

HERTFORDSHIRE – AIR QUALITY MANAGEMENT AREAS

BETTER AIR QUALITY

Hertfordshire County Council as highway authority is committed to improving air quality, and consequently the quality of life of both residents and visitors, in areas where poor air quality is associated with the transport system. Poor air quality, caused by air pollution, has the potential to impact on people's health, the economy and the environment and is frequently associated with congested roads and motorways. It is for these reasons that Hertfordshire County Council is pursuing actions that will improve the quality of air in those areas where pollutant concentrations exceed UK objectives, known as Air Quality Management Areas (AQMAs).

The Environment Act 1995, Part IV places a duty on local (district) authorities to identify locations where concentrations of specific air quality pollutants are predicted to exceed the national air quality objectives. The pollutant types and thresholds are identified in Appendix 1 but of most significance when it comes to transport are the concentrations of nitrogen dioxide and fine particles (PM₁₀).

District Councils are expected to monitor and review the concentrations of the key pollutants. The air quality review and assessment process includes the production of reports on progress, updating and screening assessment and detailed assessment.

If the review and assessment process indicates that air quality objectives are not being achieved, the Local Authority must declare an AQMA. During or following the declaration process, the individual District/Borough Council together with the County Council will form an Air Quality Management Working Group and develop Air Quality Action Plans accordingly.

Air Quality Management Areas

The review and assessment process within Hertfordshire has resulted in the declaration of twenty-one Air Quality Management Areas (AQMAs). Twelve of these AQMAs are located on roads maintained by the Highways Agency, and for this reason the responsibility for the improvement of air quality at these motorway locations lies with the Highways Agency.

Nine Air Quality Management Areas (AQMA) have been declared that fall within the responsibility of Hertfordshire's District/Borough and County Councils. Each of these areas has been declared on the basis of exceedance in the annual levels of Nitrogen Dioxide, with exceedances predominantly the result of excessive road traffic through junctions. Without intervention it is likely that there would be little improvement in air quality, which is why traffic and transport solutions, including modal shift, are considered the most effective measures to ensure resolution of the AQMA.

Given the significant effect of transportation on air quality, the County Council has a duty to work with the District/Borough Councils to ensure that the Local Transport Plan contributes positively to the County wide Air Quality Action Plan. The main means of achieving this will be through schemes delivered through the LTP Area Plan processes.

Council	AQMA	When Declared	Details of Exceedance
East Herts	Hockerill Junction	February 2007	Nitrogen Dioxide annual mean exceeded 40 g/m ³
Hertsmere	A5183 High St, Elstree	December 2004	Nitrogen Dioxide annual mean exceeded 40 g/m ³
	High Street, Potters Bar	December 2004	
St Albans	Pea Hen Junction	December 2004	Nitrogen Dioxide annual mean exceeded 40 g/m ³
Watford	St Albans Road	February 2006	Nitrogen Dioxide annual mean exceeded 40 g/m ³
	Pinner Road/Chalk Hill	February 2006	
	Chalk Hill	February 2006	
	Farraline Road	February 2006	
	Horseshoe lane/A405 Junction	February 2006	
	St Albans Road	February 2006	

Working in partnership with district/borough councils

The County Council regularly attends the Hertfordshire Technical Chief Officers Association (HTCOA) Group, which comprises officers from both the County and District/Borough level. This group is a useful mechanism for the discussion of air quality issues. The County Council, along with District Councils also attends the Hertfordshire Environmental Forum (HEF, www.hef.org.uk).

Additionally, the County Council attends the Hertfordshire and Bedfordshire Air Pollution Monitoring Network group. At this forum officers from each of the 14 local authorities discuss contemporary air quality issues and participate in data and information exchange.

Each of the ten District/Borough Councils in the County provides the County Council with an annual statement showing their commitment to delivering the Hertfordshire Local Transport Plan. These statements include how each district/borough is progressing with air quality reviews and assessments. Furthermore, it is this information that determines the need to formally declare, or revoke, Air Quality Management Areas.

Action planning is an essential part of the air quality management process, and relies heavily on the collaboration of District/Borough and County Councils. These action plans provide a practical opportunity for the relevant Councils to improve air quality in areas where national objectives would not otherwise be met.

Monitoring of Air Quality Management Areas

Determining the success of Hertfordshire's Air Quality Action Plan, relies on a comprehensive monitoring regime at each AQMA. This includes air quality monitoring undertaken by the District Council's and in many cases also includes traffic flow and volume data collection undertaken by the County Council. A detailed list of sites is set out in Appendix 2. In addition to the diffusion tube locations listed in Appendix 2, there is a network of continuous monitoring sites throughout the County. Continuous monitoring measures the air quality of kerbside, urban and industrial locations.

