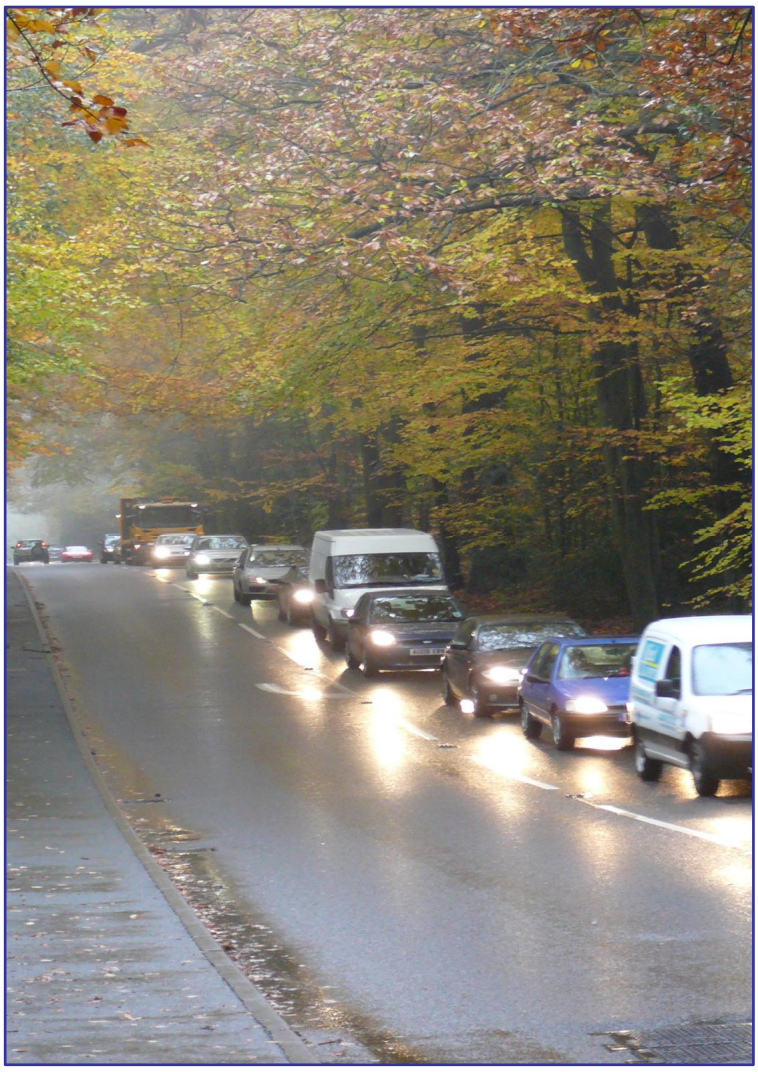
Sevenoaks District Council

Environment Act 1995
Local Air Quality Management

Air Quality Action Plan
2009



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Executive Summary

The Environment Act 1995 requires all Local Authorities to review air quality within their districts. If it appears that any air quality 'Objective' prescribed in the regulations and in the National Air Quality Strategy is not likely to be achieved then the local authority must designate the affected area as an Air Quality Management Area (AQMA).

The Act then requires that an Action Plan (AP) be produced for any areas designated as AQMAs, setting out the actions that the District Council intend to take to achieve the National Air Quality Strategy.

In 2005, Sevenoaks District Council, hereafter referred to as The District Council, declared five AQMAs along the M20, M25, M26, A20(T) Swanley by pass and the A25/A224 junction Riverhead for expected traffic related exceedance of the Nitrogen Dioxide (NO_2) annual average objective. In addition, part of the M25 was also separately designated for expected exceedance of the Fine Particles (PM^{10}) 24hr objective.

An Air Quality Action Plan covering AQMAs 1-6 was formally adopted in November 2006.

In 2006 five further AQMAs were declared for traffic related NO_2 exceedance; these covered Sevenoaks High Street, the Bat and Ball junction of the A25/A225, Westerham and Swanley town centres and Seal High Street (A25).

In 2007, AQMA 1 was extended to cover part of the A20 at Farningham, AQMA 5 extended from Riverhead to cover London Road in Dunton Green and AQMA 10 extended to include London Road / Pembroke Road in Sevenoaks. All were extended for traffic related NO_2 exceedance.

This Action Plan supersedes the above Air Quality Action Plan and includes all 11 AQMAs.

It should be noted that The District Council has no direct jurisdiction over the motorways and trunk roads, which are the major contributory source of pollution within 4 of the AQMAs. Pollution can only be controlled on these roads by the Highways Agency (HA) and the implementation of National and European initiatives which should result in the current objectives for NO_2 and PM^{10} being achieved by 2010 or earlier.

The District Council plays a consultative and lobbying role to help secure improvements to the network and works directly with the local highway authority, Kent County Council, hereafter referred to as the County Council, local organisations and the public, to improve conditions on local roads.

This Action Plan outlines a numbers of measures and actions which are aimed at reducing levels of air pollution within AQMA's and across the District. It also sets out the framework of national, County Council and corporate strategies, service functions and partnership working with other organisations, within which the actions have been developed and will be progressed and monitored.

The actions and measures will provide other benefits for the District which are beyond the original scope of the Action Plan.

The benefits include:

- Reduction of other pollutants such as particulate matter, benzene etc
- Reduction in emission of greenhouse gases
- Reduced noise from traffic
- Reduced congestion
- Environmental improvements when schemes are undertaken
- Economic benefits
- Assist with climate change polices
- Improvements to human health

In compiling this Action Plan, Government Guidance LAQM.PG (03) and the Review and Assessment reports produced on behalf of the District Council by AEA Energy & Environment and Kings College London have been referred to.

The Action Plan has also included recommendations made by the Department for Environment, Food and Rural Affairs (Defra) with respect to the first Air Quality Action Plan and subsequent annual progress reports.

The action point reporting table format has been adapted and reproduced with the kind permission of Brentwood Borough Council.

This updated document takes into account comments made following the recent statutory and public consultation which concluded on the 10th April 2009 and constitutes Sevenoaks District Council's final Air Quality Action Plan.

Introduction and Purpose of the Action Plan

The Sevenoaks District

Sevenoaks District is located in West Kent and covers an area of 142 square miles bordering Greater London, Surrey and Sussex, with a population of nearly 110,000. The main towns are Sevenoaks, Swanley and Edenbridge and there are many small villages and settlements, of which the largest are Hartley, Hextable, New Ash Green, Westerham and West Kingsdown.

In land use planning terms the District is heavily constrained. The entire District is within the Green belt with 93% of the area designated as Metropolitan Green Belt. Two thirds of the District is included within two Areas of Outstanding Natural Beauty. Much of the area is rural in character with many picturesque villages and hamlets and large areas of beautiful countryside.

Consequently, Sevenoaks District is a popular place to live and because of the proximity of London, there is considerable pressure for development.

The M25, M20 and M26 motorways are easily accessible as they cross the District and the Channel Ports and Channel Tunnel Rail Link are all within easy reach. The railway service to London has regular trains to London's Waterloo, Charing Cross and Cannon Street Stations with an average journey time of 30 minutes.

Figure 1: Sevenoaks Station Car Park

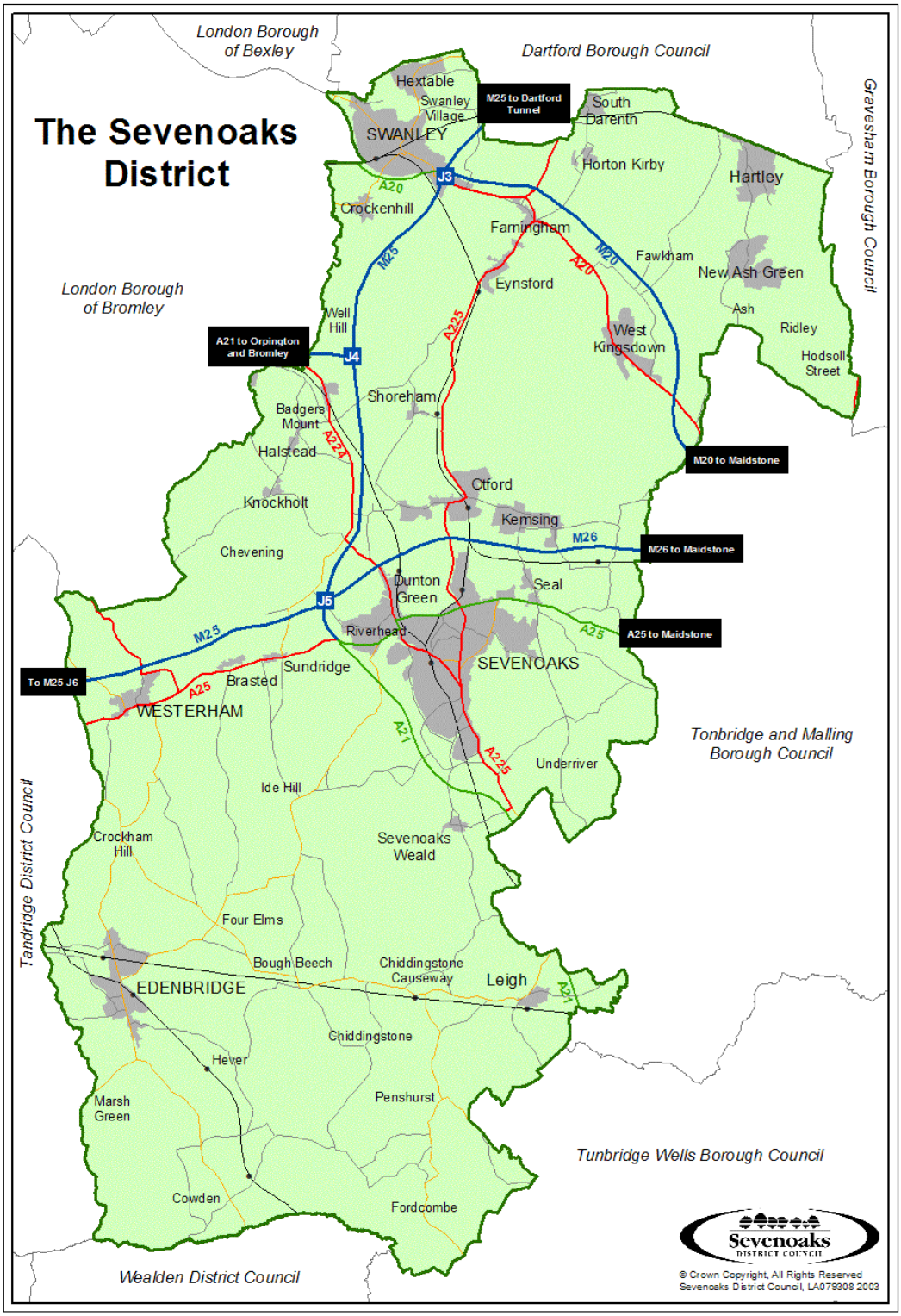

Figure 2: Map of Sevenoaks District

Health impacts of Air Pollution

There are various sources of air pollution in the UK. These can include transport (mainly road transport), energy – both use and production, commercial / industrial premises and natural sources.

The Government has identified 8 key pollutants:

- Nitrogen Dioxide
- PM_{10} particulate
- Benzene
- 1,3 – Butadiene
- Lead
- Sulphur Dioxide
- Carbon Monoxide
- Ozone

Whilst this action plan is primarily aimed at reducing NO_2, the initiatives within it will have a positive affect on the reduction of other air pollutants, especially particulates.

The health implications of the three main transport emissions types are as follows:

Nitrogen Oxides (NO_x)

Nitrogen Dioxide (NO_2) and Nitric Oxide (NO) are collectively known as Nitrogen Oxides (NOx). Nitrogen Oxides which are the main source of poor air quality, are produced during all combustion processes in air, usually in the form of NO which subsequently reacts with Ozone (O_3) to form NO_2.

NO_2 has been identified as having various adverse health effects particularly on the respiratory system and in both asthmatics and non-asthmatics. Short term exposure to this pollutant can increase the likelihood of reaction to allergens such as pollen and has been known to increase asthma in some people. Children exposed to this pollutant may have increased risk of respiratory infections.

Particulates (PM_{10})

Particulates can be produced directly from combustion and other processes, as well as from natural activities. They can also be caused by chemical reaction in the air.

Particulates of less than 3 µm can pass deep into the lungs thus causing respiratory problems.

Carbon Monoxide (CO)

Carbon monoxide is a colourless, tasteless gas, which is known to be poisonous when incomplete combustion occurs.

Inhaling small doses of this gas can result in a person becoming confused and having reduced co-ordination. It can also increase the likelihood of angina.

Principal Sources of Air Pollution in the District and the AQMAs

The predominant source of NOx in Britain is road transport and it is thought that half of emissions in Europe and Britain originate from this source; certainly the highest concentrations of NO_2 are generally found close to busy roads in urban areas.

NO_2 pollution levels within the District follow a similar pattern and road traffic emissions from the motorway network system and major roads such as the A20 and A25, have been found to be a major contributory factor.

Commercial, industrial and domestic sources and some aircraft movements also make a small contribution to back ground or localised pollution concentrations.

Legislative Background and Requirements

Local Air Quality Management

The Environment Act 1995 gives local authorities duties and responsibilities that are designed to secure improvements in air quality, particularly at the local level. These include the review and assessment of key pollutants in their area in a series of three yearly rounds.

If it appears that any of the air quality objectives set by government are not likely to be achieved and members of the public are being exposed to the pollution, the local authority must by order, designate any part of its area so affected, as an Air Quality Management Area (AQMA). They must then prepare and implement a remedial Action Plan of measures to reduce air pollution levels in that AQMA.

A Review and Assessment round consists of local authorities initially undertaking an Updating and Screening Assessment (USA) and then carrying out the following stages if any objectives are found to be exceeded:

- Detailed Assessment of those areas identified in the USA as potential AQMA's
- Designation of AQMA
- Further Assessment of air pollution in the AQMA
- Amendment if necessary of AQMA boundaries
- Action Plan
- Annual Action Plan Progress Reports

The fourth round of Review and Assessment commenced in April 2009.

The District Council has currently designated eleven AQMA's.

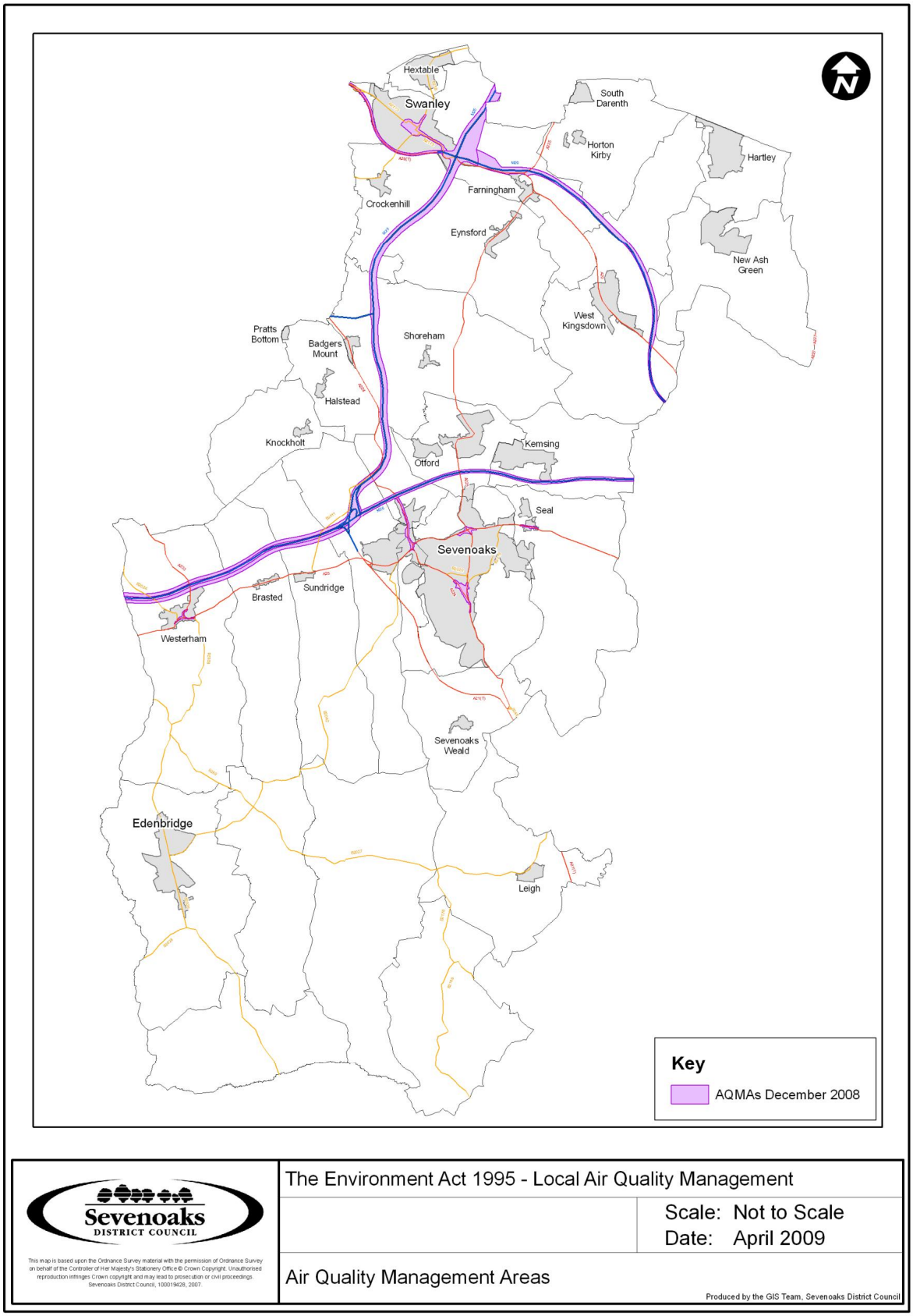

Figure 3: Map of Sevenoaks District showing the Air Quality Management Areas

Review and Assessment of air quality by Sevenoaks District Council

Round 1

In 1999, the first round of Air Quality Review and Assessment, consultants, Kings College London, were employed to carry out the complex computer dispersion modelling required to identity any areas where objectives might be exceeded.

They reported that the daily objective for PM_{10} and the annual average objective for NO_2 were likely to be exceeded along the routes of the M20, M25, M26, A20 (T), A21, and at the junction of the A25 and A224 at Riverhead.

As a result AQMAs 1 to 5 were designated in 2002 for PM_{10} and NO_2.

A Further Assessment in 2004 confirmed exceedance of the PM_{10} and NO_2 objectives but with the PM_{10} affected areas being smaller in size and the NO_2 areas larger than had been originally thought.

In 2005, this reassessment resulted in the revocation of the PM_{10} designations for all but a section of the M25 which was then separately designated for PM_{10} and given the reference AQMA 6.

This overlaps AQMA 2 which covers the whole of the M25 within the district.

All the areas were enlarged due to NO_2 exceedance being more widely spread than originally predicted. Most areas are skewed to the north, northeast or east by the prevailing south-westerly winds.

AQMAs 1 – 6

AQMA 1	M20 - from Junction 3 of the M25 to the district boundary with Tonbridge and Malling Borough Council (6.9 miles).
AQMA 2	M25 - County border with Surrey to district border with Dartford, including Junctions 3, 4 and 5 and the extension of Junction 5 to connect with the A25 at Bessel's Green (13.5 miles).
AQMA 3	M26 - from junction 5 of the M25 to the district boundary with Tonbridge and Malling Borough Council (5.6 miles).
AQMA 4	A20 (T) Swanley Bypass - from junction 3 of the M25 to the district boundary with the London Borough of Bromley (2.7miles).
AQMA 5	A25 Riverhead - between its northern and southern junctions with the A224 (155m).
AQMA 6	M25 - Junction 5 to Kent / Surrey border

Please refer to Appendix 1 for AQMA maps 1 - 7

Round 2

In September 2006, following the second round of reviews, 5 further areas were designated for traffic-related exceedance of NO_2. A Further Assessment of these AQMAs was completed in 2007 which concluded that the concentrations of NO_2 in AQMAs 8-12 had not changed substantially since the Detailed Assessment carried out in 2006

AQMAs 8 – 12

AQMA 8	B2173	Swanley – London Road (East); High Street; Bartholomew Way and parts of Central town area	for NO_2
AQMA 9	A25	Seal – High Street	for NO_2
AQMA 10	A225	Sevenoaks – High Street	for NO_2
AQMA 11	A25	Westerham – High Street; Market Square; Vicarage Hill; London Road (A233)	for NO_2
AQMA 12	A25	Sevenoaks – Bat & Ball junction with A225	for NO_2

Please note: There is no AQMA 7

Please refer to Appendix 1 for AQMA maps 8 - 12

Round 3

During 2007 and following the third round of review and assessment, a Detailed Assessment concluded that the boundaries of existing AQMA's 1, 5 and 10 should be extended because of traffic related exceedance of NO_2.

