



Air Quality Action Plan

Dudley MBC

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

Final Issue Revision 1.0

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Executive Summary

National policy requires local authorities to review and assess the concentrations of several pollutants with potential to affect human health and to work towards reducing concentrations to meet national air quality objectives. This Air Quality Action Plan fulfils the requirements of the Local Air Quality Management process as set out in the Environment Act (1995), the Air Quality Strategy for England, Scotland, Wales and Northern Ireland 2007 and the relevant Technical Guidance documents.

Dudley MBC declared a borough wide Air Quality Management Area in December 2007 with respect to possible exceedences of the annual mean air quality objective and short term 1-hour objective for one such pollutant, nitrogen dioxide (NO₂). Further Assessment has enabled The Council to confirm exceedences of the annual mean NO₂ objective at fifteen separate locations, thereby justifying the decision to declare the Air Quality Management Area and prepare this action plan. These areas comprise:

- Netherton
- Cradley
- Pensnett
- Sedgley
- Brierley Hill
- Quarry Bank
- Hagley Road, Halesowen
- Wordsley
- Lye
- New Street, Dudley
- Himley Road, Lower Gornal
- Stourbridge Road, Halesowen
- Amblecote
- Birmingham Road near to Burnt Tree Island
- Buffery Road

A number of factors contributing towards poor air quality have been identified including high traffic flows, emissions from stationary and queuing traffic, steep gradients, geographical setting and residential properties located close to heavily trafficked roads. Significant NO₂ contributions from HGVs and/or buses and coaches were also identified in all of the above areas.

This action plan has been developed in conjunction with residents of the borough and other key stakeholders. It focuses on measures to reduce traffic congestion, improve the public transport offering, change peoples' travel patterns, minimise residential exposure and reduce regional background concentrations. The plan describes a selection of potential air quality improvement actions which have been selected on the basis of cost, effectiveness and delivery timescales. These broadly fall into eight key improvement areas:

- Road network improvements
- Improving public transport & rail freight capabilities
- Reducing vehicle emissions
- Land use planning initiatives
- Industrial, commercial and domestic actions
- Information and awareness raising
- Encouraging changes in travel behaviour
- Dudley MBC leading by example

Following adoption, delivery of the plan will contribute towards The Council's Sustainable Community Strategy by improving health and well-being and enhancing the surrounding environment for residents, businesses and visitors to the borough. The Council will demonstrate a continuing commitment to meeting the air quality objectives and progress in the implementation of the action plan will be reported annually, using monitored NO₂ concentrations and other selected indicators as a measure of performance. It is proposed to refresh the action plan on a regular basis to ensure that it remains relevant and that challenging targets are maintained.

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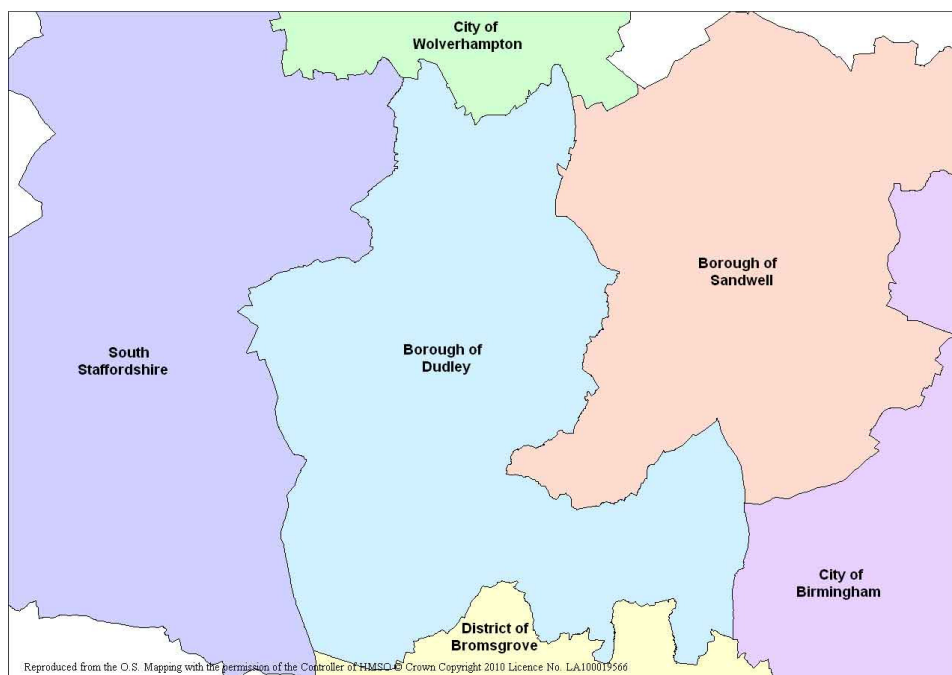
Appendix 2 Proposed Layout of Road Scheme for Area 12, Burnt Tree Island

1 Introduction

1.1 Description of Local Authority Area

Dudley Metropolitan Borough is located centrally in the UK and is surrounded by five other local authorities, namely Sandwell Metropolitan Borough Council (MBC) to the west. Wolverhampton City Council to the north and north west, South Staffordshire District Council to the east, Bromsgrove District Council to the south and Birmingham City Council to the south east. The geographical setting is illustrated in Figure 1.

Figure 1 Geographical setting of Dudley MBC



The borough is located within the West Midlands (WM) conurbation (Region), being densely populated with areas of concentrated industry. The six other authorities which comprise the WM Metropolitan Area include the city Councils of Birmingham, Coventry and Wolverhampton and the borough Councils of Sandwell, Solihull and Walsall. Historically, Dudley MBC (DMBC) has worked closely with the six other WM Authorities in tackling regional air pollution issues as part of the joint WM air quality group.

Dudley Borough covers 38 square miles and has a population of approximately 310,000. Along with Walsall, Wolverhampton and Sandwell, Dudley forms part of the Black Country (Sub-region). This is an amalgamation of villages and towns located along the western side of the conurbation which developed during the industrial revolution to create a continuous urban area; typical examples in Dudley Borough include the strategic town centre of Brierley Hill and the town centres of Halesowen, Stourbridge and Dudley.

The main sources of air pollution in the borough include transportation, emissions from the commercial and domestic sector and local industry.

There are currently approximately 130 industrial processes operating within Dudley that are regulated under the Environmental Permitting Regulations. These include:

- Eleven Part A1 Processes regulated by the Environment Agency including waste management, combustion, metal processing, chemical processing and carbon regeneration activities, and:
- Five Part A2 Processes comprising 3 manufacturers of ceramic products, 2 ferrous foundries and over 120 Part B Processes. These categories are currently regulated by DMBC.

Further information on the nature and location of processes regulated by DMBC can be obtained via the following link:

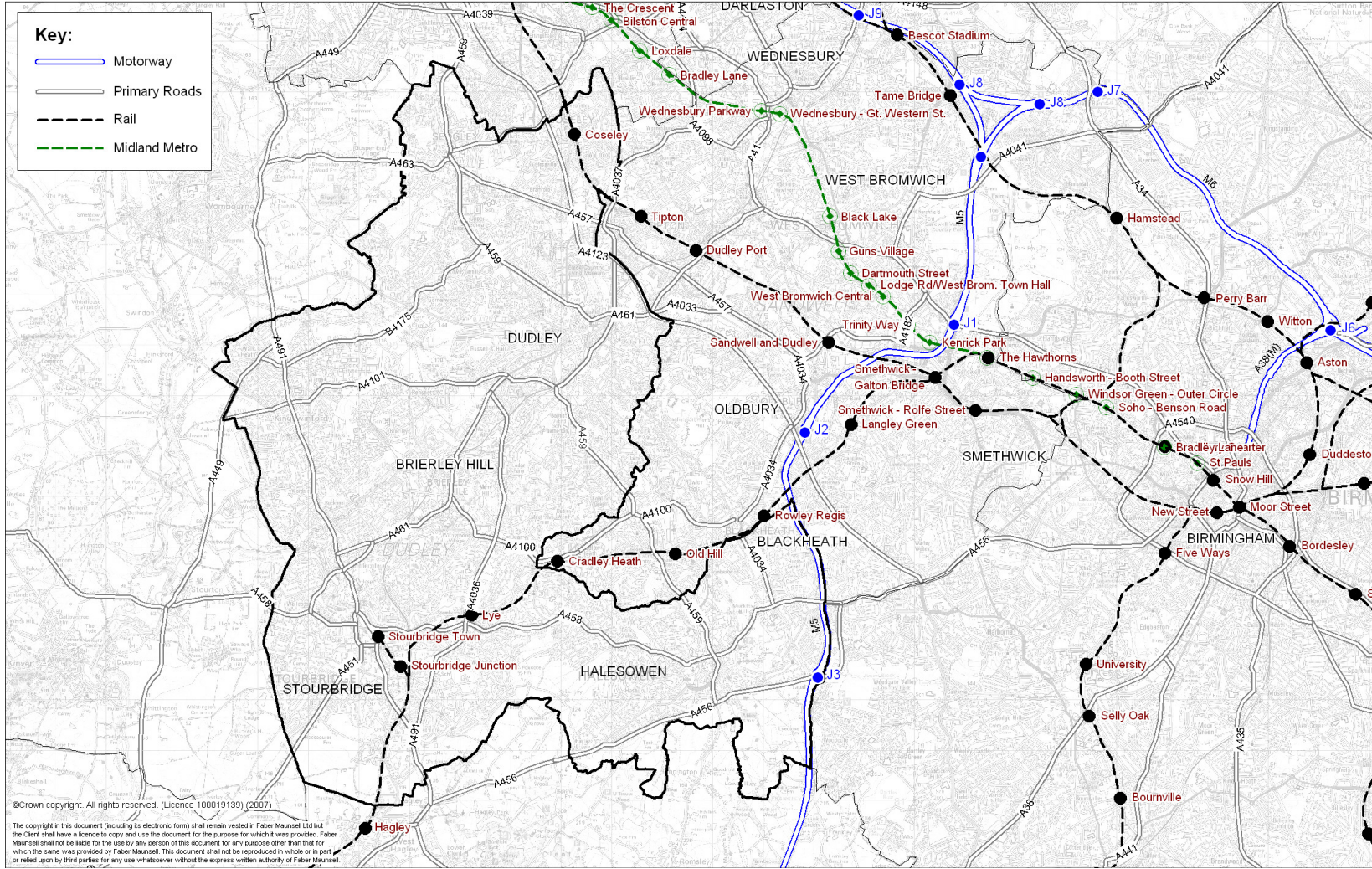
<http://gismo.dudley.gov.uk/public/envProt/Permits/Default.asp>

Emissions from these sources are carefully controlled under the current regulatory regime. This leaves the transportation sector as the main source of local airborne pollution, particularly exhaust emissions from road traffic. Dudley's transportation network is illustrated in Figure 2 and shows the layout of A roads & railway lines which pass through the borough and the location of the M5 motorway. The areas of highest pollution are typically associated with areas where residential properties and other buildings are located within close proximity to heavily trafficked or congested roads.

1.2 Purpose of Action Plan

This Air Quality Action Plan (AQAP) fulfils the requirements of the Local Air Quality Management (LAQM) 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. Air quality objectives are defined as policy targets often expressed as a maximum ambient concentration which must not be exceeded, either without exception or with a permitted number of exceedences, within a specified timescale. Where exceedences are considered likely, the local authority must then declare an Air Quality Management Area (AQMA) and prepare an AQAP setting out the measures it intends to put in place in pursuit of the objectives.

Figure 2 Dudley Transportation Network



1.3 Air Quality Objectives

The objectives applicable to LAQM in England are set out in the Air Quality (England) Regulations 2000 (SI 928) and The Air Quality (England) (Amendment) Regulations 2002 (SI 3043) which are shown in Table 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 Air Quality Objectives

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

A further objective relating to ozone is also included in these regulations; however, this is considered as a long range, transboundary pollutant, therefore responsibility is administered at central government rather than local authority level.

2 Background

2.1 Summary of Previous Review and Assessments

The latest technical and policy guidance documents LAQM.TG (09) and LAQM.PG (09), issued in February 2009 by the Department of the Environment, Food and Rural Affairs (Defra), set out timescales for submission of the air quality documents required under the LAQM regime [1,2].

The Review & Assessment programme is set out in 3-year cycles and commenced in 2000. DMBC has published a number of documents as part of its ongoing statutory LAQM obligations (Table 2) and previous Review & Assessment reports can be downloaded from DMBC website via the following link:

<http://www.dudley.gov.uk/environment--planning/pollution-control/air-quality>

Table 2 Previously Published LAQM Reports

Dudley LAQM Key Documents			
Year	Title	Submission Date	LAQM Details
2003	Updating & Screening Assessment	Apr-2003	Round 2
2004	Detailed Assessment	Apr-2004	Round 2
2005	Annual Progress Report	Apr-2005	Round 2
2006	Updating and Screening Assessment	May-2006	Round 3
2007	Detailed Assessment	Jun-2007	Round 3
2008	Annual Progress Report	May-2008	Round 3
2009	Updating & Screening Assessment	Jul-2009	Round 4
2010	Annual Progress Report	Apr-2010	Round 4

During the previous rounds of Review & Assessment, DMBC declared its first AQMA in 2003 following confirmation of exceedences of the annual mean nitrogen dioxide (NO₂) objective in the Brierley Hill area. NO₂ is one of the oxides of nitrogen (NO_x) identified as having an adverse affect on health by the World Health Organisation. Oxides of nitrogen can be generated by any combustion process including electricity generation, commercial and domestic heating or by the internal combustion engine.

Following identification of non-compliance areas in Brierley Hill, an action plan was published in 2004 which contained a number of key measures to improve air quality. These included the construction of a new parallel route and implementation of local travel plans as part of the Brierley Hill Sustainable Access Network (BHSAN). The parallel route was substantially completed in October 2008 and monitoring of air quality and other proxy indicators continues within the Brierley Hill area to establish the extent of any further remedial actions, which will now be addressed as part of the new AQAP. Further details are given in the 2009 Brierley Hill AQAP Progress Report [3].

Following the 2004 Detailed Assessment, DMBC declared a second AQMA in Sedgley in May 2005. Dispersion modelling work confirmed that the most efficient means of improving air quality to meet the government objective would be to construct an eastern parallel route which bypasses the congested 5-way traffic island, Sedgley Bullring. Practical and financial considerations indicated that this option could not be delivered within a reasonable timescale and DMBC came to the conclusion that air quality concerns could only be addressed via an AQAP for the wider area.

The 2006 Updating and Screening Assessment Report identified a further six areas of exceedence of the annual mean NO₂ objective. These had been monitored during a 12 month period of Detailed Assessment prompted by the 2005 Annual Progress Report and included areas of Netherton, Cradley, Halesowen, Wordsley, Pensnett, Quarry Bank and Lye.

