Air Quality Action Plan for Gateshead AQMA

UPDATED VERSION

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EXECUTIVE SUMMARY

This Air Quality Action Plan (AQAP) has been prepared on behalf of Gateshead Council in order to fulfil its statutory obligation under Section 84(2) of the Environment Act 1995. Following the declaration of an Air Quality Management Area (AQMA), local authorities are required to develop an AQAP, setting out the measures that they intend to put in place in order to improve local air quality, in pursuit of the air quality objectives.

A Detailed Air Quality Assessment was completed in January 2005, and concluded that an Air Quality Management Area (AQMA) was required for one particular location, namely the junction of the A184 and A167. Both monitoring and modelling results indicated that a few residential properties in Trinity Court and Peareth Court could be within the area of exceedence of the nitrogen dioxide annual mean objective.

Following consultation, it was decided that the AQMA would be designated for the whole of Gateshead's town centre, and the Order came into force on 1 April 2005. The Council was of the opinion that designating a larger area would allow a more comprehensive approach to implement effective actions to improve air quality.

The Further Assessment was completed in April 2006. Further monitoring and modelling of nitrogen dioxide concentrations within and around Gateshead's Town Centre Air Quality Management Area (AQMA) indicated that most locations achieved the Government's objective for annual mean nitrogen dioxide concentrations during 2005, but that there were some isolated exceedences, both inside and outside of the AQMA. The exceedences inside the AQMA were at the Gateshead Highway / Park Lane junction, at the new residential development near to the Tyne Bridge and at the juction of High Street with Charles Street. The exceedence outside of the AQMA was on Durham Road (A167) opposite the junction with Dryden Road. The highest measured or predicted concentration at any location was 42 $\mu g/m^3$, which compares with the objective level of 40 $\mu g/m^3$. The margin of exceedence is thus relatively small. Nevertheless, it was estimated that the emissions from local roads would need to have been some 12% lower in order for the objective to have been achieved at the worst-case location.

The Further Assessment recommended that the current AQMA should remain as declared, but that additional monitoring should be carried out around the Dryden Road site.

Pollutant emissions within the AQMAs are linked to road transport predominantly. The Council has therefore decided to incorporate its AQAP into the Local Transport Plan, in line with Government guidance. Gateshead Council is also working closely with the

other metropolitan authorities in the Tyne and Wear region, and with transport engineers and planners, both in relation to implementing a Local Air Quality Strategy and working on the Local Transport Plan.

This AQAP describes the processes that are in place, and sets out the measures that have been considered to deliver improvements to air quality within Gateshead. A detailed evaluation of these measures is ongoing in close consultation with planners, development control and transport engineers. This version of the AQAP can be read as a stand-alone document, but is also designed to be incorporated as an Annexe to the LTP Progress Report (July 2007). This document describes the measures to be implemented, provides an account of timescales involved and funding, and indicates the improvements that are expected.

It is concluded that the following measures are most likely to have a direct impact on reducing pollutant concentrations in Gateshead.

- Improvements in bus emissions;
- Improvements in public transport more generally to encourage a modal shift from private vehicles, and
- Travel Plans prepared by the large and major employers within Gateshead (including the Council) and other centres of employment & new developments, again to encourage a model shift away from private vehicles.

In addition, and particularly in the longer term, the land-use planning system will play a crucial role in improving air quality at hot spots and maintaining good air quality elsewhere.

CONTENTS

1. Introduction and Aims of the Plan

1.1 Introduction

1 Air Quality Consultants (AQC) and the Air Quality Management Resource Centre at the University of the West of England (UWE) have been commissioned by Gateshead Council to prepare an Air Quality Action Plan for integration into the Local Transport Plan (LTP) for Tyne and Wear.

2 Part IV of the Environment Act, 1995, places a statutory duty on local authorities to periodically review and assess air quality within their area. The concept of Local Air Quality Management (LAQM) and the process of 'review and assessment' were established in the 1997 National Air Quality Strategy (NAQS)[1]. In 2000, the Government reviewed the NAQS and set out the revised Air Quality Strategy for England, Scotland, Wales and Northern Ireland[2] (AQS). This established a revised framework for air quality objectives for seven pollutants. These objectives were subsequently prescribed into Regulation in 2000 via the Air Quality Regulations 2000[3] and amended in 2002[4].

3 Local authorities have a duty to consider whether these objectives are likely to be achieved by the due date. Where it appears likely that the air quality objectives will not be met by the designated target dates, the authority must declare an Air Quality Management Area (AQMA). Following the declaration of an AQMA, the authority must then carry out a Further Assessment of existing and likely future air quality (previously referred to as the "Stage 4" report) and develop an Air Quality Action Plan (AQAP) which sets out the local measures to be implemented in pursuit of the air quality objectives.

4 Policy Guidance LAQM.PG(03)[5] published by the Government in 2003, provides guidance on the development of action plans. Action plans are considered to be one of the most important aspects of the LAQM process, playing a key role in helping the UK

[1] DoE (1997) The United Kingdom Nation Air Quality Strategy The Stationery Office
[2] DETR (2000) The Air Quality Strategy for England, Scotland, Wales and Northern Ireland – Working together for Clean Air, The Stationery Office
[3] DETR (2000) The Air Quality Regulations 2000, The Stationery Office
[4] Defra (2002) The Air Quality Strategy for England, Scotland, Wales and Northern Ireland: Addendum, The Stationery Office
[5] Defra (2003) Policy Guidance LAQM.PG(03)

Government deliver the air quality objectives and the EU limit values. The AQAP is expected to include the following:

- quantification of the source contributions to the predicted exceedences of the objectives, to allow the Action Plan measures to be effectively targeted;
- evidence that all available options have been considered on the grounds of cost-effectiveness and feasibility;
- how the local authority will use its powers and also work in conjunction with other organisations in pursuit of the air quality objectives;
- clear timescales in which the local authority and other organisations and agencies propose to implement measures within the Action Plan;
- quantification of the expected impacts of the proposed measures and, where appropriate, an indication as to whether the measures will be sufficient to meet the air quality objectives; and
- how the local authority intends to monitor and evaluate the effectiveness of the Action Plan.

5 In December 2001, the Office of the Deputy Prime Minister (ODPM)[6] set out proposals to reform council services, with the intent to give more freedom and flexibilities to local authorities, and to reduce the burden to produce and submit plans. One outcome is that local authorities are no longer required to produce a separate Air Quality Action Plan where the problem is predominantly related to road transport. In such cases, local authorities are advised to incorporate the AQAP into their Local Transport Plan (LTP).

6 Supplementary guidance to help local authorities with the integration of their Action Plans into the LTP was issued by Defra in 2005 (LAQM.PGA(05))[7]. The LTP should contain the following:

- background information of the status of air quality, derived from the review and assessment reports;
- evidence that the local authority has considered all available measures to tackle the problems, and that these measures have been considered on the grounds of cost-effectiveness and feasibility;
- consideration of the wider environmental, social and economic impacts of the measures;

[6] The ODPM has, in 2006, been replaced by the Department for Communities and Local Government (DCLG)
[7] Defra (2005) Policy Guidance: Addendum LAQM.PGA(05)

- the target dates for implementation of the measures, and indication of funding mechanisms;
- identification of those responsible for implementing the measures, and
- clarification of how the local authority intends to measure progress with the implementation of the measures and air quality improvement afforded.

7 Local authorities are also required to establish a 2004/05 baseline, a 2010/11 target and "intermediate outcomes" to measure progress against the target. These may include indicators such as total emissions within the AQMA, traffic flows, etc.

8 The local authority is also required to identify measures taken for both internal and external consultation.

9 Where the local authority has also prepared a local or regional Air Quality Strategy, relevant measures or policies within that strategy should be reflected in the LTP.

10 The National Society for Clean Air (NSCA) has published two guidance documents entitled 'Air Quality Action Plans (2000)' and 'Air Quality: Planning for Action (2001)'. These guidance documents have also been taken into account in the development of this draft Action Plan.

1.2 Status of this report

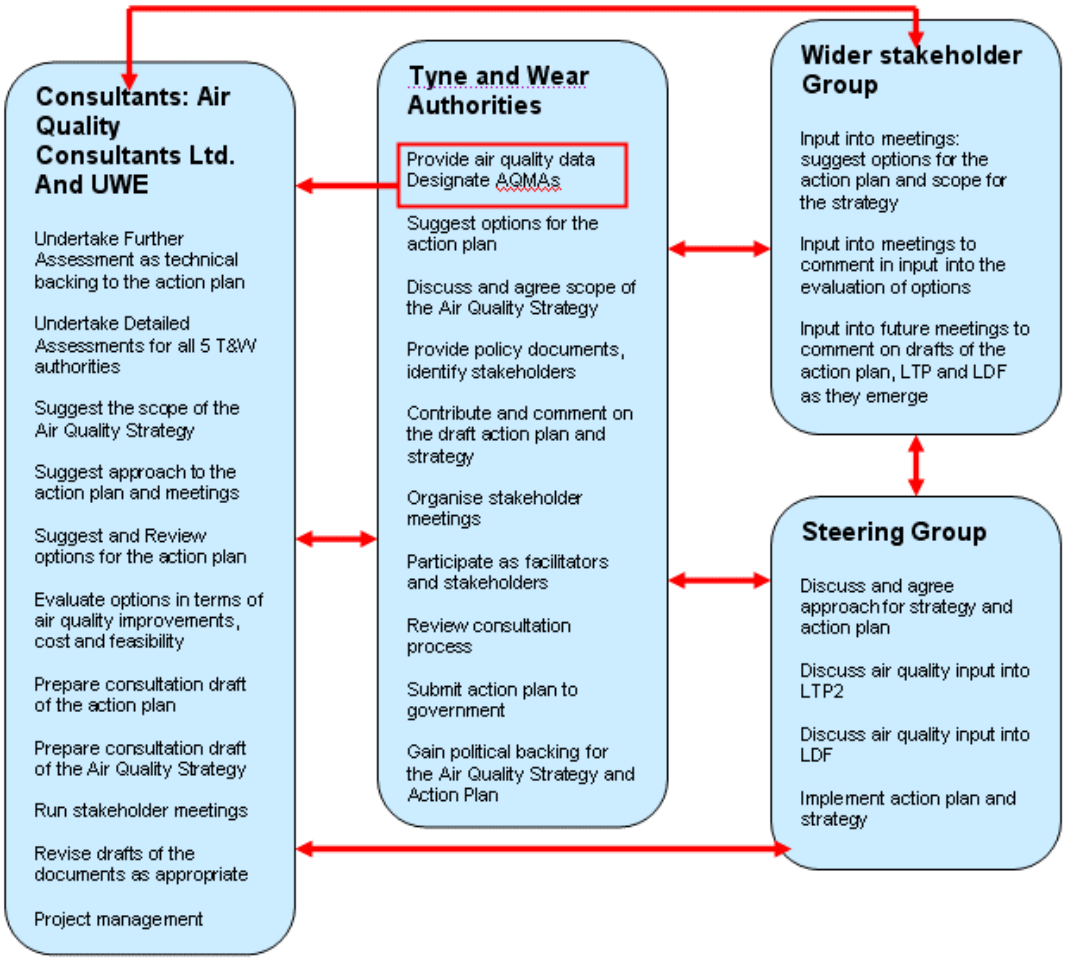
11 This report sets out the Air Quality Action Plan (AQAP) for Gateshead. It describes the processes that are in place and sets out the measures that are currently being considered to deliver improvements to air quality within the town. A detailed evaluation of these measures is ongoing, in close consultation with strategic planners, development control planners and transport engineers. This version of the AQAP can be read as a stand-alone document, but is designed to be included as an Annexe to the LTP Annual Progress Report (2008). The document includes the measures to be implemented, confirmation of timescales and funding, and an indication of the air quality improvements that are expected. This document should be read in conjunction with the Air Quality Strategy for Tyne and Wear and the second Local Transport Plan for Tyne and Wear (http://www.newcastle.gov.uk/core.nsf/a/policytransport?opendocument#Main%20Document).

2. Air quality management in Tyne and Wear

12 From the introduction of the LAQM process, the local authorities in the Tyne and Wear region have chosen to act jointly in managing air quality within their area. This approach is strongly encouraged by the Government's Department of Environment, Food and Rural Affairs (Defra).

13 As part of this process, an Air Quality Strategy for the Tyne and Wear region has been developed. This work is being undertaken in partnership with the five local authorities, and other relevant stakeholders, including the LTP team and planners. To oversee the process, a Steering Group has been established, which meets on a regular basis. The following schematic diagram, figure 1, illustrates the approach to the development of different aspects of the local air quality management process.

Figure 1: Overview of responsibilities of the steering group



3. Overview of Air Quality and Transport in Gateshead

3.1 Air Quality

14 Gateshead Council completed its first round of air quality review and assessment at the end of 2000. The conclusion of the first round was that it was not necessary to declare any AQMAs.

15 The second round of air quality review and assessment was based on a two-stage approach, involving an Updating and Screening Assessment (USA) initially, and if necessary a Detailed Assessment.

16 The local authority completed its USA in May 2003. It was concluded that the objectives for carbon monoxide, lead, benzene, 1,3-butadiene, sulphur dioxide and PM_{10} would be achieved at all locations. No further work was necessary for these pollutants. Detailed Assessments were required for a number of locations where potential exceedences of the annual mean nitrogen dioxide (NO_2) objective were identified. The locations identified were;

- Trinity Court (A184/A167)
- Regent Street/West Street
- A1 Dunston
- Melbourne Court (A184 Askew Road).

17 The Detailed Assessment was completed in January 2005, and concluded that an Air Quality Management Area (AQMA) was required for one of the locations, namely the junction of the A184 and A167. Both monitoring and modelling results indicated that a few residential properties in Trinity Court and Peareth Court could be within the area of exceedence of the annual mean NO_2 objective.

18 Following public consultation, it was decided that the AQMA would be designated for the whole of Gateshead's Town Centre, and the Order came into force on 1 April 2005. The Council was of the opinion that designating a larger area would allow a more comprehensive approach to the implementation of effective measures to improve air quality. The boundary of the AQMA is illustrated in Figure 2.

