

Final

Air Quality Review and Assessment

Air Quality Action Plan for St Albans City and District Council

A report produced by St Albans City and District Council



This document should be considered with specific reference to Stage 4 of the
Review and Assessment for Air Quality

December 2003

written by **Nicholas Egerton**

Title	Air Quality Review and Assessment - Action Plan for St Albans City and District Council
Report number	NJE/AQAP1
Report status	Unlimited

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This report is available for download (as pdf) at www.stalbans.gov.uk/ under the headings Living/Pollution Control/Air quality.

DEFRA Action Planning requirements compliance checklist

This section has been introduced to indicate where the work expected by DEFRA has been undertaken in relation to our Action Plan.

Work area	Included or considered?	Location within the report and comments
Process Adherence to Guidelines and Consideration of Policies		
• Have Statutory Consultees been consulted?	Yes	
• Have other LA departments been consulted?	Yes	
• Statement of problem causing AQMA.	Yes	
• Have the principle sources of pollutants causing the exceedance been identified?	Yes	
• Have other LA plans/policies been considered?	Yes	
• Has an options timescale been included?	Yes	
• Have cost of options/plan been set out?	Yes	
• Have impacts been assessed?	Yes	
Process - Checklist of Measures		
• Have options been considered?	Yes	
• How many options have been considered?	26	
• Have transport impacts been assessed?	Yes	
• Have air quality impacts been assessed - modelled or measured?	Yes	
• Have Socio-economic impacts been assessed?	Yes	
• Have other environmental impacts been assessed? (noise)	Yes	
• Have costs been considered?	Yes	
Appropriateness and Proportionality		
• Do measures seem appropriate to the problem?	Yes	
• Have the measures been assessed?		
• Are the measures likely to achieve the stated goal?	Yes	
• Have the wider impacts been appraised appropriately?	Yes	
• Was the method of assessing costs appropriate?	Yes	
• Is it likely for LAQM objectives to be met?	Yes	
• Do the chosen measures comply with wider Government Policies?	Yes	
Implementation		
• Are measures realistic in light of the objective deadlines?	Yes	
• Have responsibilities been assigned to the relevant party?	Yes	
• Does the assigned party have the necessary powers?	Yes	
• Has financing been secured and who will pay.		

Executive Summary

In the UK, air pollutants come from a range of sources. These include transport (with the bulk of transport related pollution coming from road transport), industry, domestic sources, aviation and natural sources.

The Environment Act 1995 places a duty on local authorities to review, and assess, the key pollutants in their area against air quality standards and objectives laid down in the Air Quality (England) Regulations 2000.

Local Authorities are required to prepare a written Action Plan for any areas designated as Air Quality Management Areas (AQMA's), setting out the actions that they intend to take to achieve the National Air Quality Strategy (NAQS).

The Action plan should include simple estimates of the costs, the positive and negative effects of proposed actions and the feasibility of implementation of each scenario. The action plan may also consider the non-health benefits of implementing scenarios, for example, the reduction in road traffic accident deaths as a result of road improvements that may also reduce vehicle emissions. The local authority can then identify which scenarios offer the most cost-effective or cost beneficial way of improving air quality and prioritise accordingly.

Air Quality Action Plans ultimately provide the mechanism by which local authorities, in collaboration with national agencies and others, will state their intentions for working towards the air quality objectives through the use of powers they have available. The Action Plan should include all the measures proposed by the Council to improve air quality and should be wider in geographical scope than the area of any air quality hotspot which may be its focus.

The Action Plan has therefore been divided into two main categories:

Primary Objective

To achieve the NAQS air quality objective for Nitrogen Dioxide (NO₂) within the St Albans District Air Quality Management Area by the compliance date of December 31st 2005. The air quality objectives are prescribed to take account of the level of pollutant in the air at outside locations where the public is regularly present. St Albans District Council aims to encourage direct action upon the motorway (the Highways Agency has full control over the M25). The success of this element of the action plan is dependant on the Highways Agency commitment to reducing road traffic air pollution.

Secondary Objective

The secondary objectives are actions that can be taken which contribute to improving air quality throughout the whole district which will obviously also have some impact on the AQMA (even if not significant).

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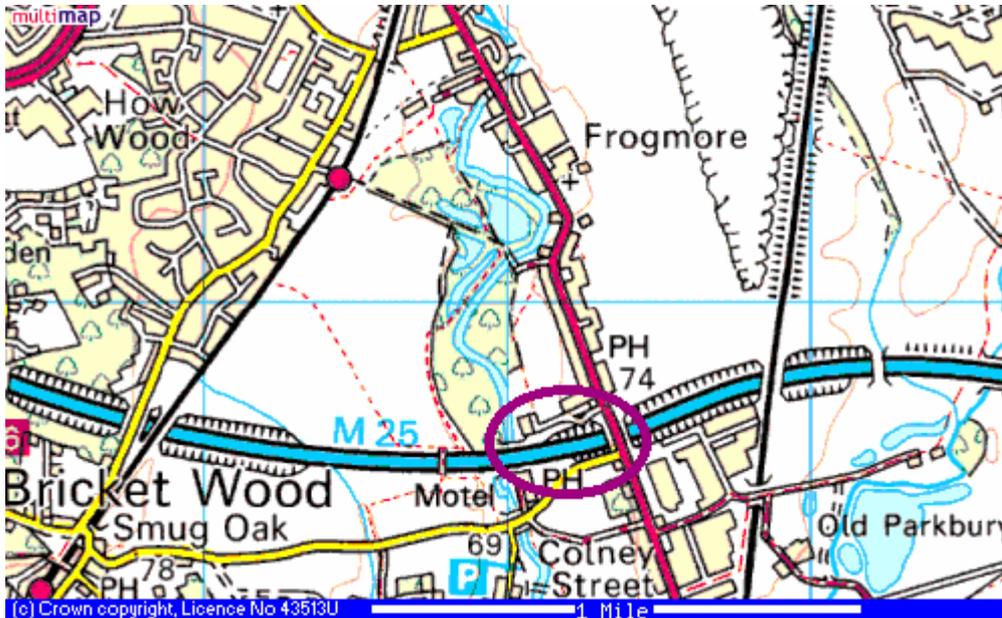
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1.0 Introduction