Air Quality Monitoring is carried out using passive diffusion tubes. Results are collected each month, with monthly concentration details made available on the Hertfordshire and Bedfordshire Pollution Monitoring Network website.

<http://www.hertsbedsair.org.uk/hertsbeds/asp/DiffusionTubes.asp?dt=results&dtenabled=1&la=&dyear=2003>

Traffic Counts are carried out by the County Council on a regular basis in most of the sites. Accurate locations of ATCs in all Districts/Boroughs can be found at:

<http://www.hertsdirect.org/envroads/roadstrans/transplan/trafficandtransportdata/trafficcountsites/trafficcountsites/>

It is the data gathered by diffusion tubes and traffic monitoring that will be used to measure the effectiveness of the action plan.

Action Plans

Forming part of the Air Quality Management process, the Action Plan outlines the steps that local authorities and other relevant organisations propose to implement in order to achieve the national objectives in each of the Air Quality Management Areas.

A key component in the development of the Action Plan has been partnership working with the appropriate Council officers where the importance of engagement and action on air quality related matters is recognised by all parties.

A broad range of options that have the potential to improve the quality of air within the AQMA, and indirectly throughout the broader district, are considered as part of the Action Plan. As it is unlikely that any single measure will prove effective in achieving the objectives, options have been selected from a variety of categories such as traffic management and engineering measures through to lifestyle enhancements.

It is important to note that at this stage the evaluation of measures, benefits and timescales are deliberately broad, as detailed costings and effectiveness are, in some instances difficult to calculate. A number of initiatives have already been implemented, and a number are currently being considered, funding for measures will also be crucial to their implementation.

As the process of declaring Air Quality Management Areas is still relatively new, so too is research and findings into the measures that may reduce pollutants. For this reason the Action plan, whilst detailed and comprehensive, will continually develop and may, over time, require refinement.

The following action plans have been divided into 12 generic county-wide themes and then a specific plan for each of the nine AQMAs on local authority roads.

Hertfordshire, all districts actions - AIR QUALITY ACTION PLAN

1. Passenger Transport Options					
Item	Action Responsibility	Timescale	Progress with measure	a. Effect on AQMA b. Effect on District c. Costs	Comments
1.1	Investigate the age of buses on routes through each AQMA. Encourage operators to introduce highest euro standard compliant vehicles. HCC-PTU.	As and when new buses purchased.	<p>East Herts = currently undertaking a source appointment exercise.</p> <p>Age of buses was last analysed for 2005, when 75% of buses serving Herts were at euro II.</p> <p>As bus companies renew their fleets, all new vehicles are required to be at least euro V compliant.</p> <p>HCC offers grants each year which fund the purchase of approx 6 buses.</p>	<p>a. Med reduction in NOx emissions</p> <p>b. Med reduction in background NOx levels</p> <p>c. high costs for bus operators.</p>	<p>Attaining this information would be time consuming, particularly given that the same buses do not carry out the same route each day. Coupled with insufficient powers and/or funding to influence Euro compliance this exercise may not be useful.</p> <p>The LEZ may have a positive effect on Hertfordshire buses that also serve London, eg. in Watford.</p>
1.2	Investigate if new Transport Bill powers to develop Quality Partnerships/Contracts will allow HCC to impose higher standards of vehicle ages within future contract specifications. HCC-PTU & TP.		<p>Watford = consideration of policy in SW Herts Transportation Strategy.</p> <p>Transport Bill does not give HCC power to influence fleet ages, however the Bill does stress the importance of Partnership working which could have a</p>	<p>a. Potential low-med reduction in NOx emissions</p> <p>b. and background NOx levels</p> <p>c. High to bus operators.</p>	<p>Could also have a positive impact upon accessibility.</p>

			positive influence on the uptake of higher Euro standards.		
1.3	Investigate availability of passenger transport information in the vicinity of each AQMA. HCC-PTU.	Medium Term. Ongoing Ongoing	<p>Eastern Herts Transport Plan 2007 includes strategy for RTPI on key routes, at railway station and town centre. PT information kiosks are located in the town centre.</p> <p>Watford has introduced customised journey planning with the aim to encourage sustainable travel.</p> <p>7 area travel guides are published up to twice a year. Network maps are produced every 6 months. Individual timetable leaflets made available as and when changes occur.</p> <p>www.intalink.org.uk – site updated weekly, offering the latest travel information and discounts. Intachange magazine is published every 2 months.</p> <p>HCC has produced the draft Intalink Strategy 2008-11, HCC funds the</p>	<p>a. Low reduction in emissions from modal shift</p> <p>b. Low reduction in background levels</p> <p>c. Low</p>	

