



WEST DORSET DISTRICT COUNCIL

Local Air Quality Management

Draft Air Quality Action Plan

Dorchester

April 2011

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Executive Summary

This Air Quality Action Plan (AQAP) is a statutory document, which is a requirement under Part IV of the Environment Act 1995. The requirement to produce this AQAP follows a process of review and assessment of the air quality within West Dorset, which concluded that the national UK air quality objectives would not be met for nitrogen dioxide (NO₂). An Air Quality Management Area (AQMA) was declared in May 2009 for High East Street Dorchester as the annual mean objective for NO₂ is exceeded here due to road traffic emissions. West Dorset has one other AQMA in Chideock. This was declared in May 2007 for similar reasons and a separate Action Plan has already been developed and progressed here.

Action planning is the most important part of the local air quality management (LAQM) process and provides a practical opportunity for local authorities to improve the local air quality where the National Air Quality Objectives (AQO) will not be met by national measures alone. Action plans also play a key role in helping the Government deliver the European Union limit values, which are legally binding

This AQAP details actions to be taken within given timescales to reduce the annual mean NO₂ levels within the AQMA to below the annual AQO of 40µg/m³. There are actions to manage road traffic and reduce vehicle emissions as well as a few other non-direct measures to manage air quality within Dorchester. The main action involves the implementation of the Dorchester Transport and Environment Plan. This will improve traffic flows in High East Street and create a one way system through High West Street as part of a wider scheme to reduce traffic flows in High West and High East Street by 18%.

1. Introduction

Dorchester is the County Town of Dorset and lies at the junction of the A35 South Coast Trunk Road and the A37 to Yeovil to the north. It is a historic market town and both the head offices of Dorset County Council and West Dorset District Council are located here. The town has a population of just over 16,000 (2001 census). The predominant source of NO₂ emissions is from road traffic. There are no significant industrial point sources in the vicinity of the sampling locations.

1.1 High East Street, Dorchester

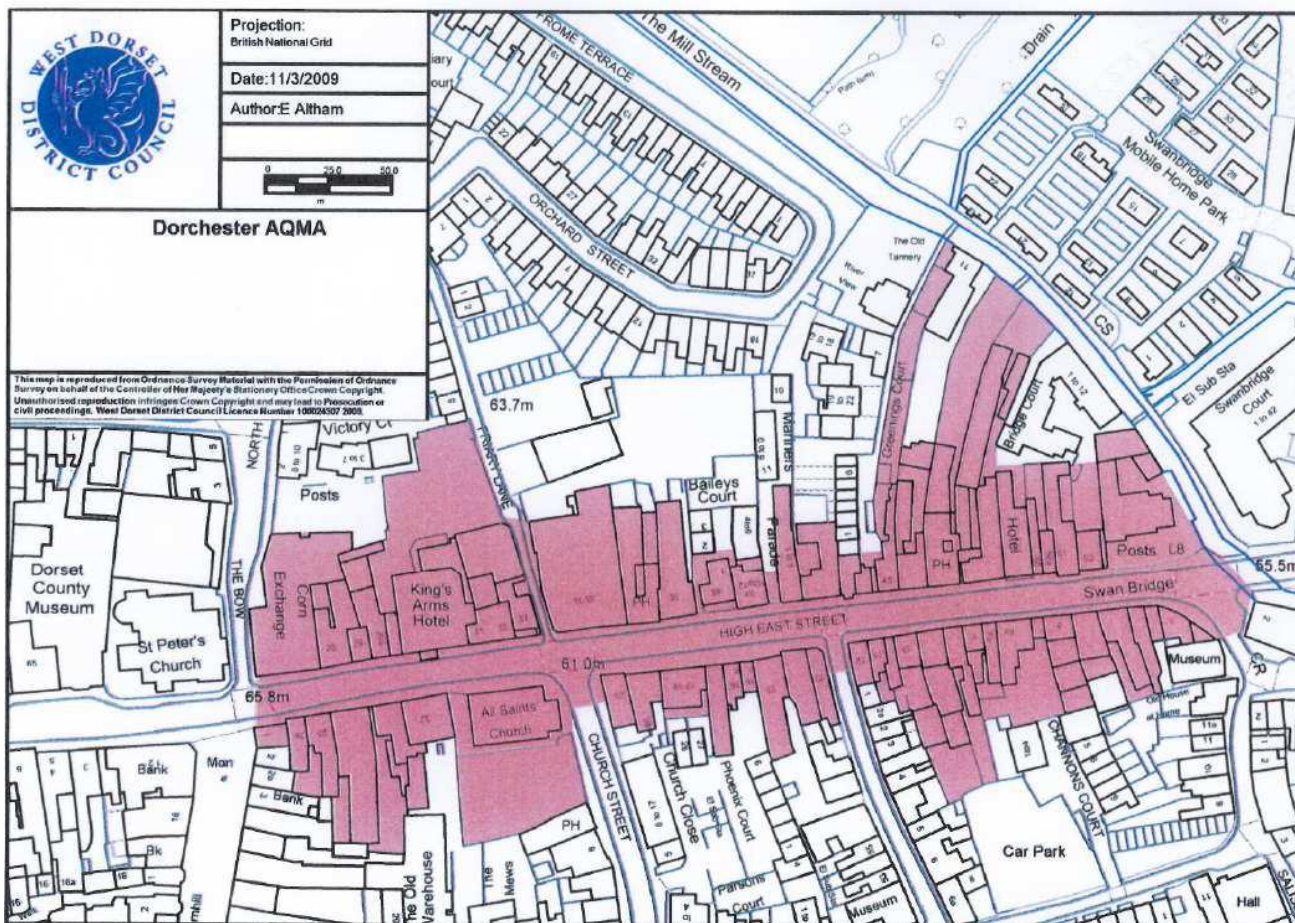
High East Street is part of the main route through Dorchester's town centre. There is an annual average of daily traffic (AADT) of approximately 14500 vehicles. The road is on a moderate incline and experiences congestion and slow moving traffic particularly during the peak periods. Either side of the road is a mixture of residential and commercial properties. The buildings here are tall on either side, creating a canyon effect where the pollution is not able to disperse effectively.