The 2007 Detailed Assessment confirmed these and a number of additional new exceedences in Halesowen and Lower Gornal. At this stage, DMBC proposed the creation of a new borough wide AQMA to include the amalgamation of the two existing AQMAs in Brierley Hill and Sedgley. These proposals were subject to consultation with the general public, external stakeholders and via DMBC's local area committee meetings. Defra also endorsed these proposals in their feedback on the 2007 Detailed Assessment Report.

Since the completion of the 2007 Detailed Assessment, DMBC has continued to monitor air quality at over 150 separate locations around the borough. The most recent results from the monitoring programme are presented in the 2010 Annual Progress Report [4], and a Further Assessment of Air Quality [5] which has been prepared to provide technical focus for the action plan.

2.2 Potential Health Impacts of Nitrogen Dioxide

The Committee on the Medical Effects of Air Pollutants (COMEAP) has recently reported that at relatively high concentrations NO_2 can act as an irritant, causing inflammation of the airways and increasing susceptibility to respiratory infections. Typically, measured airborne concentrations of NO_2 would be much lower than those required to cause these effects. Although some findings suggest that outdoor concentrations of NO_2 can increase the sensitivity of people with asthma to allergens and therefore increase the likelihood of asthma attacks, the evidence is clouded by the simultaneous generation of other pollutants with demonstrable human health impacts e.g. fine particulate matter.

Air quality objectives are set with regard to scientific and medical evidence on human health and the wider environment as minimum or zero risk levels. As a specific example, the annual mean objective for NO_2 is $40\mu\text{g}/\text{m}^3$ and this is a precautionary value set well below that at which the most sensitive person would be adversely affected.

2.3 The Dudley MBC Air Quality Management Area

The Dudley Borough AQMA was declared in December 2007 with respect to exceedences of both the annual mean and short-term NO_2 objectives. The declaration revoked the former AQMAs in Brierley Hill and Sedgley, thereby enabling DMBC to adopt a more consolidated approach towards the action planning process.

At the time of the declaration, only exceedences of the annual mean NO_2 objective had been confirmed by DMBC's monitoring programme; this objective is mainly used as a guidance level in assessing risks to residential receptors. However, levels of greater than $60\mu\text{g}/\text{m}^3$ NO_2 were recorded at two of the exceedence locations. Technical and policy guidance available at that time (LAQM.TG (03) and LAQM.PG (03)) suggested that NO_2 concentrations above this level may give rise to additional exceedences of the short term objective, creating additional risks for receptors that might be exposed for periods of one hour or more (e.g. people shopping in a busy street or sitting at a pavement café). The AQMA declaration therefore included exceedences of both NO_2 objectives as a precautionary measure until further work could be undertaken to investigate possible exceedences of the short-term objective.

LAQM.TG (09) states that once a new AQMA has been declared, all Local Authorities must complete a Further Assessment within 12 months of designation; this provides the evidence base to support the declaration of the AQMA and additional supporting technical information. An extension to the specified timescale has been agreed with Defra to enable DMBC to fully assimilate the latest requirements of LAQM.TG (09) and to utilise the information contained within the WM Local Authorities Emissions Data Base, which was fully revised during 2009 as part of a Defra funded project. The Further Assessment supplements the information provided in DMBC's 2007 Detailed Assessment and the subsequent LAQM reports listed in Table 2. The Assessment has confirmed the exceedences of objectives flagged up during the 2007 Detailed Assessment and subsequent technical investigations, defines what improvement in air quality and corresponding reduction in emissions is required to attain the objectives and provides technical information on relevant source contributions. The Further Assessment has provided a detailed examination of air quality at the locations identified in previous reports together with additional two additional areas in the vicinity of Buffery Road and Burnt Tree Island. A full list of the fifteen areas covered by the assessment and addressed via the action plan is given in Table 3.

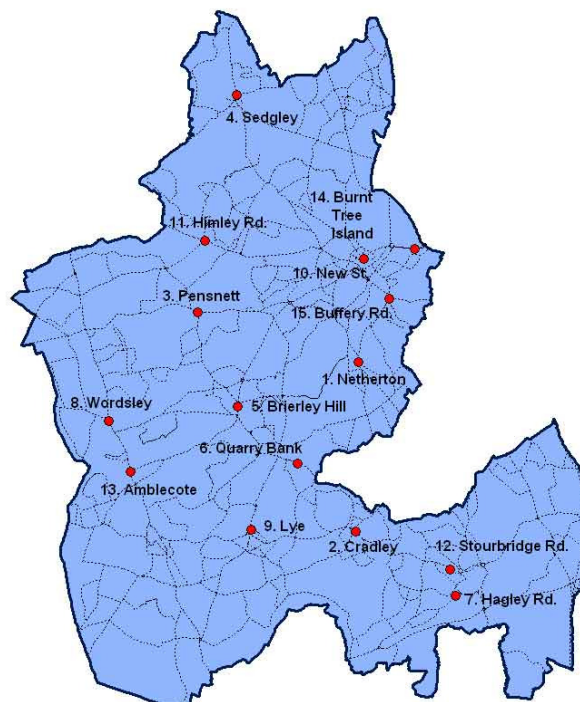
Table 3 Areas Addressed by the Further Assessment

DMBC NO ₂ Exceedence Areas	
Area	Description
1	Netherton
2	Cradley
3	Pensnett
4	Sedgley
5	Brierley Hill
6	Quarry Bank
7	Hagley Road, Halesowen
8	Wordsley
9	Lye
10	New Street, Dudley
11	Himley Road, Lower Gornal
12	Stourbridge Road, Halesowen
13	Amblecote
14	Birmingham Road near to Burnt Tree Island
15	Buffery Road

It should be noted that areas 4 and 5 relate to the previously declared separate AQMAs in Brierley Hill and Sedgley, but both AQMAs were revoked and subsequently amalgamated into the Dudley Borough AQMA 2007.

Figure 3 illustrates the extent of the current AQMA as defined by the Dudley Borough boundary and indicates the position of the 15 locations covered by the action plan.

Figure 3 Dudley Borough AQMA



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2.4 Development and Refinement of the Action Plan

The purpose of completing this air quality action plan is to indicate how The Council will work towards meeting the annual mean NO₂ air quality objective in areas where it is exceeded. Guidance is provided by LAQM.PG (09), which suggests that the AQAP should address the following issues:

- Quantification of the source contributions to the predicted exceedences of the limit values. This allows the action plan measures to be effectively targeted.
- Evidence that all available options have been considered
- An indication of how The Council will use its powers and also work together with others in the pursuit of the relevant objectives.
- Clear timescales within which the authority and other organisations propose to implement the measures contained within the plan.
- Quantification of the expected impacts of the proposed measures and, where possible, an indication as to whether these will be sufficient to meet the objectives, and:
- How the local authority intends to monitor and evaluate the effectiveness of any plan

These requirements have been addressed during the development of the action plan. In declaring the whole borough as an AQMA, The Council considers that problems associated with road traffic and transportation can be dealt with in a more integrated fashion across a broader geographical area and this is particularly important in the wider context of land use and transport planning. Naturally, there is a requirement that any options taken forward as part of the plan must retain full compatibility with the wider policy framework including national and regional transport and land use planning policy, and this is covered in Section 3.

Although the primary focus of the action plan is to reduce NO₂ concentrations to meet the annual mean NO₂ objective in all locations, implementing the plan is also likely to have beneficial effects in reducing concentrations of other pollutants created by combustion processes including particulate matter, volatile organic compounds and carbon dioxide. Likewise, implementation of other programmes, such as those designed to tackle climate change, may also contribute towards reducing NO₂, and these are covered in Section 4.

During the preparation of the AQAP, The Council has consulted with a wide range of stakeholders including the general public, central government, trade associations, non government organisations, utilities companies, professional institutions, transport and health care service providers, local Members of Parliament, elected members, environmental interest groups and council officers.

Following initial appraisal of the draft AQAP by Defra and a number of council committees, copies of the plan and promotional leaflets were distributed to all of the borough libraries and leisure centres and promotional material was displayed in other strategic locations.

On the 1st September 2010, DMBC commenced a consultation programme which concluded on the 30th November. The consultation sought further input from a wider stakeholder audience, including:

- Over 900 residents and local businesses with properties located in or close to areas where the air quality objective for NO₂ is exceeded.
- Over 100 external stakeholders

The proposals were also discussed at the five Council Area Committee Meetings and a number of stakeholder working groups including the Dudley Strategic Housing Environmental Partnership, The Dudley Climate change Group, The West Midlands Air Quality Group and with DMBC Highways, Land Use and Transport Planning Officers. The plan was also publicised via a number of launch events associated with the Dudley Healthy Towns Programme during October 2010.

The consultation process generated a range of comments and suggestions that fell into the following categories: -

- Minor changes to wording including simplification of jargon and removal of acronyms
- Local transport and congestion issues
- Policy changes
- Strategic issues
- The identification of strengths and weaknesses
- Funding issues

Further information on the consultation programme and a brief summary of comments can be viewed via the link to The Council website given below:

www.dudley.gov.uk/airqualityconsultation

The Council has provided a response to all consultation comments. Some of the suggestions have been excluded on the basis of scientific evidence, cost or viability and where this is the case, appropriate justification has been provided (See 6.2)

Wherever possible, other comments and proposals from the consultation process have been integrated into the revision of the document. This has also provided an opportunity to address other relevant issues such as changes to central government, national planning policy and potential funding streams.

Following adoption, progress in implementing the plan will be measured in two ways and reported to Defra on an annual basis:

- Ongoing air quality monitoring will be carried out in areas where the national objective is exceeded and will measure progress in achieving compliance
- Measurement of selected key performance indicators will be used to monitor progress in achieving other targets set out within the plan, thereby demonstrating the Council's ongoing commitment to improving air quality in the borough.

Dudley MBC will demonstrate a continuing commitment towards meeting the air quality objectives. Should pollution monitoring indicate a lack of progress in achieving compliance, the action plan, which should be considered as an active working document, will be refined and refreshed as appropriate. This will also provide an opportunity to ensure that the plan remains relevant and that challenging implementation targets are maintained.

3 The Wider Policy Context

The links between the AQAP and national, regional and local policies are set out in Figure 4. This shows how the development of the plan has been influenced by national and regional policy and how other initiatives implemented at all policy levels are contributing towards air quality improvements.

This section provides further background information on those policies or other initiatives that have had a direct bearing on the development of the AQAP. In developing the action plan, DMBC has set out a number of key themes and has highlighted links into other relevant projects or programmes wherever it has been appropriate to do so. Examples of some of these projects are provided in Section 4.

3.1 National Policy

3.1.1 The National Air Quality Strategy

The Government's Air Quality Strategy, first published in 1997 and revised in 2007, highlights the importance of the planning system for improving air quality [6]. A number of guidance documents provide advice to planning authorities, developers and other interested parties on issues related to air quality and new developments.

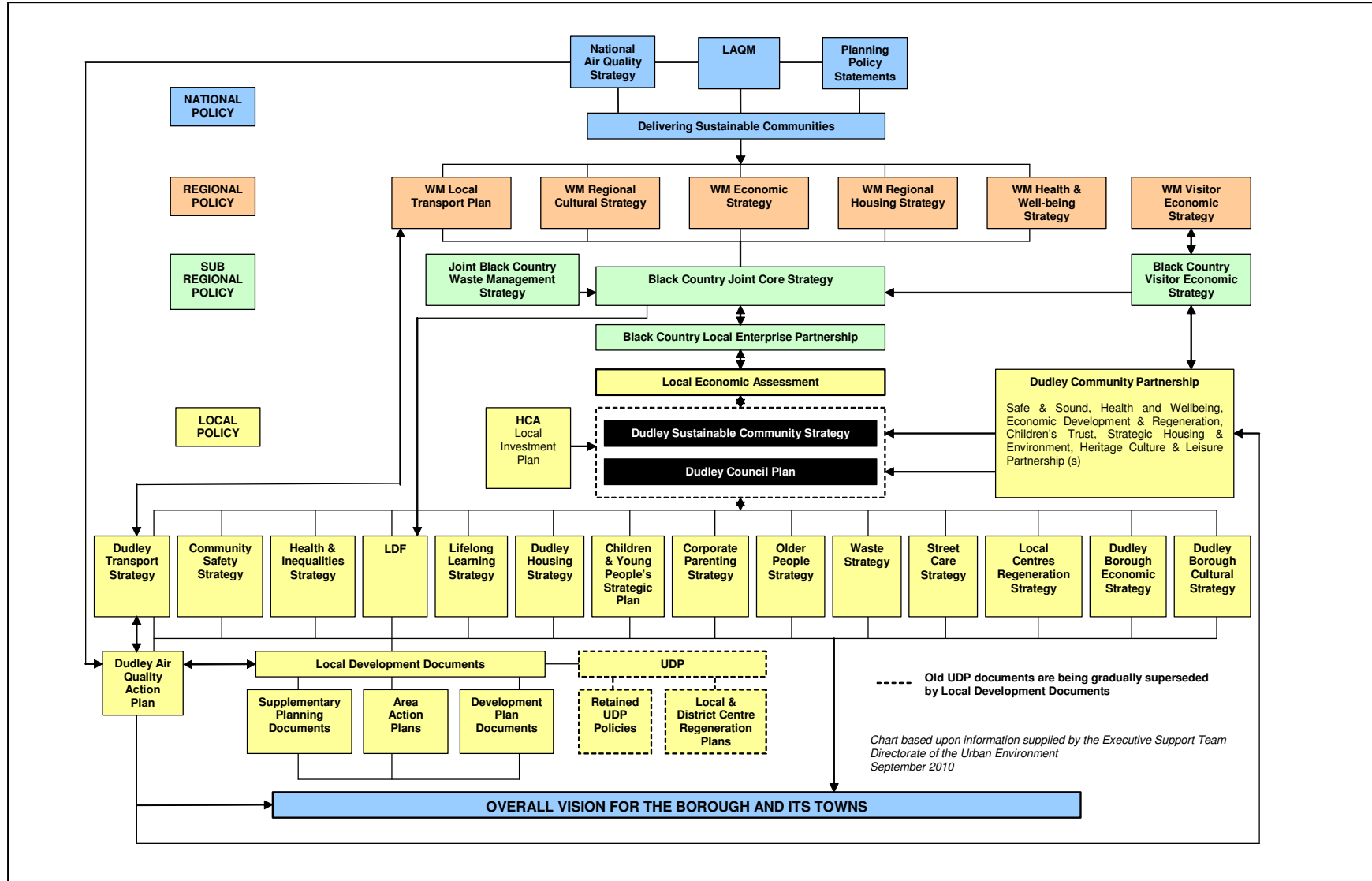
3.1.2 Planning Policy Statement 1 Delivering Sustainable Development (PPS1)

PPS1 sets out the Government's overarching planning policies on the delivery of sustainable development via the planning system. It states that planning policies and decisions should be based on the potential impacts of development proposals on the environment, and recognises that irreversible damage may be caused if the scale of development exceeds threshold limits. It advocates that planning policies should address environmental issues such as climate change by promoting the use of renewable energy and reducing emissions of greenhouse gases and other atmospheric pollutants. Additionally, the Supplement to PPS1, *Planning and Climate Change*, sets out the role of planning in reducing emissions and stabilising climate change by delivering patterns of urban growth that will help to secure the fullest possible use of sustainable transport for moving freight, public transport, cycling and walking.

