



2015 Updating and Screening
Assessment for
West Dorset District Council

In fulfillment of Part IV of the
Environment Act 1995
Local Air Quality Management

December 2015

Local Authority Officer	Coralie McGown Susan Ashford
Department	Community Protection – Public Health
Address	South Walks House South Walks Road Dorchester Dorset DT1 1UZ
Telephone	01305 251010
e-mail	env.health@westdorset-weymouth.gov.uk
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Executive Summary

This Updating and Screening Assessment has been produced by West Dorset District Council (WDDC) to satisfy the requirements of Part IV of The Environment Act 1995. This Act requires Local Authorities to review and assess the air quality within their area and to take account of Government guidance when undertaking such work.

The Updating and Screening Report shows that monitoring results for 2014 continue to exceed the annual objective for nitrogen dioxide in High East Street, Dorchester, East Road, Bridport and Main Street, Chideock. There are no other exceedences of the air quality objectives in any other area of West Dorset.

Areas that exceed the annual objective for nitrogen dioxide (NO₂) in Dorchester and Chideock are already within Air Quality Management Areas (AQMA's) and action plans are in place to improve air quality to comply with the objective. However, there is no AQMA in Bridport. Following a Detailed Assessment of nitrogen dioxide in Bridport in 2011, the Council resolved not to declare an AQMA but continue monitoring to check future levels of NO₂ here. There are no plans to review this decision at present.

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1 Introduction

1.1 Description of Local Authority Area

West Dorset is the largest District Council within the County of Dorset, covering 42% of the county area at 418 square miles. The District is predominately rural in character with small market towns, and has a relatively low population density, with a total population of just over 96,000. Almost half of the population live in villages/rural areas.

71% of the district is designated as an area of outstanding natural beauty and the majority of the Coast in West Dorset is within the Jurassic Coast World Heritage site. The major role of tourism in the area results in significant peak seasonal increases in traffic and congestion, particularly on coastal routes.

The major roads in the District consist of the A35 & the A37. The A35 is a trunk road that runs east to west through the district and cuts through Bridport and Chideock. The A37 is also a major road in that runs through West Dorset from Dorchester through to Yeovil.

Air quality in West Dorset has been assessed and has been found to be broadly very good due to the predominantly rural environment. However, in certain locations - parts of Chideock, Dorchester and Bridport - air quality has been found to be close to, or exceeding the objective level for nitrogen dioxide, the main source of pollution being from road traffic. This is due to vehicle emissions and other factors including type and number of vehicles; their speed; congestion and local topographical circumstances. As a result of this, an Air Quality Management Area, (AQMA), was declared in Chideock in 2007 and High East Street, Dorchester in 2009.

1.2 Purpose of Report

This report fulfils the requirements of the Local Air Quality Management process as set out in Part IV of the Environment Act (1995), the Air Quality Strategy for England, Scotland, Wales and Northern Ireland 2007 and the relevant Policy and Technical Guidance documents. The LAQM process places an obligation on all local authorities to regularly review and assess air quality in their areas, and to determine whether or not the air quality objectives are likely to be achieved. Where exceedences are considered likely, the local authority must then declare an Air Quality Management Area (AQMA) and prepare an Air Quality Action Plan (AQAP) setting out the measures it intends to put in place in pursuit of the objectives.

The objective of this Updating and Screening Assessment is to identify any matters that have changed which may lead to risk of an air quality objective being exceeded. A checklist approach and screening tools are used to identify significant new sources or changes and whether there is a need for a Detailed Assessment. The USA report should provide an update of any outstanding information requested previously in Review and Assessment reports.

1.3 Air Quality Objectives

The air quality objectives applicable to LAQM in **England** are set out in the Air Quality (England) Regulations 2000 (SI 928), The Air Quality (England) (Amendment) Regulations 2002 (SI 3043), and are shown in Table 1.1. This table shows the objectives in units of microgrammes per cubic metre $\mu\text{g}/\text{m}^3$ (milligrammes per cubic metre, mg/m^3 for carbon monoxide) with the number of exceedences in each year that are permitted (where applicable).

Table 1.1 Air Quality Objectives included in Regulations for the purpose of LAQM in England

Pollutant	Air Quality Objective		Date to be achieved by
	Concentration	Measured as	
Benzene	16.25 µg/m ³	Running annual mean	31.12.2003
	5.00 µg/m ³	Running annual mean	31.12.2010
1,3-Butadiene	2.25 µg/m ³	Running annual mean	31.12.2003
Carbon monoxide	10.0 mg/m ³	Running 8-hour mean	31.12.2003
Lead	0.5 µg/m ³	Annual mean	31.12.2004
	0.25 µg/m ³	Annual mean	31.12.2008
Nitrogen dioxide	200 µg/m ³ not to be exceeded more than 18 times a year	1-hour mean	31.12.2005
	40 µg/m ³	Annual mean	31.12.2005
Particles (PM ₁₀) (gravimetric)	50 µg/m ³ , not to be exceeded more than 35 times a year	24-hour mean	31.12.2004
	40 µg/m ³	Annual mean	31.12.2004
Sulphur dioxide	350 µg/m ³ , not to be exceeded more than 24 times a year	1-hour mean	31.12.2004
	125 µg/m ³ , not to be exceeded more than 3 times a year	24-hour mean	31.12.2004
	266 µg/m ³ , not to be exceeded more than 35 times a year	15-minute mean	31.12.2005

1.4 Summary of Previous Review and Assessments

West Dorset District Council completed its first round of Review and Assessment in 2001. The review of the local air quality concluded that the objectives for all the seven regulatory pollutants were met and a further assessment was not required.

The second round of Review and Assessment began with an Updating and Screening Assessment (USA) in 2003. The USA, completed in 2004, concluded that

a Detailed Assessment (DA) was required for some areas in Chideock, Bridport and Dorchester having the potential to exceed the AQO for NO₂. This was completed in 2006. Based on the findings of the assessment and comments by DEFRA, it was concluded to declare an AQMA in Chideock and increase monitoring in Bridport and Dorchester to confirm if an AQMA was required in these areas.

In the third round of Review and Assessment the Council submitted a Progress Report in May 2007. Based on new monitoring data for NO₂, the report concluded that a Detailed Assessment was required for NO₂ due to road traffic emissions in Bridport and Dorchester.

A Detailed Assessment was produced in 2008 based on new monitoring data collected during 2007. From the conclusion of the Detailed Assessment and comments by Defra, it was concluded to declare an AQMA in High East Street, Dorchester and undertake modelling and further monitoring of NO₂ in East Road, Bridport.

In 2008 a Further Assessment was completed for Chideock. This concluded that based on future year projections the annual average AQO for NO₂ would be achieved in 2010 but that an Action Plan would be drafted and implemented should the projected future year annual predictions not be met. The predictions were not met and WDDC have produced and implemented an Action Plan. Progress on the actions taken is regularly reviewed at stakeholder meetings.

A fourth round of review and assessment commenced with an Updating & Screening Assessment in 2009. The USA concluded that two areas, High East Street in Dorchester and along the A35 in Chideock, exceeded the national objective for nitrogen dioxide and both are already designated Air Quality Management Areas. The report also concluded that new monitoring data showed that nitrogen dioxide targets had been exceeded in East Road, Bridport, but that as the sites were not representative of relevant exposure, it was recommended additional diffusion tubes to be placed in more representative locations.

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A Progress report was submitted in 2010. This report concluded that three areas, High East Street Dorchester (designated an AQMA in 2009), Main Street, Chideock (designated AQMA in 2007) and East Road Bridport, exceeded the national objective for nitrogen dioxide; A Detailed Assessment for nitrogen dioxide was recommended for East Road, Bridport as a result of Defras' recommendations to WDDC's Updating & Screening Assessment 2009.

A Further Assessment was undertaken in 2010 for High East Street, Dorchester that confirmed the existing AQMA boundary.

A Progress Report, Detailed Assessment for Chideock and Bridport, and the Dorchester Air Quality action Plan were completed in 2011. The Progress report did not identify any other areas, other than those already identified as AQMA's and East Road Bridport, where there was a likely that the AQ Objectives would be met. A detailed assessment was undertaken for Chideock that recommended a reduction of the AQMA Boundary to the area where exceedences were recorded. The report also concluded that East Road, Bridport would not be declared as an AQMA as only one property is affected, limited staff resources, and that there is limited action that the council can take to resolve the problem as the Highways Agency is responsible for the A35 Trunk Road. The reduction of the AQMA boundary in Chideock was approved by Defra, however conclusions were not accepted for Bridport. Whilst Defra advised the Council to declare an AQMA at this location, the Council resolved to continue monitoring NO₂ to check levels here in the future.

An Updating and Screening Assessment (2012) and Progress Report (2013) were completed in 2013. Monitoring data for 2011 and 2012 continued to show exceedences of the nitrogen dioxide annual mean in areas of Dorchester, Chideock and Bridport. The areas in Dorchester and Chideock have been declared AQMA's and have ongoing action plans in place to reduce the nitrogen dioxide levels here. The area of East Road, Bridport also exceeds this objective and there is only one residential property within the exceedance area. However, the Council resolved in 2011 not to declare here but to continue monitoring to check future levels of NO₂ here.

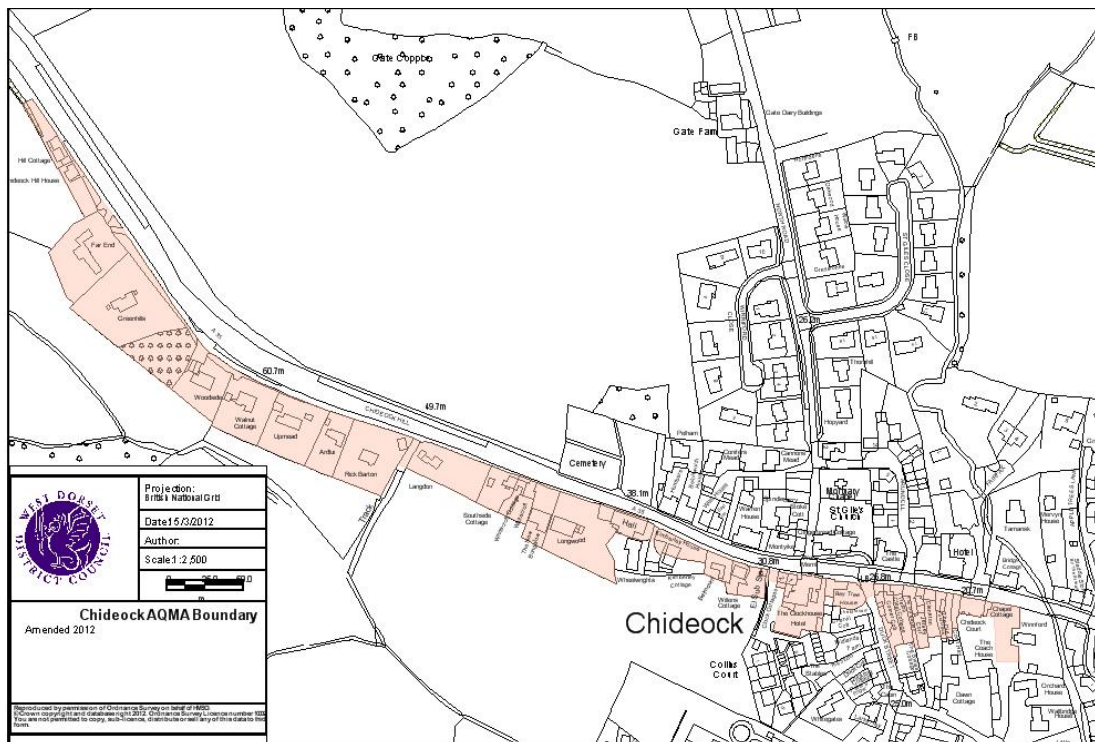
The 2014 Progress Report was completed in November 2015. Monitoring data for 2014 continued to show exceedences of the nitrogen dioxide annual mean in areas of Dorchester, Chideock and Bridport. The areas in Chideock and Dorchester have been declared AQMA's and have ongoing action plans in place to reduce the nitrogen dioxide levels here. The area of East Road, Bridport, also exceeds this objective and there is one residential property within the exceedence area. In 2011, the Council resolved not to declare here but to continue monitoring to check future levels of NO₂ here.