- 1.1 In the UK, air pollutants come from a range of sources. These include transport (with the bulk of transport related pollution coming from road transport), industry, domestic sources, aviation and natural sources.
- 1.2 The Government's Air Quality Strategy and The Expert Panel on Air Quality Standards (EPAQS) have identified 8 key pollutants:
- Nitrogen Dioxide
 - PM¹⁰ Particles
 - Benzene
 - 1, 3 - Butadiene
 - Lead
 - Sulphur Dioxide
 - Carbon Monoxide
 - Ozone
- 1.3 Carbon Dioxide, which is known to have a significant effect on climate and Ozone are to be addressed with separate strategies operating at National level.
- 1.4 The Environment Act 1995 places a duty on local authorities to review, and assess, the other key pollutants in their area against air quality standards and objectives laid down in the Air Quality Regulations 2000.
- 1.5 The first round of review and assessment for air quality within the St Albans District has already been completed. This involved three initial stages of the review and assessment process. The Stage 3 report indicated that there were six areas within the St Albans District that were likely to exceed the Government's objectives for Nitrogen Dioxide. As a result of this air quality review and assessment, St Albans District Council declared Air Quality Management Areas (AQMA's) details of these locations can be found in the Stage 3 report on the St Albans website. Following this, Section 84 of the Environment Act 1995 required a further review of air quality, concentrating on the specific areas highlighted in the Stage 3 report in order to confirm or eradicate the previous concerns.
- 1.6 The Stage 4 report concluded that there had been an over assessment of the levels of Nitrogen Dioxide and that all except for AQMA No. 7 should be revoked. Figure 1 shows the location of the AQMA No. 7 and figure 2 shows the modelled Nitrogen Dioxide concentrations using the 2005 objectives.

- 1.7 Local Authorities are required to prepare a written action plan for an AQMA, setting out the actions that they intend to take to achieve the national air quality objectives.

Figure 1 Showing the location of AQMA No7



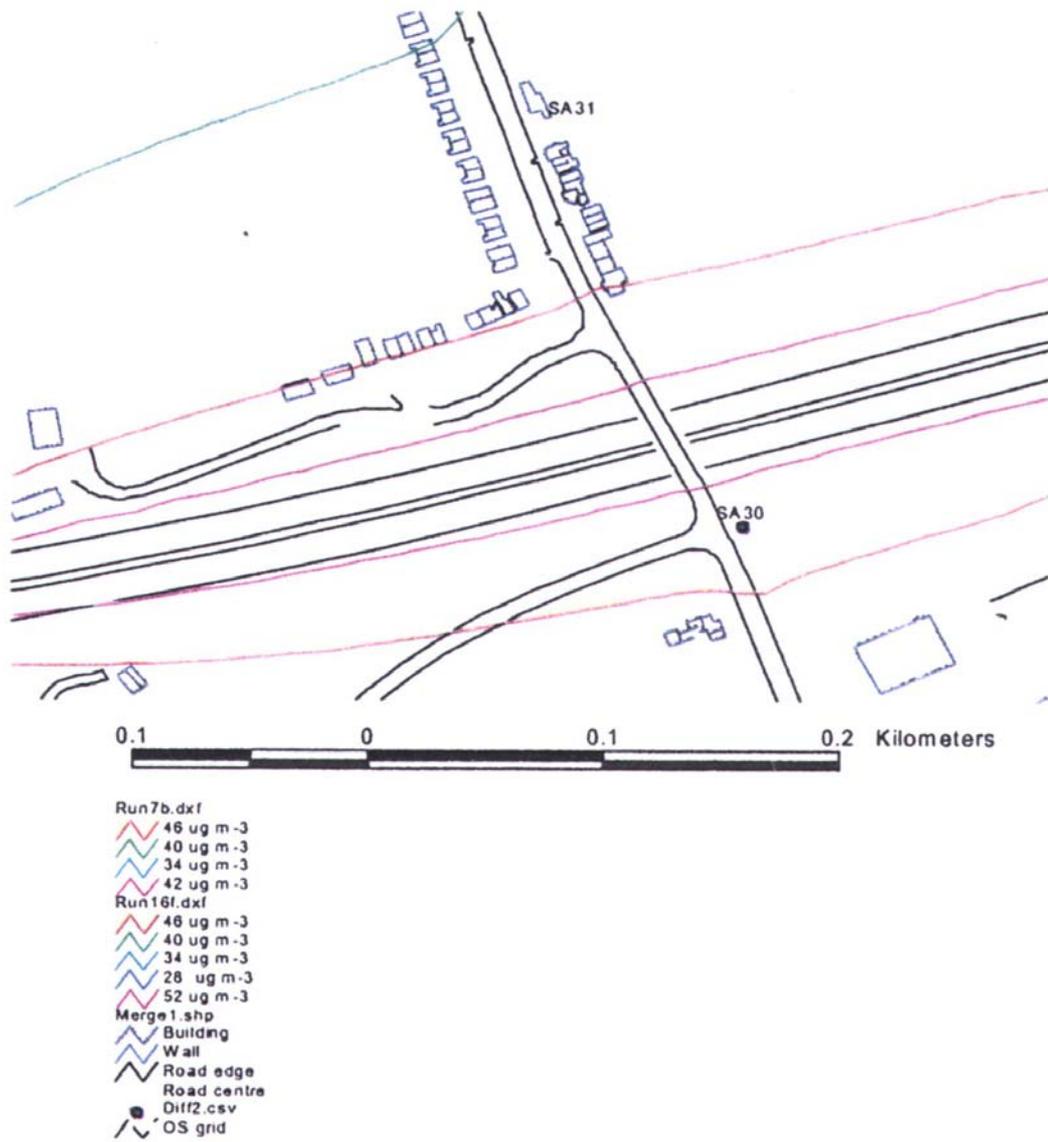


Figure 2 showing the modelled Nitrogen Dioxide concentrations using the 2005 objectives.