19 Following the declaration of an AQMA, Section 84(1) of the Act requires the local authority to carry out a further assessment of air quality. The aim of the further assessment is to:

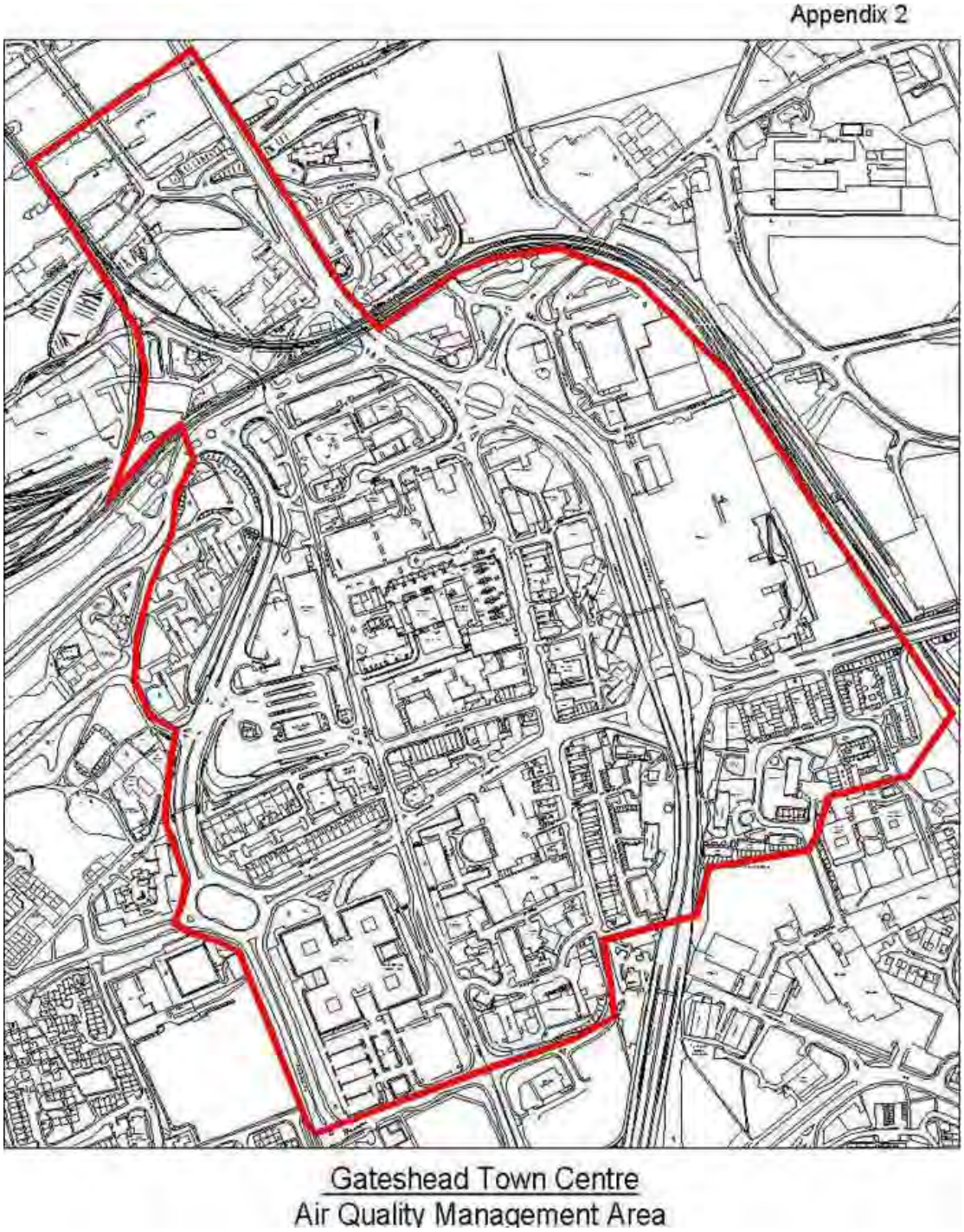
- confirm the conclusions of the Detailed Assessment by means of further modelling or monitoring studies;
- quantify what level of improvement in air quality is required in order to meet the air quality objectives;
- take account of any new developments or proposals in the area; and
- refine knowledge of the sources of pollutant emissions so that the measures in the AQAP may be targeted appropriately.

20 The further assessment was completed in April 2006. Further monitoring and modelling of nitrogen dioxide concentrations within and around the AQMA indicated that most locations achieved the Government's objective for annual mean nitrogen dioxide concentrations during 2005, but that there were some isolated exceedences, both inside and outside of the AQMA. The exceedences inside the AQMA were at the Gateshead Highway / Park Lane junction; at the new residential development near to the Tyne Bridge; and at the juction of High Street with Charles Street. The exceedence outside of the AQMA was on Durham Road (A167) opposite the junction with Dryden Road. The highest measured or predicted concentration at any location was 42 $\mu g/m^3$, which compares with the objective level of 40 $\mu g/m^3$. The margin of exceedence is thus relatively small. Nevertheless, it was estimated that the emissions from local roads would need to have been some 12% lower in order for the objective to have been achieved at the worst-case location.

21 The further assessment recommended that the current AQMA should remain as declared, but additional monitoring should be carried out around the Dryden Road site.

22 To assist with the development of this Action Plan, the further assessment also quantified the contribution from different sources within the AQMA area and the level of improvement that is required to meet the objective in both 2005 and 2010.

Figure 2: Gateshead AQMA



11 A number of specific receptor locations within the AQMA boundary have been identified. All receptors are relevant in terms of public exposure to the NO_2 annual mean objective. The highest annual mean (modelled) concentration in 2005 is 42 µg/m^3. Figure 3 illustrates the receptor locations used for this exercise. The highest measured annual mean concentration during 2005 was also 42 µg/m^3. According to both the measurements and the model, the degree of improvement needed in order for the annual mean objective for NO_2 to be achieved is 2 µg/m^3 of NO_2.

12 In terms of describing the reduction in emissions required, it is appropriate to consider the emissions of nitrogen oxides (NOx) from the local road. It is therefore most appropriate to focus on the highest modelled concentration, which is at Receptor 8 (see Figure 3). Even though in terms of nitrogen dioxide the reduction required is only 4-5%,, locally-generated NOx emissions during 2005 at this receptor would need to have been some 12% lower in order for the objective to have been achieved[8]. This greater reduction reflects the fact that local background NOx concentrations contribute a significant part of the total. As this contribution is assumed not to change, the influence of changes to the local fraction have a lesser effect on concentrations as a whole[9]. The calculation does not take account of the fact that reducing emissions from the wider road network will reduce the background concentrations and thus bring about local improvements.

13 Figure 4 describes the source contributions to the predicted annual mean NO_2 concentrations at the same 11 receptor locations within the AQMA.

14 An assessment of the predicted annual mean NO_2 concentrations has also been carried out for 2010 based on the unconstrained baseline traffic forecasts for 2011. The same receptor locations have been included. Concentrations in 2010 are predicted to be lower than in 2005, with all locations predicted to achieve the relevant air quality objectives and Limit Values in 2010. Because of national and international measures to reduce emissions from road transport and many other sectors, current projections assume that NO_2 concentrations will fall in the future. Based on this assumption, the objective could be achieved at all locations by around 2007. However, empirical evidence suggests that concentrations in Gateshead's Town Centre have not fallen in line with recent predictions. It is thus far from certain that the objectives will be achieved without specific emission reduction measures in place.

[8] This reduction was calculated following the modelling methodology, which involves various locally-specific adjustments. The NOx value was NOT calculated directly from NO_2 using national default factors.

[9] Also important is the relative position of the concentrations involved on the NOx to NO_2 relationship curve. Because this relationship is non-linear, a given reduction in locally-generated NOx is unlikely to give rise to exactly the same reduction in locally-generated NO_2. The response in local-NO_2 from a given percentage change in local-NOx depends on the total ambient NOx concentration.

Figure 3: Locations of specific receptor locations within Gateshead

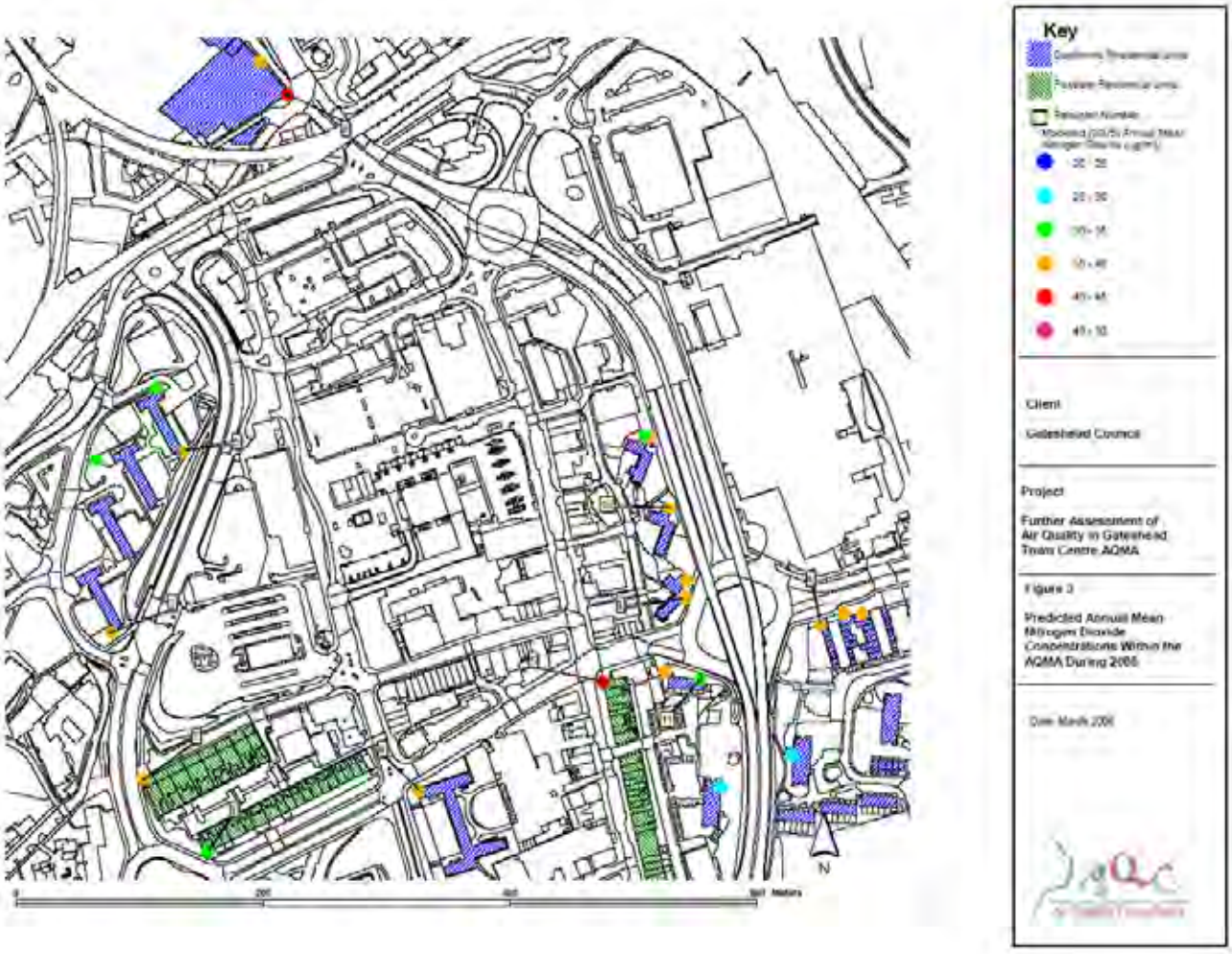
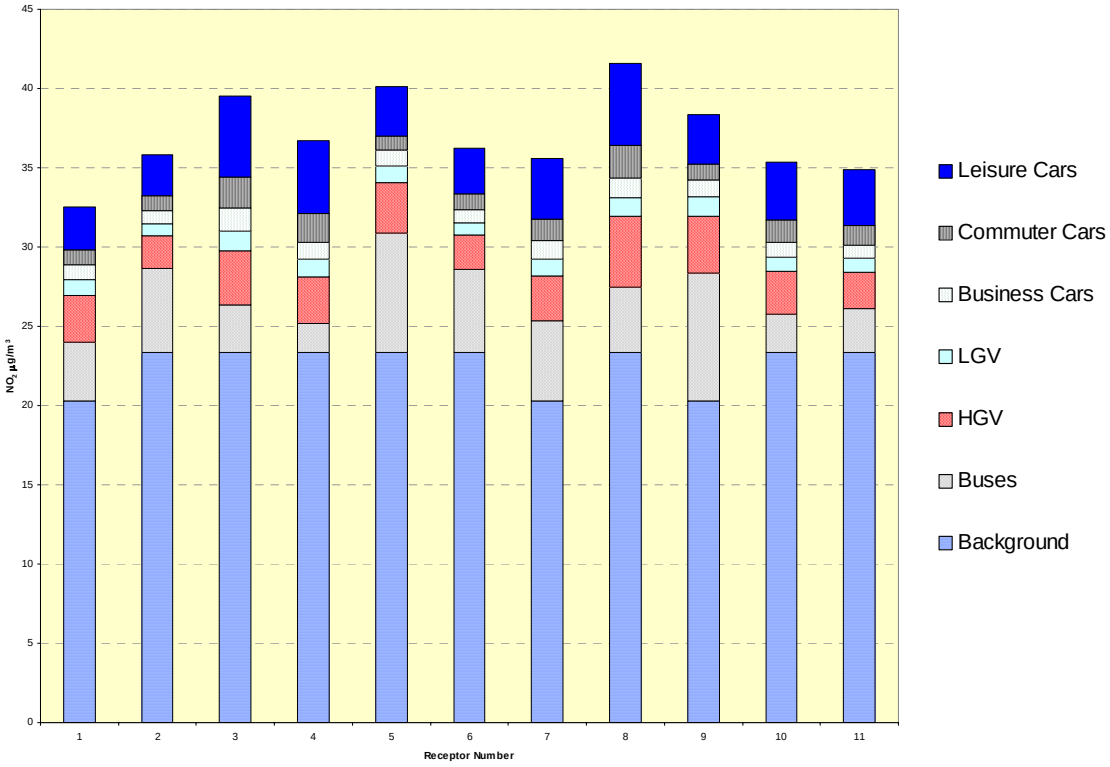


Figure 4: Source contributions to predicted annual mean nitrogen dioxide concentrations (2005) at 11 receptor locations in Gateshead



3.2 Transport

26 There are a number of issues relating to current and future traffic predictions in Tyne and Wear, which are highly relevant to the development of this Action Plan. These are:

- Car ownership (and hence car use) is rising at a rate significantly higher than the national average;
- There is rapidly increasing traffic congestion on key radial routes within Tyne and Wear;
- There is a modal shift away from public transport for journeys to work;
- Overall there has been a decline in public transport patronage by 26% between 1992/3 and 2002/3 despite metro patronage increasing by 18% in the past 3 years, and
- The areas suffering from peak hour congestion are expanding over a wider time period.

4. Existing Policies and Strategies relevant to air quality

27 This Action Plan has been written in conjunction with the Tyne and Wear Air Quality Strategy, which considers strategies, policies and programmes for the whole of Tyne and Wear in the context of Local Air Quality Management.

28 The development, implementation and monitoring of the Air Quality Strategy is being overseen by an Air Quality Steering Group, comprising relevant officers of the five metropolitan authorities. This Steering Group has played a pivotal role in the development of this Action Plan, which is being considered in conjunction with those Action Plans being drawn up in the adjoining authority areas where AQMAs have also been declared.

4.1 Local Transport Plan

29 A provisional Local Transport Plan for Tyne and Wear was submitted to DfT in July 2005. This followed an in-depth analysis of transport measures to tackle the four key priority areas of air quality, road safety, accessibility and congestion. As part of this process, a strategic transport model has been developed which investigated the impacts of various policy options. Two reference cases have been used. First, a continuation of current service levels and charges has been used. Secondly the continuation of current policies (this case will make adjustments reflecting current policies aimed at reducing demand for parking and capping the subsidy to public transport at current levels).

30 Following these reference cases, a series of policy and scheme tests have been completed to evaluate the individual impacts of key interventions. These tests examine the impact of the following key actions at the County-wide level:

- Introduction of a 10-minute (minimum) frequency throughout the Super route and Metro Network;
- Introduction of a free (zero-fares) policy for public transport, and
- Development of a network of Metro-feeder services from bus network, creating a more co-ordinated public transport network overall.

31 The impact of the following area-wide policies have also been tested:

- Introduction of effective Travel Plans at workplaces and schools across Tyne and Wear;
- Introduction of different levels of charging for car parking in all main centres;

- Policies to provide widespread road space reallocation on strategic routes to improve running conditions for buses and investigate the need for mitigating measures to avoid traffic diverting onto other routes;
- Introduction of road-user charging to manage demand on congested routes:
    - Tolls charged for entering the city centres, metro centre and other congested areas, and
    - Tolls at all crossings of the Rivers Tyne and Wear will also be tested to re-examine the earlier work of TAMMS[10]

32 The final LTP was submitted to DfT in March 2006. This document recognises that successful regeneration in Tyne and Wear will lead to a growth in travel demand. The aim of the LTP is to manage these demands effectively to support economic growth, whilst avoiding unacceptable impacts on the environment, communities and overall quality of life. The LTP provides a set of strategies that contribute to delivering the Shared Priorities, of which air quality is one. The strategy for Air Quality (Chapter 7) integrates plans for congestion management and the promotion of sustainable transport to achieve effective management and improvements in local air quality. Key measures in this LTP which will respond to air quality problems in Tyne and Wear include the implementation of Clear Zones, promotion and demonstration of alternative vehicle-types, promotion of sustainable travel choices, and traffic management within AQMAs to reduce total traffic flows and incentives for adopting cleaner engine technologies.

