



**LOCAL AIR QUALITY MANAGEMENT
FINAL ACTION PLAN
JULY 2011**

CHESHIRE EAST COUNCIL

Executive Summary

Local Government Reorganisation within Cheshire came into force 1st April 2009. In order to reflect these changes, increasing awareness of air quality issues and further transport related Air Quality Management Areas (AQMAs); this revised plan has been drafted. This Action Plan is one of the daughter documents within the Local Transport Plan (LTP) and integrates directly into the implementation of measures to ensure that air quality work undertaken within the borough is coordinated at a strategic level. The revised plan replaces the existing Congleton and Crewe and Nantwich plans and incorporates new actions developed as a result of new AQMA declarations.

Cheshire East Council, as part of its ongoing commitment to the improvement of Air Quality has developed a Local Air Quality Strategy. The Strategy will ensure that Local Air Quality is considered as a priority across a broad range of Council functions, and aid with the implementation of the Air Quality Action Plan, Key strategic challenges in the near future include tackling transport related emissions from new development. This is considered a high priority as it has the potential to limit future deterioration in air quality.

Cheshire East maintain a comprehensive network of high quality monitoring sites, and in-house dispersion modelling providing ongoing support to the review and assessment process. This work continues to be developed through the challenge of new partnerships, community involvement and in response to changing local circumstances.

A number of Air Quality Management Areas have been declared between 2005 and 2008 with respect to breaches of the annual mean and hourly objective for nitrogen dioxide. Work has been ongoing to refine these areas and develop an Action Plan to identify options to address ongoing issues. The current action plan addresses poor air quality in the following areas:

- M6 Cranage
- West Road, Congleton
- A34.A54, Rood Lane, Congleton
- A534 Hospital Street, Nantwich
- A34 Lower Heath, Congleton
- A5022/A534, Sandbach
- A556 Chester Road, Mere

The Action Plan focuses on these areas and the impact of nitrogen dioxide from transportation sources. A wide range of potential initiatives are proposed to help reduce nitrogen dioxide levels within these areas, and potentially across the Borough as a whole.

These options have been developed through consultation and discussion with existing and new partners both internal and external to the Authority and therefore offers a broad spectrum of input to the improvement programme. Work will continue with these partners for the life of this Plan and throughout subsequent air quality work.

The Air Quality Action Plan outlines a series of indicators which will be supported by ongoing monitoring and recorded as part of internal and statutory reporting requirements.

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1.0 National Air Quality Policy

Air quality management is one of the factors required to deliver a safe environment for both current and future generations. Air quality is a sustainable health indicator within The UK Sustainable Development Strategy “A Better Quality of Life”. It is also considered within “A new Commitment to Neighbourhood Renewal”, which seeks to tackle issues in deprived neighbourhoods and includes air quality as a public service agreement target for designated areas.

Whilst being vital to sustainability, air quality also forms an important part of key strategic documents, such as “Our Healthier Nation”, and “Tackling Health Inequalities”. From an ongoing perspective the Committee on the Medical Effects of Air Pollutants (COMEAP) continues to develop our understanding on the health effects of air quality.

The Air Quality Framework (96/62/EC) provides the direct driver for air quality management across EU member states including the United Kingdom. This has led to the development of specified EU limit values based upon World Health Organisation recommendations, which must be transposed into legislation by all Member States.

Ambient air quality in the UK is addressed through a national strategy entitled “Working Together for Clean Air”. This sets out the Government's plan to improve and protect ambient air quality in the medium term. The strategy includes health-based objectives of 8 pollutants, based upon research by the Expert Panel on Air Quality (EPAQS). The objectives specified are designed to reflect the desire to render emissions harmless and are given legal effect by the Air Quality (England) Regulations 2000 (as amended) which stipulate the air quality standard to be achieved and the objective year for compliance.

Local Government Reorganisation within Cheshire came into force 1st April 2009. In order to reflect these changes, increasing awareness of air quality issues and further transport related Air Quality Management Areas (AQMA's); this revised plan has been drafted. This Action Plan is one of the daughter documents within the Local Transport Plan (LTP) and feeds directly into the implementation of measures to ensure that air quality work undertaken within the borough is documented at a strategic level. The revised plan replaces the existing Congleton and Crewe and Nantwich plans and incorporates new actions developed as a result of new AQMA declarations.

2.0 Local Air Quality Management Process

2.1 Review and Assessment

Section 82 of The Environment Act 1995 introduced a duty on local authorities to assess and manage air quality within their area; these requirements were supported by policy and technical guidance and a set of detailed timescales by which specified actions should be achieved.

Further detail on the Review and Assessment process undertaken by the Council is contained within the Update and Screening Assessment reports produced in 2003, 2006 and 2009 located on the Council website www.cheshireeast.gov.uk

2.2 Designation of Air Quality Management Areas

Section 83 (1) of the act requires local authorities to designate Air Quality Management Areas (AQMA) in areas where air quality standards are unlikely to be achieved by the objective year.

Air Quality Management Areas (AQMA) have been declared over a number of years within the Borough. These are listed in Table 1.

Area	Date of Declaration
A34 West Road, Congleton	1 st May 2005
A54 Rood Hill, Congleton	1 st May 2005
The Woodlands, Congleton	1 st May 2005
M6 Motorway, Cranage	1 st May 2005
A534 Hospital Street, Nantwich	16 th December 2006
A34 Lower Heath, Congleton	1 st April 2008
A5022/ A534, Sandbach	1 st April 2008
A534 Nantwich Road, Crewe	14 th November 2008
A556, Mere	1 st May 2009
A532 Earle Street, Crewe	31 st January 2010
A523 London Road, Macclesfield*	1 st April 2010
A6 Market Street, Disley*	1 st April 2010
A50 Manchester Road, Knutsford*	1 st April 2010

Table 1 Air Quality Management Area Declarations

***These AQMA's are not included in this action plan at present as they are still undergoing Further Assessment work.**

All areas were declared on the grounds that there was an ongoing or likely exceedence of the Air Quality Standard for nitrogen dioxide for the objective year of 2005 and 2010.

2.3 Action Planning and Further Assessment

Following declaration of an Air Quality Management Area a local authority is required under Section 84 (2) to draw up an Action Plan setting out what it intends to do to improve ambient concentrations in line with the Air Quality Standard for that pollutant (AQS).

An Action Plan should contain measures that seek to improve air quality within designated Air Quality Management Areas having account of the following factors:

- The pollutant of concern;
- The pollutant source;
- The reductions in concentration that need to be achieved;
- The range of mitigation measures available dependent upon local circumstances;
- A cost v benefit analysis of measures to determine their applicability and feasibility;

- Prioritisation of mitigation measures; and
- Timescales for implementation of measures.

The main requirement of the Cheshire East Action Plan is to seek improvements in air quality and nitrogen dioxide concentrations in these specific areas. It is anticipated however that any initiatives that are implemented would seek to improve air quality for the wider area and provide an opportunity to develop a plan of measures to reduce air pollution borough wide.

2.4 Further Assessment

Under Section 84 (1) a local authority must also carry out a Further Assessment of air quality within twelve months of designating an AQMA. The aim of this work is to;

- To confirm the original assessment of air quality in the AQMA against the prescribed objectives and to use this to review the accuracy of the AQMA boundaries that have been determined.
- To calculate more accurately how much of an improvement in air quality would be needed to deliver the air quality objectives within the AQMA;
- To refine knowledge on the sources of pollution so that Air Quality Action Plan measures can be properly identified and targeted within a cost/benefit framework.
- Help to move the Action Planning process forward and to involve the relevant agencies that have a definite role to play.

3.0 Borough Profile

3.1 Location and Make Up of the Borough

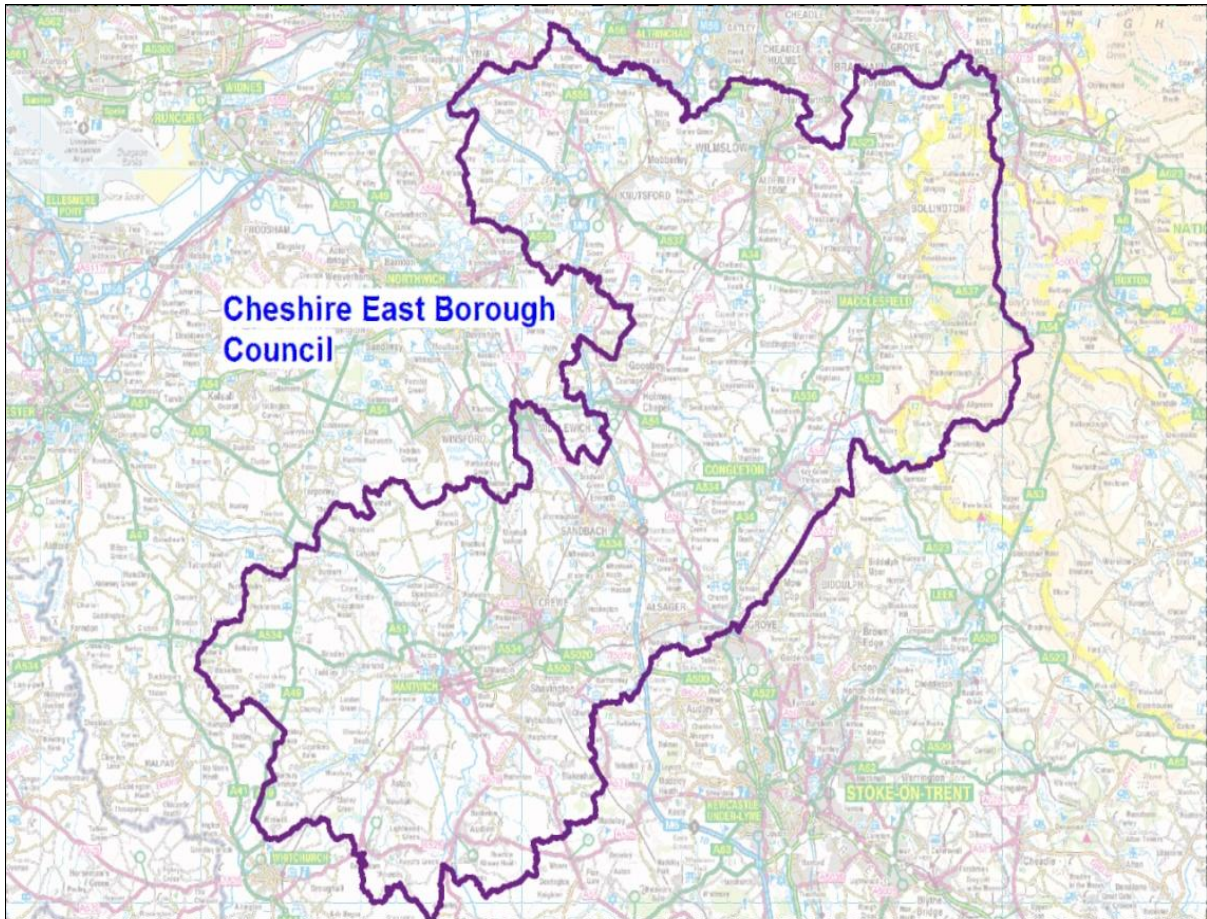


Figure 1 Location of the Borough

Cheshire East Council was formed on 1st April 2009 as part of a major Local Government Reorganisation in Cheshire. The Authority was formed from the preceding district authorities of Congleton Borough Council, Crewe and Nantwich Borough Council, Macclesfield Borough Council and the former Cheshire County Council.

Cheshire East Council is the third largest unitary authority in the North West with a population of just over 360,000 and covering an area of 1,116km². Cheshire East is predominantly rural with several market towns. The area is relatively affluent and car ownership is high, with 40% of households having 2 cars or more against the national average of 29%. The car is the dominant means of travel to work by Cheshire East residents

(used by 72% of drivers or passengers in 2001, compared to a national average of 66.7%). Other means of travel to work were: foot (9%), bus (2%) and train (2%).¹

The area is traversed by several major strategic routes operated by the Highways Agency including the M6, M56, A556, A55, A550 and the A483; however the vast majority of roads within Cheshire East are the responsibility of the Local Authority. There are heavy flows of commuters both in and out of the borough. In rural areas however bus services are infrequent.

Unsurprisingly therefore, the predominant source of air pollution in the area is road traffic, with emissions of nitrogen dioxide accounting for all the Air Quality Management Areas in the Borough.

¹ Information taken from Cheshire East Profile 2009 (www.cheshireeast.gov.uk)

4.0 Cheshire East Air Quality Profile

4.1 Update and Screening Assessment 2003 Detailed Assessment 2004

Four Air Quality Management Areas were originally declared in May 2005 as a result of a likely exceedence of the annual mean concentration for nitrogen dioxide for 2005 and beyond. These areas included one area adjacent to the M6 motorway between junction 18 and 19 whilst the other three areas were within Congleton Town itself; in totality this equated to the inclusion of approximately 160 residential properties.

4.2 Further Assessment 2006

Following Further Assessment work and consultation with Defra, the number of Air Quality Management Areas has been reduced to three and within these three; two have had boundary amendments resulting in the removal of approximately 130 residential properties. New AQMA Orders were subsequently issued.

- Air Quality Management Area- M6 Motorway Cranage

That the AQMA continue to include both The Haven and New Farm as relevant locations.

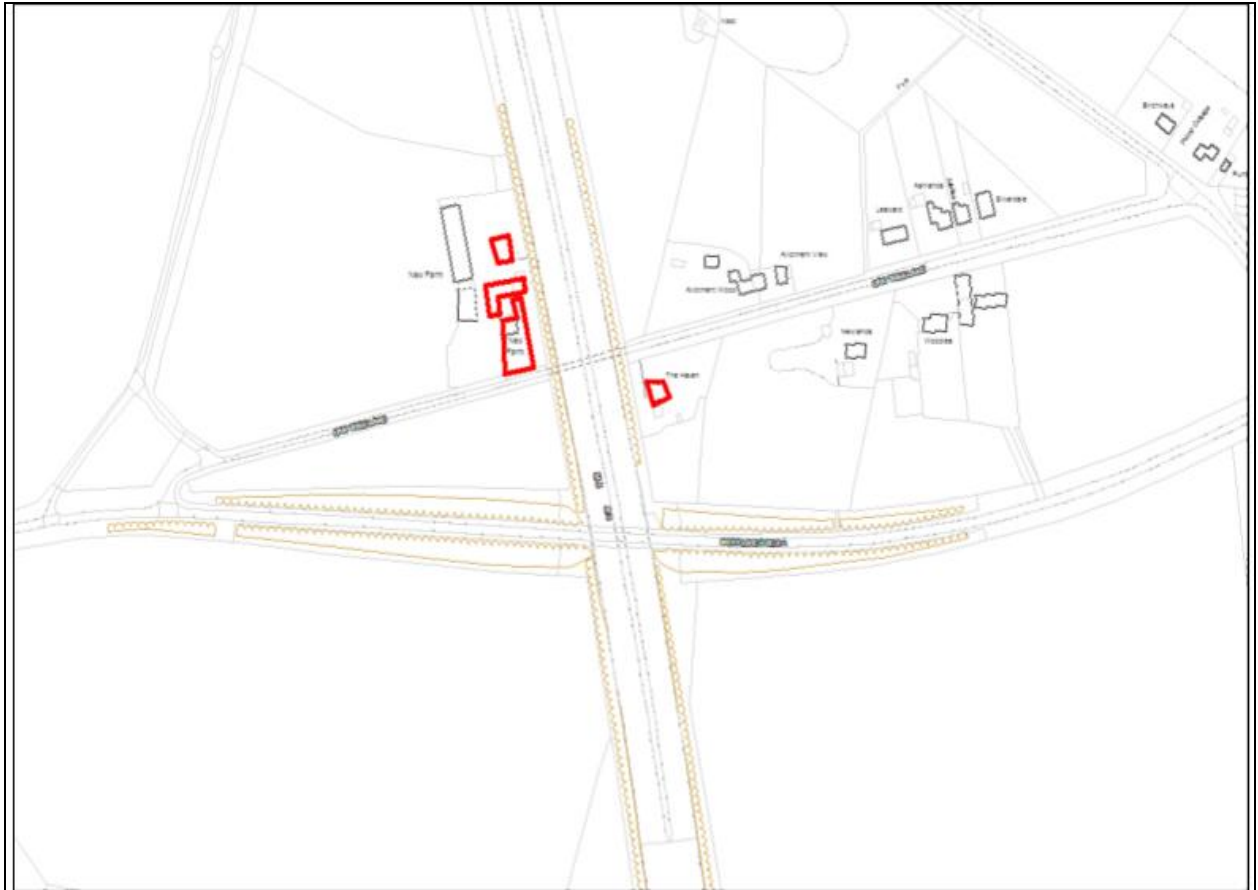


Figure 2 Air Quality Management Area- Cranage

- Air Quality Management Area- West Road, Congleton

That the boundary be amended to reflect the results of the modelling and ongoing monitoring and that the AQMA include only those properties where the nitrogen dioxide standard is/or is likely to be breached.

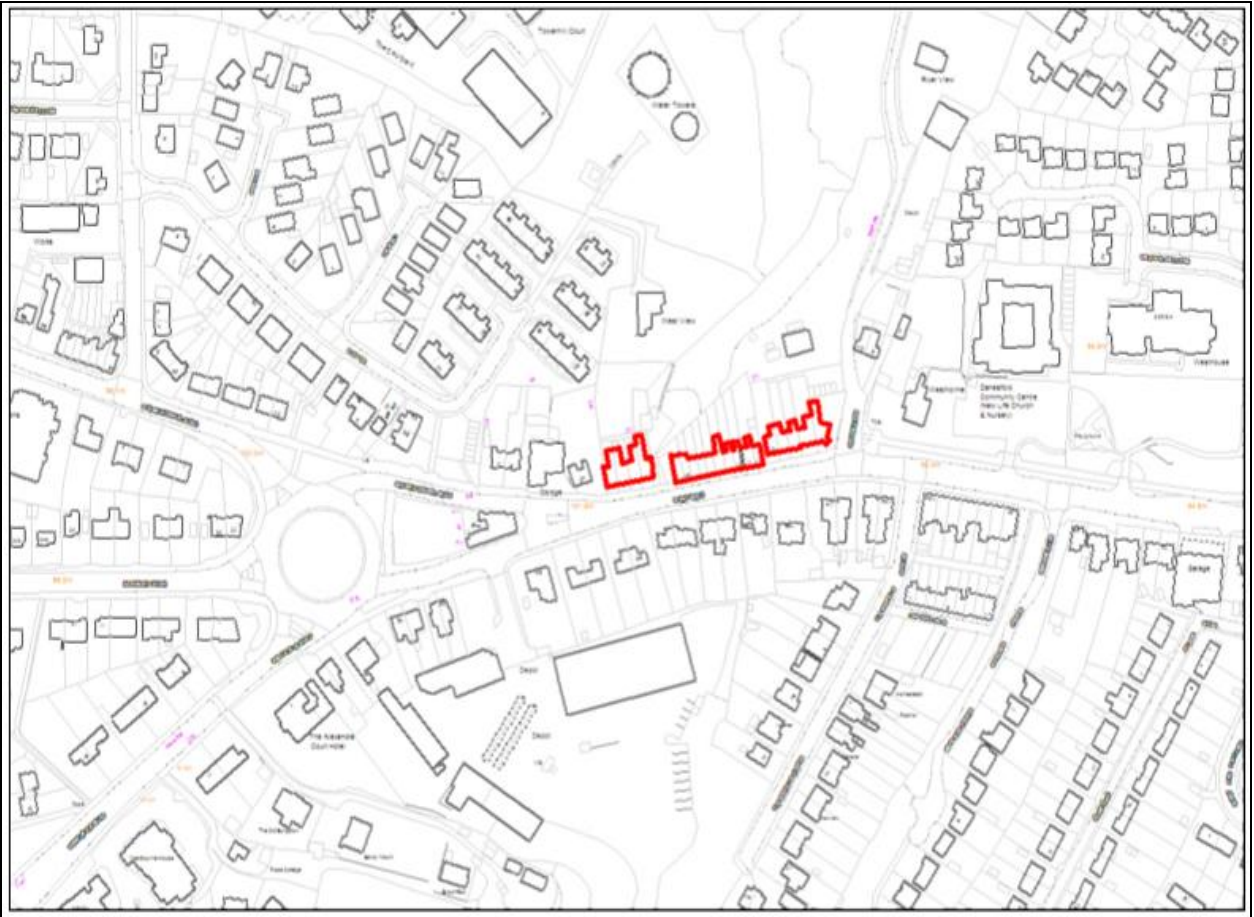


Figure 3 Air Quality Management Area- West Road, Congleton

- Air Quality Management Area- The Woodlands, Congleton

That this Area be revoked in its entirety

- Air Quality Management Area - A34/A54, Congleton

That the boundary be amended to reflect the results of the modelling and ongoing monitoring and that the AQMA include only those properties where the nitrogen dioxide standard is/ or is likely to be breached.