		Results of surveys by April 2008.	<p>Intalink publication programme. The strategy includes the future provision of real time facilities, all future publications in one format, upgrading electronic information available through the ePIPS unit.</p> <p>A review of current publications is underway.</p>		
1.4	Investigate the opportunities to improve bus infrastructure along the bus routes through each AQMA (i.e. bus stops). HCC-PTU.	<p>Medium Term.</p> <p>Completed third quarter 07/08.</p> <p>Completed third quarter 07/08.</p>	<p>The Eastern Herts Transport Plan 2007 includes a strategy for the development new shelters and bus stop infrastructure inc bus boarders, and a new bus interchange at the station.</p> <p>Audits being undertaken of 4200 bus stops across the County for naming and resigning programme.</p> <p>Quality Bus Stops installed at 2 sites in St Albans.</p> <p>East Herts Quality Bus Stop works.</p>	<p>a. Low reduction in emissions from modal shift</p> <p>b. Low reduction in background levels</p> <p>c. Low</p>	Could also have a positive impact upon accessibility and bus patronage

2. Schools					
Item	Action Responsibility	Timescale	Progress with measure	a. Effect on AQMA b. Effect on District c. Costs	Comments
2.1	Check status of school travel plans for those schools located in the vicinity of each AQMA. HCC- School Travel Plan advisors.	Short Term.	<p>The Eastern Herts Transport Plan 2007 includes a strategy to develop Travel plans for all schools with the aim of reducing car trips.</p> <p>Watford = 16 schools within vicinity of junction. 10 with silver STP, 1 with bronze STP, 1 developing an STP, 3 with no STP.</p> <p>East Herts = 4 schools within vicinity of junction. 3 with silver STP, 1 with gold STP.</p> <p>Hertsmere = 4 schools within vicinity of junction. 1 is interested in developing an STP, 3 with no STP.</p> <p>St Albans = 8 schools within vicinity of junction. 4 with gold STP, 2 with silver STP, 2 developing an STP.</p>	<p>a. Med reduction of traffic flow, emissions</p> <p>b. and background levels</p> <p>c. Low</p>	Health benefits for children and young people associated with encouraging a modal shift to sustainable transportation.
2.2	Contact local primary schools with a view to encourage walking buses. HCC-Road Safety.	Short Term	The Eastern Herts Transport Plan 2007 includes a strategy for Travel plans, which	a. Med reduction of traffic flows with impact on background levels	Health benefits for children associated with encouraging a modal shift to

		Ongoing	<p>includes walking buses, for all schools with the aim of reducing car trips.</p> <p>St Albans = there are 8 schools within the junction, 2 have walking buses, a further 1 is planned to commence Feb 08.</p> <p>Watford = there are 16 schools within vicinity of the junctions. 1 has received a grant for walking to school initiatives.</p> <p>Hertsmere & East Herts = each have 4 schools near their AQMA. None of these schools have walking initiatives.</p>	<p>b. Med if significant modal shift</p> <p>c. Low</p>	sustainable transportation.
2.3	Investigate safer routes to school schemes for those schools in the vicinity of each AQMA. HCC & HH.	Short Term.	The Eastern Herts Transport Plan contains an objective to support this program and pedestrian skills training for pre-school children.	<p>a. Med reduction in emissions from modal shift to more sustainable modes</p> <p>b. Med reduction in background levels</p> <p>c. High</p>	Potential to reduce collisions and increase safety awareness of children and young people.

3. Cycling					
Item	Action Responsibility	Timescale	Progress with Measure	a. Effect on AQMA b. Effect on District c. Costs	Comments
3.1	Investigate cycling routes within Districts i.e. what exists, what could	End 2008	A mapping project to determine all cycle routes	a. Minimal effect on traffic & emissions	Health and environment benefits

	be improved HCC & HH.	08/09 Financial year 08/09 financial year	in the county is currently being undertaken by HH. St Albans = a new cycle route that passes close to Pea Hen junction will be constructed. Watford = the Borough Council will be submitting a bid to become a Cycle demonstration town.	reduction b. A modal shift would reduce background levels c. Medium	associated with encouraging a modal shift to sustainable transportation.
3.2	Investigate cycle parking facilities throughout the towns close to junctions. HCC & HH.	Short Term 08/09 financial year	The Eastern Herts Transport Plan 2007 includes strategy for new cycle parking facilities to be installed at key locations. St Albans = 10 cycle stands on St Peters street installed Dec 2006. Watford = in excess of 100 parking spaces in the town centre. A review of spaces is to be completed in 08/09. The Borough Council will be submitting a bid to become a Cycle demonstration town. Currently there are 130 cycle parking stands at over 20 sites throughout the town.	a. Low reduction of traffic flows, emissions b. and background levels c. Medium	Health and environment benefits associated with encouraging a modal shift to sustainable transportation.
3.3	Promote the benefits of cycling. HCC	Ongoing.	The HCC Cycling Strategy promotes the transport advantages and	Low reduction of traffic flows & emissions /Minimal	Health and environment benefits associated with