The following areas were formally designated as AQMAs in December 2007:

a) Part of London Road, Sevenoaks (Extends AQMA 10)
b) Part of London Road, Riverhead (Extends AQMA 5 to join AQMA 3)
c) Part of London Road, Dunton Green (Extends AQMA 5 to join AQMA 3)
d) Part of the A20 Farningham (Extends AQMA 1)

A Further Assessment submitted to the District Council in December 2008, confirmed that the above extensions to AQMAs 1, 5 and 10 were appropriate and no changes to them were required.

Please refer to Appendix 1 for AQMA maps showing extensions

The Action Plan

Background

The Action Plan sets out the authority's proposals to improve air quality within the AQMAs and reduce pollution levels below the current National Air Quality Strategy (NAQS) Objectives. It also contains simple estimates of the costs, benefits and timescales for implementing the proposed action plan measures.

The measures are prioritised for implementation and will be subsequently monitored to indicate how far the measures are working towards achieving the Objectives. The Action Plan also considers funding options, partnership working and developer contributions to fund proposed initiatives

The first Air Quality Action Plan (AQMAs 1- 6) was formally adopted in November 2006 with Annual Air Quality Progress reports submitted to DEFRA in April 2007 and April 2008.

This Action Plan which takes into account all 11 AQMAs amends and supersedes the first Action Plan.

Consultees for the Action Plan

The draft Air Quality Action Plan was issued to the following consultees during March and April 2009:

Defra
Highways Agency
Environment Agency

KCC - Strategy & Planning Division
KCC –Kent Highways Services

All Sevenoaks District Council Depts

Kent Health Protection Unit
Dartford, Gravesham and Swanley
PCT
South West Kent PCT

Local Chambers of Commerce
Federation of Small Businesses
Freight Transport Association

Friends of the Earth
English Nature
Places for People

Mayor of London
Surrey County Council
East Sussex County Council

London Borough of Bromley
London Borough of Bexley
Tandridge District Council
Wealden District Council
Dartford Borough Council
Gravesham Borough Council
Tonbridge & Malling Borough Council
Tunbridge Wells Borough Council

Green Peace
Natural England

West Kent Housing Association

Sevenoaks District Council website for general public access

All properties in each Air Quality Management Area

Air Quality Action Plan Consultation – Summary of responses

Defra	• The final report is well structured and the action plan is largely consistent with guidelines in LAQM.PG(03). The report gives a detailed and thorough evaluation of the current situation; required improvements and an action plan which will address the issues. • The Council should be commended on the method it has applied in presenting information in its action plan, particularly the use of effective summary tables for each action. The Council is encouraged to continue clear and concise reporting in future Progress Reports. • In future progress reports the Council should also be encouraged to provide an indication of the success of each measure in terms of quantified evidence relating to emissions reductions. • The Council is commended for its efforts to date and it is recommended that the final action plan be accepted.
Highways Agency – M25 Southern Team	• We are pleased to have your continuing participation in our national AQMA survey and note that the results for 2007/8 indicate concentrations close to the objective for all sites near the Strategic Road Network (SRN).
Environment Agency, Kent Health Protection Unit, local Primary Care Trusts, neighbouring LA's and County Councils, West Kent Housing Association	• No responses received
Other Sevenoaks District Council sections	• Comments and updated information incorporated in final Action Plan
KCC – Strategy and Planning Division, Kent Highways Services	• No responses received
Parish and Town Councils	• Comments included below
Local Residents and businesses	• Comments included below
AQMAs 1, 2, 3, 4 and 6 - Motorways and A25	• The Council should continue to lobby the Highways Agency regarding the impact the motorways have on the District. • Poor air quality along several sections of the A25 is primarily caused by unnecessary traffic congestion and could be prevented by building east facing slips onto the M26 at Junction 5 of the M25 to allow full road connectivity in all directions at the M25/M26/A21 interchange. • Land by M25, M20 and A20 and kerbsides generally should be planted with fast growing trees and shrubs to improve air quality

AQMA 5 - Riverhead/Dunton Green	• Several residents expressed disappointment that the Tesco's expansion and West Kent Cold Store development were permitted and were concerned about the adverse impact these would have on pollution and traffic congestion. • Section 106 contributions from these major applicants should have been higher and more strictly controlled. • New residential developments in areas of poor air quality should be "not permitted" rather than "resisted". • Restrict both the speed of local traffic with traffic calming which in turn would restrict the high level of unnecessary HGV traffic. • People will not stop using their own cars in favour of public transport. • Keep traffic moving on the main roads to help reduce pollution. • Most traffic hold ups are caused by road works. • Measuring the air quality is not enough – action needs to be taken for the sake of all our health. • The air is polluted with car fumes which you can smell • Measures are weak and insufficient to effectively improve air quality.
AQMA 8 - Swanley	• Section 106 Agreements should be used for public transport improvements. • Should resist local housing and commercial developments which will result in more cars, congestions and will worsen already poor air quality. • Emissions testing of vehicles should be re-introduced. • The availability of the Council's mini buses should be better publicised. • Swanley Town Council invites the District Council to investigate the production and use of Bio Diesel for its parks vehicles. • Incorrect use of roundabouts causes traffic jams. • Make Goldsell Road bridge three way. • Rush hour traffic fumes are bad. • Too many people use their cars to take children to school. • Swanley lane is becoming progressively worse with lorries and congested traffic. • Swanley Lane should have road traffic calming measures and width restrictions in place. • Large lorries deliver all day to Asda causing pollution. • Deliveries should be limited although there has been some improvement. • People use their cars to drive to the station as its not safe or pleasant to walk in some areas. • A 24 hour supermarket and car parking means pollution doesn't clear. • Traffic, congestion and parking is terrible on Market day. • Why do not more people use the bypass? • To avoid traffic entering town there should be an exit on the bypass at Birchwood.

	• HGVs, pollution and noise significantly increased since the bypass was built. • Problems on the M25 gridlock the Town centre. • Foreign lorries are contributing to congestion and pollution levels and stricter tests should be undertaken on them. • The local bus service is not frequent enough and too expensive. • Buses parking up in the High street can cause congestion. • Cycle lanes do not exist. • Any proposed cycleway must be part of a proper connected network. • Proper secure cycle parking sites should be provided at strategic locations. • There should be better parking enforcement particularly in the High Street area to ease congestion.
AQMA 9 - Seal	• The only way to improve the air quality is to reduce the traffic on the A25 especially commercial traffic and heavy lorries. • Ban the use of A25 through Seal by any vehicle exceeding 5 tons (for example) unless they have business in Seal. • Reclaim the village and put heavy industrial traffic where it belongs. • An east facing slip road onto the M26 from the south A21 would substantially reduce traffic on the A25. • Observing the 30 mph limit in Seal High Street would improve air pollution. • Should be more emphasis on traffic control, road safety and low emission zone monitoring and signage to try and improve the overall quality for those living/working in the area. • Measures are weak and insufficient to effectively improve air quality.
AQMA 10 - Sevenoaks	• There is a huge amount of traffic, particularly unnecessary lorries running through Sevenoaks most days. • Delivery lorries should be more strictly controlled • HGVs and lorries should be banned from using the High Street. • Delivery lorries should have limited admission into the town centre. • We will welcome any action to reduce pollution particularly from lorries and old buses as well as old cars. • We have reached saturation point in development terms, further development should cease or be severely restricted. • Large new developments in the area are increasing traffic levels • Reduced parking rates for local businesses encourage people to use their cars without thinking of alternatives. • Providing free public parking for the most efficient cars would help to meet air quality targets. • Insufficient parking near to Sevenoaks Station causes spread but at least commuters are using public transport for some of their journey.

	• There should be better parking enforcement particularly in the High Street • Permits prices on a sliding scale linked to vehicle emissions (tax band) would encourage the use of cleaner cars. • Travel plans could be sent out to businesses to encourage them to consider alternatives and car sharing possibilities. • All schools should encourage their children to walk, bike or use the bus or train to discourage the use of cars. • Organised school buses should be encouraged. • School Travel Plans should be promoted and more targeted to reduce traffic congestion at peak hours • Bus route information, signage and concessionary schemes should be promoted more to encourage greater bus use. • The cost of some fares is prohibitive and irrational. • The poor physical accessibility of some buses discourages use by certain groups. • Services are not always at convenient times or are limited especially in rural locations. • Safe cycle routes should be considered as many local roads are unsafe. • Cycle routes between popular locations should be developed along residential rather than major roads. • Public awareness should be raised to encourage less polluting travel options. • Successful solutions to pollution issues may be radical and probably unpopular. • Idling in queues is an issue which could be tackled by campaigns at hotspots. • The Government needs to find more efficient means of vehicle propulsion. • Consideration be given to switching traffic signals off in peak – time periods. • A wonderful solution would be to pedestrianise the area
AQMA 11 - Westerham	• The only viable solution for Westerham is a bypass. • Illegally parked vehicles should be eliminated or significantly reduced to avoid traffic build ups, this could be achieved by a red route. • Traffic-calming measures can cause a lot of traffic jams with associated braking and acceleration of vehicles. • Lining to enhance the narrowness of the carriageway could cause more pollution • Measures are weak and insufficient to effectively improve air quality.
AQMA 12 - Bat & Ball	• Road and junction layout changes and improvements as well as rephrasing traffic lights would improve rush hour congestion and reduce pollution levels. • A roundabout should be installed to allow for the dispensation of the traffic lights.

Sevenoaks Friends of the Earth	• Comments included in Sevenoaks section
Sevenoaks & District Chamber of Commerce	• Comments included in Bat & Ball section
Freight Transport Association	• The Auto Oil programme has been running for many years to bring in higher standards (The Euro standards). • Information is showing that the contribution of HGVs to the pollutants portfolio is significantly overstated. • The risk of imposing restrictions on large vehicles may end up generating more emissions from a larger number of smaller vehicles. • The feasibility of improving the use of rail freight within a local context is very limited. The most effective measure would be to reduce emissions by improving traffic flow on transit routes such as the motorways.
Natural England	• We welcome any measures requiring lower emission levels than those required by the Local Air Quality Management regime in order to secure benefits for the natural environment.
General comments	• A stricter environmental approach should be taken with planning applications. • There should be a “bottom up” view – local people, jobs and food = less travel and transport.

Monitoring the Action Plan

The Action Plan will be monitored yearly with results submitted to Defra via an annual air quality progress report.

Existing policies and strategies to improve air quality

There are a number of related, overlapping policies and strategies at national, regional and local level which are designed to combat pollution from road traffic and are crucial to delivering improvements in air quality. Other strategies such as those concerning climate change will also have similar objectives and benefit the air quality action plan.

The main relevant supporting policies are:

The National Air Quality Strategy – Air Quality Standards and Objectives

The Environment Act 1995 required the Government to produce a National Air Quality Strategy (NAQS) and laid the foundations for a system of local air quality management.

The latest Air Quality Strategy released in July 2007, provides the over arching strategic framework for medium term air quality management in the UK. It contains national air quality standards and objectives established by the Government to protect human health, vegetation and eco-systems

The objectives for ten pollutants - benzene, 1,3-butadiene,carbon monoxide, lead, nitrogen dioxide, sulphur dioxide particulates (PM_{10} and $PM_{2.5}$) and ozone which have been prescribed within the Air Quality Strategy are based on The Air Quality Standards (England) Regulations 2007. See Table 1 below.

These regulations bring together the Government's requirement to fulfil separate EU Daughter Directives through a single consolidated statutory instrument which is fully aligned with proposed new EU Air Quality Directive (CAFE – Clean Air For Europe).

UK Air Quality Objectives for protection of human health, July 2007 – New objectives highlighted in shading

Pollutant	Air Quality Objective		To be achieved by
	Concentration	Measured as	
Benzene			
All authorities	16.25 µg m^{-3}	Running annual mean	31 December 2003
England and Wales Only	5.00 µg m^{-3}	Annual mean	31 December 2010
1,3-Butadiene	2.25 µg m^{-3}	Running annual mean	31 December 2003
Carbon Monoxide			
England, Wales and N. Ireland	10.0 mg m^{-3}	Maximum daily running 8-hour mean	31 December 2003
Lead	0.5 mg m^{-3}	Annual mean	31 December 2004
	0.25 mg m^{-3}	Annual mean	31 December 2008
Nitrogen Dioxide	200 µg m^{-3} not to be exceeded more than 18 times a year	1-hour mean	31 December 2005
	40 µg m^{-3}	Annual mean	31 December 2005

Particles (PM_{10}) (gravimetric)			
All authorities	50 µg m^{-3}, not to be exceeded more than 35 times a year	24-hour mean	31 December 2004
	40 µg m^{-3}	Annual mean	31 December 2004
Particles ($PM_{2.5}$) (gravimetric) * Shaded data shows new objectives	25 µg m^{-3} (target)	Annual mean	2020
All authorities Shaded data shows new objectives	15% cut in urban background exposure	Annual mean	2010 - 2020
Sulphur dioxide	350 µg m^{-3}, not to be exceeded more than 24 times a year	1-hour mean	31 December 2004
	125 µg m^{-3}, not to be exceeded more than 3 times a year	24-hour mean	31 December 2004
	266 µg m^{-3}, not to be exceeded more than 35 times a year	15-minute mean	31 December 2005
PAH * *Not included in regulations at present	0.25 ng m^{-3}	Annual mean	31 December 2010
Ozone * *Not included in regulations at present	100 µg m^{-3} not to be exceeded more than 10 times a year	Daily maximum of running 8-hour mean	31 December 2005

Table 1: Summary of the current UK Air Quality Standards and Objectives

Projections suggest that some of the objectives can be achieved through measures already planned or introduced by the Government such as tighter control of vehicle emissions and industry regulation. Other objectives will require local authorities to take action at local level to reduce pollution in their areas.

Development Plans

Development Plans guide and determine proposals and policies for future development in an area. They influence the location and type of development; some policies directly address air quality issues and some indirectly, for example, by influencing the location of development, in order to reduce the need to travel.

In September 2004 the Government introduced The Planning and Compulsory Purchase Act which requires Development Plans to be prepared in a different way.

Regional Planning Bodies are required to prepare Regional Spatial Strategies and Local authorities like Sevenoaks District Council to prepare Local Development Frameworks (LDF).

The South East Plan 2009

The South East Plan forms the Regional Spatial Strategy for the South East Region and was published by the Government in its final form in May 2009, following examination by an independent panel. It provides the statutory strategic framework for the development of the region over the period to 2026.

The plan identifies the key challenges to the regional transport system as:

i. To provide consistently good access between the United Kingdom and the world through gateway ports and airports
ii. To maintain high quality radial connectivity to London, and develop orbital routes around London
iii. To deliver transport measures which address severe deprivation
iv. To address unpredictable journeys in buoyant areas
v. To reduce the impact of the transport system on the environment.

It adds that there is a need to rebalance the transport system in favour of sustainable modes accepting that it is unrealistic to achieve an absolute reduction in traffic within the life of the plan.

Policy NRM9 - Air Quality

Strategies, plans, programmes and planning proposals should contribute to sustaining the current downward trend in air pollution in the region. This will include seeking improvements in air quality so that there is a significant reduction in the number of days of medium and high air pollution by 2026. Local development documents and development control can help to achieve improvements in local air quality through:

i. Ensuring consistency with Air Quality Management Plans
ii. Reducing the environmental impacts of transport, congestion management, and support the use of cleaner transport fuels
iii. Mitigating the impact of development and reduce exposure to poor air quality through design, particularly for residential development in areas which already, or are likely to, exceed national air quality objectives
iv. Encouraging the use of best practice during construction activities to reduce the levels of dust and other pollutants
v. Assessing the potential impacts of new development and increased traffic levels on internationally designated nature conservation sites, and adopt avoidance and mitigation measures to address these impacts.

Local Development Framework

The District Council is making good progress in preparing the first LDF, details of which are set out in the Local Development Scheme.

The District Council has recently prepared a draft Core Strategy - Preferred Options and undertook a public consultation on it between January and March 2009. The submission version of the plan is due to be published in September 2009. The Core Strategy is the first Development Plan Document to be prepared by the District Council and is the central component of the new Local Development Framework.

It sets out the vision and strategic objectives for future development in the district up until 2026 as well as providing policy context for other Development Plan Documents such as the Balanced Communities Allocations DPD and Proposals Map.

It is central to the delivery of sustainable development and creating sustainable communities.

The Core Strategy forms part of the Development Plan for Sevenoaks District and must conform with national guidance. Along with the South East Plan it will form part of the Development Plan once it is adopted

In the section 'Delivering the Strategy General Policies - Sustainable Development, Climate change and Air Quality', the Core Strategy sets out the following objectives:

- To ensure that new development takes account of the need to mitigate and adapt to climate change including principles of sustainable development, including locating development to minimise energy use, promoting travel patterns that reduce the need to travel by car, and encouraging sustainable construction including measures to reduce energy consumption and promote the use of renewable energy
- To ensure new development takes place in a way that contributes to an improvement in the District's air quality

In the context of future development in Sevenoaks, a main area identified as having scope for intervention to reduce emissions of greenhouse gases is road transport, which is a major contributor to greenhouse gases.

It is noted that:

'There is scope for locating new development where it is accessible to services and facilities thereby reducing the need to travel, there is scope for maintaining and promoting public transport services to reduce reliance on the car, and there is scope for promoting Travel Plans to reduce travel by businesses and other organisations'.

The section continues specifically with regard to Air Quality:

'Poor air quality is an issue in certain parts of the District alongside main roads. 11 Air Quality Management Areas have been declared and the Council has an Air Quality Action Plan that includes measures to improve air quality.

Road traffic is the main contributor to poor air quality and the level of road traffic, particularly through traffic is largely outside the control of the District. Policies in the

LDF will have some impact on traffic levels though they can only be part of the solution. Locating new development where it is accessible to services and facilities will have a beneficial impact in reducing the need to travel, while applying policies to retain services and facilities that meet a local need together with maintenance of rural transport services should also reduce the need to travel by car to reach essential services.

Future development should avoid adverse impact on air quality, particularly in Air Quality Management Areas where there is a need to improve air quality. In areas of poor air quality careful design of new development will be needed to ensure an acceptable environment for future occupiers.'

The following strategic policy will regulate how development takes place to ensure it happens in a way that contributes to achieving the spatial vision.

Policy SP2: Sustainable Development, Climate Change and Air Quality

The District will mitigate current and forecast effects of climate change by:

i. Focussing new development on locations that are accessible to services and facilities to reduce the need to travel.
ii. Supporting rural public transport services and promoting the use of Travel Plans to reduce dependence on travel by car.
iii. Promoting best practice in sustainable design and construction to improve energy efficiency of new development. Initially the Code for Sustainable Homes Level 3 and Bream "Very Good" standards will be applied but progressive improvements will be sought to ensure that emerging best practice is applied to future development in the District.
iv. Requiring new development to incorporate at least 10% of its energy from decentralised and renewable or low carbon sources. Until a local target is set the requirement will apply to developments of more than 10 dwellings or 1,000 sq m of non-residential floor space. The incorporation of renewable energy in smaller developments will be encouraged.
v. Promoting the incorporation of combined heat and power in new development.
vi. Supporting small scale and community-based renewable energy developments where such development does not adversely effect the openness of the Green Belt and, where relevant, is consistent with AONB policy.

The District will adapt to forecast effects of climate change by:

i. Locating future development away from areas at risk of flooding taking account of the anticipated increase in the area of the 1:100 year flood plain
ii. Incorporating sustainable drainage systems (SUDS) in new development to reduce adverse impacts from surface water run-off
iii. Requiring the inclusion of measures to minimise water consumption in new development.

The design and location of new development will take account of the need to improve air quality in accordance with the District's Air Quality Action Plan. Development that may have an adverse impact on air quality will be required to incorporate mitigation measures to reduce impact to an acceptable level. New development in areas of

poor air quality will be required to incorporate measures in the design and orientation that demonstrate an acceptable environment will be created for future occupiers.