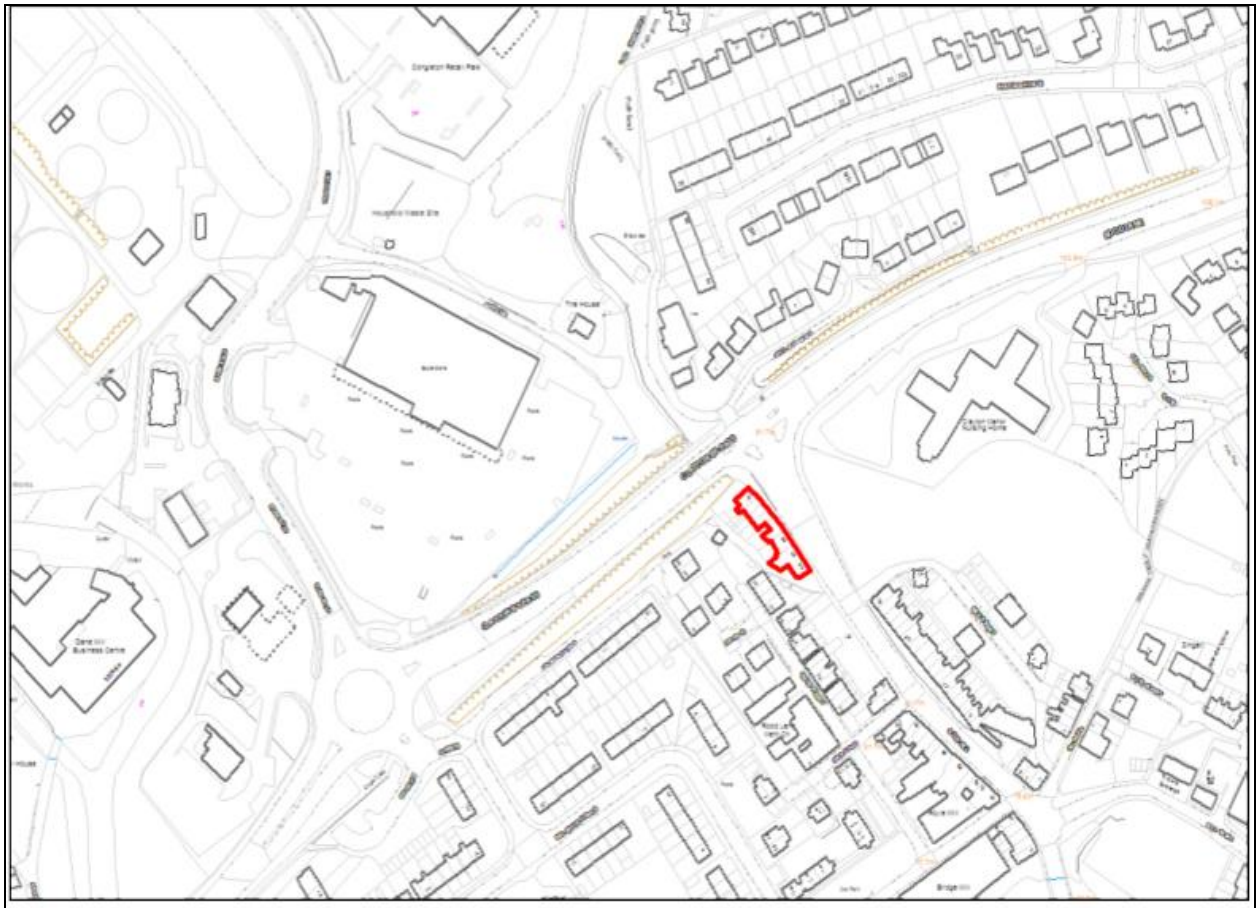


Figure 4 Air Quality Management Area- A34/A54 Congleton

4.3 Update and Screening Assessment 2006 Detailed Assessment 2006

An Air Quality Management Area was declared during December 2006 for a stretch of the A534 at Hospital Street, Nantwich. In totality this equated to the inclusion of approximately 38 residential properties.

4.4 Further Assessment 2007

The further review confirmed that the original assessment resulting in the AQMA was correct. The area is detailed in Figure 5.

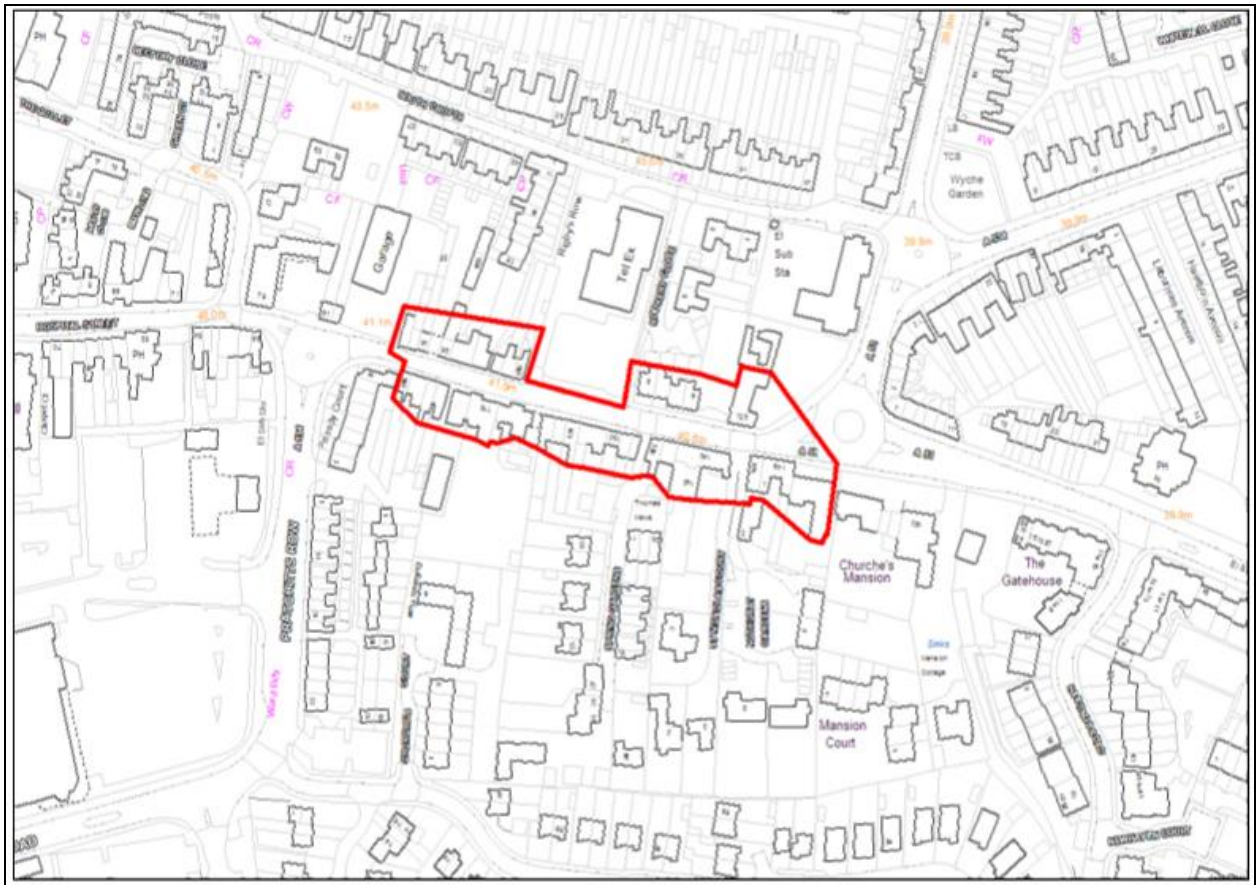


Figure 5 Air Quality Management Area- A534 Hospital Street, Nantwich

4.5 Update and Screening Assessment 2006 Detailed Assessment 2007

Two further Air Quality Management Areas were declared in April 2008. These areas were declared due to the likely exceedence of the annual mean concentration for nitrogen dioxide for 2010 and beyond. The two areas include an area within Congleton Town itself whilst the other area incorporates a number of properties along the A5022/A534, Sandbach. In total this equated to the inclusion of approximately 24 residential properties.

4.6 Further Assessment 2009/ 2010

The Further Assessment concluded that the AQMA's declared should be maintained. The areas are detailed in Figures 6 +7.

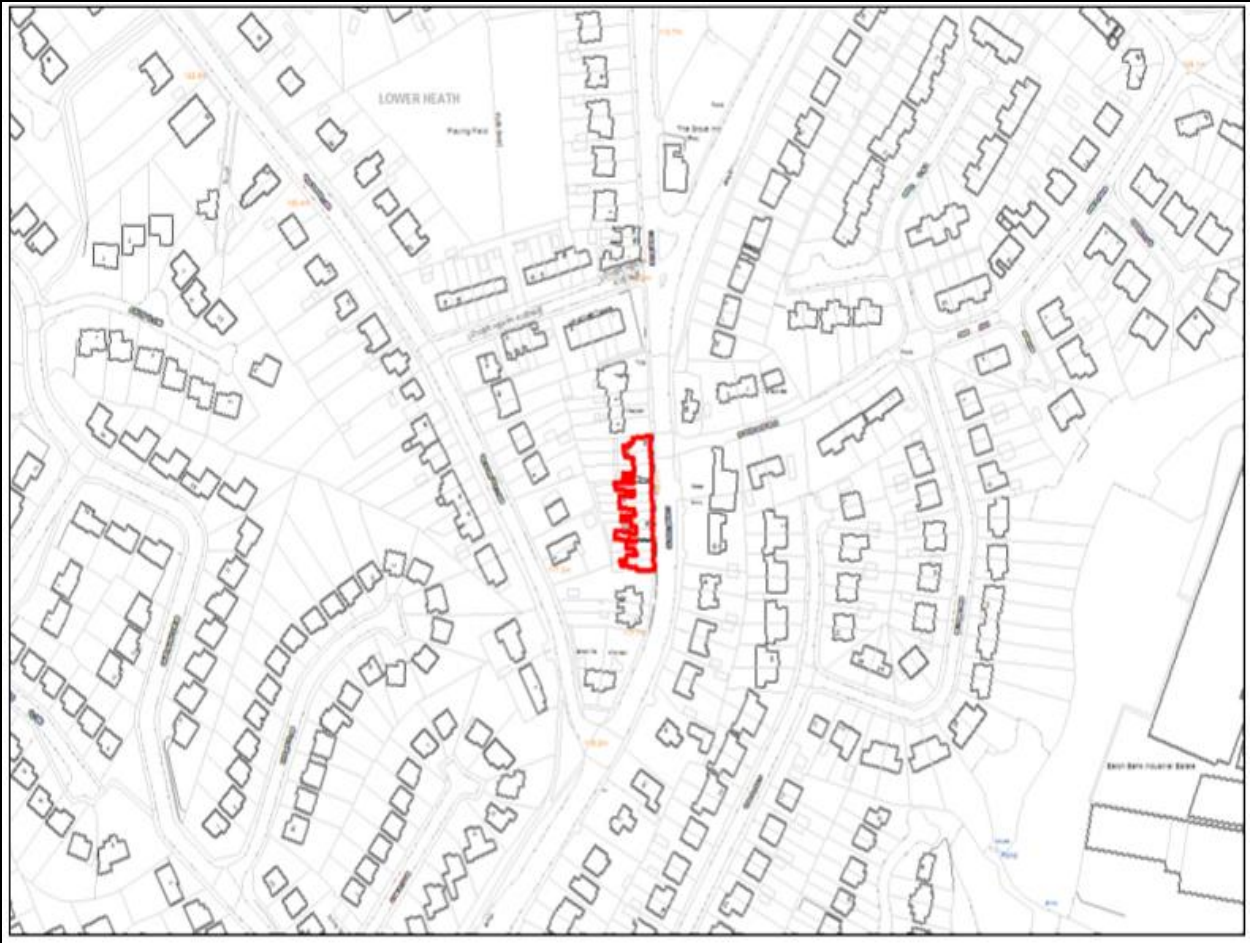


Figure 6 Air Quality Management Area- A34 Lower Heath, Congleton

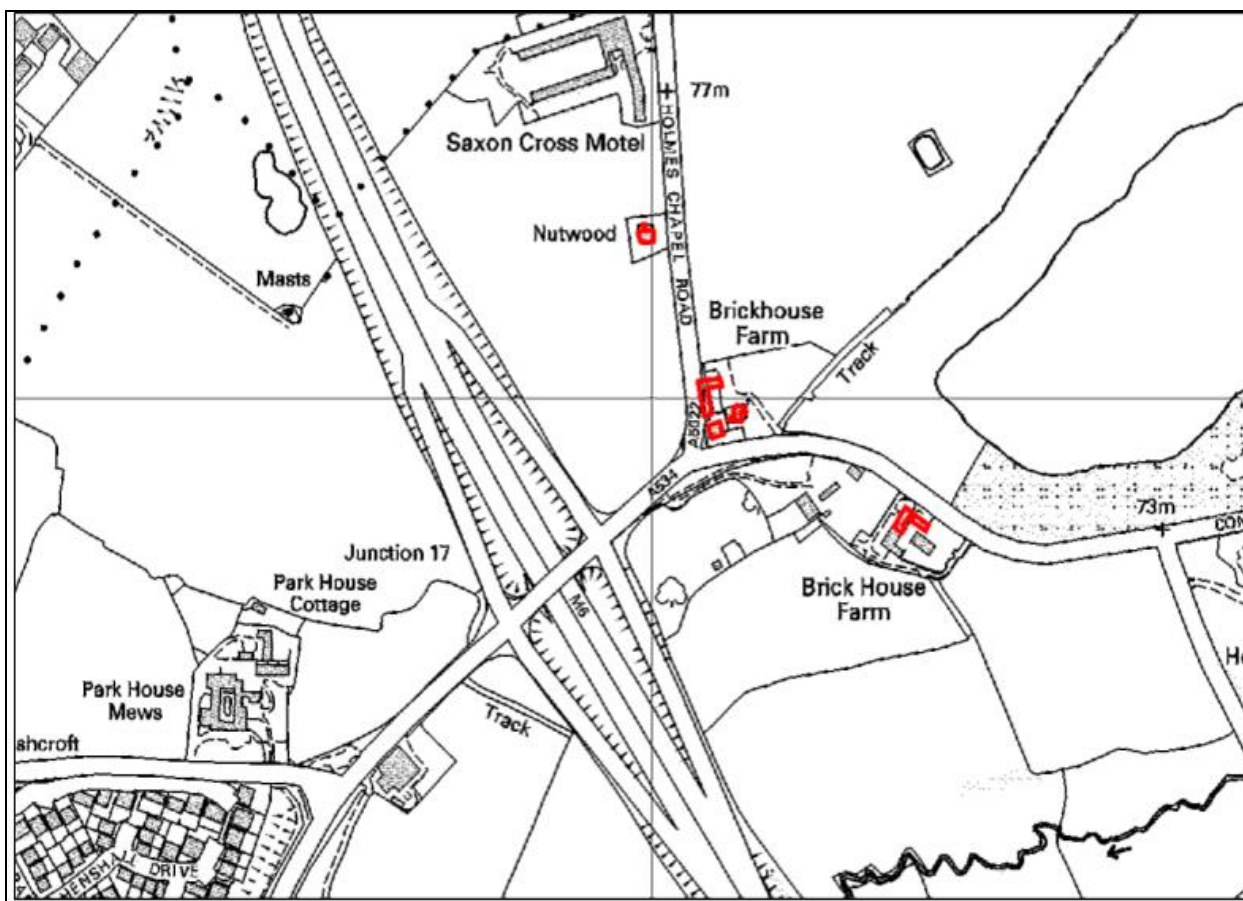


Figure 7 Air Quality Management Area- A5022/A534, Sandbach

4.7 Update and Screening Assessment 2006

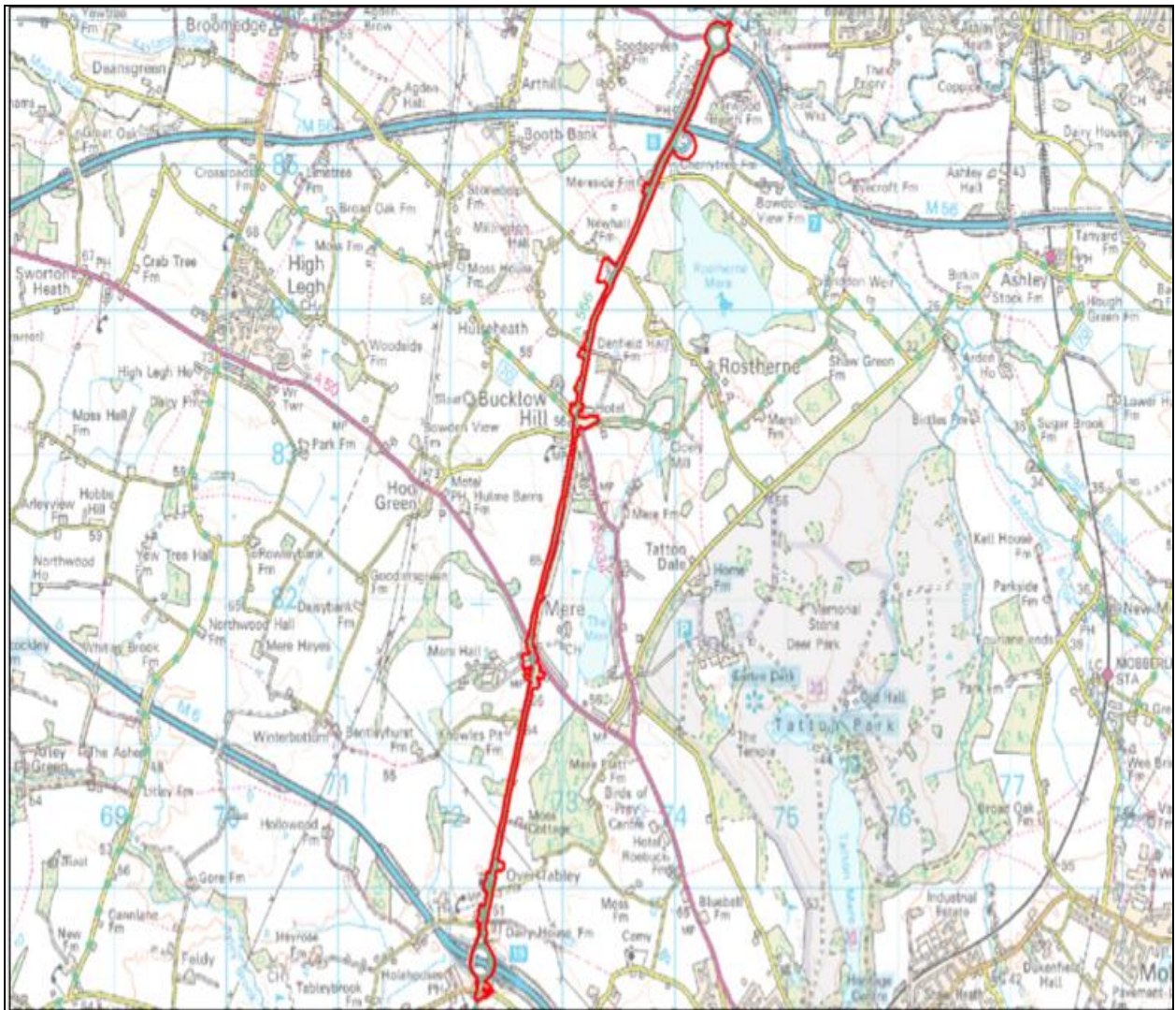
Detailed Assessment 2007

A further Air Quality Management Area was declared during May 2008 for a stretch of the A556, Chester Road, Mere. Monitoring data showed levels of nitrogen dioxide at sensitive receptors in excess of the air quality objective. This equated to the inclusion of approximately 80 residential properties.

4.8 Further Assessment 2009

A further review confirmed that the original assessment resulting in the AQMA was correct. The area is detailed in Figure 8.

Figure 8 Air Quality Management Area- A556, Mere



5.0 Policy Context and Existing Strategies

There are a number of related plans and strategies at the local and national level that can be tied in directly with the aims of the AQAP, and will help to contribute to overall improvements in air quality across the authority's area. This chapter sets out the main links between these strategies and the AQAP.

5.1 The 2007 National Air Quality Strategy

The DEFRA Air Quality Strategy introduced new objectives and policy measures including:

- Early uptake of new tighter European vehicle emission standards (Euro standards)
- Incentives for cleaner vehicles
- Further reductions from emissions from ships.

The following measures are considered as requiring additional development work:

- A national road pricing scheme
- Low emission zone
- Retrofitting of particulate filters to HGV's
- Reducing emissions from small combustion plants.

5.2 Local Objectives

It is important that national policy is adequately reflected in local policy and the decision-making process; this includes not just air quality issues but the wide-ranging central government priorities. This approach ensures that the necessary action to achieve overall policy is identified and implemented, that resources are allocated and that performance can be managed as an ongoing process to ensure that overall targets are met. For Local Air Quality Management these targets and achievements are aimed at improving local air quality itself.

The link between air quality and transportation has received a great deal of scrutiny since the development of the Local Transport Plan for Cheshire and its identification of major schemes for the period 2006-2011. Residents of the borough are eager to admit to the

traffic problems within their areas and the impact of through traffic in particular to Manchester, Stoke-on-Trent, Derbyshire, Whitchurch and the west; particularly the number of vehicles that utilise these routes. It is therefore seen by residents as high on the agenda to identify options which will be seen to have an improvement both in terms of air quality and transportation.

Similarly, the M6 Motorway and A556 usage are well documented and schemes to improve these routes have been under discussion for many years. More information on this is contained within Section 5.11.

5.3 Local Interest

For those residents affected by the declaration of Air Quality Management Areas there have been consistent requests to verify data and confirm the findings of the original Detailed Assessments with additional monitoring and reporting.

Elsewhere within the Borough there have been increased requests for air quality data and further calls for additional monitoring to be undertaken.

Given the high profile that Air Quality has within the Borough it is not surprising that this theme recurs within a variety of local policy and strategy documents.