An AQMA was declared along High East Street, in May 2009 as the NO₂ annual mean objective was exceeded at residential properties. The AQMA boundary can be seen in figure 2. High East Street continues into High West Street where pollution levels have also exceeded the annual mean objective for NO₂. However there are only commercial properties along High West Street and therefore no relevant receptors. It was decided after further assessing the AQMA that the boundary did not need to be extended to include High West Street.

Figure 1: High East Street, Dorchester



Figure 2: AQMA Boundary High East Street Dorchester



1.2 Purpose of the Action Plan

The purpose of the Action Plan is to provide the means through which a local authority, through joint working with relevant stakeholders such as Dorset County Council (DCC) and other relevant organisations, can deliver viable measures that will work towards achieving the AQO within an AQMA and the potential costs and benefits of these measures. The aim is also to encourage active participation in the achievement of action plan measures by consulting the local community and raising awareness of air pollution issues.

2. What is Nitrogen Dioxide?

The pollutant of concern in Dorchester is nitrogen dioxide (NO₂) and arises from emissions of nitrogen oxides (NO_x) from combustion processes such as vehicle engines. NO_x includes NO₂ and nitric oxide (NO). When mixed with air some of the NO is converted into the pollutant NO₂. Both are referred to as nitrogen oxides (NO_x). Reductions in NO_x emissions need to be made in order to reduce NO₂ concentrations in the air. Improvements in NO₂ pollution concentrations should therefore be expressed in terms of equivalent NO_x level emissions, which in turn can be linked to traffic generated NO_x emissions.

2.1 Why is it of concern?

NO₂ is a brown gas that acts as an irritant to the eyes, nose, throat and respiratory tract. It can have both short-term 'acute' effects and long-term 'chronic' effects.

2.2 Short-term effects of NO₂

The short-term 'acute' effects are irritation of the eyes, nose and throat and an increase of the symptoms of existing respiratory conditions such as asthma, bronchitis or emphysema. Because of the short-term health impacts the government has set a short-term hourly air quality objective (Appendix 2). In West Dorset the short-term concentrations of NO₂ are unlikely to give rise to acute health impacts even amongst the most vulnerable.

2.3 Long-term effects of NO₂

The long-term 'chronic' effects of nitrogen dioxide are associated with a gradual deterioration in the health of people who are already suffering from lung diseases, and an increased susceptibility to respiratory infections. Due to these debilitating health effects of long-term exposure the government has also set a long-term annual average objective for NO₂. (Appendix 2).