2.0 Sources of Air Pollution within the AQMA's

2.1 Source apportionment is the process whereby the contributions from the sources of a pollutant are determined. In local air quality, the relevant sources includes:

- road traffic
- local background
- industrial
- domestic

2.2 Contributions from the different type of vehicles (for example cars, lorries and buses) can also be considered to highlight which class of vehicle is contributing most to the emissions from traffic. Source apportionment allows the most important sources to be identified and options to resolve ambient concentrations of pollutants can then be considered and assessed as part of the air quality action plan.

2.3 The Stage 4 report identified that road traffic is the main source of Nitrogen Dioxide within the St Albans District. Table 1 shows the source apportionment for concentrations of NO₂ and NO_x (2005).

Table 1: Source apportionment to concentrations of NO₂ and NO_x (2005).

Source category	NO ₂ concentration, µgm ⁻³		NO _x concentration µgm ⁻³	
	Contribution	Fraction	Contribution	Fraction
Local Light Duty Vehicles	2	0.05	15	.011
Local Heavy Duty Vehicles	6	0.14	40	0.30
Total Local Traffic	9	0.19	55	0.41
Background	38	0.81	79	0.59
Total	47	1.00	133	1.00

Source: AEA Technology, 2003, St Albans Stage 4 Report.

2.4 From table 1 it can be seen that the background levels prior to local contributions are already high so that there is little "head room" between the background Nitrogen Dioxide concentrations (38µgm⁻³) and the National UK air quality objective (40µgm⁻³).

2.5 The local background is itself made up largely from road transport sources outside the immediate 1km square containing the AQMA. **It may be concluded that reduction of the Nitrogen Dioxide concentration with AQMA No. 7 will require the implementation of area-wide strategies to reduce emissions from road transport.**

3.0 Health Impacts of Air Pollution

3.1 The Government Air Quality Strategy and the Expert Panel on Air Quality Standards have identified 8 key pollutants:

- Nitrogen Dioxide
- PM¹⁰ Particles
- Benzene
- 1, 3 - Butadiene
- Lead
- Sulphur Dioxide
- Carbon Monoxide
- Ozone

3.2 Of these Nitrogen Dioxide has been identified as the most significant pollutant within the district, however, most initiatives to reduce Nitrogen Dioxide will also have positive reductions on other air pollutants for example particulates. The implications of Nitrogen Dioxide are discussed below.

3.3 Nitrogen Dioxide (NO_x)

3.3.1 Road Vehicles are responsible for over 50% of the emissions of nitrogen oxides (NO_x) in the UK.

3.3.2 Burning fossil fuels in air produces both nitric oxide (NO) and nitrogen dioxide (NO₂), nitric oxide being the primary pollutant.

3.3.3 This is the first point in a complex series of chemical reactions, involving a range of other pollutants including ozone. Together the two oxides are referred to as NO_x. The concentration of the different elements of NO_x will depend on the oxidising capacity of the local atmosphere (i.e. the available amount of oxygen).

3.3.4 Nitrogen dioxide has been identified as having a number of possible adverse health effects focused around the respiratory system, in both asthmatic and non asthmatic subjects. Short term exposures can increase reactivity to allergens such as pollen. In some individuals high levels of nitrogen dioxide can precipitate or exacerbate episodes of asthma. Exposure of children to nitrogen dioxide may increase the risk of respiratory infections and possibly lead to poorer lung function in latter life.

4.0 Action Plan

- 4.1 Local authorities are required to prepare a written action plan for an AQMA, setting out the actions they intend taking to achieve the air quality objectives. This has to include a timetable for implementing the plan.
- 4.2 The action plan should contain the scenarios that have been modelled in the Stage 4 review and assessment. It should contain a summary of the air quality improvements that might be possible from each of the scenarios identified. The Stage 4 provides the technical justification for the measures an authority includes in its action plan.
- 4.3 The action plan should include simple estimates of the costs, the positive and negative effects and the feasibility of implementing those scenarios. The action plan may also consider the non-health benefits of implementing scenarios, for example, the reduction in road traffic accident deaths as a result of road improvements that may also reduce vehicle emissions.
- 4.4 The local authority can then identify which scenarios offer the most cost-effective or cost beneficial way of improving air quality and prioritise accordingly.

4.5 Action Plan Aims and Objectives

- 4.5.1 Air Quality Action Plans ultimately provide the mechanism by which local authorities in collaboration with national agencies and others, will state their intentions for working towards the air quality objectives through the use of powers they have available.
- 4.5.2 The overall aim of the Action Plan is to attempt to minimise the effects of air pollution on human health. The action plan should include all measures proposed by the Council to improve air quality and should be wider in geographical scope than the area of any air quality hotspot which may be its focus.
- 4.5.3 Due to the nature/source of the pollutants within our AQMA (Which mainly consists of motorway traffic), we have divided our Action Plan into 2 general parts:
- Direct actions upon the motorway (The Highways Agency has full control over the M25 motorway).
 - Actions that will benefit the AQMA and also contribute to improving air quality throughout the whole district.

4.5.4 The objectives of St Albans City and District Council are therefore as follows:

4.6 Primary Objective

4.6.1 To achieve the NAQS air quality objective for Nitrogen Dioxide (NO₂) within the St Albans District Air Quality Management Area by the compliance date of December 31st 2005. The air quality objectives are prescribed to take account of the level of pollutant in the air at outside locations where the public is regularly present. St Albans District Council aims to encourage direct action upon the motorway (the Highways Agency has full control over the M25). The success of this element of the action plan is dependant on the Highways Agency commitment to reducing road traffic air pollution.

4.7 Secondary Objective

4.7.1 The secondary objectives are actions that can be taken which contribute to improving air quality throughout the whole district which will obviously also have some impact on the AQMA (even if not significant). These include:

- Schemes to reduce pollution as a whole within the district.
- Continue to inform and provide up to date information on air quality within the district and in co-ordination with other authorities in the Hertfordshire and Bedfordshire network.
- Ensure that all current and planned Council activities are considered with reference to their effect on air quality .
- To support national initiatives to improve air quality.

4.8 Future Development of the Action Plan

4.8.1 This Action Plan should be regarded as flexible and open to adjustment as new information or new techniques for pollution control become available. Prior to undertaking some of the options that are listed in the plan it will be necessary to commission specific feasibility studies, particularly where costs will be high. If any option is found impracticable, for example on cost grounds, or has impacts that were not foreseen or are far more significant than originally thought, the plan should clearly be adapted. Equally, if experience elsewhere (for example, London, with respect to congestion charging) shows that an option not included in the plan is more attractive than originally thought, it may be appropriate to introduce that option to the plan.