Planning Policy Statement 23 Planning and Pollution Control (PPS23)

PPS 23 recognises the role of the planning system in combating pollution. This PPS states that "*pollution issues must be taken into account as appropriate within planning decisions*". The document emphasises the importance of national objectives and AQMAs in relation to planning decisions and calls for the planning process to be a 'more strategic, proactive force for economic, social and environmental well-being' in terms of air quality. PPS23 Annex 1, Circular 05/05 and Section 106 Agreements provide guidance on the use of planning conditions and obligations (section 106 Agreements) to ensure that the impact of the development on local air quality is addressed and minimised.

Figure 4 The DMBC Air Quality Action Plan in the Wider Policy Context



3.2 Regional and Sub Regional Policy

3.2.1 The West Midlands Local Transport Plan, WMLTP3

Local Transport Plans (LTPs) normally cover a period of 5 years and are public documents that set out the highway authority's policies, strategies, objectives and targets for improving transport in their communities. The first round of LTPs covered the five-year period from 2001/02 to 2005/06, WMLTP2 covered the period from 2006/07 to 2010/11 and the first phase of WMLTP3 will cover the period between 2010/11 and 2015/16.

At the time of preparing the current revision of the action plan, WMLTP3 was still in draft. The Council provided specific air quality input into the consultation process and supported the commitment to deliver a number of key projects across the West Midlands which will have major impacts on reducing congestion, mitigating climate change, improving air quality and delivering associated health benefits. These include:

- Delivery of the smarter choices package and associated infrastructure to provide alternatives to the car
- Improving the quality of public transport
- Improving connectivity between the four Black Country strategic centres
- Developing the West Midlands Long Term Rail and Rapid Transit network and local bus networks
- Improving cycling facilities and networks
- Making local improvements to walking routes
- Providing safer road environments to encourage walking and cycling
- Further development of regional freight strategy and rail freight facilities
- Continued roll out of urban traffic control management
- Reducing carbon emissions via the promotion and uptake of low emission technologies

The draft WMLTP3 includes two air quality policies and the identification of appropriate partnerships who will work together in their implementation, i.e. District Councils, Primary Care Trusts and successor bodies and other interest groups:

- Policy GT7 – to reduce air pollution emissions from transport
- Policy GT8- To improve local air quality in pursuit of UK standards and European Directive limits

3.2.2 The Black Country Joint Core Strategy

This spatial planning document conforms to the general principles and progresses work already undertaken as part of the Black Country Study. Formally adopted in February 2011, the document outlines the spatial vision, objectives and strategy for future development in the Black Country up to 2026 and deals with land use and environmental, economic and social issues. The Core Strategy also forms part of the Development Plan Frameworks (LDFs) being adopted by each of the Black Country Local Authorities.

The Core Strategy policies on transport encourage sustainable modes of transport, including cycling and walking, with an indirect aim to improve air quality. The inclusion of policy **ENV8: Air Quality** provides a means of reducing exposure to poor air quality, thereby improving the health and quality of life of the population. The policy states that:

“New residential or other sensitive development, such as schools, hospitals and care facilities, should, wherever possible, be located where air quality meets national air quality objectives. Where development is proposed in areas where air quality does not meet (or is unlikely to meet) air quality objectives or where significant air quality impacts are likely to be generated by the development, an appropriate air quality assessment will be required. The assessment must take into account any potential cumulative impacts as a result of known proposals in the vicinity of the proposed development site, and should consider pollutant emissions generated by the

development. If an assessment which is acceptable to the local authority indicates that a proposal will result in exposure to pollutant concentrations that exceed national air quality objectives, adequate and satisfactory mitigation measures which are capable of implementation must be secured before planning permission is granted.”

The inclusion of this policy is justified as follows:

The Rogers Review (2007) recommended six national enforcement priorities for local authority regulatory services, one of which is air quality. Within the review it is stated that:

“Air quality is a high national political priority and action taken to improve it will also contribute to tackling climate change. Local authorities have a vital role to play in delivering better outcomes. Air quality is a national enforcement priority because it impacts on whole populations, particularly the elderly and those more susceptible to air pollution ... and its transboundary nature means that local action contributes to national outcomes.” The planning system has a key role to play in limiting exposure to poor air quality.”

All the Black Country local authorities have declared their areas as air quality management areas to address the government’s national air quality objectives which have been set in order to provide protection for human health. The main cause of poor air quality in the Black Country is traffic and there are a number of air quality hotspots where on-going monitoring is required. The Black Country local authorities are working to reduce pollutant concentrations and to minimise exposure to air quality that does not meet with national objectives.

For some developments a basic screening assessment of air quality is all that will be required, whereas for other developments a full air quality assessment will need to be carried out, using advanced dispersion modelling software. An appropriate methodology should be agreed with the relevant Environmental Health / Environmental Protection Officer on a case by case basis.

Where a problem is identified mitigation measures might include:

- Increasing the distance between the development façade and the pollution source
- Using ventilation systems to draw cleaner air into a property
- Improving public transport access to a development
- Implementing a travel plan to reduce the number of trips generated
- Implementing Low Emission Strategies

Delivery of Policy ENV8 will be carried out via the Development Management process. The following indicator and target have been assigned to enable implementation of the policy to be effectively monitored:

- LOI ENV8 - Proportion of planning permissions granted in accordance with Air Quality/Environmental Protection Section’s recommendations
- Target-100%

Each of the Black Country Local Authorities will monitor the implementation of Policy ENV8 at local level and report progress on an annual basis.

3.2.3 Public Health Initiatives

The Department of Health and Department for Transport are promoting development and delivery of health conscious Local Transport Plans throughout England and have produced a Transport and Health Resource to support the development of LTP3 [7].

The resource recognises that transport is a leading source of emissions to air in the UK and the predominant exposure source within urban areas. At the strategic level, the health effect of air pollution is typically addressed through air quality standards and AMQAs designated to protect environment and health. However, the distribution, magnitude and significance of potential health outcomes are also dependant upon local community circumstance and the existing burden of poor health.

Vulnerable community groups typically include older people, the infirm and those subject to relative socio-economic deprivation. In addition, disadvantaged community groups are also more likely to be subject to higher ambient concentrations of air pollution (through residing in proximity to main roads, congested areas and industrial sources and therefore being subject to higher concentrations of vehicle and industrial emissions). Such community groups are also less likely to have access to private vehicles. As such, disadvantaged communities typically bear the brunt of the environmental and health consequence of private vehicle use, are more sensitive to such impacts and are less likely to afford the associated convenience and health benefits.

Transport planning has an important role to play in addressing and reducing pockets of health inequality throughout the UK and needs to consider the distribution of impacts and benefits upon local communities and their relative susceptibility. Key points to consider are:

- Low levels of physical activity through car use in place of walking and cycling contribute to the burden of chronic disease through higher levels of heart disease, stroke, cancers, diabetes and other illnesses including those resulting from obesity
- Walking and cycling are the easiest ways for most people to increase their physical activity levels. Use of public transport can also increase physical activity due to the use of walking and cycling to reach public transport interchanges
- Adults who cycle regularly have a longer life expectancy than those who don't
- At school age, walking and cycling are the main contributors to achieving the chief medical officer's recommendations for physical activity and maintaining a healthy weight;
- Reducing motor traffic speeds in urban areas to less than 30mph directly reduces casualties and increases opportunities for walking and cycling

The WM Directors of Public Health flagged up many of these issues in their consultation response to WMLTP3, placing particular emphasis on reducing barriers to walking and cycling (e.g. 20mph speed limits for some areas, development of cycling/walking infrastructure), reducing the need to travel by better spatial planning, developing a more sustainable transport system with better accessibility for the elderly and infirm and providing stronger emphasis of the health impacts of poor air quality.

The WM Directors of Public Health have offered assistance to Centro in order to support any further transport related policies including the monitoring of health related matters to assess the impacts of WMLTP3, supporting the development of a WM Local Sustainable Transport Fund bid and to ensuring that the public health benefits of the Smarter Routes network are maximised.

The Healthy Towns project provides one specific example of how facilities for walking and cycling are being developed in Dudley. Further information is provided in Section 4.3.

3.3 Local Policy

3.3.1 Dudley Transport Strategy

The Dudley Transport Strategy is the outcome of a detailed appraisal of national, regional and local transport policy including the WM Area Multi-Modal Study, WMLTP2 and the Black Country Study; it was formerly adopted by DMBC in February 2008. The strategy examines existing and future network performance and transport demands and sets out a number of specific challenges that need to be addressed:

- Congestion within the borough and on the motorway network
- Unreliable, expensive and often overcrowded public transport
- Lack of a high standard urban public transport system
- Lack of good public transport travel information
- Severe congestion on the motorway system
- Future congestion and safety problems arising from car dependency
- Inefficient use of existing road space
- High costs of freight transport due to road congestion
- Inadequate facilities for cycling and walking
- Poor transport network in the west of the conurbation
- Pressure on resources to maintain and renew transport services and infrastructure
- Inadequate capital resources to deliver and sustain a modern transport system for Dudley as proposed in the Black Country Study.

The Transport Strategy focuses on the management of demand for travel and maximises the use of existing transport infrastructure, supporting economic development and regeneration by improving access to the strategic town of Brierley Hill and other key employment areas and connectivity to regional and international gateways.

A number of specific objectives have been identified to help tackle these issues:

- Reducing traffic growth, and ultimately achieve an absolute reduction in traffic
- Increasing the number of trips in the area carried out by public transport, cycling and walking
- Reducing future levels of traffic congestion on the Principal Road Network and other key routes
- Raising awareness of the impacts of travel choices and opportunities for sustainable travel choices
- Increasing the speed and reliability of public transport on key routes
- Improving the quality, extent and security of public transport networks serving key destinations
- Increasing accessibility to jobs, main centres and hospitals
- Improving connectivity between key employment areas and the national motorway network;
- Reducing the contribution that transport makes to the region's climate change emissions and **improving air quality**
- Reducing the noise and visual intrusion emanating from the transport system and impacting on sensitive areas
- Continuation of safety improvements to the transport networks in the borough
- Improving the quality and security of pedestrian and cycling routes and public car parks
- Maintaining transport assets under The Council's control to a standard comparable to high performing authorities
- Reducing vehicular trips arising from new development through application of robust travel plans
- To ensure that new development contributes to mitigating the adverse impact that it may have on the transport system and supports this strategy
- Adoption of best practice in the provision of transport services and delivery of the transport strategy, including on-going communication with partners and stakeholders, and appropriate monitoring and review processes.

From a consideration of transport challenges facing the Borough, the national and regional policy steer and the future availability of resources for transport in Dudley, an integrated package of measures have been identified, many of which will have beneficial impacts on air quality. The policies and implementation measures identified within the Dudley Transport Strategy are set out in Table 4.

Table 4 Dudley Transport Strategy Policies and Objectives

Key Objectives	
Policy	Description
DTS 1	To support regeneration by maximising network capacity and the efficient use of existing infrastructure by developing and implementing improvements including: A Targeted physical improvements at congestion hotspots B Priority Investment Corridors with improved parking control and enforcement C Quick wins directed at providing rapid, mainly small scale and cost effective highway initiatives to increase network capacity at congestion hotspots across the borough
DTS 2	To continue to improve safety of the borough's transport networks by: A Continuing to investigate and analyse the causes of road traffic collisions B Continuing to implement programmes of Local Safety Schemes C Continuing to implement programmes of Safer Routes to School Initiatives D Education, training and road safety awareness programmes E Working with the West Midlands Road Safety Partnership to introduce traffic enforcement and WM wide education, training and publicity
DTS 3	To increase the emphasis on promoting sustainable transport by: A Investing more heavily in developing Smarter Choices Initiatives B Accessibility Planning activities C Continuing to implement improvements to walking and cycling networks, routes and facilities
DTS 4	To continue to work closely with West Midland partners, particularly Centro and Westfield, to promote and deliver Metro between Wednesbury and Brierley Hill, or the implementation of improvements to public transport of equal quality and attractiveness to the proposed Metro extension
DTS 5	To work more closely with Centro (and bus/train operators) on developing and delivering bus and rail infrastructure and service enhancements, including: A Bus Showcase improvements, both route based and targeted investment B Development of Punctuality Improvement Partnerships. C Improved public transport interchange facilities
DTS 6	To maximise opportunities to bring in new sources of funding for transport including planning obligations, working in partnership with major developers in the area, and continuing to engage with the evolving WM Initiatives
DTS 7	To improve the transport evidence base and improve the assessment of transport investment choices through a programme of corridor transport studies/area studies focusing on the Brierley Hill Strategic Centre and key Priority Investment Corridors
DTS 8	To undertake an initial scoping study to investigate the feasibility and mechanism for bringing forward the improvements proposed in the Black Country Study.
DTS 9	To work with WM partners to develop improved monitoring systems of key transport indicators to enable achievement of the Dudley Transport Strategy to be measured over time
DTS 10	To ensure that stakeholders are consulted and engaged in bringing forward transport strategies, policies and measures and the delivery of transport services in Dudley
DTS 11	To work with WM partners and across The Council to maximise opportunities offered by new technology in managing the highway network, delivering transport services and communicating with transport users

3.3.2 Local Development Framework

In 2005, The Council began work on the Local Development Framework (LDF), which will eventually replace the Unitary Development Plan (UDP). The LDF will set out the planning policies and site allocations to guide and manage development in Dudley over the next two decades. The Council has already adopted a number of Supplementary Planning Documents (SPDs) and is well progressed with a number of the other Development Plan Documents (DPDs) which will make up the LDF folder.

The Development Strategy DPD is currently under development and will provide detail on delivering the vision of the Black Country Core Strategy, providing site-specific allocations for a variety of uses as well as detailed development strategies for the regeneration corridors identified in the borough. Once adopted, this DPD will replace the existing UDP policies apart from the Stourbridge, Halesowen and Dudley chapters. In conjunction with Brierley Hill, Stourbridge and Halesowen are currently developing their own Area Action Plans (See 3.3.3).