Figure 1.1 Maps of AQMA Boundaries

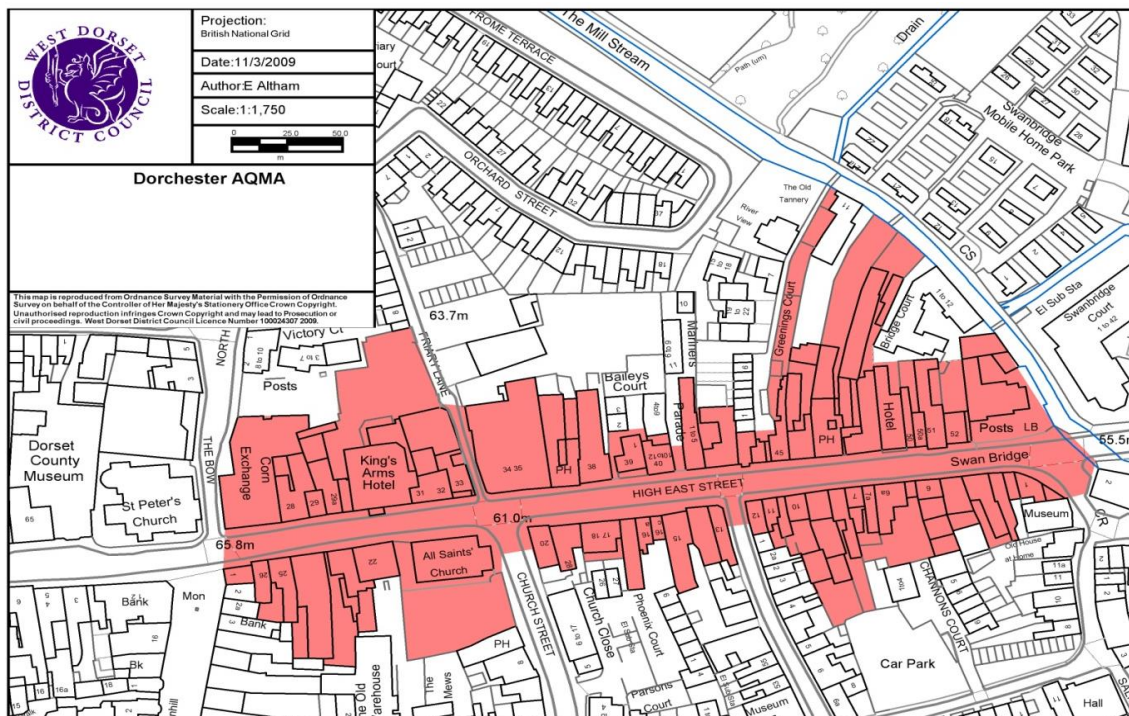
2007 Chideock AQMA Boundary



2011 Amended Chideock Boundary



2009 Dorchester AQMA Boundary



2 New Monitoring Data

2.1 Summary of Monitoring Undertaken

2.1.1 Automatic Monitoring Sites

West Dorset District Council has a continuous air quality monitoring station located in Main Street, Chideock, next to the A35 trunk road, details of which are shown in Table 2.1. This station contains an oxide of nitrogen monitor. A map showing the location of this monitoring station can be seen in Figure 2.1. Monitoring commenced in January 2010.

The monitor is situated approximately 2m from the A35. Due to location restrictions in Chideock the monitor it is not situated in the worst case location, along the steep incline, westwards towards Lyme Regis. This is due to a lack of space and limited access to utilities. The monitor is still located at a representative location regarding the distance of the monitor to the road and the distance from the road and receptors. However as this site is in an open location; the readings here represent background levels of nitrogen dioxide and are way below the annual mean objective.

Figure 2.1 Maps of Automatic Monitoring Site



Table 2.1 Details of Automatic Monitoring Sites

Site Name	Site Type	X OS Grid Ref	Y OS Grid Ref	Pollutants Monitored	In AQMA?	Monitoring Technique	Relevant Exposure? (Y/N with distance (m) to relevant exposure)	Distance to kerb of nearest road (N/A if not applicable)	Does this location represent worst-case exposure?
Post Office, Main Street, Chideock	Roadside	342301	92817	NO ₂	N	Chemiluminescent analyser	Y (1m)	2m	N

2.1.2 Non-Automatic Monitoring Sites

Continuous monitoring is a very expensive way of assessing air quality. The main pollutant of concern in the district is nitrogen dioxide and there is a way of monitoring this at a low cost. Passive diffusion tubes are relatively inexpensive and provide a monthly average of NO₂ concentrations. Because of the low cost, they allow West Dorset to monitor NO₂ widely across the district.

Diffusion tubes are exposed for 4/5 week periods throughout the year at each monitoring site and are deployed using a holder and rubber collar method. They are located at a variety of sites, including kerbside sites, roadside sites or background sites and placed between 1.5m and 2m above ground level and positioned at locations representative of public exposure.

The tubes are supplied and analysed by Gradko International Ltd, and the preparation method used is 50% TEA in water.

Monitoring is currently undertaken in three areas of West Dorset where elevated levels of nitrogen dioxide had been identified. Monitoring was discontinued in Sherborne, Lyme Regis and Abbotsbury in 2010 as there had been no exceedences of the annual objective for the past 8 years. The tubes were relocated to sites in the three areas with known exceedences:

Chideock - A small village in West Dorset, dwellings are situated either side of the A35 (trunk road) going through the village with dwellings immediately adjacent to a steep incline leaving the village going west. An air quality management area for NO₂ has been declared along the A35 as annual average NO₂ concentrations here exceed the annual objective concentration; Tubes have been relocated along both sides of the trunk road in Chideock to assess the extent of the elevated levels within Chideock with a view to amending the size of the AQMA boundary to reflect previously monitored results.

Dorchester –The County Town of Dorset, with a population of approximately 18,000. WDDC have been monitoring nitrogen dioxide within the town centre, predominantly

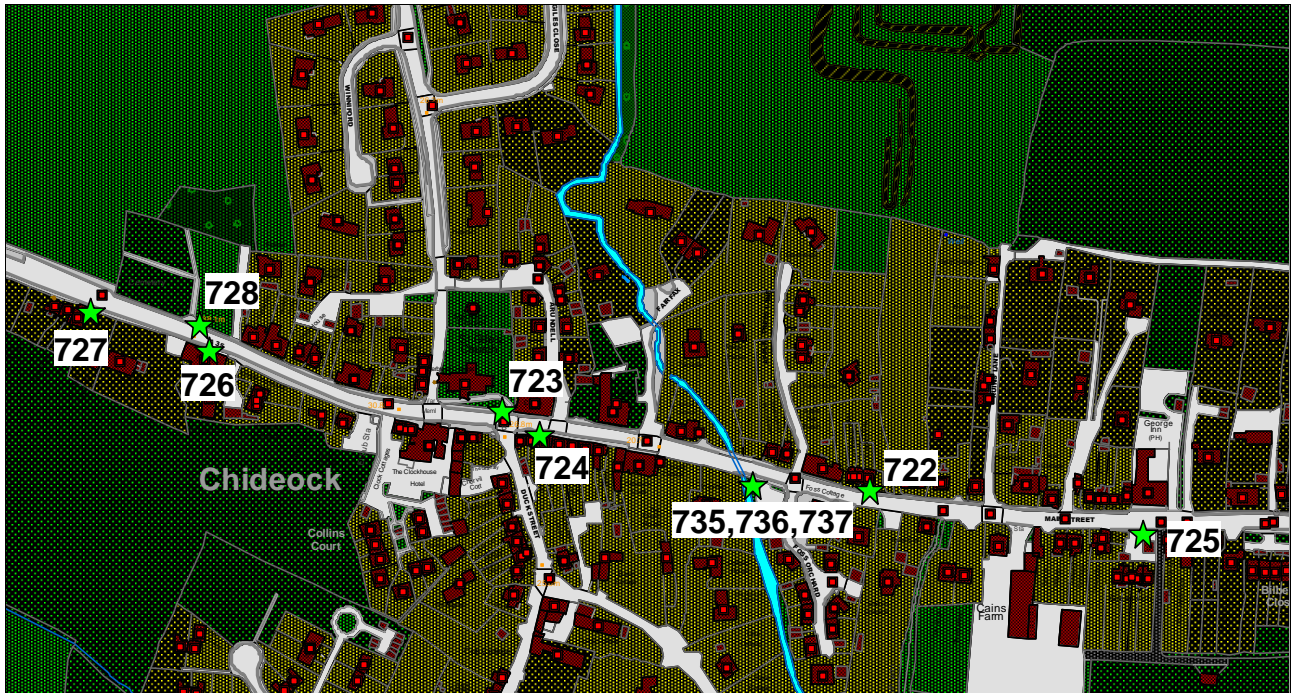
along the B3150 High East and High West Street where some exceedences of the AQO have been observed. Due to these exceedences an AQMA was declared on the 5th May 2009 along High East Street. It was decided to undertake further monitoring in High East Street in 2010 to assess the extent of the NO₂ levels, to extend the monitoring along High East and High West Street and to relocate monitoring sites to the routes predicted to be effected by the proposed Dorchester Transport & Environment Plan (DTEP) transport improvements.