4.9 Consultees for the Action Plan

- DEFRA (Secretary of State)
- Highways Agency
- Environment Agency
- Hertfordshire County Council
- Dacorum Borough Council
- Luton Borough Council
- Watford Borough Council
- Borough of Broxbourne
- Hertsmere Borough Council
- North Hertfordshire District Council
- East Hertfordshire District Council
- Three Rivers District Council
- Welwyn Hatfield District Council
- Stevenage Borough Council
- South Bedfordshire District Council
- St Albans City & District Council - Planning Policy
- St Albans City & District Council - Planning & Development Control
- St Albans City & District Council - Housing
- St Albans City & District Council – Engineering & Technical Services
- Residents in AQMA
- General Public

4.9.1 All comments from statutory and non statutory consultees received from the draft action plan were considered and incorporated where possible into the final action plan. The consultation process is ongoing, however so far responses have been received from Groundwork Hertfordshire and Casella Stanger on behalf of DEFRA.

5.0 Primary Objectives

5.1 Measures Identified to Achieve Primary Objectives of Reducing Air Pollution in the AQMA

5.1.1 The Government's 10-Year Strategy transport plan - "Transport 2010 - The Ten Year Plan" - was announced on 20 July 2000. It sets out the Government's long-term strategy for delivering a quicker, safer, more reliable and environmentally friendly transport system, setting out what can be achieved over the next 10 years. Full details of the plan can be found on the Department of Transport, Local Government and the Regions website - www.dtlr.gov.uk.

5.1.2 Multi-Modal Studies form an important part of the Government's 10-year strategy. Of these, the Orbit study considers the development of a long-term strategy for the M25 and the transport corridor around London.

5.1.3 The recommendations from these studies, which may include major transport investment schemes, will be directed to the South East England Regional Assembly (SEERA) for incorporation in the Regional Transport Strategy and the Regional Planning Guidance. In the case of Orbit, the recommendation will also be sent to the Greater London Authority (GLA) and the East of England Local Government Conference (EELGC). The 10-year plan for transport gives a clear signal that the Government will implement proposals that come out of multi-modal studies. Key points of the study are:

Study start date: February 2000

Report date: Autumn 2002

Study Website: www.orbitproject.com

Purpose: To develop a long-term sustainable management strategy for the M25 and transport corridor around London.

What prompted the study: Congestion on the M25 London orbital and adjacent routes with very limited orbital rail alternatives and congested radial rail alternatives.

Results: The final study report was completed in Autumn 2002. Orbit is reporting to three Regional Planning Bodies; South East England Regional Assembly (SEERA), London Mayor and East of England Local Government Conference (EELGC). Orbit is nearing completion and consultation on the strategy is currently underway. The proposals include better ways of managing traffic, reducing the need to travel, new rail schemes and orbital coach services and some motorway widening. Area-wide charging on motorways has been recommended.

5.1.4 A general option that would apply to all the scenarios considered is to reduce the general background concentrations (i.e. concentrations over a scale of hundreds of metres) of NO_x. This option would be particularly helpful in St Albans AQMA No. 7. However St Albans City and District Council cannot act alone on reducing background concentrations and must rely on regional measures as outlined above.

5.1.5 The following options have been considered in the context of other proposals provided by the 10 year strategy to assess their potential to reduce the Nitrogen Dioxide concentration at the most sensitive receptors in the St Albans AQMA No. 7.

The 4 options are:

1. A reduction in vehicle speeds to 80 kilometres per hour on the nearest sections of motorway
2. A 20% reduction in car and light goods vehicle traffic on the nearest section of the motorway
3. A 20% reduction in all traffic on the nearest section of the motorway
4. Construction of a tree barrier between the motorway and the residential properties

5.1.6 Table 2 summarises the reductions in Nitrogen Dioxide that might be possible if the scenarios that have been considered are fully implemented.

5.1.7 The assessment of the impact of the construction of a tree barrier can only be made in a rudimentary way. It has been assumed that a 10m high tree barrier will increase the initial mixing depth from 15m for the existing cutting to 25m for the cutting with tree barrier. It has also been assumed that close to the road, the oxides of Nitrogen concentrations are reduced pro rata with initial mixing depth.

Table 2 : Effects of the scenarios considered on Nitrogen Dioxide concentrations at properties on Moor Mill Lane.

Scenario	Nitrogen Dioxide concentrations, $\mu\text{g m}^{-3}$
Baseline	47
Reduction in speed to 80 kph	46
20% reduction in car and light goods traffic	46
20% reduction in all traffic	45
Tree barrier	43

Source: AEA Technology, 2003, St Albans Stage 4 Report.

5.1.8 None of the options considered will be effective in reducing concentrations to below the objective level at the most sensitive receptors in AQMA No. 7. Reducing the vehicle speeds and reducing traffic flows by 20% will have only small marginal benefits. The greatest modelled benefit appears to arise from allowing a tree barrier to grow between the road and the houses: however, several assumptions have been made in order to make an assessment possible and the prediction should be considered to be speculative. The conclusions were assessed by the LADS Urban Framework using ADMS 3.1 and have not been validated.

5.2 Simple Assessment of the Feasibility of the Options Considered

5.2.1 This section of the report provides a simple assessment of the feasibility of the options considered to try and reduce or eliminate the chances of exceedences of the air quality objectives for NO_2 in St Albans. It is not intended as a full cost-benefit assessment; DEFRA do not require such an analysis in a Stage 4 assessment.

5.2.2 The feasibility of reducing traffic on the motorway network around London is the subject of regional multi-modal studies. The studies are not yet complete. However, it seems unlikely that reductions in traffic beyond the 20% considered above will be possible. It follows that it is unlikely that achievement of the objective for Nitrogen Dioxide at the properties closest to the motorways in the St Albans AQMA No. 7 by means of realistic traffic reductions alone will be feasible.

5.2.3 It is likely to be several years before a tree barrier would be effective in promoting dispersion. It is unlikely that an effective tree barrier would

be in place for the objective year of 2005. The efficacy of a tree barrier is unproven.