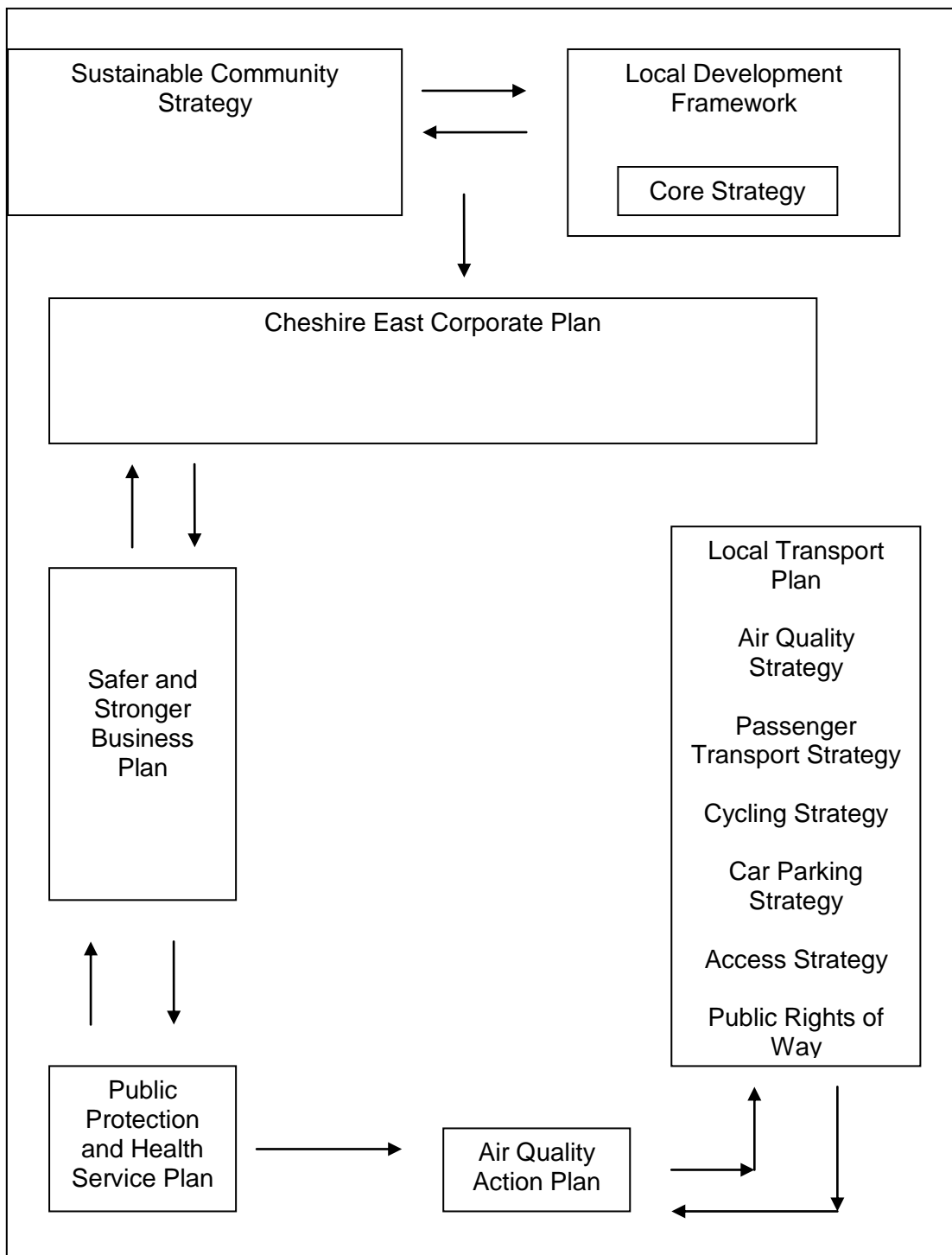


Figure 9 Summary of Local Policy and Strategy Documents linked to Air Quality Management

5.4 Sustainable Community Strategy

The current Cheshire East Sustainable Community Strategy “Ambition for All” was published in August 2010. The document has three components:

- Cheshire East in 2010 which describes the current reality for Cheshire East and highlights some of the key strengths of the area and also some of the key challenges which must be addressed if the vision for Cheshire East is to be achieved.
- Cheshire East in 2025 provides a long-term vision for the area in 2025. This section focuses on the outcomes that are to be achieved; what the area could/ would be like if all pull together to make sure that Cheshire East has continued prosperity.
- Priorities for action which includes an overview of the priorities and activities that will contribute to the achievement of the long-term vision including some of the key actions that we are committed to delivering over the next 15 years.

Protecting and enhancing the environment is one of the major themes of the vision for 2025. This includes aspirations to:

- Have a lower than average impact on the environment, for an area of population by reducing emissions to a sustainable level.
- Through the use of technology and better planning making it easier for people to live, work and shop within walking or cycling distance of where they live. Investment will be made in the walking and cycling network, so that active travel becomes an attractive option for many shorter journeys.
- Make progress in improving access to our major towns and facilities by public transport.
- Being less reliant on oil and gas for our energy and make a step change in local production of energy from renewable sources.

Ensuring a Sustainable Future and Driving out the Sources of Poor Health are two of the seven priorities for action. Actions will include:

- Develop a charter promoting environmentally sustainable behaviour addressing transport, energy and resource use

- Plan for an economy where people need to travel less and can travel by bicycle or walking for many short journeys by ensuring all major developments are located with good access to local amenities, cycling and walking routes
- Encourage major employers and place conditions on new developments to have travel plans
- Invest in 'green infrastructure' to encourage active and healthy lifestyle choices

The Strategy has been co-ordinated by Partnerships for Action in Cheshire East (PACE) which has been supported by five thematic partnerships and seven geographical partnerships (the Local Area Partnerships). Local Area Partnerships (LAP's) bring together key agencies within localities to ensure engagement with communities, provide empowerment opportunities and improve service delivery through the development of robust evidence based Area Delivery Plans.

Thematic Groups	
Crime and Disorder Partnerships	Children's Trust
Health and Well Being	Environment and Sustainability
Learning, Skills and Economic Development	

In terms of priority, in 5 out of the 7 Local Area Partnerships, traffic congestion, which is strongly linked to poor air quality, appears in the top 3 issues of concern for residents.

To find out details of membership for any of the LSP groups then contact 01270 686632.

5.5 Corporate Strategy

The Borough Council produced its Corporate Strategy in 2010. The aim of the Corporate Strategy is to set out what we will do over the next three years. It identifies our contribution to the wider Sustainable Community Strategy, and makes clear what our priorities are. It also identified the resources required in the delivery of the strategy itself.

The overall vision of the strategy is that through partnership working 'Cheshire East be a great place to live, work, visit and enjoy'. In pursuit of this vision the following objectives have been adopted;

- To give the people of Cheshire East more choice and control around services and resources.
- To grow and develop a sustainable Cheshire East.
- To improve life opportunities and health for everybody in Cheshire East.
- To enhance the Cheshire East environment.
- To be an excellent council and work with others- to deliver for Cheshire East.

Local Air Quality Management is completed under the priority area of 'enhancing the Cheshire East environment' although it is captured in more detail in other strategic documents.

5.6 Local Transport Plan

The draft Local Transport Plan (LTP) for Cheshire East is a large and detailed document which sets out the boroughs proposed objectives, strategy and delivery programme for taking forward the transport priorities of the borough between 2011 and 2026. In addition the LTP responds directly to the national shared objectives for transport as identified by central government (DASTS Goals – Delivering a Sustainable Transport System). These include;

1. (Congestion) Minimise congestion and improve the overall efficiency of the highway network
2. (Accessibility) Improve accessibility to key services and reduce the need to travel
3. (Maintenance) Improve maintenance of the highway and transport network
4. (Community) Support community involvement and decision-making
5. (Health) Support active and healthy lifestyles
6. (Environment) Protect and enhance the local and global environment
7. (Safety) Improve road safety for all users and increase personal and community safety

The LTP responds to a wide range of issues. Transport is not an end in itself but has a wider context and is a key factor in helping improve our quality of life, increase accessibility, develop the economy, improve the environment and tackle poverty. Given these factors the LTP is using priorities outlined in the Sustainable Communities Strategy as areas for action:

1. Nurture Strong Communities
2. Create conditions for business growth
3. Unlock the potential of our towns
4. Support our children and young people
5. Ensure a sustainable future
6. Prepare for an increasingly older population
7. Drive out the sources of poor health

The LTP is using these priorities as the foundation of its chapter structure and explores how transport can support these wider aims.

Public Protection and Health were quick to embark on consultation with Highways as part of the LTP process. From our perspective this working relationship has proved highly beneficial in the development of this Action Plan. Given that our air quality problems stem directly from transportation sources then we are highly dependent upon our colleagues in Highways for help and support and early comment on the LTP allowed us to highlight our problems at a time when plans for transportation in the borough were under review.

As a consequence, section 4 of the document, 'Drive out the Sources of Poor Health' includes how air quality issues will be tackled strategically and outlines some of the issues pertinent to Cheshire East. It includes policy initiatives specific to air quality, including Policy H4 which states 'The Council will work to improve air quality in the borough'. Policy initiatives specific to AQ are set out in more detail in the LTP.

5.7 Local Development Framework and Core Strategy

The Council is currently producing its Local Development Framework, which is made up of a number of documents that combine to form the Spatial Development Plan within which planning decisions are made. The objective of the new Local Development Framework system is to achieve sustainable development through a 'spatial planning' approach. Spatial Planning is about an integrated strategy for the future of an area. The Core Strategy is the central part of the Local Development Framework and sets out the vision, strategic objectives and overall spatial strategy. It will set out the strategic framework with which all the other Local Development Framework documents will have to conform.

The Core Strategy identifies the overarching objectives for spatial planning in Cheshire East. It will be used by everyone who wants to see how the Borough will change and what new development will be planned for and managed over the next 15 to 20 years.

New development has the potential to increase emissions which could impact on Local Air Quality either as a direct result of the development itself, or as a result of transport related to the development.

It is intended through the Local Development Framework to develop Strategies aimed at reducing emissions related to new development including transport emissions.

5.8 Local Air Quality Strategy

Cheshire East Council has developed a Local Air Quality Strategy which intends to outline high level, broad commitments across the Council aimed at improving Air Quality. Delivering improvements to local air quality requires input from a wide range of Council Services. The Local Air Quality Strategy identifies commitments intended to promote communication and co-operation within Cheshire East Council, between external organisations, stakeholders and the community.

Coordination of Council Activities is seen as a high priority to ensure that air quality is a consideration for all relevant services. In addition, an integrated strategic approach will ensure that potential conflicting policies are identified and given adequate consideration. The Strategy is aligned to the Local transport Plan and will help to ensure that complimentary initiatives identified with the Air Quality Action Plan, Climate Change Action Plan and Local Transport Plan are delivered in a coordinated way.

5.9 Safer Stronger Communities

The Safer and Stronger Business Plan identifies key work areas across the service that link directly into Corporate Plans. The plan contains priority activities and achievement deadlines and is reported on a quarterly basis to Cabinet.

In relation to Local Air Quality Management the following target is set for the period 2010-2013:

Improve the public realm and promote environmental sustainability

- Produce an Air Quality Strategy and associated Action Plans building on current innovation to tackle vehicle emissions.

5.10 Public Protection and Health Service Plan

The Public Protection and Health Service Plan adds to the flesh and bones of our other more strategic documents. The Service Plan identifies all of the activities that need to be completed to meet the Council's requirements under Local Air Quality Management but also identifies other public protection and health functions that have direct and indirect impacts on air quality for the Borough. This includes our responsibilities under statutory nuisance, the permitting of processes under the Environmental Permitting Regulations and other more general areas such as education and website development.

Specifically Local Air Quality Management has been given the following targets for 2010-2011 although there remains a constant review of this work dependent upon changes to air quality information and in line with deadlines set within guidance and legislation.

Target	Progress
<ul style="list-style-type: none"> ▪ Does Cheshire East have an Air Quality Action Plan, which covers all AQMA's 	Completed
<ul style="list-style-type: none"> ▪ Are actions within the Cheshire East Action Plan being implemented in line with recommended timescales 	Ongoing
<ul style="list-style-type: none"> ▪ Has a Progress Report including the Action Plan Progress Report been completed and submitted to Defra 	Completed
<ul style="list-style-type: none"> ▪ Has Cheshire East developed an Air Quality Strategy in conjunction with LTP3 	Completed
<ul style="list-style-type: none"> ▪ Have the detailed assessments of possible new AQMA's been completed for those sites identified as part of the USA 2009 	Ongoing
<ul style="list-style-type: none"> ▪ Has a review of all air quality monitoring sites been undertaken and any recommendations implemented 	Completed

Table 2 Local Air Quality Management targets within The Public Protection and Health Service Plan.

5.11 Highways Agency Strategy

The Highways Agency (HA) is the network operator for England's network of trunk roads, including motorways. Whilst this network represents only a small proportion of the national road system it has far greater significance in terms of the extent to which it is used. Over 30% of all traffic is carried on the HA network and the proportion of HGV traffic that is carried on the HA network is nearer 70% (by vehicle miles). Carrying such large volumes of traffic means that in areas near to busy trunk roads, air quality is likely to be significantly influenced by vehicle emissions.

Identified as a statutory consultee through the Environment Act 1995 the HA is committed to working in partnership with local authorities towards the delivery of the Air Quality Strategy. As a consequence the HA laid down in their document 'The Role of the Highways Agency in Local Air Quality Management' their main aims to help this delivery:

- To introduce the HA and set out the processes and contacts through which the HA can be engaged in the LAQM activity;

- To describe how the HA can work in partnership with local authorities to deliver the Air Quality Strategy; and
- To indicate how emissions or concentrations can be affected by proposals.

In addition to this the Highways Agency has an overall aim;

Safe roads, Reliable Journeys, Informed Travellers

Further the HA have five key goals:

1. To provide a service that our customers can trust
2. Set the standard for delivery
3. Deliver sustainable solutions
4. Ensure the roads are the safest in the world
5. That the network is a dynamic and resilient asset

From a local perspective, Cheshire East Council has been working with the Highways Agency to discuss options available to us and relative to our Air Quality Management Areas between Junctions 18 and 19 of the M6 motorway, at Junction 17 of the M6 motorway and along the A556 at Mere.

Work has included additional monitoring of our problem areas, face to face meetings and the exchange of measures that the HA have taken time to research and which may be appropriate to our areas.

This work has allowed us to produce the information contained within Tables 11, 20 and 22.

In addition to this and during the development period of the Action Plan discussions relating to capacity building on the M6 between Junction 11a and 19 have been ongoing.

Prior to 2008, proposals to widen the M6 between Junction 11a and 19 were being considered. This followed earlier consideration between 2004 and 2006 of an M6 tolled Expressway. More recently a 2008 study extended down to Junction 10a considered the potential of a managed motorway alternative to widening.

In January 2009 the Secretary of State for Transport announced a managed motorway strategy and identified a number of projects that would be progressed over the next few years. Whilst M6 Junction 10a-13 was announced as a scheme that would commence

construction by 2015, the remainder from Junctions 13 to 19 forms part of a longer-term strategy that is not expected to commence construction before 2015.

The previous M6 Junction 11a to 19 widening scheme has now been abandoned. The January 2009 Secretary of State announcement did not provide detailed timescales for delivering any schemes, which are expected to be confirmed in due course.

In addition to the above, the Highways Agency launched a public consultation on a proposed A556 Knutsford to Bowdon improvement programme which incorporates the AQMA at Mere. A number of options have been under consideration for the supplementary public consultation in 2009. Whilst no change has been required to the line of the route to the north of Mere Hall, two alternative route options (an on-line Blue option and an off-line Red option) were identified and these, along with the previous proposal referred to as the 'Brown' option were taken forward to supplementary public consultation.

Following public consultation, the Secretary of State announced the preferred route in March 2010 and confirmed the route incorporating the Red Option for the southern section was the preferred route as shown in Figure 10.



Figure 10 Preferred routes for A556 Bypass

Following the completion of statutory processes, it is planned to start construction by 2015.

The outcome of this work and the decisions that are made will of course have implications for Cheshire East Council although these will need to be addressed as they arise and as necessary within the Local Air Quality Management framework.

5.12 Neighbouring Authorities

Cheshire East has developed sound working relationships with neighbouring authorities as part of its air quality work. This includes direct links to both the Merseyside and Staffordshire Air Quality Forums alongside working with Cheshire West and Chester.

The aim of these groups is to work together to help achieve both short term and long-term air quality goals through regular meetings and information exchange. In some instances this can relate to sharing problems and enquiries, to providing information for air quality reports or, as the case with the Merseyside group to help develop a Low Emission Strategy.

6.0 Other Related Projects

6.1 Cheshire East Carbon Management Plan

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

Cheshire East Council is working with the Carbon Trust to produce a 5 year strategy for reducing its CO₂ emissions. The Carbon Management Plan will review all activities across the authority to identify reductions in CO₂ from its buildings, transport and the services it provides. This plan will be completed in April 2011, but it is likely to contain initiatives aligned to energy and resource efficiency within building and transport as well as reducing the need to travel. Effective carbon management in these areas will also provide additional beneficial reductions in associated emissions of NO₂ both locally and nationally via reduced electricity consumption.

6.2 Climate Change (Mitigation and Adaptation) Strategy

As part of its leadership role, Cheshire East will be producing a Climate Change Strategy that encompasses both mitigating and adapting to climate change. This strategy will set out objectives for reducing CO₂ emissions from business, households and other organisations as well as how these sectors can adapt to the effect of unavoidable climate change.

7.0 Taking this Forward to Action Planning

The primary aim of an Action Plan is to identify and implement mitigation measures that will have a positive effect on air pollutant concentrations within an Air Quality Management Area. Although a local authority is not legally bound to achieve the Air Quality Standard and Objective for a specific pollutant their Plan must demonstrate a robust approach in pursuit of this goal.

In order to achieve this, there are a number of issues that need to be considered to ensure the correct focus is identified at the outset of the Plan development and maintained through its lifespan. These include;

1. What is the source(s) of the pollutant for which the Air Quality Management Area has been declared? Are there any additional considerations that need to be considered?
2. If there is more than one potential source can its contribution to the problem be quantified in any way?
3. How much of an improvement is required to achieve the Air Quality Standard and Objective for the pollutant?
4. Who are our potential partners and stakeholders who can help with the development and implementation of the Action Plan?
5. What information and guidance is available to us to help develop the Cheshire East Action Plan?
6. What Actions do we need to consider, what are the costs associated with those actions and what benefits to air quality can they reasonably achieve?

7.1 Pollutant Source

In each of the Air Quality Management Areas the pollutant source has been identified as transportation based i.e. vehicle emissions. In addition matters have further been compounded by the proximity of residential properties close to heavily trafficked roads.

In the case of AQMA's on West Road, Rood Hill, Lower Heath- Congleton town and Hospital Street, Nantwich, there are a number of terraced properties that open directly on to the pavement and in some cases provide a separation distance from the kerb of less than 1.5 meters.

The AQMA at J18 of the M6 at Cranage has a significantly larger separation distance of 20 meters from the edge of the carriageway, but the carriageway in question is the southbound M6 with a daily flow of 125,900 vehicles and a prevailing south-westerly wind direction.

The AQMA at the A5022/A534, Sandbach has a separation distance of 12- 15m between properties and the edge of the road. The area however experiences queuing traffic as a result of both vehicle numbers and the motorway access and exit slip roads in close proximity.

In the case of the AQMA at Mere, there are a number of properties, which are in close proximity to the A556 and provide a separation distance from the kerb ranging between 3 and 15 meters. The carriageway in question is the A556 with a daily flow of 40,000 vehicles at the Southern stretch rising to 56,000 vehicles in the North with a prevailing south- westerly wind direction.

Further Assessment reports have looked more closely at the issue of transportation impacts and calculated source apportionment between LDV's and HGV's. Further Assessment Reports referenced in Appendix 1 provide more detail on how figures were calculated but in summary it has been found that;

Air Quality Management Areas- Cranage, West Road and Rood Hill

The highest contribution to NO_x concentrations is clearly that from the adjacent main roads themselves. Using the Airviro emissions database search facility the emissions of individual elements of the database can be calculated. Of the emissions from the A34 Corridor (West Road and Rood Hill), HGV's emit 9.3 tonnes NO_x per year and light vehicles emit 11.7 tonnes per year. On the M6 between junctions 18 and 19 light vehicles emit 292 tonnes NO_x per year compared with 929 tonnes per year for heavy goods vehicles.

Air Quality Management Area- Hospital Street

Vehicle emission factors applied to the 2006 annual average daily flow of vehicles on the A534 Hospital Street indicate that the majority of NO_x is emitted from light duty vehicles (91%).

Air Quality Management Area- A34 Lower Heath, Congleton

NO_x emission factors for vehicles on the A34 Lower Heath Road suggest that 57% of road NO_x emissions may be attributed to LDVs while 43% may be attributed to HDVs.

Air Quality Management Area- A5022/A534, Sandbach

Single (A534 and A5022) and multi-source (combination of A534 and A5022) emission factors produced by the tool kit showed that within the AQMA, an average 59% of road vehicle NO_x emissions may be attributed to LDVs while an average 41% may be attributed to HDVs.

Air Quality Management Area- A556 Chester Road, Mere

Source apportionment analysis identified that HGV's contribute between 9%-10% of the traffic; however their overall contribution to NO₂ is 30.2%, and therefore the main source contributing to the pollution.

Priority for Action Plan Development
Although Action Plan work should look at a variety of sources and mitigation measures, a significant emphasis needs to be placed on transportation/vehicular measures that can directly and indirectly impact on nitrogen dioxide concentrations. Where possible consideration should be given to both LDV and HGV contributions.

7.2 Required Air Pollutant Reductions

Further Assessment work included the calculation of the required air pollutant reductions in pursuit of the Air Quality Standard and Objective. The results of this work are summarised below.

The table 3 details the required improvement for NO_x the worst-case scenario receptor points in order to achieve the air quality standard of 40µg/m³ for nitrogen dioxide.

Receptor Point	Required Reduction in NO_x (µg/m³)
The Haven, Cranage (M6)	73.5
West Road + Rood Hill, Congleton (A34 Corridor)	38.2
J17	17
Lower Heath, Congleton	82
Hospital Street, Nantwich	66.7
A556, Mere	17

Table 3 Required Reduction in NO_x

Priority for Action Plan Development
That the required reductions in pollutant concentrations be considered as part of any mitigation measures to determine the ultimate impact that they will have assessed against their potential cost to implement and maintain.

7.3 Stakeholder Involvement

The Cheshire East AQAP is intended to be an evolving plan that will further develop in time and, as a result, will be subject to ongoing consultation. Effective action plans require consensus and co-operation of as many stakeholders as possible, such as local communities and business organisations, as well as those bodies responsible for implementing solutions. Any action requires backing and support of stakeholders who need to take 'ownership' of the action planning process and feel part of the overall decision making process.

The measures included within the plan have been drawn up following extensive participatory consultation with Council departments, Cheshire East Members, local residents, Town and Parish Councils, local community groups and key stakeholders.