Implementation includes:

- The spatial strategy locates development to reduce the need for travel and avoid flood risk;
- The provisions of Kent Design will be applied in relation to sustainable design and construction, including sustainable drainage;
- Detailed guidance will be developed on the incorporation of renewable energy in new development

Vision for Kent

'The Vision for Kent' was launched by Kent County Council as Kent's Community Strategy in April 2002. This Strategy is an umbrella for the programmes of all public agencies in Kent, gathered in partnership creating a framework within which they can all work together to improve the economic, environmental and social well-being of Kent over the next 20 years.

One of the nine components of the Vision relates primarily to transport and the aim is to "create a County where the difficulties of traffic and transport are tackled for the benefit of all".

Theme 8 of the vision –'Keep Kent Moving', reflects the Shared Priorities of road safety and congestion and includes:- the action to lobby government, to improve congestion points on major trunk roads and motorway including the M25, minimise the impact of transport on communities by walking, cycling and other community projects and to minimise congestions on roads.

All of the transport actions identified in the Vision have been directly integrated into the Local Transport Plan.

Local Transport Plan for Kent 2006 – 2011

In 1998 the Government published a Transport White Paper "A New Deal for Transport" which outlined their commitment to a more integrated and sustainable transport system with greater emphasis on alternative forms of transport to the private car. The Government also introduced a system of Local Transport Plans (LTPs) which each highway authority had to prepare every five years which would outline their aims to improve local transport and the funding they required to do this. In the second round of LTPs 2006 -11, the Government outlined four shared priorities for local transport, one of which was air quality and required LTPs to consider improvements to the transport network which would reduce air pollution in those Air Quality Management Areas declared in response to exceedances by local traffic.

The Local Transport Plan for Kent 2006-11, which was submitted in March 2006, aims to "stabilise and, where possible, reverse the adverse effect of transport and its infrastructure on the natural and built environment and on local communities".

The LTP has set the following ambitious policy aims and targets to help improve air quality:

LTP8 Air Quality in Air Quality Management Areas

To reduce the annual average level of NO_2 missions at Kent's AQMAs to 40 µg/m^3 by 2010/11. Based on 11 AQMA sites on Kent's local road network. Intermediate traffic flow monitoring will form annual trajectory for this particular indicator.

Policy EHC 1

KCC will work with partners to seek a reduction in traffic pollution on the local road network.

Policy KKM 1

KCC will work with partners to reduce congestion through better management of Kent's highways.

Since Kent lacks one large urban area with a population above 250,000, KCC is not currently required to set an LTP target for reducing congestion but congestion and its impact on Kent's economy and communities is a priority for KCC.

It is accepted that transport is essential for giving people access to work, learning, health care, food shops and leisure activities and those without access to a car can be excluded from life opportunities.

However, the use of the car is starting to threaten people's quality of life and the environment. Congestion has a negative impact upon prosperity, quality of life and public health through poor air quality. The emission of carbon dioxide is the main driver of climate change, whereas, road traffic accounts for over half of the total emissions of nitrogen oxides and particulates.

Via the plan, the County Council will work with partners to seek a reduction in pollution caused by traffic and congestion on the local network in a variety of ways.

The Strategy for Tackling Congestion LTP 2006 – 11

Kent's strategy comprises five broad approaches:-

- Introducing better public transport services and infrastructure, improving walking and cycling facilities and reallocating road space and managing of traffic in favour of these sustainable alternatives,
- Active management of the availability, cost and enforcement of parking provision at the journey destination
- Raising awareness of the impact of travel and the availability of alternatives relevant to people's needs to promote behavioral change
- A consistent approach to new development to ensure the demand for travel they create is met in sustainable ways
- Measures to restrain car use and reduce the need to travel to access goods and services

Sevenoaks District Transport Strategy (Draft)

It is currently proposed that the draft Sevenoaks District Transport Strategy be formally adopted in late 2009 following further development and public consultation.

The overall aim of the Strategy will be to identify key transport issues within the Sevenoaks District so that these issues can be taken forward into the next Local Transport Plan for Kent (2011-2016) and the Sevenoaks Local Development Framework (LDF).

It is intended that the transport issues identified within the Strategy should be taken into account by Developers, transport providers and the Highways Agency when considering transport issues within the District now and in the future.

The overall aims and objectives of the initial draft Transport Strategy are as follows;

- Investigate viable alternatives to the car, such as encouraging more journeys by bus, train, cycling and walking, that will improve travel choice;
- Identify barriers to the take up of alternative forms of transport and recommend actions to address this issue;
- Identify ways to reduce congestion and improve air quality through improved traffic management, and assess the viability of other options such as car sharing and identifying possible solutions such as new roads;
- Identify schemes which target casualty reduction and reduce inappropriate speeds to improve road safety;
- Identify ways to reduce travel demand through reducing and controlling the number of car journeys made into town centres and locating new development close to good transport links and local facilities. Identify key parking issues and possible solutions to alleviate problems such as commuter parking within the District;
- Identify ways to improve travel awareness through travel plans and partnership working with internal and external stakeholders and transport providers. As well as looking at innovative approaches to public transport in rural areas;
- Investigate improving access for all including rural accessibility and access to healthcare;
- Look at ways to improve the environment, air quality and the quality of life.

The draft strategy will cover the period up to and including 2016.

Any strategy covering a longer time period would need to consider significant transport changes expected as a result of the development of 30,000 new homes and 50,000 new jobs, and a new high speed rail link to London proposed within the neighbouring area of Kent Thameside.

<u>Progression and Funding – Sevenoaks District Transport Strategy (Draft)</u>

In order to progress the implementation of the suggested improvements within this Strategy, an assessment needs to be carried out to determine a priority for each suggested action / recommendation within the action plan.

The type of assessment carried out will depend on where the funding for each action / recommendation is to come from (if funding is necessary). A possible funding

stream has been identified within the action plan and ways to progress bids for funding have been identified within the Funding and Programming section of the strategy

Improvements that have been identified can be categorised into the following;

- Local Transport Plan schemes (which generally cost under £250,000) that can be funded through the Local Transport Plan budget, which is provided by the Department for Transport to fund schemes that support the delivery of the Local Transport Plan for Kent 2006-2011.
  These schemes should not exceed £5 million in capital costs.
- Local Transport Plan Schemes and Major Schemes (which generally cost more than £1 million) that can be funded by developers as part of their proposals.
- Schemes funded by bus/train operators – i.e. improvements to timetable information at bus stops, improvements within the Train Stations themselves.
- Sevenoaks District Council schemes – overall responsibility for 'on street' parking rests with KCC and 'off street' parking with the District Councils. Enforcement and management is undertaken on an agency basis on behalf of KCC by the District Council of Kent. A number of the improvements identified within the Action Plan relate to matters concerning Sevenoaks District Council owned car parks and better parking enforcement.

- Major schemes that could be funded through Central Government/SEEDA (such as improvements to the motorway and trunk road network identified by the Highways Agency).

For those schemes that could be funded through the Local Transport Plan budget, the timescale for the implementation of such schemes has been identified as the last years of the current Local Transport Plan for Kent (2006-2011).

Motorway and trunk road network

Congestion on the motorway and local trunk road network effects local roads within the Sevenoaks District, particularly the A25. However responsibility for, and funding of, proposed improvements to the motorway and trunk road network within the District falls to the Highway Agency. As a result there is little that either Kent County Council and Sevenoaks District Council can do to implement improvements to the motorway and trunk road network, which would help alleviate congestion problems on local roads. However Kent County Council and Sevenoaks District Council will continue to lobby the Highways Agency for improvements.

The Air Quality Action Plan and the Sevenoaks District Transport Strategy (Draft)

Measures identified by the Strategy which could directly or indirectly improve congestion and air quality have been included in the Air Quality Action Plan for reference purposes. The progress of the Strategy and majority of actions within it will be monitored by KCC although some individual actions cross reference with work undertaken by the District Council. In such cases, the actions will be subject to either scrutiny by the Joint Transport Board, existing Corporate or County reporting mechanisms or via other ongoing processes such as planning.

Note: Any amendments to the final draft Sevenoaks District Transport Strategy which affect or substantially alter the information provided within this Air Quality Action Plan will be reported to Defra in 2010 via the Annual Air Quality Progress Report

Traffic Management Act 2004

This Act together with associated Network Management Duties require the County Council as Highway Authority to measure congestion across Kent, investigate the worst problem areas and develop mitigation schemes for further implementation. These schemes will be incorporated into the bidding process for the LTP in future years. It is hoped that there will be some quick gains in congestion areas that could benefit from relatively inexpensive measures such as signing improvements.

Kent Environment Strategy (2003)

The Kent Environment Strategy was drawn up by Kent County Council in partnership with the District Authorities.

The objectives of the Strategy relevant to air quality are shown below.

What?	Why?	Who?	When
Meeting National Air Quality Objectives			
Develop and implement strategies and action plans to work towards achieving the National Air Quality Objectives.	To reduce the risks on health and the environment from high levels of pollution	DCs & MC assisted by KMAQP	Prepare, implement and revise AQMA Action Plans from 2002; designation of further AQMAs as necessary
Reducing the impact on environmental health			
Establish and disseminate information about Nitrogen Dioxide (NO_2), Sulphur Dioxide (SO_2), Carbon Monoxide (CO), Particulates (PM_{10} and $PM_{2.5}$) and Ozone (O_3) levels.	To provide a better understanding of air pollution, determine trends, inform the future action required and raise the awareness of those susceptible to high levels of pollution.	Kent and Medway Air Quality Monitoring Network (DCs& MC)	- Monthly and annual monitoring reports - Daily bulletins via the internet (www.kentair.org.uk)
Planning new development appropriately			
Incorporate air quality policies in the Kent and Medway Structure Plan and District Council Local Plans informed by the Kent and Medway Air Quality Model's (KMAQM) predictions of the air quality impacts associated with cumulative effects of proposed new development	To minimise the impact on air quality from future development across Kent, particularly in areas identified as having poor air quality.	KCC, DCs & MC	- KMSP - Draft on deposit 2003 Local Plan Review – ongoing - Ongoing use of the KMAQM to inform planning application decisions

What?	Why?	Who?	When?
Planning new development appropriately			
Raise awareness and encourage greater interaction amongst the relevant decision-makers including environmental health, transport and land use planning officers.	To ensure that the impact of development on air quality is appropriately assessed	KMAQP	Ongoing
Regulate industrial processes through Integrated Pollution Prevention Control (IPPC) and Local Air Pollution Control (LAPC) and raise environmental standards through the use of environmentally friendly technology	To minimise the impact of current and proposed industrial processes and associated emissions such as volatile organic compounds.	EA, District Councils, DCs & MC	- Ongoing IPPC and LAPC regulation - Raised environmental standards as part of 4 year review of IPPC and LAPC authorisations - Ongoing through planning application decisions
Incorporate more sustainable forms of transport, incentives and traffic management measures into the Local Transport Plan (LTP).	To move towards methods of transport which cause less pollution and promote walking, cycling and public transport.	KCC in consultation with DCs & MC	Strengthen policies in Local Transport Plan by 2004
Tackling trans-boundary pollution			
Tackle trans-boundary pollutants (i.e. ozone and particles) at a regional level by sharing information and working together with neighbouring authorities in the UK and northern France.	To address pollution at a regional level as airborne pollution does not recognise local authority boundaries	KCC on behalf of the KMAQP	Ongoing through transnational projects

Table 2: Kent Environment Strategy - Air quality objectives

Air Quality Objectives - The Kent Environment Strategy Report (2003)

The Kent Environment Strategy Progress Report (2007) provides an update with respect to progress with actions relating to air quality, as shown below:

- Despite reductions in some air pollutants, overall air quality in Kent is showing no clear improvement;
- Long-standing problems have been exacerbated by traffic growth, increased ozone pollution from distant sources and extreme weather such as heat waves which are becoming more likely as a result of global warming;
- The identification of new Air Quality Management Areas (AQMAs) is an indication of the problem – but only a first step in solving it;
- The effort going into 'monitoring and action planning' is still not being matched by 'implementation' of actual measures to improve air quality;
- Reducing emissions from HGV and car traffic remains the key challenge to improve air quality;
- The Kent Partnership will be reviewing the Kent Environment Strategy in 2007 and publishing a revised Strategy early in 2008.

The Sustainable Community Action Plan

The Sustainable Community Action Plan for Sevenoaks District, "Making It Happen – Together" is an Action Plan which covers the three years from 2007 to 2010 as part of the ten year vision for the District Council from 2004 to 2014. The District Council, in partnership with local public services, community groups and agencies, developed the plan following widespread consultations with residents and businesses across the District.

The Sustainable Community Action Plan is based on three key themes:

- Safe and Caring Communities
- Green and Healthy Environment
- Dynamic and Sustainable Economy

The following detailed objectives and success criteria are found in the Action Plan which are relevant to Air Quality:

Green Environment

Priority 10	Reduce pollution and damage to the environment (94% of people said this was a priority)
Outcome	Action plans implemented to improve air quality in the eleven designated air quality management areas and further assessments undertaken
Aims	10.1 Address climate change issues by promoting energy efficiency and renewable energy and conserve natural resources
	10.2 Increase recycling and reduce waste
	10.3 Tackle air quality problems

Sustainable Economy

Priority 16	Promote the transport network, use of public transport and alternative transport and reduce the need to travel
Outcome	Transport Plan for the District produced and implemented
Aims	16.1 Target minibus services and promote the use of bus services to meet particular needs
	16.2 Promote existing transport links and press for improved, more integrated transport
	16.3 Encourage sustainable travel within the District

The Sevenoaks District Community Planning Partnership was formed in March 2004 to coordinate and monitor delivery of the Action Plan against the key aims and agreed actions.

In 2008 it became the Sevenoaks District Local Strategic Partnership (The Sevenoaks District LSP). The Partnership is chaired by the District Council's Chief Executive and is made up of agencies and organisations who together, can improve the life for the people of Sevenoaks District.

Sevenoaks District Kent Agreement 2 Local Action Plan

The Sevenoaks District Kent Agreement 2 Local Action Plan (KA2 Local Action Plan) identifies priorities for the District and sets out a delivery and monitoring framework that compliments the Sustainable Community Plan and supports the Kent Agreement 2.

The second Local Area Agreement in Kent is an agreement between central government and the Kent Partnership to improve services and the quality of life in Kent. It is the delivery mechanism for the County's Sustainable Community Strategy, the 'Vision for Kent' and is based around 35 National Indicators measuring performance in all aspects of life, as well as eighteen further education indicators. The District Council and the Sevenoaks District LSP have signed up to all thirty five of the national indicators included in Kent Agreement 2.

In Sevenoaks District, targets negotiated at the County level have also been set at a local level and are included in the draft Sevenoaks District Kent Agreement 2 Local Action Plan.

The KA2 Local Action Plan has identified the following challenge with respect to air pollution:

'High traffic flows, traffic using local 'A' roads to avoid congested motorways, narrow constricted sections of road in some towns and villages, HGV vehicles, proximity to motorways, the school run, commuters driving to local stations all result in the emission of considerable amounts of exhaust pollution. This pollution can have an adverse impact on residents' health and in some areas exceeds statutory air quality objectives.'

The following table summarise the local targets and activity that will help deliver Kent Agreement 2 with respect to Environmental Excellence in the Sevenoaks District.

NI 186	**Per capita CO2 emissions**
Vision for Kent Theme:	**Environmental Excellence**
Headline priority:	
Sevenoaks District Sustainable Community Action Plan 2007-2010	Priority 10: Reduce pollution and damage to the environment

Kent Agreement Target:	**NI 186: Per capita CO2 emissions** KA2 Target:			
	Baseline	**2008-09**	**2009-10**	**2010-11**
KA2 Targets	7.1 tonnes CO_2 per capita	0%	0%	11.2% reduction (+/- 2.5%)
Sevenoaks District target:				
	Baseline	**2008-09**	**2009-10**	**2010-11**
Sevenoaks District	6.7 tonnes CO_2 per capita	0%	0%	11.2% reduction (+/-2.5%)
Summary of target: **Local Lead**: Head of Housing and Head of Environmental and Operational Services **Priority**: High	The indicator being assessed will comprise of an annual amount of end user CO_2 emissions across an agreed set of sectors (housing, road transport and business) measured as a percentage reduction (or increase) of the per capita CO_2 emission from the 2005 baseline year.			

NI 186	Per capita CO2 emissions
Links to Sustainable Community Action Plan The Community Plan aspires to a District where people can enjoy high quality rural and urban environments. It commits to working together at a local level to meet the challenges of development pressures, the changing rural economy, transportation, the quality of design, energy efficiency and the use of renewable energy, biodiversity, flooding, pollution, other environmental factors and community safety issues.	**Sevenoaks Community Plan Priority 10** 10.1a Ensure that the LDF includes a policy on climate change 10.1b Make sure that energy efficiency, renewable energy and the use of appropriate materials are considered in new development proposals 10.1c Develop awareness and promote schemes to conserve energy and natural resources, e.g. ECO schools scheme, recycling initiatives, Gardening for Wildlife and Horton Kirby Field Centre. 10.1d Implement Carbon Management Action Plan 10.1e Encourage residents to reduce home energy by 2% each year 10.1f Implement the Kent Health and Affordable Warmth Strategy 10.3a Provide advice to local businesses and enforce regulation to tackle pollution 10.3b At least 80% of outcomes in Air Quality Action Plans to be achieved.
Risks	**Mitigation**

Detailed base line data supporting the indicator (Indicator 186:Per capita CO2 emissions in the LA area): Source Defra 18th September, 2008

Local Authority	Industry and Commercial	Domestic	Road Transport	Total	Population (mid-year estimate 2005)	Per capita emissions (t)
Ashford	262	256	223	740	109.6	6.8
Canterbury	297	336	273	907	144.9	6.3
Dartford	298	214	201	714	88.8	8.0
Dover	338	257	206	800	106.6	7.5
Gravesham	269	217	174	660	96.8	6.8
Maidstone	355	346	252	953	141.7	6.7
Sevenoaks	239	306	201	745	112.0	6.7
Shepway	319	246	186	751	99.7	7.5
Swale	592	298	208	1,099	127.6	8.6
Thanet	208	313	160	681	128.7	5.3
Tonbridge and Malling	514	278	220	1,011	112.4	9.0
Tunbridge Wells	239	272	219	731	104.4	7.0

Other information

- The LDF Baseline Review identified that Sevenoaks District was performing poorly in terms of total CO2 emissions per capita (10.4 tonnes in 2004 compared to 10.03 tonnes in Kent and 8.7 tonnes in the South East).
- Energy use (i.e. average domestic consumption of gas and electricity) was above national averages and greater than any of the District's closest geographical neighbours.
- An air quality action plan aimed at improving local air quality in the 11 declared Air Quality Management Areas within the District, sets out a number of measures which individually and cumulatively aim to reduce NO2 (Nitrogen Dioxide) and PM 10 (Particulate Matter) pollution levels which are primarily caused by traffic. Many of these actions will positively impact both directly and indirectly on climate change and CO2 levels.

Designated lead partner	KCC
Supporting Delivery Partners	SDC, Sevenoaks District LSP, West Kent PCT, Kent Police, KF&RS, KPA, Environmental Excellence Group, Kent Energy Centre, Kent Foresight, Sencio Community Leisure, Chambers of Commerce

Table 3: Extract from Kent Agreement 2 - NI 186: per capita C02 emissions

Direct actions to reduce air pollution in AQMAs and across the District

Sevenoaks Joint Transportation Board (JTB)

The terms of reference for the JTB include:

- Considering capital and revenue funded works programmes and their prioritisation.
- Street Management proposals.
- Being a Forum for consultation between the County Council and the District Council on policies, plans and strategies relating to highways, road traffic and public transport.
- Receive reports on highways and transportation needs within the District.

The JTB committee meets quarterly and is an effective way to both liaise with and lobby the County Council on the management of local pollution and congestion issues.

KCC/SDC Member/Officer air quality working group

At a meeting of the JTB held 18th September, 2007 it was resolved that a separate KCC/SDC Member/Officer air quality working group, which would report to the JTB should be established with the following terms of reference:

'To identify suitable traffic congestion reduction proposals in designated Air Quality Management areas and to submit schemes for funding in future local transport plans with a view to reducing the impact of pollution from nitrogen dioxide in these areas, caused by traffic congestion'.

It was further resolved that the Group which meets quarterly review and make recommendations to the Board regarding the current and future Local Transport Plan.

The group is initially considering ways to improve congestion and air quality in the Bat and Ball area of Sevenoaks (AQMA 12) and Sevenoaks High Street (AQMA 10). (See later).