The Development Strategy DPD and the three Area Action Plans are planning policy documents against which decisions on planning applications will be made for the period 2012 to 2026. The DPD will consider the following areas in relation to existing and proposed land uses, and development management:

- Housing
- Employment
- Local Centres
- Nature Conservation, Open Space And Green Infrastructure
- Transport And Accessibility Proposals
- Health, Education And Community Facilities
- Sport, Tourism And Leisure

The document will also highlight crosscutting issues which influence the built environment and place shaping agenda such as climate change, high quality urban design, the historic environment and environmental protection, including air quality issues.

3.3.3 Area Action Plans

Area Action Plans are Local Development Documents normally associated with areas of opportunity, change or conservation and provide a focus for future development. They may be used for areas where intervention that is more specific is needed, for example, industrial areas or town centres where there is a need for regeneration. Three documents are currently being developed by The Council:

- Brierley Hill Area Action Plan is going through Examination in Public with anticipated adoption in July 2011. The document states that a high quality public transport system will support development of the area and encourages the adoption of more restrictive car parking standards which will promote sustainable travel. Public transport will be encouraged with the adoption of bus priority measures on the High Street; the plan also supports the re-establishment of a local railway network.
- Halesowen AAP is currently in preparation with adoption scheduled for July 2012. The plan will support local developments to the public transport system including the new bus station which has recently been installed as part of the Cornbow Centre redevelopment programme.
- Stourbridge AAP is currently in preparation with adoption scheduled for July 2013. The plan aims to promote a number of sustainable initiatives including deployment of charging points for electric vehicles and the concept of Stourbridge becoming a cycle friendly town.

3.3.4 Supplementary Planning Documents

SPDs are examples of Local Development Documents created to supplement other areas of planning policy, e.g. to provide more information on the policies which are contained in the Black Country Joint Core Strategy, Development Plan Documents and Area Action Plans. They carry considerable weight in the determination of planning applications and development proposals even though they are not independently examined or do not have DPD status.

The SPDs currently adopted and of most relevance to the AQAP are:

- Parking Standards and Travel Plans SPD (Adopted March 2007). This is currently under review. For further information, see:
<http://www.dudley.gov.uk/environment--planning/planning/planning-policy/local-development-framework/parkstands-spd>
- Planning Obligations SPD. The revised document was adopted March 2009 and is currently under review. For further information, see:
<http://www.dudley.gov.uk/environment--planning/planning/planning-policy/local-development-framework/planning-obs-spd>

These documents provide important links with air quality since the provision of travel plans, low emission strategies or a financial contribution towards the AQAP are two possible mechanisms for mitigating or offsetting any unacceptable air quality impacts of new development.

The Council are currently considering seeking planning obligations contributions towards AQ improvements from any new developments that generate a net increase in the number of trips to and from the development site. This obligation would either be delivered via a financial contribution or for larger developments, through on-site provision. In some instances it may be appropriate for a part on-site provision and part off-site financial obligation to be provided by the developer. The financial obligation may be used to:

- Promote the development of an electric vehicle infrastructure;
- Investigate and promote parking concessions for low emission vehicles;
- Promote a no idling policy;
- Promote the development of low emission strategies
- Other initiatives linked to improving air quality

Examples of on-site provision could include the supply of alternative fuels for fleet vehicles/ delivery vehicles or the incorporation of charging points for electric vehicles. This would be proportionate to the nature and scale of the development and will be negotiated on a site-by-site basis.

For example:

- In large non-residential developments, the provision of electric vehicle charging points to be provided by the developer and maintained throughout the lifetime of the development
- On residential schemes, the incorporation of 'Plug-In Charging Points Sockets' into the garages or frontages of all new dwellings will be progressed.

Further information will be provided in the revised Planning Obligations SPD which is due to be adopted in 2011.

In addition to the Planning Obligations and Parking and Travel Standards SPDs, DMBC is also developing a Sustainable Buildings SPD. This will strengthen key policy areas of the Black Country Joint Core Strategy and provide further guidance for developers in delivering energy efficient, low carbon sustainable building design and the use of renewable energy. The document will be drafted during 2011 and once adopted and implemented will have significant impacts in reducing CO₂ and NO_x emissions from the commercial and domestic sector.

3.3.5 Development Control Air Quality Guidance Note

Local planning decisions have significant potential to affect local air quality in many ways including:

- Location and design of industrial emissions sources
- Location of sensitive receptors
- Creation of traffic flow impacts and transport hubs such as bus stations

The increasing importance of this field within LAQM is recognised within PPS 23 Annexe 1 and best practice guidance published by Environmental Protection UK [8].

DMBC has developed a guidance document for officers interpreting potential air quality impacts of new development and this has been adopted as a Development Control Guidance Note [9]. The purpose of this policy is to provide information for officers of DMBC to assist in preparing comments on planning application consultations with respect to air quality issues.

It is DMBC's intention to expand this document as stated in the Proposed Actions AP4. With the use of this guidance a coordinated approach to air quality can be achieved for all planning applications and by implementing this guidance officers will be able to help control exposure to poor air quality and so minimise the adverse affect of air quality on health & the environment.

With this status, it carries some weight in the determination of planning applications - although not as much weight as SPDs within The Council's LDF.

4 Related Projects and Programmes

4.1 The West Midlands Regional Low Emissions Strategy Project

In April 2010 the WM Joint Pollution Group - Air Quality Management applied to Defra for an Air Quality grant towards the implementation of Low Emission Strategies for the region and was awarded £100,000.

The group have established a project board, appointed a consultant and are currently finalising a job description for a coordinator for the programme.

It is intended that the programme will commence in April 2011 and will run for approximately 15 months covering the following projects:

- The development of a regional Low Emissions Strategy (LES) including transport and land use planning, procurement and economic development and bus and freight quality partnerships.
- The development of a regional LES Supplementary Planning Document
- Regional best practice guidance on procurement
- An investigation into the feasibility of Low Emission Zones to restrict or deter the most polluting vehicles.

All of these projects are aimed at reducing NO₂ levels from road transport in the region towards achieving the National Air Quality Objectives. The measures to achieve improvements in NO₂ levels from road transport will also reduce the emission of greenhouse gas emissions.

4.2 The West Midlands Regional Green Transport Charter

A pioneering Green Transport Charter, the first of its kind in the UK, was launched in the West Midlands in September 2010 to help cut carbon emissions and fight climate change.

The Charter, which is being spearheaded by transport authority Centro, has seen the region's transport industry sign a pledge to work together in support of the environment.

Companies have agreed a course of actions aimed specifically at tackling climate change. Those signing up will pledge to:

- Reduce carbon emissions and other harmful pollutants
- Launch pilot trials of new technology such as electric and hybrid buses and establish recharging networks for private electric vehicles.
- Share innovative green technology
- Support initiatives that encourage people to choose greener modes of transport
- The Charter not only brings together rail, bus and tram operators but also other important areas of the industry such as freight, haulage, coach travel and the voluntary sector such as Ring and Ride.

Sixteen of some of the biggest names in the region's transport companies have signed up to the scheme.

Several local bus companies are to buy new low carbon, hybrid and electric buses to operate on routes throughout the West Midlands. Other operators are also sending staff on 'Eco Driving' courses which teach them to operate their vehicles in a way that reduces fuel consumption and emissions of CO₂ and NO₂.

4.3 The Dudley MBC Healthy Towns Programme

Dudley's 'Healthy Towns' Programme was instigated when The Council, in partnership with the local Primary Care Trust (PCT), received a £4.5 million grant from the government's Healthy Community Challenge fund. The project aims to encourage families to make the most of outdoor areas by transforming parks and play areas into family health hubs. These hubs will be connected to people's homes via safe walking and cycling routes incorporating electronic warning signs, traffic calming measures, cycle storage, footpath improvements, crossing upgrades, canal tow path improvements and construction of walkzones. The project will promote healthy alternatives to motor vehicles and will encourage a wider range of outdoor activities which will benefit from delivery of the action plan.

4.4 The Dudley MBC Climate Change Delivery Plan

As part of DMBC's Local Area Agreement The Council is addressing climate change issues by pursuing reduction in CO₂ emissions from the public and business sectors, domestic housing and road transport. A climate change reduction plan is being refreshed to address these issues and successful delivery of the plan will have beneficial impacts on NO₂ emissions across the Borough.

4.5 The Dudley MBC Carbon Management Plan

In delivering its services, DMBC recognises that it has a responsibility to promote sustainable development and tackle climate change for the benefit of our communities and future generations. Actions taken at the local level can make significant contributions to national and even global targets and commitments. Following the Copenhagen Climate Change Summit held in December 2009, councils across the UK have collectively reiterated their role at the forefront to reducing carbon and conserving fuel.

A Carbon Management Plan is currently being developed as part of the Dudley Green Project. This is a broad initiative that demonstrates DMBC's commitment to delivering measurable environmental sustainability improvements and tackling climate change within DMBC and the borough. The Carbon Management Plan will link into the AQAP and other council plans such as the LTP, Housing strategy and LDF.

The plan will manage carbon emissions across DMBC's operations. These operations include buildings and schools, business travel, fleet, street lighting and some out sourced services such as transporting children with special needs to and from school. Effective carbon management in these areas will also provide additional beneficial reductions in associated emissions of NO₂ both locally and nationally via reduced electricity consumption.

4.6 Local & District Centre Regeneration Plans

In 2008, a review of Dudley's 16 district centres was carried out to identify those with the greatest need in terms of regeneration. This review undertook an individual analysis of each of the centres and included issues such as vacancy levels, retail representation in the protected frontage, footfall levels and traffic congestion / poor air quality. The review and priority list was approved by Cabinet in September 2009 and included several areas where poor air quality has been identified as an issue:

List of priority local centres

- Shell Corner (exceedences of the objective for annual mean NO₂ were recorded previously but not during 2008)
- Lye
- Cradley
- Pensnett
- Quarry Bank
- Netherton
- Wordsley

DMBC is currently developing regeneration strategies for all priority local centres; work on their development is at an advanced stage in some of the local centres but has yet to start in others. Over the short term, the priority will be to deliver the actions identified in the strategies. A timetable for the formulation and execution of the regeneration strategies is presented in Table 5. Development of a strategy for a given local centre would typically include a series of workshops where local businesses, residents, stakeholders and other organisations are invited to discuss local issues including traffic congestion and associated poor air quality, public transport availability and provision of key facilities. The workshops are designed to generate a series of options which can then be evaluated on the basis of cost, feasibility and timescales before incorporating the preferred options into the formal regeneration strategy. This would normally be approved by Cabinet and issued as an SPD or adopted strategy and be used as a blueprint for future development in that area.

Over the longer term, any review of the approved plans/strategies and the production of strategies for any further centres will have to be dealt with through the LDF as part of the emerging Development Strategy DPD.

Table 5 DMBC Local and District Centre Regeneration Programme

Key Details				
Local Centre	Strategy Timetable		Document Status	Details
	Start Date	Approval Date		
Shell Corner	Feb-07	Dec-08	Adopted strategy	http://www.dudley.gov.uk/community-and-living/town-centre-management/local-and-district-shopping-centres/shell-corner
Lye	Mar-00	Jul-04	Saved Supplementary Planning Guidance	Further Action Plan Update provided in Sep-06. http://www.dudley.gov.uk/community-and-living/town-centre-management/local-and-district-shopping-centres/lye
Cradley	Feb-07	Jul-07	Development control guidance note	http://www.dudley.gov.uk/community-and-living/town-centre-management/local-and-district-shopping-centres/cradley
Pensnett	Nov-07	Jul-09	Draft, due for adoption 2009	http://www.dudley.gov.uk/community-and-living/town-centre-management/local-and-district-shopping-centres/pensnett
Quarry Bank	Jan-09	T.B.A.	In preparation	N/A
Netherton	T.B.A.	T.B.A.	N/A	N/A
Wordsley	T.B.A.	T.B.A.	N/A	N/A

Any local air quality improvement measures identified during the consultation process and carried forward into the respective adopted strategies have been integrated into this air quality action plan; full details are provided in Section 8.

5 Further Assessment of Air Quality

5.1 Review of Assessment Findings

A Further Assessment has been carried out in parallel with the preparation of the action plan to provide additional technical supporting information. The assessment confirmed exceedences of the annual mean NO₂ objective at fifteen locations across the borough, thereby justifying the decision to declare the AQMA in December 2007. The extent of the AQMA was defined by the borough boundary, and this has enabled DMBC to prepare this action plan in which actions can be taken anywhere in the borough to improve air quality at the exceedence locations.

The assessment also required DMBC to calculate the % reduction in NO_x derived from road sources required to reach compliance with the objectives, provide an estimate of possible compliance dates and undertake a more detailed analysis of the sources of pollution to provide additional focus for the AQAP.

5.2 Source Apportionment Contributions

In accordance with the requirements of LAQM.TG (09), DMBC has undertaken an analysis of the sources of NO₂ at each of the 15 locations covered by the assessment. Sources have been broken down into the following categories:

- **Regional background**, which the local authority is unable to influence
- **Local Background**, which the authority should have some influence over. Contributory sources include the commercial and domestic sectors and remote transport and industrial sources
- **Local Sources**, which will add to the regional and local background. These will be the principal sources for the local authority to control within the action plan. Typical sources include emissions from local road traffic and local industrial (point) sources

The exercise confirmed that the principal local contributory factor in all cases was NO₂ generated from road traffic (Table 6). Congestion on all of the relevant road links in these areas with associated queuing of traffic was a specific cause for concern in all locations. Significant contributions of road NO₂ were derived from petrol and diesel cars and light commercial vehicles, but the highest contributions were found to originate from HGVs in 12 of the areas and buses and coaches in the remaining 3 areas.

Table 6 NO₂ Source Apportionment for 15 Receptor Locations in Dudley Borough

DMBC NO ₂ Source Apportionment Data										
Ref	Location	% Contribution Towards Modelled NO ₂ Concentrations At Each Receptor								
		Regional Back ground	Local Back ground	Local Industrial (Point) Sources	Petrol Car/ Motor cycle	Diesel Car	Petrol LGV	Diesel LGV	HGV	Buses & Coaches
1	Netherton	8.9	38.7	0.6	4.1	3.4	<0.1	0.8	29.7	13.8
2	Cradley	11.3	38.4	0.1	6.0	4.8	<0.1	0.7	21.5	17.2
3	Pensnett	9.3	42.7	0.2	4.9	4.0	<0.1	0.8	32.3	5.8
4	Sedgley	12.6	34.4	0.2	12.7	10.4	0.1	2.1	17.4	10.3
5	Brierley Hill	11.6	41.8	0.2	5.5	4.5	<0.1	0.8	16.1	19.4
6	Quarry Bank	11.6	43.3	0.2	4.3	3.5	<0.1	0.5	19.8	16.8
7	Hagley Rd.	16.4	53.6	0.1	6.1	5.0	<0.1	1.1	12.5	5.0
8	Wordsley	10.1	26.2	0.1	9.4	7.7	<0.1	0.9	27.3	18.4
9	Lye	10.9	39.4	0.1	6.7	5.5	<0.1	0.4	27.1	9.9
10	New St.	12.2	62.0	1.4	0.9	0.8	<0.1	0.1	1.5	21.0
11	Himley Rd.	13.6	39.8	0.4	5.3	4.3	<0.1	1.1	31.5	3.9
12	Stourbridge Rd.	12.6	41.0	0.1	6.9	5.7	<0.1	0.4	24.5	8.9
13	Amblecote	12.6	41.6	0.1	11.2	9.2	<0.1	1.8	15.8	7.7
14	Birmingham Rd.	11.4	55.2	1.1	6.6	5.4	<0.1	0.9	16.4	3.0
15	Buffery Rd.	12.6	49.1	2.2	9.0	7.5	<0.1	1.0	6.3	12.4

5.3 Evaluation of Contributory Factors and Local Impacts

Completion of the Further Assessment has enabled detailed analysis of significant contributory factors at each of the fifteen locations and this has provided additional focus for the development of the action plan.