Bridport - A market town located approximately 1km from the coast and 20km west of Dorchester. Annual average NO₂ concentrations adjacent to the A35 (trunk road) along East Road are monitored by WDDC and have been found to exceed the annual objective concentration at one dwelling located very close to the kerbside. The study area in Bridport consists of the A35 along East Road on the eastern side of Bridport

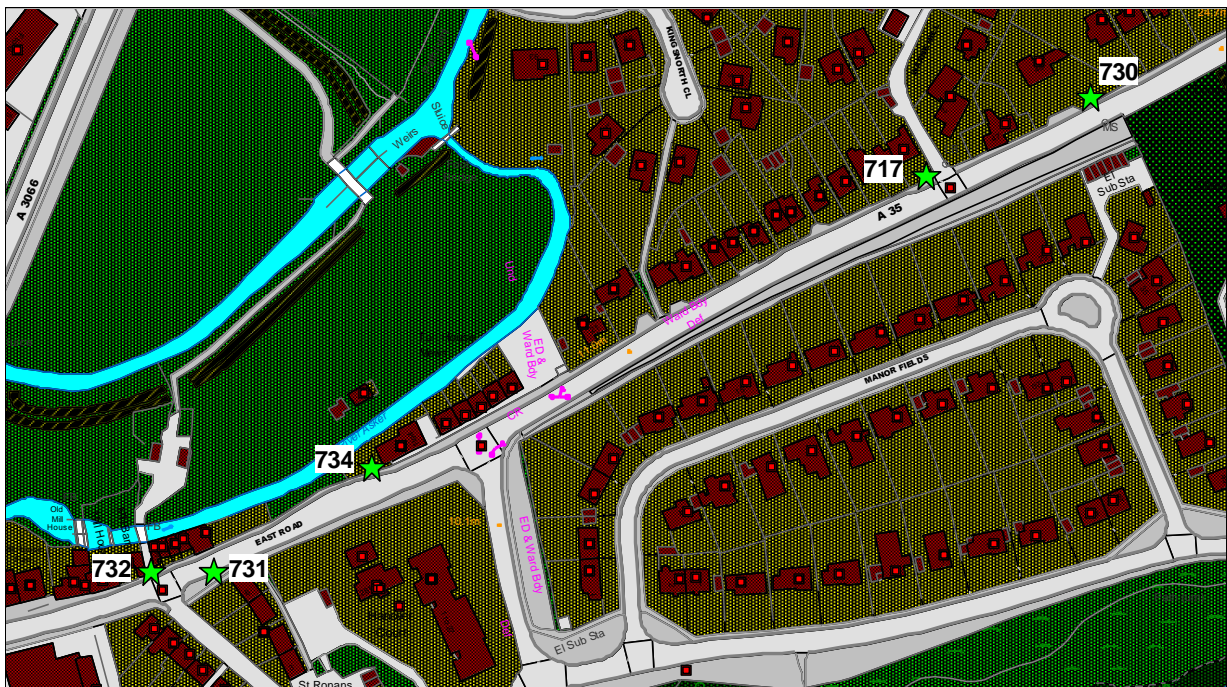
There are 26 diffusion tubes located at 24 sites within these three areas, details of these sites are shown in Table 2.3, and the locations of the monitoring sites are shown on the maps in figure 2.2 below.

Figure 2.2 Map(s) of Non-Automatic Monitoring Sites (if applicable)

Chideock



Bridport



Dorchester

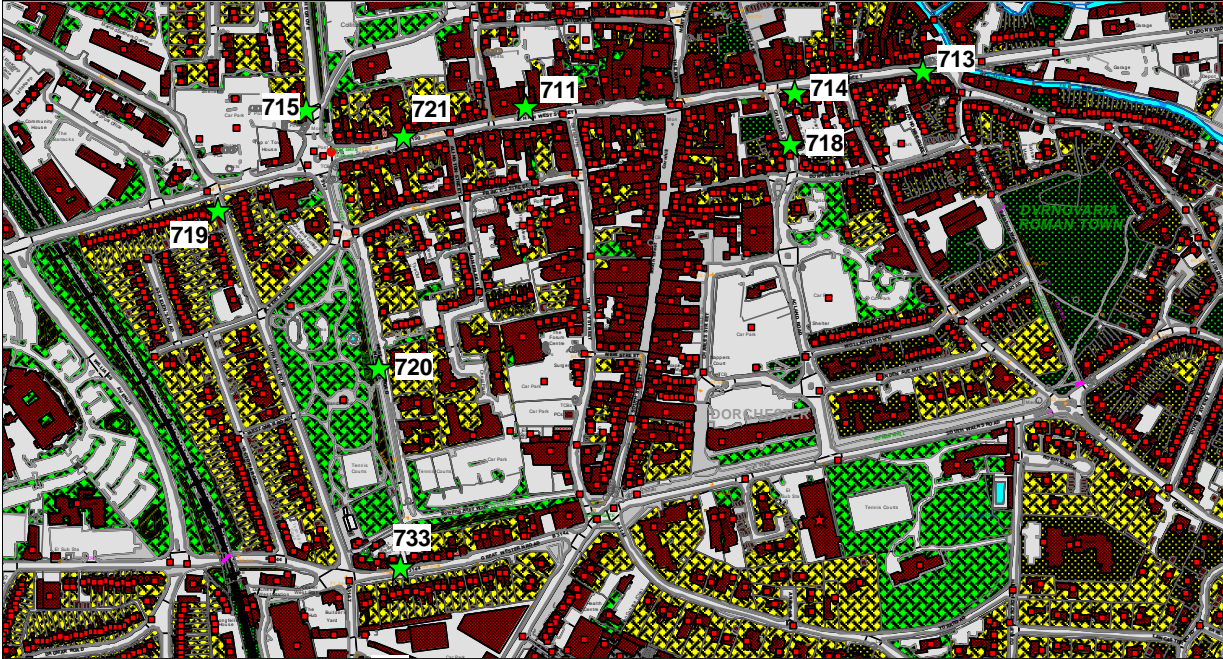


Table 2.2 Details of Non-Automatic Monitoring Sites

Site Name	Site Type	X OS Grid Reference	Y OS Grid Reference	Pollutants Monitored	In AQMA?	Is Monitoring Co-located with a Continuous Analyser (Y/N)	Relevant Exposure? (Y/N with distance (m) from monitoring site to relevant exposure)	Distance to Kerb of Nearest Road (m) (N/A if not applicable)	Does this Location Represent Worst-Case Exposure?
711 Dorchester High West Street 1	Roadside	369121	90739	NO ₂	N	N	N	2m	Y
712 Dorchester Trinity Street	Roadside	369171	90711	NO ₂	N	N	Y – on façade	2m	Y
713 Dorchester High East Street 2	Roadside	369484	90759	NO ₂	Y	N	Y – on façade	2m	Y
714 Dorchester High East Street 1	Roadside	369387	90742	NO ₂	Y	N	Y – on façade	2m	Y
715 Dorchester The Grove	Roadside	368907	90739	NO ₂	N	N	Y (1m)	2m	Y

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Site Name	Site Type	X OS Grid Reference	Y OS Grid Reference	Pollutants Monitored	In AQMA?	Is Monitoring Co-located with a Continuous Analyser (Y/N)	Relevant Exposure? (Y/N with distance (m) from monitoring site to relevant exposure)	Distance to Kerb of Nearest Road (m) (N/A if not applicable)	Does this Location Represent Worst-Case Exposure?
716 Dorchester Maumbury Road	Roadside	368948	90089	NO ₂	N	N	Y – on façade	2m	Y
718 Dorchester Church Street	Roadside	369381	90698	NO ₂	N	N	Y – on façade	2m	Y
719 Dorchester Bridport Road	Roadside	368815	90636	NO ₂	N	N	Y (2m)	2m	Y
720 Dorchester Borough Gardens	Background	368982	90453	NO ₂	N	N	5m	N/A	N
721 Dorchester High West Street 2	Roadside	368982	90706	NO ₂	N	N	Y – on façade	3m	Y

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Site Name	Site Type	X OS Grid Reference	Y OS Grid Reference	Pollutants Monitored	In AQMA?	Is Monitoring Co-located with a Continuous Analyser (Y/N)	Relevant Exposure? (Y/N with distance (m) from monitoring site to relevant exposure)	Distance to Kerb of Nearest Road (m) (N/A if not applicable)	Does this Location Represent Worst-Case Exposure?
717 Bridport East Road 1	Roadside	347557	93023	NO ₂	N	N	N	2m	Y
730 Bridport East Road 2	Roadside	347612	93050	NO ₂	N	N	N	2m	Y
731 Bridport East Road	Roadside	347277	92867	NO ₂	N	N	N	2m	Y
732 Bridport Askers Mead	Roadside	347262	92873	NO ₂	N	N	Y	2m	Y
733 Dorchester Great Western Road	Roadside	369002	90275	NO ₂	N	N	Y – on façade	2m	Y

Site Name	Site Type	X OS Grid Reference	Y OS Grid Reference	Pollutants Monitored	In AQMA?	Is Monitoring Co-located with a Continuous Analyser (Y/N)	Relevant Exposure? (Y/N with distance (m) from monitoring site to relevant exposure)	Distance to Kerb of Nearest Road (m) (N/A if not applicable)	Does this Location Represent Worst-Case Exposure?
734 Bridport East Road 4	Roadside	347489	92989	NO ₂	N	N	Y (1m)	2m	Y
722 Chideock Main Street	Roadside	342364	92814	NO ₂	N	N	Y (2m)	2m	Y
723 Chideock St Giles Church	Roadside	342151	92869	NO ₂	N	N	N	2m	Y
724 Chideock Duck Street	Roadside	342190	92840	NO ₂	Y	N	Y – on façade	1m	Y
725 Chideock George Inn	Roadside	342486	92791	NO ₂	N	N	Y (1m)	1m	Y
726 Chideock Village Hall	Roadside	342015	92887	NO ₂	Y	N	N	1m	N
727 Chideock Main Street	Roadside	341946	92908	NO ₂	Y	N	Y (1m)	1m	Y

Site Name	Site Type	X OS Grid Reference	Y OS Grid Reference	Pollutants Monitored	In AQMA?	Is Monitoring Co-located with a Continuous Analyser (Y/N)	Relevant Exposure? (Y/N with distance (m) from monitoring site to relevant exposure)	Distance to Kerb of Nearest Road (m) (N/A if not applicable)	Does this Location Represent Worst-Case Exposure?
728 Chideock Main Street	Roadside	342025	92894	NO ₂	N	N	Y (1m)	1m	Y
735 Chideock Triplicate	Roadside	342301	92817	NO ₂	N	Y	N	2m	N
736 Chideock Triplicate	Roadside	342301	92817	NO ₂	N	Y	N	2m	N
737 Chideock Triplicate	Roadside	342301	92817	NO ₂	N	Y	N	2m	N

2.2 Comparison of Monitoring Results with Air Quality Objectives

2.2.1 Nitrogen Dioxide

The two air quality objectives that ambient concentrations of NO₂ need to be assessed against are as follows:

- An annual mean of 40µg/m³; and
- The number of exceedences of the 1 hour mean of 200µg/m³ (18 allowable exceedences in total).

It should be noted that it is only possible to directly assess against the 1 hour objective if hourly monitoring data is available. With regards to the hourly objective regarding diffusion tubes the approach suggested in LAQM. TG(09) has been adopted. The approach, based on empirical studies suggests that where the annual mean is less than 60µg/m³, exceedences of the short term objective are unlikely.

Automatic Monitoring Data

The ratified monitoring results for 2014 are provided below in Table 2.3 and 2.4.