5.2.4 **Action**

St Albans Council has been working in conjunction with Mouchel (consultants acting on behalf of the Highways Agency) to gain funding for more air quality monitoring in the AQMA and other busy road areas (i.e. The M10, M1 and A414) to establish the air quality at local residential properties. St Albans Council anticipates encouraging and supporting the Highways Agency in taking actions that will result in a reduction in pollution levels from the M25 motorway. St Albans Council is currently working in co-ordination with Groundwork Herts and landowners along the M25 to establish the possibility of tree planting to create a tree barrier, however as mentioned previously the efficacy of a tree barrier and the benefits on the air quality in the AQMA are unknown.

6.0 Secondary Objectives

6.1 Alternative Modes of Transport

6.1.1 Public Transport Schemes

6.1.1.1 Hertfordshire Local Transport Plan 2001/2-2005/6 has been put together by the County Council in partnership with district authorities in the County and other key stakeholders. Key aims include:

- Wider Traffic Choice
- Tackling the Effects of Traffic
- Maintaining the Transport Network
- Protect the Environment

6.1.1.2 This plan recognises transport as a local issue and proposes to deal with it along with other interlinked plans proposed for each of the main settlements within the district. The benefits gained from the schemes will be monitored and scenario-based air quality modelling should be used to gain a better understanding of the effects of schemes that are in the pipeline. From this it should be possible to develop a priority list of schemes in terms of air quality improvement. Improved links between air quality experts and those responsible for improving public transport in Herts County Council should be developed to ensure that air quality is given due consideration in future evaluation of schemes. Options available to encourage public transport could include park and ride facilities or incorporation of designated bus lanes. Scenario based modelling would assist in gaining a better understanding of the effects of actions on air quality.

6.1.1.3 Action

Having established which options appear most likely to offer significant air quality benefits further action would be needed to:

- 1. Disseminate results of the analysis to promote adoption of such options.**
- 2. Identify sources of funding.**
- 3. Secure funding.**
- 4. Implement options.**
- 5. Monitor the success of selected scheme.**

This process clearly needs full integration with the Local Transport Plan.

6.1.2 TravelWise Initiative

6.1.2.1 TravelWise is a partnership of highways authorities in the UK co-ordinated through the National TravelWise Association and which was started in Hertfordshire in 1993. The aim is to deliver the TravelWise initiative across the County in association with partner organisations by:

- raising awareness of the problems associated with traffic growth particularly in relation to environmental, health, economical and social effects,
- generating public acceptance for the need to change travel behaviour and reduce unnecessary car use,
- promoting the benefits and availability of cycling, walking and passenger transport,
- changing the modal split from car use to other modes,
- promoting TravelWise through businesses, schools and community groups to encourage them to take action.

6.1.2.2 Delivery of the programme will be in the form of promotion to:

- the whole county population and within specific geographic locations,
- schools as part of "safer routes to school" projects and the national "walk to school" initiative,
- businesses within Herts County Council and Hertfordshire Chamber of Commerce and Industry Business Travelwise Initiative,
- workers as part of green transport plans,
- community groups as part of the LA21 Green County programme.

6.1.2.3 Action

St Albans City and District Council will continue to support the County Council with its aim to encourage alternative modes of transport through its various initiatives and through 2003.

6.1.3 Watling Chase Greenways Strategy

6.1.3.1 The vision of this strategy is "A community partnership to develop an accessible network embracing town and countryside for non-motorised local journeys", providing a network for walkers, cyclists and horse riders of all abilities to encourage sustainable commuting to school and work and provide opportunities for leisure. The main objectives are to :-

- Increase sustainable non-motorised travel, reduce reliance on the car for both functional transport and leisure purposes,

- Integrate with other forms of transport,
- Increase personal choice of means of getting about otherwise than by private car,
- Provide urban/rural links and routes that connect communities,
- Develop leisure and tourism in St Albans and Watling Chase Community Forest.

6.1.3.2 Action

St Albans will continue to support this project in partnership with Watling Chase Community Forest, The Countryside Agency and a Community Steering Group.

6.2 Traffic Control

6.2.1 The traffic in the district could be controlled to try and prevent congestion at peak traffic times. Traffic data could be collated and used to establish the worst affected times and location.

6.2.2 **Option 1** - is to encourage business to voluntarily alter delivery times to areas of congestion such as the city centre to avoid rush hour congestion.

6.2.3 Action

City centre businesses could be consulted to gain an understanding of existing delivery times and schedules; the data could then be analysed against peak traffic flows. Alternative scenarios could then be developed and modelled to establish the benefit this may have on air quality.

6.2.4 **Option 2** - Greater co-ordination of road works should be encouraged so that statutory undertakers (gas, electricity, phone, cable networks, water providers etc.) minimise road closures avoiding/limiting the creation of traffic 'hot spots'.

6.2.5 Action

Hertfordshire County Council to be asked to implement a scheme to improve co-ordination of roadworks and works by statutory undertakers.

6.2.6 **Option 3** - Speed regulation could be used to encourage the continuous flow of traffic and therefore reduce tail pipe emissions.

6.2.7 Action

St Albans Council will work in co-operation with the Highways Agency, Hertfordshire County Council, Transport Planners etc. to try to co-ordinate plans for traffic calming strategies.

6.3 Congestion Charges on Toll Roads

6.3.1 Areas that have high volume of traffic and are prone to congestion could be designated as areas suitable for congestion charging. The M25 could be suitable for the consideration of charging a toll for the use of the motorway.

6.3.2 Action

St Albans Council will work in co-operation with relevant parties to establish the suitability of such a scheme/s and consider the costs of implementation and the effects they would have in areas outside the congestion charge area. This type of scheme would only be feasible if there is a suitable infrastructure for alternative modes of transport to be provided.

6.4 General Planning Policy Measures

6.4.1 Land Use Planning

6.4.1.1 Land use planning can be used to restrict developments that are considered to be detrimental and likely to lead to a decrease in environmental air quality. The land use planning system does not offer any quick fix solutions and the intentions are to improve air quality/prevent decline in air quality in the longer term. Computer databases, such as an interlinked GIS system need to be established so that information is available to all involved in the planning process.