Emissions from the heavier vehicles were exacerbated by short sections of road with gradients ranging between 2.5% and 9% in many of the locations due to the naturally undulating topography found within Dudley Borough. Street canyons with rear of pavement residential accommodation were also identified in over half of the areas examined.

As part of Dudley MBC's consultation with the general public, a preliminary estimation of numbers of residential and commercial properties lying in or close to areas where the annual mean NO₂ objective was exceeded was also carried out. This enabled distribution of promotional leaflets and letters to be appropriately targeted. Properties were identified by overlaying NO₂ concentration plots over maps of each area and interrogating the Council's electoral register.

The outputs from these investigations are summarised in Table 7

Table 7 Evaluation of Contributory Factors and Local Impacts

Identification of Contributory Factors And Local Impacts						
Ref	Location	Approx Average Annual Daily Traffic flow on closest road link	Nearest road with gradient >2.5%?	Source Apportionment Principal Traffic Component	Street Canyon?	Approx Number of Properties
1	Netherton	19000	Y	HGV	N	148
2	Cradley	22000	Y	HGV	Y	92
3	Pensnett	34000	Y	HGV	Y	24
4	Sedgley	15000	N	HGV	Y	97
5	Brierley Hill	20000	N	Bus/Coach	Y	78
6	Quarry Bank	18000	Y	HGV	Y	112
7	Hagley Rd.	10000	Y	HGV	Y	<10
8	Wordsley	29000	Y	HGV	Y	23
9	Lye	24000	Y	HGV	N	166
10	New St.	3000	Y	Bus/Coach	Y	58
11	Himley Rd.	17000	N	HGV	N	18
12	Stourbridge Rd.	17000	N	HGV	Y	45
13	Amblecote	22000	N	HGV	N	13
14	Birmingham Rd.	49000	N	HGV	N	75
15	Buffery Rd.	17000	N	Bus/Coach	N	<10

5.4 Required Reductions in Emissions of Nitrogen Oxides

Local Authorities are required to calculate the reduction in pollutant emissions that will be required to attain the objectives, thereby allowing the authority to judge the scale of effort that is required within the action plan. In completing the Further Assessment, DMBC has calculated the % reduction required at the worst case receptor in each of the fifteen locations to achieve compliance with the objective.

The results of the calculations at each of the source receptor locations are summarised in Table 8. Estimated % Roadside NO_x reduction values and the equivalent % Roadside NO₂ reduction values are ranked in descending order in order to assist in the prioritisation of actions within the AQAP.

Table 8 Summary of Required % Reduction in Road NO_x and NO₂ Values

Reduction In Road NO _x and NO ₂ Values				
Location	Area	Required % Reduction in Road NO _x	Required % Reduction in Road NO ₂	Equivalent $\mu\text{g}/\text{m}^3$ Reduction in Road NO ₂
1	Netherton	74.8	66.4	23.8
8	Wordsley	66.2	53.7	23.0
3	Pensnett	64.1	57.1	15.0
2	Cradley	58.5	49.2	15.5
6	Quarry Bank	50.3	43.1	11.0
9	Lye	45.3	37.3	9.0
14	Birmingham Rd.	35.0	23.6	3.0
5	Brierley Hill	34.7	20.9	4.0
12	Stourbridge Rd.	32.2	26.9	6.0
4	Sedgley	30.0	23.9	6.0
11	Himley Rd.	22.3	18.0	4.0
13	Amblecote	18.1	5.7	1.0
15	Buffery Rd.	15.9	9.7	1.4
7	Hagley Rd.	13.0	10.9	2.0
10	New St.	10.3	10.0	1.0

5.5 Estimated Compliance Timescales

A conservative estimate of compliance timescales has been undertaken as part of the Further Assessment and indicated that 9 of the 15 areas are likely to achieve compliance within the short-medium timescale associated with the lifetime of WMLTP3 Phase 1. Positive intervention via the action plan will allow timescales to be further accelerated in many of these and the remaining six areas. In the assessment of compliance dates, the following terminology has been utilised in providing some alignment with the current and next generation LTPs:

- 'Short Term (S)': - 2010 to 2012
- 'Medium Term (M)': - 2012 to 2016
- 'Long Term (L)': - 2016 Onwards

Table 9 Estimated Compliance Timescales

DMBC Predictions of Possible Compliance Dates For Meeting The Annual Mean NO ₂ objective.		
Location	Area	Predicted Compliance Timescale
1	Netherton	L
2	Cradley	L
3	Pensnett	L
4	Sedgley	M-L
5	Brierley Hill	S-M
6	Quarry Bank	L
7	Hagley Rd.	S-M
8	Wordsley	L
9	Lye	L
10	New St.	S
11	Himley Rd.	S
12	Stourbridge Rd.	M-L
13	Amblecote	M
14	Birmingham Rd.	S-M
15	Buffery Rd.	S

6 Designing the Action Plan

6.1 General Aims

Preparation of the AQAP has been undertaken in parallel with the completion of the Further Assessment and has focused on measures to reduce traffic congestion, improve the public transport offering, change peoples' travel patterns and reduce regional background concentrations.

6.2 Consideration of Consultation Proposals

Since the publication of the former Brierley Hill AQAP, there has been a change of emphasis in regional transport policy. The main focus of the overarching policy framework is targeted towards reducing traffic congestion by changing people's travel patterns rather than building new roads. These guiding principles were used in compiling the draft AQAP and included:

- Reducing the need to travel
- Provision of better located facilities
- Provision of good quality, well designed walking and cycling facilities
- Promotion of travel awareness initiatives
- Improving Public transport
- Introducing well-designed Park & Ride schemes
- Improving provisions for powered two-wheelers and taxis
- Introducing better management of public and private car parking, and:
- Consideration of appropriate demand management measures

A number of proposals were tabled at the design and consultation stages which it had not been possible to fully progress for reasons including cost, effectiveness or compatibility with the overarching policy framework. Some examples are given below.

6.2.1 Alternative Routes

A number of alternative routes were proposed prior to drafting the action plan and during the consultation phase. Specific examples included:

- A Western Orbital route to bypass the West of the WM conurbation. This proposal had been much discussed during the 1990s but was subsequently dropped from the national road-building programme due to widespread public opposition and problems with funding. Although such a scheme could deliver potential air quality benefits to some of the areas on the western side of the borough (e.g. Areas 3, 4, 8 and 13), it was not considered any further during compilation of the action plan due to the issues identified previously.
- The air quality benefits of two parallel route options for Sedgley (Area 4) were evaluated during 2005. The first option passing to the west of the town centre was rejected from further consideration, as it would deliver negligible air quality benefits. The second option passing to the east of the town centre may have delivered the requisite air quality benefits but was rejected from further consideration on financial and wider environmental grounds.
- Any other major schemes or initiatives which were incompatible with wider transport or land use policy, e.g. provision of alternative routes in the Merry Hill area, removal of bus lanes in Halesowen, were also discounted at this stage.

6.2.2 Compulsory Purchase Schemes

Other ideas discussed during the consultation included compulsory purchase orders. In some areas of the UK, where the declaration of an AMQA has been based a single or small numbers of receptors, it has sometimes been possible to effectively remove the residential exposure via compulsory purchase of the property. This option has not been further considered in Dudley due to financial reasons and the number and geographically diverse nature of potentially affected properties. This option could always be re-evaluated if specific potential funding sources became available.

6.2.3 Tree Planting Initiatives

Tree planting initiatives were well supported during the consultation campaign. Although the beneficial impacts of reducing carbon dioxide and levels of particulate matter are well documented, The Council were unable to obtain definitive evidence that this measure would have a significant impact in reducing levels of NO₂, the main focus of the AQAP. The Black Country Joint Core Strategy and DMBC's Sustainability Agenda and Parks and Green Space Strategy provide further policy guidance in this area.

6.3 Actions for Further Consideration

With the exception of one major road scheme, implementation of a traffic management scheme at Burnt Tree Island (Area 14, currently being delivered via WMLPT3), the majority of actions proposed as part of the plan have incorporated a number of minor road schemes and junction improvements, improving the quality of public transport, encouraging changes in travel behaviour and reducing local background emissions via a number of council led initiatives. The action plan has been developed around 8 key themes and these are summarised in Table 10.

Table 10 Action Plan Themes

DMBC AQAP Proposed Actions	
Reference	Action
AP1	Road Network Improvements
AP2	Improving Public Transport & Rail Freight Capabilities
AP3	Reducing Vehicle Emissions
AP4	Land Use Planning Initiatives
AP5	Industrial, Commercial and Domestic Actions
AP6	Information and Awareness Raising
AP7	Encouraging Changes In Travel Behaviour
AP8	Leading By Example

6.4 Evaluation of Proposed Actions

All options presented as part of the action plan have been evaluated in terms of potential air quality benefit, cost and implementation timescales and are presented in Section 7 of this document. The following designations have been used in the compilation of the action plan:

Costs have been evaluated on a five point scale ranging from low to high based on the following criteria:

1	High	>£1 million
2	Medium-High	£100,000 to £ 1 million
3	Medium	£50,000 to £100,000
4	Low-Medium	£10,000 to £50,000
5	Low	<£10,000

Timescales have been assigned using the designations given in Section 5.5, i.e.:

Short Term (S)	2010 to 2012
Medium Term (M)	2012 to 2016
Long Term (L)	2016 Onwards

Air Quality Benefits have been assessed on a semi quantitative 5 point scale ranging from Low (1) to High (5).

6.5 Monitoring Performance of the Action Plan

The Council proposes to monitor performance of the action plan by using a series of indicators to measure progress against appropriate targets. Progress will be reported to Defra on an annual basis and any areas of underperformance will be addressed by appropriate refinement of the action plan.

6.5.1 Air Quality Indicator

Building on from the air quality target featured in WMLTP2, Dudley MBC proposes to demonstrate an ongoing reduction of at least 1% in average roadside NO₂ concentrations over a rolling five year period. It is proposed that the concentrations from a consistent selection of roadside sites across the borough will be averaged and corrected against the average of a consistent selection number of established background monitoring sites.

This indicator will measure progress in reducing roadside NO₂ concentrations across the borough.

6.5.2 Other proxy indicators

A total of 23 other indicators have been included to measure progress in carrying out specific tasks outlined in the plan. Wherever possible, these have been linked to other council initiatives or WMLTP3. Further information is provided in Section 7.

6.6 Assessment of Risk

The high level risks and required actions identified in Table 11 below are important to the effective management of the AQAP. They will be managed as part of the Council's AQAP project management regime.

At this early stage these risks will be mitigated through the implementation of the activities listed in the Action Plan and via the Council's corporate risk management system. However, the AQAP is a living document and through regular review and performance management of the AQAP, any slippage that

might increase the probability of a risk materialising will be identified and a corresponding action set in place.

Table 11 Air Quality Action Plan Risk Table

Dudley MBC Air Quality Action Plan Risk Table				
Risk no:	Description	Risk Cat.	Required action	Status
1	Failure to achieve target reductions on time	Schedule (time)	Performance management framework in place	Stable
2	Financial penalties for failing to meet Air Quality Objectives. Legislation dependent.	£	Performance management framework in place	Stable
3	Lack of resources/capital investment for interventions	£	Explore appropriate grant streams. Develop Planning Obligations funding streams.	Increasing
4	Lack of appropriate skills – delivery and monitoring	Technical Quality	Corporate performance review and development programme and appropriate training.	Stable
5	Key personnel leaving posts to deliver plan	Schedule Quality	Determine appropriate replacement personnel, briefing/training sessions	Stable
6	Reputational risks to the council	Quality Schedule Time	Environmental Protection team to take all possible actions to ensure key objectives are met within timescales and take necessary remedial action	Stable
7	Costs to the council to ensure compliance with the national air quality objectives	£ Schedule	Environmental Protection team to ensure key objectives are met within timescales and report to Select Committee on the Environment on an annual basis	Increasing

7 Proposed Actions

The following actions have been assessed on the basis of feasibility, cost and air quality impacts and will be progressed over the lifetime of the plan. The impacts of the plan will be assessed as part of The Council's ongoing air quality monitoring programme and by monitoring progress in achieving specific targets against a number of proxy performance indicators. These indicators have been linked to other projects and programmes wherever possible and may be subject to change if they are discontinued elsewhere, for example during revision of WMLTP2 to WMLTP3. These changes will be addressed in future revisions of the action plan. The following paragraphs contain detailed information on the proposed actions and a summary is provided in Table 12. As execution of some of the tasks has continued during revision of the plan, actions that have already been completed have been appropriately labelled.

7.1 Action AP1: Road Network Improvements

Road improvements will reduce congestion and aid air quality by keeping vehicles moving because emissions from free flowing traffic are lower than from queuing traffic. There are 12 road schemes planned by DMBC that will have a direct effect on the air quality in some of the 15 areas of exceedence within the Borough (See Table 3).

Netherton, Road Junction Improvements

Following public consultation in 2009, a proposal was developed to improve efficiency and priority junction improvements at the Halesowen Road/Northfield Road junction. The scheme was completed in February 2011 and includes a ban on northbound traffic turning right into Northfield Road and removal of some roadside parking to improve traffic flow and reduce congestion (See Appendix A). Monitoring will continue in this area to measure air quality improvements and inform future remedial strategy.

Impact	The impact of this improvement will be reduced traffic congestion along the A459 and improved air quality in Area 1 .
Cost Benefit	The cost of this scheme is medium and the benefit to air quality in the region is considered to be medium.
Time Period	The time frame for this project is short.
Related Policies and initiatives	Netherton Regeneration Project

Netherton, Traffic Signal Improvements

Work is programmed for several traffic signal controlled junctions along Cradley Road to provide improved vehicle detection. This will improve the efficiency/operation of the signals and will provide an opportunity to review signal timings leading to reduced queuing. Monitoring will continue in this area to measure air quality improvements and inform future remedial strategy.