Table 2.3 Results of Automatic Monitoring of Nitrogen Dioxide: Comparison with Annual Mean Objective

Site ID	Site Type	Within AQMA?	Valid Data Capture for period of monitoring %	Valid Data Capture 2014 %	Annual Mean Concentration $\mu\text{g}/\text{m}^3$			
					2011	2012	2013	2014
Chideock	Roadside	N	100	100	13.6	N/A	13.21	11.32

The 2013 mean has been annualised (Using Box 3.2 in TG(09)).

Table 2.4 Results of Automatic Monitoring for Nitrogen Dioxide: Comparison with 1-hour mean Objective

Site ID	Site Type	Within AQMA?	Valid Data Capture for period of monitoring %	Valid Data Capture 2014 %	Number of Exceedences of Hourly Mean (200 µg/m ³)			
					2011	2012	2013	2014
Chideock	Roadside	N	100	100	0	N/A	0	0

The 2014 data shows that there have been no exceedences of the NO₂ objectives at this location.

Diffusion Tube Monitoring Data

The NO₂ diffusion tube monitoring results for 2014 are provided in Table 2.5 along with 2010-2013 data for comparison. A nationally derived bias adjustment factor of 0.98 was used for diffusion tubes in Dorchester and Bridport, the local bias adjustment factor of 0.93 was used for the diffusion tubes in Chideock.

Table 2.5 Results of Nitrogen Dioxide Diffusion Tubes in 2014

Site ID	Location	Site Type	Within AQMA?	Triplicate or Collocated Tube	Data Capture 2014 (Number of Months or %)	Data with less than 9 months has been annualised (Y/N)	Confirm if data has been distance corrected (Y/N)	Annual mean concentration (Bias Adjustment factor = 0.98, Chideock = 0.93)
								2014 ($\mu\text{g}/\text{m}^3$)
711	Dorchester High West Street	Roadside	N	N	12	N	N	38.2
712	Dorchester Trinity Street	Roadside	N	N	12	N	N	30.0
713	Dorchester High East Street	Roadside	Y	N	12	N	N	34.0
714	Dorchester High East Street 1	Roadside	Y	N	11	N	N	46.7
715	Dorchester The Grove	Roadside	N	N	12	N	N	37.3
716	Dorchester Maumbury Road	Roadside	N	N	10	N	N	29.9
733	Dorchester Great Western Road	Roadside	N	N	10	N	N	28.9
718	Dorchester Church Street	Roadside	N	N	11	N	N	21.3
719	Dorchester Bridport Road	Roadside	N	N	12	N	N	24.8

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Site ID	Location	Site Type	Within AQMA?	Triplicate or Collocated Tube	Data Capture 2014 (Number of Months or %)	Data with less than 9 months has been annualised (Y/N)	Confirm if data has been distance corrected (Y/N)	Annual mean concentration (Bias Adjustment factor = 0.98, Chideock = 0.93)
								2014 ($\mu\text{g}/\text{m}^3$)
720	Dorchester Borough Gardens	Background	N	N	11	N	N	11.6
721	Dorchester High West Street 2	Roadside	N	N	10	N	N	31.0
717	Bridport East Road 1	Roadside	N	N	12	N	N	41.7
730	Bridport East Road 2	Roadside	N	N	10	N	N	58.5
731	Bridport East Road	Roadside	N	N	12	N	N	32.5
732	Bridport Askers Mead	Roadside	N	N	12	N	N	37.8
734	Bridport East Road 4	Roadside	N	N	10	N	N	32.2
722	Chideock Main Street	Roadside	N	N	9	N	N	26.8
723	Chideock St Giles	Roadside	N	N	12	N	N	22.9
724	Chideock Duck Street	Roadside	Y	N	11	N	N	36.7
725	Chideock George Inn	Roadside	N	N	11	N	N	26.2
726	Chideock Village Hall	Roadside	Y	N	12	N	N	41.8

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Site ID	Location	Site Type	Within AQMA?	Triplicate or Collocated Tube	Data Capture 2014 (Number of Months or %)	Data with less than 9 months has been annualised (Y/N)	Confirm if data has been distance corrected (Y/N)	Annual mean concentration (Bias Adjustment factor = 0.98, Chideock = 0.93)
								2014 ($\mu\text{g}/\text{m}^3$)
727	Chideock Main Street	Roadside	Y	N	12	N	N	53.0
728	Chideock Main Street	Roadside	N	N	12	N	N	25.6
735	Chideock Triplicate	Roadside	N	Y	12	N	N	11.4
736	Chideock Triplicate	Roadside	N	Y	12	N	N	11.3
737	Chideock Triplicate	Roadside	N	Y	12	N	N	11.5

Table 2.6 Results of Nitrogen Dioxide Diffusion Tubes (2010 to 2014)

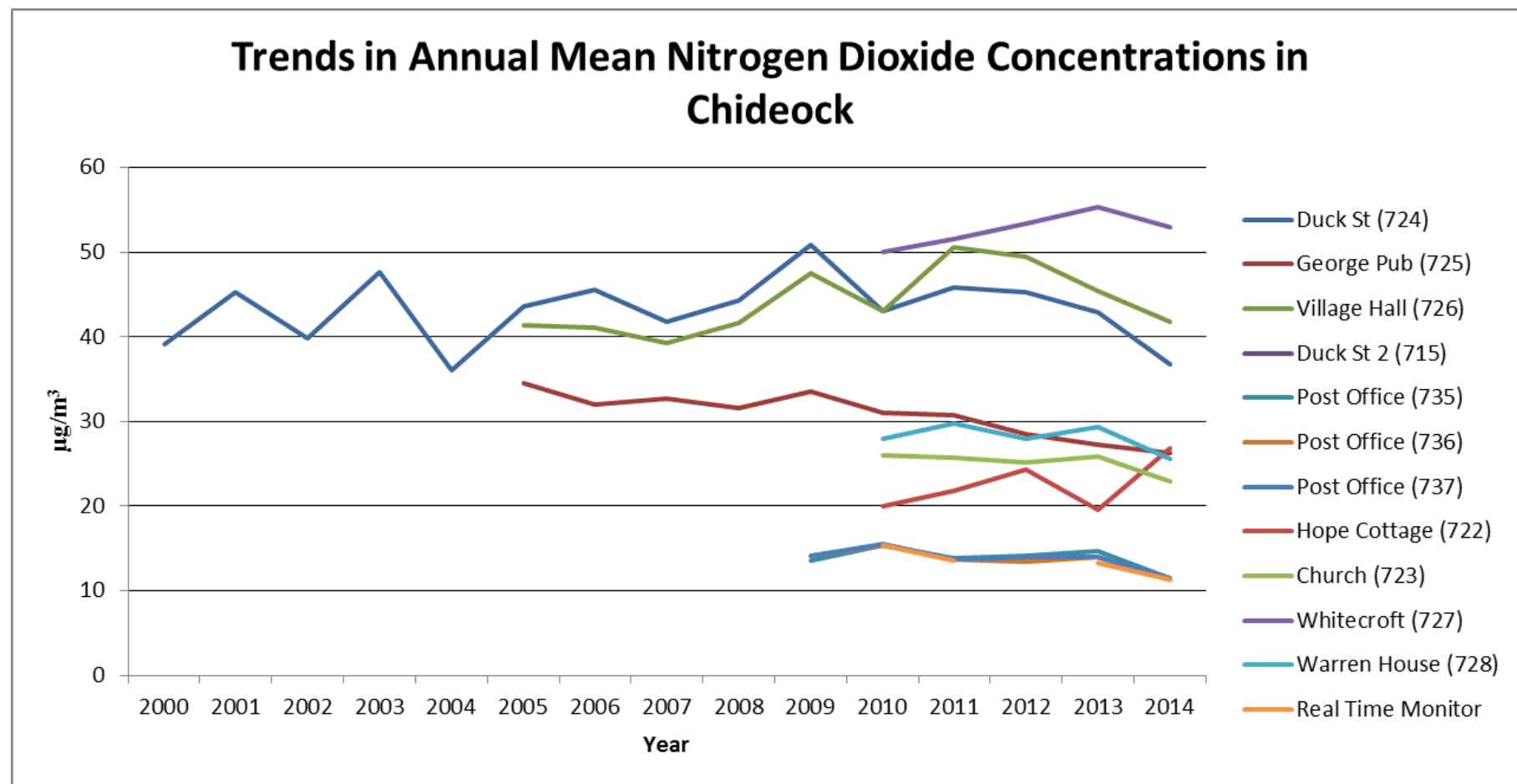
Site ID	Site Type	Within AQMA?	Annual mean concentration (adjusted for bias) $\mu\text{g}/\text{m}^3$				
			2010 (Bias Adjustment Factor = 0.99 Chideock = 0.93)	2011 (Bias Adjustment Factor = 0.93 Chideock = 0.99)	2012 (Bias Adjustment Factor = 1.01)	2013 (Bias Adjustment Factor = 1.01)	2014 (Bias Adjustment Factor = 0.98, Chideock = 0.93)
711	Roadside	N	41.8	38.73	38.4	40.1	38.2
712	Roadside	N	31.4	30.85	32.1	32.3	30.0
713	Roadside	Y	34.1	32.91	34.4	32.6	34.0
714	Roadside	Y	40.6	42.06	42.3	37.5	46.7
715	Roadside	N	38.3	32.93	36.1	35.6	37.3
716	Roadside	N	33.4	32.7	30.7	28.3	29.9
718	Roadside	N	25.9	21.23	22.4	22.2	21.3
719	Roadside	N	28.2	25.99	22.7	26.5	24.8
720	Background	N	16.2	12.58	13.0	13.2	11.6
721	Roadside	N	34.7	30.84	31.0	35.8	31.0
717	Roadside	N	55.4	43.11	43.7	43.1	41.7
730	Roadside	N	47.7	57.45	56.6	64.6	58.5
731	Roadside	N			35.2	33.0	32.5
732	Roadside	N			31.1	35.0	37.8
733	Roadside	N	26.5			31.9	28.9
734	Roadside	N	31.33	28.58	32.5	34.5	32.2
722	Roadside	N	20	21.8	24.3	19.5	26.8
723	Roadside	N	26	25.7	25.1	25.8	22.9
724	Roadside	Y	43	45.8	45.2	42.9	36.7
725	Roadside	N	31	30.7	28.5	27.2	26.2
726	Roadside	Y	43	50.5	49.5	45.4	41.8
727	Roadside	Y	50	51.5	53.3	55.3	53.0
728	Roadside	N	28	29.7	27.9	29.4	25.6
735	Roadside	N	15.3	13.8	14.1	14.7	11.4
736	Roadside	N	15.4	13.7	13.4	13.9	11.3

Site ID	Site Type	Within AQMA?	Annual mean concentration (adjusted for bias) $\mu\text{g}/\text{m}^3$				
			2010 (Bias Adjustment Factor = 0.99 Chideock = 0.93)	2011 (Bias Adjustment Factor = 0.93 Chideock = 0.99)	2012 (Bias Adjustment Factor = 1.01)	2013 (Bias Adjustment Factor = 1.01)	2014 (Bias Adjustment Factor = 0.98, Chideock = 0.93)
737	Roadside	N	15.5	13.7	13.9	14.0	11.5