6.4.1.2 Action

Air quality shall be taken into account when considering all planning applications and particularly when these are within or closely adjoining any Air Quality Management Area. Air quality shall be taken into greater consideration in the future by greater inclusion in development plans which should follow current air quality responsibilities as outlined in the relevant current guidance on air quality (LACON PG(03)).

6.4.1.3 Action

St Albans Council will investigate into the possibility of providing and interlinking GIS data on the existing computer network.

6.4.2 New Developments

6.4.2.1 Few development proposals received by this Council are large enough to require the submission of an Environmental Impact Assessment, however, it can be requested that applicants provide information on, for example, the air quality implications of a development proposal. Any information provided would form part of the application, although the Council cannot insist on this information being provided. The Council would look for evidence that developers had taken appropriate steps to minimise emissions associated with the development. The Environment & Health department is consulted on planning applications and is provided with regular lists of all planning applications received. Consideration is given to among other things the potential impact upon air quality and the Planning Officer advised accordingly.

6.4.2.2 Action

The Environment and Health department will continue to work with Planning Officers with regard to new developments and ensure that air quality is taken into consideration when located in or close to the Air Quality Management Area.

6.4.2.3 The Council will look for evidence that the developer/s have taken appropriate steps to minimise any increase in air pollution, which will include an assessment of air quality implications where applicable.

6.4.3 Section 106 Agreements

6.4.3.1 Section 106 agreements could be used where practicable to offset the impact of the development in areas within or adjacent to the Air Quality Management Areas or in any part of the district where the development is likely to have detrimental effects on the air quality.

6.4.3.2 Action

St Albans Council will consider the effects of development on Air Quality and where appropriate use section 106 agreements to offset the impact of the development.

6.5 Alternative Fuels/Fuel Usage

6.5.1 Road traffic is the major source of air pollution in the St Albans District. Alternative fuel vehicles that produce fewer emissions can make an important contribution to improving air quality.

6.5.2 Action

Local authorities run a large number of vehicles and hire contractors to carry out services for the local authority such as refuse trucks, estate repairs, essential car users (Council staff) etc. A review of vehicle usage and age of vehicles should be conducted and this may present options for consideration of converting vehicles to alternative fuels such as liquid petroleum gas (LPG), compressed natural gas (CNG), electric (preferably from renewable energy sources) or petrol - electrical hybrids and for heavy vehicles using low sulphur fuel and fitting particulate traps.

6.6 Local Authority Staff

6.6.1 Local authorities often offer schemes for essential car users to purchase cars, these schemes may include for example lease cars or Council loans. Currently there is little incentive to encourage employees to purchase or drive energy efficient cars.

6.6.2 Action

The Council should review the schemes offered to employees to further encourage the use of energy efficient vehicles. For example the Council may be able to consider subsidising lease costs for petrol-electric hybrid cars to encourage this type of vehicle usage or offer Council loans at more preferential rates for cars proven to produce lower emissions values.

6.7 Car Pool Schemes

6.7.1 The availability of a small number of pool cars may result in a few staff not needing to drive to work (because they are only required to have use of a car during a short part of the day) the London Borough of Waltham Forest found that the introduction of pool cars dramatically reduced the amount of mileage claimed by staff.

6.7.2 The car allowance system within our local authority encourages use of more polluting vehicles, as the Council pays more money to employees with larger engine cars. In such cases it may be possible to abolish the upper rate of the car allowance and use the money

released to invest in pool schemes or other alternatives such as lease car subsidies and preferential loan rates for clean fuel vehicles.

6.7.3 Action

Review the suitability of a car pool scheme and the current car allowance systems and establish the most effective system to include fairness and benefits to air quality.

6.8 Tendering Contracts

6.8.1 When tendering contracts that involve vehicle use the emissions or fuel type of the vehicles should be incorporated into this. Over the length of the contract vehicles could be required to meet more stringent requirements at certain dates. It could be useful to encourage suppliers to provide cleaner vehicles by including environmental considerations in the tender evaluation (e.g. 10-20% weighting).

6.8.2 Action

St Albans Council will consider air quality as part of the assessment for any new tender and require contractors to use fuel efficient vehicles.

6.9 Taxis

6.9.1 These vehicles will be doing considerable local mileage and consequently add to air pollution within the District. There is therefore good reason to encourage the use of alternative fuels. It may be possible to reduce the licence fee for those taxis and private hire vehicles that are capable of running on an alternative approved fuel, for example LPG or petrol-electric. The reduction proposed is in the order of £50. Grants are available for some vehicles to help with the cost of conversion and more new vehicles are becoming available with LPG as an option. To receive the reduction where a vehicle is being converted, the conversion must be undertaken at a facility recommended by the Powershift programme and LPG Gas Association and to be with the prior agreement of the Council's Licensing Officer.

6.9.2 Action

The Council will investigate into the possibility of reducing licensing fees for fuel efficient vehicles. If considered suitable the council will promote the uptake initially of LPG, petrol-electric or compressed natural gas by offering a reduction of £50 in Private Hire and Hackney Carriage vehicle licence fees upon conversion

to LPG fuel. The Council will consider other alternative fuels to qualify for a reduction in the licence fees as technology improves.

6.10 Other Organisations

6.10.1 Local authorities need to work with other local organisations to encourage them to put together staff travel plans and green their fleet. The local authority may be able to initiate interest through partnership working or consultation when an air quality strategy or local transport plan/strategy is developed. Other encouragement can come in the form of award schemes for greener fleets. This may be done at a local level, however, it maybe better for this to be conducted at a national level to encourage promotion across the country and achieve a recognised level of achievement and the attached kudos.

6.10.2 Action

The Council needs to promote to businesses the advantages and importance of energy efficiency and the role reducing fuel usage would have on significantly reducing the quantity of air pollution generated.

6.11 Vehicle Engine Idling

6.11.1 Historically, complaints have been received about delivery vehicles, taxis, buses and private cars being left for excessive periods of time with their engines running. This has become less of a problem with modern vehicles having improved heating systems, and improved technology making cold starts less of a problem than on older vehicles, however this has not resolved the issue of delivery vehicles, buses, taxis and maintenance contractors having their engines idling unnecessarily.