Impact	The impact of this improvement will be reduced traffic congestion along the B4173 and improved air quality in Area 1 .
Cost Benefit	The cost of this scheme is low and the benefit to air quality in the region is considered to be low.
Time Period	The time frame for this project is short.
Related Policies and initiatives	Netherton Regeneration Project

Windmill Hill, Highway and Pedestrian Improvements

The Windmill Hill Regeneration programme has identified a number of options for local road improvements in this area but potential funding schemes have yet to be identified. Further work on developing proposals will be carried out in the short to medium term.

Impact	The proposals will directly impact upon Area 2 . It will not be possible to assess the potential AQ benefits until details of any road improvement schemes are finalised.
Cost Benefit	The cost of this scheme is low to medium to high depending on the extent of the approved scheme. The benefit to air quality in the area is considered to be low to medium.
Time Period	The time frame for this project is short to medium.
Related Policies and initiatives	Cradley Regeneration Project

Pensnett, High Street Highway Improvements

The Pensnett Regeneration Programme identified a number of options for a highway improvement scheme in this area. The effect of the proposed scheme will be to reduce traffic on High Street queuing to turn right into several roads. The options are currently being reviewed with a medium term implementation target.

Impact	Reduced traffic congestion along the A4101 and improved air quality in Area 3 .
Cost Benefit	The cost of this scheme is high and the benefit to air quality in the area is considered to be medium to high.
Time Period	The time frame for this project is medium.
Related Policies and initiatives	Pensnett Regeneration Project

Traffic Signal Improvements and Upgrade of Pedestrian Crossing Facilities in the Quarry Bank Area

Following public consultation as part of the Quarry Bank regeneration programme in 2009, the right hand turning lane at the junction of the A4100 and A4036 has been lengthened to increase capacity, thereby reducing queuing traffic in Quarry Bank High Street. Introduction of puffin crossing facilities has improved facilities for pedestrians and reduced queuing traffic. Air quality improvements now need to be quantified before evaluating further action.

Impact	Reduced traffic congestion along Quarry Bank High Street, Area 6 .
Cost Benefit	The cost of this scheme is medium to high and the benefit to air quality in the area is considered to be low to medium.
Time Period	The time frame for this project is short.
Related Policies and initiatives	Quarry Bank Regeneration Project

The Installation of Urban Traffic Control CCTV Cameras at Key Junctions

The Installation of urban transport control cameras at a number of key points on the road network will allow better proactive control of signalised traffic junctions, helping to reduce queuing at peak periods. This work is being implemented between 2008 and 2010.

Impact	The Units are being installed in Halesowen, Brierley Hill and Stourbridge and at various points along the A491. Reduced traffic queuing will deliver AQ benefits in Areas 5, 8 and 13 .
Cost Benefit	The cost of the scheme is medium to high and the benefit to air quality in the area is considered to be low to medium.
Time Period	The time frame for this project is short.
Related Policies and initiatives	WMLTP

The Installation of a Right Turning Lane at the Junction between Dudley St and Vicar St., Sedgley

A scheme has been developed to modify the road markings in Dudley Road which involves moving the centre line of Dudley Road closer to Vicar Street. This will provide enough space for vehicles to wait to turn right into Vicar Street without blocking vehicles heading straight on towards Dudley.

Impact	The addition of an extra space for right turners will reduce queuing in Dudley Road, resulting in minor air quality benefits in Area 4 .
Cost Benefit	The cost of the scheme is low and the benefit to air quality in the area is considered to be low.
Time Period	The time frame for this project is short.
Related Policies and initiatives	Dudley Transport Strategy

The Installation of a Pedestrian Crossing in Priory Road, Dudley

Proposals for a new pedestrian crossing are being developed to provide better facilities for pedestrians.

Impact	The positioning of the crossing will mean that any associated queues will form outside the street canyon in New St. This should result in minor air quality benefits in Area 10 .
Cost Benefit	The cost of the scheme is low and the benefit to air quality in the area is considered to be low.
Time Period	The time frame for this project is short.
Related Policies and initiatives	WMLTP

Upgrade of Traffic Signals at the B4175/B4176 Junction

Proposals are being developed to fund upgrade of the signals at the junction between Himley Rd/Cinder Rd/Bull Street via a Section 106 Agreement.

Impact	Reduced queuing at this junction will have beneficial AQ impacts in Area 11 .
Cost Benefit	The cost of the scheme is medium and the benefit to air quality in the area is considered to be low to medium.
Time Period	The time frame for this project is short to medium but is linked to the development.
Related Policies and initiatives	Engineering, Traffic & Transportation Service Plan

Minor Road and Junction Improvements

A number of minor road improvements and traffic management measures have recently been completed in the vicinity of Stourbridge Road, Halesowen and Vicarage Rd, Amblecote. Air quality improvements now need to be quantified before evaluating further action.

Impact	Minor improvements in traffic flows should deliver some AQ benefits in Areas 12 and 13 .
Cost Benefit	The cost of the scheme is high and the benefit to air quality in the area is considered to be low to medium.
Time Period	The time frame for this project is short.
Related Policies and initiatives	Dudley Transport Strategy

Major Junction Improvement at Burnt Tree Island

This is a major road improvement scheme currently under construction and due for completion in summer 2011 (See Appendix 2). An air quality monitoring station has been installed in this area to monitor AQ impacts from the impending expansion of a nearby major retail development.

Impact	Reduced queuing and congestion in the vicinity of Burnt Tree Island, Area 14 , with subsequent AQ benefits for Dudley and Sandwell MBC
Cost Benefit	The cost of the scheme is high and the benefit to air quality in the area is considered to be medium to high.
Time Period	The time frame for this project is medium.
Related policies and initiatives	WMLTP

Completion of Minor Elements Associated With the Brierley Hill Sustainable Access Network (BHSAN) Major Scheme

Following opening of the parallel route in October 2008, a number of additional elements from the BHSAN will be completed including introduction of 1-way traffic in John St, addition of Puffin Crossings in High St, upgrade of signals at 5 ways junction, upgrade of pedestrian facilities, improvements at bus stops and addition of parking/unloading bays in High St.

Impact	Reduce congestion in Brierley Hill, Area 5 , better facilities for pedestrians and users of public transport, leading to improved air quality
Cost Benefit	The cost of the scheme is medium to high and the benefit to air quality in the area is considered to be medium to high.
Time Period	The time frame for this project is medium.
Related policies and initiatives	BHSAN major scheme and WMLTP

All the schemes above relate to the **Congestion Performance Indicators 1 to 3**, which are also linked to AP2 and 3.

Performance Indicators	<ol style="list-style-type: none"> 1. WMLTP3 Proposed Target 1: On key routes limit any change in average AM peak journey times to no more than x% above the change in vehicle flow between 2010/11 and 2015/16. 2. WMLTP3 Proposed Target 14: Increase the proportion of trips by public transport into the 9 LTP strategic centres as a whole during the AM peak by x% between 2010/11 and 2015/16. 3. WMLTP3 Proposed Target 2: Annual road traffic to grow less in % terms than the local economy between 2010/11 and 2015/16.
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7.2 Action AP2: Improving Public Transport & Rail Freight Facilities

Key to reducing vehicle emissions and kerbside NO₂ levels is improving public transport to encourage people to leave their cars at home.

Developing and Delivering Bus Infrastructure Improvements via Implementation of Voluntary Bus Partnership Commitments.

DMBC is working with Centro and National Express WM to upgrade a number of key bus routes (Services 9, 126, 256, 311 and 558) involving the installation of new bus shelters, improvement of highways and junctions on key routes, implementation of selective vehicle detection at key junctions and improved information provision for passengers.

Increased bus patronage will reduce dependency on the car and reduce vehicle emissions. Upgrades to the bus routes will have a beneficial impact on bus related emissions across the borough, in particular **Areas 2, 4, 8, 9, 13, 5 and 10** (Table 3). The partnership initiative forms part of the Dudley Transport Strategy (DTS5) and WMLTP3 (**Performance Indicators 1 to 3**)

Extending the WM metro link to Merry Hill

The Dudley Transport Strategy (DTS4) promotes the delivery of the WM metro between Wednesbury and Brierley Hill or the implementation of improvements to public transport of equal quality to the proposed Metro extension. Borough wide benefits include better use of public transport services, less congestion, and regeneration opportunities with specific benefits for **Area 5 (Performance Indicators 1 to 3)**.

Improving Rail Freight Capabilities

Centro are investigating improvements to the rail freight network including the reopening of the rail line between Walsall and Stourbridge to freight trains. DMBC will provide supporting air quality information to assist any activity in this area. This scheme has the potential to remove 4000 lorry loads per year from the local road network, potentially reducing HGV emissions in **all areas** of the borough.

Provision of Better Information for Passengers at Key Railway Interchange Facilities, e.g. Cradley

The Quarry Bank regeneration programme identified inadequate customer information facilities at Cradley Station as a key barrier to increasing public transport patronage. DMBC will liaise with Centro to improve information provision for passengers, benefiting **Area 6** and the wider area.

Impacts	Increased use of public transport will lead to less reliance on the private vehicle and will reduce congestion and vehicle emissions helping to improve Air Quality.
Performance Indicators	These initiatives feed into the WMLTP3 performance indicators 1 to 3 listed in AP1.
Cost Benefit	The cost of these measures is estimated to be medium to high and the benefits to air quality are likely to be medium
Time Period	The above measures will take place in the short to medium time frame. With the Midland Metro & rail freight proposals likely to be long term objectives.
Ownership	DMBC , Centro and National Express WM

7.3 Action AP3: Reducing Vehicle Emissions

The measures below are designed to reduce vehicle emissions from both Council operated and privately owned vehicles and have the potential to benefit air quality in **all areas**.

Roadside Emission Testing (RET)

DMBC will carry out a RET feasibility study to assess the funding implications and practicality of undertaking a RET programme. The most appropriate means of delivery, e.g. fixed penalty notice (FPN), enforcement or educational / promotional campaigns either as local or regional initiatives will be considered. This action has the potential to improve the operating efficiency of vehicles leading to better fuel efficiency and cleaner emissions to air. **See Performance Indicator 4.**

Update: The detailed feasibility study was completed in November 2010. The study recommended that this measure should not be pursued by The Council at present. The capital expenditure of introducing such testing, when weighed against the perceived benefits would suggest that it is not an effective use of resources. More importantly there are currently no firm criteria against which to measure NO₂ emitted from vehicle exhausts. This decision will be reviewed if MOT tests are modified to incorporate NO₂ emissions testing.

Improving the DMBC Fleet

DMBC has a fleet of circa 500 vehicles, 30% of which are Euro IV diesel engines and 3.5% of the fleet is operating with a Euro V diesel engine. The vehicles are replaced every 5 years and the highest Euro standard is sought for replacements. The vehicles run on 5% bio diesel. By operating the most up to date fleet emissions from the diesel engines are minimised. Alternative fuel options have been trialled and are constantly being reviewed. Suitable alternatives will be introduced as they are identified.

Reducing Idling Emissions

Update: A feasibility study completed in March 2011 investigated the best ways of discouraging idling vehicles in the borough. The Council reviewed options for introducing an enforcement regime and concluded that the perceived benefits would not outweigh the potential administrative costs and impacts on council resources. However, a number of options which merited further consideration were identified including awareness raising (general public, schools, council drivers) and utilising voluntary bus partnerships to discourage idling at bus stations and layovers.

DMBC will undertake an awareness raising campaign to discourage idling of vehicles. The campaign will include developing promotional material which will be distributed via The Council website and will target specific audiences including the general public, schools and taxi drivers. The Council will work with Centro and National Express WM to discourage idling of buses at stations and layover points. The Council will expand training courses for its own drivers to cover pollution generated by idling vehicles. This action has the potential to reduce emissions and noise levels from vehicles in **all areas**. **See Performance Indicator 5.**

Encouraging the Uptake of Low Emissions Vehicles

To encourage the uptake of low emission vehicles by local residents, DMBC will investigate the feasibility of converting designated DMBC operated short-term town centre car park spaces to long term parking for low emission vehicles. The practicality and cost of providing electric vehicle charging points at designated town centre car parking locations will be investigated and reported on before any further action is considered. **See Performance Indicator 5.**

Reporting Smoky Vehicles

The DMBC website will be developed to provide further information for the public on this issue and enable the website to accept information from the public for further action by DMBC. The Vehicle and Operator

Services Agency (VOSA) contact details will be provided on the website to enable members of the public to make direct contact if they wish. This action has the potential to improve the efficiency of vehicle engines and so reduce the odorous and visual component of vehicle emissions as well as reducing NO₂ emissions to air. **See Performance Indicator 6.**

Reducing Congestion

WMLTP3 contains several proposed targets related to changes in peak period traffic flow to urban centres. Proposed Target 1 states that on key routes limit any change in average AM peak journey times to no more than x% above the change in vehicle flow between 2010/11 and 2015/16. **See Performance Indicator 1.**

WMLTP3 Proposed Target 14 targets an increase the proportion of trips by public transport into the 9 LTP strategic centres as a whole during the AM peak by x% between 2010/11 and 2015/16. **See Performance Indicator 2.**

Key actions to achieve these targets include, improvements to public transport, improvements to facilities to assist walking and cycling, and car park management and charging regimes, all designed to reduce reliance on use of the private car. All these measures result in less vehicles on the road giving rise to less emissions and hence a reduction in NO₂, benefiting air quality in **all areas**. This target is monitored and reported bi-annually by DMBC Transportation officers. The target is currently being met.

WMLTP3 Proposed Target 2 will aim to restrict growth of annual road traffic to less in % terms than the local economy between 2010/11 and 2015/16. **See Performance Indicator 3.**

Impacts	These measures will reduce vehicle emissions and will improve air quality; in particular the concentrations of NO ₂ at kerbside will be reduced.
Performance Indicators	<ol style="list-style-type: none"> 4. The feasibility Study for RET will be completed and reported to the head of service by 31/03/11 as identified in the EP Service Plan. Action Complete. 5. The evaluation of proposals for reducing idling emissions will be completed and reported to the head of service by 31/03/11 as identified in the EP Service Plan. Website upgrade, preparation and distribution of promotional material including signage for bus stations and layover points and council driver training will be completed by 31/03/2012. 6. The investigation into encouraging the uptake of low emission vehicles will be completed and reported to the head of service by 31/03/12 as identified in the EP Service Plan. 7. EP Service Plan 2010 / 11, to upgrade the web site by 31 03 10. Action Complete.
Cost Benefit	The cost of these enterprises is estimated to be low to medium. The benefits to air quality are likely to be low to start with but as momentum is gained there will be a greater positive impact on improving Air Quality.
Time Period	All the above projects are planned for the short to medium time frame
Ownership	DMBC & partner West Midlands authorities

7.4 Action AP4: Land Use Planning Initiatives

This action relates to the control of developments with regard to air quality and has the potential to benefit air quality in **all areas**.