33 In addition to LTP2, Tyne and Wear were successful in gaining Transport Innovation Fund (TIF) funding to investigate, in more detail, demand management techniques across Tyne and Wear with the ultimate aim of reducing congestion. This work is designed to complement national work investigating different ways of implementing road pricing. The measures to be investigated are road user charging, parking charges, workplace parking charges (as a way to encourage a step change in the implementation of Travel Plans) and Urban Traffic Management and Control systems, alongside other complementary measures. Work will entail investigating impacts of the above measures, the potential use of revenues, complementary improvements needed to support more comprehensive demand management strategy as well as public acceptability and technical and operational considerations. The initial feasibility study is due to report to DfT in 2007.

[10] Tyneside Area Multi Modal Study

4.2 Framework for Local Planning

34 In 2004, the planning system in England and Wales underwent a significant change, with the Planning and Compulsory Purchase Act 2004 (the 'Act') replacing much of the Town and Country Planning Act 1990. The provisions in the Act intend to provide a more flexible plan-making system locally and regionally, with more community involvement and an improved development control process. The Act abolished Structure Plans and Local Plans, replacing them with Local Development Frameworks (LDFs) and Local Development Documents (LDDs). Local authorities are now preparing their Local Development Frameworks under the new regime, although the statutory status of Unitary Development Plans, Local Plans or Structure Plans will be retained until LDFs are in place. It is therefore timely to incorporate air quality issues and considerations into the planning process as a new regime evolves.

35 The new regime intends to improve the effectiveness of the local planning process, improving the efficiency and predictability of planning decisions. Planning Policy Guidance (PPG) is also to be revised, to become Planning Policy Statements (PPSs). The new Planning Policy Statement relating to Planning and Pollution Control (PPS23) was published in November 2004, and complements the new pollution control framework under the Pollution Prevention and Control (PPC) Act 1999 and the PPC Regulations 2000.

36 In Gateshead, the Council is still working under the previous UDP system with the current UDP going to inquiry in October 2006. Adoption is envisaged in March 2007 and, under the terms of the new legislation, the new plan will be 'saved' for three years from the date of adoption and will form the major element of the Council's Local Development Framework. The latest draft of the UDP does not have a specific air quality policy. It is therefore imperative that specific reference to local air quality is included in the LDF.

37 The Local Development Scheme[11] published in March 2005 sets out information on the Council's programme of work on the replacement of Gateshead Unitary Development Plan, the current (extant) development plan for the area, and also on its plans to move towards the new system of producing a Local Development Framework.

[11] http://www.gateshead.gov.uk/Building%20and%20Development/devplans/Local%20Development%20Scheme.aspx

38 A Draft Statement of Community Involvement[12] is a requirement of the new planning system. This Statement will explain how local communities will be involved in the preparation of local development documents and in considering planning applications, as well as the wider context of the consultation processes within the Council. The pre-submission draft document was published in June 2006 and explains how Gateshead will involve the community in all aspects of the planning process.

39 This draft Action Plan recognises the importance of considering air quality in the context of other environmental areas, in particular climate change. As such, the measures proposed in this Action Plan take into account any significant impacts on climate change (both positive and negative) within the evaluation of specific measures (see Section 5.2).

4.3 Community Strategies

40 Part 1 of the Local Government Act 2000 placed a duty on each local council in England and Wales to prepare a community strategy to promote and improve the economic, social and environmental well-being of their areas and to contribute to the achievement of sustainable development in the UK. Community strategies are intended to bring together all those who can contribute to the future of communities within a local authority area, to agree on the key priorities for the area and pursue them in partnership.

41 Gateshead Strategic Partnership (key agencies around Gateshead working together to improve the quality of life for Gateshead residents) has published their second community strategy[13] in consultation with residents. It reflects issues and priorities local people view as important for the future of Gateshead and aims to promote and improve upon the economic, social and environmental well-being of the area.

42 With respect to the environment, there are a number of other policies and actions that are particularly relevant to this Action Plan, including:

- ENV 11 To agree and implement sustainable building practices for new development in Gateshead;

[12] http://www.gateshead.gov.uk/Building%20and%20Development/devplans/sci.aspx
[13] http://www.gateshead.gov.uk/People%20and%20Living/communitystrategy/GSP.aspx

- ENV15 To develop co-ordinated action through the local Transport Plan to improve the transport system in Gateshead and
- ENV16 To improve safety for walkers and cyclists.

4.4 Economic Development

43 Discussions about the redevelopment of Gateshead Town Centre are underway. It has been recognised that the town centre is much underutilised, with the retail market being dominated by the Metro Centre and Newcastle city centre, both of which are extremely well used and economically successful. This redevelopment should provide a useful opportunity for ensuring that the new town centre is designed with air quality considerations in mind.

44 A large public consultation exercise was undertaken during 2005, with the intention of providing the 200,000 people living in Gateshead with a stake in the creation of their new town centre[14]. A planning strategy is to be published, which will set out the detail of the Council's priorities for improvement or redevelopment in the town centre. Overall objectives include:

- Creating a vibrant town centre through the introduction of mixed-use developments;
- Improve accessibility, achieving a balance between all transport modes, and
- Creation of a high quality local environment.

4.5 Climate Change

45 The Local Agenda 21 (LA21) Strategy for Gateshead was first published in April 2000[15]. Updates have been issued in each year since, with the latest published in January 2005[16]. It sets out how the Council and its partners will work together to set in place a framework to deliver the principles of sustainable development. Strategy

[14] Full report – see http://www.gateshead.gov.uk/Building%20and%20Development/Regeneration/TownCentre/Gateshead%20Regeneration%20Home.aspx

[15] www.gateshead.gov.uk/la21/default.asp

[16] http://www.gateshead.gov.uk/DocumentLibrary/Environment/Strategies/LA21%202005.pdf

Objective 1 deals with air quality management. Measures within the LA21 Strategy include:

- Use of powers to reduce polluting emissions from local companies where appropriate. Where the Environment Agency is the enforcing authority, the Council will liaise with officers to encourage appropriate regulation;
- Encourage voluntary measures in areas such as fleet management and commuter policy;
- Raise awareness through education of the impacts and risks of high levels of air pollution and how it can affect health;
- Increase the quality and use of public transport;
- Promote and develop green Transport Plans within various sectors of the community, and
- Raise awareness of human rights in relation to local air quality.

46 The Gateshead Travel Plan defines objectives for integrated, safe and affordable transport, based on the LA21 objectives:

- Objective 1: To reduce car usage and increase the quality and attractiveness of public transport. Specific actions include improving access to public transport, enhancing opportunities for motorcycle use, and encouraging more sustainable car use.
- Objective 2: To reduce the amount of travel by motorized means through promotion and provision of genuine alternatives which have less impact on the environment. Specific actions include encouraging and supporting opportunities for increased walking and cycling, and the provision of transport information and guidance.
- Objective 3: To improve public access to amenities and services, with less need to travel.

47 "Coping with the effects of Climate Change"[17] sets out an Action Plan for Gateshead to reduce impacts. Specific objectives that have links to air quality are:

- Air Quality: reduce levels of all pollutants;
- Sustainable transport: reduce care usage and use alternatives to the car which have less impact on the environment e.g. public transport, cycling and walking.

[17] http://www.gateshead.gov.uk/DocumentLibrary/Environment/Strategies/climatechange.pdf

5. Specific measures for delivering air quality improvements in Gateshead

5.1 Methodology

48 The Further Assessment carried out by Gateshead Council as part of its air quality review and assessment process, has demonstrated that the current policies and programmes (described in Section 4 and detailed in the Air Quality Strategy) will not deliver a sufficient reduction in emissions from road traffic to meet the air quality objective for NO_2. Potential options to further reduce emissions are considered in this Section.

49 Work undertaken in partnership with Newcastle City Council has been utilised in developing this Action Plan for Gateshead. Options previously identified for Newcastle (many of which are being taken forward for implementation within the AQAP) have been used as a toolkit for Gateshead: A similar methodology for evaluating those options in the context of Gateshead has been used.

- **Identification of potential options** – this was undertaken through a workshop on 11 November 2004, with key officers from the five Tyne and Wear authorities, and including other organisations such as the Highways Agency and air quality experts from Sunderland University. Options were identified in the context of Newcastle's AQMAs, but are being used as a 'toolkit' for use in Gateshead.

- **Evaluation of the options** – with regard to air quality impact, other environmental impacts cost, feasibility and timescales. This was undertaken by the Project Team in consultation with other key officers within Gateshead Council and the Air Quality Steering Group.

- **Prioritisation of the options** – this was undertaken largely through the LTP process in consultation with the Air Quality Steering Group. Prioritised options can be found in Section 6 of this document.

- **A public consultation exercise** – in line with guidance, a public consultation exercise will be undertaken once this draft of the document has been extensively consulted on internally within Gateshead Council and with other stakeholders.

Future versions of this document will outline plans for consultation on the measures within it.

50 Once the Action Plan is implemented, a monitoring strategy will also be implemented which will run in parallel to the monitoring of the LTP. This is outlined in Section 9.

5.1.1 Identification of options

51 Participants from the five Tyne and Wear authorities, other organisations and academia (a full list of participants is included in Annex 1) attended a workshop on 11th November 2004. Potential additional options to reduce emissions were considered, including:

- Emissions management;
- Information and education;
- Land-use planning;
- Managing the road network, and
- Promotion and provision of alternatives.

52 Participants were initially asked to consider options for inclusion in the Air Quality Action Plan. A rationalised list of the options was then developed for use as a 'toolkit' of measures.

5.1.2 Evaluation of options

53 The identified options were evaluated against four specific criteria:

- air quality impact (i.e. reduction in emissions or concentrations);
- cost of implementing the measure;
- feasibility or practicability of option (including the wider non-air quality impacts), and
- timescale for implementation.

54 It is more difficult to quantify the 'soft' measures, for example the provision of cycle lanes, or promoting 'walk-to-school' initiatives. In such cases, an indication of the expected impact has been based on professional judgement.

(a) Air Quality Impact

55 Air quality impacts have been classified as 'low', 'medium' or 'high'. For each measure, or package of measures, the expected reduction in annual mean NO_2 concentrations has been evaluated. Pending the outcome of the Further Assessment, where a detailed analysis of the principal Action Plan measures is being considered, the expected air quality impacts are based largely on professional judgement, drawing wherever possible on experience gained from other studies.

56 The following classification scheme has been used:

Low: *imperceptible* (a step in the right direction). Improvements unlikely to be detected within the uncertainties of monitoring and modelling;

Medium: *perceptible* (a demonstrable improvement in air quality). An improvement of up to 2μg/m^3 NO_2, which could be shown by a modelling scenario. Improvement is not likely to be shown by monitoring due to confounding factors of the weather;

High: *significant*. Improvement of greater than 2μg/m^3 NO_2. Can be clearly demonstrated by modelling or monitoring (a significant improvement is likely to be delivered by a package of options rather than by a single intervention).

57 The tables also summarise the specific effect on air quality, i.e. whether the measure impacts on vehicle flow, on vehicle kilometres within the AQMA, on emissions per vehicle or whether the option is designed to reduce relevant exposure to pollutants. The symbol '>' denotes reduction, with '<' denoting increase. Where the table is blank in this Section, the measure is judged to have no impact on this particular category.

(b) Cost

58 The implementation of the measures set out in this draft Action Plan are dependant on securing a sufficient and consistent level of funding to both support any additional staff that may be required, and to deliver the programme. In line with current Government guidance, it is not necessary to carry out a detailed cost-benefit analysis. Rather the aim is to provide a broad indication of costs so that the proposed measures can be ranked according to the cost and the expected improvement to air quality. The following classification scheme has been used; **'Low'** cost is taken to be <£50K, '**Medium**' cost is £50 - 150K, '**High**' cost is £150K - £2 million and '**Very High**' cost is over £2 million.

59 Although cost effectiveness has not been included explicitly in the tables of evaluation, implicitly, an evaluation consisting of cost and effectiveness (see previous Section (a)) is incorporated into the overall prioritisation process, the outcome of which is included in Section 5.3. It was considered that an extra assessment of cost effectiveness would not add any value to the evaluation undertaken. This is largely because the final list of the measures which are to be implemented have been evaluated through the LTP processes, the aims and objectives of which are wider than improving local air quality alone.

(c) Feasibility

60 The feasibility of implementing individual measures is not straightforward to quantify. The following factors have been taken into consideration:

- Alignment / synergies with other Gateshead Council strategic initiatives, other Tyne and Wear authorities' strategic initiatives, regional planning strategies or Local Transport Plans;
- Wider non-air quality impacts (social, environmental or economic);
- Stakeholder acceptance / "political" feasibility;
- Availability of enabling legislation and
- Source of funding available or possible.

61 Some elements related to feasibility such as alignment with existing Council policies, whether legal powers are available etc., have been included in the descriptions of the options. The wider (non-air quality) impacts reflect the potential impacts upon other environmental criteria (e.g. noise, visual amenity and climate change gas emissions) and non-environmental criteria (social and economic issues). Semi-quantitative descriptors have been used.

62 These descriptors are based on positive and negative impacts, with '++ve' being very positive, '+ve' being positive; negative impacts are described as '-ve' and '- -ve'. Where the measure has both positive and negative impacts, the overall impact has been evaluated. In arriving at the feasibility 'scores' there is inevitably some element of professional judgement included.

63 The feasibility section of the evaluation also evaluates whether other specific options need to be considered in parallel with the option for the option to be feasible (or conversely whether other measures will conflict with the option).

(d) Timescale

The timescale for the implementation of measures has also been considered. The following classifications have been used; **Short-term** relates to those measures that can be implemented within 1-2 years; **Medium-term** relates to those implemented within 3-5 years (i.e. still within the lifetime of the second LTP 2006-11); **Long-term** options are those which are 6+ years (i.e. those potentially subject to feasibility studies at this stage, and be considered for implementation in the third round of Local Transport Plans (i.e. LTP3)).

5.2 Options considered for improving air quality in Gateshead

64 This Section sets out details of the potential measures identified during the workshop. The principal issues are then summarised in Tables 1 to 5.

5.2.1 Managing the Highway Network

(i) Congestion charging

Charging to enter a specified zone (often within certain time limitations) is one way to encourage people to use alternative modes of transport, or reduce the need to travel entirely (through the financial incentive to change work, shopping or leisure patterns). London has implemented a congestion charging scheme with Durham implementing a congestion charging scheme on a smaller scale.

The London Congestion Charging Scheme began in February 2003, and is currently based on a single charge of £8 for vehicles entering a central London zone between the weekday hours of 07.00 – 18.30. Several vehicle types are exempt from the charge. The effect of the scheme has been to reduce the total vehicle-km travelled within the zone by 15% and to increase the average speed by 4km/h[18]. The reduction of emissions is more related to an increase in average vehicle speed, rather than total vehicle-kms. An increase in bus-km was also evident (to meet demand to travel into central London) but any increase in emissions has been offset by the widespread introduction of particle traps to existing and new bus fleets.

In Tyne and Wear, there is less congestion than experienced in other major conurbations within the UK. It is recognised that private car ownership is increasing (albeit from a low ownership base level) and will continue to do so if the land-use development proposals contained in the Regional Spatial Strategy materialise. With this in mind, the Plan Partners are testing the effects of a congestion charge at three locations, as follows:

- A defined urban centre in Newcastle and Gateshead;
- Sunderland City Centre, and
- Metro Centre.

[18] Beevers S.D. and Carslaw D.C. (2005) The Impact of congestion charging on vehicle emissions in London. *Atmospheric Environment* **39**. p1-5.

This work is continuing through work funded by the Transport Innovation Fund (TIF, see Section 4.1). In Tyne and Wear, the applicability and need for the congestion charge is outside of the planning horizon for LTP2. However, it is likely to be considered a valuable traffic restraint tool within LTP3.