A programme of local AQMA audits will be undertaken as a result of feedback and suggestions made in the Air Quality Action Plan consultation and any potential improvements will be considered as a result.

Action 1: The Sevenoaks Joint Transport Board will continue to consider and review options and proposals made under the Traffic Management Act and the LTP as well as via the Member/Officer air quality working group and both liaise and lobby KCC Highways Services to establish scheme acceptance, prioritisation and funding						**Key Intervention:** Secure improvements to improving both air quality and reducing local congestion		
Responsible authority and other partners: The District Council: Head of Environmental and Operational Services, KCC						**Legal Framework**: Traffic Management Act, LTP and local, County and National policies		
Measures within Action	**Implementation Timetable**					**Monitoring Process**	**Progress Indicator**	**Target**
	09	**10**	**11**	**12**	**13**			
Consider major/quick win schemes within AQMA's.	O	O	O	O	O	Quarterly review by JTB Committee for measures	Number of schemes identified each year	Successful implementation of schemes
Consultation & prioritisation (KCC)	O	O	O	O	O	As above	As above	Acceptance of scheme
Funding identification	O	O	O	O	O	As part of above review	As above	As above
Note: O denotes ongoing process								

Development Control

If a development is likely to increase air pollution either directly by polluting emissions or indirectly by increasing traffic for example, the applicant will be required to submit an air quality impact assessment for their proposals. The development will be resisted if the assessment indicates air pollution may be increased, particularly if national air quality objectives are exceeded or it hinders the District Council's actions within one of the AQMAs.

Alternatively the developer may be requested to fund off-setting measures elsewhere in the area, e.g. additional bus services, via a section 106 Town and Country Planning Act 1990 agreement.

In assessing proposals for new development, the impact of traffic and parking is also considered. The position of new developments and the effect they may have on the local community especially with regard to schools, railway stations and business is considered as part of the planning consultation process. To protect public health new residential developments in areas of poor air quality will be resisted

Green (Workplace) Travel Plans (GTPs) for new developments will be promoted as part of the planning process and included in relevant pre-application discussions and committee reports. (See later).

Planning officers are aware of and regularly updated on air quality issues, the existence of AQMAs and the District Council's Air Quality Action Plan as well as consulting Environmental Health about the potential impact on air quality of a

proposed development. Pre-application discussions of large developments and any proposals that may affect or be affected by air quality are encouraged.

Action 2: The District Council will continue to consider the impact new developments have on air quality and take appropriate steps to minimise any increase in air pollution. This includes seeking Section 106 funding where appropriate.						**Key Intervention:** Application of planning legislation and Local and National Planning Policies with regard to new developments		
Responsible authority and other partners: The District Council: Head of Development Services and Head of Environmental and Operational Services						**Legal Framework:** Existing planning powers		
Measures within Action	**Implementation Timetable**					**Monitoring Process**	**Progress Indicator**	**Target**
	09	**10**	**11**	**12**	**13**			
Implement policies/legislation which impacts on air quality	O	O	O	O	O	All measures carried out as ongoing process and service functions	Conditions applied	Minimise or prevent proposals which have adverse affect on air quality
Applying for and receiving Section 106 Funding for air quality measures. (See also Action 4)	O	O	O	O	O	Via submission of Air Quality and Action Plan Progress Report to Defra	Number of relevant Section 106 agreements which come into operation	Assistance with implementing objectives of this Action Plan
Promotion of Green Travel Plans. (Also see Action 12)	O	O	O	O	O	Via submission of Air Quality and Action Plan Progress Report to Defra	Number of Green Travel Plans promoted within applications	
Ongoing planning application consultation process including Environmental Health	O	O	O	O	O	Quarterly meetings between Development Control and Environment Health	N/A as continuous process	N/A as continuous process
Pre application discussions for relevant applications with Environmental Health	O	O	O	O	O	Attendance at meetings	Number of large scale developments discussed	N/A
Note: O denotes ongoing process								

Air Quality Management Areas 1- 5

Motorway AQMAs 1- 4

The Highways Agency is responsible for the motorway and trunk road network within the Sevenoaks District. Congestion on the motorway and major trunk road network is a concern within the District; heavy traffic at peak periods causes congestion and poor air quality.

The M25, one of Europe's busiest motorways, handles around 200,000 vehicles every day and suffers from severe congestion at peak periods particularly between junctions 5 and 7. This congestion can impact on the A25 through Sundridge, Brasted and Westerham as drivers try to find an alternative route.

Swanley and the surrounding road network can also suffer from additional congestion when there are problems on the M25 east bound and M20/A20 northbound.

The existing M25/M26 interchange at Chevening (Junction 5) has restricted movements and journeys from and to the M26 from the A21 north and south are not possible.

The consequence is that traffic has to find a non-motorway/trunk road route and this causes unsuitable traffic to use the A25 through villages such as Seal.

Figure 4: M25 West of Junction 5 (AQMA 2)

London ORBIT (M25) Study

This Multi-Modal study initiative was undertaken following the Government's 1998 White Paper 'A New Deal for Transport: Better for Everyone' and the subsequent review of the trunk road programme.

Its remit was to look at existing and future problems of the M25 and produce a long term sustainable management strategy for the M25 and associated network.

The study recognised that the M25 is a strategic hub of Britain's motorway network as well as a strategic bypass for London which gives substantial traffic relief to local communities.

Unfortunately congestion is a major problem around the motorway, which can cause traffic to divert onto the local roads and raise pollution levels.

The study, which was completed in autumn 2002, looked at a range of traffic management solutions which would help reduce congestion and aid traffic flow.

Some measures such as widening schemes which aim to relieve existing congestion by allowing traffic to flow more freely, are area specific (see below). Others such as the use of Traffic Officers and the use of a National Traffic Control Centre, which allow motorists to make informed choices before travel will be applicable to the entire motorway.

Route Management Strategy – M25 – Orbital

As there is a growing emphasis on regional planning and decision making being linked to regional objectives and priorities, the Route Management Strategy that had originally been planned for the M25 London – Orbital has been put onto hold whilst the new regional strategy for the South East is being developed.

M25 Widening Schemes

Further to the Government's above 10 year strategy, the scheme to widen the M25 between junctions 1 - 3b has now been completed.

In January 2009, the Government announced new plans to roll out 'hard shoulder running' across the core motorway network as having developed this technique elsewhere on the motorway network, it has been found to have lower implementation costs and fewer environmental impacts.

The Department for Transport's Paper 'Britain's Transport Infrastructure: Motorways and Major Trunk Roads' which supported this announcement, outlines the intention to replace previous proposals for conventional widening on the M25 between junction 5 and 7 with hard shoulder running.

The work is planned to start by 2015.

It is uncertain what impact this will have on the likelihood of development of east facing slips at M25 junction 5.

The lack of east facing slip roads at junction 5 of the M25 prevents any of those vehicles on the A21 approaching from the south from travelling east and gaining access to the M26, the M20, the Channel Ports and the Channel Tunnel.

As a result the most convenient alternative route is to use the A25 which runs through the north of Sevenoaks Town and through villages such as Bat & Ball and Seal.

A similar, although less pronounced, situation exists for those vehicles approaching from the north on the M25 who also may want to travel east to access the M26; however these vehicles are most likely to access the M20 via junction 3 of the M25.

AQMA Scenario Testing

As part of the Round 1 review and assessment, consultants Kings College London considered a series of scenarios to assess the effectiveness of possible measures to improve air quality within AQMAs 1 - 4. The tests all reflect the fact that road traffic is the most significant source of pollution.

In order to reduce NO_2 concentrations from emissions arising from traffic use on the Motorways, the following 3 scenarios were examined:

1. Reduction in all vehicle emissions by 35% (Scenario 1)

Achievement of Option

This could be a variety of ways, including:-

- The use of cleaner fuels and the improvements in vehicle technology;
- Reducing the number and types of vehicles on the motorways;
- Congestion reduction measures i.e. road widening and junction improvements;
- Control or restrict access at peak periods e.g. ramp access metering;
- European and National emission controls;
- Reducing speeds;
- Vehicle charging schemes;
- Variable speed limits.

Other Impacts

- Reduced fuel consumption;
- Reduced Carbon Dioxide emissions;
- Changes to journey times;
- Reduce or increase in some cases traffic on local roads;
- Change habits and vehicle use.

Ramp Metering

In early 2009, the Highways Agency introduced ramp metering at junction 5 on the clockwise carriageway of the M25.

This is an innovative scheme which includes the installation of lights at the junction in order to better regulate the traffic joining the motorway.

Congestion often occurs near junctions where vehicles attempt to join from the slip road when there is already heavy traffic on the motorway. By releasing just a few vehicles at a time, the lights prevent the merging and motorway traffic from bunching together and forming a bottleneck that delays everyone.

Sensors in the road monitor the congestion and adjust the timing of the lights. Traffic on the slip road is also monitored to minimise the possibility of queues forming on the local road network. Where this system has been used previously it has been shown to reduce congestion and improve journey times on the motorway by up to nine per cent. It is also widely used in the United States, France, Belgium and the Netherlands.

Cost Effectiveness

Kings College London predicted that scenario 1 was the most effective and likely to be the most successful for achieving compliance with the NO_2 Objective standard in the locations examined. The cost effectiveness would however be variable and dependant on the actual measure and strategy employed to achieve it. The approved cost for the M25 1b to 3 Widening Scheme was £65.94 m.

Following consultation on all the Scenario proposals, the Highways Agency believe that the greatest impact on future emissions will be realised through improved vehicle emissions technology.

The Department for Transport is party to the negotiations concerning the introduction of new vehicle emission standards and legislation for cleaner fuels which are introduced at European Level. New standards are being negotiated for 2010 onwards but are unlikely to have an effect over the next five years. Euro IV standards introduced in 2005 are however, expected to have an effect on reducing nitrogen dioxide concentrations over the next five years.

Whilst the motorway widening scheme should reduce congestion and improve journey time reliability, the recent Scheme Assessment Report and Environmental Statements for the M25 widening schemes to both Junction 1b – 3 and 5 – 7, published in September 2006, showed that the schemes are likely to make no discernible change in pollutant concentrations at properties in the affected AQMAs.

2. Reduction in HGV's by 10% (Scenario 2)

Achievement of Option

- Reduce number of HGV's by transferring to railways;
- Support new freight developments including use of the Channel Tunnel Rail Link for freight;
- Control the hours of use by HGV's to avoid peak congestion times;

- European and National emission controls.

Other Impacts

- Freight movement more efficient, less intrusive and less of a problem during peak hours;
- Smaller less polluting freight carriers might increase vehicle numbers;
- Non peak hour movements may increase noise and congestion at different times;
- Displacement of vehicles from main routes may increase local traffic.

Cost Effectiveness

Variable depending on option, but likely to be major in economic and business terms. There are also no appropriate alternative routes to the M25 that HGV's could use, so the impact of displacement would be major to the District as a whole.

Although Kings College London predicted that this scenario would achieve a reduction in concentrations, the objective standard was still only achieved in two sites examined, neither of which was associated with the M25.

This scenario gave the smallest improvement in concentrations.

3. Reduction in speed to 80kph (50 mph) (Scenario 3)

Achievement of Option

- Regulation of flow of vehicles via limiting speed.
- Blanket or variable speed limits.

Other Impacts

- May reduce ambient noise levels.
- Reduced fuel consumption.
- Reduce Carbon Dioxide emissions.
- May increase journey times.

Cost Effectiveness

Reducing speed to 80kph is an option which is often considered along motorway routes and perhaps the easiest of the 3 to implement.

Kings College London predicated that this scenario, whilst giving a slight improvement over reducing the number of HGV's, still left the majority of sites examined likely to exceed the objective standard.

Variable speeds limits are expensive to implement and enforce; whereas blanket speed limits are more cost effective but still require enforcement to ensure their effectiveness.

Nevertheless, the Highways Agency has confirmed that reducing the speed limit in non-congested areas is likely to reduce emissions, although it does come at a high economic cost due to increased journey times.

It was further confirmed that the reducing the speed limit may be deployed in the future in areas with the highest pollution concentrations and that research was being carried out into how this could be done.

The Highways Agency have recently advised, that following the widening works to the M25, Junctions 1b – 3 will be a 'controlled motorway' with variable speeds in busy periods.

Conclusions:

Kings College London predicted that Scenario '1' was most likely to achieve the NO_2 objective standard for most areas. They concluded that reducing vehicles and vehicle speeds would only have a marginal effect but the combined affect of all three scenarios would obviously be of increased benefit at all locations. Of all the Scenario's, Kings College London believe that Scenario 2 would likely to be the hardest to implement.

The District Council has no control and limited if any influence over the direct measures required to achieve the three scenario options for the Motorway AQMAs. The agreement to undertake the options proposed in these scenarios is therefore ultimately dependent on other agencies, such as the Highways Agency and the Government.

The District Council will continue to lobby for and encourage the implementation of these measures through the various consultation processes it is involved in and through direct liaison with the Highways Agency with regard to the motorways.

M20, M26, A20 (T)

The Highways Agency has indicated that they currently have no proposals at present for measures to improve air quality along these roads.

<table>
<tr><td colspan="3">Action 3:
The District Council will continue to be an active participant in consultation processes and liaise with the Highways Agency to secure those improvements to the M25 considered most likely by the scenario testing to result in a reduction in pollution levels within the motorway AQMAs.</td><td colspan="3">Key Intervention:
Active participation in liaison process with Highways Agency when works to M25 are proposed</td></tr>
<tr><td colspan="3">Responsible authority and other partners:
Highways Agency; KCC; The District Council: Head of Environmental and Operational Services</td><td colspan="3">Legal Framework:
Government Policy</td></tr>
<tr><td rowspan="2">Measures within Action</td><td colspan="5">Implementation Timetable</td><td rowspan="2">Monitoring Process</td><td rowspan="2">Progress Indicator</td><td rowspan="2">Target</td></tr>
<tr><td>09</td><td>10</td><td>11</td><td>12</td><td>13</td></tr>
<tr><td>Retain regular contact and liaison with HA prior to and during any relevant works on the M25</td><td colspan="5">As necessary</td><td>Via submission of Air Quality and Action Plan Progress Report to Defra</td><td>N/A</td><td>Ensure views of SDC are represented</td></tr>
</table>

Measures within Action 3	Implementation Timetable					Monitoring Process	Progress Indicator	Target
	09	10	11	12	13			
Consult with HA regarding mitigation works when required	As necessary					Via submission of Air Quality and Action Plan Progress Report to Defra	mitigation measures agreed	Improvement in air quality levels
Note: O denotes ongoing process								

Round 3 – Further Assessment 2008: AQMA 1 – Farningham

Vehicles travelling up M20 and A20 near Farningham will emit pollutants at an increased rate because of the slope of the hill. Emission factors for vehicles travelling up hill are not currently available.

In the Further Assessment, it was assumed that vehicles travelling up hill emit at twice the rate for vehicles travelling on flat roads.

At the A20 at Farningham the assessment concluded:

- That in 2007 the annual mean objective of 40 µg m^{-3} is not likely to be exceeded at the facades of residential properties in the area.
- That in 2010 nitrogen dioxide concentrations are expected to decrease from 2007 levels and will continue to meet the nitrogen dioxide annual mean objective at residential locations in the area.

Source apportionment, a process whereby contributions from the sources of a pollutant are determined, showed that heavy-duty vehicles make the largest contribution to the total oxides of nitrogen concentrations and that at busy junctions stationary vehicles in queues and at bus stops also make a substantial contribution to the total oxides of nitrogen concentrations.

The following two scenarios were investigated:

- 50% reduction in HDV (Heavy-duty Vehicles) traffic
- 15% reduction in Annual Average Daily Traffic (AADT)

The 50% reduction in HDV traffic scenario showed that in each of the assessment areas the predicted concentrations of nitrogen dioxide for 2007 were expected to decrease from the 2007 ‘base case’ levels.

More specifically: At the A20 at Farningham the nitrogen dioxide annual mean objective would be met at residential locations in the area. Based upon the results above, the Round 3 further assessment recommends that there no modifications to the boundary of the existing AQMA 1, Farningham are required

Conclusion:

The District Council will not be able to influence the volume of HDV or AADT traffic within this AQMA.

The achievement of National Air Quality Standards and Objectives will be reliant on vehicle emission controls and wider national initiatives.

AQMA 5 – Riverhead

- The A25 / A224 junction at Riverhead consists of 2 mini roundabout junctions connected by a short section of dual carriageway (the A224) running north to south.
- The A224 connects Sevenoaks Town Centre with residential areas in the north of the District as well as providing a useful link to Orpington and areas of south-east London.
- The A224 dissects the A25 at this point. Therefore, traffic travelling east-west on A25 must converge with traffic on the A224 travelling north-south.
- As a result the A25/A224 experiences congestion, which coupled with the location of the junction being within a valley resulted in this junction being designated as an AQMA.
- The A25 Riverhead Junction has also been identified by Kent County Council as a congestion hotspot.

AQMA Scenario Testing

As part of the Round 1 review and assessment, consultants Kings College London considered the following two scenarios to both highlight the sensitivity of the models used to changes in admissions and to also assess the effectiveness of possible measures to improve air quality within AQMA 5. The tests reflect the fact that road traffic is the most significant source of pollution.

1. 5% increase in traffic growth
2. 5% traffic reduction

Description	1999	Base 2005	Scenario 1	Scenario 2
West of A25	45.3	39.3	40.0	38.7
East of A25	41.1	35.5	36.0	34.9

Table 4: Predicted concentrations (ug/m^3) of NO_2 at Riverhead using a high growth scenario.

The predictions for the 2005 base case take into account predicted vehicle growth (of 1% per annum), improvement in vehicle technology leading to lower emission releases and changes to the background. It should be noted, that this can still result in concentrations exceeding objectives. Exceedance can also occur dependant on the specific location as well as assumptions made concerning traffic flows, vehicle split and average speed.

In view of significant discrepancies between their predicted modelled NO_2 concentrations and actual monitored levels which were found to be nearly 50% higher the figures are for illustrative purposes of the scenario tests only.

Local measures specific to the Riverhead AQMA

Unfortunately the physical layout of this junction does make any practical and physical improvement particularly hard and the above major schemes in the area may aggravate the situation.

Two Section 106 Agreements have secured funding towards implementing the objectives of this Action Plan.

West Kent Cold Store Development

The owners of the West Kent Cold Store site in Dunton Green have obtained planning permission for a mixed use scheme to replace the current cold store.

If implemented this would have the effect of reducing the number of HGV movements through Riverhead but as the mixed-use proposals are for a predominantly residential scheme, car movements would increase.

The development includes the provision of an improved bus service, improvements to local footpaths, contributions to improve the railway station and a travel plan for the commercial operator at the site. All these measures are designed to encourage alternative modes of transport.

A sum of £32,000 has been secured to further the objectives of the Air Quality Action Plan.

These have yet to be agreed.

Tesco's extension

Planning permission has been granted for the extension of the Tesco Store at Riverhead from 4,826sq m (gross) to 7,316sq m (gross).

Due to concerns about air quality and traffic, in granting permission, the District Council secured the following Section 106 agreement:

Funding of a new hourly bus route linking Kemsing, Seal, Sevenoaks and Riverhead (funding for a period of five years)(triggered by the implementation of the development), and:

A contribution towards the purchase and operation of mobile vehicle emissions testing equipment (triggered by the occupation of the development), and:

A contribution to be paid to the County Council for highways and / or environmental improvements in the Riverhead / Chevening / Dunton Green area (also triggered by the occupation of the development).

An air quality working group will be set up within the District Council to progress, implement and monitor the measures subject to Section 106 funding from both developments.