6.11.2 Action

St Albans Council anticipate educating the public and businesses to discourage the continuation of this practice and to investigate the suitability of adopting the Road Traffic (Vehicle Emissions) (Fixed Penalty) (Engines) Regulations 2002.

6.12 Roadside Emissions Testing

6.12.1 Voluntary roadside emissions testing could be used along with the promotion of better driving techniques, educating drivers about the importance of driving technique and regular car maintenance on fuel usage. English Councils with an AQMA can apply to the Secretary of State for Transport for the power to conduct roadside vehicle emissions tests. Councils that get approval can issue fixed penalties of £60 to drivers whose vehicles are found to be exceeding current emission limits.

6.12.2 Action

The Council will investigate into the number of cars believed to be above the maximum emission levels via data collected during voluntary emission testing and promotion of best driving techniques, this data will be evaluated against the costs and benefits of adopting and enforcing roadside emission testing.

6.13 Emissions from Industry and Domestic Sources

6.13.1 Regulation of Part B Processes - Environmental Protection Act 1990/Pollution Prevention and Control Act 1999

6.13.2 In 1990 the Environmental Protection Act (EPA) introduced new controls to a range of industrial processes with considerable pollution potential. Responsibility for industrial pollution control is split between agencies. The Environment Agency has responsibility for large scale industrial processes with significant polluting power, known as Part A processes, and smaller scale potentially polluting industries, or Part B processes, are regulated by Local Authorities. The regulation of industries by Local authorities is shortly being changed from the EPA 1990 to that of the Pollution Prevention and Control Act 1999.

6.13.3 St Albans City and District Council currently authorises approximately 45 Part B processes throughout the district. The authorisation requires the operator to comply with set conditions which limits the substances emitted from the processes in accordance with the NAQS standards based on European Directives, and places them under a general obligation to use the "best available techniques" to prevent or minimise pollution.

6.13.4 Action

St Albans City and District Council will continue to provide comprehensive control over Part B processes.

6.14 Industrial Smoke Control - Clean Air Act 1993

6.14.1 St Albans City and District Council also controls emissions from certain industrial processes or trade premises which fall outside the provisions of the Environmental Protection Act using the provisions of the Clean Air Act 1993 which includes powers to:

- Prohibit black smoke from a chimney of any building (subject to certain permitted periods and 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.

6.15 Statutory Nuisance Legislation - Environmental Protection Act 1990

6.15.1 The nuisance regime complements the more specific pollution control regimes of the Clean Air Act 1993, the Environmental Protection Act 1990 and the Pollution Prevention and Control Act 1999. Local authorities are able to use it to deal with domestic as well as industrial emissions that, by definition, are prejudicial to health or a nuisance.

6.15.2 Those industrial processes that are not defined as Part A or B Processes under Section 2(1) of the Environmental Protection Act 1990 can operate without authorisation but must ensure that their operations do not cause a statutory nuisance to those around them and base their actions on a concept known as "best practicable means".

6.15.3 Statutory nuisance can cover: smoke, fumes, gases, dust, steam and odour emitted from a premises, and where a local authority is satisfied that a statutory nuisance exists the Council's officers have a duty to take enforcement action requiring the abatement of the nuisance.

6.15.4 Action

The Council will continue to investigate complaints about nuisance, monitor air quality and relate this to the air quality strategy.

6.16 Bonfires

- 6.16.1 Bonfires that produce visible smoke can contribute to increasing the levels of air pollution. Fine particles (PM₁₀) as well as larger particles and other pollutants such as dioxins may also be produced if plastics or rubber are burnt. Where bonfires cause a statutory nuisance enforcement action can be taken under the Environmental Protection Act 1990.
- 6.16.2 The Council promotes composting as an alternative method of disposal of garden waste. Schemes to encourage home, community and centralised composting have been set up to help reduce the need for bonfires.
- 6.16.3 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.
- 6.16.4 **Action**

Improved information and advice will be given to residents and companies in the area about problems caused by bonfires, and enforcement action will be taken against persistent offenders who fail to comply with the Clean Air Act and Environmental Protection Act. We will also encourage residents to compost waste rather than burning it on bonfires.

6.17 Energy Conservation/Promotion of Energy Reduction Schemes

- 6.17.1 Buildings contribute directly and indirectly to the consumption of energy and resources, to environmental pollution from materials used in construction (including the use of raw materials), to energy consumed from heating, lighting and ventilation, and to waste generated during construction and demolition. Energy efficient buildings and those incorporating sustainable design principles are now recognised as likely to provide healthier and more comfortable conditions.
- 6.17.2 **Action**

St Albans Council will continue to measure the improvement of energy efficiency in the housing in the district and report on this each year (HECA report).

Building Control already encourage building designs and materials that have the least environmental impact as well as encouraging renewable energy.

We promote energy efficiency to the general public in a number of ways through promotions (displays at local shows and in partnership with London Electricity, Powergen and N Power). Individual advice is available to householders and we promote centrally funded Energy Saving Schemes.

6.18 Tree Planting/Pollution Sink

6.18.1 The exact benefits of planting trees on ambient air quality is not yet fully known. Research has shown that if the correct species of trees are planted there can be noticeable improvements. St Albans Stage 4 report details that the most significant local measure that could be taken to improve air quality with the AQMA 1km square would be the planting of trees. This may not only act partially as a pollution sink but also as a visual and physical barrier which may cause the pollution to be diluted in concentration prior to the houses located within the AQMA.

6.18.2 Action

The Council anticipates continuing the T.A.P project currently being lead by Groundwork Hertfordshire to produce a strategy for tree planting on sites alongside the motorway. The work is being carried out in liaison with local landowners , Highways Agency Countryside Agency, other local environmental organisations and the local community. It is hoped that by involving the local community in tree planting schemes they will have the opportunity to gain a wider understanding of the air quality issues and encouraged to make their own contributions to reducing the problem. The Council will also continue to monitor pollution in this area to establish the benefits that may be established.