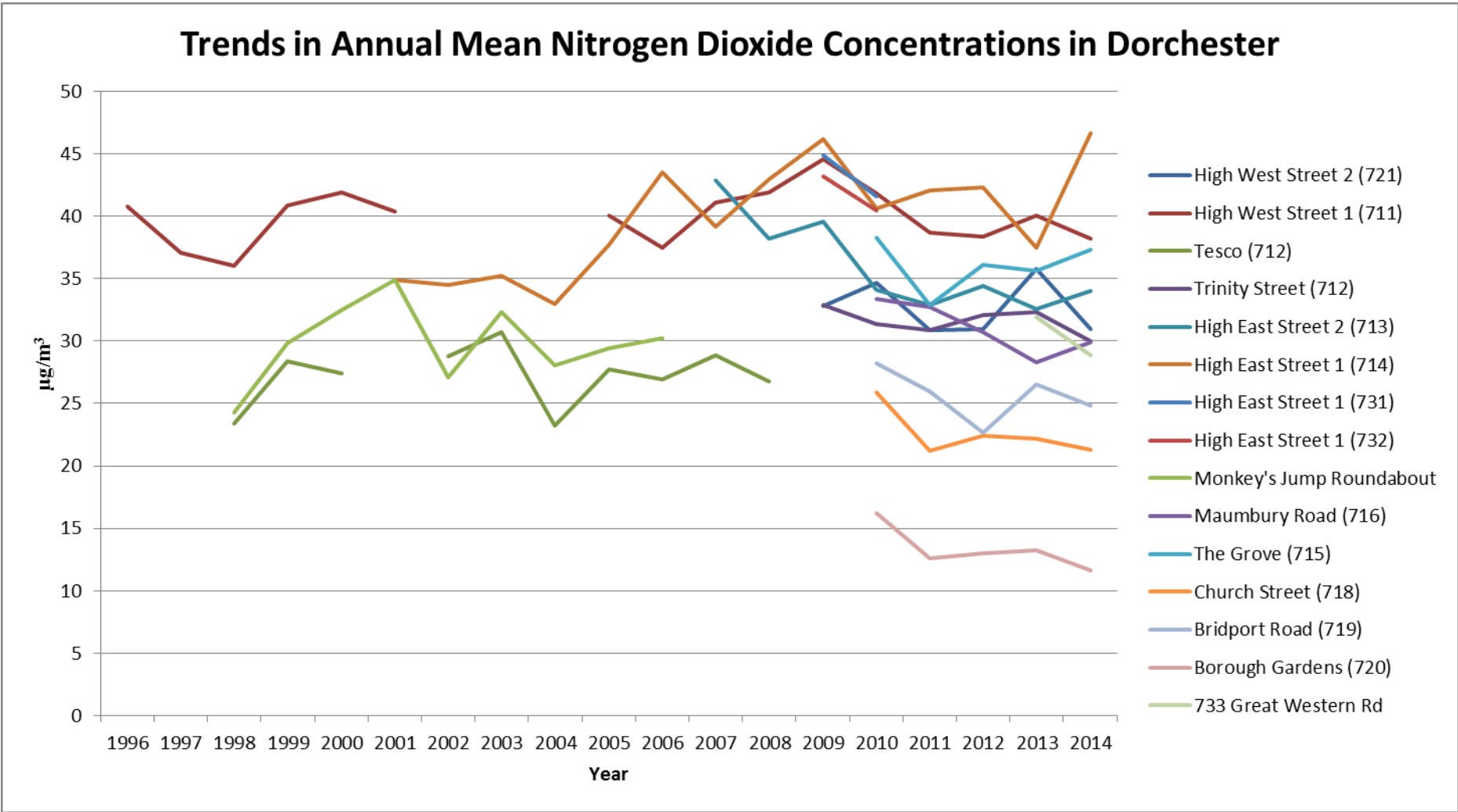
The 2014 diffusion tube monitoring results show 5 sites exceeding the NO₂ annual mean objective. Three are within designated AQMA's and two are outside and located on East Road, Bridport. The 1 hour average objective for NO₂ was not exceeded at any locations in 2014, although East Road in Bridport is close to the exceedance (based on guidance contained within TG(09)). The results are explained in more detail below.

Figure 2.3 Trends in Annual Mean Nitrogen Dioxide Concentrations measured at Diffusion Tube Monitoring Sites

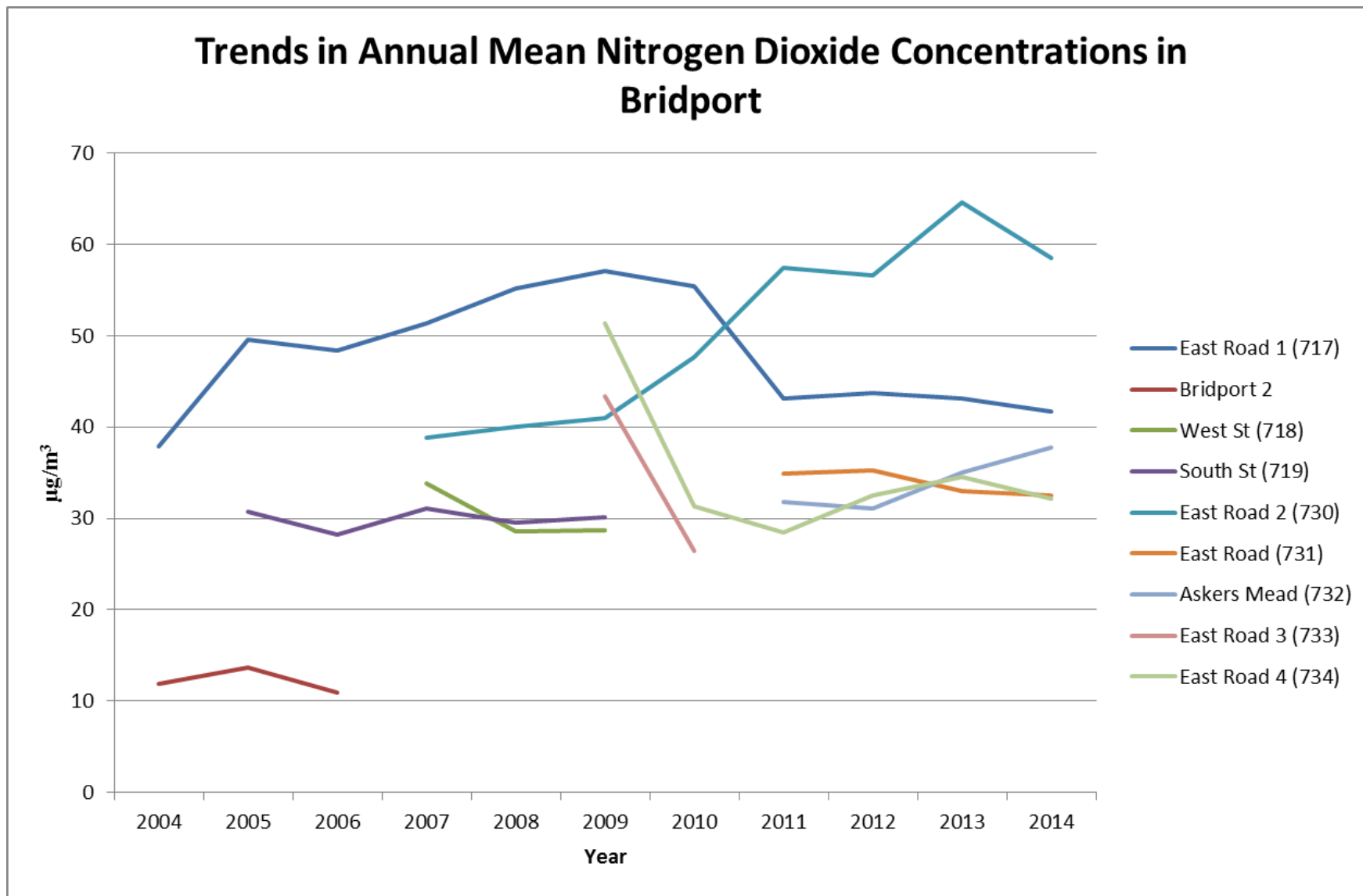
Chideock



Dorchester



Bridport



Discussion of results for Nitrogen Dioxide

Chideock

In 2010, further monitoring was undertaken in Chideock to further define the levels of NO₂ as previous monitoring was only undertaken on the South side of the village, sites 724, 725 and 726. Historical results have shown that exceedences were only found on the steep incline, South of the A35 going out of the village, West towards Lyme Regis (724 and 726). New sites are situated on the North side of the road, with the traffic here going downhill towards the centre of the village. Monitoring in 2014 did not show any exceedences in areas in Chideock other than those on the steep incline, these sites are located within the AQMA boundary.

Site 727 (see Figure 2.2) is located on the steep incline going out of the village. The site has exceeded the objective for 2014 but is in the AQMA boundary and further confirms the localised exceedance caused by the traffic climbing uphill within the 30mph zone.

Site 725 is located on the façade of a property that is directly on the main road with no footpath. This area is in the middle of the village with flat topography. There have been no exceedences of the objective here for over 10 years. The continuous monitor and the co-located tubes (735, 736 and 737), that are in a similar position to 725, in the middle of the village at the bottom of the hill, were below the objective in 2014.

Dorchester

Table 2.5 shows that the annual mean objective for NO₂ was exceeded in one location in Dorchester in 2014, site 714, which is located within the AQMA. Site 713, which is also located within the AQMA, is below the objective. Results from 2014 shows that site 711, which exceeded the objective in 2013 is now below this figure.

Monitoring was extended in 2010 and a new site was introduced in 2012 to include locations where traffic was to be diverted when the Dorchester Transport & Environment Plan was to be implemented in 2014. This plan aims to improve environmental quality in Dorchester, primarily through a reduction in negative traffic

impacts and is included in the Air Quality Action Plan for Dorchester. These sites are not showing exceedences and no other sites are above the annual mean objective for Dorchester.

Bridport

Sites 717 and 730 are located either side of a property that is situated approximately 2m from the A35 trunk road. Monitoring from 2014 shows that these sites exceed the objective for NO₂. This location is again on a steep incline going Eastbound out of Bridport towards Dorchester. Apart from this property, all other properties that front the road within this vicinity are approximately 10m back from the roadside. Tube 733 was located on the façade of one of these properties in 2010 and results showed that this was within the objective and this tube has since been relocated to Dorchester.

Sites 734, 732 and 731 are located at the bottom of the hill, adjacent to relevant receptors. These sites have not shown exceedences in 2014. Therefore, evidence shows that the objective is only likely to exceed at one property. Site 730 shows the annual mean for 2014 to be below 60ug/m³, which suggests that exceedences of the hourly objective are unlikely.