		Ongoing 08/09 financial year	<p>health benefits of cycling.</p> <p>The hertsdirect website provides useful links and information to encourage the uptake of cycling throughout the County.</p> <p>The Eastern Herts Transport Plan 2007 includes a strategy to encourage cycling.</p> <p>Watford = the Borough Council will be submitting a bid to become a Cycle demonstration town.</p>	reduction in background levels/Low	encouraging a modal shift to sustainable transportation.
3.4	Investigate the provision of secure cycle parking at railway stations within the vicinity of each AQMA. HCC & Rail Operator.	08/09 financial year	<p>Watford = the Borough Council will be submitting a bid to become a Cycle demonstration town. Watford Interchnage has 30 spaces in stands with 40 more to be installed.</p> <p>St Albans = 396 spaces in stands, some are sheltered.</p> <p>Hertsmere = Elstree and Borhamwood station has 60 spaces.</p> <p>East Herts = Bishops Stortford station has 30 spaces, some are sheltered.</p> <p>All stations use CCTV.</p>	<p>a. Low reduction of traffic flows, emissions</p> <p>b. and background levels</p> <p>c. Low</p>	Health and environment benefits associated with a modal shift to sustainable transportation.

3.5	Investigate the number of schools, within the vicinity of the junctions, providing cycling proficiency programs. Encourage those without to implement. HCC-Road Safety.	Short Term.	<p>The Eastern Herts Transport Plan 2007 includes a strategy to encourage the uptake of cycle courses for both children and adults through local community based groups.</p> <p>Watford = 2007: 6/9 schools ran training. 2008: 3/9 schools booked (2 of these also ran training in 2007).</p> <p>Hertsmere = 2/9 schools ran training in 2007. These same schools are running again in 2008.</p> <p>East Herts = 1/2 schools ran training in 2007.</p> <p>St Albans = 4/7 schools ran training in 2007. 1 school booked for 2008.</p>	<p>a. Low reduction of traffic flows b. and background levels c. Low</p>	<p>Currently only primary schools are able to participate in the training. HCC is looking at developing a program for early secondary school students,</p> <p>The training in schools greatly relies on volunteers, so it is not always possible for HCC to meet demand.</p> <p>Potential to reduce collisions and increase the safety awareness of children and young people.</p>
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4. Walking					
Item	Action Responsibility	Timescale	Progress with measure	a. Effect on AQMA b. Effect on District c. Costs	Comments
4.1	Contact local schools to encourage the uptake of 'Streetwise' (child pedestrian skills training) HCC-Road Safety.		<p>Uptake of streetwise in 2007 training is only available to primary schools):</p> <p>Watford = 2 schools out of 9.</p>	<p>a. Low reduction in traffic flows & congestion b. also around schools c. Low</p>	Training does not need to be given each by year by HCC. The program is designed for HCC to train parents and teachers in the

			<p>Hertsmere = 1 out of 3.</p> <p>East Herts = 0 out of 2 schools.</p> <p>St Albans = 1 out of 6 schools.</p> <p>HCC contacts local schools to encourage uptake.</p>		<p>delivery of streetwise training so it can be performed on a yearly basis independent of HCC involvement.</p> <p>Potential to reduce collisions and increase the safety awareness of children and young people.</p>
4.2	Investigate the use of School crossing patrols for schools in the vicinity of each AQMA HCC-Road Safety.	<p>Completed Feb 08</p> <p>Ongoing</p>	<p>Watford = 16 schools in vicinity of junction, 3 use school crossing patrols.</p> <p>Hertsmere = 4 schools in vicinity of junction, 1 has school crossing patrol.</p> <p>East Herts = 4 schools in vicinity of junction, 1 has school crossing patrol.</p> <p>St Albans = 8 schools in vicinity of junction. 1 has school crossing patrol.</p> <p>Advertising of school crossing patrol vacancies and relief positions.</p>	<p>a. Low reduction in traffic flows & congestion</p> <p>b. also around schools</p> <p>c. Low</p>	-
4.3	Investigate the quality and provision of footways and pedestrian links in the vicinity of each AQMA. HCC & HH.		The Eastern Herts Transport Study 2007 includes a strategy for improving the pedestrian route from the station to the town centre.	<p>a. & b. Low reduction in traffic flows, emissions and background levels</p> <p>c. Med - High</p>	Health and environment benefits associated with providing infrastructure which encourages a modal shift to sustainable