(ii) Road tolls

Road toll schemes are being discussed currently at central Government level, for example through the Future of Transport White Paper (DfT, 2004)[19]. Although definitions overlap, road tolling is different to congestion charging in that it is usually applies to specific roads, with a set charge over the whole day (as opposed to congestion charging which aims to target the congested periods of the day). In addition to considering the impacts of a congestion charge around the city centres in Tyne and Wear, the impacts of tolling the river crossings of the Tyne and Wear are also being examined. The same levels of toll are being assessed as with congestion charging in the Strategic Transport Model and through work funded by TIF. This will provide information on travel demands, public transport patronage, congestion levels, road safety and accidents, operating costs as well as air pollution impacts. Outcomes will be reported in future drafts of this Action Plan.

(iii) Parking strategy

In areas close to the town centre, people are likely to be encouraged to drive if free parking in adjacent residential areas is available. Residents parking permit schemes, in conjunction with fiscal disincentives for town centre car parking, discourage people commuting into town and parking all day. Parking permits can however be unpopular with local residents, depending on how and where they are implemented.

In Gateshead, there has recently been a number of Residents Parking Zones (RPZ) implemented around the Civic Centre, which is adjacent to the town centre, in order to address the level of staff parking that had permutated into the residential streets. In addition, a recently commissioned study into parking patterns in the town centre recommended the introduction of additional metered parking within the town centre to improve turnover of space and extensive limited waiting on the peripheral roads to discourage commuter parking in these areas. These schemes are currently being

[19] http://www.dft.gov.uk/stellent/groups/dft_about/documents/divisionhomepage/031259.hcsp

prepared for consultation and are likely to have more impact on parking patterns in the town centre than the RPZ's.

(iv) Specific Bus Corridors including Bus Lanes, or segregation of buses

With increasing demands for road space, and resulting congestion, bus services inevitably suffer increased delays and unreliability. Buses are a much more efficient means of moving people than private cars (provided there is high occupancy of the bus), hence improved public transport is crucial to improving air quality. If bus services are not reliable, then it will be difficult to attract car drivers to switch to using the bus. Bus lanes are one of the most effective ways of improving bus journey times and increasing reliability.

In addition, buses emit much higher levels of pollution when travelling at low speeds in congested traffic (a bus travelling at 5 mph produces twice the NOx emissions of one travelling at 20 mph). Policies to introduce further road space reallocation on strategic routes are currently being evaluated within the strategic transport model. Outcomes will be reported in future drafts of this action plan. Within Project Orpheus, bus corridors are currently being assessed for priority measures. These are selective vehicle detection at traffic signals, new signal installations, or bus priority and 'no-car' lanes.

(v) Reduce capacity of roads

If road capacity is reduced, then it may be expected that fewer cars can travel and hence overall emissions will decrease. Questions of whether increased, or decreased road capacity is the most viable option for reducing congestion and pollution are frequently debated amongst transport and environmental planners, but are yet to be clearly analysed using adequate methodologies. Anecdotal evidence suggests that reducing the capacity of roads will reduce vehicle miles. Reducing the capacity of roads is included in other options more specifically, such as through implementation of bus priority lanes, High Occupancy Vehicle (HOV) lanes, priority for cyclists. It will therefore not be taken forward as an option in its own right, but will implicitly be included within other options.

(vi) Increase capacity of roads

A project coordinated by the Centre for Transport Studies, Imperial College, London has looked at the impact of increased road capacity upon pollutant emissions[20]. The

[20] http://www.cts.cv.ic.ac.uk/html/ResearchActivities/projectDetails.asp?ProjectID=290

project is based on a combination of simulation and statistical methodologies with the objective of evaluating the overall strategic policy question of how changes in available road capacity effects vehicle emissions. In Tyne and Wear, there are a number of major schemes which increase road capacity, namely the dualling of Scotswood Road in Newcastle, Sunderland Central Route and Sunderland southern radial route. None of these schemes were targeted at improving air quality, although inevitably they will have some impact. These impacts may be location specific where the scheme is implemented, but may also impact at the destinations points of the journeys. The New Tyne Crossing would relieve one of the most congested parts of the road network in Tyne and Wear, where delays for vehicles queuing can reach up to 30 minutes during the peak periods. These examples illustrate that impacts on air quality will be dependent on the exact nature and location of the scheme.

(vii) Higher priority for pedestrians (in terms of highway space)

The National Guidance on Encouraging Walking, published in March 2000 by DETR, provided a working guide to help Local Authorities develop a strategy to make walking easier; more pleasant and safer; to encourage walking as an alternative to the car; and to maximise its potential within an integrated transport system. The Government White Paper in 1998, '*Saving lives: Our Healthier Nation*' put a high priority on the health of the population as a whole and the importance of reducing air pollution and increasing exercise. An increased role for walking and cycling as a transport choice would help to reduce the impact of road traffic emissions as well as improving the personal fitness and health of the population. This may be achieved, in part, by prioritisation of highway space for pedestrians.

The first Local Transport Plan for Tyne and Wear developed a hierarchy of road users which gave the pedestrians and cyclists highest priority over other modes of transport and, in particular, over the private car. This has resulted in many pedestrianised areas evolving or expanding, and many other facilities being implemented to aid accessibility for pedestrians. The second LTP will endorse this hierarchy and contains a County-wide 'access for all' strategy. There are specific targets for Best Value Performance Indicators for people with mobility.

(viii) Higher priority for cyclists (in terms of highway space)

Encouraging cycling is an important way of reducing private car use, particularly for short journeys. This was recognised in the first LTP round by the Tyne and Wear authorities, who adopted the national target to quadruple the use of cycling by 2012 (from a 1996 base). It was recognised that encouraging recreational and tourist cycling

was also important if cyclists are to consider replacing car trips. Issues of how cycling can integrate with other forms of transport also need to be considered. For example, secure cycle parking is now provided at a number of metro stations.

Within the LTP there is a supplementary strategy to the `shared priorities' for cycling. Naturally, this strategy is applicable across the sub-region. The strategy aims to coordinate the cycle network across local authority boundaries and aims to expand both on and off-road cycle lanes and routes. Training, publicity and information also form part of the strategy to encourage cycling as a recreational activity and a genuine alternative to the car.

(ix) Decriminalised parking enforcement

Illegally parked vehicles on major roads during the rush hour can cause significant congestion, and associated additional pollution. Most heavily-trafficked roads already have controls on parking. Tighter enforcement of these controls, particularly at sites experiencing high levels of pollution, could reduce traffic congestion and reduce emissions. Decriminalised parking enforcement means that most non-endorsable parking offences become enforceable by the local authority rather than the police, with local authorities able to retain the penalties collected. The changes are available under powers available to Local Authorities under the Road Traffic Act 1991.

Sunderland City Council has already undertaken decriminalised parking enforcement, and Gateshead intends to implement it during the Summer of 2007. Implementation will be preceded by an extensive media campaign to make people aware of the potential implications[21].

(x) Bus re-regulation

The expectation that deregulation of bus services in 1986 would lead to competition between bus companies, improved services and lower fares has not happened in many locations across the UK. The industry has been consolidated with five large international operators controlling over 75% of the UK market, with these companies rarely competing with each other. Bus patronage in PTE areas has declined and fares have increased, while in London (still under regulation) bus patronage has increased over the same period. For bus re-regulation to happen, new primary legislation is required, and is therefore unfeasible in terms of this Action Plan. Ways of working with

[21] http://www.gateshead.gov.uk/Transport%20and%20Streets/Parking/enforcement.aspx

bus companies (such as Quality Bus Partnerships) are already in place in Newcastle and also across the remainder of Tyne and Wear.

(xi) High Occupancy Vehicle lanes

High occupancy vehicle lanes, (HOV's), are reserved for buses, taxis and cars with more than one occupant. These vehicles are given an advantage over the single occupancy vehicles, by being given greater priority at junctions. In some countries with road tolls, the high occupancy vehicle lanes are free of charge. HOV's may help to reduce traffic levels by encouraging people to share rather than take separate vehicles. However, effective enforcement is an important issue. There are no HOV Lanes in Gateshead and none are planned. However, across Tyne and Wear, `no-car lanes' will continue to be implemented. These permit buses, taxis, HGV's and vans to use the lanes to promote sustainable public transport modes whilst supporting the economy by also giving advantage to freight transport. Newcastle is at the forefront in the UK for this form of traffic management and has recently let a contract to evaluate the introduction of no car lanes. In other locations, HOV lanes have been shown to have beneficial impacts. For example, on the Bristol Ring Road, journey times for all vehicles has decreased significantly and the proportion of driver only vehicles has decreased from 80% to 74% during the morning peak.

(xii) Coordination of road works

Road works can be a significant cause of congestion and therefore increased emissions. The frequency of road works could be reduced by effective coordination, thus reducing potential congestion and increased emissions. Gateshead Council already has a range of powers and duties under which they maintain and improve the highway network and manage its use and activities. These include the Highways Act 1980 principally covering the structure of the network; the New Roads and Street Works Act 1991, covering utility street works; and the Road Traffic Regulation Act 1984 regulating the activities of road users.

The Traffic Management Act 2004 has given all local authorities in the UK additional powers. The Act adds the network management duty, which requires local traffic authorities to do all that is reasonably practicable to manage the network effectively to keep traffic moving. As part of the Act, Gateshead have appointed a Traffic Manager who will be responsible for delivering the requirements laid down in the Act, including coordination of road works. This provides an opportunity to ensure that air quality considerations are included in these decision-making processes.

KEY (explained in full on page 21)

> = decreasing **<** = increasing

AQ Impacts: L = Low (imperceptible but step in right direction); M = medium (perceptible – improvement of up to 2 µg/m^3 which could be shown in modelling); H = high (significant - improvement of more than 2 µg/m^3).

Cost: L = low (<50K); M =medium (£50-150K); H = high (£150K – £2 million); VH = very high (>£2 million)

Feasibility: L = low M = medium H = high (based on professional judgement and discussion)

Wider Impacts: +ve (positive) ++ve (very positive) +/-ve (both positive and negative impacts) –ve (negative) –ve (very negative) 0 (neutral impact)

Timescale: S = Short (can be implemented over next 1-2 years); M = Medium (can be implemented within lifetime of LTP2); L = Long (6+ years away i.e. post LTP2)

Table 1: Summary of measures associated with Managing the Highway Network

Theme 1: MANAGING THE HIGHWAY NETWORK												
Option	**Effects**					**Cost**		**Feasibility**				
	Vehicle flow	**Impact on Exposure**	**Vehicle-kms within AQMA**	**Emissions per vehicle mile**	**AQ impact**	**Cost to Council**	**Cost to others**	**Practica-bility**	**Wider impacts**			**Time scale**
									Social	**Environ-mental**	**Economic**	
Congestion charging	>		>		H (in the area)	-ve net cost	L-M	L	-ve/+ve	++ve	-ve	L
Road tolls	>		>		M - H	-ve net cost	L-M	L	-ve/+ve	++ve/ -ve	-ve	M-L
Parking strategy	-		>		L-M	M	L	H	+ve	+ve	-ve	S
Specific Bus Corridors including Bus Lanes, or segregation of buses	>		>		L (in some targeted areas)	M - H	L	M-H	+ve	+ve (long term) -ve)short term)	-ve (for other road users)	M
Reduce capacity of roads	>		>		L (Short term negative impact)	M - H	L	H	-ve	+ve	+ve/ -ve	L
Increase capacity of roads	<		<		L (or increase pollution)	V H	L	L	-ve	-ve	+ve	L
Higher priority for pedestrians (in terms of highway space)	>		>		H	M	L-M	H	+ve	+ve	+ve	M
Higher priority for cyclists (in terms of highway space)	>		>		L	M	L-M	H	+ve	+ve	+ve	M
Decriminalised parking enforcement	>		>		L	-ve	M	M-H	+ve	+ve	0	M
Bus re-regulation	>		>		L	V H	H	L	+ve	+ve	+ve	L
High Occupancy Vehicle lanes	>		>		L?	M	L	L	+ve	+ve	+ve	S
Coordination of road works	-		-	> (due to less congestion)	L	L	L	H	++ve	++ve	++ve	S

5.2.2 Emissions management

(i) Encouragement of low emission or zero emission vehicles for individuals, businesses and council fleets

As an organisation with a large vehicle fleet and potentially large numbers of contract service vehicles, it is important that Gateshead Council, in partnership with the other Tyne and Wear authorities, leads by example by favouring low emissions vehicles when purchasing vehicles for its own fleet. The Transport Service is extremely active in managing green fleet issues. Gateshead's fleet is run exclusively on bio-diesel and LPG and has managed to substantially reduce the effect that the Council fleet has on the environment. The fleet standards have been recognised by the Energy Savings Trust (EST) sponsored Green Fleet Awards, with Gateshead being judged runner up in the category for Public Sector Fleet of the Year in 2005. Additionally, the EST also, after an independent audit, concluded that Gateshead Council was operating its fleet to a high environmental standard.

This proactive approach places Gateshead in a stronger position to influence others, for example through the implementation of Travel Plans for employers, or through education campaigns for individuals. Gateshead Council could also provide advice and support for other local fleet operators through printed material and seminars to encourage 'greener' fleets to operate within Gateshead.

(ii) Emissions standards for buses

The introduction of increasingly stringent European emissions standards mean that new buses are increasingly cleaner. There are grants available for retrofitting buses (such as the Government's *Powershift* Programme). This can be encouraged through voluntary schemes, or implemented through Bus Quality Partnerships for the commercial bus services. One way of encouraging operators to retrofit old buses is to include minimum emissions standards into Council contracts for supported bus services, for example those funded via Education Departments for the school bus services. There are currently minimum standards set for Superoutes. The success of the Superoute network has seen an influx of newer buses, more so than on the rest of the bus network in Tyne and Wear. Further expansion of the Superoute network is planned which will see further improvements in the bus fleet in Gateshead. The exact nature of the expansion will be dependent on the outcomes of a series of audits which are ongoing at the time of writing this Action Plan.

(iii) Enforcing idling engines legislation

The Road Traffic (Vehicle Emissions) (Fixed Penalty) (England) Regulations 2002 (Statutory Instrument 2002 No. 1808) enables authorised individuals to issue a fixed penalty notice to vehicles stationery on a road and can require them to switch off their engine. In some circumstances, for example where buses congregate at Gateshead metro station, this may provide localised improvements in air quality. Enforcement of this legislation is not currently underway in Gateshead but locations for enforcement will be considered as part of this action plan.

(iv) Delivery times outside peak hour

Delivery vehicles in congested streets can increase traffic congestion if they need to park outside the delivery location for any length of time. This extra congestion can be alleviated if deliveries are only allowed outside of specified hours. This is unlikely to improve air quality significantly but as a package of measures is a move in the right direction. Gateshead has a limited number of restrictions and vehicle bans in the town centre, though congestion caused by deliveries is not considered a major issue.

(v) Route enforcement for HGVs

The Government has recognised the benefits to be gained from local authorities and industry working together to share responsibility for and better understand freight distribution issues at both regional and local levels. This is highlighted by the DfT in its publication entitled 'A guide on how to set up and run Freight Quality Partnerships' (Good Practice Guide 335) and associated document 'Freight Quality Partnerships – Case studies' (Good Practice Guide Case Study 410). Freight Quality Partnerships are already being developed in the North East, including the Northern Freight Group and at the Tyne and Wear level, the Tyne and Wear Freight Quality Partnership. These partnerships are currently developing freight strategies. Gateshead Council will seek to ensure that air quality is a consideration in the development of these strategies.

(vi) Taxis – use licensing system to improve emissions

The five Councils in Tyne and Wear operate separate policies in relation to the licensing and operation of taxis and private hire vehicles within the framework of national legislation. There is potential to include tighter emissions standards (or enforcement of current emissions standards) for taxis and private hire vehicles across Tyne and Wear. In addition, more efficient use of taxis (to reduce journeys without

passengers) may also improve emissions. A scheme of this nature is currently proposed for London[22]. In Gateshead, consideration will be given to improving emissions standards as part of this action plan.

(vii) Use of Low Emission delivery vehicles

Emissions standards for buses could be extended to delivery vehicles, although it is difficult to see how this could be implemented and enforced. Again, this measure is unlikely to provide much improvement in air quality on its own, but as a package of measures is a move in the right direction. It also sends out the right signals to local businesses.