3. Further Assessment of Air Quality

Local Authorities have a duty to undertake a further assessment of Air Quality within 12 months of declaring an AQMA. The Further Assessment aims through considering both monitored and modelled data; -

- to confirm the original assessment of air quality in the AQMA against the prescribed objectives;
- to calculate more accurately how much of an improvement in air quality would be needed to deliver the air quality objectives within the AQMA;
- to refine knowledge of the sources of pollution so that air quality action plan measures can be properly targeted;

The information from the further assessment is required to assist the preparation of the Action Plan measures for the AQMA in order that the measures may be targeted and focused, thereby prioritising the most cost-effective approach to reducing air pollutant concentrations in the AQMA.

The Further Assessment of High East Street was undertaken by Bureau Veritas on behalf of WDDC. This assessment was completed and approved by Defra in August 2009 and can be found on our website at www.dorsetforyou.com/airquality/dorchester

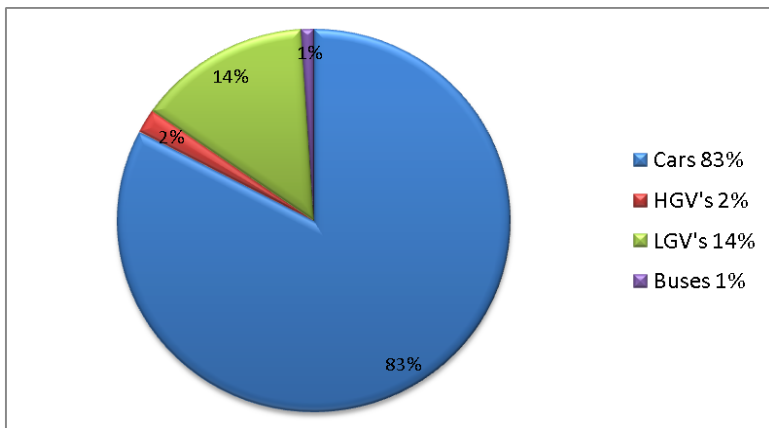
The main findings of the assessment were:

- Monitoring data shows exceedences of the annual mean NO₂ objective within the current AQMA boundary. There are also exceedences outside of the AQMA boundary but not at any location relevant of public exposure where people live.
- Modelling results supplement the monitoring data and show that there is no need to extend the AQMA boundary; however it is recommended that monitoring continue outside the AQMA boundary to demonstrate concentrations here do not exceed the objective in the future.
- A 23% reduction in NO_x concentrations would be necessary to comply with the AQS objectives. This equates to a 14% decrease in NO₂ concentrations.
- NO_x from road traffic represents 85% of the total NO_x concentration, essentially due to cars and heavy-goods vehicles (HGVs) on High East Street.

3.1 Source apportionment & predicted measurements

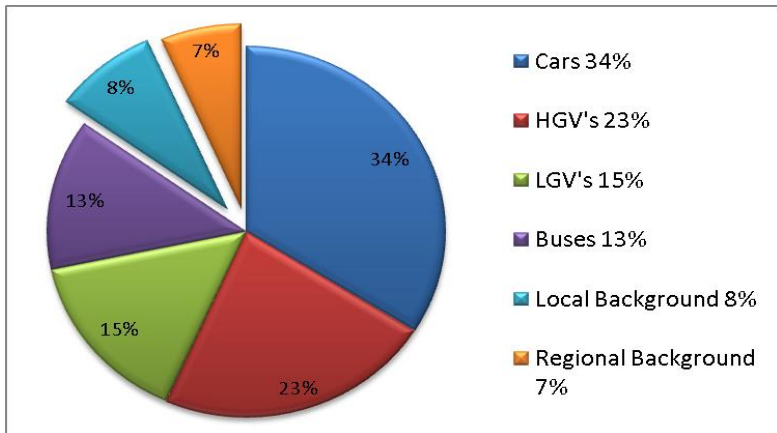
The charts below show the 2008 annual average daily composition (AADT) of the vehicle fleet through High East Street and the contribution of NO_x to each category represents. Traffic data was provided by Dorset County Council for the year 2002 and traffic flows were projected to the years of assessment 2008 and 2010 using the TEMPRO DfT model 9. The predicted traffic volume in High East Street for 2008 was approximately 14500 AADT.