		07/08 financial year	St Albans = a route from St Peter's Street to the City Hospital has been re-designed with dropped kerbs to allow easier access for those with wheelchairs and pushchairs.		transportation.
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5. Signage					
Item	Action Responsibility	Timescale	Progress with measure	a. Effect on AQMA b. Effect on District c. Costs	Comments
5.1	Investigate road signage in the vicinity of each AQMA, with consideration to the appropriate routing of through traffic (especially for HGVs). HCC & HH.		St Albans = As a result of the area wide signage review plans exist to install new signage and routings at the junction and on the approach to the city centre. The Eastern Herts Transport Plan 2007 includes a strategy that considers the provision of appropriate signage, both directional and warning signs. Watford, St Alb Rd = considering improved signage for Industrial Estates near Balmoral Rd.	a. Med/High reduction in traffic flows through junction b. could transfer traffic to other areas of the town c. Medium	Possibility of transferring Air Quality and congestion issues to other areas of St Albans.
5.2	Investigate the provision of signing for cycling at each AQMA. HCC & HH.	08/09 Financial year	St Albans = No signage currently exists. An advance stop line is due	a. Low reduction of traffic flows, emissions	Health and environment benefits associated with

		08/09 financial year	to be installed as part of the National Cycle Route 6. Watford = the Borough Council will be submitting a bid to become a Cycle demonstration town.	b. and background levels c. Low	encouraging a modal shift to sustainable transportation.
5.3	Investigate the provision of signing for pedestrians at each AQMA. HCC & HH	Short Term	Eastern Herts Transport Plan 2007 includes strategy for an improved pedestrian route to town centre from station including provision of signage. St Albans = installation of new pedestrian signage planned.	a. & b. Low reduction in traffic flows, emissions and background levels c. Low	Health and environment benefits associated with providing infrastructure which encourages a modal shift to sustainable transportation.

6. Parking

Item	Action Responsibility	Timescale	Progress with measure	a. Effect on AQMA b. Effect on District c. Costs	Comments
6.1	Investigate the status of on-street parking at each AQMA and determine if parking is contributing to traffic congestion at each junction. HCC, HH & Districts.	Short Term	The Eastern Herts Transport Plan 2007 includes a strategy for comprehensive on street controls within 'residential zone'.	a. Improved traffic flow with low reduction of emissions b. Possible transfer of emissions to other areas c. Low	Need to be mindful that this could transfer problems associated with parking to other areas.

7. Section 106 Agreements					
Item	Action	Timescale	Progress with measure	a. Effect on AQMA b. Effect on District c. Costs	Comments
7.1	District Councils will consider the effects of development on Air Quality and where appropriate use section 106 agreements to offset the impact of the development. Districts & HCC.	Ongoing		a. Potentially positive effects if travel plans are put in place and modal shift is achieved b. improvements if traffic growth is managed c. Low	-

8. Emissions from Industry and Domestic Sources					
Item	Action	Timescale	Progress with measure	a. Effect on AQMA b. Effect on District c. Costs	Comments
8.1	District Councils will assert comprehensive control over Part B/Part A2 processes for smaller scale industries under the Pollution Prevention and Control Act 1999. Districts.	Ongoing		a. Low, as there is no small scale industry in the immediate vicinity b. Minimal impact c. Low	-

9. Statutory Nuisance Legislation – Environmental Protection Act 1990					
Item	Action	Timescale	Progress with measure	a. Effect on AQMA b. Effect on District c. Costs	Comments
9.1	District Councils will investigate complaints about nuisance (domestic and industrial emissions), monitor air quality and ensure compliance with the air quality strategy. Districts.	Ongoing		a. Low impact b. Low impact c. Med	Will have benefit to the AQ of the whole district.

10. Energy Conservation/Promotion of Energy Reduction Schemes					
Item	Action	Timescale	Progress with Measure	a. Effect on AQMA b. Effect on District c. Costs	Comments
10.1	District Councils will continue to measure the improvement of energy efficiency in housing throughout the district and report on this each year in accordance with Home Energy Conservation Act requirements. Districts.	Ongoing		a. & b. Little impact as CO ₂ is the pollutant associated with energy efficiency. c. Low	Not necessarily a localised AQMA issue, but consistent with the aim to improve resident's quality of life.

11. Air Quality Monitoring					
Item	Action	Timescale	Progress with measure	a. Effect on AQMA b. Effect on District c. Costs	Comments
11.1	Continue to monitor air quality within the district and as necessary review the suitability of monitoring locations. Districts.	Ongoing	The details of diffusion tubes and their locations are given at beginning of the Action Plan. Hertsmere = reviewed tube sites in 2007. Extra tubes have been sited at AQMAs.	a. Low b. No impact c. Medium	Continuous monitoring will enable the early detection of AQ issues within the district.