The Public Protection and Health Department has historically worked closely with the Planning and Highways Departments, local residents and stakeholder groups during the production of local planning policies, in particular LTP2 and the LDF. The Action Plan has built also on this historical consultation.

Internal consultation was carried out through:

- Regular meetings between Environmental Protection Officers and the Strategic Highways and Transportation team
- Meetings between the Environmental Protection team and representatives of relevant departments of the Council (for example Development Control, Spatial Planning, parking management officers)
- Attending Scrutiny Committee meetings on a number of occasions
- An internal training session on air quality action planning for internal sections of the Council
- The establishment of a working group which met between 2006 and 2008 on a number of occasions
- Meetings to discuss the Cheshire East Staff Travel Plan

External Consultation and engagement was carried out through:

- The production of newsletters posted to residents within a number of AQMA's
- Written communication, face to face meetings and one to one discussions with local residents directly affected by the declaration of AQMA's
- Area forums of local residents
- Local resident focus groups held a number of times between 2005 and 2010
- Presentations to Town and Parish Councils

Maintaining consistent and constructive engagement will be essential to the effective implementation of the action plan over the next few years. During the implementation process key stakeholders and the public will continue to be involved through additional consultation exercises.

Priority for Action Plan Development

Maintain links with stakeholders identified as key players during the development of the Action Plan to ensure that their roles and responsibilities are highlighted and their progress monitored.
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7.4 Options Appraisal and Cost Benefit Analysis

Having identified the pollutant, its source and the required reductions that are required it is then necessary to identify potential options/ mitigation measures that might be effective in reducing concentrations within the designated Air Quality Management Areas.

Further, one of the key features of an Air Quality Action Plan is that the measures it proposes must be cost effective. This suggests that some form of analysis of the costs and benefits is required although a formal 'Cost Benefit Analysis' is not necessarily needed or in fact desirable.

In any area, there are potentially a lot of different measures that could be implemented to improve air quality. An important component of developing an action plan is the comparison of these options against each other to allow selection of the most appropriate measures or combination of measures to achieve the necessary air quality improvements.

Sections 8.0 and 9.0 of this Plan detail the potential options available to Cheshire East Council, the agency responsible for its implementation, possible negative and positive impacts, timescales involved and an estimate of cost versus air quality benefit.

Rank	Cost	Benefit
Low	< £130,000	< 0.2 µg/m ³
Med	£130,000 - £800,000	0.2 – 1 µg/m ³
High	> £800,000	> 1 µg/m ³

Table 4 Cost Benefit Appraisal Criteria

It must be remembered that the bulk of the actions considered within this Plan are due to a desire to maintain a sustainable environment, rather than a need to introduce 'hard edged' remedial measures.

The estimates and costs of actions in the plan should be used only as a guide. The action plan contains a large number of measures, which, when taken together, the Council believes will ensure the air quality objectives are met throughout the Borough. However, to provide anything more than a qualitative estimate of the costs and impacts on air quality of these actions would be meaningless. In addition, many of the actions require the development of new programmes or feasibility studies, such that the actual details of the measures are not known at this stage. Wherever possible, more detailed cost benefit analysis of measures will be undertaken.

7.5 Action Planning Guidance

This document has been prepared following the requirements of the Policy Guidance issued by Defra (LAQM. PG (09)) and the approaches set through the Technical Guidance issued by the National Society for Clean Air (NSCA) 'Air Quality Action Plans: Interim Guidance for Local Authorities' and 'Air Quality: Planning for Action'.

7.6 Determining Appropriate Options

Specific criteria were developed and used to decide what actions would be recommended. These were:

- Improve facilities for environmentally friendly modes of transport and reduce the need for the car.
- Balance costs and benefits.
- Maintain public input and support to position Cheshire East as a good example to others.
- Achieve air quality improvement whilst maintaining economic advantage and exploring wider economic opportunities.
- Avoid adversely affecting health and ideally lead to health benefits.
- Avoid widening inequalities and ideally reduce inequalities.

The Action Plan is based upon the most up to date information on emissions of air pollution available at the time of writing.

8.0 Action Plan Options

The Cheshire East Council Air Quality Action Plan is divided in to 2 distinct sections.

The first section deals with general measures that can be implemented in relation to improving air quality. The majority of these measures are considered 'soft measures' taking in to account work that is already ongoing as well as additional developments that have a positive role to play. It is intended that all of these actions will be taken forward and therefore no specific priority ranking of these options has been undertaken.

The second selection of options are those that have been identified having regard to the Air Quality Management Areas that have been declared and their individual circumstances. A number of options within these areas overlap due to the similarities between areas although the M6 at Cranage, the A5022/A534 and A556, Mere have more specific Highways Agency interventions. These options have been given a priority ranking to ensure that those which offer most potential improvement within the cost benefit framework are taken forward promptly.

Finally Appendix 2 includes details of options that were considered, but determined to be inappropriate for inclusion in the Cheshire East Council Air Quality Action Plan. Details of the considerations within these decisions are also briefly discussed.

Table 5 Air Quality Management - Planned Actions

ID	Action	Positive/Negative	Climate Change Impact	Performance Indicator	Planning Phase	Implementation Phase	Responsibility	Cost V Benefit
AQM1	Co-location of diffusion tubes with real time air quality equipment	+ Produces higher quality data on which to monitor effectiveness of initiatives and base decisions + Increases confidence in monitoring data and quality of monitoring to provide support for modelling work.	No change	Tubes co-located	2006 onwards	2006 Reviewed annually	Public Protection and Health	LOW v LOW
AQM2	Annual review of air quality monitoring sites to ensure their suitability and relevance	+ Provides high quality relevant monitoring network + Provides up to date information on which air quality modelling can be based - Cost - Time and work involved	No change	Complete an annual review	2000 onwards	2000 Reviewed annually	Public Protection and Health	LOW v LOW

ID	Action	Positive/Negative	Climate Change Impact	Performance Indicator	Planning Phase	Implementation Phase	Responsibility	Cost V Benefit
AQM3	Review and assess Cheshire East's air quality in accordance with Government guidance	<ul style="list-style-type: none"> + Demonstrates compliance with statutory requirements + Ensures that areas of poor quality are identified and appropriate action is taken - Resources required place additional pressures on the delivery of other Public Protection and Health initiatives 	No change	Completion and submission of air quality reports to Defra by required timescales	2000 onwards	2000	Public Protection and Health	LOW v LOW
AQM4	Develop and implement an Air Quality Strategy	<ul style="list-style-type: none"> + Ensure all Council functions and services consider Air Quality as part of business planning + Cross cutting policy decisions consider air quality 	+ Links AQ and CC objectives	<ul style="list-style-type: none"> Publication of an Air Quality Strategy Implementation of Strategy commitments 	<ul style="list-style-type: none"> 2010 2011 	<ul style="list-style-type: none"> 2010 / 11 2011-2016 	<ul style="list-style-type: none"> Public Protection and Health Cheshire East Council 	LOW v LOW

ID	Action	Positive/Negative	Climate Change Impact	Performance Indicator	Planning Phase	Implementation Phase	Responsibility	Cost V Benefit
AQM5	Revision to Local Emission Inventory (last completed in 2000)	<ul style="list-style-type: none"> + Better local knowledge of sources + Improved local modelling + Evidence base for other initiatives (such as Low Emission Strategy) - Cost and resources 	No change	Revised Local Emissions Inventory	Q2 2012	Q2 2013	Public Protection and Health	LOW v LOW
AQM6	Continue to enforce legislative requirements that deal with improving air quality	<ul style="list-style-type: none"> + Tackles localised pollution problems / emission points + Regulates industrial emissions through Environmental Permitting 	+ Regulate industrial emissions which will reduce CO ₂ emissions	<ul style="list-style-type: none"> Number of complaints received and formal action taken. Number of regulated processes compliant with permit conditions 	Ongoing	Ongoing	Public Protection and Health	LOW V LOW
AQM7	Regulation of industrial processes in line with Environmental Permitting Programme	- Must have regard to enforcement policy and commercial costs		<ul style="list-style-type: none"> Inspection programme developed each year in accordance with risk assessments 				

ID	Action	Positive/Negative	Climate Change Impact	Performance Indicator	Planning Phase	Implementation Phase	Responsibility	Cost V Benefit
AQM8	Production of Bi-annual newsletter to all process operators	<ul style="list-style-type: none"> + Ensures that operators are aware of forthcoming changes and can respond within necessary timescales + Provides regular information on air quality issues and our ongoing work + Is considered useful by process operators 	No change	<p>Production and dissemination of newsletter monitored by internal performance system</p> <p>Consultation on the newsletter and overall performance completed and reviewed</p>	2008	Annual	Public Protection and Health	LOW v LOW

ID	Action	Positive/Negative	Climate Change Impact	Performance Indicator	Planning Phase	Implementation Phase	Responsibility	Cost V Benefit
AQM9 LTP Policy B1, B3	Continue to work with partner agencies (such as Highways Agency, Police, Environment Agency etc)	<ul style="list-style-type: none"> + Ensures coordination of activities and maximises opportunities + Ensures spread of information + Potential to lead to reduction in flows around key junctions + Reduced congestion on road network + Encourages alternative travel measures to be examined 	No change	<ul style="list-style-type: none"> Identification of site specific initiatives where appropriate 2 Meetings per year with key partners 	Q1 2011	Bi-annual meetings	Public Protection and Health LTP	LOW v LOW
AQM10	To establish and run a CEC Air Quality Steering Group to consider all aspects of the Air Quality Management Programme	<ul style="list-style-type: none"> + Ensures awareness of LAQM across all services + Maximises links between departments + Opportunities for partnership working + prevents duplication 	No change	2 Meetings per year of AQ steering group	Q1 2011	Bi-annual meetings	Public Protection and Health	LOW v LOW

Table 6 Awareness Raising- Planned Actions

ID	Planned Action	Positives /Negatives	Climate Change Impact	Performance Indicator	Planning Phase	Implementation Phase	Responsibility	Cost v Benefit
AR1	To develop stand alone air quality guidance and literature for public and other bodies	<p>+ Increase awareness throughout the community about the links between air quality and health</p> <p>+ Increase awareness throughout the community of individual roles and responsibilities to improving air quality</p> <p>+ Provides guidance to those who influence air quality within the Borough (developers etc)</p> <p>- Resource Implications</p>	+ If includes CC advice	The development of a recognisable air quality brand and literature for Cheshire East	Q1 2011	Q3 2011	Public Protection and Health	<p>LOW v LOW</p> <p>Difficult to measure what the impact of personal behaviour change would be to overall air quality concentrations</p>

ID	Action	Positive/Negative	Climate Change Impact	Performance Indicator	Planning Phase	Implementation Phase	Responsibility	Cost Benefit	V
AR2	To expand the air quality website	<ul style="list-style-type: none"> + Ensures that people can directly access information on air quality + Raises awareness of the issues, and provides information on individual actions to improve air quality - Resources required for set up and ongoing maintenance 	+ Link to Climate Change	<p>Up to date information provided on the website to include monitoring results</p> <p>An improvement in the site as recognised by the annual review completed by Air Quality Bulletin</p>	Q1 2010	Q2 2011	<p>Public Protection and Health</p> <p>ICT Services</p>	LOW v LOW	
AR3	To produce an air quality education pack for delivery in Schools	<ul style="list-style-type: none"> + Raise awareness + influence future behaviour - Difficulty in making an interactive fun package for air quality 	+ If includes Climate Change Info	<p>Provision of a resource pack on air quality that can be used as part of general education</p> <p>The number of events where air quality pack has been used</p>	Q3 2011	Q1 2012	Public Protection and Health / Safer Routes to Schools	LOW v LOW	

ID	Action	Positive/Negative	Climate Change Impact	Performance Indicator	Planning Phase	Implementation Phase	Responsibility	Cost Benefit	V
AR4	To undertake and promote an eco-driving campaign for the Cheshire East workforce and other groups	+ Raise awareness of individual actions to improve air quality + Raise awareness of the links between air quality and climate change	++ Eco-driving reduces CO ₂ emissions	Number of events delivered annually	2010 LTP Implementation Programme	2010-2012 LTP Implementation Programme	Climate Change Department LTP	LOW v LOW	
AR5	Promote driver training to operators to reduce emissions and support procurement of greener fleet	+ Lead by example - Time and resources to deliver - Examine evidence to ensure eco-driving is good for AQ							
AR6 LTP Policy C1	Production of a newsletter to all residents and interested parties within the AQMA	+ Raise awareness of progress in their specific area + Raise awareness of more general activities +Promote links with health - Cost and time	No change	Production of annual newsletter	Q3 2011	Annually thereafter	Public Protection and Health	LOW v LOW	

ID	Action	Positive/Negative	Climate Change Impact	Performance Indicator	Planning Phase	Implementation Phase	Responsibility	Cost Benefit	V
AR7	Consider the introduction of a large scale pro-active public information system such as text messaging service	+ Promote positive health outcomes + Raise awareness - Cost - Justification	No change	Adoption of a scheme or feasibility study outlining why not to go ahead	2014	2014	Public Protection and Health / Public Health	MED v LOW Allows behaviour change based on information	

Table 7 Transport - Planned Actions

ID	Planned Action	Positive/Negative	Climate Change Impact	Performance Indicator	Planning Phase	Implementation Phase	Responsibility	Cost V Benefit
TR1 LTP Policy B7, S2	Travel Planning Support Businesses to reduce carbon emissions from transport and minimise car use	+ Encourages the adoption of more sustainable transport modes + Reduce the need to travel for large employers + Greater patronage of public transport network	++ Reduce CO ₂ emissions	Number of travel plans implemented 10 % Reduction in private car journeys per travel plan 10% Reduction in need to travel by personal car (Cheshire East employees)	LTP Implementation Programme	LTP Implementation Programme	LTP Development Control Corporate HR Strategy Safer Routes to School	LOW V LOW
TR2 LTP Policy Y1, S2	Implementation of School Travel Plans	+ Raises awareness among future generations - Time and resources to monitor implementation - Enforcement difficult if not impossible		All Cheshire East Schools to have an implemented School Travel Plan				

ID	Planned Action	Positive/Negative	Climate Change Impact	Performance Indicator	Planning Phase	Implementation Phase	Responsibility	Cost V Benefit
TR3 LTP Policy B6	Adopt a consistent and structured approach to parking supply, management and tariffs, seeking to balance issues of sustainability, quality of life and economic vitality	+ Use of prices and parking regulation to deter private car use + Offers opportunity for car parking to be self financing + Managed parking to reduce town centre congestion - Public Response to charging	No change	Implementation of a car parking strategy	LTP Implementation Programme	LTP Implementation Programme	Head of Safer and Stronger Communities	LOW-MED V LOW
TR4 LTP Policy C3	Review current concessionary travel criteria to ensure it offers value for money and supports broader policy objectives. Additional discretionary elements to consider will include introduction of companion bus passes and/or taxi vouchers.	+ Promotes the use of and increases accessibility of public transport + Discourages the use of the motor car + Socially inclusive + Tackles congestion - Cost	+ Encourage modal shift	Annual number of concessionary fairs issued Introduction of new discretionary elements	LTP Implementation Programme	LTP Implementation Programme	LTP	MED V LOW

ID	Planned Action	Positive/Negative	Climate Change Impact	Performance Indicator	Planning Phase	Implementation Phase	Responsibility	Cost V Benefit
TR5 LTP Policy S3, S4, S5	Improved public transport (Bus, Rail and Community Transport) accessibility, facilities, service levels and reliability	<ul style="list-style-type: none"> + Increased patronage + Enable public transport to be available to everyone. + Reduces congestion + Improves inter modal links on public transport network + Improves links between key towns - Cost 	+ Encourage modal shift	Implementation of Passenger Transport Strategy	LTP Implementation Programme	LTP Implementation Programme	LTP	HIGH v MED

ID	Planned Action	Positive/Negative	Climate Change Impact	Performance Indicator	Planning Phase	Implementation Phase	Responsibility	Cost V Benefit
TR6 LTP Policy S7, S8, H2, H3	Active Transport Modes – Strategies (Cycling and Walking)	<ul style="list-style-type: none"> + Encourages no-carbon transport modes, reducing car usage + Supports people wishing to walk / cycle +Supports and provides options for travel plans - Most use of cycle / walking paths in Cheshire is for recreation - Cost 	+ Encourage modal shift	Rights of Way Improvement Plan 2011-2026	Rights of Way Improvement Plan	Rights of Way Implementation Plan 2011-2015	PROW (Public Rights of Way)	HIGH v LOW

ID	Planned Action	Positive/Negative	Climate Change Impact	Performance Indicator	Planning Phase	Implementation Phase	Responsibility	Cost V Benefit
TR7	To work with partners to undertake vehicle emission testing schemes	<ul style="list-style-type: none"> + Reduces emissions by encouraging drivers to ensure that their vehicles are correctly maintained + Could be self financing if fixed penalty notices are issued + Public Perception - Resources involved in setting up and maintaining a scheme - Enforcement Issues 	+ Reduce emissions from older vehicles	<p>A review of local authority experiences is completed and a report on the applicability of such a scheme is produced</p> <p>A decision made as to whether such a scheme is appropriate to CEC</p>	Q1 2012 and annually thereafter	Q3 2011	<p>Public Protection and Health</p> <p>VOSA</p> <p>Police</p>	LOW V LOW

ID	Planned Action	Positive/Negative	Climate Change Impact	Performance Indicator	Planning Phase	Implementation Phase	Responsibility	Cost V Benefit
TR8	To educate and persuade and if necessarily enforce requirements to switch off idling engines	<ul style="list-style-type: none"> + Reduces unnecessary local emissions + Public Perception - Resources involved in setting up and maintaining a scheme - Enforcement Issues 	+ Reduce emissions	<ul style="list-style-type: none"> Decision to adopt legislation or otherwise following feasibility study Number of advisory notices issued to motorists and operators Installation of signage where regular problems occur 	Q4 2011	Q3 2012	<ul style="list-style-type: none"> Public Protection and Health CEO/Community Wardens Legal Services 	LOW V LOW
TR9	Ensure that taxis licensed by the council comply with vehicle emission limits	<ul style="list-style-type: none"> + Reduces emissions by ensuring that vehicles are well maintained +Easy to enforce as part of licensing regime + Incentivise market for low emission taxi's - Additional cost to taxi licensee 	+ Reduced emissions	<ul style="list-style-type: none"> Number of taxi's licensed Number of taxi's on Low carbon Technology 	2010	Ongoing	Licensing	LOW V LOW

ID	Planned Action	Positive/Negative	Climate Change Impact	Performance Indicator	Planning Phase	Implementation Phase	Responsibility	Cost V Benefit
TR10 LTP Policy B3	To work with partners to manage the highway network to manage delay including roadwork coordination	+ Reduced congestion and stop start driving + Reduced emissions from vehicles	+ Reduced emissions	Implementation of Network Management Plan	LTP Implementation Programme	LTP Implementation Programme	LTP	LOW v LOW
TR11 LTP Policy B2	To map Congestion hotspots against AQMA / areas of concern and ensure congestion reduction measures are targeted in those areas	+ Reduced congestion and emissions	No change	Production of combined map	LTP Implementation Programme	LTP Implementation Programme	Public Protection and Health LTP	LOW V LOW

Table 8 Transport (Road Freight) - Planned Actions

ID	Action	Positive/negative	Climate Change Impact	Performance Indicator	Planning Phase	Implementation Phase	Responsibility	Cost V Benefit
TRF1 LTP Policy B5	Work with freight operators and organisations to establish appropriate freight routes, delivery routines and driver practices to minimise emissions	+ Can assist companies in introducing alternative fuel vehicles into their fleet where appropriate. + Account for site specific freight problems - Cost	+ Reduced emissions and journey times	Implementation of a Freight Strategy Number of freight partnerships	2011	LTP Implementation Programme	LTP	LOW v LOW
TRF2	Develop a database of freight distribution within the borough	+ Better knowledge of freight distribution routes + Target actions accordingly - Time to undertake	No change	Production of database	2012	2012	Public Protection and Health	LOW v LOW
TRF3	Examine feasibility for introduction of an eco-star scheme for freight operators	+ Lower emission vehicles + Wider benefits - Cost	+ If includes CO ₂ emissions as part of scheme	Feasibility Study	2015	2016	Public Protection and Health	MED v LOW

Table 9 Council Activities - Planned Actions

ID	Action	Positive/Negative	Climate Change Impact	Performance Indicator	Planning Phase	Implementation Phase	Responsibility	Cost V Benefit
CEC1	Implement and deliver a staff travel plan and car share scheme	<ul style="list-style-type: none"> + Reduce the need for travel through technology, employee location, flexible / mobile working & home working initiatives + Reduces the impact of commuter and business journeys + Reduces costs associated with staff parking facilities - Difficulty in getting people out of their cars particularly those who need the car for their day to day jobs - Costs to manage a car share scheme (particularly if external scheme such as Lift Share) 	+ Reduced journeys and emissions	Delivery of Staff Travel Plan	2009 – 2010	2010 Onwards	Human Resources	MED V LOW

ID	Planned Action	Positive/Negative	Climate Change Impact	Performance Indicator	Planning Phase	Implementation Phase	Responsibility	Cost V Benefit
CEC2	Introduce E government policies which reduce the need for council customers to travel to access services	+ Council services can be accessed via alternative means and therefore reduce the need for travel + Alternative working arrangements for staff will enable remote service delivery - Costs involved particularly IT support	+ Reduced number of journeys	One Stop Shops/Customer First Programme Improvement of services on website	2010	2010 Ongoing	E-Government Strategy	MED V LOW
CEC3	Reduce emissions from our own estate and vehicle fleet	+ Reduces emissions from fuel usage in council buildings and vehicles + Lead by example + A well maintained fleet reduces emissions - Cost	++ Reduced emissions	Implementation of energy efficient systems within the new building having regard to cost effectiveness and pay back times.	2010	2012	Climate Change / Fleet Management	HIGH V LOW