Chart 1: Approximate AADT vehicle fleet composition on High East Street, Dorchester in 2008



The traffic breakdown in High East Street shows that cars are by far the highest proportion of the vehicle fleet; they represent 83% of the traffic. Compared to just 2% for HGV's

Chart 2: % contribution of total NO_x emissions from road traffic in High East Street, Dorchester in 2008



However the contribution of HGV's to the total NO_x concentrations is quite significant, (23%), compared to the proportion of the vehicle fleet they represent

The source apportionment indicates that:

- Road traffic emissions are the main contributor to NO_x, as they account for 85% of the total NO_x concentrations at receptors;
- Of the road traffic sources, cars and heavy-goods vehicles (HGVs) are significant contributors, as they account for 31-36% and 20-24% respectively of the total NO_x concentrations at receptors. The contribution of HGVs to the total NO_x concentrations is quite significant especially if compared to the proportion of the vehicle fleet they represent (1-2% of overall traffic);

- Light goods vehicles (LGVs) contribute around 15-16% to the total NO_x concentrations at receptors;
- Buses contribute around 11–14% to the total NO_x concentrations at receptors
- Background concentrations account for 14% to 17% of the total NO_x concentration at receptors, with 6 -7% due to regional background concentrations outside the local authority's influence;
- Similar to NO_x, the source apportionment of NO₂ indicates road traffic emissions to be the most significant contributor, contributing 67 - 70% to overall NO₂ concentrations. Of these, cars and HGVs are the biggest contributors, accounting for 25-30% and 17-19% respectively of the overall NO₂ concentration.

The Actions in this plan will ideally need to collectively contribute to a reduction in NO_x and NO₂ emissions by 23% and 14% respectively to meet the annual mean AQO for NO₂ in High East Street Dorchester.

4. Predicted NO₂ Levels

Technical Guidance (LAQM.TG(09)) advises local authorities to predict measured concentrations to future years. These projections are based on the Pollution Climate Modelling studies carried out on behalf of Defra and take full account of current understanding of the expected changes in sector-based emissions up until 2020. They also take account of the expected changes to primary NO₂ emissions.

Table 1 below shows the 2009 bias adjusted diffusion tube results for High East Street and projections to 2015 using the LAQM TG (09) calculations provided.

Table 1: Predicted nitrogen dioxide results for High East Street, Dorchester

Site	2009 annual mean Bias adjusted ($\mu\text{g m}^{-3}$)	Predicted to 2010 ($\mu\text{g m}^{-3}$)	Predicted to 2013 ($\mu\text{g m}^{-3}$)	Predicted to 2015 ($\mu\text{g m}^{-3}$)
High East Street Dorchester				
713	39.6	37.89	33.44	30.67
714	46.2	44.21	39.03	35.79

The predictions show that the annual objective for NO₂ should be met by 2013. However recent analyses of historical monitoring data undertaken by Defra have identified a disparity between the measured concentrations and the projected decline in concentrations associated with the emissions forecasts. Preliminary studies suggest that:

- NO_x emissions from **petrol** vehicles appear to be in line with current projections and have decreased by 96% since the introduction of the 3 way catalysts in 1993;
- NO_x emissions from **diesel cars**, under urban driving conditions, do not appear to have declined substantially, up to and including Euro 5.
- NO_x emissions from **HGV** vehicles equipped with SCR reduction are much higher than expected when driving at low speeds.

Defra acknowledge that this disparity in the historical data highlights the uncertainty of future year projections of both NO_x and NO₂, but advise at this stage there is no robust evidence upon which to base any revised road traffic emissions projections.

As there is this uncertainty between predicted and monitored levels, WDDC is committed to producing an action plan to help improve air quality in Dorchester and the District as a whole. The predictions will be reviewed once further information and guidance has been published by Defra. Further information can be found at:

www.defra.gov.uk/environment/quality/air

5. What's being done already?

There are a number of existing policies and strategies at the local and regional level that can be tied in directly with the aims of the AQAP, and will help contribute to overall improvements in air quality across the District.

5.1 Draft Local Transport Plan 3 2011- 2026

The Local Transport Plan (LTP) is a statutory document which sets out a strategy for the management, maintenance and development of the County's transport system. It sets out a way forward to deliver transport needs through short, medium and long term transport solutions and how transport can improve safety and health, support the local economy, protect the environment and reduce carbon emissions and pollution. The draft LTP3 will supersede the LTP2 and will be published by March 31st 2011. It is proposed that the LTP3 will be based on a longer term strategy (2011 - 2026) and shorter term implementation plan(s) (3 yrs).