A Detailed Assessment was undertaken in 2011 and concluded that an AQMA was not to be declared here. This outcome was not accepted by DEFRA but the Council resolved to continue to monitor NO₂ to check levels here in the future.

2.2.2 PM₁₀

There were no areas identified in the last Updating and Screening Assessment within the district where PM₁₀ could be a problem. This has not changed; therefore, no monitoring is currently undertaken for PM₁₀. However concerns have previously been raised by residents in Chideock regarding PM₁₀ levels due to the unique topography of the area and the large percentage of HGV's that travel through the village.

Given these concerns, air quality modelling was undertaken for PM₁₀ in Chideock in 2011. The results have shown that the annual average and 24 hour AQO for PM₁₀ would not be exceeded at any locations within Chideock. There have been no further changes in West Dorset.

2.2.3 Sulphur Dioxide

No areas were identified within the district where sulphur dioxide could be a problem during the last Updating and Screening Assessment. This has not changed; therefore no monitoring is currently undertaken for sulphur dioxide.

2.2.4 Benzene

No areas were identified within the district where benzene could be a problem during the last Updating and Screening Assessment. This has not changed; therefore no monitoring is undertaken for benzene.

2.2.5 Other pollutants monitored

No other pollutants are monitored in West Dorset.

2.2.6 Summary of Compliance with AQS Objectives

West Dorset District Council has examined the results from monitoring in the district.

Concentrations of nitrogen dioxide outside the AQMA's have exceeded the annual mean NO₂ objective in two locations along East Road, Bridport, sites 717 and 730. The latter is also close to exceeding the hourly objective for this pollutant.

Apart from the sites already within AQMA's and the above sites in Bridport, all other sites in West Dorset are below the objectives.

West Dorset District Council will continue to monitor NO₂ levels in Chideock, Bridport and Dorchester.

3 Road Traffic Sources

3.1 Narrow Congested Streets with Residential Properties Close to the Kerb

Two areas have been identified, one in Chideock and one in Dorchester, that fit the criteria and are included in Air Quality Management Areas. There are also a number of narrow rural roads in West Dorset's road network but these country roads are mainly bounded by hedges and fields and therefore do not meet the criteria of narrow congested streets with residential properties close to the kerb.

The Council has not identified any West Dorset roads outside AQMA's that meet the criteria for this source description.

West Dorset District Council confirms that there are no new/newly identified congested streets with a flow above 5,000 vehicles per day and residential properties close to the kerb, that have not been adequately considered in previous rounds of Review and Assessment.

3.2 Busy Streets Where People May Spend 1-hour or More Close to Traffic

West Dorset District Council confirms that there are no new/newly identified busy streets where people may spend 1 hour or more close to traffic.

3.3 Roads with a High Flow of Buses and/or HGVs.

West Dorset District Council confirms that there are no new/newly identified roads with high flows of buses/HGVs.

3.4 Junctions

West Dorset District Council confirms that there are no new/newly identified busy junctions/busy roads.

3.5 New Roads Constructed or Proposed Since the Last Round of Review and Assessment

This was reviewed in the 2012 Updating and Screening Assessment and there have been no new roads constructed or proposed since this last assessment that fits the criteria in Section A.5 of Box 5.3 in TG(09).

West Dorset District Council confirms that there are no new/proposed roads.

3.6 Roads with Significantly Changed Traffic Flows

TG(09) states that significantly changed traffic flows are roads over 10,000 vehicles per day that have experienced large (>25%) increases in traffic flows. This was assessed during the last Updating and Screening Assessment and there have been no changes on any roads within West Dorset since the last assessment.

West Dorset District Council confirms that there are no new/newly identified roads with significantly changed traffic flows.

3.7 Bus and Coach Stations

West Dorset District Council confirms that there are no relevant bus stations in the Local Authority area.

4 Other Transport Sources

4.1 Airports

West Dorset District Council confirms that there are no airports in the Local Authority area.

4.2 Railways (Diesel and Steam Trains)

4.2.1 Stationary Trains

West Dorset District Council confirms that there are no locations where diesel or steam trains are regularly stationary for periods of 15 minutes or more, with potential for relevant exposure within 15m.

4.2.2 Moving Trains

West Dorset District Council confirms that there are no locations with a large number of movements of diesel locomotives, and potential long-term relevant exposure within 30m.

4.3 Ports (Shipping)

West Dorset District Council confirms that there are no ports or shipping that meet the specified criteria within the Local Authority area.

5 Industrial Sources

5.1 Industrial Installations

5.1.1 New or Proposed Installations for which an Air Quality Assessment has been Carried Out

West Dorset District Council confirms that there are no new or proposed industrial installations for which planning approval has been granted within its area or nearby in a neighbouring authority.

5.1.2 Existing Installations where Emissions have Increased Substantially or New Relevant Exposure has been Introduced

West Dorset District Council confirms that there are no industrial installations with substantially increased emissions or new relevant exposure in their vicinity within its area or nearby in a neighbouring authority.

5.1.3 New or Significantly Changed Installations with No Previous Air Quality Assessment

West Dorset District Council confirms that there are no new or proposed industrial installations for which planning approval has been granted within its area or nearby in a neighbouring authority.

5.2 Major Fuel (Petrol) Storage Depots

West Dorset District Council confirms that there are no major fuel (petrol) storage depots within the Local Authority area.

5.3 Petrol Stations

According to the guidance TG(09) there is a possibility that the objective for benzene could be exceeded where there is a petrol station with an annual throughput of more than 2000m³ of petrol, a busy road nearby (>30,000 vehicles per day) and relevant exposure within 10m. This was assessed during previous Updating and Screening Assessments and it was concluded that there were petrol stations within WDDC that fall into this category. However, there were no residential dwellings within 10m of the pumps. There has been no change since these previous assessments.

West Dorset District Council confirms that there are no petrol stations meeting the specified criteria.

5.4 Poultry Farms

TG(09) states that some Local Authorities have identified exceedences of the PM₁₀ objective associated with emissions from poultry farms. There are two poultry farms within West Dorset. The first is in Holnest, Sherborne. From the details provided in the IPPC Public Register, this farm has less than 200,000 birds and the nearest relevant exposure is 100m East of the farm.

The second poultry farm is located in Trent, Sherborne. This farm has the capacity for 150,000 birds and is mechanically ventilated. Neither of the poultry farms in West Dorset meet the criteria set out in TG(09), therefore, no further assessment is required.

West Dorset District Council confirms that there are no poultry farms meeting the specified criteria.

6 Commercial and Domestic Sources

6.1 Biomass Combustion – Individual Installations

Biomass burning can lead to an increase in PM₁₀ emissions due to the process of combustion and can also result in an increase of overall NO_x emissions due to the fuel derived portion that is not present in gas combustion. Because of this, new guidance has been introduced for Local Authorities to assess Biomass installations in their area.

There are two individual biomass installations in West Dorset; Kingston Maurward College, Dorchester and St Osmunds Middle School, Dorchester. There has been no change since the last report.

West Dorset District Council has assessed the biomass combustion plant and concluded that it will not be necessary to proceed to a Detailed Assessment.

6.2 Biomass Combustion – Combined Impacts

There is a concern that the effects of many small biomass combustion installations could combine and lead to unacceptably high PM₁₀ concentrations. The average background level in West Dorset is 14.58µg/m³ so cumulative impacts seem unlikely. According to the report in the FAQ section of the review and assessment helpdesk website, the nonogram shows that the minimum number of houses burning wood in a fireplace as their principal source of heat that may lead to an exceedance in the 2004 PM₁₀ objective would be over 450 households in a 500m x 500m area. From local knowledge, it is highly unlikely that there are any such areas in West Dorset.

West Dorset District Council has assessed the combined impact from biomass combustion, and concluded that it will not be necessary to proceed to a Detailed Assessment.

6.3 Domestic Solid-Fuel Burning

This was reviewed in the 2012 Updating and Screening Assessment and it was found that there were no areas within West Dorset where there is a high density of domestic coal burning. There has been no change since the last assessment.

West Dorset District Council confirms that there are no areas of significant domestic fuel use in the Local Authority area.

7 Fugitive or Uncontrolled Sources

In the 2012 round of review and assessment, it was found that two quarries in West Dorset do not significantly contribute to levels of PM₁₀ and there are no relevant receptors nearby. There has been no change since this review. During 2014, the Council received five complaints of dust emissions in the district.

West Dorset District Council confirms that there are no potential sources of fugitive particulate matter emissions in the Local Authority area.

8 Implementation of Action Plans

8.1 Dorchester Air Quality Action Plan Progress Report 2015

The AQAP sets out a strategic approach to improving air quality in Dorchester. It puts forward a range of measures aimed at reducing emissions in order to achieve the Air Quality Objectives. These are prioritised into the following three categories or 'action headings':

- **Road Traffic Management**
- **Reduce Vehicle Emissions**
- **Statutory and other powers to limit impact of air pollution**

Table 8.1 summarises the AQAP measures and progress in implementation. The following highlights some of the key initiatives that have been progressed in the last year and sets out the timescale for implementation of the road infrastructure improvements that are likely to have a significant impact on air quality.

Table 8.1 Dorchester Action Plan Progress

No	Action	Lead agency	Linked strategies	Impacts	Planning Phase	Implementation Phase	Progress in the last 12 months	Cost/benefit
Road traffic management								
A1	To implement the Dorchester Transport & Environment Plan (DTEP)	DCC	LTP3 Local Plan	Reduce air pollution Reduce congestion, Reduce traffic noise Improve safety	May 2013- Nov 2014	Phase 1 – Nov 2014 Phase 2 – Nov 2015	DTEP was due to commence in 2013, however due to financial constraints at County level this has now been postponed. It is understood that DCC are reviewing DTEP and at this time we have no further information.	High/High
A2	To undertake an air quality assessment of the proposed DTEP scheme	WDDC DCC	LTP3	Quantify likely improvements on air quality	2012		<p>The WYG 2013 Detailed Assessment for NO₂ in Dorchester showed:</p> <ul style="list-style-type: none"> • Beneficial impacts of DTEP at the majority of modelled receptors • A significant beneficial impact of DTEP at a number of locations on High West Street and High East Street • No predicted exceedences of the annual NO₂ objective at any relevant receptors in Dorchester post DTEP. • A few locations with predicted increases in NO₂ post DTEP but levels are well below the annual objective concentration. <p>However, the report and its outcome will need to be verified once DCC have reviewed their arrangements for</p>	Low/Low