ID	Planned Action	Positive/Negative	Climate Change Impact	Performance Indicator	Planning Phase	Implementation Phase	Responsibility	Cost V Benefit
CEC4	Investigate feasibility of introducing incentivised parking tariffs on CEC car parks for low emission vehicles	+ Incentivises the low emission market + Provide infrastructure - Cost of infrastructure	++ Increased use of low carbon transport	Number of incentivised parking places in Borough Number of electric vehicle charging points on CEC car parks	2014	2015	Highways	MED V LOW

Table 10 Development and Regeneration- Planned Actions

ID	Action	Positive/Negative	Climate Change Impact	Performance Indicator	Planning Phase	Implementation Phase	Responsibility	Cost V Benefit
DC1	Ensure that the AQAP has strong links to the economic development strategy, the LDF, LTP and Carbon Management Plan	<ul style="list-style-type: none"> + Sustainable economic growth + Reduces emissions through development control + Integrated approach to prevent conflicting policies - Balance economic growth and sustainability 	+ If links made with the Carbon Management Plan	Delivery of Economic Development Strategy NI185 or similar	2011 – 2012	2012 onwards	Economic Development / Spatial Planning	LOW V LOW
DC2 LTP Policy S1	The integration of air quality issues within the LDF and core strategy	<ul style="list-style-type: none"> + Ensures that air quality impacts are assessed and managed to help reduce emissions and prevent exposure + Minimising new receptors - Long term policy may not deliver short term air quality benefits 	+ If the right actions are included to ensure mutual benefit	Alignment of AQAP with Core Strategy and Cheshire East LDF Publication of SPD for Air Quality and Development Control	2010	2012 onwards	Spatial Planning	LOW V LOW

ID	Planned Action	Positive/Negative	Climate Change Impact	Performance Indicator	Planning Phase	Implementation Phase	Responsibility	Cost V Benefit
DC3	The publication of guidance on air quality and development control (Internal & External) including minimising dust from construction sites	<ul style="list-style-type: none"> + Ensures a better understanding of air quality by developers and the submission of more robust assessments + ensures clear and transparent guidance for developers outlining where mitigation is required + Minimises new receptors in existing areas of poor air quality - Raising awareness within Development Control on AQ issues to ensure this work is completed pre application -Cost of production 	+ If integrated with Sustainable Development standards	Production of a basket of guidance leaflets	2011	2011	Public Protection and Health	LOW V LOW

ID	Planned Action	Positive/Negative	Climate Change Impact	Performance Indicator	Planning Phase	Implementation Phase	Responsibility	Cost V Benefit
DC4	Use the existing Development Control processes to improve air quality	+ Manages the overall effect of the development through agreed mitigation measures + Conditions or prevents development which would have an adverse affect on air quality - May increase the cost of development	No change	Assess all Air Quality Impact Assessments in accordance with EPUK Guidance Monitor decision notices to ensure air quality planning conditions applied	Q1 2011	Ongoing	Public Protection and Health & Development Control	LOW V LOW
DC5 LTP Policy B2, C2 and S9	Seek to enable appropriate new development supporting appropriate sustainable transport initiatives mitigating potential impact of development proposals	+ Encourages the adoption of more sustainable transport modes + Facilitate sustainable development + Mitigate and offset emissions from new development +Developer contributions provide benefits to wider community /	++ Reduced emissions and modal shift	Development of a Low Emission Strategy / supplemental planning document	2012	2014	Development Control & Spatial Planning	LOW v MED

		environment - May discourage potential growth and development						
DC6	Low Emission Strategy Development and Implementation	+ Incentivise the adoption of low emission technologies + Reduce emissions at source - May increase the cost of development	++ Reduced emissions and potential modal shift	Emissions Inventory complete Spatial Planning Emissions Analysis complete Economic Impact Analysis complete Low Emissions Strategy Development and implementation complete	2011	2012-2013	Cheshire East Council	LOW V POTENTIAL HIGH BENEFIT

9.0 Area Specific Actions

There has already been an identification of general actions that can be taken to help address air quality problems; these are detailed in Tables 12-24.

In addition to this however there is a definite need to look at each Air Quality Management Area in turn and identify more specific measures that may be appropriate. This work needs to consider the nature of the area itself, the pollutant and its significant source, potential pollutant concentration reductions and feasibility of the proposed option. This latter point will also take into account cost benefit analysis.

Each option has been given an overall ranking (1 being the best option). This is a purely subjective judgement and should not be used to base policy decisions upon. The best options are those that may either give the greatest improvement in concentrations of annual mean NO₂, be low cost, or be possible to implement.

9.1 Air Quality Management Area- M6 Cranage

The Air Quality Management Area includes two isolated properties on either side of the M6 motorway between junctions 18 and 19. Both properties are within 20 meters of the carriageway and under single ownership. At the time of writing, only one of the properties is occupied, tenants having vacated The Haven during summer 2010.

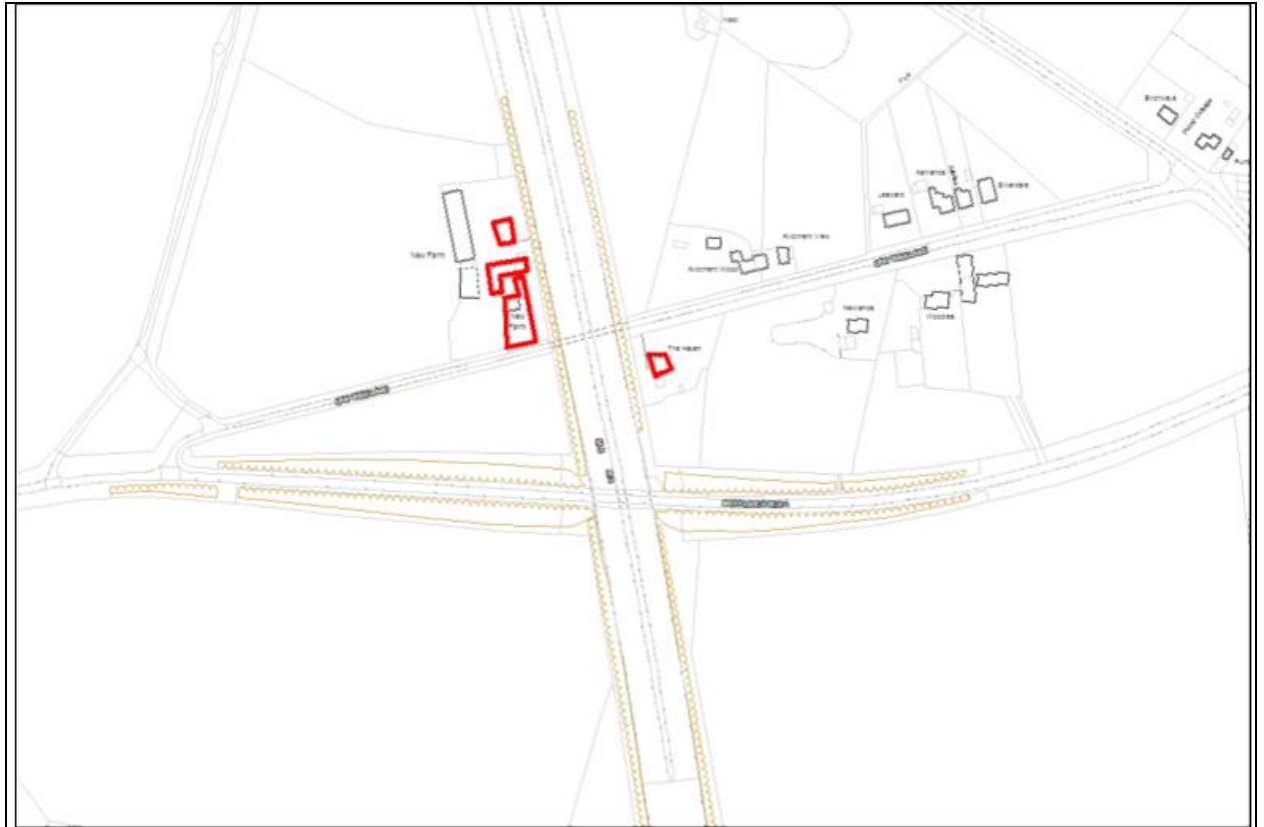


Figure 11 Air Quality Management Area- M6 Cranage

The locality is rural with only natural barriers to afford shielding from the Motorway itself. AADF on this stretch of the motorway is recorded as 125,900 vehicles with a 20% HGV burden. The area has been subject to lengthy maintenance works in the past with enforced vehicle speeds of 50 miles per hour although these have not been in place since 2004.

Nitrogen dioxide concentrations for previous years measured at the two properties are contained within Table 11.

	2005	2006	2007	2008	2009	2010
The Haven, Cranage	46.7 48.0 48.4	47.3 52.2 50.7	44.3 42.7 45.2	48.3 45.2 49.5	44.7 46.7 48.4	42.0 42.1 41.5
New Farm, Oak Tree, Cranage	44.6	40.9	34.0	40.8	39.3	40.6
Oak Tree Lane, Cranage	40.1	39.8	32.0	31.8	30.8	32.1

Table 11 NO₂ diffusion tube results within and surrounding the AQMA

Table 12 Specific Actions- M6 Cranage

ID	Option	Positive/ Negative	Climate Change Impact	Performance Indicator	Planning Phase	Implementation Phase	Responsibility	Cost V Benefit	Rank
CR1	Additional Air Quality Monitoring	+ Provides up to date information on which air quality modelling can be based + Monitor improvement - Time and Work involved	No change	Provide a network of diffusion tubes to adequately assess the air quality having regard to relevant exposure	Ongoing	N/A	Public Protection and Health Highways Agency	LOW V LOW	1
CR2	Air Quality Modelling	+ Allows potential problem areas to be further investigated. + Allows problem areas to be refined and necessary action undertaken. -Time and work involved.	No change	Modelling exercise complete.	Various	N/A	Highways Agency	LOW V LOW	2

ID	Action	Positive/Negative	Climate Change Impact	Performance Indicator	Planning Phase	Implementation Phase	Responsibility	Cost V Benefit	Rank
CR3	Investigate "Green Walls" to determine effectiveness at absorbing NO ₂	+ Reduce exposure to NO ₂ + Improved aesthetic - Maintenance of plants	+ Plants good for climate change	Decision made to progress a scheme for Cheshire East based on measured reductions in NO ₂	2011	2012	Public Protection and Health	LOW V LOW	4
CR4	Managed Motorways	+ Improves congestion and traffic flows + Reduces emissions and exposures	+ Reduced emissions	Introduction of managed motorways	2010	2015	Highways Agency	MED/HIGH V LOW	8 at this stage
CR5	Congestion Busting Workshops	+ Helps to identify measures to reduce congestion on the network. + Aids in meeting the new journey Reliability Time PSA target. + Air quality improvements	+ Reduced emissions especially if campaigns joined up	Continuation of workshops. Develop individual action plans to alleviate congestion. Implementation of measures	Ongoing	N/A	Highways Agency	MED V Variable	6

ID	Action	Positive/Negative	Climate Change Impact	Performance Indicator	Planning Phase	Implementation Phase	Responsibility	Cost V Benefit	Rank
CR6	Use of Variable Message Signage	+ Benefit traffic flow if providing diversion information. + Possible to display air quality information to raise driver awareness and modify their activities to reduce emissions.	No change	Preparation and completion of paper on signing strategy Implementation and designed road sign to be used within AQMA's. Identification of appropriate messages.	Ongoing	N/A	Highways Agency DFT DEFRA	LOW V LOW	7
CR7	Council rental of dwelling within AQMA	+ Remove relevant exposure + Reduce AQMA - Cost	No change	A decision as to whether a suitable option	End of 2011	2012 onwards	Cheshire East Council	LOW V LOW	5
CR8	Photo Catalytic Paint Trial	+ Reduce concentrations of NO ₂ + Potential air quality improvements + Public perception	No Change	A decision as to whether to expand the scheme	2011	2012	Cheshire East Council – Public Protection and Health	LOW V Variable	3

9.2 Air Quality Management Area- West Road, Congleton

The Air Quality Management Area at West Road was amended following the completion of Further Assessment work. As a result a number of properties were removed from the AQMA boundary leaving a total of 18 properties within the area.

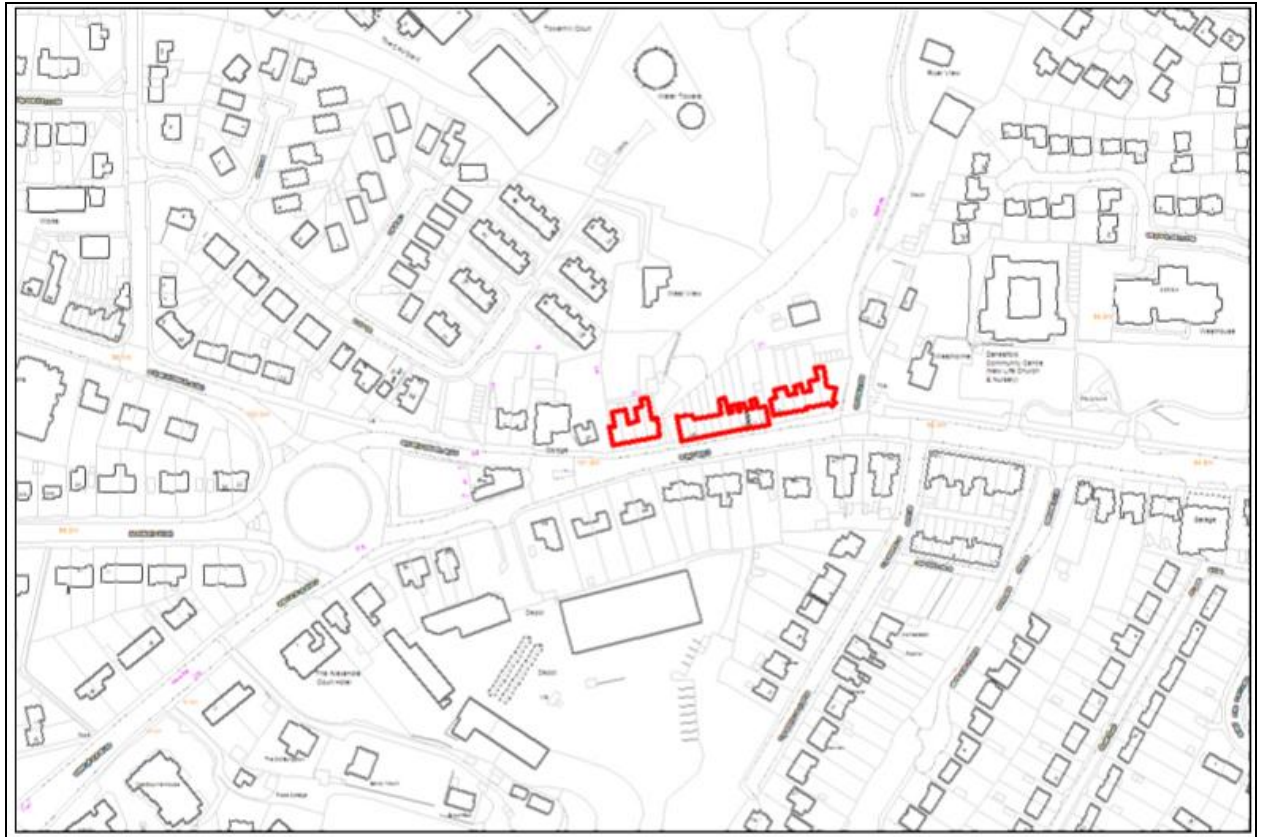


Figure 12 Air Quality Management Area- West Road, Congleton

These properties are predominantly terraced properties, which open directly on to the pavement of the A34; 9 properties do however have small front gardens providing some distance from the carriageway. Properties on the opposite side of the road have recently been removed from the AQMA boundary; these properties are semi detached with long gardens which bank away from the road.

The A34 is a main arterial road running through the centre of Congleton. AADF on this stretch of the A34 is recorded as 13666 vehicles with a HGV burden of 7.3%. The road experiences typical rush hour congestion but is also an alternative route for drivers when problems occur on the M6 motorway.

Nitrogen dioxide concentrations for previous years measured at properties are contained within Table 13.

	2005	2006	2007	2008	2009*	2010
West Road End Terrace	52.2 51.3	54.3 54.8	53.4 53.4	53.7 53.2	35.4 34.3	59.4 59.9
13 West Road	-	-	-	54.4	38.1	60.4
35 West Road	-	-	-	37.7	27.1	34.1

Table 13 NO₂ diffusion tube results within and surrounding the AQMA

* TiO₂ trial undertaken

Table 14 gives an indication of the options that could be considered in terms of mitigation for this area.

Table 14 Specific Actions- West Road, Congleton

ID	Action	Positive/negative	Climate Change Impact	Performance Indicator	Planning Phase	Implementation Phase	Responsibility	Cost V Benefit	Rank
WR1	Congleton Bypass – Review congestion on A34 around the town of Congleton	<ul style="list-style-type: none"> + Would divert through traffic away from the town centre road system + Reduce town centre congestion - Cost - Any new route would require the development of open countryside - Possible dispersal of traffic to rural road network 	No Change	Completion of further feasibility studies into the potential for a bypass and a decision or otherwise to proceed with development.	2012	LTP Implementation	LTP / Highways	LOW/MED V LOW	7
WR2	Examine impact of Relocation of Bus Stop on West Road	<ul style="list-style-type: none"> + Relieves traffic congestion + Improvements to flow on network + Public perception + Better air quality 	- Possible reduce incentive for public transport	Decision to move bus stop	2011	2012	Public Protection and Health Highways	LOW V LOW	5

ID	Action	Positive/Negative	Climate Change Impact	Performance Indicator	Planning Phase	Implementation Phase	Responsibility	Cost V Benefit	Rank
WR3	NO _x busting paint	<ul style="list-style-type: none"> + Reduces NO₂ concentrations + Potential air quality improvements + Public perception - Cost - Requires householder permission 	No change	Re-application and further study of benefits	2011	2012	Public Protection and Health	LOW V Variable	2
WR4	Additional Modelling of traffic flows	<ul style="list-style-type: none"> + Enables areas to be further investigated and refined. + Enables necessary action to be more specific - Time and work involved 	No change	Completion of modelled traffic flows	2011/2012	2012/2013	Public Protection and Health	LOW V LOW	1 linked

ID	Action	Positive/Negative	Climate Change Impact	Performance Indicator	Planning Phase	Implementation Phase	Responsibility	Cost V Benefit	Rank
WR5	Parking Enforcement	<ul style="list-style-type: none"> + Tackle localised parking issues + Ease congestion as a result of illegal parking - Enforcement problems - Negative Image 	No change	Number of FPN's	Introduced 2009	Ongoing	Cheshire East Council	LOW V LOW	6
WR6	Investigate buffer effect of small gardens	<ul style="list-style-type: none"> + Possibility to further reduce number of houses in AQMA - Cost - Time and work involved 	No change	Sufficient monitoring and trend data to enable study to be completed thoroughly	Feb 2008	2011/2012	Public Protection and Health	LOW V LOW	1 Linked
WR7	Timing changes to pedestrian crossing	<ul style="list-style-type: none"> + Help to relieve congestion + Improvements to flow on network - Sharing burden of congestion on all approaches may create more widespread problems. 	+ Reduced emissions	Feasibility study complete	2011	2012	Highways Department	LOW V LOW	3

ID	Action	Positive/Negative	Climate Change Impact	Performance Indicator	Planning Phase	Implementation Phase	Responsibility	Cost V Benefit	Rank
WR8	Examine the feasibility of introducing a LEZ for Congleton Town	+ Reduce emissions in the town - Cost - Time - Enforcement - Where would the traffic go?	+ Links to Climate Change	Complete feasibility Study	2015	2020	Public Protection and Health Highways	LOW V LOW	8 at this stage
WR9	Investigate "Green Walls" to determine effectiveness at absorbing NO ₂	+ Reduce exposure to NO ₂ + Improved aesthetic - Maintenance of plants	+ Plants good for climate change	Decision made to progress a scheme for Cheshire East based on measured reductions in NO ₂	2011	2012	Public Protection and Health	LOW V LOW	4

As a result of local knowledge of the area and its limiting environment, all actions suitable for the area have been incorporated into the current plan. Cheshire East Council will continue to investigate and review further suitable measures, which will be actioned accordingly.

9.3 Air Quality Management Area- A34/A54, Congleton

The Air Quality Management Area was amended following the completion of the Further Assessment work. As a result a number of properties have been removed from the AQMA boundary leaving a total of 8 properties within the area.