The key actions under the Draft LTP3 that relate to air quality and the environment are:

- *Minimise the need to travel by supporting the planning system to build sustainable communities where people live near services, employment, education and leisure opportunities;*
- *Leading by example in the Public Sector by instigating transport carbon reduction programmes and assisting major public services (Local Authority, schooling and health) to provide their services as close to the client group as possible;*
- *Strongly encourage people to choose low carbon travel modes by improving urban centres for walking, cycling and public transport complemented by effective demand management measures;*
- *Help individuals and businesses to consider and assess the carbon impacts of meeting their transport needs and change their travel behaviour accordingly through "Smarter Choices"³ measures;*
- *Facilitate walking and cycling especially for children and young people to ensure a significant increase in these modes for short trips;*
- *Significantly increase the proportion of journeys undertaken by public transport within the major urban centres and the hinterland of market towns;*
- *Promote the adoption of low carbon fuels and vehicle technologies in the domestic, business and HGV fleet;*
- *Identify and implement measures to reduce carbon emissions associated with leisure travel and tourism in Dorset;*
- *Encourage efficient and low carbon use of the car in areas of poor accessibility by walking and cycling & public transport;*
- *Maximise the efficiency of the existing Highways Network through the deployment of Intelligent Transport Systems (ITS)⁴;*

- *Manage and adapt the Highways network and Structures to reduce vulnerability to the direct physical impacts of climate change*
- *Monitor and report on carbon emissions from transport*

5.2 West Dorset Local Plan 2006

The Council's adopted local plan (2006) provides the starting point for the local Community to find out what our current planning policies are for the area. Current policies in the plan that relate to air quality are:

POLICY TRAN12 TRAVEL PLANS

Development likely to have significant transport implications should provide a travel plan demonstrating practical measures for achieving sustainable transport objectives.

POLICY TRAN8 CYCLISTS AND PEDESTRIANS

All new development will be expected to take account of the needs of cyclists and pedestrians either by the direct provision or by contribution to new routes or links to existing routes within or adjoining a settlement. Such routes should provide a safe, convenient, direct and attractive environment to the cyclist or pedestrian. Where conditions allow, a choice of routes should be provided to increase the trip potential.

5.3 Nottingham Declaration

In 2007 West Dorset District Council signed up to the Nottingham Declaration. The Nottingham Declaration is a voluntary pledge for local authorities to address the issues of climate change. It represents a high-level, broad statement of commitment for a council to make to its community. It now has over 300 councils as signatories. Under the Nottingham Declaration the council is committed to producing a strategy to reduce carbon emissions and the impact of climate change.

5.4 The West Dorset Climate Change Strategy

WDDC's Climate Change Strategy was implemented in October 2009. This Strategy aims to help residents, businesses and other organisations reduce their carbon emissions by 30% by 2020 from 2005 levels and include targets and actions on reducing emissions from transport and travel. These actions can be viewed on the Dorsetforyou website at:

www.dorsetforyou.com/climatechange/west

5.5 West Dorset District Council Carbon Management Plan (CMP)

West Dorset District Councils CMP was approved in March 2010. This plan sets targets for the reduction of carbon dioxide emissions from WDDC activities and outlines the project structure enabling those targets to be achieved.

5.6 Travel Choice

This is a County wide initiative to raise awareness about the impacts of travel behavior and to encourage people to make an informed decision about journeys they make. For example promoting European Mobility Week, 'Get (back) on your bike!', an initiative to encourage people to cycle more, promoting cycling events and providing training for adults wanting to get back on their bikes This initiative also promotes Car Share Dorset, an online tool to encourage and facilitate car sharing by matching journeys, run jointly by Dorset County Council and Bournemouth and Poole Borough Councils. More information can be found at: www.dorsetforyou.com/travelchoice

6. Financing

Dorset County Council has allocated funding to a number of schemes in West Dorset that tie in with Action Plan measures to improve air quality in the area, such as, traffic management measures and encouraging the uptake of travel plans.

Annual funding for development of Quality Bus Partnerships, Safer Routes to School, Cycle Strategy and Walking Strategy are being made available through the LTP. WDDC will work together with DCC to review current schemes for the area in the light of the declaration of the AQMA in High East Street. Additional schemes will be implemented where possible to secure further improvements in air quality.

7. The Consultation

Under Schedule 11 of the Act, Local Authorities are required to consult on their draft LAQM Action Plan. It is important for the success of the Action Plan to have involvement by all local stakeholders including local residents. Notably Dorset County Council (DCC) is the relevant transport authority for High East Street and will work jointly with WDDC on transport and other measures within the District. County Councils have a duty under section 86 (3) of the Environment Act 1995 to put forward proposed actions which they themselves can implement to work towards meeting the air quality objectives in AQMAs. DCC should include these measures within the Local Transport Plan (LTP).

In November 2010 we initially consulted the following organisations prior to consulting with Residents and Businesses. A summary of their comments is given in the table below and the plan was updated where appropriate.