As part of the Freight Quality Partnership, operators will be encouraged to consider alternative fuels, and body kits which make vehicles more fuel efficient.

(viii) Target HGVs – freight consolidation (freight node/ hub), encourage use of rail freight

Large vehicles such as lorries and buses are responsible for a greater proportion of emissions than smaller vehicles. Buses are considered separately in this document. Distribution depots outside the town centre where large lorries (HGVs) may transfer loads to smaller, cleaner vehicles for distribution within the town could reduce congestion and emissions. Some of the large businesses (for example M&S) do have freight consolidation and distribution centres around the Tyne and Wear area. Further freight consolidation areas will be considered within the duration of the second Local Transport Plan (LTP2).

(ix) Low Emission Zone

Low Emission Zones (LEZs) are defined areas that restrict entry to vehicles meeting certain emissions criteria or standards. The objective of LEZs is to accelerate the introduction of cleaner vehicles into the fleet and reduce the number of polluting vehicles in order to improve local air quality. Such zones have been successfully operated in other European Countries (for example Sweden) for many years. LEZs are being considered currently for London and some other UK cities. In the UK, feasibility studies are furthest advanced in London. There are a large number of different options

[22] London's 20,000 black taxi fleet will be expected to meet strict emissions standards by 2007, under the Mayor's Taxi Emissions Strategy. Taxi drivers will be able to meet the requirements by bringing forward the date at which they planned to invest in a new, cleaner cab, fitting abatement technology or converting to run on alternative fuels. Funding for these options will be provided through a small environmental surcharge on each fare, from April 2005.

for implementing an LEZ and the cost and potential timescale for implementation will be largely dependent on which option is selected.

If an LEZ is implemented in London it is likely that at the outset it will only target lorries, buses and coaches, expanding later to include vans and taxis. The feasibility study for the London LEZ does not recommend that cars are included in the scheme. This addresses issues of equity (i.e. members of the population less able to buy newer vehicles being excluded from the city centre). The Mayor has committed to the provision of a London LEZ for 2008.

(x) Speed restrictions

Emissions are related to speed. Lower traffic speeds within the town centre area, will give rise to higher emissions of nitrogen oxides (NOx) generally. However, where slower speeds reduce 'stop-start' traffic, this may lower emissions. Impacts will be dependent on the local situation but are unlikely to have a significant impact on emissions. Smoothing traffic flow will have some impact on overall emissions.

(xi) Better Traffic Light Signal Coordination (SCOOT)

SCOOT (Split Cycle Offset Optimisation Technique) is a tool for managing and controlling traffic signals in urban areas. It is an adaptive system that responds automatically to fluctuations in traffic flow through the use of on-street detectors embedded in the road. The Newcastle and Gateshead central areas and the MetroCentre have benefited from the SCOOT system of urban traffic control for many years. Although there is potential for the current SCOOT system to be expanded and improved, the LTP Plan Partners are keen to pursue a new Urban Traffic Management and Control (UTMC) system for Tyne and Wear during 2006-2011. This system will address a number of the shared priorities.

(xii) Vehicle Ban in Town Centre

Banning vehicles in some areas, or pedestrianising more areas of the centre of Gateshead will improve air quality in those areas affected. Wherever vehicle bans are proposed they are considered to have negative impacts for local business. Vehicle bans could also be introduced at certain times of the day, or for certain types of vehicles.

(xiii) Roadside Emissions Testing

Poor vehicle maintenance can increase levels of emissions ten fold or more. A minority of vehicles are badly maintained and produce excessive emissions, the majority of which could be re-tuned within 15 minutes. A minority of vehicles on the roads have catalysts that are not working properly. The importance of regular vehicle maintenance could be promoted as part of the Information and Education options, however a roadside emission scheme would further enhance public awareness of the issues and potentially decrease the numbers of excessively polluting vehicles on the road network.

Powers have now been granted to all local authorities with AQMAs to undertake roadside emissions tests, although previous funding via DfT has now ceased. In a review of roadside emission testing[23], it was concluded that the main benefits of roadside emissions testing schemes were in the education of the public rather than demonstrable improvements to air quality. There are currently no plans to undertake roadside emissions testing in Gateshead on grounds of prohibitive costs.

KEY (explained in full on page 21)

> = decreasing **<** = increasing

AQ Impacts: L = Low (imperceptible but step in right direction); M = medium (perceptible – improvement of up to 2 µg/m^3 which could be shown in modelling); H = high (significant - improvement of more than 2 µg/m^3).

Cost: L = low (<50K); M =medium (£50-150K); H = high (£150K – £2 million); VH = very high (>£2 million)

Feasibility: L = low;M = medium; H = high (based on professional judgement and discussion)

Wider Impacts: +ve (positive) ++ve (very positive) +/-ve (both positive and negative impacts) –ve (negative) –ve (very negative) 0 (neutral impact)

Timescale: S = Short (can be implemented over next 1-2 years); M = Medium (can be implemented within lifetime of LTP2); L = Long (6+ years away i.e. post LTP2)

[23] McCrae I S, Latham S and Boulter P G (2005). A review of roadside emission testing by local authorities in the United Kingdom. TRL report UPR SE/144/04. TRL Ltd, Wokingham. NSCA (2004). Roadside emissions testing (RET) - local authority experience. Report produced on behalf of The BOC Foundation. NSCA, Brighton. http://www.nsca.org.uk/pages/topics_and_issues/roadside_emissions_testing.cfm

Table 2 Summary of measures associated with Emissions Management

Theme 2: EMISSIONS MANAGEMENT												
Option	**Effects**					**Cost**		**Feasibility**				
	Vehicle flow	**Impact on Exposure**	**Vehicle-kms within AQMA**	**Emissions per vehicle mile**	**AQ impact**	**Cost to Council**	**Cost to others**	**Practica-bility**	**Wider impacts**			**Time scale**
									Social	**Environ-mental**	**Economic**	
Encouragement of low emission/ zero emission vehicles				>	L (overall)	L-M	M	H	+ve	+ve	+ve	S
Emissions standards for buses				>	L-M	n/a	H	H	+ve	+ve	0	S
Enforcing idling engines legislation				>	L (overall)	L	L	H	+ve	+ve	0	S
Delivery times outside peak hour	<			> (decreasing congestion)	L	L	L-M	H	+/-ve	+ve	+/-ve	M
Route enforcement for HGVs		>	>		L	L	L	H	+ve	+ve	0	S/M
Taxis – use licensing system to improve emissions				>	L	L	M	H	+ve	+ve	-ve	S
Use of Low Emission delivery vehicles/ times of deliveries				>	L	L	H	L	+ve	+ve	-ve over time	S/M
Target HGVs – freight consolidation (freight node/ hub), encourage use of rail freight	>		>	>	L-M	L if encouragement, H if infrastructure change	H	M-H	+ve	+ve	+/-ve	L
Low Emission Zone			>	>	M-H (in zone)	M-H	L	H	+ve	+ve	0	L
Speed restrictions				>	L	L	L	H	+ve	+/-ve dependent on flow	+ve	S
Better Traffic Light Signal Coordination (SCOOT)				>	L	M	0	H	+ve	+ve	+ve	M
Vehicle Ban in Town Centre	>		>		M	L	M-H	L	+/-ve	++ve	--ve	L
Roadside Emissions Testing				>	L	L-M	L	H	+ve/ -ve	+ve	-	S

5.2.3 Promotion and Provision of alternatives

(i) Express commuter buses

If public transport is considered as quick and more efficient than commuting by car, more people are likely to make the modal shift. On the Superoute network in Tyne and Wear, there have been some positive results which have seen patronage growth on some of the routes. These routes are associated with a more reliable service, with shorter waiting intervals, and better quality 'low-floor' buses. Phase One of Project Orpheus (the bus-based solution) will look to build on the success of the Superoutes.

(ii) Trams

A number of cities in the UK are currently introducing new tram systems. For example, the Manchester metro link is in operation and new systems have more recently opened in Nottingham, Sheffield and Croydon. Trams represent a large-scale investment, which may be more effectively spent on improving buses. However, a tram system does give public transport a high impact statement; they are zero emission at the point of use and provide efficient services to those they benefit. Trams are being considered as part of the second phase of Project Orpheus, which aims to encourage car owners to use public transport for some of their journeys. The first phase of the project (over the next 10 years) focuses on Metro reinvigoration and significant bus based enhancements. The second phase (second ten year period) focusing on completing the Metro reinvigoration programme (including new Metro trains) and introducing trams on some key traffic corridors in Tyne and Wear. This measure will therefore not be implemented in the timescale of LTP2, but will be under consideration post-2011.

(iii) Guided buses

Guided buses are an *off-road* technology that involves the creation of a special *trackway* physically removed from the public highway. The first *kerb guided busway* opened in Essen, Germany in 1980. The special track it uses consists of two parallel sets of 'L' shaped prefabricated concrete panels. Kerb guidance uses ordinary buses (motorbus, trolleybus, etc) fitted with extra horizontal guide-wheels (one per side, mounted immediately in front of the front road wheels) which steer the vehicle via guide-arms attached to the steering knuckle. Whilst on the track the driver retains full control of the vehicle except that there is no longer any need to use the steering wheel. Away from the track the bus uses the normal road. A guided bus scheme is proposed for Huntingdon to Cambridge (along the former St Ives to Cambridge rail line) and is

being considered by a public inquiry. Guided buses are proposed as part of the first phase of Project Orpheus, a ten-year period from 2006.

(iv) Park and Ride

Park and Ride facilities currently operate at Heworth which can be used to get into Gateshead. During the period of the LTP1, the feasibility of other potential rail and bus based Park and Ride schemes was investigated, for example at Blaydon (linked to the rail service), Birtley and Pelaw (linked to the Metro). A Park and Ride strategy is included in the public strategy section in the appendix to the LTP. This proposes enhanced Park and Ride for Tyne and Wear with new sites proposed and expansions to existing sites.

(v) Promotion of cycling

The potential exists for air quality improvements to be made through increasing the proportion of trips made by cycle. A balance between the needs of both pedestrians and cyclists must, of course, be struck. Any cycling promotion will build on that already underway in Tyne and Wear. Promotion schemes will include addressing safety perceptions and also providing infrastructure in order to make cycling more practical to more people. A supplementary cycling strategy and associated implementation programme is included in the LTP2.

(vi) Annual Travel Card Discount

The effect of fares on public transport patronage has been subject to a long history of research and analysis. Ticketing schemes such as those where passengers can buy an annual pass, or a discounted ticket covering different operators and different modes of transport aims to simplify costs and reduces the need for passengers to make complex calculations.

There are some useful examples of the impacts of ticketing schemes such as annual travel cards, for example in Freiburg, Germany where an ‘environmental travel card’ was introduced in 1984, public transport demand increased by an average of 7.5% per year. As with other initiatives it is unclear what proportion of the increase in public transport patronage is due to hard factors, and what proportion in the result of the benefits of better ticketing schemes. As part of the consultation process for LTP 2, stakeholders were asked to consider their perceptions and determine the benefits of more consistent ticketing structures across Tyne and Wear.

(vii) Quality Bus Contracts

Quality Bus Partnerships incorporate a variety of measures such as bus lanes, other bus priority measures, low-floor buses, more frequent services, real time information, marketing and higher parking charges. A review of the literature surrounding bus quality partnerships[24] has shown that most schemes (9 out of 11) delivered an increase in patronage of between 7% and 30%. One scheme performed much better than any of the others, with an increase in patronage of over 90%. This was the only scheme which included a guided bus way, and was also associated with Park and Ride services. Other research has shown that differences in passenger numbers are linked to the extent of a quality partnership scheme.

Where only minimal investment in new infrastructure is provided, revenue and patronage increases of 5% might be expected. Where a comprehensive route upgrade is carried out, patronage and revenue can be expected to rise by around 15%, and with very high quality schemes, the average increase will be around 30% with some schemes achieving increases in revenue as high as 45%. Several studies suggest that although some growth in bus use is usually seen quite quickly after improvements are made, passenger numbers typically take up to two years to peak[25]. Gateshead Council will build on existing partnerships with bus operators to improve facilities and services further throughout the LTP2 period.

(viii) Travel Plans for businesses and schools

Travel Plans can help companies reduce the traffic impacts of their business. Travel Plans seek to reduce work-related car trips through initiatives such as car-sharing, providing pool cars, cycling incentives, cycle parking, showers and changing facilities, video conferencing, flexible working and discounted bus and train tickets. Travel Plans can be extremely cost-effective and have proved very successful in reducing car use.

The school journey can have a significant impact on public transport patterns, causing localised congestion around schools. Such journeys can also contribute to the sharp road traffic peak at approximately 09.00 each morning. Over the past 20 years,

[24] LEK/ Commission for Integrated Transport (2002) *Obtaining best value for public subsidy for the bus industry*.
[25] Cairns S., Sloman L., Newman C., Anable J., Kirkbride A & Goodwin P (2004) Smarter Choices – Changing the Way We Travel. http://www.dft.gov.uk/stellent/groups/dft_control/documents/contentservertemplate/dft_index.hcst?n=10689&l=1

nationally, the proportion of children travelling to school by car has almost doubled, yet many live close enough to school to walk. Many older children would like to cycle, but are worried about safety, or their school may lack secure cycle storage facilities. Other pupils would like to travel by bus, but there may not be a service available at the right time. If one is available it may be too expensive, particularly for families with two or more children, or else children may feel intimidated by bullying or other anti-social behaviour. Encouraging more children to walk or cycle to school, even walking to the bus stop, will not only reduce congestion but also improve health directly through increasing exercise.

The LTP partners in Tyne and Wear are working toward a Workplace Travel Plan Strategy with objectives, and strategies that are applicable to the whole of Tyne and Wear. Travel Plan Co-ordinators have been appointed for each of the partners, including Nexus.

There are some good examples of Travel Plans being implemented in Gateshead. For example, the Queen Elizabeth Hospital Travel Plan was developed in 2002. As a hospital site it attracts visitors from the local area as well as the region for specialist health services. The hospital has undertaken to address local residents' concerns over parking in adjacent streets by working with the Council to introduce residential parking zones, improving access to public transport information, subsidising season tickets for staff travelling by public transport and promoting and providing excellent facilities for cyclists and walkers. The hospital is particularly aware of their duty of care to neighbours, visitors and employees, and the Travel Plan clearly illustrates their commitment to this.

Gateshead has appointed a Travel Plan Coordinator, and Workplace Travel Plans in Gateshead are currently secured through the planning process using planning conditions or Section 106 agreements (see Section 5.2.5).

(ix) Increase Pedestrian Areas

Increasing pedestrian areas will dramatically improve air quality in those locations. It may however, depending on location, transfer the congestion and pollution elsewhere. Pedestrianisation is generally seen as negative for local business (although businesses which rely on passing trade often do better in pedestrianised areas).

(x) Car Loan Scheme

Car loan schemes, or car club initiatives can reduce both car ownership and car usage in some areas. Car clubs enable the use a car without ownership and for many people they can offer a cheaper alternative to buying a car, or running a second car. Car club members pay a small membership fee and then have access to cars that they pay at an hourly rate to use. Each car club car typically replaces five cars. Car club vehicles are new, regularly maintained and could be LPG or electric, and therefore less polluting. A car club has been operating in Bristol (mainly in central residential areas) for many years. There are currently no car clubs operating in Gateshead, but the potential for implementing a car club with a large scale new development is great. In addition, car sharing could be actively encouraged through Travel Plans and other forums.

(xi) Use of car parking charges to make alternatives financially viable/ reduce parking capacity

The introduction of different levels of charges for car parking across all the main centres of Tyne and Wear has been tested within the strategic transport model amongst the various scenarios for LTP2, work which is continuing through TIF funded work. By either reducing car parking availability, or increasing parking charges for certain sectors, the modal shift to public transport could be encouraged through relative economic benefit of public transport use.