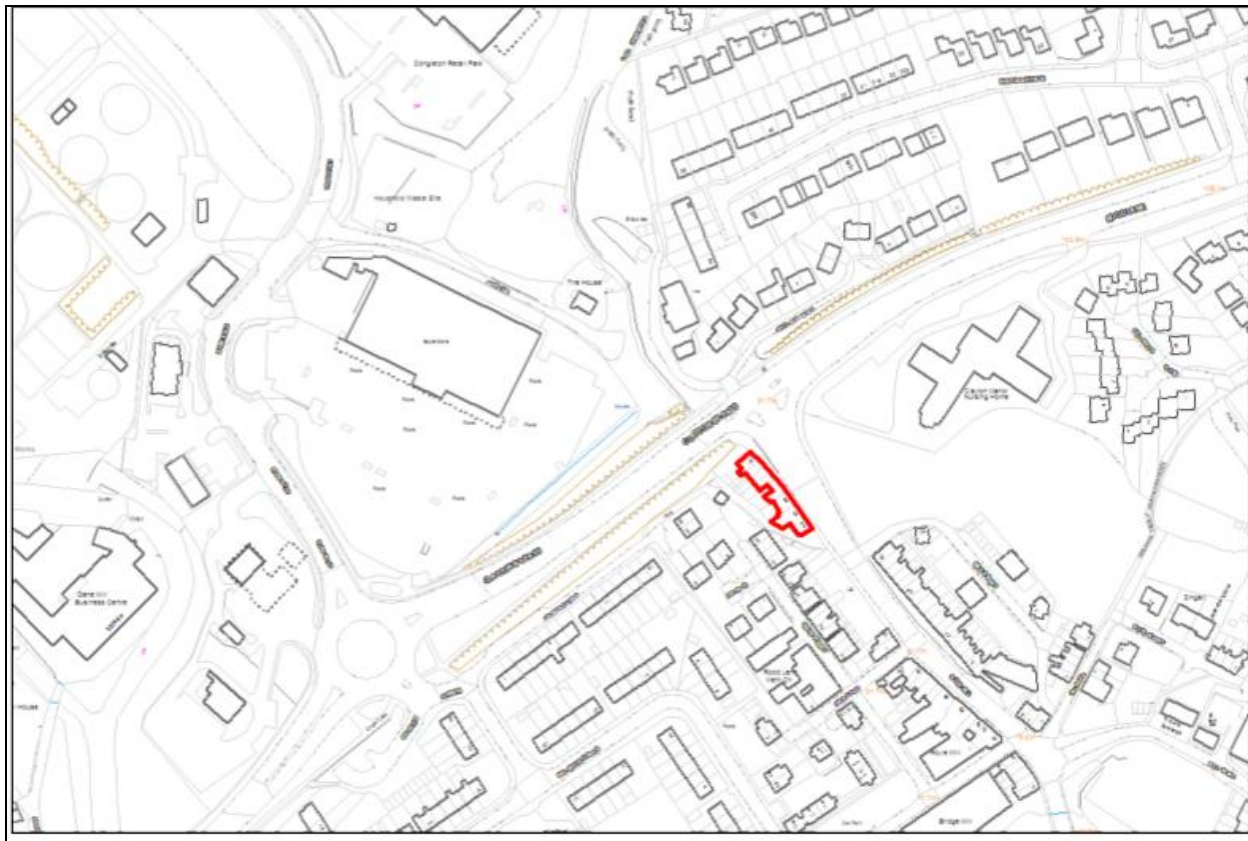


Figure 13 Air Quality Management Area- A34/A54, Congleton

These properties are predominantly terraced properties that open directly on to the pavement of Rood Hill (A54), which is a steep incline to the junction with the A34 and experiences queuing traffic as a result of both vehicle numbers and the traffic light management system.

The A54 is a main arterial road running through the centre of Congleton bringing heavy vehicles from the Derbyshire quarries to the northeast onwards to Macclesfield and Manchester. AADF on this stretch is recorded as 18,800 with an approximate HGV burden of 8%. The road experiences typical rush hour congestion.

Nitrogen dioxide concentrations for previous years measured at properties are contained within Table 15.

	2005	2006	2007	2008	2009*	2010
70 Rood Hill	46.4	45.8	44.1	41.8	39.3	43.1
Rood Hill Takeaway	53.0	49.0	42.0	46.3	40.5	47.9

Table 15 NO₂ diffusion tube results within and surrounding the AQMA

* TiO₂ trial undertaken

Table 16 provides information on the mitigation options to be considered for this area.

Table 16 Specific Actions- A34/A54 Rood Hill, Congleton

ID	Action	Positive/Negative	Climate Change Impact	Performance Indicator	Planning Phase	Implementation Phase	Responsibility	Cost V Benefit	Rank
RH1	Congleton Bypass – Review congestion on A34 around the town of Congleton	<ul style="list-style-type: none"> + Would divert through traffic away from the town centre road system + Reduce town centre congestion - Cost - Any new route would require the development of open countryside - Possible dispersal of traffic to rural road network 	No Change	Completion of further feasibility studies into the potential for a bypass and a decision or otherwise to proceed with development.	2012	LTP Implementation	LTP / Highways	LOW/MED V LOW	6 at this stage
RH2	NO _x busting paint	<ul style="list-style-type: none"> + Reduces NO₂ concentrations + Potential air quality improvements + Public perception - Cost 	No change	Re-application and further study of benefits	2011	2012	Public Protection and Health	LOW V LOW	1

ID	Action	Positive/Negative	Climate Change Impact	Performance Indicator	Planning Phase	Implementation Phase	Responsibility	Cost V Benefit	Rank
RH3	Additional Modelling of traffic flows	<ul style="list-style-type: none"> + Enables areas to be further investigated and refined. + Enables necessary action to be more specific - Time and work involved 	No change	Completion of modelled traffic flows	2013	2014	Public Protection and Health	LOW V LOW	3 linked
RH4	Investigate further signal changes on traffic lights	<ul style="list-style-type: none"> + Help to relieve congestion in the area + Improvements to flow on network - Sharing burden of congestion on all approaches may create more widespread problems 	+ Slight benefit	Feasibility study completed	2011	2011	Highways	LOW V LOW	2

ID	Action	Positive/Negative	Climate Change Impact	Performance Indicator	Planning Phase	Implementation Phase	Responsibility	Cost V Benefit	Rank
RH5	Parking Enforcement	<ul style="list-style-type: none"> + Tackle localised parking issues + Ease congestion as a result of illegal parking - Enforcement problems - Negative Image 	No change	Number of FPN's	Introduced 2009	Ongoing	Cheshire East Council	LOW V LOW	4
RH6	Junction Improvements	<ul style="list-style-type: none"> + Reduced congestion and queuing + Reduce emissions + Potential improvements to network flow + Potential to limit queue time - Limited land availability - Cost 	+ Reduced emissions	Junction Improvements completed	2012	2015	Highways Development Control	LOW/ MED V MED	3 linked

ID	Action	Positive/Negative	Climate Change Impact	Performance Indicator	Planning Phase	Implementation Phase	Responsibility	Cost V Benefit	Rank
RH7	Examine the feasibility of introducing a LEZ for Congleton Town	+ Reduce emissions in the town - Cost - Time - Enforcement - Where would the traffic go?	+Links to Climate Change	Complete feasibility Study	2015	2020	Public Protection and Health Highways	LOW V LOW	5

9.4 Air Quality Management Area- A534 Hospital Street. Nantwich

Hospital Street lies entirely within the Nantwich Conservation Area and is lined within many listed buildings, 19 of which are to be found on the two-way section of the street, which constitutes the eastern third of its overall length. Hospital Street is a key element of the historic fabric of the town and forms an essential part of its heritage.

The AQMA covers an area of 200m by 50m centring on the A534 Hospital Street as illustrated in Figure 13. Approximately 38 properties are included within the AQMA.

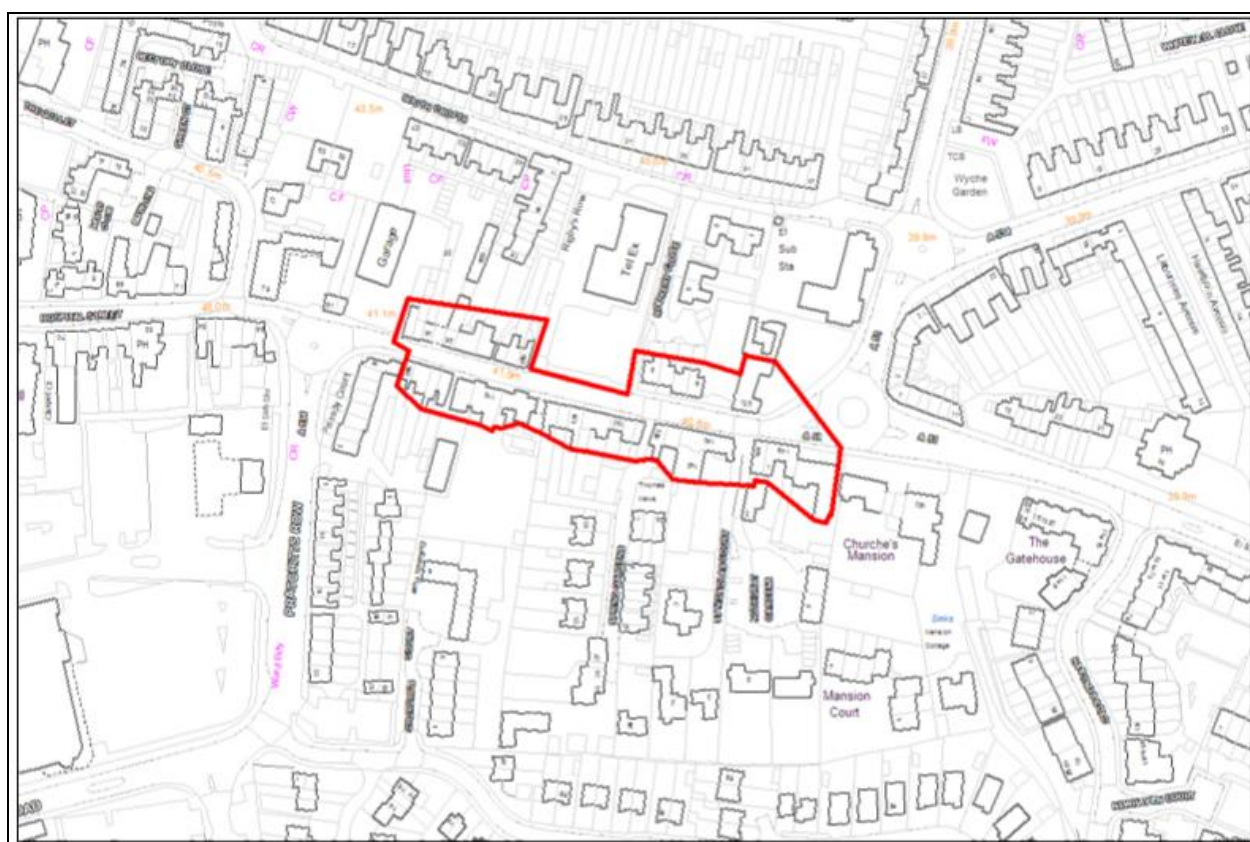


Figure 14 Air Quality Management Area- A534 Hospital Street, Nantwich

Along the westbound carriageway is a row of two and three storey houses, which have facades directly onto the pavement. Whilst on the eastbound carriageway there is a mixture of open area and properties similar to those on the opposite side of the street.

The A534 Hospital Street is a major arterial road for both through traffic and for those wishing to access Nantwich town centre. AADF on this stretch of the A534 is

recorded as 17957 with an approximate HGV burden of 10%. The road experiences typical rush hour congestion.

Nitrogen dioxide concentrations for previous years measured at properties are contained within Table 17.

	2005	2006	2007	2008	2009	2010
Hospital Street, Crewe Road End		31	30	29	30	31.5
146 Hospital Street	55	57	55	54	57	48.7
17 Rookery Court		31	37	37	37	36.5
132/134 Hospital Street		45	46	45	46	43.0
118 Hospital Street	51	52	54	55	54	49.0
114 Hospital Street		56	50	52	52	45.4
103/105 Hospital Street		43	48	47	45	42.1
Hospital Street opposite Lathams	32	37	33	33	34	32.6

Table 17 NO₂ diffusion tube results within and surrounding the AQMA

Table 18 provides information on the mitigation options to be considered for this area.

Table 18 Specific Actions- A534 Hospital Street, Nantwich

ID	Action	Positive/Negative	Climate Change Impact	Performance Indicator	Planning Phase	Implementation Phase	Responsibility	Cost V Benefit	Rank
NANT1	Comprehensive traffic, tourist re-signing and reclassification of roads in and around Nantwich	+ Reroute traffic away from AQMA + Reduce congestion - Could impact on neighbouring roads - Cost	No change	Completion of re-signing project Post reclassification study complete	2009	2011	Highways	LOW V LOW	1
NANT 2	Improved rail facilities	+ Promotes usage which in turn reduce commuter journeys - cost	+ Modal Shift	Improved facilities	2010	2011 onwards	Nantwich Transport Group Highways / LTP	MED V LOW	6
NANT 3	Ensure parking restrictions are enforced in and around the area	+ Tackle localised parking issues + Ease congestion as a result of illegal parking - Enforcement problems	+ Reduced congestion / emissions	Number of FPN's issued	Introduced 2009	Ongoing	Cheshire East Council- Parking Services	LOW V LOW	11

ID	Action	Positive/Negative	Climate Change Impact	Performance Indicator	Planning Phase	Implementation Phase	Responsibility	Cost V Benefit	Rank
NANT4	Contact stores in the area and request they route delivery vehicles away from the AQMA	+ Reduce amount of HGV's and delivery vehicles using the AQMA for access - May move vehicles onto other roads	No change	Stores contacted / agree to re-route	2011	2011	Public Protection and Health	LOW V LOW	4
NANT 5	Review the need for vehicle weight restrictions 1.For the whole of the town 2.For Hospital Street	+ Help to ease congestion + Reduce HGV Emissions	No change	Feasibility study complete	2012	2013 onwards	Highways Public Protection and Health	LOW V LOW	6 linked
NANT6	Review the need for a 20mph speed limit; 1. For the whole of the town 2. For Hospital Street	+ Smooth traffic Flow + Reduce emissions + Improve Road Safety - Enforcement cost - Travel times	+Slight benefit reduced emissions	Review completed and decision made as to benefits of implementation	2013	2014	Highways Public Protection and Health	LOW V LOW	6 linked

ID	Action	Positive/Negative	Climate Change Impact	Performance Indicator	Planning Phase	Implementation Phase	Responsibility	Cost V Benefit	Rank
NANT7	Review of the configuration of junctions in the Town to ensure traffic is diverted away from the AQMA	+ Reduced traffic in AQMA +Reduced concentrations - Cost - May impact on other areas	No change	Review completed and decision made as to benefits of implementation	2013	2014	Public Protection and Health Highways	MED V LOW	6 linked
NANT8	Review of the impact of making A534 Hospital Street one way	+ Half the traffic +Reduced concentrations - Cost - Local Opposition - Increased overall journey's	-- Increase in overall journey's Potential increase in wider scale emissions	Review completed and decision made as to benefits of implementation	2011	2013	Public Protection and Health Highways	LOW V HIGH	6 linked
NANT9	Review of the need for carriageway alterations in Hospital Street/ Pratchitts Row to make route less appealing	+ Reduced traffic +Reduced concentrations - Impact on wider areas - Increased overall journeys	- Possible increased journey times	Review completed and decision made as to benefits of implementation of a suitable scheme	2012	2013	Public Protection and Health Highways	LOW V LOW	6 linked

ID	Action	Positive/Negative	Climate Change Impact	Performance Indicator	Planning Phase	Implementation Phase	Responsibility	Cost V Benefit	Rank
NANT10 (see NANT17)	Review of the need to introduce an urban traffic management system in the Town	+Reduced congestion +Improved traffic flows +Reduced emissions - Cost	+ Reduced emissions	Review completed and decision made as to benefits of implementation	2015	2020	Public Protection and Health Highways	HIGH V MED	12 at this stage
NANT11	Contact satellite navigation companies to ensure that they have updated their maps to include the reclassification of the roads in Nantwich	+ Remove traffic from AQMA + Prevent HGV's using AQMA - Impact on wider areas	+Reduced emissions	Contact completed and confirmation of changes received	2011	2011	Public Protection and Health	LOW V LOW	4

ID	Action	Positive/Negative	Climate Change Impact	Performance Indicator	Planning Phase	Implementation Phase	Responsibility	Cost V Benefit	Rank
NANT12	Review the options to improve traffic flow on the bypass (A500) to reduce congestion in the town centre and the AQMA	+ Reduce traffic in AQMA +Reduced concentrations +Reduce congestion + Keep vehicles on main routes away from exposure - Cost / time	+Reduced emissions	Review completed and decision made as to benefits of implementation	2013	2014	Public Protection and Health Highways	MED V LOW	7
NANT13	Install automatic analyser in the AQMA to improve knowledge	+Improved information to target action plan - Cost, time - Doesn't reduce concentrations	No change	Automatic Analyser Installed	2011	2011	Public Protection and Health	LOW V LOW	2

ID	Action	Positive/Negative	Climate Change Impact	Performance Indicator	Planning Phase	Implementation Phase	Responsibility	Cost V Benefit	Rank
NANT14	NO _x busting paint	<ul style="list-style-type: none"> + Reduces NO₂ concentrations + Potential air quality improvements +Public perception - Cost -Requires householder permission 	No change	A decision made as to whether such a scheme is appropriate for the area	2011	2012	Public Protection and Health	LOW V Variable	3
NANT15 LTP Policy S8	Complete the Crewe to Nantwich Cycleway (Connect2)	<ul style="list-style-type: none"> + Reduce traffic + Wider benefits + Active transport modes - Cost -Limited direct impact on AQMA 	+ Encourage modal shift	Connect 2 completed	LTP Implementation ROWIP Improvement Plan 2011-2026	LTP Implementation ROWIP Implementation Plan 2011-2015	LTP PROW	MED V LOW	9

ID	Action	Positive/Negative	Climate Change Impact	Performance Indicator	Planning Phase	Implementation Phase	Responsibility	Cost V Benefit	Rank
NANT16	Review the introduction of well designed Speed bumps on Hospital Street	+ Smooth flows + Possibly Reduced emissions if done correctly - Cost - Potential for AQ deterioration	+Possible improvement	Review completed and decision made as to benefits of implementation	2013	2014	Public Protection and Health Highways	LOW V LOW	6 linked
NANT17	Ensure Peter Destapleigh Way vastly more attractive to through traffic through effective traffic management	+ Encourage traffic away from AQMA +Reduced NO ₂ in AQMA - Impact on wider area and Road Safety (Schools)	No change	Review completed and decision made as to benefits of implementation	2013	2013	Public Protection and Health Highways	LOW V LOW	6 linked
NANT18	Provide a "Build out" at Crewe Road / Hospital Street junction to prevent HGV's and Speeding Cars using Hospital Street	+ Reduced HGV on Hospital Street +Reduced congestion + Reduced speeds - Cost - HGV on other roads	No change	Review completed and decision made as to benefits of implementation	2012	2012	Public Protection and Health Highways	LOW V LOW	6 linked

ID	Action	Positive/Negative	Climate Change Impact	Performance Indicator	Planning Phase	Implementation Phase	Responsibility	Cost V Benefit	Rank
NANT19	Investigate the proportion of locally generated traffic using Hospital Street as against the volume of traffic generated from outside	+ Better targeted campaigns + Local Knowledge - Time - Cost	No change	Report completed	2013	2013	Public Protection and Health	LOW V LOW	10
NANT20	Review the location of the current Pedestrian crossing on Pratchitts Row and examine need for one on Hospital Street	+ Discourage use of Hospital Street -Increased congestion -Potential deterioration in AQ - Cost -Road Safety (confusing road layout)	No change	Review completed and decision made as to benefits of implementation	2015	2015	Public Protection and Health Highways	LOW V LOW	8

ID	Action	Positive/Negative	Climate Change Impact	Performance Indicator	Planning Phase	Implementation Phase	Responsibility	Cost V Benefit	Rank
NANT21	Install "Switch off when idling" signage at Railway Crossings in area	+Reduced emissions - No direct impact on AQMA - Only voluntary	+ Reduced emissions	Signage installed	2011	2012	Highways	LOW V LOW	5
NANT22	Investigate traffic priority on Hospital Street / Pratchitts Row Junction to give priority to Hospital Street Traffic	+Reduced congestion in AQMA + Improved flow - Encourage greater use of Hospital Street	No change	Review completed and decision made as to benefits of implementation	2013	2014	Public Protection and Health Highways	LOW V LOW	6 linked
NANT23	Review the need for keep clear signage on Hospital Street at Junction with Crewe Road roundabout	+ Reduced congestion in AQMA + Improved flow + Reduced emissions	+ Possible improvement	Review completed and decision made as to benefits of implementation	2012	2012	Highways Public Protection and Health	LOW V LOW	6 linked

9.5 Air Quality Management Area- A34 Lower Heath, Congleton

The AQMA specifically includes a total of 15 residential properties, all of which are terraced and open directly on to the pavement of the A34. The site lies on the A34 main arterial road running through Congleton. AADF on this stretch of road is recorded at 22706 vehicles with a HGV burden of 4%. Typical rush hour congestion is experienced along the route as well as it becoming an alternative route for vehicles travelling towards Manchester when problems occur on the M6 Motorway.

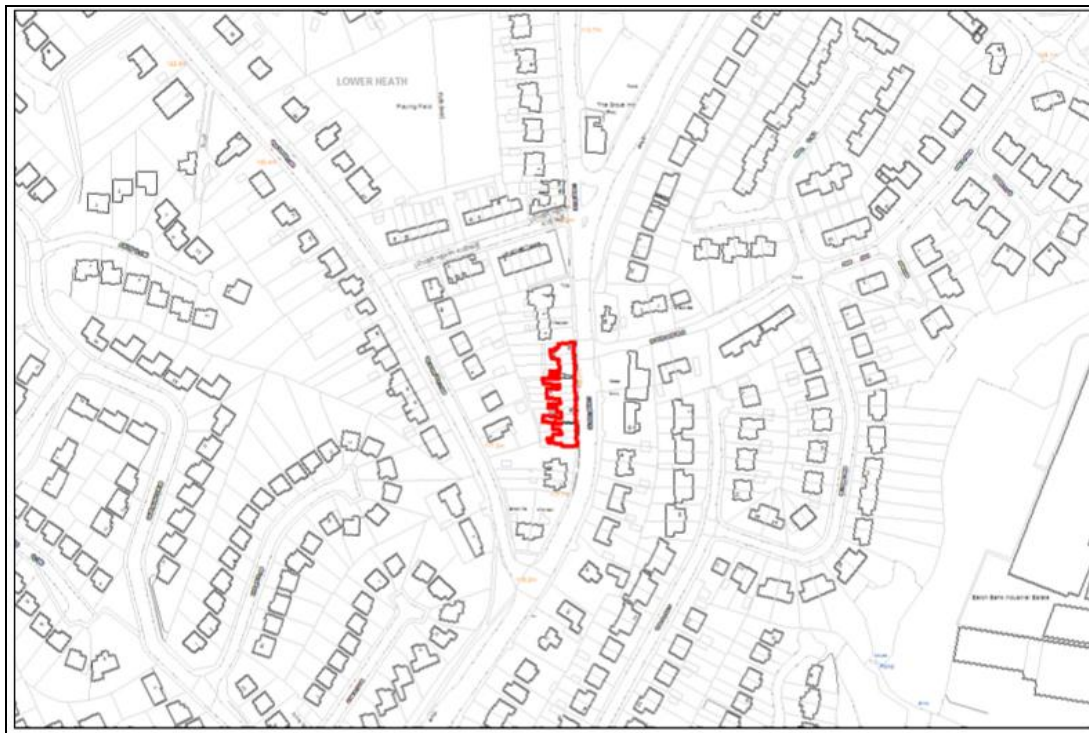


Figure 15 Air Quality Management Area- A34 Lower Heath, Congleton

Nitrogen dioxide concentrations for previous years measured at properties are contained within Table 19.