- Highways Agency
- Dorset County Council
- Environment Agency
- Primary Care Trusts
- Neighbouring Local Authorities
- Dorchester Town Council

Following the initial consultation we consulted the public as well as the above organisations on the updated plan in February 2011. We also consulted the Chamber of Commerce and Business Improvement District, (BID) Dorchester. A copy of the plan was put on the Council's website and hard copies were made available to view at the local library in Dorchester as well as the council offices. A number of articles in the papers highlighted the consultation. We also wrote to all residents and businesses within the AQMA for their comments. A summary of comments received is given in the table below.

Table 2: Summary of comments on the Action Plan

Feedback from Initial Consultation – November 2010		
No	Summary of comments received	The Council's reply
1	The action plan relies too much on DTEP which has been delayed until 2014/15.	The plan relies on DTEP as this is the single action most likely to significantly improve air quality in Dorchester within the next 5 years.
2	Action is needed to improve air quality	There is an annual and 1 hour nitrogen dioxide

	prior to 2014/15 given the unacceptable levels affecting residents and businesses.	<p>objective. The 1 hour objective is not exceeded anywhere in West Dorset. The annual average is only applicable where someone might be exposed for a whole year such as residential property. The AQMA in Dorchester was declared as residents live close to High East Street.</p> <p>Government predications show that with better emission standards the annual objective is unlikely to be exceeded in Dorchester by 2013. (see Chapter 4 for details). DTEP should improve matters further. Given the above and that other actions are unlikely to significantly improve air quality the cost of implementing additional actions prior to 2014/15 would be prohibitive.</p>
3	A meeting with interested parties might be helpful to review the plan.	Officers have met with the Town Council to discuss the plan with them.
4	Roundabout improvements on the A35 Dorchester bypass are unlikely to have any impact on air quality in Dorchester.	Comments are noted and the plan has been amended accordingly.
5	Replacement of the older bus fleet would be a high cost and benefit given costs of replacing the fleet and the potential reduction in pollution respectively.	Comments are noted and the plan has been amended accordingly.
6	Real time car park information will reduce congestion and pollution in Dorchester.	Comments are noted and the plan has been amended accordingly.
7	Only car share vehicles should be able to use the car park at County Hall.	Comments will be referred to Dorset County Council for their consideration.
8	Action to control traffic in Dorchester will slow down traffic but will not improve air quality.	The DTEP scheme should reduce the number of vehicles going through Dorchester as well as altering traffic flows around the Town Centre. Air quality modelling in due course will give an indication of the level of improvements in air quality.
9	Work with the larger vehicle operators in Dorchester to minimise vehicle movements would be sensible.	Comments are noted and the plan has been amended accordingly.
10	The plan should clearly indicate what action is being taken to improve air quality.	Table 2 lists the main actions to be taken including timescales and who will lead in delivering each action. Numerous other ongoing actions by Dorset County Council and West Dorset District Council will inevitably reduce emissions but are unlikely to significantly improve air quality in Dorchester. These are detailed in Section 5 of the plan but not in Table 2.
11	Why is this a draft plan?	Following declaration of the AQMA in May 2009 the Council had a duty to undertake a Further Assessment of air quality in Dorchester. DEFRA advised us that they accepted the assessment late summer 2010. The Council now has a duty to prepare and consult on an action plan in pursuit of the annual nitrogen dioxide objective.

12	Why is High West Street excluded?	High West Street is not within the AQMA as there are no relevant receptors here i.e. no one is likely to be exposed to nitrogen dioxide concentrations above the annual objective for a whole year, see comment 2 above too.
13	Dorchester Town Council would like to be involved in Stakeholder meetings to progress the action plan. Invites should also be sent to Dorchester Business Improvement District (BID) and the Chamber of Commerce.	Comments are noted and these organisations will be invited to attend the meetings.
14	DCC highlighted the following actions they are taking more regionally to improve sustainable transport: <ul style="list-style-type: none"> • Introduction of electric buses • Personalised travel plans • Improvements to the Dorchester-Weymouth transport corridor 	Comments are noted.
Feedback from Further Consultation – February 2011		
No	Summary of comments received	The Council's reply
15	Regional Spatial Strategies have been abolished and reference to them in the plan is not appropriate.	The plan has been amended.
16	Why is reference made to climate change and actions to reduce carbon emissions?	Many actions to limit emissions of carbon will reduce emissions from transport generally and the need to travel so reducing emissions of nitrogen oxides.
17	The plan is a waste of money	The Council is required by law to produce a plan (together with Dorset County Council) to improve air quality within the AQMA in pursuit of the annual objective for nitrogen dioxide.
18	The plan relies on DTEP and there is no certainty that it will ever be implemented	See comment 1 above. West Dorset District Council will work with Dorset County Council to try and secure implementation of DTEP as soon as possible.
19	Implementation of the new park and ride needs to happen as a priority	Comments are noted. Please see action A4 of the plan.
20	Improved signage to encourage the use of the bypass rather than High West/East Street	Comments are noted and the plan has been amended accordingly.
21	Encourage replacement of older buses to new more environmental friendly ones	Comments are noted. Please see action B6 of the plan.