<table>
<tr><td colspan="5">Action 4:
Set up an internal working group to identify, implement and monitor air quality mitigation measures secured by Section 106 Agreement with respect to developments affecting the Riverhead and Dunton Green AQMA.
The group, to also consider other Air Quality Section 106 agreements within the District</td><td colspan="3">Key Intervention:
Maximise benificial impact on air quality by the delivery of measures secured by Section 106 funding.</td></tr>
<tr><td colspan="5">Responsible authority and other partners:
The District Council: Head of Development Control and Head of Environmental and Operational Services</td><td colspan="3">Legal Framework:
Existing Planning powers</td></tr>
<tr><td rowspan="2">Measures within Action</td><td colspan="5">Implementation Timetable</td><td rowspan="2">Monitoring Process</td><td rowspan="2">Progress Indicator</td><td rowspan="2">Target</td></tr>
<tr><td>09</td><td>10</td><td>11</td><td>12</td><td>13</td></tr>
<tr><td>Establish an ongoing general S106 air quality liaison group between Development Control and Environmental Health.</td><td>X</td><td>X</td><td>O</td><td>O</td><td>O</td><td>Via submission of Air Quality and Action Plan Progress Report to Defra</td><td>N/A</td><td>Ensure early and ongoing liaison between sections to ensure S106 measures secures maximum benefit.</td></tr>
<tr><td>Specifically identify measures to be funded (West Kent Cold Store Development)</td><td>X</td><td colspan="4">Commencement date unknown. Contribution to be paid prior to the occupation of the 250th dwelling within the development</td><td>As above</td><td>Measures identified</td><td>Ensure that funding is effectively allocated</td></tr>
<tr><td>Establish Vehicle emissions testing policy (Tesco Development)</td><td>X</td><td colspan="4">Commencement date unknown. Contribution to be triggered by occupation of development</td><td>As above</td><td>Number of vehicles tested and incidence of positive action</td><td>Promotion of cleaner and more efficient vehicles</td></tr>
<tr><td colspan="8">Note: O denotes ongoing process</td></tr>
</table>

Whilst there are no specific proposals for any physical improvements to this junction it is subject to regular review by the JTB Member / Officer air quality working group.

Draft Sevenoaks District Transport Strategy

The draft Sevenoaks District Transport Strategy suggested that facilities including secure and convenient cycle parking and designated cycle routes need to be provided to encourage the use of this mode of transport, to travel to and from this area.

The draft Sevenoaks District Transport Strategy's Action Plan identifies the following measures to relieve congestion within the Riverhead AQMA:

Location	Action/Recommendations	Possible opportunity for funding? Or responsible authority	Timescale
A25/A224 Riverhead Junction	Redesign the streetscape i.e. reallocated road space, introduce soft landscaping, rationalise signing and remove longitudinal road makings.	Local Transport Plan/Developer funding/Central Government	2009-2016

* Scheme has already been identified for funding within Kent's current Local Transport Plan 2006-11.

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Round 3 – Further Assessment, 2008: AQMA 5 - London Road, Riverhead and Dunton Green

The Further Assessment concluded:

- In 2007 the annual mean objective of 40 g m^{-3} is likely to be exceeded at the façade of residential properties to the west of the London Road and Maidstone Road (Bradbourne Vale) roundabout and at the façade of three residential properties close to the M26.
- In 2010 nitrogen dioxide concentrations are expected to decrease from 2007 levels but will remain above the annual mean objective of 40 µg m^{-3} at the façade of one residential property close to the M26.

Source apportionment showed that heavy-duty vehicles make the largest contribution to the total oxides of nitrogen concentrations and that at busy junctions stationary vehicles in queues and at bus stops also make a substantial contribution to the total oxides of nitrogen concentrations.

The following two scenarios were investigated:

- • 50% reduction in HDV traffic
- • 15% reduction in Annual Average Daily Traffic (AADT)

The 50% reduction in HDV traffic scenario showed that in each of the assessment areas the predicted concentrations of nitrogen dioxide for 2007 were expected to decrease from the 2007 'base case' levels.

At London Road, Riverhead and Dunton Green, the annual mean objective of 40 µg m^{-3} would likely be exceeded at the façade of one residential properties close to the M26

The 15% reduction in Annual Average Daily Traffic (AADT) scenario showed that the predicted concentrations of nitrogen dioxide for 2007 were expected to decrease from the 2007 'base case' levels.

These reductions, however, were not by as much as the 50% reduction in HDV traffic scenario.

At London Road, Riverhead and Dunton Green the annual mean objective of 40 µg m^{-3} is likely to be exceeded at the façade of two residential properties to the west of the London Road and Maidstone Road (Bradbourne Vale) roundabout and at the façade of three residential properties close to the M26.

Conclusion:

The District Council will not be able to influence the volume of HDV or AADT traffic within the Riverhead and Dunton Green extended AQMA.

Significant improvements to air quality will therefore be dependent on national emission reductions.

The District Council will continue to work closely with the County Council to consider, promote and deliver improvements which together with other contributory measures outlined above and throughout the plan will also help reduce congestion and pollution.

Section 106 funding will also play a major contributory factor

JTB Member/Officer Air Quality Working Group

Riverhead and Dunton Green are difficult areas to realistically improve but will be kept under regular review and looked at in the future.

<table>
<tr><td colspan="6">Action 5:
For the KCC/SDC Member/officer air quality working group to make recommendations to the JTB regarding suitable traffic reducing proposals within the Riverhead and extended Dunton Green /London Road AQMA</td><td colspan="3">Key Intervention:
Consideration by the JTB of options to alleviate congestion difficulties and improve air quality</td></tr>
<tr><td colspan="6">Responsible authority and other partners:
The District Council: Head of Environmental and Operational Services, KCC</td><td colspan="3">Legal Framework:
Traffic Management Act 2004, associated Management duties and the LTP</td></tr>
<tr><td rowspan="2">Measures within Action</td><td colspan="5">Implementation Timetable</td><td rowspan="2">Monitoring Process</td><td rowspan="2">Progress Indicator</td><td rowspan="2">Target</td></tr>
<tr><td>09</td><td>10</td><td>11</td><td>12</td><td>13</td></tr>
<tr><td>Regular review of AQMA.

This will include a Local AQMA audit based on feedback from the Air Quality Action Plan consultation</td><td>X</td><td>X</td><td>O</td><td>O</td><td>O</td><td>Minutes of meetings.
Air Quality Action Plan annual Progress Report</td><td>Air quality and traffic congestion</td><td>Improving local air quality and conditions</td></tr>
</table>

Measures within Action 5	Implementation Timetable					Monitoring Process	Progress Indicator	Target
	09	10	11	12	13			
Identification of major / quick win schemes within AQMA's	X	X				As above	Number of schemes identified each year	Schemes implemented
Scoping of schemes	O					As above	N/A	Feasibility of scheme
Reporting to JTB	O					As above	As above	As above
Funding identification	O					As above	N/A	Successful funding options identified
Note: O denotes ongoing process								

Air Quality Management Areas 8 – 12

AQMA No. 8: Swanley town centre

AQMA No. 9: Seal - High Street

AQMA No. 10: Sevenoaks - High Street

AQMA No. 11: Westerham town centre

Traffic congestion and heavy-duty vehicle emissions make the largest contributions to nitrogen dioxide concentrations in these AQMAs and a range of measures aimed at reducing traffic congestion and heavy-duty vehicle emissions were identified by the District Council.

In the 2007 Round 2 Further Assessment, three scenarios were modelled in each AQMA in order to quantify the potential benefits from reducing NO_2 that should arise from these measures.

These were:

- A no congestion scenario;
- A low emission zone scenario and
- A 50% reduction in heavy-duty vehicle traffic.

The table below shows that the measures to reduce congestion in the AQMAs have the potential to substantially reduce the nitrogen dioxide concentrations. Reductions in nitrogen dioxide concentrations of 6 $\mu g\ m^{-3}$ are possible in Sevenoaks town centre and at Bat and Ball, with smaller reductions elsewhere. The introduction of a low emission zone would also reduce nitrogen dioxide concentrations substantially with reductions of approximately 4 $\mu g\ m^{-3}$ in Sevenoaks town centre. The third measure- a 50% reduction in heavy-duty vehicles would lead to useful reductions in concentrations.

Receptor	Year	Base	No congestion	Low emission	50% reduction in heavy-duty vehicles
Swanley	2006	43.3	38.2	39.6	39.3
Seal		38.5	35.4	34.9	35.2
Sevenoaks		41.4	34.7	37.7	38.1
Westerham		42.2	37.8	39.1	39.0
Bat and Ball		45.5	39.7	40.6	41.4
Swanley	2010	39.8	35.3	37.1	36.3
Seal		35.2	32.6	32.8	32.4
Sevenoaks		37.8	32.0	35.3	34.9
Westerham		38.9	34.9	36.7	35.9
Bat and Ball		40.8	35.7	38.0	37.1

Table 5: Predicted nitrogen dioxide concentrations at selected receptors for the Action Plan scenarios

Measures to reduce congestion are actively being explored or undertaken. The District Council has not yet considered the introduction of low emission zones or measures to reduce HDV traffic by 50%, but both these scenarios are unlikely to be considered acceptable or feasible. As a result they are not considered further in this Action Plan.

AQMA 8 – Swanley Town Centre

Swanley is situated within the north-west area of the Sevenoaks District, it is located on the commuter belt within close proximity of the M25 and M20.

The JTB Member/Officer Air Quality Working Group

Swanley has been identified as the next priority area for the group to consider and a recent AQMA audit has been undertaken. The feasibility of any quick win measures which could relieve local congestion are in the process of being explored

Action 6: For the KCC/SDC Member/officer air quality working group to make recommendations to the JTB regarding suitable traffic reducing proposals within AQMA 8 - Swanley Town Centre						**Key Intervention:** Consideration by the JTB of options to alleviate congestion difficulties and improve air quality		
Responsible authority and other partners: The District Council: Head of Environmental and Operational Services, KCC						**Legal Framework:** Traffic Management Act, associated Management duties and the LTP		
Measures within Action	**Implementation Timetable**					**Monitoring Process**	**Progress Indicator**	**Target**
	09	**10**	**11**	**12**	**13**			
Regular review of AQMA This will include a Local AQMA audit based on feedback from the Air Quality Action Plan consultation	X	X	O	O	O	Minutes of meetings & via submission of Air Quality and Action Plan Progress Report to Defra	Air quality and traffic congestion problems	Improving in local air quality and conditions

Measures within Action 6	Implementation Timetable					Monitoring Process	Progress Indicator	Target
	09	10	11	12	13			
Identification of quick win schemes within AQMA.	X	X				As above	Dependant on scheme identified	Scheme implemented and improvements made
Scoping of scheme	O					As above	N/A	Feasibility of scheme
Reporting to JTB (Dependant on feasibility)	O					As above	N/A	As above
Funding identification (Dependant on feasibility)	O					As above	N/A	Successful funding options identified
Note: O denotes ongoing process								

The Draft Sevenoaks District Transport Strategy

The draft Sevenoaks District Strategy identified local concerns regarding congestion within the centre of Swanley, most notably the B2173 London Road / Goldsel Road junction and the B2173 Bartholomew Way / London Road junction, which are all within the AQMA.

This congestion is made worse when congestion builds up on the M25.

The draft strategy also identified that some of the congestion can also be attributed to other causes such as the increase in vehicle ownership and the increased use of vehicles to transport goods and services around the country, which is a national problem.

The main reason for the level of congestion within Swanley is due to pressure on the B2173 London road which runs east-west through Swanley. This route was once the A20 and therefore residential development has grown up along this route, which is now confined by the present A20 (which is a dual carriageway running around the whole southern area of Swanley), the M25 and green belt. Also much of the residential development in Swanley is in the form of cul-de-sac's, mainly deriving their access from the B2173.

Congestion in Swanley is also exacerbated by the presence of the narrow railway bridge on the B258 High Street which prevents any improvements to capacity being carried out. At present there are no proposals to replace or make improvements to the railway bridge, therefore any improvements will need to be funded by developers.

In order to reduce congestion along the busy corridor, the Strategy notes that improvements need to be carried out along the main routes into and out of Swanley to encourage the use of alternative forms of transport for local journeys. A cycle route network needs to be developed within Swanley, starting with the B2173 and B258 which provide access to the main residential areas in Swanley, and cycle parking needs to be provided at key locations, such as outside shops within the High Street and at Swanley Station.

The draft Sevenoaks District Transport Strategy's Action Plan identifies the following measures to relieve congestion within the Swanley AQMA

Location	Action/Recommendations	Possible opportunity for funding? Or responsible authority	Timescale
B2173 London Road, north of Bremner Close, Swanley.	Provide on road cycleway.	Local Transport Plan	2009-2011
B2173 London Road, Swanley – south of Birchwood Road, towards Swanley Town Centre	Provide a footpath/ cycleway.	Local Transport Plan	2008-2009*
Goldsel Road, Swanley, north of Crockenhill.	Provide an informal cycleway.	Local Transport Plan	2009-2011

* Scheme has already been identified for funding within Kent's current Local Transport Plan 2006-11.

AQMA 9 – Seal High Street

Seal lies within the eastern area of the District, the A25 runs to the south of the village and connects Seal to Sevenoaks Town Centre in the west and the Tonbridge and Malling District in the east. The A25 carriageway through Seal narrows significantly in some sections especially just to the east of the junction with Park Lane, where properties fronting the carriageway create a significant pinch point. Footways on both sides of the A25 at this point are also narrow with no scope for widening.

The narrowness of the A25 through Seal, particularly at the junction with Park Lane causes congestion. This results in poor air quality, which is exacerbated by the close proximity of the buildings at this point creating a "canyon" effect and which led to the designation of the AQMA.

Round 2 - Further Assessment 2007

The Further Assessment recognised that the council proposes to encourage the use of walking buses to reduce the use of cars to take children to school. Improvements to the road junctions have been considered and are expected to improve traffic flow and reduce congestion.

JTB Member/Officer Air Quality Working Group

Despite Seal High Street being a difficult area to realistically improve, it will continue to be kept under review.

Action 7: For the KCC/SDC Member/officer air quality working group to make recommendations to the JTB regarding suitable traffic reducing proposals within AQMA 9 – Seal High Street						**Key Intervention:** Consideration by the JTB of options to alleviate congestion difficulties and improve air quality		
Responsible authority and other partners: The District Council: Head of Environmental and Operational Services, KCC						**Legal Framework:** Traffic Management Act, associated Management duties and the LTP		
Measures within Action	**Implementation Timetable**					**Monitoring Process**	**Progress Indicator**	**Target**
	09	**10**	**11**	**12**	**13**			
Regular review of AQMA This will include a Local AQMA audit based on feedback from the Air Quality Action Plan consultation	X	X	O	O	O	Minutes of meetings & Via submission of Air Quality and Action Plan Progress Report to Defra	Air quality and traffic congestion problems	Improving in local air quality and conditions
Identification of quick win schemes within AQMA.	X	X				As above	Dependant on scheme identified	Scheme implemented and improvements made
Scoping of scheme	O					As above	N/A	Feasibility of scheme
Reporting to JTB (Dependant on feasibility)	O					As above	N/A	As above
Funding identification (Dependant on feasibility)	O					As above	N/A	Successful funding options identified
Note: O denotes ongoing process								

The Draft Sevenoaks District Transport Strategy

The Draft Sevenoaks Transport Strategy noted that Traffic volumes through Seal are increasing and that such increases will not improve air quality within this section of the A25. It suggest that improvements to pedestrian and cycling facilities as well as improvements to public transport facilities should be implemented in order to encourage more people to use these forms of transport.

It also suggests that measures should also be put in place to discourage HGVs using this section of the A25. Such measures could include highlighting the pinch point at the junction with Park Lane, through the removal of the road centre lines and the introduction of coloured surfacing.

Environmental improvements should also be carried out on the A25 through Seal to make it more appealing to pedestrians and cyclists. There are currently no cycling facilities on the A25 through Seal, however cyclists are a visible component of traffic travelling on the A25 through Seal. The possibility of providing a shared footway/cycleway on the north side of the A25 between the B2019 Seal Hollow Road and Seal needs to be investigated further. Encouraging such alternative modes of transport will help to reduce air pollution caused by vehicular traffic.

The Strategy's draft Action Plan identifies the following measures to relieve congestion within the Seal high Street AQMA

Location	Action/Recommendations	Possible opportunity for funding? Or responsible authority	Timescale
A25 High Street, Seal	Install cycle routes (either as shared footway/cycleway or on carriageway) where possible, to link with already existing cycle route on A25 Maidstone Road	Local Transport Plan	2009 - 2011

*Scheme has already been identified for funding within Kent's current Local Transport Plan 2006-11.

AQMA 10 – High Street, Sevenoaks

Sevenoaks Town is the main urban area within the Sevenoaks District, it contains a number of facilities and services including, the main shopping area, library, theatre, other leisure facilities, bus and train stations. Two classified "A-roads" namely the A224 and A225 provide access to Sevenoaks Town Centre.

The A225 transverses the Town Centre north-south while the A224 approaches the Centre from the north-west until it connects to the A225 just to the south of the Town Centre. The B2020 St. Botolph's Road also connects the A225 and the A224 just to the north of the Centre and the B2019 Seal Hollow Road also provides access to the Town Centre from the north east.

The A225 High Street in Sevenoaks Town Centre has been identified locally as an area that experiences congestion.

Round 2 - Further Assessment 2007

The Further Assessment reported:

'That a one-way system operated in Sevenoaks town centre for a short period of roadwork's during 2006. The traffic travelled northwards up London Road and southwards down High Street with two-way traffic along Pembroke Road. The one-way system was effective in reducing congestion during the period it operated.

The District Council have considered the possibility of implementing a one-way system for the Sevenoaks town centre. Introducing a one-way system would not reduce overall traffic levels; however, the system might reduce congestion both at junctions and more generally throughout the town centre.

It was also reported that parents driving their children to schools in Sevenoaks contribute to the peak hour traffic and congestion in the town centre. It was suggested that the District Council could seek to reduce this traffic by encouraging the use of walking buses. Comparing the peak hour and 12 hour manual counts for Sevenoaks High Street indicates that reducing peak hour flows to the average non-

peak daytime levels would reduce the total daily traffic on the High Street by less than 5%.
On its own, this measure would not lead to a substantial reduction in nitrogen dioxide concentrations, but may be useful when applied in combination with a range of measures.

Sevenoaks District Council have considered imposing restrictions on loading in the High Street. This measure may assist to a small extent in reducing traffic queues at the road junctions and generally alleviate congestion.

Traffic congestion and queuing frequently occurs at the junction between the High Street and Seal Hollow Road. The introduction of traffic lights at the junction synchronised with the lights at the Pembroke Road junction would help alleviate the congestion.

There is a small amount of HGV through traffic coming through the town centre. Sevenoaks District Council have considered removing through HGV traffic from the town centre.'

The feasibility of suggestions and comments made within the Further Assessment will be reviewed as part of any Sevenoaks High Street scheme.

JTB Member/Officer Air Quality Working Group

A number of different suggestions to reduce traffic congestion and improve air quality in the town centre are being informally considered by the group. In addition to improving air quality, it is also felt that any new scheme should be an opportunity to review the whole street scene for both private and commercial vehicle users and generally improve the environment for both pedestrians and cyclists and local businesses.

In July 2008, DEFRA awarded the District Council an air quality grant of £10,000 towards funding consultants to investigate a proposal to create a one way traffic system in Sevenoaks town centre. It included the design of a suitable highway/pedestrian scheme and carrying out a public/business consultation.

The traffic management scheme would cover the High Street, London Road and include the town centre bus station, pedestrian areas and central car parks which lie between these roads and within the AQMA.

This proposal was a scenario considered in the 2007 Further Assessment as a mean of reducing traffic pollution in the town centre.

Action 8: For the KCC/SDC Member/officer air quality working group to make recommendations to the JTB regarding suitable traffic reducing proposals within AQMA 7 - Sevenoaks High Street						**Key Intervention:** Consideration by the JTB of options to alleviate congestion difficulties and improve air quality		
Responsible authority and other partners: The District Council: Head of Environmental and Operational Services, KCC						**Legal Framework:** Traffic Management Act, associated Management duties and the LTP		
Measures within Action	**Implementation Timetable**					**Monitoring Process**	**Progress Indicator**	**Target**
	09	**10**	**11**	**12**	**13**			
Investigate proposal to create one way traffic system and other traffic management solutions	X					Minutes of meetings & Via submission of Air Quality and Action Plan Progress Report to Defra	Presentation of scheme and/or options for consideration	Improving local air quality and conditions
Scoping of scheme	X	X				As above	All options considered	Feasible scheme or acceptable options
Reporting to JTB	X	X				As above	As above	As above
Funding identification	X	X				As above	N/A	Successful funding streams identified and scheme and/or alternative options programmed for implementation
Undertake an additional Local AQMA audit based on feedback from the Air Quality Action Plan consultation	X	X	O	O	O	Minutes of meetings & Via submission of Air Quality and Action Plan Progress Report to Defra	Air quality and traffic congestion problems	Improving in local air quality and conditions
Note: O denotes ongoing process								

The Draft Sevenoaks District Transport Strategy

The strategy has recommended a number of measures which will reduce congestion and refers to the need to increase the use of alternative forms of transport.

It refers to the above discussions between KCC and the District Council regarding a potential one way traffic management scheme within the Town Centre using the A224 London Road, Pembroke Road and A225 High Street.