12. Other Initiatives					
Item	Action	Timescale	Progress with measure	a. Effect on AQMA b. Effect on district c. Cost	Comments
12.1	Encourage the uptake of business travel plans in each area and contact local businesses to encourage travel plans.	Ongoing throughout the 08/09 financial year	New business travel materials are being developed for distribution in March 08. These	a. Low reduction in traffic flows b. Low Reduction of traffic flows	Health and environment benefits associated with encouraging a modal

	HCC-Travel Wise team		materials will be used as tools to first approach local businesses. The ongoing development of Local Transport Plans will provide an opportunity to contact local business.	c. Low	shift to sustainable transportation.
12.2	Inform local residents of the declaration of the AQMA. HCC & Districts.	Ongoing	All residents within the AQMAs have been informed.	a. Low, but could encourage modal shift b. Low, but could encourage modal shift c. Low	With the aim that information about poor AQ will motivate a modal shift to more sustainable transport.

East Herts – Air Quality Action Plan

Item	Action	Timescale	Progress with measure	a. Effect on AQMA b. Effect on district c. Cost	Comments
13.1	Support the Goods Yard Link development, including the relocation of the bus station closer to the railway station. HCC & EHDC.	Short Term.	The Eastern Herts Transport Plan 2007 includes a strategy for pursuing the Goods Yard Link Road.	a. Med reduction in the volume of through traffic b. Redevelopment will increase the # of vehicle movements in the area. c. low, developer funded	Improvement of bus and train facilities for commuters.
13.2	Make all clear markings outside schools enforceable, with a view to reducing emissions from idling cars. HH.	April 08		a. Min reduction in emissions and b. background levels c. Low	-
13.3	Investigate road signage in the vicinity of the junction, with consideration to the appropriate	Ongoing	A signage study is underway to ensure that traffic is diverted around	a. Med/High reduction in traffic flows through	Possibility of transferring Air Quality and

	routing of through traffic (in particular along Stansted Rd, Hallingbury Rd and from M11 to Harlow). HCC & HH.		(not through) Hockerill junction.	junction b. could transfer traffic to other areas of the town c. Medium	congestion issues to other areas of Bishops Stortford.
13.4	Investigate better signage for the bypass as through traffic are ignoring the preferred routes and using the town centre. HCC & HH.	April 08	Eastern Herts Transport Plan 2007 congestion signage to be developed & installed with the aim of encouraging HGVs to utilise ring roads.	a. Med reduction of traffic flows b. Traffic transferred to bypass c. Low	-
13.5	Consider options for a park and ride scheme. EHDC & HCC.		The Eastern Herts Transport Plan 2007 includes a strategy for park and ride facilities on ASR sites and Dunmow Rd corridor.	a. Med reduction of traffic flows b. Less traffic through the town centre c. High	-
13.6	Consider the possibility of redesigning the junction eg. turning bans. HCC & HH.	NA	This measure has been considered and ruled out due to safety issues. The study was carried out by consultants Steer Davies Gleave.	a. Med as greater movement of traffic generates less emissions b. Less congestion in that area of the town c. Med-High	-
13.7	Undertake improvements to signal equipment with a view to improving efficiency, eg. investigate the use of an Urban Traffic Control System. HCC & HH.	Medium Term. Long Term.	The Eastern Herts Transport Plan 2007 includes strategies for: ITS including VMS signs & an internet site (congestion, park & ride, parking availability). Town centre urban traffic control including new signalised junctions/SCOOT cells. A pedestrian phase at the junction -although this is dependent on the	a. Med -Low reduction in emissions and improvements to traffic flow. b. and background levels c. Low-Med	Better flow of traffic through the junction has potential to improve efficiency of vehicle engines. However could also increase traffic volume and transfer emissions to other areas.

			development of the Goods Yard Link.		
13.8	Investigate further improvements to the bypass with a view to reducing the impact of through traffic. HCC& HH.	Short Term.	The Eastern Herts Transport Plan 2007 includes a strategy for improved signage to direct through traffic away from the town centre.	a. Med reduction in traffic flows, especially HGVs b. c. High	Noise reduction as a result of fewer HGVs passing through the town centre.
13.9	Take air quality matters into consideration with all planning applications, particularly when these are within or closely adjoining the AQMA. HCC & EHDC.	Ongoing	All applications, of a suitable size, within or closely adjoining the junction are reviewed and assessed for potential impact on air quality and ways that this could be potentially offset.	a. Managing the growth of local traffic from new developments will not reduce NO ₂ levels but will not add to it. b. and should help control traffic volumes. c. Low	Health and environment benefits associated with encouraging a modal shift to sustainable transportation through the planning process.
13.10	Ensure that developers have taken sufficient steps to minimise any increase in air pollution; this will include an assessment of Air Quality implications where applicable. EHDC & HCC.	Ongoing		a. Potentially positive effects if travel plans are put in place and modal shift is achieved b. improvements if traffic growth is managed c. Low	-
13.11	Improved information & advice to be made available to residents & companies in the area regarding the Air Quality effects of bonfires. Failure to comply with the Clean Air Act & Environmental Protection Act will result in enforcement action. EHDC.	Ongoing	Resident and commercial premises are given advice as and when complaints are received, or when the council is made aware of burning activities. Information about domestic bonfires is readily available on the East Herts website.	a. Low b. Potential to improve particulate levels c. Low-Med	Positive health implications from cleaner air due to lower levels of particulates.
13.12	Investigate the possibility of	Medium Term		a. Low	-