8. Actions

The following section outlines a number of proposed actions in particular those that will have a direct effect on improving the air quality in Dorchester.

8.1 Dorchester Transport and Environment Plan

The main action within the AQAP will be the implementation of the Dorchester Transport and Environment Plan (DTEP). This scheme aims to improve the environmental quality in Dorchester by reducing the negative impacts of traffic in the town. The plan was prepared by consultants Scott Wilson in 2005 and was approved by Dorset County Council, West Dorset District Council and Dorchester Town Council in 2009. This will be the main direct measure to improve the air quality in the AQAP and has been integrated into the draft LTP3 (2011-2016). The scheme includes traffic flow improvements in High East Street and creating a one way system through High West Street as part of the wider scheme and aims to reduce traffic volume through High East and High West Street by approximately 18%. An air quality assessment of this scheme is currently being undertaken as part of the implementation process.

DTEP is planned for implementation in 2014-2015. It was initially due to commence in 2012, however this scheme has now been postponed due to the financial savings Dorset County Council need to make as a result of the Governments Spending Review.

8.2 Air Quality Actions

DTEP and other proposed actions can be found in the table below. The majority of the actions involve direct measures to improve air quality in Dorchester. Whilst non-direct measures are being progressed (see section 5), they have not been detailed in the plan as direct measures will have a much greater significance in reducing NO₂ concentrations in Dorchester.

Table 3 Air Quality Action Plan for Dorchester High East Street AQMA

No	Action	Lead agency	Linked strategies	Impacts	By..	Cost/benefit
Road Traffic Management						
A1	To implement the Dorchester Transport & Environment Plan (DTEP)	DCC	LTP	Reduce air pollution Reduce congestion, Reduce traffic noise Improve safety	Due to commence 2014	High/High
A2	To undertake an air quality assessment of the proposed DTEP scheme	WDDC DCC	LTP	Quantify likely improvements on air quality	2012	Low/Low
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		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	High/Low
A4	To promote and expand, where feasible, the Park & Ride services and investigate the potential for a new site in Dorchester.	WDDC		Reduce traffic in the town centre	2012	Moderate/Moderate
A5	To investigate the improvement of signage to encourage the use of the Dorchester bypass rather than High West/East Street	WDDC/DCC	LTP	Reduce traffic in the town centre Reduce congestion in the High Streets. Reduce pollution	2012	Low/Moderate
Reduce Vehicle Emissions						
B1	Replace older bus fleets with cleaner more efficient buses through the Bus Partnership	DCC	LTP	Reduction in emissions	Ongoing	High/High

	Strategy.					
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	Encourage better use of buses Potentially fewer car journeys Reduced CO ₂ emissions	2012	Moderate/Low
B3	The provision of real-time car park information in Dorchester	DCC WDDC		Reduced journey time Reduced emissions and congestion	2012	Moderate/Low
B4	Ensure that air pollution from DCC's own activities is reduced by <ul style="list-style-type: none"> • 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. • 	DCC	DCC Carbon Management Plan	Reduced CO ₂ emissions Potential financial savings	Ongoing	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 resulting from both business travel and travel to work. Actions include the use of pool cars and bicycles for staff, encouragement of car sharing, and flexible working practices. 	WDDC	WDDC Carbon Management Plan	Reduce pollution from WDDC vehicles. Additional travel time	Ongoing	Low/Low
B5	Continue promoting Carsharedorset	DCC	LTP	Potential for reduced car	Ongoing	Low/Low

				ownership Reduced CO ₂ emissions Potential financial savings for users		
B6	To explore working with larger vehicle operators in Dorchester to explore the feasibility of improving their own emissions and minimise vehicle movements.	WDDC		Reduce traffic in the town centre Reduced CO ₂ emissions		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/WDDC		Protect air quality when letting contracts for goods and services	Ongoing	Low/Low
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	Reduce the potential for increased air pollution from development	Ongoing	Low/Low
C3	Ensure that the AQMA is taken into account as a material consideration in development control.	WDDC (DC)	Local Development Strategy	Reduce the potential for increased air pollution from development	Ongoing	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	Low/Low