Any proposed traffic management scheme would need to be assessed and the positive and negative aspects of creating such a system needs presented, before such a scheme is implemented.

This would include considering a number of issues, such as ensuring that it doesn't result in increased vehicle speeds, increase congestion in adjacent roads or delay bus services.

The possibility of creating a one-way system within Sevenoaks Town Centre (using the High Street, London Road and Pembroke Road) to reduce congestion needs assessed.

The bus interchange on Buckhurst Lane is located to the east of Sevenoaks High Street. It is ideally located because it is central to the High Street, as well as being close to the library, museum, gallery and leisure centre.

At present the narrow entrance to the bus station from the High Street (see photo), as well as the presence of parked cars on the High Street, can sometimes result in buses tailing back along Buckhurst Lane to the High Street, resulting in congestion in what is already a designated Air Quality Management Area.

Better enforcement of waiting restrictions in the High Street, close to the entrance to the bus station will help to reduce congestion. An Integrated Transport Scheme, through the Local Transport Plan has also been identified which will look to reroute the buses to access the bus station from Suffolk Way, this will also help to reduce congestion to some extent.

However rerouting the buses to access the bus station from Suffolk Way will not prevent congestion and delay caused by the existing layout of the bus station.

Single carriageways (bounded by bus stops on either side) prevent buses from overtaking each other when they are stationary at a bus stop, thereby creating congestion and even delay to some bus services.

Any redesign of the bus station should provide more space for buses and taxi's as well as enhanced facilities for pedestrians and cyclists (including cycle parking).

The draft Sevenoaks District Transport Strategy's Action Plan identifies the following measures to relieve congestion within the Sevenoaks High Street AQMA

Location	Action/Recommendations	Possible opportunity for funding? Or responsible authority	Timescale
Station, Buckhurst Lane and surrounding area – Sevenoaks Town Centre	Redesign and redevelop bus station to improve capacity and access	Local Transport Plan/developer funding	2009-2011
A225 High Street/Buckhurst Lane – Sevenoaks	Enforce no parking at anytime waiting restrictions at this junction.	Sevenoaks District Council	2008/2009

* Scheme has already been identified for funding within Kent's current Local Transport Plan 2006-11.

Round 3 – Draft Further Assessment, 2008 – London Road/Pembroke Road, Sevenoaks

- At London Road / Pembroke Road Sevenoaks, the Further Assessment predicted that in 2007 the annual mean objective of 40 µg m^{-3} is likely to be exceeded at the façade of residential properties to the east of the London Road and High Street junction and at the façade of residential properties located in the south west corner of the London Road and Pembroke Road junction.
- In 2010 nitrogen dioxide concentrations are expected to decrease from 2007 levels and the nitrogen dioxide annual mean objective will be met at residential locations in the area.

Source apportionment showed that heavy-duty vehicles make the largest contribution to the total oxides of nitrogen concentrations and that at busy junctions stationary vehicles in queues and at bus stops also make a substantial contribution to the total oxides of nitrogen concentrations.

The following two scenarios were investigated:

- • 50% reduction in HDV traffic
- • 15% reduction in Annual Average Daily Traffic (AADT)

The 50% reduction in HDV traffic scenario showed that in each of the assessment areas the predicted concentrations of nitrogen dioxide for 2007 were expected to decrease from the 2007 'base case' levels.

At London Road. Pembroke Road, Sevenoaks, the nitrogen dioxide annual mean objective was shown to be met at all residential locations in the area.

The 15% reduction in Annual Average Daily Traffic (AADT) scenario showed that the predicted concentrations of nitrogen dioxide for 2007 were expected to decrease from the 2007 'base case' levels. These reductions, however, were not by as much as the 50% reduction in HDV traffic scenario.

At London Road / Pembroke Road, the annual mean objective of 40 µg m^{-3} was found likely to be exceeded at the façade of residential properties surrounding the London Road and High Street junction and exceeded at the façade of a residential property to the south west corner of the London Road and Pembroke Road junction.

Conclusion:

The District Council will not be able to influence the volume of HDV or AADT traffic within the whole of the extended Sevenoaks town centre AQMA. It is unlikely that a Low emission zone will be considered feasible.

Significant improvements to air quality will therefore be dependent on traffic management schemes and localised measures together with national emission reductions.

The District Council will continue to work closely with the County Council to consider, promote and deliver improvements which together with other contributory measures outlined above and throughout the plan will also help reduce congestion and pollution.

Section 106 funding may be a future contributory factor.

AQMA 11 – Westerham Town Centre

Westerham is a small town located at the western edge of the District on the Kent / Surrey boundary through which the A25 runs.

Although traffic surveys have not shown an increase in traffic over the past three years
traffic levels increase significantly when traffic flows on the parallel M25, are disrupted.

Traffic surveys show that in early 2008, approximately 4% of the traffic using the A25 through Westerham consisted of HGVs; which whilst not a significant amount for this type of classified "A"-road, does contribute along with the restricted width of the carriageway due to the built form to cause an artificial "canyon" affect, which traps air pollution from vehicles.

JTB Member/Officer Air Quality Working Group

Westerham Town centre will be looked at by the group in the future.

<table>
<tr><td colspan="6">Action 9:
For the KCC/SDC Member/officer air quality working group to make recommendations to the JTB regarding suitable traffic reducing proposals within AQMA 11 – Westerham Town Centre</td><td colspan="3">Key Intervention:
Consideration by the JTB of options to alleviate congestion difficulties and improve air quality</td></tr>
<tr><td colspan="6">Responsible authority and other partners:
The District Council: Head of Environmental and Operational Services, KCC</td><td colspan="3">Legal Framework:
Traffic Management Act, associated Management duties and the LTP</td></tr>
<tr><td rowspan="2">Measures within Action</td><td colspan="5">Implementation Timetable</td><td rowspan="2">Monitoring Process</td><td rowspan="2">Progress Indicator</td><td rowspan="2">Target</td></tr>
<tr><td>09</td><td>10</td><td>11</td><td>12</td><td>13</td></tr>
<tr><td>Regular review of AQMA

This will include a Local AQMA audit based on feedback from the Air Quality Action Plan consultation</td><td>X</td><td>X</td><td>O</td><td>O</td><td>O</td><td>Minutes of meetings & via submission of Air Quality & Action Plan Progress Report to Defra</td><td>Air quality and traffic congestion problems</td><td>Improving in local air quality and conditions</td></tr>
<tr><td>Identification of quick win schemes within AQMA.</td><td>X</td><td>X</td><td></td><td></td><td></td><td>As above</td><td>Dependant on scheme identified</td><td>Scheme implemented and improvements made</td></tr>
<tr><td>Scoping of scheme</td><td>O</td><td></td><td></td><td></td><td></td><td>As above</td><td>N/A</td><td>Feasibility of scheme</td></tr>
<tr><td>Reporting to JTB (Dependant on feasibility)</td><td>O</td><td></td><td></td><td></td><td></td><td>As above</td><td>N/A</td><td>As above</td></tr>
<tr><td>Funding identification (Dependant on feasibility)</td><td>O</td><td></td><td></td><td></td><td></td><td>As above</td><td>N/A</td><td>Successful funding options identified</td></tr>
<tr><td colspan="9">Note: O denotes ongoing process</td></tr>
</table>

The Draft Sevenoaks District Transport Strategy

In order to improve air quality within Westerham the draft strategy suggests that measures need to be implemented to encourage more people to use sustainable modes of transport to travel to and from Westerham where possible.

Any measures which look to restrict through traffic are not possible at present as the A25 is part of the main road network and any restrictions may encourage traffic to use more unsuitable routes.

The Highways Agency was looking to widen sections of the M25 which run parallel to this section of the A25 but is now considering hard shoulder running instead (see page 36); The new measures like the original should help to reduce congestion and in the same way encourage drivers to use the M25 rather than the A25.

Until such a time that this new work is carried out, measures should still be introduced to try to dissuade, but not prevent, vehicles from using the A25 through Westerham.

Such measures should make use of the natural “pinch points” just to the east of the B2024 Croydon Road and just to the west of the junction with London Road.
These “pinch points” should be highlighted through the removal of road centre markings and use of coloured -surfacing.
The draft strategy argues that unless disincentives to using private vehicles such as parking charge increases are provided, no impact can be made on the poor air quality within the High Street.

The draft Sevenoaks District Transport Strategy’s Action Plan identifies the following measures to relieve congestion within the Westerham High Street AQMA

Location	Action/Recommendations	Possible opportunity for funding? Or responsible authority	Timescale
Provide cycle racks within Westerham High Street where pavement widths allow i.e. to the west of the London Road junction	Install cycle racks to provide secure cycle parking.	Local Transport Plan	2009 – 2011
A25 High Street, Westerham.	Install coloured surfacing, improve signage and install lining to enhance the narrowness of the carriageway to the west of the junction with B2024 Corydon Road.	Local Transport Plan	2009 – 2011
A25 Vicarage Hill – Westerham	Install coloured surfacing, improve signage and install lining to enhance the narrowness of the carriageway to the east of the junction with The Green	Local Transport Plan	2009 – 2011
M25 between junction 5 of the M25 and Cackett Lane services	Continue to lobby for widening scheme.	N/A	Ongoing

- Scheme has already been identified for funding within Kent’s current Local Transport Plan 2006-11

AQMA 12 – Sevenoaks - Bat and Ball

The A25/A225 Bat and Ball junction consists of a crossroad junction, with the A25 running east to west and the A225 running north to south. The A225 connects Sevenoaks Town Centre with the rural areas in the north of the District, as well as the urban areas of Swanley and Dartford.

The A225 and the A25 runs parallel to and therefore provides a useful alternative route the M25 and the M26 respectively. Also to the north of the A25/A225 Bat & Ball junction is the main industrial area for Sevenoaks. Therefore the A25 and A225 not only act as alternative routes for when the M25 and M26 are at reduced capacity these roads are also essential to the industrial distribution network for industry in west Kent.

This junction is controlled by traffic signals and regularly experiences congestion and is designated as a congestion “Hot Spot” by KCC.

JTB Member/Officer Air Quality Working Group

The group has been considering schemes to improve traffic flow on the west to east leg of the junction and reduce congestion and queuing by various highway works, principally by the creation of a filter lane and changes to road markings/signage.

A scheme of improvements, costing £20,000 was originally included in the 2008/09 Integrated Transport Programme, but in view of major gas pipe repair works which are scheduled to be undertaken at the junction during 2009, the funding has now been carried over into the 2009/10 programme.

In July 2008, DEFRA awarded the District Council an air quality grant of £15,000 towards works to improve flow through the busy and congested junction.

Means of improving congestion on the remaining arms of the junction are also being actively explored.

<table>
<tr><td colspan="6">Action 10:
For the KCC/SDC Member/officer air quality working group to continue to make recommendations to the JTB regarding suitable traffic flow measures on all legs of the Bat and Ball AQMA junction.</td><td colspan="3">Key Intervention:
Consideration by the JTB of options to alleviate congestion difficulties and improve air quality</td></tr>
<tr><td colspan="6">Responsible authority and other partners:
The District Council: Head of Environmental and Operational Services, KCC</td><td colspan="3">Legal Framework:
Traffic Management Act 2004, associated Management duties and the LTP</td></tr>
<tr><td rowspan="2">Measures within Action</td><td colspan="5">Implementation Timetable</td><td rowspan="2">Monitoring Process</td><td rowspan="2">Progress Indicator</td><td rowspan="2">Target</td></tr>
<tr><td>09</td><td>10</td><td>11</td><td>12</td><td>13</td></tr>
<tr><td>Continue to investigate a range of traffic management solutions at the junction.

This will include a Local AQMA audit based on feedback from the Air Quality Action Plan consultation</td><td>X</td><td></td><td></td><td></td><td></td><td>Minutes of meetings & Via submission of Air Quality and Action Plan Progress Report to Defra</td><td>Presentation of scheme and / or options for consideration</td><td>Improving local air quality and conditions</td></tr>
<tr><td>Scoping of additional schemes</td><td>X</td><td>X</td><td></td><td></td><td></td><td>As above</td><td>All options considered</td><td>Feasible scheme or acceptable options</td></tr>
</table>

Measures within Action 10	Implementation Timetable					Monitoring Process	Progress Indicator	Target
	09	10	11	12	13			
Funding identification	O					As above	N/A	Successful funding streams identified and scheme and/or alternative options programmed for implementation
Note: O denotes ongoing process								

The Draft Sevenoaks District Transport Strategy

Due to width restrictions on two arms of the junction including a steep escarpment to the south, only very limited small engineering improvements within the width of the current carriageway can be carried out to try to improve the capacity of this junction.

Recent investigations of traffic flows have shown that there is a higher than expected demand for left-turning movements on the A25 Bradbourne Vale Road arm of the Bat and Ball junction.

As a result an engineering scheme has been designed to reline and re-sign the lane approaches on this arm to provide more capacity for left turning vehicles. This scheme should help to reduce congestion and therefore pollution at this junction.

However no improvements for pedestrians and cyclists are proposed as part of this scheme. The draft strategy indicates that the introduction of such improvements would help to encourage this mode of transport and reduce congestion and pollution even further and should therefore also be considered.

Improvements to walking and cycling facilities at, and on the approach to the Bat & Ball junction need to be carried out to encourage the use of these modes of transport. The lack of such facilities makes this junction an unpleasant environment for pedestrian and cycle users and creates an environment dominated by traffic.

The draft Sevenoaks District Transport Strategy's Action Plan identifies the following measures to relieve congestion within the Bat & Ball AQMA

Location	Action / Recommendations	Possible funding opportunity or responsible authority	Timescale
A25 / A225 Bat & Ball junction	Provide bus priority measures at this junction in the form of bus lanes and priority signals.	Local Transport Plan	2009-2011
A25 Bradbourne Vale Road	Install cycle route(either on-road or a shared footway/cycleway)between the Bat & Ball junction and Riverhead, where possible.	Local Transport Plan	2009-2011
A25/A225 Bat & Ball junction arms	Install toucan crossings	Local Transport Plan	2009-2011

* Scheme has already been identified for funding within Kent's current Local Transport Plan 2006-11.

Indirect actions to reduce air pollution in AQMAs and across the District

The District Council is also undertaking a number of indirect actions, measures and initiatives which aim to generally contribute to reducing background levels of air pollution.

The District Council's Vehicle Fleet

The District Council has a fleet of approximately 100 vehicles, and is actively looking to reduce the emissions from them. The vehicles include refuse freighters, waste tankers, street sweepers and mini–buses. It is estimated that the AQMAs benefit from reduced emissions from about 160 journeys that the fleet make daily through them.

The District Council commenced the introduction of Euro IV compliant vehicles into the District Council fleet during 2007. Such vehicles are fitted with engine management systems and use the urea from on board storage tanks to achieve a cleaner diesel fuel combustion process.

The current Euro III emissions compliant vehicles will be phased out on an annual rolling renewal programme between 2008-2017.

The District Council implements the following initiatives in its day-to-day activities and encourages other organisations, businesses and the public to do so.

- Use of cleaner fuels in fleet vehicles – All diesel –fuelled fleet vehicles were using Ultra Low Sulphur Diesel (ULSD) from January 2000. The District Council's diesel fuel supply contract, commenced in early 2007 specifies 'zero' sulphur diesel fuel. Sulphur free or zero sulphur diesel at less than 10 parts per million (pap) is now used in all District Council diesel fuelled vehicles.

- The District Council has completed a trial of Addition EC 1500 (Chemical Non--Metallic Diesel Additive) fuel additive in order to reduce fuel consumption and emissions. It was estimated that 15% could be saved in costs and a saving in emissions of 58 tonnes. While reduced fuel consumption and consequential lower emissions were realised initially, subsequent increases in consumption were evident and the use of the additive has been discontinued.

- Fitting particulate traps to larger diesel fleet vehicles – a number of fleet vehicles are fitted with traps, which trap emissions and break down particulates and ensure that they are not emitted into the atmosphere. There is also a reduced cost for the Vehicle Exercise Duty (VED) when these traps are fitted, although the exhaust systems are more expensive and the saving in VED over the life of the vehicle does not meet the installation cost of the particulate trap.

- More use of alternative fuels where operationally and commercially practical and available. The District Council currently uses LPG in one fleet vehicle. The council does not currently have any electricity powered vehicles but opportunities to operate alternative fuelled vehicles are kept under review.

- Regular emissions checks on fleet vehicles form part of the Council's vehicle maintenance regime. The Council has recently invested in the latest emissions testing equipment for its commercial vehicle workshop.

Action 11 : The Council will demonstrate best practice in the purchase and operation of its own vehicle fleet in order to cut harmful emissions where possible						**Key Intervention:** Reducing harmful emissions from the vehicle fleet		
Responsible authority and other partners: The District Council: Head of Environmental and Operational Services.						**Legal Framework:** Good practice, corporate policy		
Measures within Action	**Implementation Timetable**					**Monitoring Process**	**Progress Indicator**	**Target**
	09	**10**	**11**	**12**	**13**			
Use of Cleaner fuels	Now used in all diesel fuelled vehicles	N/A	N/A	N/A	N/A	Via submission of Air Quality and Action Plan Progress Report to Defra	Benefits being realised	Reduced emissions
Fitting particulate traps to larger diesel vehicles where practicable	when necess ary	N/A	N/A	N/A	N/A	As above	Number of vehicles with traps fitted	As above
Use of alternative fuels where practicable	Being kept under review					As above	To be kept under review	As above
Regular emission testing of vehicles	As required	O	O	O	O	As above	Compliant Vehicles	As above
Note: O denotes ongoing process								

Reducing the need to travel by car

- Mini bus service – A welfare mini bus service is provided by the District Council in towns and some outlying villages to enable residents who are unable to access public transport to get to Day centres and go shopping. The service is kept under review and consideration given to extending the coverage and the range of groups it serves.

- Private Hire of Council-owned mini buses – Subject to availability of vehicles and driver, these mini- buses with up to 22 seats are available for private hire to encourage parties to travel together, reduce costs and discourage the use of cars.

- Taxis - Within the next year when the taxi licensing policy is likely to be reviewed and the District Council will investigate the feasibility of introducing a scheme to encourage the purchase of vehicles with cleaner emissions and to use cleaner fuels

- Concessionary Travel - To encourage the use of public transport we offer the National Countrywide bus permit, introduced by the Government on 1st April 2008, to the over 60's and people with certain disabilities allowing free travel anywhere in England on the country's bus network. There is no charge to the customer for the issue of this pass.

- Walking Groups - There are currently a number of walking groups in the District, one each in Edenbridge, Sevenoaks, New Ash Green and Hartley and there are plans to start up new walks in Swanley, Lullingstone and Hever. There are 130 Walk Leaders trained to support walks, to ensure sustainability of this important project which aims to promote walking as a sustainable method of travel. Spring House Family Centre in Sevenoaks has started walks on an occasional basis. The District Council has also started a series of Wildlife Health Walks.

- School Travel Plans (STPs) –There are currently 29 approved STPs in the District, with 16 being worked on. KCC is the lead agency on STPs and the target is for all schools to have a STP. The District Council provides support, resources, publicity and promotion as requested to assist schools in setting up their plans. The intention of the STP is to promote car sharing, parent-run school coaches and the use of public transport.

- Walking Buses – Walking Buses – five schools currently have walking buses set up, with six routes between them, and one school with a route in development. The District Council supports KCC by giving talks in assemblies, encouraging schools and children to walk to school and elsewhere. There is one walking bus in the Riverhead AQMA

- Streets Ahead – A ten minute classroom survey about the different types of transport used to get to school. The aim is to reduce the number of children coming to school as one passenger in a car and should involve the parents. Leaflets are distributed to all schools with a view to increasing the number of schools and pupils involved each year. A “traffic tree” is given to the school to measure the take-up. The scheme fits in with the National Curriculum and is popular with pupils and schools and contributes to the Eco-School Programme

- Home Working – Many staff can, with agreement, work at home when necessary and a more formalised home working scheme has been piloted. The scheme is reviewed annually and is subject to budgetary considerations.

- Flexible Working Hours – Most staff can work flexible hours, which enables them to avoid peak travel times and heavy traffic congestion. A full review of flexible working arrangements is currently being carried out, which will look at current practices across the District Council and staff preferences. The information will be used to develop an improved strategy.

- Reduce the need to travel on District Council business – All elected members have been issued with laptop computers to enable documents to be emailed, thus avoiding car deliveries around the district.

- Workplace Travel Plans - A programme for encouraging major employers to produce workplace travel plans is to developed and implemented. This will be achieved through the planning process (see earlier) and by agreement.