	interlinking GIS data so that information is available to all involved in the planning process. HCC & EHDC.			b. No direct impact c. Medium	
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Appendix 1: Key pollutants and acceptable concentrations identified by National Air Quality Strategy

Pollutant	Air Quality Objective		Date to be achieved by
	Concentration ¹	Measured as	
Benzene	16.25 µg/m ³	running annual mean	31.12.2003
	3.25 g/m ³	running annual mean	31.12.2010
1,3 Butadiene	2.25 g/m ³	running annual mean	31.12.2003
Carbon monoxide	10.0 mg/m ³	running 8-hour mean	31.12.2003
Lead	0.5 g/m ³	annual mean	31.12.2004
	0.25 g/m ³	annual mean	31.12.2008
Nitrogen dioxide ²	200 g/m ³ not to be exceeded more than 18 times a year	1 hour mean	31.12.2005
	40 g/m ³	annual mean	31.12.2005
Particles (PM ₁₀) (gravimetric) ³	50 g/m ³ not to be exceeded more than 35 times a year	24 hour mean	31.12.2004
	40 g/m ³	annual mean	31.12.2004
	50 µg/m ³ not to be exceeded more than 7 times a year	24 hour mean	31.12.2010
	18 µg/m ³	annual mean	31.12.2010

Sulphur dioxide	350 g/m ³ not to be exceeded more than 24 times a year	1 hour mean	31.12.2004
	125 g/m ³ not to be exceeded more than 3 times a year	24 hour mean	31.12.2004
	266 g/m ³ not to be exceeded more than 35 times a year	15 minute mean	31.12.2005

Appendix 2: Monitoring in each AQMA

East Herts: Hockerill Junction, Bishop's Stortford (Stansted Rd, Dunmow Rd, London Rd, Hockerill St)

Air Quality diffusion tubes

Code	Address	State	X Grid Ref	Y Grid Ref	Class	Analyst
EH12	Hockerill St., Bishop's Stortford	Open	549100	221200	kerbside	Lambeth SS
EH16	London Road, Bishop's Stortford	Open	549150	220050	kerbside	Lambeth SS
EH17	Dunmow Road, Bishop's Stortford	Open	549400	221250	kerbside	Lambeth SS
EH18	Stansted Road, Bishop's Stortford	Open	549300	221300	kerbside	Lambeth SS
EH31	Hockerill St BS Colocated with EH12	Open	549154	221242	kerbside	Lambeth SS
EH32	Hockerill St BS Colocated with EH12	Open	549154	221242	kerbside	Lambeth SS
EH35	Dunmow Rd BS Colocated with EH17	Open	549400	221250	kerbside	Lambeth SS
EH36	Dunmow Rd BS Colocated with EH17	Open	549400	221250	kerbside	Lambeth SS
EH37	Stanstead Rd BS Colocated with EH18	Open	549300	221300	kerbside	Lambeth SS
EH38	Stanstead Rd BS Colocated with EH18	Open	549300	221300	kerbside	Lambeth SS
EH39	London Rd BS Colocated with EH19	Open	549250	221200	kerbside	Lambeth SS
EH40	London Rd BS Colocated with EH19	Open	549250	221200	kerbside	Lambeth SS

Traffic count sites

- Site 392 Hallingbury road (boundary road) Automatic Traffic Count annual 1 week survey, June
- TravelWise Cordon Stansted Road manual count 1 morning (three hours) every three years (02.05.08 ..)
- TravelWise Cordon Dunmow Road manual count 1 morning (three hours) every three years (02.05.08 ..)
- Traffic count 12 December 2007

St Albans: Pea Hen junction, St Albans (High St, Chequer St, London Rd, Holywell Hill)

Air Quality diffusion tubes

Code	Address	State	X Grid Ref	Y Grid Ref	Class	Analyst
SA132	Westminster Lodge Holywell Hill St Albans SA002	Open	514317	206453	background	Gradko
SA137	High Street St Albans SA039	Open	514664	207125	roadside	Gradko
SA138	Peahen PH Holywell Hill St Albans SA015	Open	514701	207082	kerbside	Gradko

Traffic count sites

- Site 125 Holywell Hill (Griffiths way) ATC quarterly 1 week survey
- TravelWise Cordon London road (W of Alma road) manual count 1 morning (three hours) every three years (01.04.07 ..)
- TravelWise Cordon Holywell Hill (prospect road) manual count 1 morning (three hours) every three years (01.04.07 ..)
- TravelWise Cordon Verulam road (Briton avenue) manual count 1 morning (three hours) every three years (01.04.07 ..)