West Dorset District Council

No	Action	Lead agency	Linked strategies	Impacts	Planning Phase	Implementation Phase	Progress in the last 12 months	Cost/benefit
							DTEP.	
A3	A35 Weymouth Road Roundabout and Stinsford Roundabout improvements The carriageway widths will be widened to 3 lanes on both A35 approaches and to 2 lanes on the approach from Dorchester	HA	Department of Transport Scheme	Reduce congestion and delay Improve the flow on the Dorchester bypass, Encourage use of the bypass instead of cutting through the town Improve safety	Spring 2011	2012	Completed in May 2012 The roundabout has been increased from 50m to 56m and widened to provide traffic splitter islands for entry path curvature. A new additional lane has also been provided for left turn traffic from A35 to A354 Weymouth Road.	High/Low
A4	To promote and expand, where feasible, the Park & Ride services and investigate the potential for a new site in Dorchester.	WDDC	Local Plan	Reduce traffic in the town centre	2012 2013	Temp park and ride July-Sept for the Olympic period. 2014 - Permanent site proposal through the Local Plan.	A new Park and Ride site south of Dorchester has been proposed through the joint WDDC and WPBC Local Plan which was adopted in October 2015 and will be linked to DTEP.	Moderate/Moderate
A5	To investigate the improvement of signage to encourage the use of the Dorchester bypass rather than High West/East Street	HA	Department of Transport Scheme	Reduce traffic in the town centre Reduce congestion in the High Streets. Reduce pollution	2012		Improved signage new road scheme was undertaken with the improvements undertaken in action A3. HA have no further plans to increase road traffic signs here. However will be reviewed when DTEP is in place	Low/Moderate
Reduce Vehicle Emissions								
B1	Replace older bus fleets with cleaner	DCC	LTP3	Reduction in emissions	Ongoing	2011-2026	In March 2011 the Department for Transport awarded a £166,600	High/High

No	Action	Lead agency	Linked strategies	Impacts	Planning Phase	Implementation Phase	Progress in the last 12 months	Cost/benefit
	more efficient buses.						Green Bus Fund grant to the WDDC, DCC and Duchy of Cornwall partnership to purchase two electric powered buses. The two Optare Solo electric buses are currently running from Poundbury to Dorchester every 30 minutes and will produce estimated diesel fuel savings of £25000 over five years compared to two diesel-powered buses. The buses will make carbon emission savings of around 39 tons per year compared to diesel buses, producing a minimum impact on the environment.	
B2	Provision of Real Time Passenger Information on buses, at bus stops and other key locations, on the web and via text messaging along key routes, including Dorchester	DCC	Weymouth Transport Package LTP3	Encourage better use of buses Potentially fewer car journeys Reduced CO ₂ emissions	2012	2012	This has been completed along the Dorchester/Weymouth corridor as part of the Weymouth Transport Package.	Moderate/Low
B3	The provision of real-time car park information in Dorchester	DCC WDDC	LTP3	Reduced journey time Reduced emissions and congestion	2012	2015	In July 2012 the Local Sustainable Transport Fund (LSTF), awarded DCC 200K for variable messaging signage and car parking guidance in Dorchester. This will be implemented from 2013. This has been implemented.	Moderate/Low

West Dorset District Council

No	Action	Lead agency	Linked strategies	Impacts	Planning Phase	Implementation Phase	Progress in the last 12 months	Cost/benefit
B4	Ensure that air pollution from DCC's own activities is reduced	DCC	DCC Carbon Management Plan DCC Driving to Work Policy	Reduced CO ₂ emissions Potential financial savings	Ongoing	Ongoing	Expansion of the use of bio-diesel by County Council Fleet vehicles. Encouraging the uptake of clean, low carbon vehicles and fuels, including increasing the availability of low carbon fuels locally. Development of a safer driving policy for County Council staff, including fleet and lease drivers, that teaches and promotes safer eco-driving techniques.	Low/Low
B4	Ensure that air pollution from WDDC's own activities is reduced by <ul style="list-style-type: none"> Continuing drive to better fuel efficiency, engine emission standards and emission controls on council owned and leased vehicles Monitoring the implementation of the Carbon Management Plan to reduce emissions 	WDDC	WDDC Carbon Management Plan	Reduce pollution from WDDC vehicles. Additional travel time	Ongoing	Ongoing	Through the CMP a car share scheme between West Dorset and Weymouth Councils has been implemented. Other actions include the use of pool cars and bicycles for staff and flexible working practices.	Low/Low

No	Action	Lead agency	Linked strategies	Impacts	Planning Phase	Implementation Phase	Progress in the last 12 months	Cost/benefit
	resulting from both business travel and travel to work.							
B5	Continue promoting Carsharedorset	DCC	LTP3	Potential for reduced car ownership Reduced CO ₂ emissions Potential financial savings for users	N/A	Ongoing	DCC are continuing to promote carsharedorset and currently have over 3000 members and will be integrated with TravelDorset. In July 2012 money was awarded from the LSTF to promote CSD on the Weymouth-Dorchester corridor. Roadside boards currently being renewed and a radio campaign will be undertaken.	Low/Low
B6	To explore working with larger vehicle operators in Dorchester to explore the feasibility of improving their own emissions and minimise vehicle movements.	DCC WDDC	LTP3 2011 Freight Strategy	Reduce traffic in the town centre Reduced CO ₂ emissions	2013	2014	The Freight Strategy encompasses an overall but does not specifically target Dorchester. Due to the Olympics in 2012, work in this area has postponed. However, WDDC will be engaging with businesses that operate larger vehicles in 2013-14. This will be explored with DCC as part of DTEP.	Medium/Low
Use Statutory and other powers to limit impact of Air Pollution								
C1	Take account of air quality issues in tendering process (where relevant)	DCC/W DDC		Protect air quality when letting contracts for goods and services	Ongoing	Ongoing	WDDC includes environmental performance in their procurement policy and practices	Low/Low

West Dorset District Council

No	Action	Lead agency	Linked strategies	Impacts	Planning Phase	Implementation Phase	Progress in the last 12 months	Cost/benefit
C2	Refer to AQMA as an issue in developing the Local Development Framework and in bringing forward Local Transport Plan improvement schemes	WDDC (DC)	Local Development Strategy Local Plan	Reduce the potential for increased air pollution from development	2012-2013	2014	The current joint West Dorset District Council and Weymouth & Portland Borough Council Local Plan contains policies covering air quality was adopted by the council in October 2015. This Local Plan sets out a long term planning strategy for the area up to the year 2031 and includes detailed policies and site proposals for housing, employment, leisure and infrastructure. DTEP is included in the Local Plan.	Low/Low
C3	Ensure that the AQMA is taken into account as a material consideration in development control.	WDDC (DC)	WDDC Local Plan	Reduce the potential for increased air pollution from development	Ongoing		Air Quality is a material planning consideration and is referred to in the current Local Plan.	Low/Low
C5	To continue to monitor for NO ₂ in High East Street and Dorchester until the annual objective has been met and the AQMA revoked.	WDDC (EH)		Provide good air quality information. Be able to target specific areas of concern	Ongoing	Ongoing	Monitoring continues and there are no intentions to make any changes.	Low/Low

8.2 Chideock Air Quality Action Plan Progress Report 2015

There have been no changes to the Chideock Action Plan for 2015.

Table 8.2 Chideock Action Plan Progress Report

No.	Action Required by Plan	Lead Agency	By...	Progress in the last 12 months	Cost/benefit
1	Detailed modelling of HGVs going through Chideock, including various HGV reduction scenarios.	DCC/WDDC	Completed June 11	Detailed air quality modelling concluded that removal the larger HGVs (A5 and A6) would reduce NO ₂ concentrations by approx 18%	Low/Low
2	Seek to secure voluntary agreement with Freight Transport Association (FTA) to encourage HGVs from using A35.	HA	2013	In 2011 the HA undertook a reliability study of using the alternative route – M3/A303. The findings have been sent to the FTA. Meetings are ongoing with all parties to secure this voluntary agreement.	Low/High
3	Questionnaire to all members of the FTA to find out who uses the A35 and what would encourage them not to use the A35	HA	2012 Completed	Questionnaire sent out. 73% responded out of these use the A35 for local deliveries, cost and time were the major factors to encourage using the alternative route.	Low/Low
4	Check routes taken by continental HGVs,	HA	2011 completed	Study undertaken by WDDC showed 27% HGV traffic not local, to target this group.	Low/Low
5	Review reliability of M3 / A303 and A31 / A35 routes between Southampton and Honiton (Issues: distance, journey times, fuel costs, carbon emissions).	HA	2013 Completed	<p>Review has been completed. The results of the study concluded that: the A303 route is approximately 27 miles longer, the average journey times are very similar, ranging from 120 minutes to 127 minutes (this is an average for all vehicles).</p> <p>Over the 12 month period April 10 – March 11, the A303 route has shown to be more reliable, with 82-83% of journeys 'on time', compared with 77-79% of journeys via the A31/A35.</p>	Low/Low

No.	Action Required by Plan	Lead Agency	By...	Progress in the last 12 months	Cost/benefit
				<p>The alternative route could be approximately £20 cheaper for a freight vehicle on a return trip</p> <p>Although the M3/A34/A303 is longer, the differences in the nature of the two routes mean that the M3/A34/A303 may have lower fuel consumption, which impacts upon the cost.</p>	
6	Publicity campaign to encourage HGVs from using the A35	HA	Ongoing	An attempt has been made to ask the RHA to re publicise the points in action 5, however this has not been done as yet. This has also been suggested to the Parish Council that they also contact the RHA,	Low/Low
7	Voluntary HGV Survey to be undertaken in Chideock	HA	2011	Undertaken by WDDC. Identified the majority of HGV's driving through the village were local, however 27% were trans-regional.	Low/Low

9 Conclusions and Proposed Actions

9.1 Conclusions from New Monitoring Data

Monitoring data for 2014 continues to show exceedences of the nitrogen dioxide annual mean in areas of Dorchester, Chideock and Bridport. The areas in Dorchester and Chideock have been declared AQMA's and have ongoing action plans in place to reduce the nitrogen dioxide levels here. There are no plans to alter these AQMA's.

The area of East Road, Bridport also exceeds this objective and there is one residential property within the exceedance area. However, the Council resolved in 2011 not to declare here but to continue monitoring to check future levels of NO₂ here. There are no plans to review this decision at present.

There have been no hourly mean exceedences throughout the district.

9.2 Proposed Actions

The Updating and Screening Assessment has not identified any need to proceed to any detailed assessments. Monitoring for nitrogen dioxide will continue in 2015 and new monitoring data will be reported on in the 2016 progress report.