- Sevenoaks District Council Workplace Travel Plan – The Staff Travel Plan was launched during September 2007 and includes the following measures which are aimed at encouraging a reduction in car use:

    - Promotion of internal car sharing and the county wide KentCarShare scheme;
    - Setting up of a Cycle2 Work scheme;
    - Promotion of public transport incentive benefits such as interest free season ticket loans and 10% discounts on season tickets with Arriva buses;
    - Provision of staff facilities such as lockers, showers and cycle stands to encourage cycling:

Action 12: The District Council will continue to promote and publicise schemes including working with partners where appropriate to encourage a reduction in car use						**Key Intervention:** Promotion of a variety of schemes and initiatives to reduce the use of the car and have an indirect affect on reducing pollution levels		
Responsible authority and other partners: The District Council: Head of Community Development, Head of Environmental and Operational Services and Head of Financial Services: KCC, West Kent PCT; Voluntary groups and charities; Housing Associations, Town and Parish Councils						**Legal Framework:** Voluntary schemes, District and County Council policies and National legislation		
Measures within Action	**Implementation Timetable**					**Monitoring Process**	**Progress Indicator**	**Target**
	09	**10**	**11**	**12**	**13**			
Provision and promotion of Mini bus service to meet particular needs. Links to Sustainable Community Action Plan Aim 16.1	X	X				Through quarterly monitoring of the Sustainable Community Action Plan and via submission of Air Quality and Action Plan Progress Report to DEFRA	Use and extent of service provided	Number of passengers to be increased until capacity reached
Private mini bus hire	O	O	O	O	O	N/A	Level of hire	Discourage use of cars going to same location
Encouraging taxis to use cleaner vehicles/fuels	X	X				Introduction of scheme	Introduction of viable scheme	% number of vehicles taking up scheme to be monitored

Measures within Action 12	Implementation Timetable					Monitoring Process	Progress Indicator	Target
Concessionary travel schemes	O	O	O	O	O	N/A	Monitoring number of permits issued per annum	N/A
Promotion of walking groups Links to Sustainable Community Action Plan Action 16.3a	O	O	O	O	O	Through quarterly monitoring of the Sustainable Community Action Plan and via submission of Air Quality and Action Plan Progress Report to DEFRA	Monitoring success by numbers of groups established and maintained	The District council will continue to promote and encourage Walking Groups across the district
Introduction of School travel plans Links to Sustainable Community Action Plan Action 16.3a	X	X				Through quarterly monitoring of the Sustainable Community Action Plan and via submission of Air Quality and Action Plan Progress Report to DEFRA	Monitoring number of active STPs in place	The District council in partnership with KCC will promote and publicise for all schools to have a STP
Walking buses for schools Links to Sustainable Community Action Plan Action 16.3a	X	X				Through quarterly monitoring of the Sustainable Community Action Plan and via submission of Air Quality and Action Plan Progress Report to DEFRA	Annually increasing number of schools with walking buses	The District Council supports KCC in promoting and publicising Walking buses
Streets Ahead scheme Links to Sustainable Community Action Plan Action 16.3a	O	O	O	O	O	Via submission of Air Quality and Action Plan Progress Report to Defra	Promotion of scheme	The District Council will increase the number of schools involved in "Streets Ahead" each year.
Development and Promotion of workplace travel plans. Links to Sustainable Community Action Plan Action 16.3c	Council workplace travel plan completed in 2008	O	O	O	O	Through quarterly monitoring of the Sustainable Community Action Plan and via submission of Air Quality and Action Plan Progress Report to DEFRA	Number of workplace travel schemes in place.	Encouraging sustainable travel within the District
Note: O denotes ongoing process								

Traffic, Parking and Amenities

- Displaced parking in residential areas – consideration is given to residential areas near to railway stations and town centres where parking problems can occur as a result of commuters seeking to avoid paying the parking costs in nearby car parks. As part of parking reviews undertaken, priority is often given to residential parking needs with commuter parking controlled by the allocation of permits. Parking reviews to address commuter parking issues have been undertaken at Sevenoaks and Swanley, but whilst they have probably deterred some people from driving to the areas around stations, it is difficult to quantify the resultant effects as they may be parking further out and walking a greater distance to the station.

- Solar powered ticket machines - These have been installed to reduce energy consumption as part of the recent on-street parking reviews undertaken in Swanley and Sevenoaks.

- Encouraging the use of green vehicles - The on-street permit scheme for residents and businesses provides for people who have eco-friendly vehicles (either LPG, electric or hybrid technology) to have the permit charge waived.

- As a means of managing and controlling the distribution of commuter parking around the periphery of Sevenoaks town centre, a parking permit scheme has been successfully introduced to provide non-residential parking permits for town centre

- Parking restrictions: Whilst parking may not necessarily adversely affect traffic flows, parking within AQMA's is to be reviewed to establish whether the introduction of parking controls could have a positive and beneficial affect in reducing congestion and improving air quality

Action 13: Reducing congestion and improving air quality as a result through parking schemes						**Key Intervention:** Managing and controlling parking through a series of measure to reduce congestion		
Responsible authority and other partners: The District Council: Head of Environmental and Operational Services						**Legal Framework:** Traffic Management Act 2004		
Measures within Action	**Implementation Timetable**					**Monitoring Process**	**Progress Indicator**	**Target**
	09	**10**	**11**	**12**	**13**			
Encouraging the use of green vehicles	O	O	O	O	O	Via submission of Air Quality and Action Plan Progress Report to DEFRA	measure success of scheme by number of on street permits issued	encourage use of eco friendly cars
Provision of non residential parking permits for Sevenoaks Town centre	O	O	O	O	O	As above	measure success of scheme by number of permits issued	facilitate man agement of commuter parking

Measures within Action 13	Implementation Timetable					Monitoring Process	Progress Indicator	Target
	09	10	11	12	13			
Review parking restrictions in AQMAs	X	X				As above	impact of parking and affect on traffic flows	to establish whether additional parking controls would be beneficial
Note: O denotes ongoing process								

Climate Change, Energy Conservation and Recycling

To demonstrate its commitment to dealing with climate change, the District Council signed the Nottingham Declaration on Climate Change on the 8th October 2007 acknowledging the increasing impact that climate change will have on the community and the Council's commitment to tackling the causes and effects of a changing climate on the district .

The District Council, through this Declaration, is committed to:

- Work with Central Government to contribute, at a local level, to the delivery of the UK Climate Change Programme, the Kyoto Protocol and the target for carbon dioxide reduction by 2010

- Participate in local and regional networks for support.

- Within the two years from this signing to develop plans with partners and local communities to progressively address the causes and the impacts of climate change, according to local priorities, securing maximum benefit for local communities.
- Publicly declare, within appropriate plans and strategies, the commitment to achieve a significant reduction of greenhouse gas emissions from the authority's operations, especially energy sourcing and use, travel and transport, waste production and disposal and the purchasing of goods and services.

- Assess the risk associated with climate change and the implications for the Council's services and local communities of climate change impacts and adapt accordingly.

- Encourage all sectors in the local community to take the opportunity to adapt to the impacts of climate change, to reduce their own greenhouse gas emissions and to make public their commitment to action.

- Monitor the progress of the plans against the actions needed and publish the results.

- Carbon Reduction Management Action Plan (2008)

The Carbon Reduction Management Action Plan (2008) sets out activities to develop and enhance the role of the District Council towards energy usage and to manage the reduction of carbon emissions. The action plan fulfils the Council's commitment to the development of such a plan in the Nottingham Declaration on Climate Change.

There is an increasing expectation from Government for local authorities to take a pivotal role in achieving national carbon reduction targets. The actions in the Plan work towards reducing carbon emissions that are generated through energy use.

Measures to reduce energy use are expected to have benefits to air quality through reductions in background concentrations of pollutants.

- Climate Change - District Council owned buildings have been assessed by Energy Team (CIBSE Certification Ltd) to produce an Advisory Report in line with the Energy Performance of Buildings Regulations 2007. This has provided both the required Energy Display Certificate and an action plan for the main District Council Offices at Argyle Road, the Dunbrik Depot, and the leisure centres at Sevenoaks, Edenbridge and Whiteoak.

- Where plant and equipment is replaced an energy efficient alternative is sought.

- The District Council has established a corporate Climate Change working group which will develop a Climate Change Strategy in order to progress on the Kent area targets for National Indicators (NI) including NI 186: Per capita CO_2 emissions and NI 188 - Adapting to climate change.

The terms of reference for the group include:

- To lead the community in mitigating and adapting to climate change
- To monitor and review the current Carbon Management Action Plan
- To produce an updated Carbon Management Action Plan
- To produce and monitor a Corporate Climate Change Strategy
- To reduce fuel poverty in the District
- To provide information for NIs 185 – 188 (KA2)
- To monitor and review the Air Quality Action Plan
- To apply for appropriate external funding
- To effectively liaise, communicate and provide appropriate information for the community and relevant partners/organisations
- To work with commercial, private and social sectors to reduce the District's carbon footprint
- To work with the Council's Property Services to reduce the use of carbon and provide energy efficient alternatives for the Council's buildings
- To work closely with LDF and DC to deliver sustainable developments

- Energy efficiency - The District Council encourages, promotes and enables a variety of domestic energy initiatives schemes initiated by its Home Energy Conservation Act (HECA) Energy Strategy and through working with the Kent Energy Efficient Partnership (KEEP) and the local Energy Saving Trust advice centre

- Fuel Poverty - The District Council aims to help people who have difficulty in affording to keep their homes warm through partnership initiatives developed through the Kent Health and Affordable Warmth Strategy Implementation Group.

- These include the Home Visitor scheme and the Coldbusters scheme which provide referral to the appropriate grant funding for energy efficiency measures for eligible householders using CERT (Carbon Emission Reduction Target) funding for insulation, Warm Front funding, and then District Council funding.

- "Eco Schools" Programme **-** Eco-Schools is a Europe wide project designed to encourage whole-school action for the environment. The programme promotes environmental awareness to both pupils and staff in a way that links to many curriculum subjects.

- The Eco-Schools Programme is focused around nine key environmental topics including transport issues such as traffic congestion and air pollution.

- The District Council in partnership with the County Council encourages and supports local schools in these topics by providing resources, information, publicity and promotion to assist the schools in setting up their plans. Low cost with a small positive but sustained impact on air quality."

- Recycling - It is a target within the Sustainable Community Plan to increase recycling of household waste in the District Council area to 36% by 2009. Internal recycling is also undertaken and includes paper, cardboard, plastics and glass. Recycling contributes to the reduction in climate change gases.

Action 14: The District Council will promote a number of initiatives to reduce energy consumption, improve energy efficiency and recycling and develop its carbon management role						**Key Intervention:** Development of Climate Change Strategy and promotion of initiatives		
Responsible authority and other partners: The District Council: Head of Housing , Head of Environmental and Operation Services and Head of Community Development: KCC (Eco-schools) and School Governing Bodies and the Energy Saving Trust advice centre.						**Legal Framework:** Voluntary, Home Energy Conservation Act, Nottingham Declaration for Adaptation and Mitigation to Climate Change, National Indicators 185,186, 187 & 188		
Measures within Action	**Implementation Timetable**					**Monitoring Process**	**Progress Indicator**	**Target**
	09	**10**	**11**	**12**	**13**			
Carbon Reductions Management Plan Links to Sustainable Community Action Plan Action 10.1d	X	X				Ongoing initiatives monitored corporately through the Sustainable Community Action Plan and KA2 - Sevenoaks District Local Action Plan, 2008 - 2011 quarterly Monitoring structure, annual submission of the HECA report and NI returns to Defra and via submission of Air Quality and Action Plan Progress Report to Defra	Development of local action plans addressing climate change	Reduce harmful carbon emissions arising from processes such as fuel or energy

Measures within Action 14	Implementation Timetable					Monitoring Process	Progress Indicator	Target
	09	10	11	12	13			
Continued development and progression of corporate working group Links to Sustainable Community Action Plan Action10.1	O	O	O	O	O	As part of above processes and via minutes of monthly meetings		Development of a Climate Change Strategy and successful corporate approach to wider climate change agenda
Energy efficiency schemes Links to Sustainable Community Action Plan Action 10.1	O	O	O	O	O	As part of above processes		To increase percentage of local population involved in schemes and initiatives
Promotion of Fuel Poverty initiative Links to Sustainable Community Action Plan Action 10.1	O	O	O	O	O	As part of above processes		To increase percentage of local population involved in schemes and initiatives
Eco Schools Programme Links to Sustainable Community Action Plan Action 10.1c	O	O	O	O	O	As part of above processes		The District Council will continue to support the Eco-School Programme and encourage more schools to become Eco-Schools
Recycling Links to Sustainable Community Action Plan Action 10.2	O	O	O	O	O	Through quarterly monitoring of the Sustainable Community Action Plan and via submission of Air Quality and Action Plan Progress Report to DEFRA		To increase percentage of local population involved in schemes and initiatives
Note: O denotes ongoing process								

Pollution Control

- Industrial Air Pollution Control - Under the Environmental Permitting Regulations 2007 regime, the District Council has issued 38 permits to industries which have the potential to emit pollution into the air. These include vehicle re-spraying operations, dry cleaning establishments, petrol stations. mineral processing and cement and concrete batching plants.

- Industrial Smoke Control - The District Council controls emissions from industrial processes or trade premises which fall outside the provisions of the Environmental Protection Act by using the provisions of the Clean Air Act 1993 these includes powers to:

    - Prohibit black smoke from a chimney of any building (subject to certain exemptions).
    - Prohibit dark smoke from industrial or trade premises (subject to certain exemptions).
    - Require notification of installations of industrial furnaces.
    - Approve chimney heights of certain installations.

- Statutory Nuisance Legislation - Under The Environmental Protection Act 1990 where a local authority is satisfied that a statutory nuisance exists it has a duty to take enforcement action requiring the abatement of the nuisance. The act covers emissions caused by smoke, fumes, gases, dust, steam and smells emitted from premises.

- Smoke Control Areas (SCA) - An area in the north of the district has been declared a smoke control area. It was initially declared under the Clean Air Act 1968 but the legislation has been subsequently re-enacted and enhanced by the Clean Air Act 1993. It is an offence for an occupier of a premises within the smoke control area to allow smoke emissions from a chimney unless the smoke is caused by the use of an 'authorised fuel'. Coal, oil and wood cannot be used as fuel in these areas unless they are burnt on an exempted fireplace.

- Bonfires - Bonfires that produce smoke can increase the levels of air pollution. PM_{10} as well as larger particles and other pollutants such as dioxins may be produced if plastics are burnt. Where bonfires cause a statutory nuisance enforcement action is taken under the Environmental Protection Act 1990.

The District Council promotes and actively encourages composting as an alternative method of disposal and burning of garden waste. Schemes to encourage home, community and centralised composting have been set up to help reduce the need for bonfires.

Garden Waste sacks and/or bins/permits can be bought from the District Council and are then collected and sent to a central composting point within the District.

Domestic composting units are available to anyone in the district at discounted rates that are able to take a significant amount of compostable waste which may have been otherwise burnt or placed in the domestic refuse.

Action 15: The District Council will continue to proactively enforce industrial control and nuisance legislation to minimise pollution emissions from these sources						**Key Intervention:** Control and prevention of pollution emissions		
Responsible authority and other partners: The District Council: Head of Environmental and Operational Services						**Legal Framework:** Existing environmental protection legislation		
Measures within Action	**Implementation Timetable**					**Monitoring Process**	**Progress Indicator**	**Target**
	09	**10**	**11**	**12**	**13**			
Inspection and enforcement	O	O	O	O	O	Internal monthly management reports	Internal Performance Indicators. Statutory functions	Internal response and resolution targets .
Ongoing promotion of composting schemes	O	O	O	O	O	N/A	N/A	N/A
Note: O denotes ongoing process								

Promotion and Education

- Website information - Air quality information is provided on the District Council website including a link to the London Air Quality Network which shows daily pollution levels, as well as including bulletins, statistics and site details.

- Act on CO_2 - The District Council promotes the Governments 'Act on CO_2' Campaign and encourages changes in lifestyle and behaviour that positively impact on air quality and climate change via its website, promotional campaigns and provision of information at its public receptions

- The District Council works in close partnership with other Kent Authorities and the local Energy Savings Trust advice centre (Estac) to promote the Estac advice line and website.

- The Estac advice line is also now providing one in every three callers information on how to reduce CO_2 emissions while driving.

- Smoky Vehicles - Contact information for the Vehicle Inspectorate, who has powers to deal with smoky vehicles has been published on the Councils Website. Residents and Council Officers are encouraged to report all incidences of smoky vehicles to them.

- Promote Efficient Use of Vehicles / No idling policy - A campaign to promote the benefits of switching off car engines when stationary is currently being considered. This may link in with the Tesco redevelopment Section 106 funding for Vehicle Emission testing in the Riverhead AQMA. (see action 4)

- Health Information - The District Council is currently developing links with the Local Health Authorities to investigate the impact of pollution on local health and provide health information and advice on air pollution.

- Kent and Medway Air Quality Partnership - The District Council is a member of the Kent and Medway Air Quality Partnership which works towards gaining a better understanding of current air quality issues arising from the work undertaken by the Districts and Boroughs across Kent.

The partnership is made up of officers from each of the Kent authorities and the County Council. Representatives from the NHS, Environment Agency, Local Universities and various consultancies are also invited to attend.

This group was started in 1994 and meets quarterly to exchange views and discuss actions authorities might be able to take to improve air quality.

Current projects:

- Promotion of County wide Air Quality and Planning technical guidance for developers, their consultants and local authorities
- Investigating the feasibility of operating a Kent 'Air Alert' system
- Establishment of a health and air quality sub group

Action 16: Continue to improve and raise the level of knowledge and publicity relating to air pollution						**Key Intervention:** Raising awareness of pollution issues in order to positively change behaviour		
Responsible authority and other partners: The District Council: Head of Environmental and Operational Services and Head of Housing; The Energy Saving Trust advice centre.						**Legal Framework:** Voluntary and internal policies: National Indicator 186		
Measures within Action	**Implementation Timetable**					**Monitoring Process**	**Progress Indicator**	**Target**
	09	**10**	**11**	**12**	**13**			
Review and expansion of information on website	X	X				Via submission of Air Quality and Action Plan Progress Report to Defra	Completion of measure	Extensive range of relevant information presented in clear and concise manner
Promote efficient use of vehicles - Set up working group - Explore different campaigns and strategies - Draw up plan of action with timescales - Continue to promote the Estac advice line and website	X	X	O	O	O	As above	Completion of stages of measure	Active promotion of campaigns
Continue to develop links with local health authority.	X	X				As above and via Kent and Medway Air Quality Partnership	N/A	Improved partnership working to benefit and co-ordinate information provision
Continue to be active participant of Kent and Medway Air Quality Partnership including membership of the health and air quality sub group	O	O	O	O	O	As above and via Kent and Medway Air Quality Partnership	N/A	Continue to take a county wide approach to air quality issues
Note: O denotes ongoing process								

AQMA Monitoring

Nitrogen Dioxide levels are monitored monthly using a network of diffusion tubes at 80 locations across the District. The District Council currently uses the information gathered to establish whether objectives are being exceeded and to validate Models as part of the Review and Assessment process.

Please refer to Appendix 2 for maps showing diffusion tube sites

There are also two Continuous Air Quality Monitoring Stations which measure Nitrogen Dioxide, Carbon Monoxide, PM_{10} and Ozone. These are situated at Bat & Ball which provides road side pollution information and Greatness Playing fields which measures background levels.

In February 2009, DEFRA awarded the District Council an air quality grant of £10,500 towards the running costs of the Bat & Ball Continuous Air Quality Monitoring Station.