KEY:

Stakeholders		
WDDC	=	West Dorset District Council
WDDC (EH)	=	West Dorset District Council Environmental Health team
WDDC (DC)	=	West Dorset District Council Development Control
DCC	=	Dorset County Council
HA	=	Highways Agency

Cost/Benefit
The costs are provided as:
• 'Low' (up to £100,000);
• 'Moderate' (between £100,000 – £1 million);
• 'High' (greater than £1 million).
The benefits are provided as:
• 'Low' (<0.2µg/m ³);
• 'Moderate' (between 0.2 – 1 µg/m ³); and,
• 'High' (greater than 1 µg/m ³).

Appendix 1 Glossary

AADT	Annual Average Daily Traffic
AQMA	Air Quality Management Area
AQAP	Air Quality Action Plan
DCC	Dorset County Council
DEFRA	Department for Environment Food and Rural Affairs
DfT	Department of Transport
Euro Standards	European Auto Oil programme exhaust emission limits for new vehicles.
HA	Highways Agency
HGV	Heavy Goods Vehicle
LAQM	Local Air Quality Management
LGV	Light Goods Vehicle
LTP	Local Transport Plan
NO	Nitrogen monoxide, also termed nitric oxide.
NO₂	Nitrogen dioxide
NO_x	Nitrogen Oxides (a collective term for NO and NO ₂)
TEMPRO	Trip End Model Presentation Programme
µg/m³	Microgrammes per metre cubed

Appendix 2 - National Air Quality Objectives

Pollutant	Air Quality Objective		To be achieved by
	Concentration	Measured as	
Benzene			
All authorities	16.25 $\mu\text{g m}^{-3}$	Running annual mean	31 December 2003
England and Wales Only	5.00 $\mu\text{g m}^{-3}$	Annual mean	31 December 2010
Scotland and N. Ireland	3.25 $\mu\text{g m}^{-3}$	Running annual mean	31 December 2010
1,3-Butadiene	2.25 $\mu\text{g m}^{-3}$	Running annual mean	31 December 2003
Carbon Monoxide			
England, Wales and N. Ireland	10.0 mg m^{-3}	Maximum daily running 8-hour mean	31 December 2003
Scotland Only	10.0 mg m^{-3}	Running 8-hour mean	31 December 2003
Lead			
	0.5 $\mu\text{g m}^{-3}$	Annual mean	31 December 2004
	0.25 $\mu\text{g m}^{-3}$	Annual mean	31 December 2008
Nitrogen Dioxide	200 $\mu\text{g m}^{-3}$ not to be exceeded more than 18 times a year	1-hour mean	31 December 2005
	40 $\mu\text{g m}^{-3}$	Annual mean	31 December 2005
Particles (PM10) (gravimetric)			
All authorities	50 $\mu\text{g m}^{-3}$, not to be exceeded more than 35 times a year	24-hour mean	31 December 2004
	40 $\mu\text{g m}^{-3}$	Annual mean	31 December 2004
Scotland Only	50 $\mu\text{g m}^{-3}$, not to be exceeded more than 7 times a year	24-hour mean	31 December 2010
	18 $\mu\text{g m}^{-3}$	Annual mean	31 December 2010
Particles (PM2.5) (gravimetric) *	25 $\mu\text{g m}^{-3}$ (target)	Annual mean	2020

All authorities	15% cut in urban background exposure	Annual mean	2010 - 2020
Scotland Only	12 $\mu\text{g m}^{-3}$ (limit)	Annual mean	2010
Sulphur dioxide	350 $\mu\text{g m}^{-3}$, not to be exceeded more than 24 times a year	1-hour mean	31 December 2004
	125 $\mu\text{g m}^{-3}$, not to be exceeded more than 3 times a year	24-hour mean	31 December 2004
	266 $\mu\text{g m}^{-3}$, not to be exceeded more than 35 times a year	15-minute mean	31 December 2005
PAH *	0.25 ng m^{-3}	Annual mean	31 December 2010
Ozone *	100 $\mu\text{g m}^{-3}$ not to be exceeded more than 10 times a year	Daily maximum of running 8-hour mean	31 December 2005

* not included in regulations at present

■ Shaded data shows new objectives