6.19 Air Quality Monitoring

6.19.1 St Albans Council currently conducts continuous air quality monitoring at the Fleetville site, and Passive diffusion tube monitoring for nitrogen dioxide and benzene throughout the district. The data collected is interpreted and available for review on the Hertfordshire and Bedfordshire Air Pollution Monitoring Network Site (www.seiph.umds.ac.uk/hbnet.htm)

6.19.2 Action

St Albans Council will continue to monitor air quality within the district and from time to time will review the suitability of the monitoring locations.

7.0 Summary of Actions

7.1 Primary Objectives

Action 1

St Albans Council will continue to work in conjunction with Mouchel (consultants acting on behalf of the Highways Agency) to establish the air quality at local residential properties. St Albans Council anticipates encouraging and supporting the Highways Agency in taking actions that will result in a reduction in pollution levels from the M25 motorway. St Albans Council will continue working in co-ordination with Groundwork Herts and landowners along the M25 to establish the possibility of tree planting to create a tree barrier.

7.2 Secondary Objectives:

Alternative Modes of Transport:

Action 2

St Albans Council will work in partnership with Hertfordshire County Council on the development of the Local Transport Plan and assist in establishing the benefits of proposed schemes and the options on air quality.

Action 3

St Albans City and District Council will continue to support the County Council with its aim to encourage alternative modes of transport through its various initiatives and through 2003.

Action 4

St Albans will continue to support this project in partnership with Watling Chase Community Forest, The Countryside Agency and a Community Steering Group.

Traffic Control:

Action 5

City centre businesses could be consulted to gain an understanding of existing delivery times and schedules; the data could then be analysed against peak traffic flows. Alternative

scenarios could then be developed and modelled to establish the benefit this may have on air quality.

Action 6

Hertfordshire County Council required to implement a scheme to improve co-ordination of roadworks and works by statutory undertakers.

Action 7

St Albans Council will work in co-operation with the Highways Agency, Hertfordshire County Council, Transport Planners etc. to try to co-ordinate plans for traffic calming strategies.

Action 8

St Albans Council will work in co-operation with relevant parties to establish the suitability of congestion charges or toll roads and consider the costs of implementation and the effects they would have in areas outside the congestion charge area. This type of scheme would only be feasible if there is a suitable infrastructure for alternative modes of transport to be provided.

General Policy Measures

Action 9

Air quality shall be taken into account when considering all planning applications and particularly when these are within or closely adjoining any Air Quality Management Area. Air quality shall be taken into greater consideration in the future by greater inclusion in development plans which should follow current air quality responsibilities as outlined in the relevant current guidance on air quality (LACON PG(03))

Action 10

St Albans Council will investigate into the possibility of providing and interlinking GIS data on the existing computer network.

Action 11

The Environment and Health department will continue to work with Planning Officers with regard to new developments and ensure that

air quality is taken into consideration when located in or close to the Air Quality Management Area.

The Council will look for evidence that the developer/s have taken appropriate steps to minimise any increase in air pollution, which will include an assessment of air quality implications where applicable.

Action 12

St Albans Council will consider the effects of development on Air Quality and where appropriate use section 106 agreements to offset the impact of the development.

Action 13

Local authorities run a large number of vehicles and hire contractors to carry out services for the local authority such as refuse trucks, estate repairs, essential car users (Council staff) etc. A review of vehicle usage and age of vehicles should be conducted and this may present options for consideration of converting vehicles to alternative fuels such as liquid petroleum gas (LPG), compressed natural gas (CNG), electric (preferably from renewable energy sources) or petrol - electrical hybrids and for heavy vehicles using low sulphur fuel and fitting particulate traps.

Action 14

St Albans Council should review the schemes offered to employees to further encourage the use of energy efficient vehicles. For example the Council may be able to consider subsidising lease costs for petrol-electric hybrid cars to encourage this type of vehicle usage or offer Council loans at more preferential rates for cars proven to produce lower emissions values.

Action 15

Review the suitability of a car pool scheme and the current car allowance systems and establish the most effective system to include fairness and benefits to air quality.

Action 16

St Albans Council will consider air quality as part of the assessment for any new tender and require contracts to use fuel efficient vehicles.

Action 17

St Albans Council will investigate into the possibility of reducing licensing fees. If considered suitable the council will promote the uptake initially of LPG, petrol-electric or compressed natural gas by offering a reduction of £50 in Private Hire and Hackney Carriage vehicle licence fees upon conversion to LPG fuel. The Council will consider other alternative fuels to qualify for a reduction in the licence fees as technology improves.

Action 18

St Albans Council needs to promote to businesses the advantages and importance of energy efficiency and the role reducing fuel usage would have on significantly reducing the quantity of air pollution generated.

Action 19

St Albans Council anticipate educating the public and businesses to discourage the continuation of this practice and to investigate into the suitability of adopting the Road Traffic (Vehicle Emissions) (Fixed Penalty) (Engines) Regulations 2002.

Action 20

St Albans Council will investigate into the number of cars believed to be above the maximum emission levels via data collected during voluntary emission testing and promotion of best driving techniques, this data will be evaluated against the costs and benefits of adopting and enforcing roadside emission testing.

Action 21

St Albans City and District Council will continue to provide comprehensive control over Part B processes.

Action 22

St Albans Council will continue to investigate complaints about nuisance, monitor air quality and relate this to the air quality strategy.

Action 23

St Albans Council will ensure that improved information and advice is given to residents and companies in the area about problems caused by bonfires, and enforcement action will be taken against

persistent offenders who fail to comply with the Clean Air Act and Environmental Protection Act. We will also encourage residents to compost waste rather than burning it on bonfires.

Action 24

St Albans Council will continue to measure the improvement of energy efficiency in the housing in the district and report on this each year (HECA report).

Building Control already encourage building designs and materials that have the least environmental impact as well as encouraging renewable energy.

St Albans Council will continue to promote energy efficiency to the general public in a number of ways through promotions (displays at local shows and in partnership with London Electricity, Powergen and N Power). Individual advice is available to householders and we promote centrally funded Energy Saving Schemes.

Action 25

St Albans Council anticipates continuing work already started with Groundwork Herts, Highways Agency and landowners, progressing schemes to plant trees in areas of high pollution along the motorway. The Council will also continue to monitor pollution in this area to establish the benefits that may be established.

Action 26

St Albans Council will continue to monitor air quality within the district and from time to time will review the suitability of the monitoring locations.