Supplementary Planning Document

To ensure that air quality issues are considered in the regeneration agenda at DMBC, it is proposed to modify the Planning Obligations SPD to include a formula for calculating off site contributions that will be used to directly fund some of the actions contained within the Action Plan. **See Performance Indicator 8.**

Member and Officer Training

To improve the understanding of air quality and planning specific training of members and planning officers will be undertaken. This will enable planning decisions to be made with a better understanding of air quality issues. All Elected members who sit on the Development Control Committee and Planning Officers will be offered training on air quality. We aim to complete the training programme by 31/03/12. **See Performance Indicator 9.**

Monitoring the Effectiveness of Air Quality Planning Recommendations

From the 1st April 2011 the effectiveness of Air Quality recommendations will be measured by determining the proportion of planning applications which are granted in accordance with the air quality recommendations therein compared to those which are refused on air quality grounds. Performance indicator 16 is in accordance with the Black Country Core Strategy Document. **See Performance Indicator 10.**

Providing Professional Advice to Development Control

The existing Development Control Air Quality Guidance Note (See 3.3.5) will be reviewed and updated. To enhance the information provided in the advice note we will undertake to produce predictive NO₂ levels across the borough which will be modelled and mapped. **See Performance Indicator 11.** This will indicate areas where officers can recommend either;

- Allow development, no air quality issues
- Request a full air quality assessment, or:
- Refuse development on air quality grounds

Impacts	By providing additional documents and training, planning applications and decisions will be made on a more informed basis, preventing development in areas of poor air quality without appropriate mitigation in place. This will ultimately remove or restrict receptors from pollutants and provide better control over the location of potentially polluting developments.
Performance Indicators	<ol style="list-style-type: none"> 8. To have the modified Planning Obligations SPD adopted by DMBC by 31/12/11. 9. To complete officer and member training by 31/03/12 - the EP Service Plan. 10. To meet the Black Country Core Strategy target LOIENV8- proportion of planning permissions granted in accordance with air quality sections recommendations – 100% 11. To update Air Quality Advice Note, produce modelled map of the borough and disseminate the information to planning officers by the 31/09/12 - the EP Service Plan
Cost Benefit	The cost of these measures is estimated to be medium. The benefits to air quality are likely to be low to start with but as momentum is gained there will be a greater positive impact on improving Air Quality.
Time Period	All the above projects are planned for the short to medium time frame
Ownership	DMBC

7.5 Action AP5: Industrial, Commercial and Domestic Actions

Source apportionment studies to date show significant contributions from regional and local background sources of NO₂ in exceedance areas within the borough. This demonstrates that an investigation into and control of emission sources other than from vehicle exhausts is necessary. Subsequent remedial action will have the potential to benefit air quality in **all areas**.

Background NO₂ Concentrations

Further analysis of source apportionment data will be used to identify which areas of exceedance of the objectives are due to high local background levels of NO_x. These areas will be mapped and an investigation carried out to identify possible sources. Once the sources have been identified, actions to reduce NO_x will be formulated and implemented. Further air quality modelling will be carried out to reassess the situation. The sources could be domestic commercial or industrial premises and measures to reduce emissions could include improved fuel efficiency. **See Performance Indicator 12.**

Control of New of Biomass installations in Dudley MB

DMBC has developed a system of notification with Building Control which confirms details of Biomass installation occurring within the borough. From the information received an evaluation of the effect of the biomass developments can be made including compliance with the provisions of the Clean Air Act 1993 wherever applicable. **See Performance Indicator 13.**

Control of Bonfires and use of Other Unauthorised Fuels

DMBC will investigate complaints relating to bonfires, the burning of unauthorised fuels and the use of non exempted appliances at domestic, commercial and industrial premises. The investigations will be carried out in accordance with the Service Standards within the EP Service Plan. Advice will be given to the public and where necessary the provisions of the Clean Air Act 1993 and Part III of the Environmental Protection Act 1990 will be enforced in accordance with the DMBC's enforcement policy to prevent unacceptable emissions to air from these sources. **See Performance Indicator 14.**

Control of Industry

DMBC continues to regulate emissions to air from approximately 130 industrial installations under the Environmental Permitting Regime. A programme for seeking out prescribed installations that are not registered will be formulated and actioned to enable more effective control of emissions to air via the permit conditions. Inspections of the permitted installations will be carried out in accordance with the EP Service Plan and where necessary enforcement of the Environmental Permitting (England and Wales) Regulations 2010 will be undertaken to effectively control and minimise emissions from the installations. The inspection statistics for permitted installations are reported to Defra annually. **See Performance Indicator 15.**

Impacts	By improving our understanding of the sources of nitrogen dioxide, other than from vehicles, we will be in a better position to monitor these emissions, take the available action to minimise further emissions to air & measure the impact our actions have on concentrations of ambient NO ₂ in air. The net result will be improved air quality.
Performance Indicators	<ol style="list-style-type: none"> 12. To complete the background NOx assessment, to have identified possible sources and explored measures to reduce NOx by 31/03/12. To implement reduction measures and repeat modelling to assess the effect by 31/03/13, as specified in the EP Service Plan 13. To evaluate all bio mass installations and identify all required measures to protect air quality within 28 days of receipt of information. 14. To investigate all complaints and enquiries in accordance with the EP Service Plan. 15. Inspections to be carried out in accordance with the EP Service Plan. The programme to identify unregistered installations to be completed by 31/03/12 as stated in the EP Service Plan.
Cost Benefit	The cost of these actions is estimated to be low to medium. The cost of the inspection strategy is partially funded by the industry via subsistence fees paid in accordance with Defra's fees and charges scheme. Until the investigations into unregistered installations is complete the benefits to air quality cannot be accurately quantified but are likely to be generally low with the opportunity of some medium benefits in specific locations where specific emission issues are addressed.
Time Period	All the above projects are planned for the short to medium time frame
Ownership	DMBC

7.6 Action AP6: Information and Awareness Raising

DMBC has several ongoing & planned projects to educate and disseminate information to the Public about Air Quality and the actions that the public can take to help improve air quality in the Borough. This action has the potential to benefit air quality in **all areas**.

Publicity for Air Quality

The Healthy Towns Programme (See 4.3) will increase the use of cycles & walking around the 5 identified Hub sites and routes across the Borough by the provision of additional cycle ways & footways. A publicity campaign was devised and launched in 2010 to notify the public of this initiative.

Local & District Centre development / regeneration plans are issued for consultation to the public for issues affecting air quality before the plans are implemented. Typical examples include the Cradley and Pensnett Regeneration Plans (See 4.6).

Effective Use of Websites

Instrumental NO₂ monitoring information collated by DMBC is displayed on the Council website and is updated daily. See:

<http://www.dudley.gov.uk/environment--planning/pollution-control/air-quality/air-quality-monitoring/daily-air-quality-report>

The DMBC website has been upgraded to show air quality diffusion tube monitoring locations and historic results. See:

<http://gismo.dudley.gov.uk/public/envprot/no2/default.asp>

Ratified instrumental and diffusion tube NO₂ data will be made available for all interested parties via the DMBC website and this will be updated on an annual basis. **See Performance Indicator 16.**

Awareness Raising Of Air Quality Issues at Schools within Dudley

EP Officers are undertaking a school education initiative to raise pupils and teachers awareness of air quality issues. A target of five schools/colleges per year will be included as part of this initiative. NOx diffusion tubes will be provided at the schools and colleges if they are suitably located for air quality monitoring purposes. A target of 5 school sites per year will be targeted. **See Performance Indicator 17.**

The website also has an educational section which will be further developed to include teaching resources which cite examples of local air quality data for use in the school curriculum. **See Performance Indicator 18.**

Impacts	By educating people about air quality in their region it is hoped to increase awareness of the consequences of vehicle emissions and to encourage changes in travel behaviour to alternative forms of transport. This education initiative in schools will also improve child health by encouraging fewer journeys to and from school in the car.
Performance Indicators	<p>16. To ensure that ratified NO₂ data is provided via The Council website and updated on an annual basis no later than 31st May each year.</p> <p>17. To carry out the schools education initiative and deploy NOx diffusion tubes at a minimum of 5 schools per year as identified in the EP Service Plan.</p> <p>18. To complete the redevelopment of the DMBC schools website by 31/06/11.</p>
Cost Benefit	The cost of these enterprises is estimated to be low. The benefits to air quality are likely to be low to start with but as momentum is gained there will be a greater positive impact on improving Air Quality.
Time Period	All the above measures will take place in the short to medium time frame.
Ownership	DMBC and staff seconded from the Dudley PCT.

7.7 Action AP7: Encouraging Changes in Travel Behaviour

DMBC has several projects to encourage changes in travel behaviour not only amongst the employees of Dudley Council but throughout the borough in schools, businesses and for the general public. This action has the potential to benefit air quality in **all areas**.

Dudley Employees

DMBC Travel Plans for employees

This initiative contains a package of measures promoting sustainable travel choices to employees and offering alternative ways of travelling to the private vehicle; It forms part of the Coalition Governments plan to transform the transport system to enable the vision for sustainable growth. The target is to reduce single car occupancy by 1% by 2012. Performance against this target will be monitored by DMBC's Travel to Work Survey carried out bi-annually.

See Performance Indicator 19.

Cycle Purchase Scheme for DMBC Employees

This is a tax free benefit to enable employees to purchase bicycles for cycling to work made under the provisions of the Finance Act 1999 and the Cycle to Work Guarantee which is a voluntary initiative from the Department for Transport, challenging businesses to become cycle friendly employers by making it easy for staff to cycle to and from work.

The target is to increase cycling by Dudley Council employees by 1% by 2012 and will be monitored by DMBC's Travel to Work Survey carried out bi annually.

See Performance Indicator 20.

New Developments and Voluntary Uptake by Businesses

Travel Plans are required for new developments. The details are provided in the DMBC Parking Standards & Travel Plans SPD 2007 (See 3.3.4). Travel Plans are also promoted for voluntary uptake through the Company TravelWise Scheme.

See Performance Indicator 19.

The target is that 30% of employees working for organisations within Dudley MBC shall be committed to work place travel plans by 2011.

Travelwise for the General Public Schools and Businesses

ACTTravelWise is the UK's premier network for all organisations working to promote sustainable travel. Dudley MBC uses the TravelWise® Registered Trademark to market it's travel awareness campaign. The School TravelWise website is being used by Dudley MBC schools and the Company TravelWise website is due to be launched in 2011.

See www.schooltravelwise.org.uk

The changes the campaign brings about are assessed by monitoring the awareness of TravelWise brand and travel mode changes. Annual Surveys are carried out jointly by West Midlands Region of ACTTravelWise & Centro.

Schools Initiative

This initiative ensures that all schools in Dudley MB have walking and cycling plans; currently, 100% of the schools in Dudley MB have achieved this target. The Department for Children, Schools and Families, DCSF, has set a target of 100% of schools to have active travel plans by April 2010. In addition National indicator for travelling for school, N198 requires a 1% decrease in car travel to school and from school per year.

See Performance Indicator 21.

Impacts	By encouraging people to use alternative modes of transport to the private vehicle, vehicle emissions will be reduced lowering levels of NO _x . At the same time there will be reduced CO ₂ emissions and if the option of walking and/or cycling is chosen there will be associated health benefits.
Performance Indicators	<p>19. 30% of all employees to work in organisations committed to work place travel plans by 2011 - The Traffic and Transportation Service Plan.</p> <p>20. WMLTP3 Proposed Target 13: Increase the West Midlands Cycling Index by x% from the 2010/11 baseline of 100 by 2015/16.</p> <p>21. 100% of schools to have travel plans by 2011 (Action Complete) and to demonstrate a 1% decrease in car travel per annum- The Traffic and Transportation Service Plan.</p>
Cost Benefit	The cost of these enterprises is estimated to be medium to high. The benefits to air quality are likely to be low to start with but as momentum is gained there will be a greater positive impact on improving Air Quality.
Time Period	All the above projects are planned for the short to medium time frame
Ownership	DMBC & Centro

7.8 Action AP8: Dudley MBC Leading By Example

DMBC has several projects that lead by example, some of which are listed under Actions AP3 Reducing Vehicle Emissions and AP7 Encouraging Changes in Travel Behaviour. This action has the potential to benefit air quality in **all areas**.

DMBC Carbon Management Plan

The DMBC Carbon Management Plan is currently being developed as part of the Green Dudley Initiative (See 4.5). The plan will set out interventions including sustainable transport, energy efficiency, asset management and low carbon technologies to reduce carbon against an annual reduction target in meeting the Carbon Reduction Commitment. Reduction in Carbon use in vehicles and buildings will also bring about a reduction in emissions of NO₂. The achievements of the carbon management plan will be reported in National Indicator 185 (CO₂ reduction from Local Authority Operations) and consequently the reduction in NO₂ can be calculated. **See Performance Indicator 22.**

DMBC Reduction in Car Mileage Budget for Council Officers

A reduction of 5% has been imposed on the budget to finance business car mileage for council officers for the year 2010 / 11. The effect of this will be to reduce mileage and hence vehicle emissions arising from vehicles driven by Council Officers whilst at work. The implementation of this measure will be monitored by the budget holders and reported to Heads of Service. **See Performance Indicator 23.**

Impacts	Both of these initiatives will reduce damaging gases released to the atmosphere and so benefit AQ. The reduction in car mileage will additionally save public funds, reduce congestion on the highway network and lead to fewer accidents.
Performance Indicators	<p>22. NI 185 and carbon reduction commitment</p> <p>23. 5% Reduction in Annual Council Officer Mileage- Head of Service Action Plan</p>
Cost Benefit	The cost of reducing car mileage is low and the cost of developing the Carbon Management Plan is Medium but the cost of implementing the Plan cannot be established until the Plan is fully developed. The Air Quality benefit of these measures is considered to be low.
Time Period	The time frame for these initiatives is short to medium.
Ownership	DMBC