	2005	2006	2007	2008	2009	2010
28 Lower Heath	49.1	52.6	51.6	60.3 54.3 57.6	55.1 51.8 53.1	55.4 58.7 61.5

Table 19 NO₂ diffusion tube results within and surrounding the AQMA

Table 20 provides information on the mitigation options to be considered for this area.

Table 20 Specific Actions- A34 Lower Heath, Congleton

ID	Action	Positive/negative	CC	Performance Indicator	Planning Phase	Implementation Phase	Responsibility	Cost v Benefit	Rank
LH1	Congleton Bypass – Review congestion on A34 around the town of Congleton	<ul style="list-style-type: none"> + Would divert through traffic away from the town centre road system + Reduce town centre congestion - Cost - Any new route would require the development of open countryside - Possible dispersal of traffic to rural road network 	No Change	Completion of further feasibility studies into the potential for a bypass and a decision or otherwise to proceed with development.	2012	LTP Implementation	LTP / Highways	LOW/MED V LOW	7 at this stage
LH2	Additional modelling of traffic flows along the A34	<ul style="list-style-type: none"> + Enables areas to be further investigated and refined. + Enables necessary action to be more specific - Time and work involved 	No change	Completion of modelled traffic flows	2013	2014	Public Protection and Health	LOW V LOW	5

ID	Action	Positive/Negative	Climate Change Impact	Performance Indicator	Planning Phase	Implementation Phase	Responsibility	Cost V Benefit	Rank
LH3	Signal Changes to Traffic Lights at RH	<ul style="list-style-type: none"> + Help to relieve congestion in the area + Improvements to flow on road network - Sharing burden of congestion on all approaches may create more widespread problems 	+ Slight benefit or No change	Feasibility study completed	2011	2012	Highways	LOW v LOW	3
LH4	NO _x busting paint	<ul style="list-style-type: none"> + Reduces NO₂ concentrations + Potential air quality improvements + Public perception - Cost -Requires householder permission 	No change	A decision made as to whether such a scheme is appropriate for the area	2011	2012	Public Protection and Health	LOW V Variable	1

ID	Action	Positive/Negative	Climate Change Impact	Performance Indicator	Planning Phase	Implementation Phase	Responsibility	Cost V Benefit	Rank
LH5	Parking enforcement	+ Tackle localised parking issues + Ease congestion as a result of illegal parking - Enforcement problems	No change	Number of FPN's	Introduced 2009	Ongoing	Cheshire East Council	LOW V LOW	4
LH6	Timing changes to pedestrian crossing	+ Help to relieve congestion + Improvements to flow on network - Sharing burden of congestion on all approaches may create more widespread problems	+ Reduced emissions	Feasibility study complete	2011	2011	Highways Public Protection and Health	LOW v LOW	2 linked
LH7	Investigate the feasibility of the installation of a puffin crossing	+ Help to relieve congestion + Improvements to flow on network + Cancel demands when no longer required	+ Reduced emissions	Feasibility study complete	2011 Q3	2012	Highways Public Protection and Health	LOW v LOW	2 linked

ID	Action	Positive/Negative	Climate Change Impact	Performance Indicator	Planning Phase	Implementation Phase	Responsibility	Cost V Benefit	Rank
LH8	Examine the feasibility of introducing a LEZ for Congleton Town	+ Reduce emissions in the town - Cost - Time - Enforcement - Where would the traffic go?	+ Links to Climate Change	Complete feasibility Study	2015	2020	Public Protection and Health Highways	LOW V LOW	6

As a result of local knowledge of the area and its limiting environment, all actions suitable for the area have been incorporated into the current plan. Cheshire East Council will continue to investigate and review further suitable measures, which will be actioned accordingly.

9.6 Air Quality Management Area- A5022/A534, Sandbach

The AQMA covers approximately 9 properties along the A534 Congleton Road and the A5022, Holmes Chapel Road. The surrounding area is rural and arable farmland. The AQMA is located less than 200m from junction 17 of the M6 Motorway and is the main motorway access road. The area experiences queuing traffic as a result of both vehicle numbers and the motorway access and exit slip roads. AADF on this stretch is recorded at 22189 with an approximate HGV burden of 8%.

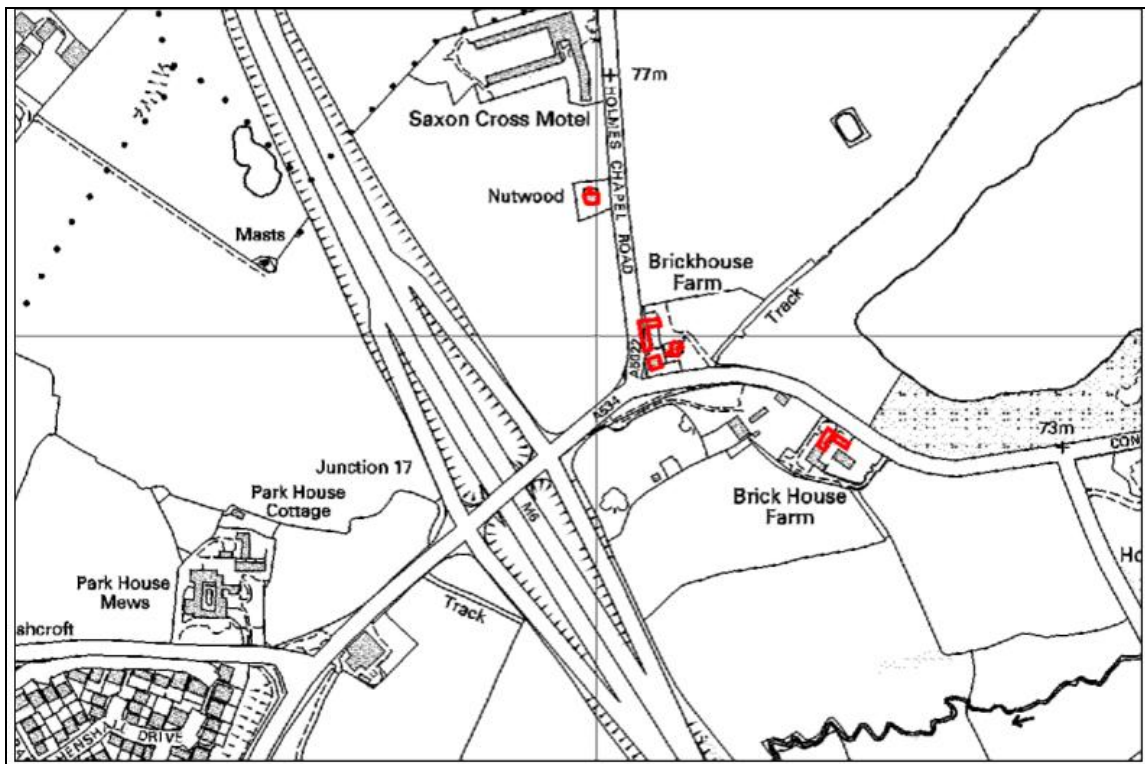


Figure 16 Air Quality Management Area- A5022/A534, Sandbach

Nitrogen dioxide concentrations for previous years measured at properties are contained within Table 21.

	2005	2006	2007	2008	2009	2010
J17	53.7 51.8 52.7	41.2 52.1 52.2	44.4 46.5 46.3	47.9 43.7 43.2	35.3 35.5 43.0	48.9 48.3 50.0
Holmes Chapel Road		37.0	33.0	36.8	34.7	36.8
Old Willow Barns				29.1	30.6	31.0

Table 21 NO₂ diffusion tube results within and surrounding the AQMA

Table 22 provides information on the mitigation options to be considered for this area.

Table 22 Specific Actions- A5022/A534, Sandbach

ID	Option	Positive/Negative	Climate Change	Performance Indicator	Planning Phase	Implementation Phase	Responsibility	Cost V Benefit	Rank
SAND 1	Additional Air Quality Monitoring	+ Provides up to date information on which air quality modelling can be based - Cost - Time and work involved	No change	Provide a network of diffusion tubes to adequately assess the air quality having regard to relevant location	2010	2010 Ongoing	Public Protection and Health	LOW v LOW	1
SAND 2	Air Quality Modelling	+ Allows potential problem areas to be further investigated + Allows problem areas to be refined and necessary action undertaken - Time and work involved	No change	Modelling exercise complete	Various	Various	Public Protection and Health	LOW v LOW	2

ID	Action	Positive/Negative	Climate Change Impact	Performance Indicator	Planning Phase	Implementation Phase	Responsibility	Cost V Benefit	Rank
SAND 3	Installation of Ramp Access Controls at Junction 17	<ul style="list-style-type: none"> + Prevents or delays the onset of congestion and helps to clear congestion once it has occurred. + Improvements in reliability of journey times - Potential for queuing at the metering point - Cost 	No change	Number of sites implemented	2010	2010	Highways Agency	MED v LOW	Not applicable. Already completed
SAND 4	NO _x busting paint	<ul style="list-style-type: none"> + Reduces NO₂ concentrations + Potential air quality improvements + Public perception - Cost - Requires householder permission 	No change	A decision made as to whether such a scheme is suitable for the area	2011	2012	Public Protection and Health	LOW v Variable	3

ID	Action	Positive/Negative	Climate Change Impact	Performance Indicator	Planning Phase	Implementation Phase	Responsibility	Cost V Benefit	Rank
SAND 5	Investigate the feasibility of traffic signalisation on part of the network	+ Potential to reduce congestion on the network + Improved AQ - Cost	No change	Review completed and decision made as to benefits of implementation	2013	2014	Highways Agency Highways	LOW V LOW	7 linked
SAND 6	Review the need for a speed limit reduction	+ Smooth traffic Flow + Reduce emissions + Improve Road Safety - Enforcement cost - Travel times	+Slight benefit reduced emissions	Review completed and decision made as to benefits of implementation	2013	2014	Highways Public Protection and Health	LOW V LOW	7 linked
SAND 7	Investigate "Green Walls" to determine effectiveness at absorbing NO ₂	+ Reduce exposure to NO ₂ + Improved aesthetic - Maintenance of plants	+ Plants good for climate change	Decision made to progress a scheme for Cheshire East based on measured reductions in NO ₂	2011	2012	Public Protection and Health	LOW V LOW	4

ID	Action	Positive/Negative	Climate Change Impact	Performance Indicator	Planning Phase	Implementation Phase	Responsibility	Cost V Benefit	Rank
SAND 8	AQMA Message Signs	+ Display air quality information to raise awareness and modify their activities to reduce emissions	No Change	Identification of suitable location and appropriate messages. A decision as to whether scheme suitable for the area	2011	2012	Highways Public Protection and Health	LOW v LOW	5
SAND 9	Explore the feasibility of idling engine switch off signage on Holmes Chapel Road	+ Reduce idling emissions + Possible AQ improvements - Safety consideration - Enforcement	No change	Feasibility study	2011-2012	2012-2013	Cheshire East Council Highways	LOW v LOW	6

9.7 Air Quality Management Area- A556, Mere

The AQMA some 17km in length encompasses stretches between the roundabout with the A56 Lymm Road to the north and Junction 19 of the M6 to the south.

The A556 carries some 56,000 northbound and 40,000 southbound vehicles per day with a HGV burden of 17% along a dual carriageway between the M6 and M56. There are approximately 80 residential properties within the AQMA covering 0.5km². The road intersects the busy A50 Trunk Road running between Stoke on Trent and Warrington.

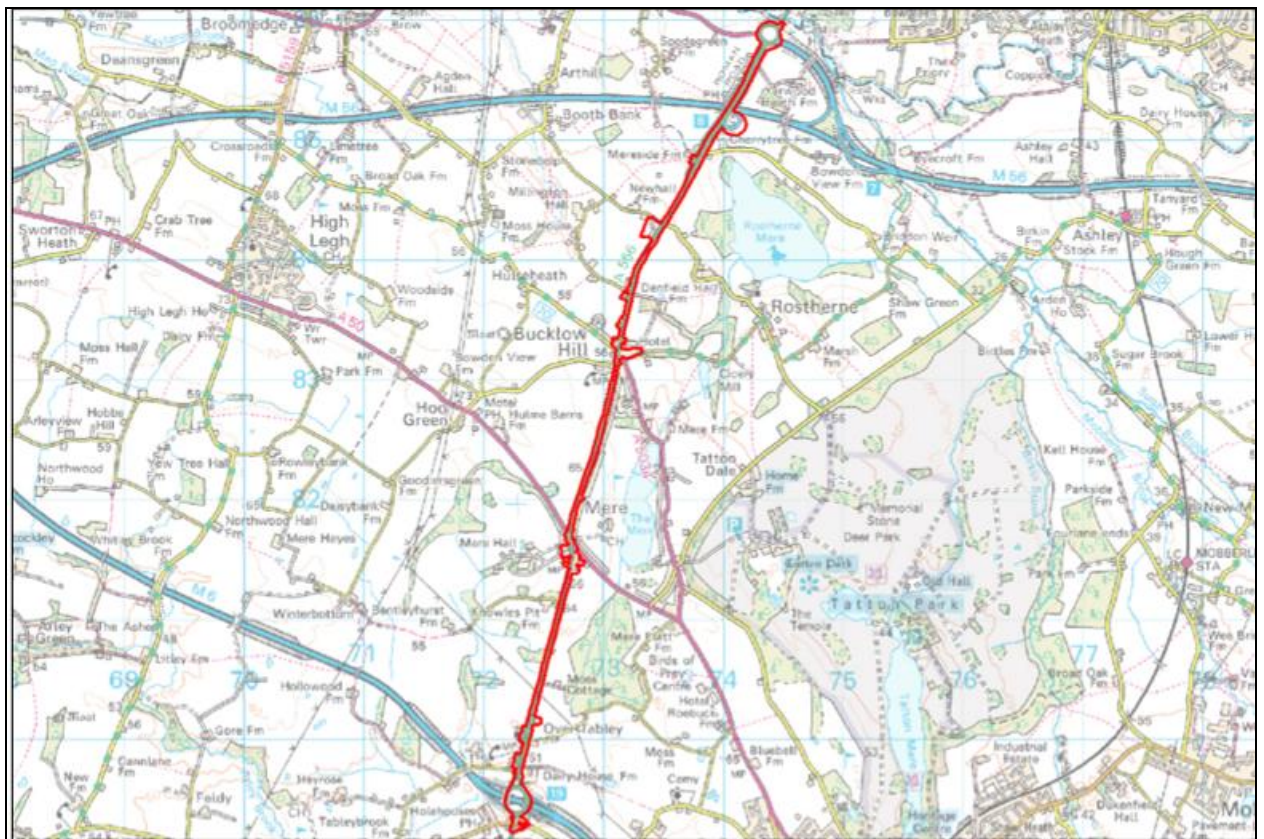


Figure 17 Air Quality Management Area A556, Mere

Nitrogen dioxide concentrations for previous years measured at properties are contained within Table 23.

	2005	2006	2007	2008	2009	2010
Old Hall Lane		29.8	59.4	56.9	58.3	63.6
Almond Tree Cottage		50.7	51.4	52.5	50.1	69.3
Road sign, A556	67.8	66.1	55.4	64.1	60.3	69.7
Mere Corner Cottage				46.7	46.1	52.5
Mere Home Farm				24.2	23.4	30.5
Old Smithy Cottage				37.3	36.5	37.8
Mereside Farm				32.8	36.7	35.1

Table 23 NO₂ diffusion tube results within and surrounding the AQMA

Table 24 provides information on the mitigation options to be considered for this area.

Table 24 Specific Actions Air Quality Management Area- A556 Chester Road, Mere

ID	Option	Positive/Negative	Climate Change	Performance Indicator	Planning Phase	Implementation Phase	Responsibility	Cost V Benefit	Rank
MERE 1	A556 Bypass Scheme	<ul style="list-style-type: none"> + Divert traffic from sensitive receptors + Reduce traffic volume on current route + Less HGV on current route - Cost - Land grab - Possible impact on other roads 	+ Reduced emissions	<ul style="list-style-type: none"> Completion of Bypass Contact HA to ensure progress with scheme reported AQ impact assessment for scheme options 	Ongoing	Est. 2015	Highways Agency	HIGH v HIGH	1
MERE 2	AQ assessment for network improvements	<ul style="list-style-type: none"> + Assess AQ impact of proposed highway works + Refine the AQMA area in light of developments + Allows alternative schemes to be considered in light of adverse findings - Time and work involved 	No Change	<ul style="list-style-type: none"> Modelling exercise undertaken and completed for all schemes Results used to inform decision making process 	Ongoing and various dependant on schemes	Ongoing and various dependant on schemes	Highways Agency	LOW v LOW Will ensure AQ is not adversely affected by highway development	6 linked

ID	Action	Positive/Negative	Climate Change Impact	Performance Indicator	Planning Phase	Implementation Phase	Responsibility	Cost Benefit	V	Rank
MERE 3	Regular review of AQ monitoring within AQMA and surrounding area	+ Refine knowledge of NO ₂ concentrations + Future model verification - Time/ work - Cost	No Change	Review of monitoring locations	Annual review	Annual review of monitoring	Public Protection and Health	LOW v LOW		2
MERE 4	Junction Improvements	+ Reduce cost and improve flow + Potential to limit queue times - Cost - Disruption - Land availability	+ Reduced emissions	Decision as to whether schemes are appropriate Undertake works and complete works	2013	2015	Highways Agency Cheshire East Council Highways	MED V HIGH v LOW		6 linked
MERE 5	Signal Improvements along the route	+ Co-ordination of signals to improve flow + Improve queue times + Reduce peak time/ sporting event congestion	+ Reduced emissions	Feasibility study and AQ impact assessment	2008	2008 ongoing	Highways Agency/ Cheshire East Council Highways	HIGH v LOW		6 linked

ID	Action	Positive/Negative	Climate Change Impact	Performance Indicator	Planning Phase	Implementation Phase	Responsibility	Cost Benefit	Rank
MERE 6	Review monitoring data following Further Assessment to refine AQMA boundary	<ul style="list-style-type: none"> + Remove properties from AQMA + Lower exceedence area - Cost 	No change	<ul style="list-style-type: none"> 12 Months of monitoring data Completion of study and DA if necessary 	2011	2012	Cheshire East Council	LOW v LOW	3
MERE 7	NO _x busting paint	<ul style="list-style-type: none"> + Reduces NO₂ concentrations + Potential air quality improvements + Public perception - Cost - Requires householder permission - Repeat treatment required - Requires right physical conditions 	No change	Review experiences of trials elsewhere in the Borough.	2010 onwards	2010/2011	Cheshire East Council	LOW V Variable	4

ID	Action	Positive/Negative	Climate Change Impact	Performance Indicator	Planning Phase	Implementation Phase	Responsibility	Cost Benefit	Rank
MERE 8	Explore the Feasibility of undertaking a Traffic census	+ Refine knowledge of traffic movements + Further target and review action plan initiatives	No change	Completion of census	2011	2012	Highways Agency Cheshire East Council	MED v LOW	9
MERE 9	Explore the feasibility of a low emission zone	+ Reduce impact from most polluting vehicles + provide funding for wider AQ initiatives - Cost of enforcement - Long lead in time	+ Reduced emissions	Undertake feasibility study	2012	2013	Highways Agency Public Protection and Health	HIGH v LOW	7
MERE 10	M56 Road Safety Improvements	+ Reduce accident congestion + Reduce delays on the A556 + Less accidents - Cost	No change	Feasibility Study	2012	2012	Highways Agency	HIGH v LOW	8

ID	Action	Positive/Negative	Climate Change Impact	Performance Indicator	Planning Phase	Implementation Phase	Responsibility	Cost Benefit	Rank
MERE 11	Explore the feasibility of idling engine switch off signage	+ Reduce idling emissions + Possible AQ improvements - Safety consideration - Enforcement	+ Reduced emissions	Feasibility study	2012	2012	Highways Agency Cheshire East Council	LOW v LOW	6 linked
MERE 12	Review congestion and causes of congestion on the route and surrounding routes	+ Helps identify measures to reduce network congestion + Helps meet journey time targets + Possible AQ improvements	+Link to Climate Change	Continuation of workshops Develop individual action plans Implementation of measures	Ongoing	Ongoing	Highways Agency	MED v Variable	5

10.0 Progress and Performance Monitoring

In order to ensure that the Action Plan continues to move forward and does not become stagnant it is important that progress against actions be monitored on a regular basis and if necessary brought back on course where slippage occurs against the prescribed deadlines.

For the purposes of this Action Plan it is considered appropriate to use any existing performance monitoring methods that are employed within the various strategies and policies that have been considered as being paramount to its success (section 5.0) rather than create new or additional methods. Such duplication can make the process unwieldy and dilute the emphasis of the monitoring process.

To clarify the performance monitoring that will be utilised to ensure the progress of the Action Plan each policy will be taken in turn and discussed in individual detail.

National Air Quality Strategy
This is implemented through the Local Air Quality Management regime developed by The Environment Act 1995. The aims of this regime are to identify areas where exceedence of the Air Quality Standards is, or is likely to be occurring and to direct attention to resolving those issues through a defined investigative methodology. This regime is implemented by Local Authorities to a set programme.
Performance monitoring is completed by Defra who ensure that local authorities meet the requirements and timescales of the regime as well as assessing the actual quality of work completed. Details of the requirements and their associated deadlines are contained in Box 1.3 of TG (09) Technical Guidance.