10 References

- Local Air Quality Management Policy Guidance LAQM.PG (09). February 2009. Published by Defra in partnership with the Scottish Government, Welsh Assembly Government and Department of the Environment Northern Ireland.
- Local Air Quality Management Technical Guidance LAQM.TG (09). February 2009. Published by Defra in partnership with the Scottish Government, Welsh Assembly Government and Department of the Environment Northern Ireland.
- The Local Transport Plan 3 2011- 2026, Dorset County Council
- Travel Choice – www.dorsetforyou.com/travelchoice
- West Dorset Climate Change Strategy
- West Dorset District Council Carbon Management Plan (CMP)
- West Dorset District Council Updating and Screening Assessment 2009.
- West Dorset District Council Chideock Air Quality Action Plan 2009
- West Dorset District Council Progress Report 2010.
- West Dorset District Council Dorchester Air Quality Action Plan 2011
- West Dorset District Council Progress report and Detailed Assessment 2011
- West Dorset in Profile – Key facts & figures about the community – Dorset County Council
- West Dorset Local Plan 2006

Glossary

AQMA	Air Quality Management Area
AQO	Air Quality Objective
AURN	Automatic Urban and Rural Network
CPC	Chideock Parish Council
DCC	Dorset County Council
Defra	Department of environment, food & rural affairs
DfT	Department of Transport
DTEP	Dorchester Transport & Environment Plan
HA	Highways Agency
LA	Local Authority
LAQM	Local Air Quality Management
LPT3	Local Transport Plan 3
NO₂	Nitrogen Dioxide
NO_x	Nitrogen Oxides
PG(09)	Policy Guidance 2009
PM₁₀	Particulate Matter <=10 µm
PM_{2.5}	Particulate Matter <=2.5 µm
TG09	Technical Guidance 2009
USA	Updating and Screening Assessment
WDDC	West Dorset District Council
µg/m³	Microgrammes per cubic metre

Appendices

Appendix A: QA/QC Data

Appendix B: Long Term Monitoring in West Dorset

Appendix A: QA/QC Data

Diffusion Tube Bias Adjustment Factors

Gradko International Limited supply and analyse the diffusion tubes, which are a preparation of 50% TEA (triethanolamine) / Acetone. To improve the accuracy of the diffusion tube results and to minimise any potential errors, West Dorset co-locate three diffusion tubes (coded 735, 736, 737) with the inlet of the continuous monitoring equipment at the A35 Roadside site in Chideock. The results of these tubes can be assessed against the ratified data from the continuous NO_x analyser and a local bias-adjustment factor calculated which is then applied to the annual diffusion tube results. The calculation is summarised in Table A.1.

Table A.1 – Summary of Bias Adjustment – Roadside

Diffusion Tubes Measurements										Automatic Method		Data Quality Check	
Period	Start Date dd/mm/yyyy	End Date dd/mm/yyyy	Tube 1 µgm ⁻³	Tube 2 µgm ⁻³	Tube 3 µgm ⁻³	Triplicate Mean	Standard Deviation	Coefficient of Variation (CV)	95% CI of mean	Period Mean	Data Capture (% DC)	Tubes Precision Check	Automatic Monitor Data
1	03/01/2014	04/02/2014	10.8	11.0	11.2	11	0.2	2	0.4	9.22	100	Good	Good
2	04/02/2014	05/03/2014	8.0	7.3	9.0	8	0.9	11	2.2	7.41	100	Good	Good
3	05/03/2014	02/04/2014	13.2	14.6	13.2	14	0.8	6	2.1	14.32	100	Good	Good
4	02/04/2014	01/05/2014	15.9	13.9	13.6	14	1.2	8	3.0	10.07	100	Good	Good
5	01/05/2015	29/05/2014	11.7	11.1	11.5	11	0.3	3	0.8	9	100	Good	Good
6	29/05/2014	04/07/2014	11.3	10.8	11.1	11	0.3	2	0.7	9	100	Good	Good
7	04/07/2014	31/07/2014	12.0	12.3	12.3	12	0.2	2	0.5	11	100	Good	Good
8	31/07/2014	28/08/2014	13.0	13.4	13.0	13	0.2	2	0.6	10	100	Good	Good
9	25/08/2014	01/10/2014	14.6	14.2	15.3	15	0.6	4	1.5	15	100	Good	Good
10	01/10/2014	27/10/2014	8.4	9.4	9.3	9	0.6	6	1.4	12	100	Good	Good
11	27/10/2014	03/12/2014	15.5	16.4	15.7	16	0.5	3	1.1	15.89	100	Good	Good
12	03/12/2014	12/01/2015	12.5	11.0	12.7	12	0.9	8	2.3	14.15	100	Good	Good
13													

It is necessary to have results for at least two tubes in order to calculate the precision of the measurements

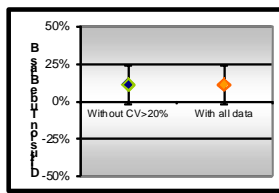
Site Name/ ID:

Accuracy (with 95% confidence interval) without periods with CV larger than 20%
Bias calculated using 12 periods of data
Bias factor A 0.93 (0.83 - 1.05)
Bias B 8% (-5% - 21%)
Diffusion Tubes Mean: 12 µgm⁻³
Mean CV (Precision): 5
Automatic Mean: 11 µgm⁻³
Data Capture for periods used: 100%
Adjusted Tubes Mean: 11 (10 - 13) µgm⁻³

Precision **12 out of 12 periods have a CV smaller than 20%**

Accuracy (with 95% confidence interval) WITH ALL DATA
Bias calculated using 12 periods of data
Bias factor A 0.93 (0.83 - 1.05)
Bias B 8% (-5% - 21%)
Diffusion Tubes Mean: 12 µgm⁻³
Mean CV (Precision): 5
Automatic Mean: 11 µgm⁻³
Data Capture for periods used: 100%
Adjusted Tubes Mean: 11 (10 - 13) µgm⁻³

Overall survey --> **Good precision** **Good Overall DC**
(Check average CV & DC from Accuracy calculations)



Jaume Targa, for AEA
Version 04 - February 2011

The default national bias adjustment factor (version September 2015) taken from the LAQM Helpdesk website was 0.98.

Discussion of Choice of Factor to Use

The national correction factor of 0.98 was used for 2014 data for all areas other than Chideock, where a local co-location study gave a correction factor of 0.93. Although this is slightly more conservative than the national adjustment factor it was considered to be more representative due to the unique location and topography of Chideock.

QA/QC of Automatic Monitoring

The Automatic Analyser is serviced and maintained by Air Monitors Ltd. The Local Authority undertake regular checks of the analysers by accessing the software 2-3 times per week to review if any error messages are showing. Physical visits to the analyser are undertaken each month for filter changes etc.

Air Monitors also monitor the analysers remotely and contact the Local Authority if there are any unusual readings.

The analyser undergoes automatic calibration. Data are screened regularly for any spurious results, which are then removed and the data ratified. Any possible drift in the analyser daily calibration can be identified and adjusted and correction factors applied if they are needed. Both raw and ratified data is available.

QA/QC of Diffusion Tube Monitoring

The diffusion tube monitoring programme follows the NETCEN methodology. Diffusion Tubes are supplied and analysed by Gradko International Limited, who are UKAS accredited. Gradko International Limited, supply and analyse the diffusion tubes, which are a preparation of 50% TEA (triethanolamine) / Acetone. The tubes are handled in accordance with the instructions within Technical Guidance LAQM.TG (09) Box A1.7.

West Dorset District Council

Gradko International demonstrated a satisfactory performance, rating good, in the Workplace Analysis Scheme for Proficiency (WASP) for analysis of NO₂ diffusion tubes in 2014.

Appendix B: Long Term Monitoring in West Dorset

Site	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
DORCHESTER																	
High West Street 2 (721)														32.8	34.7	30.84	31.0
High West Street 1 (711)	40.8	37.1	36.0	40.9	41.9	40.4		42.0		40.1	37.5	41.1	41.9	44.6	41.8	38.73	38.4
Tesco (712)			23.4	28.4	27.4		28.8	30.7	23.2	27.7	26.9	28.9	26.8				
Trinity Street (712)														32.9	31.4	30.85	32.1
High East Street 2 (713)												42.9	38.2	39.6	34.1	32.91	34.4
High East Street 1 (714)						34.9	34.5	35.2	33.0	37.7	43.5	39.2	43.0	46.2	40.6	42.06	42.3
High East Street 1 (731)														44.9	41.6		
High East Street 1 (732)														43.2	40.5		
Monkey's Jump Roundabout			24.3	29.8	32.5	34.9	27.1	32.3	28.1	29.4	30.2						
Maumbury Road (716)															33.4	32.7	30.7
The Grove (715)															38.3	32.93	36.1
Church Street (718)															25.9	21.23	22.4
Bridport Road (719)															28.2	25.99	22.7
Borough Gardens (720)															16.2	12.58	13.0
CHIDEOCK																	
Duck St (724)					39.1	45.3	39.8	47.6	36.0	43.6	45.5	41.7	44.3	50.9	43.0	45.8	45.2
George Pub (725)										34.5	32.0	32.7	31.5	33.5	31.0	30.7	28.5
Village Hall (726)										41.4	41.0	39.3	41.6	47.5	43.0	50.5	49.5
Duck St 2 (715)														13.9			
Post Office (735)														13.6	15.3	13.8	14.1
Post Office (736)														14.1	15.4	13.7	13.4
Post Office (737)														14.1	15.5	13.7	13.9
Hope Cottage (722)															20.0	21.8	24.3
Church (723)															26.0	25.7	25.1

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Site	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Whitecroft (727)															50.0	51.5	53.3
Warren House (728)															28.0	29.7	27.9
Real Time Monitor															15.4	13.6	
BRIDPORT																	
East Road 1 (717)	34.2	35.8	28.5	37.4	34.5	37.9	34.1	47.4	37.9	49.6	48.4	51.3	55.1	57.1	55.4	43.11	43.7
Bridport 2		12.9	11.8	12.4	11.8	18.1	12.3	12.5	11.9	13.7	10.9						
West St (718)												33.8	28.6	28.7			
South St (719)										30.7	28.2	31.1	29.5	30.1			
East Road 2 (730)												38.8	40.0	41.0	47.65	57.45	56.6
East Road (731)																34.91	35.2
Askers Mead (732)																31.74	31.1
East Road 3 (733)														43.3	26.45		
East Road 4 (734)														51.4	31.33	28.52	32.5
LYME REGIS																	
Lyme Regis 1	19.4	20.5	12.9	14.6	14.4	18.1	12.6	14.7	10.8								
Church St (722)												27.7	25.9	27.2			
Broad St (723)										28.0	31.6	36.1	27.6	29.8			
Lyme 2			8.3	14.5	11.3	16.3	10.3	12.4	8.7								
BEAMINSTER																	
Beaminster/Beam 1	24.3	22.7	19.7	18.7	18.5	28.4	22.5	28.3	19.3	26.7	24.1	24.1	24.5	24.9			
Beaminster 2			10.6	10.7	11.3	14.5	9.9	10.7	8.3								
SHERBOURNE																	
Green Hill (727)	43.5	45.7	36.0	36.5	37.1	38.3	30.5	35.2	26.6	31.6	31.8	31.2	30.0	33.0			
Westbury (728)			19.3	19.6	19.7	23.0	18.0	19.4	15.4	19.5	16.6	22.4	17.1	21.4			
OTHER																	
Chickerell				19.2	21.1	25.2	18.5	21.0	14.8	17.4	13.8	14.0					
Abbotsbury			8.9	10.9	10.4	13.5	9.4	16.1	12.3	20.2	21.1	21.6	18.9	19.6			

West Dorset District Council

Site	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Cerne Abbas			8.8	12.8	11.2	15.3	12.3	11.7	9.1								
Maiden Newton			12.6	17.9	15.2	19.1	16.2	22.0	15.4	19.6	19.0	16.4	17.0				
Puddletown	37.1	34.5	30.8	14.2	18.7												
Broadmayne			12.7	15.6	15.8	18.4	17.1	16.6	11.8								