Watford: Chalk Hill (Waterfields Way, Eastbury Rd)

Air Quality diffusion tubes

Code	Address	State	X Grid Ref	Y Grid Ref	Class	Analyst
WF44	Chalk Hill	Open	512000	195500	kerbside	Harwell

Traffic count sites

- A large quantity of data has been collected around the Bushey Arches and surrounding network by Gifford transport consultant and supplied to Watford Borough Council in the Transport Assessment for the planning application for the Watford Health Campus. This may provide a useful data source, as the counts are not likely to be repeated.

Watford: Farraline Rd - Vicarage Rd, Cassio Rd, Wiggshall Rd, Hagden Lane, Merton Rd

Air Quality diffusion tubes

Code	Address	State	X Grid Ref	Y Grid Ref	Class	Analyst
WF43	Farraline Road	Open	510800	196000	kerbside	Harwell

Traffic count sites

- Site 423 Whippendell Road ATC annual 1 week survey, May 2007.
- Site 424 Vicarage Road ATC continuous site
- Site 361 Wiggshall Road ATC annual 1 week survey, April 2007.

Watford: Horseshoe Lane

Air Quality diffusion tubes

Code	Address	State	X Grid Ref	Y Grid Ref	Class	Analyst
WF38	A405 Horseshoe Lane	Open	511700	200700	kerbside	Harwell

Traffic count sites

- Site 453 Horseshoe Lane ATC annual 1 week survey, April 2007.

Watford: Pinner Rd (Chalk Hill, Aldenham Rd)

Air Quality diffusion tubes

Code	Address	State	X Grid Ref	Y Grid Ref	Class	Analyst
WF44	Chalk Hill	Open	512000	195500	kerbside	Harwell
WF29	Pinner Road	Open	512000	195300	Kerbside	Harwell

Traffic count sites

- Site 209 London Road Bushey ATC continuous

Hertsmere: Elstree Crossroads (High St, Elstree Hill North, Elstree Hill South, Watford Rd, Barnet Lane)

Air Quality diffusion tubes

Code	Address	State	X Grid Ref	Y Grid Ref	Class	Analyst
HM48	Elstree Crossroads 1	Open	517798	195272	kerbside	Gradko Tea 20 in Water
HM49	Elstree Crossroads 2	Open	517843	195338	kerbside	Gradko Tea 20 in Water
HM50	Elstree Crossroads 3	Open	517862	195226	kerbside	Gradko Tea 20 in Water
HM51	Elstree Crossroads 4	Open	517803	195249	kerbside	Gradko Tea 20 in Water
HM52	Elstree Crossroads 5	Open	517803	195249	kerbside	Gradko Tea 20 in Water

Traffic count sites

- Site 120 Elstree Hill North (war memorial) ATC annual 1week survey, November 2007.

Hertsmere: Potters Bar Bus Garage (High St, Hatfield Rd, The Causeway)

Air Quality diffusion tubes

Code	Address	State	X Grid Ref	Y Grid Ref	Class	Analyst
HM64	Bus Garage 1 Potters Bar	Open	526207	201452	kerbside	Gradko Tea 20 in Water
HM65	Hatfield Road Potters Bar	Open	526252	201597	kerbside	Gradko Tea 20 in Water
HM66	Bus Garage 2 Potters Bar	Open	526245	201458	kerbside	Gradko Tea 20 in Water
HM67	Bus Garage 3 Potters Bar	Open	526211	201400	kerbside	Gradko Tea 20 in Water
HM23	Bus Garage, High Street, Potters Bar	Open	526211	201400	kerbside	Walsall TEA in Ace

Traffic count sites

- Site 246 A1000 Hatfield Road North of Hawkshead road ATC annual 1 week survey, May 2007
- TravelWise Cordon the causeway manual count 1 morning (three hours) every three years (03.06.09)
- TravelWise Cordon Hatfield Road (S of Billy Lows Lane) manual count 1 morning (three hours) every three years (03.06.09 ..)

Watford: St Albans Road (whole length)

Air Quality diffusion tubes

Code	Address	State	X Grid Ref	Y Grid Ref	Class	Analyst
	Why no data?					

Traffic count sites

- Site 214 St Albans Road Garston ATC annual 1 week survey, April 2007.
- Site 215 St Albans Road Watford ATC annual 1 week survey, April 2007.