(xii) Home Zones

Home Zones are residential streets in which the road space is shared between drivers of motor vehicles and other road users, with the wider needs of residents (including people who walk and cycle, and children) in mind. The aim is to change the way that streets are used and to improve the quality of life in residential streets by making them places for people, not just for traffic. Changes to the layout of the street should emphasise this change of use, so that motorists perceive that they should give informal priority to other road users. The concept of Home Zones is being trialled in the United Kingdom, with eight pilot projects under way in England, one in Wales, three in Scotland and one in Northern Ireland[26].

[26] http://www.homezones.org/homeUK.html

(xiii) Subsidise public transport

Subsidised public transport may deliver an increase in patronage. One extreme example of this is the city of Hasselt in the Netherlands which effectively made its public transport network free (in conjunction with a number of other measures to improve conditions for cyclists and pedestrians). This policy change has caused a 10-fold increase in public transport use between 1996 and 2000 (a 7.5 times increase in public transport use happened overnight). The LTP2 team have modelled the impacts in Tyne and Wear of a free (zero fares) policy for public transport, and this work is continuing through TIF funded programme.

(xiv) Create extra capacity on trains/ metro/ buses

There are plans in Tyne and Wear and Northumberland to promote investment in heavy rail. This is unlikely to gain financial support in the period to 2011. The tram based element of Project Orpheus will look to increase capacity on the Metro system from 2016 onwards. Suggestions at stakeholder workshops include extending the Metro south of the Tyne (Hexham/ Corbridge), linking Blyth and Cramlington to the Metro system, and linking South Hylton to Washington to create a loop in Metro system. It is unlikely that in the timescales of this plan, these options could be implemented, and therefore have any impact. However, in the longer term, such investment could help increase public transport patronage and hence improve congestion and air quality.

(xv) Flexible work times/school hours/ home working

The introduction of more flexible working hours and encouragement of home working, could be used to reduce congestion, particularly during peak periods. There are likely to be both positive and negative social impacts; generally home working could enable people to work more flexibly, encouraging recruitment and staff retention. However, isolation of staff may have negative social implications and some people will not have the appropriate space or environment to work from home.

Gateshead Council operates a flexi-time system, and there is a home working policy, although only a few employees regularly work from home. The current policies could be better advertised and encouraged within the Travel Plan for Gateshead Council.

(xvi) More use of river transport

A study has been undertaken on promoting river taxis on the Tyne. Currently, there are no plans to proceed with this.

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AQ Impacts: L = Low (imperceptible but step in right direction); M = medium (perceptible – improvement of up to 2 µg/m^3 which could be shown in modelling); H = high (significant - improvement of more than 2 µg/m^3).

Cost: L = low (<50K); M =medium (£50-150K); H = high (£150K – £2 million); VH = very high (>£2 million)

Feasibility: L = low; M = medium; H = high (based on professional judgement and discussion)

Wider Impacts: +ve (positive) ++ve (very positive) +/-ve (both positive and negative impacts) –ve (negative) –ve (very negative) 0 (neutral impact)

Timescale: S = Short (can be implemented over next 1-2 years); M = Medium (can be implemented within lifetime of LTP2); L = Long (6+ years away i.e. post LTP2).

Table 3 Summary of measures associated with Promotion and Provision of Alternatives

Theme 3: PROMOTION AND PROVISION OF ALTERNATIVES												
Option	**Effects**					**Cost**		**Feasibility**				
	Vehicle flow	**Impact on Exposure**	**Vehicle kms within AQMA**	**Emissions per vehicle mile**	**AQ impact**	**Cost to Council**	**Cost to others**	**Practica-bility**	**Wider impacts**			**Time scale**
									Social	**Environ-mental**	**Economic**	
Express commuter buses	>		>		L	L	H	M	++ve	+ve	+ve	M
Trams	>		>		M	V H	V H	L	++ve	+ve	+ve	L
Guided Buses	>		>		L/M	H	L-M	M	+ve	+ve	+ve	L
Park and Ride	>		>		L/M	H	User charge	H	+ve	+ve	+ve	M
Promotion of Cycling	>		>		L	L	Zero	H	++ve	++ve	0	S
Annual Travel Card Discount	>		>		L	L	User charge	H	+ve	+ve	+ve	M
Quality Bus Contracts	>		>		L	H	M	M	+ve	+ve	+ve	S-M
Travel Plans for businesses/ schools	>				L	L	L-M	H	+ve	+ve	+ve	S
Increase Pedestrian Areas			>		H	M-H	L	H	++ve	++ve	+ve	M
Car Loan Scheme			>	>	L	L-M	L	M-H	+ve	-ve	+ve	M
Use of car parking charges to encourage alternatives	>		>		M	L	M	H	-ve	+ve	-ve	S-M
Home Zones	>		>		L	H	L	M-H	++ve	++ve	0	M-L
Subsidise public transport	>		>		L	H	User charge	H	++ve	0	+ve	M
Create extra capacity on trains/ metro/ buses	>		>		L-M	V H	0	L-M	++ve	+ve	+ve	M-L
Flexible work times/school hours/ home working	>		>		L	L	L	H	++ve	++ve	0	S-M
More use of river transport			>?		L	V H	User charge	L	+ve	-ve	0	M-L

5.2.4 Information and Education

Promotional activities implemented through the first round of the LTP have consisted of six co-ordinated events across Tyne and Wear. These include initiatives such as 'Bike2work', 'leg-it day' and 'In town without my car'. LTP2 will build on these promotional activities. Some of the measures below will be bid for through the LTP, others, such as provision of air quality information to the public, will be undertaken by environmental health colleagues.

(i) Provision of real time information at bus stops

Real Time Passenger Information allows passengers to know exactly when the next bus will arrive and whether there are any delays. This is just one measure which might persuade people to change mode to bus travel. *Changing the Way We Travel*[27] (report written on behalf of DfT) provides a useful overview of some other information provision schemes and their impact on bus patronage, with some commentary about the relationship with modal shift. As most schemes are implemented alongside wider measures it, is difficult to make before and after comparisons purely in relation to information provision. However, some general experience has been summarised.

- Where a bus service is improved or is of reasonable quality, it is possible to achieve substantial increases in patronage over only a few months through targeted marketing, re-branding, better information or simpler ticketing products.
- Targeted marketing may be particularly effective in attracting former car drivers, whereas general increases in public transport quality that are not accompanied by marketing may mainly influence existing public transport users.
- Marketing and information may increase public transport usage, even in circumstances where it has been declining (e.g. Nottingham).
- Attention to information interventions may help achieve sustainable patronage growth (as demonstrated in Brighton).

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http://www.dft.gov.uk/stellent/groups/dft_control/documents/contentservertemplate/dft_index.hcst?n=10689&l=1

(ii) Target schools and parents with information campaigns

This element of information and education should be implemented along with Travel Plans for schools to have any real impact on travel behaviour. A number of other benefits of modal shifts in journeys to school have been identified, namely:

- Improved safety – specifically in York, the introduction of school safety zones around primary schools appear to have halved the number of 8-9 year olds involved in traffic accidents;
- Improvements in road safety skills;
- Increased independence for children;
- Health and fitness benefits;
- Improved attendance and ability to learn;
- Greater knowledge of environmental and citizenship issues;
- Community benefits;
- Increased social inclusion, and
- Increased awareness of the potential for change.

(iii) Target businesses (in conjunction with Travel Plans)

Again, providing information to businesses should be undertaken in conjunction with Travel Plans for those businesses in order that real changes occur. A number of other benefits of travel planning are highlighted below:

- Increases in bus use and associated ticket revenue;
- Increases in walking and cycling and associated health gains;
- Improved social exclusion;
- Better conditions for employees;
- Improved staff recruitment and retention;
- Good PR for businesses;
- The opportunity to contribute to environmental management standards (such as ISO 14001);
- Financial savings, and
- Better estate management (i.e. use of car parking space more effectively).

(iv) Health promotion (work with PCT, British Heart and Lung Foundation etc)

Promotion of good health can be related to both the links between air pollution and health, and in also in encouraging people to cycle and walk, especially for short journeys. Collaboration with external organisations such as the local Primary Care

Trust (PCT) could be explored as a way of increasing the number of people to whom the information and education on both health impacts of pollution are targeted.

(v) One-off events (e.g. 'in town without my car') to heighten profile

Travel awareness campaigns, such as 'Travelwise' or 'In town without my car' use a wide range of media aimed at improving general public understanding of problems resulting from transport choices and possible solutions. As well as focusing on local environmental and health impacts, travel awareness campaigns aim also to improve informed knowledge of the facilities available for walking, cycling and public transport use. A review of the impact of these sorts of awareness-raising initiatives suggest that some campaigns (notably the road safety TV campaigns which were relatively high budget and high profile) can reach awareness levels of 70% or more.

However, it is more common for 20-40% of residents to become aware of travel awareness campaigns and their messages. The effect of this increased knowledge on car use is more difficult to assess, but results suggest that the amount of behaviour change achieved is variable depending on the degree of targeting, intensiveness and the nature of intervention.

(vi) Intelligent Transport Systems (ITS)

ITS is a collective name for a number of technology-based approaches that are designed to improve the quality, safety and efficiency of public transport. ITS most frequently deployed at local level includes travel information (real time information for public transport as well as drivers), Urban Traffic Control (co-ordinated traffic signals), car park management (signs telling drivers where there are spaces in order that they do not drive round a town centre unnecessarily looking for parking spaces), and bus priority (changing traffic signals in order that buses have quicker journey times).

(vii) Education regarding safety on public transport

A reason often cited for not using public transport is safety, either real or perceived. Where a safety issue is perceived, education may persuade people to use public transport more often, thus cutting down on car trips. Education coupled with (for example) CCTV cameras in safety hot spots may encourage more people to use public transport.

(viii) Information about car parking on Variable Message Signs (VMS)

Clear and accurate signing around the town could assist in reducing unnecessary miles travelled and congestion. This option could prevent extra travel within Gateshead but does not incorporate any modal change (away from private vehicles). As such it is unlikely to cause a major improvement in air quality.

(ix) Target Developers

Developers could be targeted to provide information to home buyers regarding information about transport modes (pedestrian routes, public transport, cycle paths in the areas etc). Developers of large developments could be encouraged to provide better infrastructure (cycle paths, bus routes etc.) as part of a planning obligation or condition. Reference could also be made to any guidance or policy document relating to local air quality and planning.

(x) Provision of information on 'High Pollution Days'

Provision of information on high pollution days, for example as people are driving into Gateshead to urge them to leave their car at a Park and Ride, may persuade some motorists to change their behaviour. More likely is that people who are particularly susceptible to high pollution (the elderly, asthma sufferers etc.) may change behaviour in terms of exposure on high pollution days. For example, some sufferers may avoid doing exercise during pollution episodes. This last group of people could be targeted through doctors surgeries, pharmacies etc., or through a 'text' forecast service.

(xi) Production of newsletters and posters

As a method to get some of these above concepts over to the public, the use of newsletters and posters has been suggested as a way forward. Methods of increasing awareness could include posters on buses, billboards, production of newsletters to go out with free council papers etc.

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Cost: L = low (<50K); M =medium (£50-150K); H = high (£150K – £2 million); VH = very high (>£2 million)

Feasibility: L = low; M = medium; H = high (based on professional judgement and discussion)

Wider Impacts: +ve (positive) ++ve (very positive) +/-ve (both positive and negative impacts) –ve (negative) –ve (very negative) 0 (neutral impact)

Timescale: S = Short (can be implemented over next 1-2 years); M = Medium (can be implemented within lifetime of LTP2); L = Long (6+ years away i.e. post LTP2).

Table 4 Summary of measures associated with Information and Education

Theme 4: INFORMATION AND EDUCATION												
Option	Effects					Cost		Feasibility				
	Vehicle flow	Impact on Exposure	Vehicle-kms within AQMA	Emissions per vehicle mile	AQ impact	Cost to Council	Cost to others	Practica-bility	Wider impacts			Time scale
									Social	Environ-mental	Economic	
Provision of real time information at bus stops	(>)		(>)		L	M	L	M	+ve	+ve	+ve	S-M
Target schools and parents with information campaigns	(>)		(>)		L	L	L	H	+ve	+ve	0	S-M
Target businesses (in conjunction with Travel Plans)	(>)		(>)		L	L	L	H	+ve	++ve	-ve	S
Health promotion	(>)		(>)		L	L	L	H	++ve	+ve	+ve	S
One off events (e.g. in town without my car)	(>)		(>)		L	L	0	H	+ve	+ve	0	S
Intelligent Transport Systems	(>)		(>)		L	M	L	M	+ve	+ve	+ve	M-L
Education regarding safety on public transport	(>)		(>)		L	L	L	M	++ve	0	0	S
Information about car parking on VMS	(>)		(>)		L	L-M	-	H	0	+ve	+ve	M
Target Developers	(>)		(>)		L	L	L	H	+ve	+ve	-ve potentially, defer development	S
Provision of information on 'High Pollution Days'	(>)		(>)		L (over an annual mean)	L	-	M	+ve	+ve	-ve potentially	M
Production of newsletters and posters	(>)		(>)		L	L	-	H	+ve	+ve	+ve	S

5.2.5 Planning

(i) Include cycle facilities in new developments

Planning conditions to require the provision of adequate cycle facilities for new developments is key to encouraging a modal shift to cycling. Such conditions might include the provision of cycle lanes and safe and secure cycle parks, or the improvement of existing facilities. The provision of cycle vouchers or other such incentives might also be promoted and considered as part of a package of mitigation measures in respect to commercial, retail and business developments within the Tyne and Wear area.

(ii) Consideration of the location of essential services, housing, employment

At the core of any plan or strategy to reduce overall distances travelled, traffic flow and congestion, is the need to influence where people live, work and enjoy their leisure time. Planning policy within Gateshead Council and across the region as a whole is focussed on reducing travel demand, where possible. This means providing individuals with the services and work opportunities close to home. Actions focused on encouraging development that seeks to reduce commuting and outward travel, such as the 'work-live' developments and 'bedzeds'[28], will help reduce the overall impact of development on travel behaviour. Locations of services, housing and employment can be considered through the use of the accessibility model developed for the LTP process.

(iii) More trees in the Town Centre

Although planting trees and expanding on 'green spaces' does not reduce local concentrations of air pollutants significantly, increased planting has a positive impact on local environmental quality and amenity, if done sensitively. Plants and trees provide carbon traps in the urban environment, and can provide a sense of pollution screening (not least visually), thereby making tree planting a sensible and cost-effective additional condition of appropriate planning applications.

[28] See http://www.bioregional.com/programme_projects/ecohous_prog/bedzed/bedzed_hpg.htm for more details

(iv) Improve joint working between local authorities (cross-boundary decision-making)

Co-ordination with respect to transport planning as well as air quality issues will be critical to ensure that measures implemented in one local authority are consistent with those in neighbouring local authorities. The Tyne and Wear local authorities will continue to work closely together in developing the Local Transport Plan and Action Plans related to air quality.

(v) Implement greater planning controls in AQMAs

Local planning policy and development control policy should recognise the need for more sensitive decision-making in locations where air quality management areas (AQMAs) are formally designated. Where a proposed development has the potential to pose a significant health risk to members of the public, more stringent planning controls will need to be applied, with strict conditions to control direct or indirect emissions or to mitigate their impact.

Effective mitigation is likely to be the main planning tool for minimising the impacts from new developments on local air quality. Conditions can therefore be a very useful way of allowing development which would otherwise be undesirable. In relation to improving local air quality, conditions requiring pre-operational and post-operational air quality monitoring are common, or the contribution to a local on-going monitoring programme. Specific mitigation requiring technological fixes such as specific ventilation in residential property or re-location or orientation of facades may be appropriate for certain applications.

(vi) Local Development Frameworks need to identify AQMAs

As Local Development Frameworks (LDFs) and Local Development Schemes (LDSs) emerge within individual local authorities, the opportunity arises for AQMAs to be specifically identified. This will ensure that their profile is highlighted through local planning processes and development control procedures. Gateshead BC has produced their Local Development Scheme (approved by GO-NE 1st April 2005) which sets out the timetable by which other documents within the LDF will be produced. The policies contained within the new draft UDP is envisaged to be adopted in March 2007. The policies in the new plan will be 'saved' for three years from the date of adoption and will form the major element of the Council's LDF. After this three year period, it will be replaced by a new style development plan.

