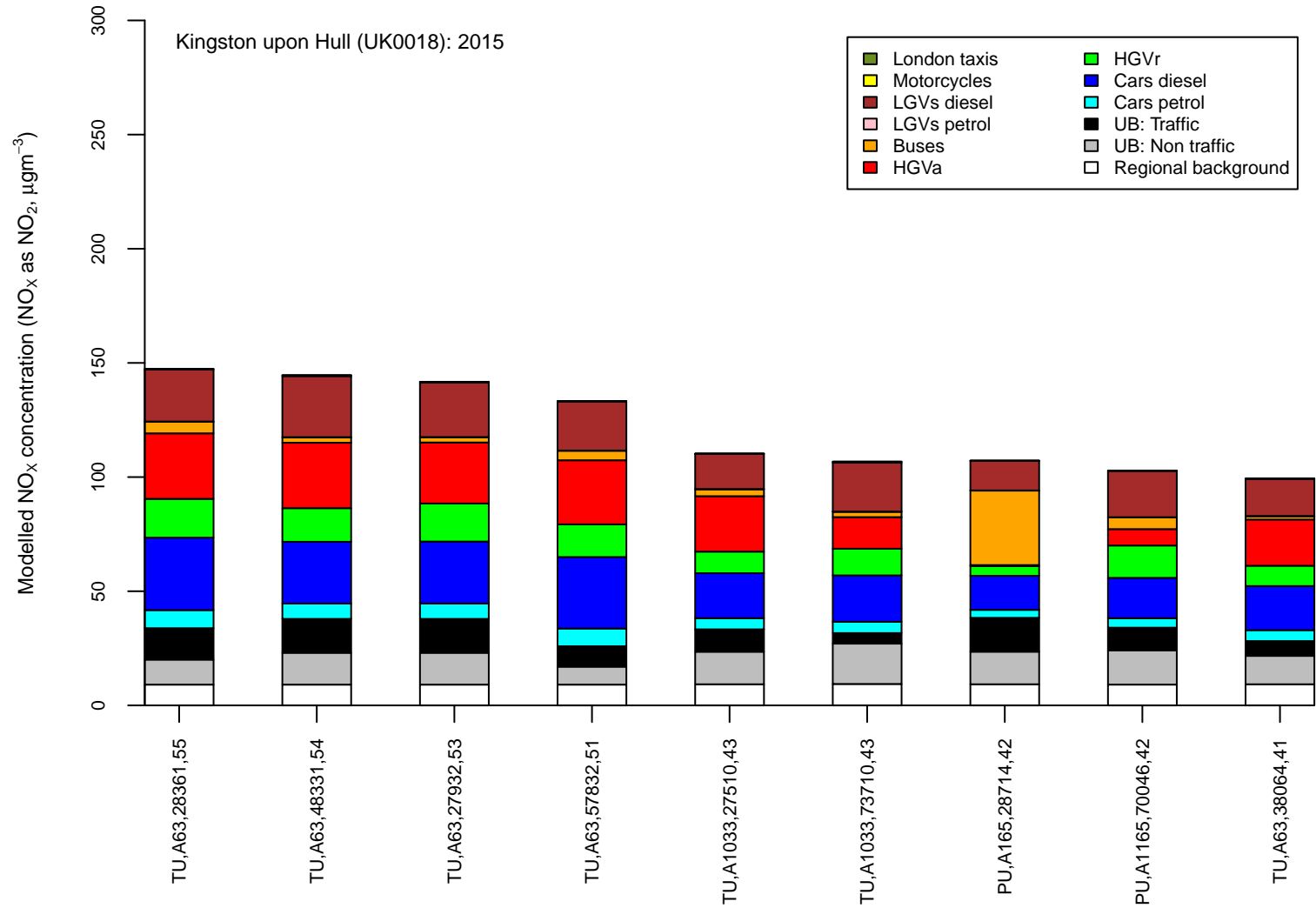
IPR 2013. Guidance on the Commission Implementing Decision laying down rules for Directives 2004/107/EC and 2008/50/EC of the European Parliament and of the Council as regards the reciprocal exchange of information and reporting on ambient air (Decision 2011/850/EU). http://ec.europa.eu/environment/air/quality/legislation/pdf/IPR_guidance1.pdf

UK Air Quality Plan for tackling roadside nitrogen dioxide concentrations 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 2015.



Road class (MU = motorway, PU = primary road, TU = trunk road), road number, census id 15 and modelled NO₂ concentration (μgm⁻³)

C Tables of measures

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

Measure code	Description	Focus	Classification	Status	Other information
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
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

Measure code	Description	Focus	Classification	Status	Other information
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
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

Measure code	Description	Focus	Classification	Status	Other information
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
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
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

Measure code	Description	Focus	Classification	Status	Other information
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
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	Liaison with LA Public Health Team 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

Measure code	Description	Focus	Classification	Status	Other information
Kingston-upon-Hull City Council_9	Energy efficiency schemes	Householders	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	General Public	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	General Public	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
Kingston-upon-Hull City Council_13	Real time information of public transport network	General Public	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

Measure code	Description	Focus	Classification	Status	Other information
Kingston-upon-Hull City Council_15	Liaison with Highways England	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	General Public	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	General Public	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	General Public	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_20	Regional liaison	General Public	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
Kingston-upon-Hull City Council_21	Feasibility of introducing green zones to areas of the City	Public awareness and targeted monitoring and action	Other measure: Other measure	Evaluation and subsequent implementation	Start date: 2017 Expected end date: 2018 Spatial scale: Local Source affected: General background Indicator: Implementation Target emissions reduction: Reduction in levels in immediate area to below objective

Measure code	Description	Focus	Classification	Status	Other information
Kingston-upon-Hull City Council_22	Regular cross departmental workshops	Citywide	Other measure: Other measure	Evaluation	Start date: 2017 Expected end date: Ongoing whilst ASR in same format Spatial scale: Local Source affected: General background Indicator: ASR returns to DEFRA Target emissions reduction: Scheme dependent