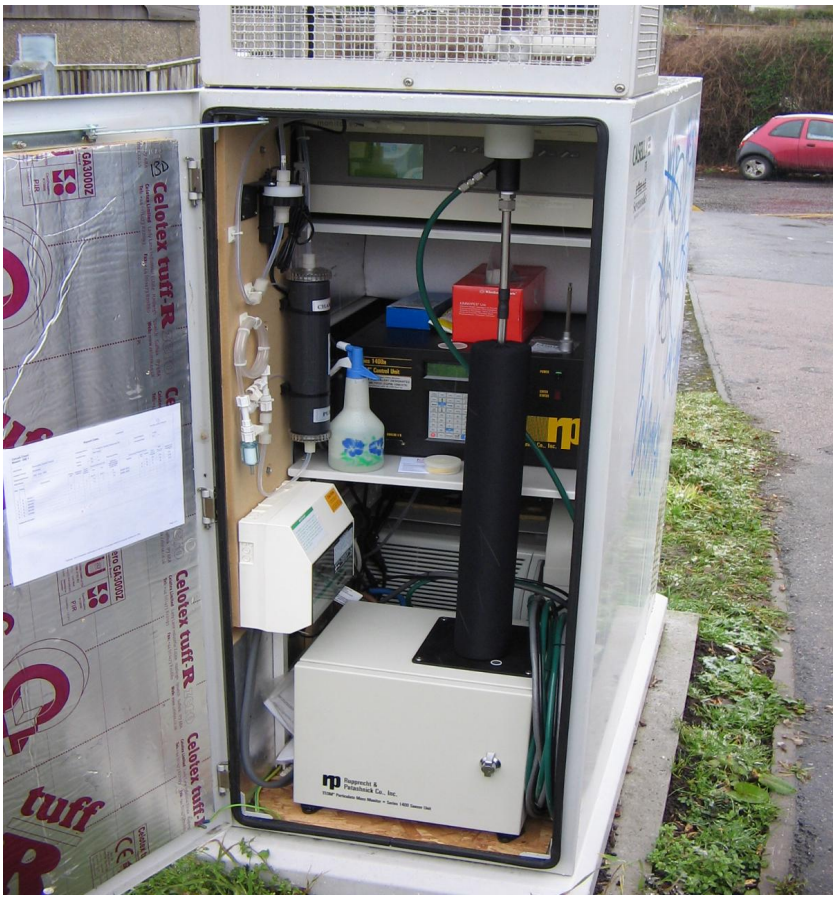

Figure 5: Bat & Ball Continuous Monitoring Site

Action 17: The council will continue to undertake routine monitoring of air pollution in existing AQMA's and locations around the District and increase the number of monitoring points as necessary						**Key Intervention:** Provision of necessary information to enable the air quality review and assessment process to be undertaken		
Responsible authority and other partners: The District Council: Head of Environmental and Operational Services.						**Legal Framework:** Environment Act 1995		
Measures within Action	**Implementation Timetable**					**Monitoring Process**	**Progress Indicator**	**Target**
	09	**10**	**11**	**12**	**13**			
Continue real time monitoring	O	O	O	O	O	Via submission of Air Quality and Action Plan Progress Report to Defra	N/A	Ongoing Provision of information
Continue diffusion tube monitoring	O	O	O	O	O	As above	N/A	Ongoing Provision of information and indication of exceedance of UK Air Quality Objectives
Keep numbers and locations of diffusion tubes under regular review	O	O	O	O	O	As above	N/A	Provision of additional tubes where necessary
Note: O denotes ongoing process								

Summary of proposed actions to reduce air pollution

Direct actions to reduce air pollution in AQMAs and across the District

Action 1 : The Sevenoaks Joint Transport Board will continue to consider and review options and proposals made under the Traffic Management Act and the LTP as well as via the Member/Officer air quality working group and both liaise and lobby KCC to establish scheme acceptance, prioritisation and funding

Action 2 : The District Council will continue to consider the impact new developments have on air quality and take appropriate steps to minimise any increase in air pollution. This included seeking Section 106 funding where appropriate.

Action 3 : The District Council will continue to be an active participant in consultation processes and liaise with the Highways Agency to secure those improvements to the M25 considered most likely by the scenario testing to result in a reduction in pollution levels within the motorway AQMAs.

Action 4 : Set up an internal working group to identify, implement and monitor air quality mitigation measures secured by Section 106 Agreement with respect to developments affecting the Riverhead and Dunton Green AQMA. The group, to also consider other Air Quality Section 106 agreements within the District

Action 5 : For the KCC/SDC Member/officer air quality working group to make recommendations to the JTB regarding suitable traffic reducing proposals within the Riverhead and extended Dunton Green /London Road AQMAs

Action 6 : For the KCC/SDC Member/officer air quality working group to make recommendations to the JTB regarding suitable traffic reducing proposals within AQMA 8 - Swanley Town Centre

Action 7 : For the KCC/SDC Member/officer air quality working group to make recommendations to the JTB regarding suitable traffic reducing proposals within AQMA 9 – Seal High Street

Action 8 : For the KCC/SDC Member/officer air quality working group to make recommendations to the JTB regarding suitable traffic reducing proposals within AQMA 7 - Sevenoaks High Street

Action 9 : For the KCC/SDC Member/officer air quality working group to make recommendations to the JTB regarding suitable traffic reducing proposals within AQMA 11 – Westerham Town Centre

Action 10 : For the KCC/SDC Member/officer air quality working group to continue to make recommendations to the JTB regarding suitable traffic flow measures on all legs of the Bat and Ball AQMA junction.

Summary of proposed actions to reduce air pollution

Indirect actions to reduce air pollution in AQMA's and across the district

Action 11 : The District Council will demonstrate best practice in the purchase and operation of its own vehicle fleet in order to cut harmful emissions where possible

Action 12 : The District Council will continue to promote and publicise schemes including working with partners where appropriate to encourage a reduction in car use

Action 13 : Reducing congestion and improving air quality as a result through parking schemes

Action 14 : The District Council will promote a number of initiatives to reduce energy consumption, improve energy efficiency and recycling and develop its carbon management role

Action 15 : The District Council will continue to proactively enforce industrial control and nuisance legislation to minimise pollution emissions from these sources

Action 16 : Continue to improve and raise the level of knowledge and publicity relating to air pollution

Action 17 : The District Council will continue to undertake routine monitoring of air pollution in existing AQMA's and locations around the District and increase the number of monitoring points as necessary

Cost effectiveness and Impact matrix

Achieving a realistic balance between cost and effectiveness is an essential consideration when deciding which actions should be undertaken to reduce emission levels and subsequently improve air quality both within the AQMAs and the District as a whole.

The actions developed in the Action Plan have each been considered in relation to effect, economic, social and environmental impacts as well the ease of implementation.

Not all the actions are easy to compare as some have already been agreed and progressing, others no matter how desirable are not financially viable or within the jurisdiction of the District Council and some are statutory duties which will be undertaken regardless of the Action Plan.

Funding Implications of the Action Plan

The principle sources of funding for works for improving air quality include:

- Kent County Council which is responsible for funding the maintenance and repair of non motorway and non trunk roads within the District and providing financial provision for implementing targets and proposals outlined in 'Towards 2010' and the 'Local Transport Plan for Kent 2006-11' (See p 26 of this document - The Draft Sevenoaks District Transport Strategy – Progression and funding)
- The cost of implementing any actions relevant to the control of emissions from roads maintained by the Highways Agency (motorways and trunk roads) would fall to the Highways Agency, National Government and freight operators
- The cost of implementing the Action Plan measures that fall within the District Council's responsibility will be met from the District Council's annual budget
- Where works are required to mitigate against air pollution caused by new development, funding for action plan initiatives or air quality monitoring will be sought from developers through section 106 agreements or by planning condition

In order to provide some indication of the costs and the impact of each proposal in the Action Plan as well as the reduction of nitrogen dioxide and affect on residents, the following criteria have been adopted:

Costs

Low	=	Less than £50,000
Medium	=	£50,000 to £200,000
High	=	More than £200,000

Where the proposed actions are part of ongoing or committed measures related to other policies, the costs are shown as 'zero', unless additional funding related to the Action Plan is required.

Impact on Air Quality

Negligible	=	Less than 0.4µg/m³
Minor	=	0.4 µg/m³ to 1.0 µg/m³
Moderate	=	1.0 µg/m³ to 2.0 µg/m³
Major	=	More than 2.0 µg/m³

Whilst individual actions may offer only a very small reduction in the NO_2 level, the cumulative impact of the many actions across the District should have a significant general impact upon the reduction of NO_2 levels both at hotspots and of the background.

Impact of Action

1	(Low)	=	Impact is small and localised but will be beneficial as part of a wider measure
2	(Medium)	=	impact is considered important with benefits clearly seen
3	(High)	=	impact is considered significant and the action is considered necessary to achieve the objectives

Impact on Residents

1	=	less positive
2	=	medium
3	=	most positive

Cost Effectiveness and Impact Matrix
A Summary of Direct and Indirect Actions to Reduce Air Pollution in the AQMAs and Across the District

	ACTION PLAN REFERENCE	Cost	Impacts on Nitrogen Dioxide and PM^{10}	Organisation Responsible	Impact of Action	Impact on residents	Date to be achieved	Air quality improvements and other positive impacts	Performance Indicator	Community Plan objective/ themes
1	The Sevenoaks Joint Transport Board will continue to consider and review options and proposals made under the Traffic Management Act and the LTP as well as via the Member/Officer air quality working group and both liaise and lobby KCC to establish scheme acceptance, prioritisation and funding	Zero	Negligible to moderate	SDC & JTB	3	3	Quarterly review by JTB Committee	Positive impact on congestion hotspots and air quality issues	Secure improvements to improving both air quality and reducing local congestion	Yes G.E.T *
2	The District Council will continue to consider the impact new developments have on air quality and take appropriate steps to minimise any increase in air pollution. This included seeking Section 106 funding where appropriate	Zero	Negligible to moderate	SDC	1	1	Ongoing as part of the planning process	Positive and potentially wider socio-economic benefits from mitigation measures and controls	Application of planning legislation and Local and National Planning Policies with regard to new developments	Yes G.E.T *
3	The District Council will continue to be an active participant in consultation processes and liaise with the Highways Agency to secure those improvements to the M25 considered most likely by the scenario testing to result in a reduction in pollution levels within the motorway AQMAs	Zero	Negligible to moderate	SDC	1	1	N/A	Opportunity to influence strategic HA schemes which impact on local AQMA's	Active participation in liaison process with Highways Agency when works to M25 are proposed	No

	ACTION PLAN REFERENCE	Cost	Impacts on Nitrogen Dioxide and PM^{10}	Person/ Org. Responsible	Impact of Action	Impact on residents	Date to be achieved	Air quality improvements and other positive impacts	Performance Indictor	Community Plan objective/ themes
4	Set up an internal working group to Identify, implement and monitor air quality mitigation measures secured by Section 106 Agreement with respect to developments affecting the Riverhead and Dunton Green AQMA. The group, to also consider other Air Quality Section 106 agreements within the District	Low	Negligible to moderate	SDC	3	2	Ongoing	Positive impact on area by influencing strategic factors at a local level	Maximise benificial impact on air quality by the delivery of measures secured by Section 106 funding.	Yes S.E.T *
5	For the KCC/SDC Member/officer air quality working group to make recommendations to the JTB regarding suitable traffic reducing proposals within the Riverhead and extended Dunton Green /London Road AQMAs correct?	Low	Negligible to minor	SDC	2	2	Ongoing but subject to regular review	Positive impact on congestion hotspots and air quality issues	Consideration by the JTB of options to alleviate congestion difficulties and improve air quality	Yes G.E.T & S.E.T *
6	For the KCC/SDC Member/officer air quality working group to make recommendations to the JTB regarding suitable traffic reducing proposals within AQMA 8 - Swanley Town Centre	Low	Negligible to minor	SDC	2	2	Ongoing but subject to regular review	Positive impact on congestion hotspots and air quality issues	Consideration by the JTB of options to alleviate congestion difficulties and improve air quality	Yes G.E.T & S.E.T *
7	For the KCC/SDC Member/officer air quality working group to make recommendations to the JTB regarding suitable traffic reducing proposals within AQMA 9 – Seal High Street	Low	Negligible to minor	The District Council: Head of Environmental & Operational Services	2	2	Ongoing but subject to regular review	Positive impact on congestion hotspots and air quality	Consideration by the JTB of options to alleviate congestion difficulties and improve air quality	Yes G.E.T & S.E.T *
	ACTION PLAN REFERENCE	Cost	Impacts on	Person/ Org.	Impact of	Impact on	Date to be achieved	Air quality	Performance	Community Plan

			Nitrogen Dioxide and PM^{10}	Responsible	Action	residents		improvements and other positive impacts	Indictor	objective/ themes
8	For the KCC/SDC Member/officer air quality working group to make recommendations to the JTB regarding suitable traffic reducing proposals within AQMA 7 - Sevenoaks High Street	Medium	Moderate to Major	The District Council: Head of Environmental & Operational Services	3	3	Ongoing review but 09/10 for scoping phase of scheme	Opportunity to have a positive impact on improving air quality and wider street scene environment	Consideration by the JTB of options to alleviate congestion difficulties and improve air quality	Yes G.E.T & S.E.T *
9	For the KCC/SDC Member/officer air quality working group to make recommendations to the JTB regarding suitable traffic reducing proposals within AQMA 11 – Westerham Town Centre	Low	Negligible to minor	The District Council: Head of Environmental & Operational Services	2	2	Ongoing but subject to regular review	Positive impact on congestion hotspots and air quality	Consideration by the JTB of options to alleviate congestion difficulties and improve air quality	Yes G.E.T & S.E.T *
10	For the KCC/SDC Member/officer air quality working group to continue to make recommendations to the JTB regarding suitable traffic flow measures on all legs of the Bat and Ball AQMA junction.	Low to medium	Moderate to major	The District Council: Head of Environmental & Operational Services	2 - 3	3	Ongoing but with improvements to west to east leg of junction in 208/10	Opportunity to have positive impact improving congestion and air quality at junction	Consideration by the JTB of options to alleviate congestion difficulties and improve air quality	Yes G.E.T & S.E.T*
11	The Council will demonstrate best practice in the purchase and operation of its own vehicle fleet in order to cut harmful emissions where possible	Low	Negligible	The District Council: Head of Environmental & Operational Services	1	1	Ongoing	Potential to reduce harmful emission and increase fuel efficiency and make some financial savings	Reducing harmful emissions from the vehicle fleet	No
	ACTION PLAN REFERENCE	Cost	Impacts on Nitrogen	Person/ Org. Responsible	Impact of Action	Impact on residents	Date to be achieved	Air quality improvements	Performance Indicator	Community Plan objective/ themes

			Dioxide and PM^{10}					and other positive impacts		
12	The District Council will continue to promote and publicise schemes including working with partners where appropriate to encourage a reduction in car use	Low	Negligible	The District Council: Head of Environmental & Operational Services and Head of Development Services	1	2	Ongoing series of initiatives with milestones within Community Plan	Positive contribution to personal health and the environment by encouraging alternative forms and use of transport	Promotion of a variety of schemes and initiatives to reduce the use of the car and have an indirect affect on reducing pollution levels	G.E.T and S.E.T*
13	Reducing congestion and improving air quality as a result through parking schemes	Low	Negligible	The District Council: Head of Environmental & Operational Services	1	2	Ongoing	Potential to reduce local peak time pollution levels and congestion. Improved road safety	Managing and controlling parking through a series of measure to reduce congestion	No
14	The District Council will promote a number of initiatives to reduce energy consumption, improve energy efficiency and recycling and develop its carbon management role	Low	Negligible to minor	The District Council: Head of Environmental & Operational Services	1	1-2	Ongoing series of initiatives with milestones within Community Plan and Climate change agenda	Energy savings reduced CO_2 emissions improved social equity, health and quality of life	Development of Climate Change Strategy and promotion of initiatives	G.E.T
15	The District Council will continue to proactively enforce industrial control and nuisance legislation to minimise pollution emissions from these sources	Low	Negligible	The District Council: Head of Environmental & Operational Services	1	1	Ongoing statutory functions	Reduction in nuisance complaints and minimisation impact of local pollution incidents	Control and prevention of pollution emissions	Yes G.E.T
	ACTION PLAN REFERENCE	Cost	Impacts on Nitrogen Dioxide and	Person/ Org. Responsible	Impact of Action	Impact on residents	Date to be achieved	Air quality	Performance Indicator	Community Plan objective/ themes

			PM^{10}					improvements and other positive impacts		
16	Continue to improve and raise the level of knowledge and publicity relating to air pollution	Low	Negligible	The District Council: Head of Environmental & Operational Services	1	1	Ongoing but with milestones for individual promotions	Raising Public awareness and changing behaviour	Raising awareness of pollution issues in order to positively change behaviour	
17	The council will continue to undertake routine monitoring of air pollution in existing AQMA's and locations around the District and increase the number of monitoring points as necessary	Low	Not applicable	The District Council: Head of Environmental & Operational Services	1	1	Ongoing process	Enables effective monitoring and evaluation of pollution levels	Provision of necessary information to enable the air quality review and assessment process to be undertaken	No

Table 6 : Summary of Actions to Reduce Air Pollution in the AQMAs and across the District

* KEY: GET - Green Environment Theme
SET - Sustainable Economy Theme

Abbreviations

AQMA	Air Quality Management Area
AQS	Air Quality Strategy
AP	Action Plan
CMS	Continuous Monitoring Stations
CO	Carbon monoxide
CO_2	Carbon Dioxide
DEFRA	Department of the Environment, Farming and Rural Affairs
EA	Environment Agency
EH	Environmental Health
EPA	Environmental Protection Act
EU	European Union
GTP	Green Travel Plan
HA	Highways Agency
HDV	Heavy-duty Vehicles
HECA	Home Energy Conservation Act
HFO	Heavy Fuel Oil
HGVs	Heavy Goods Vehicles
JTB	Joint Transportation Board
KCC	Kent County Council
Kerbside	0 to 1 m from the kerb
LA	Local Authority
LAQM	Local Air Quality Management
LAQS	London Air Quality Strategy
LDF	Local Development Framework
Limit Value	An EU definition for an air quality standard of a pollutant listed in the air quality directives
LTP	Local Transport Plan
NAQS	National Air Quality Strategy
NO_2	Nitrogen dioxide
NOx	Oxides of nitrogen
ppb	parts per billion
PM^{10}	Fine Particles
Receptor	In the context of this study, the relevant location where air quality is assessed or predicted (for example, houses, hospitals and schools)
SDC	Sevenoaks District Council
SO_2	Sulphur dioxide
SO_x	Sulphur Oxide
STP	School Travel Plan
VOCs	Volatile Organic Compounds

DEFRA action planning requirements compliance checklist

Work area	Included or considered?	Location within the report and comments
Process adherence to Guidelines and Consideration of Policies		
• Have Statutory Consultees, including other council departments been consulted?	Yes	P.12 – 17 Summary of responses Amendments also made throughout the Action Plan
• Statement of problem causing AQMA	Yes	Introduction and Purpose of the Action Plan
• Have the principle sources of pollutants causing the exceedance been identified?	Yes	P.7
• Have other LA plans/policies been considered?	Yes	P. 18 – 31 Existing polices and strategies to improve air quality in AQMAs and across the District.
• Has an options timescale been included?	Yes	Cost effectiveness and feasibility matrix
• Have cost of options / plan been set out?	Yes	Cost effectiveness and feasibility matrix
• Have impacts been assessed?	Yes	Cost effectiveness and feasibility matrix
Process – Checklist of Measures		
• Have options been considered?	Yes	Throughout, direct and indirect actions and measures identified
• How many options have been considered?	17	P.. 32 -78
• Have transport impacts been assessed?	Yes	Throughout
• Have air quality impacts been assessed – modelled or measured?	Yes	Throughout and see Scenario Testing
• Have Socio-economic impacts been assessed?	Yes	Cost effectiveness and feasibility matrix
• Have other environmental impacts been assessed? (noise)	Yes	Cost effectiveness and feasibility matrix
• Have costs been considered?	Yes	Cost effectiveness and feasibility matrix
Appropriateness and Proportionality		
• Do measures seem appropriate to the problem?	Yes	Throughout

• Have the measures been assessed?	Yes	Throughout, direct and indirect actions and measures Identified
• Are the measures likely to achieve the stated goal?	Yes	Will contribute to reduction – see Direct and Indirect actions and
• Have the wider impacts been appraised appropriately?	Yes	Cost effectiveness and feasibility matrix
• Was the method of assessing costs appropriate?	Yes	Matrix based on realistic assessment
• Is it likely for LAQM objectives to be met?	In some areas	Will contribute to reduction – see direct and indirect actions and measures
• Do the chosen measures comply with wider Government Policies?	Yes	See: Existing polices and strategies to improve air quality in AQMAs and across the District.
Implementation		
• Are measures realistic in light of the objective deadlines?	Yes	The actions have targets or are part of measures that are already being undertaken
• Have responsibilities been assigned to the relevant party?	Yes	Throughout
• Does the assigned party have the necessary powers?	Yes	See Responsibility Matrix and action point reporting tables.
• Has financing been secured and who will pay?	Yes	Measures already undertaken or to be considered by members