(vii) Cap existing development sites

It may be appropriate for a local authority (or groups of local authorities) to provide a ceiling for the number of residential units, commercial units or car-parking provision so as to reduce any cumulative impacts imposed by simultaneous development, the intensification of development or the continuous development of a large site over time.

(viii) Encourage mixed-use developments

Designed to reduce travel demand and increase the overall integration of different (though compatible) land-use, mixed-use development has the potential to reduce the reliance on overall vehicle mileage and trips taken within a particular area. As well as obvious air quality and environmental benefits, there are socio-economic advantages to such planning policy. Current planning policy already encourages such developments where practicable.

(ix) Undertake air quality assessments of relevant new developments

The provision of an air quality assessment, either as part of a wider environmental statement or as a stand-alone report, should be a consistent requirement of planning applications that satisfy certain 'significant impact' criteria. Local authorities, or groups of local authorities working in collaboration, should agree on the criteria against which to judge whether or not a proposal is likely to impact significantly or otherwise on local air quality. Such criteria could be set out in a protocol or supplementary planning guidance.

(x) Supplementary Planning Guidance for Tyne and Wear to provide a framework for the evaluation of air quality

Consistency in local decision-making in respect to proposed developments is vital in providing an effective planning control system that strives to minimise environmental impacts from development. The development of a Supplementary Planning Document for the Tyne and Wear region is a way to ensure development control processes operate consistently across the region. This might include how to address air quality as a material planning consideration, the consideration of cumulative impacts, low-polluting development and appropriate impact mitigation. Such Supplementary Planning Guidance at a regional-scale will provide a framework for addressing air

quality and planning policy integration consistently across the region, for the benefit of local government and government agencies alike.

(xii) Use of a protocol for planning applications

A standard protocol for use in addressing individual planning application received by a local authority provides a formal, unified and more effective way of ensuring consistency in the processing of an application is maintained.

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Feasibility: L = low; M = medium; H = high (based on professional judgement and discussion)

Wider Impacts: +ve (positive) ++ve (very positive) +/-ve (both positive and negative impacts) –ve (negative) –ve (very negative) 0 (neutral impact)

Timescale: S = Short (can be implemented over next 1-2 years); M = Medium (can be implemented within lifetime of LTP2); L = Long (6+ years away i.e. post LTP2).

Table 5 Summary of measures associated with Planning

Theme 5: PLANNING												
Option	**Effects**					**Cost**		**Feasibility**				
	Vehicle flow	**Impact on Exposure**	**Vehicle kms within AQMA**	**Emissions per vehicle mile**	**AQ impact**	**Cost to Council**	**Cost to others**	**Practicability**	**Wider impacts**			**Time scale**
									Social	**Environ-mental**	**Economic**	
Include cycle facilities in new developments	(>)		(>)		L	L	L-M	H	++ve	++ve	-ve	S
Consideration of the location of essential services, housing, employment	(>)	>	(>)		Potentially M-H	L	M	M	++ve	++ve	+ve	M-L
More trees in the Town Centre					L	L-M	L-M	M	++ve	++ve		S-M
Improve joint working between local authorities					?	L		H	+ve	+ve	+ve	S
Implement greater planning controls in AQMAs	(>)		(>)		L-M	L	M-H	H	++ve	++ve	-ve	S
Local Development Frameworks need to identify AQMAs			(>)		L-M	L	M-H	H	+ve	+ve	-ve	M
Cap existing development sites		>			L-M	L	M-H	H	+ve	+ve	--ve	S
Encourage mixed use developments	(>)		(>)		L	L		H	+ve	+ve	+ve	S-M
Undertake air quality assessments of relevant new developments	(>)	(>)			L-M	L	M	H	+ve	+ve		S
Supplementary Planning Guidance for Tyne and Wear		(>)	(>)		L-M	L	M-H	H	+ve	+ve	-ve	S-M
Use of a protocol for planning applications		(>)	(>)		L-M?	L	L	H				S

5.3 Implementation of measures: funding and timescales

65 This Section outlines the measures described in Section 5.2 and identifies in each case:

- whether they are going to be implemented (either through LTP2 or other mechanisms);
- whether they have been rejected; or
- whether investigation of the potential benefits and dis-benefits is underway or is planned

66 Where implementation through the LTP2 is intended, an indication of likely cost and timescale is also given.

Traffic Reductions required

67 In line with air quality concentration targets for 2005, the traffic reductions required at a number of key sites predicted to exceed the annual mean objective for nitrogen dioxide have been calculated (see Appendix 2). The worst case receptor location (Receptor 8) illustrates the impact of reducing emissions from various different vehicle classes. An emissions reduction of 12% overall is required to achieve the objective at this location, but the figures show that a 25% reduction in all car emissions, or a 50% reduction in bus emissions would also achieve this end result.

68 Each measure identified and evaluated in Section 5.2, is detailed below in terms of whether it will be implemented or not.

Theme 1: MANAGING THE HIGHWAY NETWORK			
Option	**Status of measure**	**Funding available/cost**	**Timescale for implementation/Lead service**
Congestion charging and road tolls	Investigation underway – initial studies due for completion mid 2008	Tyne and Wear successful in attaining Transport Innovation Fund money from DfT (£1.7M) to study demand management.	To be determined after feasibility study. Likely to be post 2011 Lead service - Transport and Highways
Parking Strategy	Proposed town centre redevelopment is likely to have major impacts on the location and numbers of car parking spaces in the town centre. UDP policy now requires any new parking to be charged. A parking strategy for the central area is one of the outputs of the Regeneration Delivery Strategy (RDS)	Funding being investigated as part of the town centre redevelopment process. RDS will advise on delivery mechanisms for securing town centre redevelopment including how appropriate car parking can be delivered.	Following consultation Lead service -Transport and Highways RDS will be completed by the end of March 2008
Specific Bus Corridors including Bus Lanes, or segregation of buses	Corridor improvement schemes carried out for town centre approaches on Old Durham, Road,	LTP public transport funds co-ordinated by Nexus	On-going Lead service -Transport and Highways

	Durham Road and Bensham Road as part of first LTP. Further improvements being considered: • modifications to junctions around town centre; • dedicated bus link from old Sunderland Road • re-opening of High Level Bridge to southbound traffic as bus only; • audit process of main 'Superoute' corridors underway – will identify further improvements; • further corridor improvements as part of major scheme bid.	Major scheme bid identified as priority in regional funding process – bid being prepared for submission early in 2008	
Reduce capacity of roads (reallocation of roadspace)	High Level Bridge now closed permanently to general traffic. Feasibility of removal of flyover to east of town centre to be investigated further. However high traffic volumes and strategic nature of routes mean that scope for major	N/A	N/A Lead service -Transport and Highways

	action is likely to be limited		
Increase capacity of roads	Recent study indicates any significant work is likely to be high cost with limited benefit. Some options are worthy of further consideration but little likelihood of significant progress in short term	N/A	N/A
Higher priority for pedestrians (in terms of highway space)	To be implemented through the town centre pedestrian/cycle strategy. Subways at Arthur Street, Chandless and Bensham Road removed, improvements to Coulthards Lane implemented. Removal of Sunderland Road subways now under consideration	Argyle Estate subway being looked at as ward based scheme. Gateshead Highway subway to form part of public transport major scheme bid	Over the four remaining years of LTP2 Lead service -Transport and Highways
Higher priority for cyclists (in terms of highway space)	Part of town centre pedestrian/cycle strategy – improvements to pedestrian network highlighted above have/will incorporate	As above	Over the four remaining years of LTP2 Lead service -Transport and Highways

	provision for cyclists		
Decriminalised parking enforcement	Implemented July 2007		This was implemented in Summer 2007 Lead service -Transport and Highways
Bus re-regulation	Government proposals for improved regulation set out in draft Local Transport Bill	Revenue implications for Nexus	See Section on bus quality contracts under Theme 3 Lead service -Transport and Highways working in partnership with Nexus
High Occupancy Vehicle lanes	Not to be implemented	N/A	N/A
Coordination of road works	Already being implemented under the Traffic Management Act 2004 – Network Management Duty	N/A	On-going Lead service -Transport and Highways

Theme 2: EMISSIONS MANAGEMENT			
Option	**Status of measure**	**Funding available**	**Timescale for implementation**
Encouragement of low emission/ zero emission vehicles	Low emission QuayLink buses in operation on town centre-Quays service	Through Bus Quality Partnerships, major scheme funding	Throughout 2006-11 Lead service -Transport and Highways
Emissions standards for buses	Go Ahead now has relatively modern fleet. Being pursued in Newcastle which should have some knock on improvements in Gateshead	Bus operator capital investment programmes	Throughout 2006-11 Lead service -Transport and Highways and Gateshead Strategic Partnership
Enforcing idling engines legislation	Unlikely to be a major issue	N/A	N/A
Delivery times outside peak hour	Unlikely to be major issue.	N/A	N/A
Route enforcement for HGVs	Tyne and Wear Freight Quality Partnership may investigate in the future as part of its remit	N/A	N/A
Taxis – use licensing system to improve emissions	The Council has brought in an age policy for Hackney Carriages and Private Hire Vehicles. This will have the added bonus of reducing emissions.	N/A	Implemented from 17/07/07 Lead service – Regulatory Services (Licensing and Enforcement)
Use of Low Emission delivery vehicles/ times of	Unlikely to be implemented	N/A	N/A

deliveries			
Target HGVs – freight consolidation (freight node/ hub), encourage use of rail freight	Tyne and Wear Freight Quality Partnership (FQP) may investigate in the future as part of its remit	£45k for FQP issues over T&W as a whole	2006-11 Lead service -Transport and Highways
Low Emission Zone	Not currently under consideration?	N/A	N/A
Speed restrictions	Speed limits in place on roads around town centre	LTP block funded programme	Over the four remaining years of LTP2 Lead service -Transport and Highways
Better Traffic Light Signal Coordination (SCOOT)	TIF study on Intelligent Transport Systems (ITS) now completed	LTP block funding, developer contributions	2008 onwards Lead service -Transport and Highways
Vehicle Ban in Town Centre	Not to be implemented	N/A	N/A
Roadside Emissions Testing	Not to be implemented	N/A	N/A

Theme 3: PROMOTION AND PROVISION OF ALTERNATIVES			
Option	**Status of measure**	**Funding available**	**Timescale for implementation**
Express commuter buses	Implementation of express routes would depend upon bus companies – limited number currently in existence	LTP funding available for improvements to bus routes. Costs of service provision would need to be borne by the operators	Throughout LTP2 Lead service -Transport and Highways
Trams	Not to be implemented	N/A	N/A
Guided Buses	No current proposals	N/A	N/A
Park and Ride	To be implemented through both bus and metro. Potential major scheme bid identified as regional priority	Major scheme funding bid in preparation for submission in 2008	2008/2011 Lead service -Transport and Highways
Promotion of Cycling	To be implemented through cycle strategy. Ongoing implementation through annual LTP programme	LTP block funding	Over the five years of LTP2 Lead service -Transport and Highways
Annual Travel Card Discount	To be implemented by Nexus. Also introduced for Council employees	Council scheme is self funding. Costs of travel cards are recovered from staff salary deductions.	Ongoing Lead service -Transport and Highways

Quality Bus Contracts	Investigation underway. Potential major cost issues. Draft Local Transport Bill proposals seek to simplify process for implementing quality contracts	N/A	Unknown if partners will pursue this course of action as yet
Travel Plans for businesses/ schools	Programme of school travel plans in progress. Council travel plan approved. TIF smarter choices identifies potential in relation to future strategy	Travel plan coordinator already employed within Gateshead. Major resource issues in extending coverage significantly. Tyne and Wear resource under development. Commitment to fund part time travel plan co-ordinator for Baltic Business Quarter. Developer contributions can sometimes be secured for sustainable transport initiatives.	Ongoing Lead service -Transport and Highways
Increase Pedestrian Areas	Trinity Square redevelopment is likely to include predominantly pedestrian areas within the site. Regeneration Delivery Strategy (RDS) will investigate opportunities for pedestrians as part of the strategy.	No significant further pedestrianisation likely in the short term other than Trinity Square redevelopment. RDS will advise on delivery mechanisms for securing town centre redevelopment including how the public real can be improved	Unclear at this stage as dependent on RDS Lead service - Environmental Strategy, and Transport and Highways

Car Sharing Scheme and Vehicle Pool Scheme for Council employees	Being promoted within the Council	Extension of vehicle pool scheme would be subject to funding of purchase of vehicles and ongoing operating costs	Ongoing Travel Plan Lead service -Transport and Highways
Use of car parking charges to encourage alternatives	UDP policy for charges in centres now approved. Charges for Civic Centre parking now being considered. Important issues re: new car park as part of town centre redevelopment		Ongoing Lead service -Transport and Highways
Home Zones	Unlikely to have major impact on town centre	N/A	N/A
Subsidise public transport	Significant subsidy already in place through PTA, principally concessionary fares. Major increase in subsidy unlikely in absence of new source of funding	None at present	Free concessionary travel for older people on bus and Metro Lead service -Transport and Highways working in partnership with Nexus
Create extra capacity on trains/ metro/ buses	Under investigation as part of TIF study. Operator investment as deemed appropriate	£1.7M available for TIF study over T&W as whole	Throughout LTP2. TIF funded works unlikely before 2011 Lead service -Transport and Highways

Flexible work times/school hours/ home working	Within council already implemented (could be better marketed), externally to be implemented as part of travel plan initiatives	N/A	Throughout 2006-11 Lead service -Transport and Highways
More use of river transport	Not to be implemented – River Bus study showed unlikely to be viable	N/A	N/A

Theme 4: INFORMATION AND EDUCATION			
Option	**Status of measure**	**Funding available**	**Timescale for implementation**
Provision of real time information at bus stops	Real time information pilot now operational in Coatsworth Road area. System for QuayLink currently being tested. Major delays due to technical problems but these appear now to be nearing resolution	Nexus funded initiative	Over the time period of LTP2 Lead service -Transport and Highways working in partnership with Nexus
Target schools and parents with information campaigns	Future approach to awareness/campaigns formed part of TIF smarter choices study	See Section on travel plans under Theme 3	See Section on travel plans under Theme 3 Lead service -Transport and Highways
Target businesses (in conjunction with Travel Plans)	Future approach to awareness/campaigns formed part of TIF smarter choices study	See Section on travel plans under Theme 3	See Section on travel plans under Theme 3 Lead service -Transport and Highways
Health promotion	To be implemented as part of health promotion programmes already underway in Gateshead		Ongoing Community Based Services, and Health and Social Care Partnership
One off events (e.g. in town without my car)	Bike Week and Public Transport exhibitions held in Council premises	Small cost within existing budgets. No ongoing funding	Throughout 2006-11 Lead service -Transport and

	annually	currently identified	Highways
Intelligent Transport Systems	TIF study now complete Message Study by Newcastle University	Capital funding potentially available through LTP. Revenue implications to be considered Engineering and Physical Sciences Research Council (EPSRC) funding	Throughout 2006-11 2007 – 2008 Lead service -Transport and Highways
Education regarding safety on public transport	LTP is committed to improve actual and perceived levels of security thought proactive use of more staffing and CCTV	Nexus funded initiative	Over the time period of LTP2 Lead service -Transport and Highways working in partnership with Nexus
Information about car parking on VMS	Initial system in place in Quays area. Potential to extend to town centre	Extension of the variable message system would be subject to resources being available to fund the infrastructure and the ongoing costs of monitoring and maintenance	Throughout 2006-11 Lead service -Transport and Highways
Target Developers	Travel Plans routinely required for all major developments. Developers who have to create a Travel Plan are	Funded through developments	Throughout 2006-11 Lead service -Transport and Highways, and Regulatory Services

	required to provide information to end-users		(Development Control)
Provision of information on 'High Pollution Days'	Not to be implemented in short term, may be linked to future UTMC system	N/A	Unlikely before 2011 Lead service -Transport and Highways
Production of newsletters and posters	Cycle North East literature produced by Gateshead on behalf of Tyne& Wear partners. Literature provided for Council employees on sustainable travel and on Council web and Intranet sites. Future approach to awareness/campaigns currently part of TIF smarter choices study	N/A	Throughout 2006-11 Lead service -Transport and Highways