Table 12 Dudley AQAP Summary Table

Dudley MBC Air Quality Action Plan Summary Table							
Action	Measure	Focus	Lead Authorities	Planning Phase	Implementation Phase	Cost	Indicators
AP1 Road Network Improvements	1	Netherton, Road Junction Improvements	DMBC	C	C	L-M	<p>1. WMLTP3 Proposed Target 1: On key routes limit any change in average AM peak journey times to no more than x% above the change in vehicle flow between 2010/11 and 2015/16.</p> <p>2. WMLTP3 Proposed Target 14: Increase the proportion of trips by public transport into the 9 LTP strategic centres as a whole during the AM peak by x% between 2010/11 and 2015/16.</p> <p>3. WMLTP3 Proposed Target 2: Annual road traffic to grow less in % terms than the local economy between 2010/11 and 2015/16.</p>
	2	Netherton, Traffic Signal Improvements	DMBC	C	S	L-M	
	3	Windmill Hill, Highway and Pedestrian Improvements	DMBC	S-M	S-M	M-H	
	4	Pensnett, High Street Highway Improvements	DMBC	S	M	H	
	5	Traffic Signal Improvements and Upgrade of Pedestrian Crossing Facilities in the Quarry Bank Area	DMBC	S	S	M-H	
	6	The Installation of Urban Traffic Control CCTV Cameras at Key Junctions	DMBC	C	S	M-H	
	7	The Installation of a Right Turning Lane at the Junction between Dudley St and Vicar St., Sedgley	DMBC	C	S	L-M	
	8	The Installation of a Pedestrian Crossing in Priory Road, Dudley	DMBC	S	S	L-M	
	9	Upgrade of Traffic Signals at the B4175/B4176 Junction	DMBC	S-M	S-M	M	
	10	Minor Road and Junction Improvements at Stourbridge Road, Halesowen and Vicarage Road, Amblecote	DMBC	C	S	M-H	
	11	Major Junction Improvement at Burnt Tree Island	DMBC, Sandwell MBC	C	S	H	
	12	Completion of Minor Elements Associated With the Brierley Hill Sustainable Access Network (BHSAN) Major Scheme	DMBC	S	M	M	
AP2 Improving Public Transport & Rail Freight Facilities	1	Developing and Delivering Bus Infrastructure Improvements via Implementation of Voluntary Bus Partnership Commitments.	DMBC, Centro, NXWM	S-M	S-M	M-H	See Indicators 1-3
	2	Extending the WM metro link to Merry Hill	DMBC, LTP3 Partners	M	L	H	
	3	Improving Rail Freight Capabilities	DMBC, LTP3 Partners, Freight Trans Assn	S-M	L	H	
	4	Provision of Better Information for Passengers at Key Railway Interchange Facilities, e.g. Cradley	DMBC, LTP3 partners	S-M	S-M	L-M	

Table 12 Dudley AQAP Summary Table

Dudley MBC Air Quality Action Plan Summary Table							
Action	Measure	Focus	Lead Authorities	Planning Phase	Implementation Phase	Cost	Indicators
AP3 Reducing Vehicle Emissions	1	Roadside Emission Testing (RET)	DMBC	C	S-M	L	4. The feasibility Study for RET will be completed and reported to the head of service by 31/03/11.
	2	Improving the DMBC Fleet	DMBC	O	O	M	N/A
	3	Reducing Idling Emissions	DMBC, Centro, NXWM, other bus companies, schools	C	S	L	5. The evaluation of proposals for reducing idling emissions will be completed and reported to the head of service by 31/03/11 as identified in the EP Service Plan; website upgrade, preparation and distribution of promotional material including signage for bus stations and layover points and council driver training will be completed by 31/03/2012.
	4	Encouraging the Uptake of Low Emissions Vehicles	DMBC	S	S-M	L	6. The investigation into encouraging the uptake of low emission vehicles will be completed and reported to the head of service by 31/03/12 as identified in the EP Service Plan.
	5	Reporting Smoky Vehicles	DMBC, VOSA	C	O	L	7. EP Service Plan 2010 / 11, to upgrade the web site by 31 03 10.
	6	Reducing Congestion	DMBC, LTP3 Partners	S-M	S-M	M-H	See Indicators 1-3
AP4 Land Use Planning Initiatives	1	Supplementary Planning Document	DMBC	S	S	L	8. To have the modified Planning Obligations SPD adopted by DMBC by 31/12/11.
	2	Member and Officer Training	DMBC	S	S	L	9. To complete officer and member training by 31/03/12 - the EP Service Plan.
	3	Monitoring the Effectiveness of Air Quality Planning Recommendations	DMBC	C	O	L	10. To meet the Black Country Core Strategy target LOIENV8- proportion of planning permissions granted in accordance with air quality sections recommendations – 100%
	4	Providing Professional Advice to Development Control	DMBC	S	O	M	11. To update Air Quality Advice Note, produce modelled map of the borough and disseminate the information to planning officers by the 31/09/12 - the EP Service Plan

Table 12 Dudley AQAP Summary Table

Dudley MBC Air Quality Action Plan Summary Table							
Action	Measure	Focus	Lead Authorities	Planning Phase	Implementation Phase	Cost	Indicators
AP5 Industrial, Commercial and Domestic Actions	1	Investigation of Background NO ₂ Concentrations	DMBC	S	S	L	12. To complete the background NO _x assessment, to have identified possible sources and explored measures to reduce NO _x by 31/03/12. To implement reduction measures and repeat modelling to assess the effect by 31/03/13.
	2	Control of New of Biomass installations in Dudley MB	DMBC	C	O	L	13. To evaluate all bio mass installations and identify all required measures to protect air quality within 28 days of receipt of information.
	3	Control of Bonfires and use of Other Unauthorised Fuels	DMBC	C	O	L-M	14. To investigate all complaints and enquiries in accordance with the EP Service Plan.
	4	Control of Industry	DMBC	S	M	L-M	15. Inspections to be carried out in accordance with the EP Service Plan. The programme to identify unregistered installations to be completed by 31/03/12
AP6 Information & Awareness Raising	1	Publicity for Air Quality	DMBC	S	S	L	16. To ensure that ratified NO ₂ data is provided via The Council website and updated on an annual basis no later than 31st May each year.
	2	Effective Use of Websites	DMBC	S	O	L	17. To carry out the schools education initiative and deploy NO _x diffusion tubes at a minimum of 5 schools per year.
	3	Awareness Raising Of Air Quality Issues at Schools within Dudley	DMBC	C	O	L	18. To complete the redevelopment of the DMBC schools website by 31/06/11.
AP7 Encouraging Changes in Travel Behaviour	1	DMBC Travel Plans for Employees	DMBC	S	S	M	19. 30% of all employees to work in organisations committed to work place travel plans by 2011 - The Traffic and Transportation Service Plan.
	2	Cycle Purchase Scheme for DMBC Employees	DMBC, DfT	S	S	L	20. WMLTP3 Proposed Target 13: Increase the West Midlands Cycling Index by x% from the 2010/11 baseline of 100 by 2015/16.
	3	New Developments and Voluntary Uptake by Businesses	DMBC	S	M	M	See indicator 19.
	4	Travelwise for the General Public Schools and Businesses	DMBC & schools	C	O	M	21. 100% of schools to have travel plans by 2011 and to demonstrate a 1% decrease in car travel per annum- The Traffic and Transportation Service Plan.
	5	Schools Initiative	DMBC & schools	C	O	M	

Table 12 Dudley AQAP Summary Table

Dudley MBC Air Quality Action Plan Summary Table							
Action	Measure	Focus	Lead Authorities	Planning Phase	Implementation Phase	Cost	Indicators
AP8 Dudley MBC Leading By Example	1	DMBC Carbon Management Plan	DMBC	S	M	M	22. NI 185 and carbon reduction commitment
	2	DMBC Reduction in Car Mileage Budget for Council Officers	DMBC	C	S-M	L	23. 5% Reduction in Annual Council Officer Mileage-Head of Service Action Plan

8 Conclusions

Completion of a Further Assessment of air quality has enabled DMBC to carry out additional NO₂ monitoring and confirm exceedences of the annual mean NO₂ objective at fifteen locations across the borough, thereby justifying the decision to declare an AQMA in December 2007. The extent of the AQMA is defined by the borough boundary, and this has enabled DMBC to prepare this AQAP in which actions can be taken anywhere in the borough to improve air quality at the exceedence locations.

A full analysis of source contributions and other relevant factors has been compiled to help understand the causes of NO₂ pollution in these areas and provide focus for the development of the AQAP. Significant factors included high traffic flows, emissions from stationary and queuing traffic, gradients in excess of 2.5%, residential properties located at rear-of-pavement and located within street canyons. Significant NO_x contributions from HGVs and/or buses and coaches were also identified in all of the locations.

Preparation of the AQAP has focused on measures to reduce traffic congestion, improve the public transport offering, change peoples travel patterns and reduce regional background concentrations with a number of council led initiatives and initiatives where the Council has partnered other organisations to achieve the required outcomes..

The AQAP provides background information on a range of national, regional and local policies and other related projects and initiatives which have been duly considered in the compilation of the plan. A range of improvement actions have been considered and those rejected at the planning stage have been highlighted in this report with appropriate justification.

The plan contains 8 key action areas and a host of specific measures to tackle air quality issues a both a local and borough wide level. The measures will be implemented in clearly identified timescales and the delivery of the plan will be measured against a total of 31 key performance indicators. DMBC will report progress on the implementation of the plan to Defra on an annual basis.

A conservative estimate of compliance timescales has been undertaken as part of the Further Assessment and indicated that 9 of the 15 areas are likely to achieve compliance within the short-medium timescale associated with the lifetime of the next generation WMLTP. Positive intervention via the action plan will allow timescales to be further accelerated in many of these and the remaining six areas.

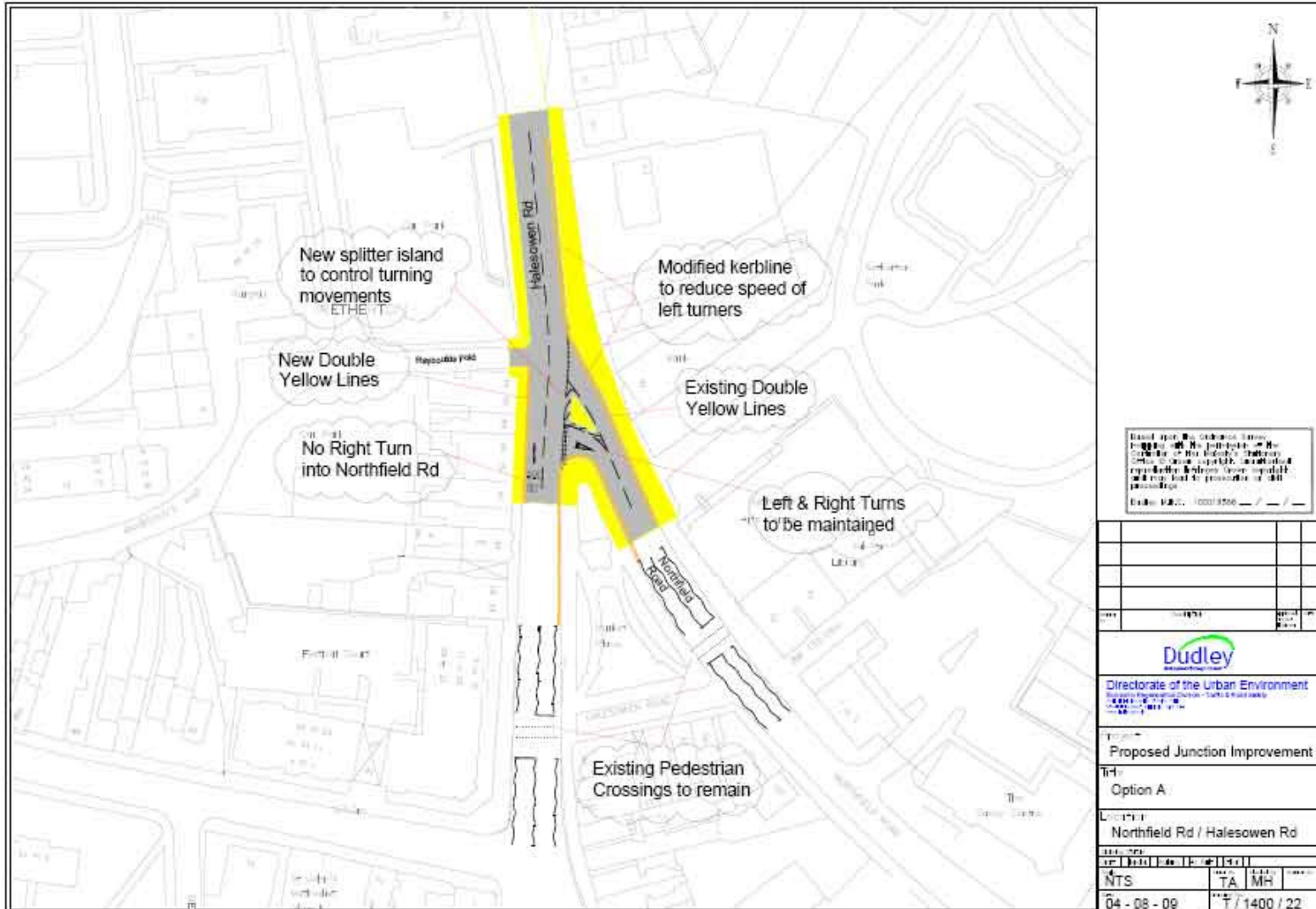
9 References

- 1 Defra (2009) Local Air Quality Management Technical Guidance LAQM.TG(09)
- 2 Defra (2009) Local Air Quality Management Policy Guidance LAQM.PG(09)
- 3 DMBC (2009) 2009 Brierley Hill AQAP Progress Report
- 4 DMBC (2009) 2010 Annual Progress Report
- 5 DMBC (2010) Further Assessment of Air Quality
- 6 Defra (2009) Air Quality Strategy for England, Scotland, Wales and Northern Ireland
- 7 Department of Health (2011) Transport and Health Resource: Delivering Healthy Local Transport Plans
- 8 Environmental Protection UK (2010): Development Control: Planning For Air Quality (2010 Update)
- 9 DMBC (2008) Development Control and Air Quality Policy

10 Glossary and Abbreviations

AQAP	Air quality action plan
AQMA	Air quality management area
BHSAN	Brierley Hill Sustainable Access Network
COMEAP	Committee on the Medical Effects of Air Pollutants
Defra	Department Of The Environment, Food And Rural Affairs
DMBC	Dudley Metropolitan Borough Council
DTS	Dudley Transport Strategy
EP	Environmental Protection
FPN	Fixed Penalty Notice
LAQM	Local air quality management
LDF	Local Development Framework
LES	Low Emission Strategy
LTP	Local Transport Plan
MBC	Metropolitan Borough Council
NXWM	National Express West Midlands
NO₂	Nitrogen dioxide
PCT	Primary Care Trust
PM₁₀	Fine particulate matter (<10 micron aerodynamic diameter)
PPS	Planning Policy Statement
RET	Roadside Emissions Testing
SPD	Supplementary Planning Document
UDP	Unitary Development Plan
VOSA	Vehicle and Operator Services Agency
WM	West Midlands
WMLTP2	West Midlands Local Transport Plan, 2 nd round (2005/6 to 2010/11)
WMLTP3	West Midlands Local Transport Plan, 3rd round (2010/11 to 2015/16)

Appendix 1 Proposed Layout of Road Scheme for Area 1, Netherton



March 2011

Dudley MBC