Sustainable Community Strategy
The Sustainable Community Strategy 'Ambition for All' brings together a range of organisations to produce a Strategy that protects, enhances and meets the needs of the borough as a place to live, work and invest. It seeks to address the needs within the community under seven priorities for action.
Actions set out in the Strategy will be taken forward by PACE (Partnerships for Action in Cheshire East) through delivery plans developed by thematic partnerships. All activities will be supported by robust performance management arrangements and regular reporting of progress to the public and partners.

Corporate Strategy

The Corporate Strategy is produced by Cheshire East Council and pulls together key priorities and objectives for the whole Council under five corporate objectives.

To support the Plan, a Performance Management Strategy has been developed to focus on the activities of Directorates in achieving the priorities in the plan.

Local Transport Plan

The LTP aims to capitalise on the strengths of the existing transport system and details a strategy of key measures the Council will look to improve in the future.

Once finalised the Strategy will be supported by 3 year implementation plans which will transform the strategy into action.

Air Quality Strategy

The AQS identifies commitments intended to deliver improvements to local air quality through communication and cooperation within Cheshire East, between external organisations and the community.

Eight indicators have been proposed which will enable the effectiveness of the strategy can be evaluated.

Safer and Stronger Communities Business Plan

The Safer and Stronger Communities Business Plan is made up of key priorities from the service areas that it covers including Public Protection and Health, Consumer Protection and Investigations, Licensing, Community Safety and Car Parking Services.

Monitoring is undertaken on both a monthly and quarterly basis. Each month, the Safer and Stronger Communities Section Managers are required to verbally update the rest of the team on their progress against their business plan, identifying any positive or negative issues that are likely to impact on performance. On a quarterly basis LAA targets are updated with progress reports.

Public Protection and Health Service Plan

The Public Protection and Health Service Plan is made up of all the objectives and targets for Public Protection and Health and across each of its specialist areas for any given year. Several of these are taken forward to the Safer and Stronger Business Plan and beyond.

All objectives within the plan are subject to performance outcomes and targets. These are monitored on a monthly, quarterly, 6 monthly and an annual basis dependent upon the objective in question.

Highways Agency Corporate Plan/ Business Plan

The Highways Agency Business Plan details the key performance measures of 2010-2011 comprising of the indicators set and agreed by Ministers at the beginning of the year.

Reporting against these targets takes place annually with the production of an Annual Report to Parliament. A copy of this report is also available on the Highways Agency website www.highways.gov.uk

11.0 Cheshire East Council Action Plan Appraisal

Cheshire East Council currently has seven Air Quality Management Areas included in this Action Plan; three of these are within Congleton Town, one is within Nantwich, one in Mere and two adjacent to the M6 Motorway at Junctions 17 and 18. The Areas themselves incorporate a total of approximately 161 residential properties and were declared between 2005 and 2008 on the basis of ongoing or likely exceedence of the annual mean concentration for nitrogen dioxide.

Investigations have identified that the major source of nitrogen dioxide in these areas is related to transport emissions, a situation that has been exacerbated by the proximity of properties to the highway. In some instances properties are less than 1.5 meters from the kerbside of heavily trafficked roads.

This information has been paramount to the development of the Action Plan and has helped to focus our attention on the issues that are contributing to the problem and therefore the intervention measures that may be most appropriate.

11.1 Action Plan Options

There is no single option that will resolve the air quality issues that have been identified by Cheshire East Council instead it is considered that a combination of mitigation options will be required to help reduce nitrogen dioxide levels in line with the AQS. This is of particular importance given the following overriding factors:

1. The source of nitrogen dioxide in these areas is from road traffic and across the areas includes both HGV and LGV components;
2. The roadways in question are major arterial routes and include approved vehicle routes;
3. Most properties are affected due to their close proximity to the carriageway and so it has been accepted that they will always experience higher levels of pollutant concentrations;
4. The layout of some affected areas is such that road-engineering improvements are impractical.
5. The Local Transport Plan does not include a major scheme that could have a positive impact on the air quality situation.

6. The M6 Motorway is currently the subject of discussion in terms of longer-term improvements that have yet to be finalised.

As can be seen in Section 9.0 of this report each AQMA has been taken in turn and a specific set of options considered, based on the local circumstances and environment in that area. This work has particularly focussed on the 'hard' measures that may be appropriate and in some cases has identified potential actions to investigate further. Similarly this exercise also highlighted measures that could not be taken forward for further consideration and these are detailed in Appendix 2.

Given these difficulties it was considered appropriate to examine more general options, which could, in parallel seek to have a positive impact on the air quality situation within these areas and the Borough as a whole. These are commonly referred to as 'soft' measures and include areas such as awareness raising, policy development, general regulation, improved monitoring, changing attitudes and increasing the public's use of other transportation measures.

It is important to note however that even these measures require input and support from both internal and external agencies and therefore have been subject to extensive consultation and discussion during the development of the Action Plan.

It was identified during the very early stages of the Plan development that the Highways Agency and Highways Department would need to be involved in the selection and discussion of options and it is only with the help of these that we have been able to further extend the options available to us and gain direct access to both the Local Transport Plan development and the Highways Agency strategies.

Much work has been done to ensure that departments within the Council are aware of our air quality work and the influence that Council function has to play as a whole. This has helped identify areas where policy development may be appropriate to deliver more long-term improvements.

11.2 Cost Benefit of Options

In accordance with guidance provided to local authorities on the development of Air Quality Action Plans there is a requirement to complete cost benefit analysis of proposed actions to ensure that an authority is pursuing a balanced and realistic approach. Local authorities are not expected to undertake a full cost and benefit

analysis nor are they expected to undertake detailed analysis of the cost effectiveness of every conceivable policy option for improving air quality within an AQMA.

One stipulation that is made however is that in the estimate of costs a local authority should include not only direct costs but also indirect costs of a scheme for example income reduction, maintenance costs etc.

For the purposes of this Action Plan Cheshire East Council have employed a rudimentary approach to cost benefit that is detailed within section 7.4. This is based on approaches taken by other local authorities and has been further used to rank the proposed 'specific area' options alongside the additional consideration of feasibility of a scheme in terms of ease of implementation and funding available.

11.3 Impact Assessment of Proposed Measures

A detailed cost benefit analysis is not required as it would be both impractical and technically difficult to quantify the air quality impacts associated with every proposed measure in the Air Quality Action Plan. We have assessed the cost and benefits using a simple matrix approach based on judgment and experience.

We have attempted to predict the potential air quality benefits of the options using professional judgment and experiences gained by other Local Authorities. We believe that the plan, if fully implemented, will allow us to achieve the objectives although we cannot say at this moment exactly when this will occur. In each case, the further assessment completed as part of the Review and Assessment Process shows the likely compliance date for the "do-nothing" scenario, clearly implementing action plan measures will bring this forward, however it is noted that air pollution reductions across the UK arising from road transport have not been realised in some circumstances, we are therefore somewhat reluctant to make such a prediction at this time. Suffice to say, it is not an option to do nothing as there would be no prospect of achieving the objectives at all locations.

It is proposed to keep the impact of the plan under periodic review. Many of the measures in the plan are at very early stages of development, and will need a significant amount of feasibility study work, though the potential benefits from this warrant this careful approach. It is our intention to assess the air quality impact of these initiatives as part of overall feasibility work and report the outputs of studies as

they arise in future progress reports. Clearly, if some of the more ambitious initiatives cannot be taken forward the emphasis will shift to the rest of the plan and the Action Plan may need revision. Therefore, if the best available evidence suggests that the plan is not going to deliver the necessary air quality benefits, we are committed to revise it as required.

11.4 Funding for the Air Quality Action Plan

The options identified within the Action Plan are being funded through a variety of means.

- ✓ The General Options are being funded predominantly through existing budgets within the Borough Council financial system although we will continue to explore other funding opportunities through our joint working schemes and through other external agencies.
- ✓ Those options highlighted for Cranage, Sandbach and the A556 Mere are mostly being led by the Highways Agency and will be funded within their planned allocation and suitability for the motorway network within both the Cheshire East Area and nationally.
- ✓ The Local Transport Plan has identified a range of options that are appropriate for inclusion within the Action Plan and in response to our specific problems as well as air quality in general.
- ✓ The Community Infrastructure Levy could be used to implement action plan measures where new development is unable to satisfactorily mitigate transport related emissions.
- ✓ S.106 Agreements could be sought for significant new development which has moderate or substantial adverse impacts on Local Air Quality.

In relation to funding of the Action Plan it is important to note that actions and their associated cost need to be commensurate not only with the air quality improvements that they achieve but also the Council priorities. As the Plan develops there may be new evidence and information on either the scope of the air quality situation within the Borough or the actual effectiveness of measures as they become more

widespread in application. It is important therefore that we consider this document a living Plan that is flexible enough to respond to these changes.

11.5 Targets and Timescales

Each of the options has, as far as is practicable, been given an associated timescale for implementation and an indication of the outcome to that work. In some instances these details have been taken directly from the Highways Agency Strategy whilst other options have been determined through discussion with the individuals charged with their completion. Given this reliance on other agencies to complete actions there is a need to ensure that a level of performance monitoring exists to ensure that progress is made in line with timescales involved and to identify where remedial action may be required to bring a project area back on track. This issue has been dealt with in detail within section 10.0 although further discussions are ongoing to help identify methods by which performance information may be more readily available for the Council as and when it is required.

11.6 Socio Economic Factors

It would be short sighted to assume that actions with the Air Quality Action Plan would not have socio-economic and wider environmental impacts and so it has been an important part of this plan to look at these potential issues as part of the options appraisal. Therefore in each case positives and negatives, which extend beyond the remit of air quality, have been briefly considered.

In totality the general options that have been developed appear to have little impact outside the field of air quality or an impact that can readily be managed by those charged with its implementation.

Conversely a number of the area specific options provided a variety of issues that needed to be considered in more detail or have produced a requirement that these be looked at in more detail over the coming months. Particular reference is made to issues surrounding compulsory purchase orders, Congleton Bypass, Low Emission Zones and the proposals for the Mere Bypass. In relation to the latter scheme this work will be completed as part of any progress in this area by the agency charged with developing such a scheme.

11.7 The Bigger Picture

Section 11.1 of this report briefly highlighted some of the problems that we face in finding options to address the air quality issues that have been identified within Cheshire East and how we have high reliance on the 'softer' rather than the 'hard' measures to move towards our goals. The breakdown of our Action Plan to look specifically at each AQMA, only further underpins this difficulty.

We also comment however that we need to make this Action Plan as flexible as possible so that it is responsive to change. This statement is particularly pertinent given the ongoing discussions about transport infrastructure in the area including the managed motorway project and the Mere Bypass Scheme. Further, as new techniques are developed then their appropriateness needs to be reviewed in light of the current air quality situation in Cheshire East to ensure that we are actively seeking improvement.

11.8 The Do Nothing Approach

Despite the difficulties in finding suitable options to implement within the Air Quality Action Plan, Cheshire East is committed to taking measures to work towards achieving the Air Quality Standard and has therefore developed a wide range of options to be investigated and implemented over the lifetime of the plan.

As part of the decision making process however the 'do nothing' approach was considered, placing full reliance on the expected reductions in nitrogen dioxide which would occur as a result of European and national initiatives such as vehicle technology improvements. This is of course a long-term approach and using the projection calculations shown in revised Box 2.1 from Technical Guidance LAQM. TG (09). The Tables 25-31 below provide an indication of the potential timescales involved should reductions continue at the rate originally thought. Figures in blue font are predicted values only.

The Haven, Cranage	2010	2011	2012
	42.0	40.3	38.7
	42.1	40.4	38.8
	41.5	39.9	38.3
Mean	41.8	40.1	38.5

Table 25 Air Quality Management Area- Cranage.

West Road, Congleton	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
	60.4	58.0	55.7	53.5	51.2	48.8	46.9	44.8	42.8	40.8	38.1
	59.4	57.1	54.8	52.6	50.3	48.0	46.1	44.1	42.1	40.2	37.5
	59.9	57.6	55.3	53.0	50.7	48.4	46.5	44.5	42.5	40.5	37.8
Mean	59.9	57.6	55.3	53.0	50.7	48.4	46.5	44.5	42.5	40.5	37.8

Table 26 Air Quality Management Area- West Road, Congleton

The 'do nothing' approach for this AQMA is clearly not sufficient on its own to help the area meet the AQ Objective.

Rood Hill, Congleton	2010	2011	2012	2013	2014	2015
	43.1	41.4	39.7			
	47.9	46.0	44.2	42.4	40.6	38.7
Mean	45.5	43.7	42.0	40.3	38.5	

Table 27 Air Quality Management Area- Rood Hill, Congleton

The 'do nothing' approach for this AQMA is clearly not sufficient on its own to help the area meet the AQ Objective.

Hospital Street, Nantwich	2010	2011	2012	2013	2014	2014
	48.7	46.8	44.9	43.1	41.2	39.4

Table 28 Air Quality Management Area- Hospital Street, Nantwich

The 'do nothing' approach for this AQMA is clearly not sufficient on its own to help the area meet the AQ Objective.

It can be seen from the data within section 9.4 that a package of measures is required in order to produce the required reduction in nitrogen dioxide levels. One single action will not result in a reduction large enough to bring levels down to below the objective level.

Lower Heath, Congleton	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
	55.4	53.2	51.1	49.0	46.9	44.8	43.0	41.1	39.3		
	58.7	54.2	54.2	52.0	49.7	47.5	45.6	43.6	41.6	39.7	
	61.5	54.5	56.7	54.5	52.1	49.7	47.7	45.7	43.6	41.6	38.8
Mean	58.5	56.2	54.0	51.8	49.5	47.3	45.4	43.4	41.5	39.6	

Table 29 Air Quality Management Area- Lower Heath, Congleton

The 'do nothing' approach for this AQMA is clearly not sufficient on its own to help the area meet the AQ Objective.

It can be seen from the data within section 9.5 that a package of measures is required in order to produce the required reduction in nitrogen dioxide levels. One single action will not result in a reduction large enough to bring levels down to below the objective level.

J17, Sandbach	2010	2011	2012	2013	2014	2015
	48.9	46.8	45.1	43.3	41.4	39.5
	48.3	46.4	44.5	42.8	40.9	39.1
	50.0	48.0	46.1	44.3	42.3	40.4
Mean	49.0	47.1	45.2	43.4	41.5	39.6

Table 30 Air Quality Management Area- A5022/A534, Sandbach

The 'do nothing' approach for this AQMA is clearly not sufficient on its own to help the area meet the AQ Objective.

Chester Road, Mere	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
	69.7	67.0	64.3	61.7	59.0	56.4	54.1	51.8	49.4	47.1	44.0

Table 31 Air Quality Management Area- A556, Mere

The 'do nothing' approach for this AQMA is clearly not sufficient on its own to help the area meet the AQ Objective.

It can be seen from the data within section 9.7 that a package of measures is required in order to produce the required reduction in nitrogen dioxide levels. One single action will not result in a reduction large enough to bring levels down to below the objective level.

In accordance with technical guidance the bias corrected results for each site have been assessed taking measured concentrations in 2009 and projecting forward until such time that an exceedence of that Air Quality Standard does not exist.

11.9 Action Plan Progress Reporting

Progress against Action Planning options and targets will be completed on an annual basis and will include available information from our partner agencies. Updates will also be communicated to the wider community to ensure the profile of air quality is maintained and scope continues to exist for debate.

Further Information

Any questions or comments in respect of this report should be forwarded to;

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LOCAL AIR QUALITY MANAGEMENT

**FINAL ACTION PLAN
JULY 2011**

APPENDICES

CHESHIRE EAST COUNCIL

Appendix 1

See Further Assessment Reports of 2006, 2007, 2009, and 2010. These are available at www.cheshireeast.gov.uk

Appendix 2

Actions considered but not taken forward

ROAD USER CHARGING THROUGH AQMA(AQMA West Road, Rood Hill, Lower Heath, Hospital Street, A556, A5022/A534, Sandbach)				
Positives/ Negatives	What would be required	Who would be responsible	Timescales	Cost V Benefit
+ Tackles congestion + May encourage car share - Pushes the problem to less equipped roads - Public perception	Feasibility Investigation	Highways	Dependent upon outcome of the study	MED V MED

Road User Charging is not considered a feasible option for the Air Quality Management Areas. This is due to the nature of the roads, namely the A34, A54, A534 and the A556, all of which are major arterial routes that support intensive private and commercial vehicular use. Road user charging would displace vehicles onto minor roads and more built up residential areas. In addition although any charges could be used to improve the AQMA, this report identifies the limiting environment that we have to work with.

COMPULSORY PURCHASE ORDERS (ALL AIR QUALITY MANAGEMENT AREAS)				
Positives / Negatives	What would be required	Who would be responsible	Timescales	Cost V Benefit
+Removes specific exposure +One off cost Residents may wish not to move Socio economic impacts Loss of earnings from working businesses Potential legal problems in executing CPO Cost Does not accord with sustainability	A review of local authority experiences is completed and a report on the applicability of such a scheme is produced.	Public Protection and Health Development Control Air Quality Action Plan Helpdesk	Ongoing development into feasibility	HIGH v LOW

The issue of Compulsory Purchase Orders was considered whereby the local authority would use powers available to it to buy up properties within the Air Quality Management Areas and therefore control exposure to pollution. Given the implications of such a scheme and the legislation involved which requires a number of criterion to be met then this was not considered a feasible option and has not been taken forward to the Action Plan.

PEDESTRAINISATION (All AQMA's)				
Positives/ Negatives	What would be required	Who would be responsible	Timescale	Cost V Benefit
+The provision of a car free environment reduces people's exposure to emissions Major arterial route -Displacement of traffic onto alternative key routes	Feasibility investigation	Highways	Dependent upon outcome of study but long term solution	MED/HIGH V LOW

Pedestrianisation is not considered a feasible option for any Air Quality Management Area. This is due to the nature of the roads that they include, namely the A34, A54, A534 and A556, which are major arterial routes that support intensive private and commercial vehicular use in the town and its environs. All roads are currently approved vehicle routes and already displace heavy vehicles from minor roads and more built up residential areas.

INSTALLATION OF BARRIERS (AQMA West Road, Lower Heath, Rood Hill, Hospital Street)				
Positives/Negatives	What would be required	Who would be responsible	Timescales	Cost V Benefit
Safety implications	A literature review of the effects of barriers on mitigating air pollution exposure.	Public Protection and Health	Dependent upon outcome of study	MED V LOW
Narrowing of pavement - No known mitigation effects of barriers in reducing air pollution exposure	A decision as to whether this is feasible	Highways Development Control		

The installation of a barrier to reduce exposure to air pollution is somewhat untested and would need to be investigated further. However, local circumstances make this an unattractive and unfeasible option as the effectiveness of any barrier would no doubt be proportional to its height and given this the houses within the AQMA's would be barricaded behind a barrier and would lose the natural light. In addition there are safety implications of narrowed pavements and obscured views that would limit implantation of such a scheme.

REVIEW SPARE CAPACITY ON ADJACENT ROADS (AQMA Hospital Street, Nantwich)				
Positives/Negatives	What would be required	Who would be responsible	Timescales	Cost V Benefit
+ Divert traffic away from the AQMA + Potential AQ improvements - Increased congestion on neighbouring roads - Deterioration of AQ in neighbouring areas	Model effects of increased traffic on air quality complete	Public Protection and Health Highways	Dependent upon outcome of study	LOW V LOW

Roads adjacent to the AQMA have nitrogen dioxide levels close to the objective. Therefore, diverting traffic on to these roads would not be possible as this could result in a breach of the standard at the façade of sensitive premises, which the Council could not support.

Appendix 3

Consultation comments relating to the Draft Action Plan

During the period of 10th January to 18th March 2011, Cheshire East Council undertook an extensive consultation process where copies of the draft Air Quality Action Plan were distributed to a wide spectrum of consultees; including statutory consultees, external organisations and the general public. In order to increase public awareness of the draft Action Plan, the Council publicised the plan through the local press and www.cheshireeast.gov.uk In addition, the Council hosted a number of presentations to various groups to gain feedback on the plan.

The following summaries the comments received from the general public and representatives from various organisations during the official consultation period.

Respondent	Comments	CEBC Response	Action
Councillor	Repeat application of photo-catalytic paint	Already planned for in the current action plan	
NGO	Strategy – support integration into LDF and LTP – wider public dissemination	Welcome comments – wider public dissemination included in the action plan	
NGO	TR1, TR2 and TR6 should be altered in the light of research to show a high potential benefit of moving to sustainable transport modes.	Noted – whilst the moves may have a high “wider” benefit on the socio / environmental scale, we can only consider the impact to air quality in the air quality action plan (see scale P34).	
Internal (PROW)	Corrections to titles in main document. Support integration of Air Quality Strategy		Corrections made
PUBLIC	Hospital Street, Market Street, Pepper Street and High Street completely pedestrianised between 9am and 5pm, Time deliveries outside	Addressed within action plan. Complete pedestrianisation is not considered deliverable. Progressed as part	

	peak times	of action plan	
DEFRA	<p>Welcome strategic approach</p> <p>acknowledged that the nature of the AQMA's makes it difficult to develop appropriate effective measures</p> <p>It would be useful for the Council to give some assessment of the overall impact of the package of measures chosen for each AQMA, and whether implementation is likely to result in the objective(s) being attained</p> <p>tie performance indicators to these phases, to enable clearer reporting of the progress of measure implementation</p>	Noted	Action plan to be amended where appropriate
Councillor	<p>Although the draft AQAP and AQS are described as 'daughter' documents to the Local Transport Plan, Poynton Town Council feels that they should also inform the Local Development Framework Core Strategy</p>	Steps have already been taken to incorporate air quality into the LDF and Core Strategy	
A-One+ (NGO)	<p>Action SAND9 for the Sandbach AQMA – A5022/A534 – This action is to look at the feasibility of Idling signs on Holmes Chapel Road with a joint responsibility for the HA and Cheshire East Highways. We do not believe that this road is under the HA's management and would therefore</p>		Corrections made

	<p>suggest that the action should be with Cheshire East Highways Dept.</p> <p>Action MERE10 for the Mere AQMA – A556 – The action refers to Safety Improvements on the M56 Road. To our knowledge these works as due to finish over the next few months.</p>	<p>Noted</p>	
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