Theme 5: PLANNING			
Option	**Status of measure**	**Funding available**	**Timescale for implementation**
Include cycle facilities in new developments	Already ongoing – adopted cycling strategy, and considered within UDP	From developers. Through Section 106 agreements	On-going Lead service -Transport and Highways, and Regulatory Services (Development Control)
Consideration of the location of essential services, housing, employment	As in emerging UDP. Individual allocations e.g. housing around issues of sustainability and accessibility. Regeneration Delivery Strategy will examine location of uses within the town centre with the aim of delivering a vibrant mixed use centre	No funding required	On-going Lead service – Planning and Environmental Strategy, and Regulatory Services (Development Control)
More trees in the Town Centre	General policy – ENV 44 (not specific to AQMA) – relates to protection of existing trees. Regeneration Delivery Strategy will make recommendations on soft landscaping within the town centre and how such improvements can be secured through new development	N/A	N/A Regulatory Services (Development Control), and Planning and Environmental Strategy

Strengthen joint working between local authorities	T&W policy officer group – to include air quality on agenda. Transport issues now being discussed as part of City Region agenda	No funding required	On-going Lead service -Transport and Highways and Regulatory Services (Environmental Health)
Implement greater planning controls in AQMAs	Current legislation does not enable greater controls in AQMAs. Existing UDP policies re: accessibility and parking (not specific to AQMA). No plans to change at present	N/A	N/A Planning and Environmental Strategy
Local Development Frameworks need to identify AQMAs	To be implemented	No funding required	Through timescale of the development of Local Development Frameworks Planning and Environmental Strategy
Encourage mixed use developments	Already being implemented – town centre redevelopment currently looking at mixed use	No funding required	On-going Planning and Environmental Strategy
Undertake air quality assessments of relevant new developments	NSCA guidance update considered at pre-application stage and for applications. Possible incorporation into LDF.	Developers to fund air quality assessments where required	On-going Regulatory Services (Development Control)
Supplementary Planning Guidance for Tyne and	Not included in RSS. Will consult with N.E. Assembly and G.O.N.E.	N/A	N/A Planning and Environmental Strategy

Wear			
Use of a protocol for planning applications – Air Quality to be a material consideration in applications	To be considered for implementation	N/A	Consideration by April 2007 Regulatory Services (Development Control and Environmental Health)

69 In summary, the above measures will be implemented through the LTP, and through other mechanisms (such as the planning process) over the next 4 years. The LTP covers the Tyne and Wear area, which includes a much wider area than the designated AQMAs, and as such, some of the measures listed above are likely to have impacts wider than just the AQMA area. This is complementary to a more strategic approach which reflects the nature of the traffic in the Gateshead area.

70 Although all of the measures listed above are important, it is recognised that some are not likely to have direct influence but will, for example, increase awareness levels and therefore indirectly influence travel behaviour. The following measures are most likely to have a direct impact on reducing pollutant concentrations in Gateshead.

- Improvements in bus emissions
- Improvements in public transport more generally to persuade a modal shift from private vehicles
- Travel plans at major employers in Gateshead (including the Council) and other centres of employment & new developments, again to persuade a model shift away from private vehicles.

71 In addition, in the longer term, the planning system will be critical to improvements in air quality and maintaining locations where air quality is good. Currently the National Society for Clean Air guidance on Planning and Air Quality is being used to assess whether air quality assessments of specific developments are required. In future it is hoped that this guidance will be adopted locally as a planning protocol and potentially at Tyne and Wear level as part of a Supplementary Planning Document.

6. Financing

72 The ability and opportunity for implementing this Action Plan depends primarily on securing adequate funding and sufficient revenue resources to fund the staff required to deliver the programme of measures. For the purpose of this Action Plan, the costs have been estimated, and banded as being low, medium and high. This Action Plan is being developed in collaboration with the Local Transport Plan for Tyne and Wear for the period of 2005/6-2010/11. Section 5.3 contains further information on committed funding for the selected measures where applicable. Other potential sources of funding outside of the LTP include:

Developer contributions – through Section 106 agreements and similar voluntary arrangements, developers can contribute to improvements which are relevant for this Action Plan. As an example, Newcastle City Council secured resources to undertake air quality monitoring for the 55 Degrees North development at Swan House. Gateshead have implemented ventilation schemes in some new developments, although have not (as yet) used developer contributions to fund monitoring or any other mitigation measures.

European projects – European funding is often a way to gain funding for innovation in transport planning and solutions and one funding source which Gateshead Council, or the Tyne and Wear authorities through the LTP, could explore.

Direct charging – through road pricing, workplace charging, off-street and on-street parking charges.

Partnership funding - brings a wider stakeholder involvement in to the action plan, and may provide funding from transport operators, businesses and retailers, information providers etc (for example for improving bus emissions).

Energy Saving Trust - which used to manage the Powershift programme on behalf of DfT. Now provides free consultancy on fleet management (in terms of cutting emissions) for any organisations running a minimum of 50 vehicles.

7. Consultation

73 Consultation in the form of active participation and information provision and dissemination will be vital for the effective implementation of options identified as part of the Action Plan. Any individual option, or package of options, to improve local air quality will require the backing and support of stakeholders (i.e. business, public transport providers, members of the public). As such, stakeholders will need to take 'ownership' of the action planning process and feel part of the overall decision making process.

74 Gateshead Council has previously consulted the public widely prior to the AQMA declaration. A leaflet was put through the door of every household within the AQMA informing them of the outcomes of the Detailed Assessment, the plans for the AQMA declaration and action plan, including the sorts of measures that would be included in an action plan. Over a thousand leaflets were delivered at the time, and although no response on specific issues was asked for, contact details were included. Only 1 person contacted the council following this consultation. In addition, an article was included in the Council newsletter which goes to every home in Gateshead informing people of the air quality issues within the town centre.

75 The measures included in this document which in a Newcastle context were included in the Tyne and Wear Local Transport Plan have also been consulted on as part of the LTP process. Appendix J[29] summarises the consultation processes which the LTP and the Newcastle Action Plan (Appendix E of the LTP) underwent. This involved eliciting views from all major stakeholders and providing a representative sample of views from residents across the Tyne and Wear area on travel and transport issues. In-depth interviews were undertaken with stakeholders and focus groups were conducted with 'hard to hear' groups with over 2,000 door-to-door interviews were conducted with residents. Many of the stakeholders related air quality to congestion. It was recognised that a wide range of measures would be required, which ranged from encouraging low emission vehicles to improving public transport (with associated encouragement to use it).

[29] http://www.newcastle.gov.uk/wwwfileroot/regen/plantrans/AppendixJConsultation.pdf

76 Consultation on the draft action plan with Defra revealed that they considered it to be well written and covers most of the main processes required from an action plan. The Council was asked to consider four issues for the final version of the plan. The views of the Council's consultants have been sought as part of our consideration of the issues. :

"Incorporation of the planned further impact assessment work for the principal action plan measures".

The Council considers that there are no specific measures which we could get data on which to base modelling and although there are a number of really important actions which need to be implemented, it would be impossible to model the outcomes.

"Inclusion of a clear statement as to what the plan is expected to contribute to the improvement in nitrogen dioxide concentrations in the AQMA and achievement of the objective".

The Council considers that it is difficult/impossible to model the outcome of the whole plan. We can however take some professional judgement in terms of improvements. Gateshead may not achieve LVs by 2010 but are likely to achieve them soon after.

"Greater transparency with respect to the prioritisation of the tabulated measures on the basis of their cost-effectiveness assessment".

The plan has been updated to clearly set out which measures are being implemented, what they cost and the lead service responsible for implementing the measures.

"Inclusion of details of the results of the full consultation exercise and how these have influenced the development of the plan"

All residents and businesses within the AQMA were sent a leaflet providing information about the action plan process. The leaflet also highlighted the means of access to the draft action plan and a detailed assessment document. No responses were received from residents, or businesses. A copy of the leaflet is included with this document.

8. Implementation and monitoring

77 An important component of the Action Plan is establishing mechanisms to ensure that the selected measures are implemented within the stated timescales, and that these measures are proving effective in delivering the expected improvements to air quality. There are also a number of subsidiary issues such as:

- How do the public perceive the Action Plan?
- Is the Action Plan cost-effective?
- What are the wider, non-air quality impacts and overall community impacts now that measures are being implemented?

78 The main objective of the Action Plan is to reduce air pollution within the designated AQMA(s). In the short-term however, this may be difficult to judge due to the effect of varying weather conditions on measured pollutant concentrations. It is therefore necessary to include other indicators, which are derived from those included within the LTP and used as assumptions to set the air quality concentration target (LTP8).

79 Other measures included in the Action Plan, but not within the LTP, relate mainly to information provision and wider planning measures. These are deemed important to the overall improvement of air quality in the area, although they are unlikely to have a demonstrable impact on air quality in the timescale up until 2010. This is for two reasons mainly:

- These 'extra' measures support the measures included in the LTP (such as to increase public awareness of why such measures are being implemented)
- Many of the measures in Section 5 on planning, will impact over a much longer timescale than 2010, even though many of them can be implemented in the short-term.

80 The LTP includes a number of mandatory and local indicators. A number of these will provide information on progress with the Air Quality Action Plan, for example:

- Changes in area wide traffic mileage;
- Peak period traffic flow to urban centres;
- Congestion, and

- Modal splits (including information on travel plans).

The LTP also includes a mandatory target and intermediate indicator on air quality (LTP8) for Newcastle. It is unclear due to the timing of this action plan in relation to the LTP process whether a specific target will be included for the Gateshead AQMA. There are ongoing discussions with Defra and DfT to this effect. Any targets that are required will follow a similar format to the target already in place for Newcastle.

81 In addition, it is important to note that the Gateshead Council will continue to maintain a network of automatic and passive samplers, and it is intended that these data will also be used to assess progress. The monitoring network will be reviewed and extended where gaps in coverage exist. This will be taken forward through the regular Air Quality Steering Group meetings. To avoid the effect of varying meteorology on a year-by-year basis, where long enough data sets exists, a measure based on 3-year rolling means will be used.

Annex 1. Attendees of November 2004 Workshop

Jan Lawton	Gateshead Council
Rebecca Marcus	Gateshead Council
Alison Beattie	Newcastle City Council
Alan Creedy	Newcastle City Council
Rod Stevens	Nexus
Kevin Ridpath	North Tyneside Council
Caine Spence	South Tyneside Council
Keith Atkinson	Sunderland City Council
Ian Abernethy	Gateshead Council
Tim Deveaux	Gateshead Council
Ed Foster	Newcastle City Council
Rachel McNutt	Newcastle City Council
Dave Hunter	Newcastle City Council
Charlotte Washbourne	North Tyneside Council
Dave Winder	South Tyneside Council
Joanne Brennan	Sunderland City Council
Louise Billcliffe	Gateshead Council
Elaine Brick	Local Transport Plan
Colin Percy	Newcastle City Council
Matthew Payne	Newcastle University
Andrew Meara	Sunderland City Council
Frances McClen	North Tyneside Council
Mark Lee	Highways Agency
Clare Beattie	University of the West of England
Penny Wilson	Air Quality Consultants
Steven Ramshaw	Gateshead Council
Clive Gowlett	Gateshead Council
Adrian McLoughlin	Newcastle City Council
Mark Lawrence	North Tyneside Council
Ian Rutherford	South Tyneside Council
Marion Dixon	Sunderland City Council
Dr. Monica Price	Sunderland University
Andrew Haysey	Gateshead Council
Gary Macdonald	Local Transport Plan
Matthew Atkins	Newcastle City Council
Michael Terry	Newcastle City Council
Hillary Brewer	South Tyneside Council
Graydon Martin	Sunderland City Council
Geraldine Stubbs	Sunderland University
Nicky Woodfield	University of the West of England

Annex 2. Scenario calculations for receptor points within the AQMA

Modelled Annual Mean Nitrogen Dioxide Concentration During 2005 Assuming Hypothetical Emission Reductions from Different Vehicle Classes[a].

Vehicle Type	% reduction in emissions	Predicted Concentration (µg/m^3)										
		R1	**R2**	**R3**	**R4**	**R5**	**R6**	**R7**	**R8**	**R9**	**R10**	**R11**
Cars on commuting journeys	10%	32	36	39	37	**40**	36	35	**41**	38	35	35
	25%	32	36	39	36	40	36	35	**41**	38	35	35
	50%	32	35	39	36	40	36	35	**41**	38	35	34
Cars on business journeys	10%	32	36	39	37	**40**	36	36	**41**	38	35	35
	25%	32	36	39	36	40	36	35	**41**	38	35	35
	50%	32	35	39	36	40	36	35	**41**	38	35	34
Cars on leisure trips	10%	32	36	39	36	40	36	35	**41**	38	35	35
	25%	32	35	39	36	40	36	35	**41**	38	35	34
	50%	31	35	38	35	39	35	34	40	37	34	33
Light Goods Vehicles	10%	32	36	39	37	**40**	36	36	**41**	38	35	35
	25%	32	36	39	36	40	36	35	**41**	38	35	35
	50%	32	36	39	36	40	36	35	**41**	38	35	35
Heavy Goods Vehicles	10%	32	36	39	36	40	36	35	**41**	38	35	35
	25%	32	35	39	36	40	36	35	**41**	38	35	34
	50%	31	35	38	35	39	35	34	40	37	34	34
Buses	10%	32	35	39	37	40	36	35	**41**	38	35	35
	25%	32	35	39	36	39	35	35	**41**	37	35	34
	50%	31	34	38	36	37	34	34	40	35	34	34
All Cars	10%	32	35	39	36	40	36	35	**41**	38	35	34
	25%	32	35	38	35	39	35	34	40	37	34	34
	50%	31	34	36	34	38	34	33	38	36	33	32
HGV and LGV	10%	32	36	39	36	40	36	35	**41**	38	35	35
	25%	32	35	39	36	39	36	35	**40**	37	35	34
	50%	31	35	38	35	38	35	34	39	37	34	34
All Vehicles	10%	32	35	38	36	39	35	34	**40**	37	34	34
	25%	30	33	36	34	37	34	32	38	35	33	32
	50%	27	30	33	31	33	31	29	34	31	30	30
Do Nothing	-	33	36	40	37	**40**	36	36	**42**	38	35	35

[a] These data assume that the background concentration would be unchanged by the modelled emission reduction measures.

Annex 3. Abbreviations

AQC	Air Quality Consultants
AQS	Air Quality Strategy
AQMA	Air Quality Management Area
AQAP	Air Quality Action Plan
CCTV	Close Circuit Television
DA	Detailed Assessment
Defra	Department for Environment, Food and Rural Affairs
DETR	Department of Environment, Transport and the Regions
DfT	Department for Transport
EST	Energy Savings Trust
FQP	Freight Quality Partnership
GONE	Government Office North East
HGV	Heavy Goods Vehicle
HOV	High Occupancy Vehicle (lane)
ITS	Intelligent Transport Systems
LA21	Local Agenda 21
LDD	Local Development Document
LDF	Local Development Framework
LEZ	Low Emission Zone
LTP	Local Transport Plan
NAQS	National Air Quality Strategy
NO_2	Nitrogen dioxide
NOx	Nitrogen oxides
NSCA	National Society for Clean Air and Environmental Protection
ODPM	Office for the Deputy Prime Minister
PPC	Pollution Prevention and Control
PPS	Planning Policy Statement
PTE	Passenger Transport Executive
RPZ	Residents Parking Zone
SCOOT	Split Cycle Offset Optimisation Technique
TAMMS	Tyneside Area Multi Modal Study
TIF	Transport Innovation Fund
UDP	Unitary Development Plan
USA	Updating and Screening Assessment
UTMC	Urban Traffic Management and Control
UWE	University of the West of England
VMS	Variable Message Sign